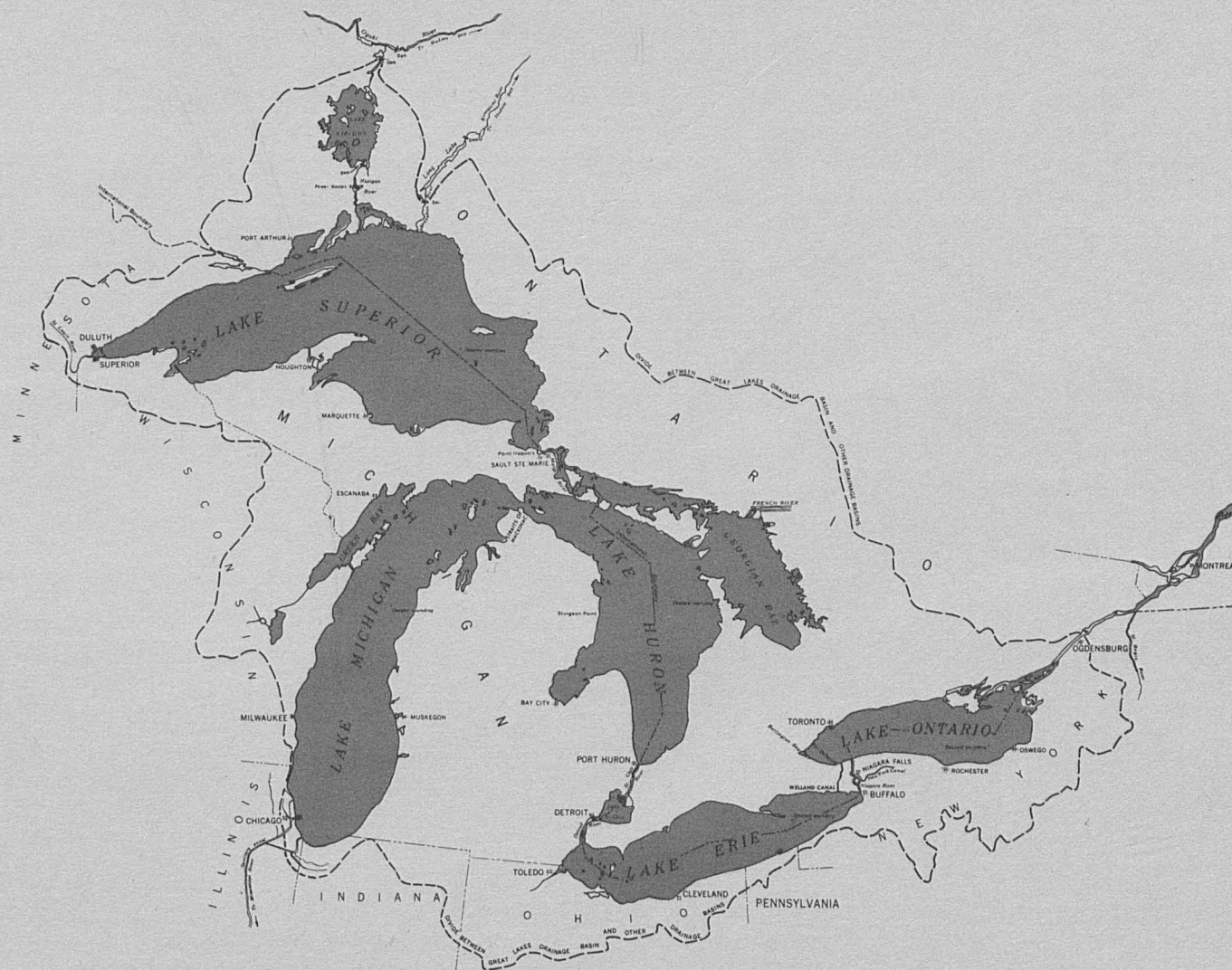


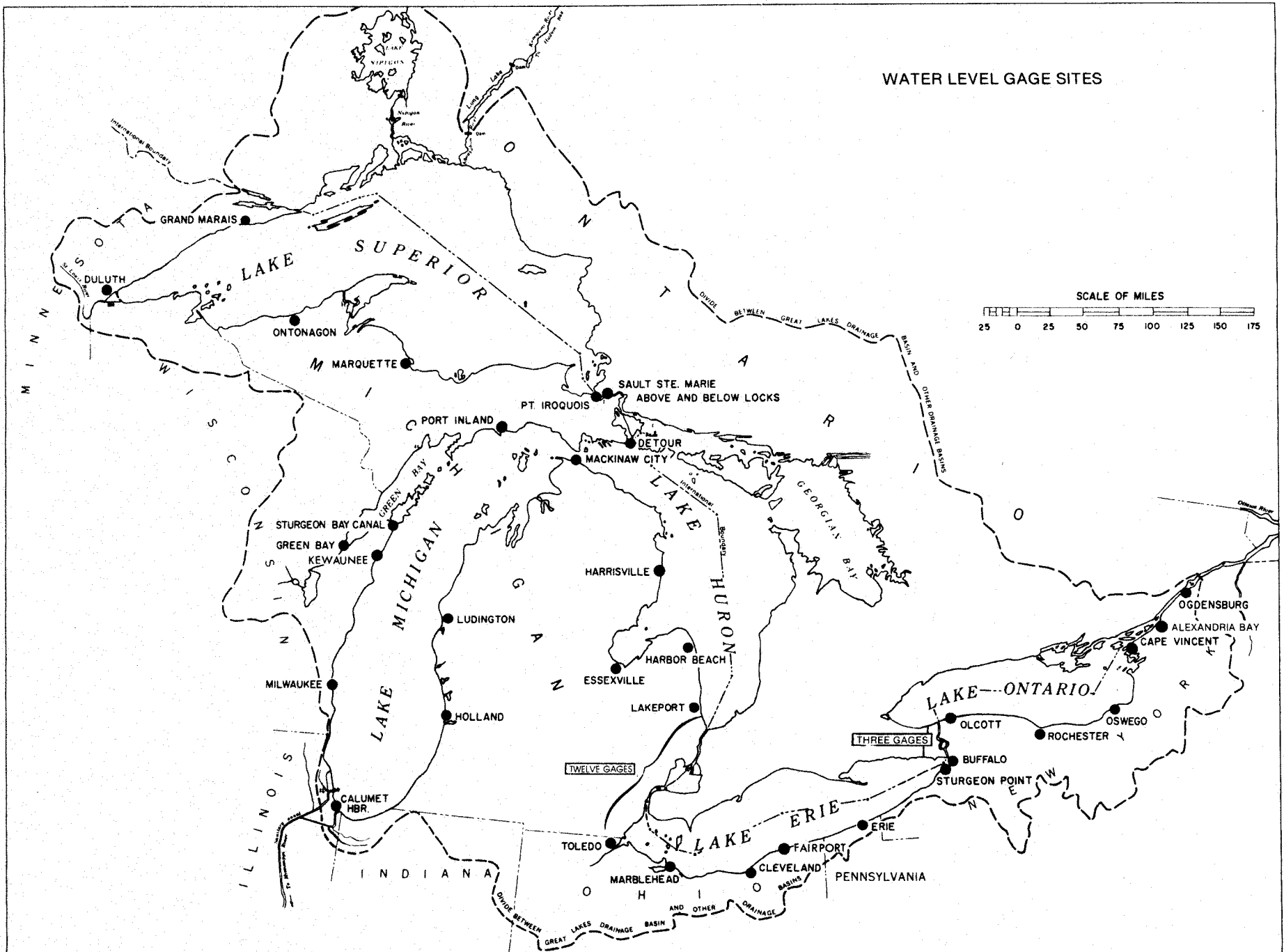


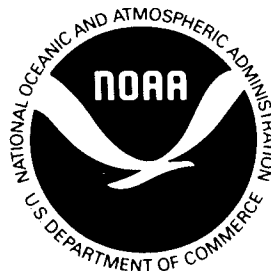
Great Lakes Water Levels, 1991

U.S. DEPARTMENT OF COMMERCE, National Oceanic and Atmospheric Administration, National Ocean Service



WATER LEVEL GAGE SITES





Great Lakes Water Levels

1991

Daily and Monthly Average Water Surface Elevations

September 1992

INTRODUCTION

The Office of Ocean and Earth Sciences (OES), within the National Oceanic and Atmospheric Administration (NOAA), is responsible for collecting water level data for the entire Great Lakes Basin watershed (295,000 square miles), and for maintaining the International Great Lakes Datum (IGLD). In meeting these responsibilities, close coordination is maintained with other Federal agencies and Canadian counterparts. Exchanges of water level data with Canada are made under treaties that require regulation of operations and support of cooperative power generation. These exchanges are coordinated under the International Joint Commission (IJC), a group of six commissioners appointed by the President of the United States and the Prime Minister of Canada. Parties involved in meeting the international agreements include: several boards of control, IJC committees of two Federal agencies, eight states and two Canadian Provinces.

Beginning in 1970 (under authority of Presidential Reorganization Plan No. 4 (now part of U.S. Code 33 Title 883)), OES's predecessor organization began a program of monitoring and collecting water levels, and maintaining a vertical control reference system for the Great Lakes and their connecting channels. The program, required by Congress and by international treaties, has a mission of providing a hydraulic vertical reference datum by which the governments of Canada and the United States manage water resources in the Great Lakes Basin. International management of water resources in the Great Lakes Basin is vital to ensuring the safety of the lakes many users. The Great Lakes Program takes into account fluctuations of the lakes water levels and the outflows of rivers relative to: regulation, lake level forecasting, shipping, international cooperative treaties and agreements, riparian interests, hydroelectric power generation, construction, dredging, litigation, and other water resources management and development activities.

Presently, the Great Lakes Program is divided into office and field functions to address: basic water level measurements, vertical datums, earth movement (for the International Great Lakes Datum), basin precipitation, abstracts of diversions, vertical control support for hydrographic surveys, construction and maintenance activities, and needs of user communities. Since 1973, real-time data has been provided for emergency water planning situations by using water-level gauges with electronic telemetry units. Presently, 28 of these water level measurement units are operating in the field; OES plans to install and operate new state-of-the-art electronic telemetry systems in the future.

This report, published annually, contains water level gauge records for the Great Lakes in units of both feet and meters. The following information is presented in tabular form for the calendar year:

1. Daily and monthly average water levels for each gauge in the network;
2. The highest and lowest daily average water level for each month;
3. A frequency distribution of daily average water levels that shows the number of times each month recorded levels were at or above specific elevations; and
4. Monthly average water level stages for each lake, from 1900 to the present.

OES gauges record water levels, in either analog or digital form, on strip charts retained by OES. Recorded hourly values are used to compute daily averages; monthly values are derived from daily averages. Data are recorded in units of feet that are converted later to metric units. The metric units were then adjusted to reflect IGLD 1985.

Locations of gauges for recording water levels are shown on the inside cover page. An index on subsequent pages lists gauge identification numbers, their locations, and their geographic coordinates.

A separate publication, printed every five years, shows only monthly and annual averages, and highest and lowest monthly averages for the period of record (latest issue: Great Lakes Water Levels, 1860-1990). A hydrograph, that depicts data for master control gauges for each lake, is available for a nominal fee by writing: National Ocean Service, Office of Ocean and Earth Sciences, N/OES21, Rockville, Maryland, 20852.

DATUM OF REFERENCE: All tabulated elevations are referred to the International Great Lakes Datum. The feet values are on IGLD 1955 and the metric values are on IGLD 1985. A complete explanation of the datum can be obtained at no charge by writing the address above.

TABLE OF CONTENTS

Station Number and Location		Latitude			Longitude			Page	
		North			West			Feet	Meters
ST. LAWRENCE RIVER									
1030	Ogdensburg, New York	44	42	10	75	29	40	1	105
1062	Alexandria Bay C.G., New York	44	19	56	75	56	06	3	107
LAKE ONTARIO (CHART DATUM 242.8 ft. / 74.2 m.)									
2000	Cape Vincent, New York	44	07	45	76	20	15	5	109
2030	OSWEGO, New York	43	27	51	76	30	42	7	111
2058	Rochester, New York	43	16	10	77	37	34	9	113
2076	Olcott, New York	43	20	17	78	43	39	11	115
NIAGARA RIVER									
3007	Ashland Avenue, Niagara Falls, New York	43	06	00	79	03	35	13	117
3009	American Falls, Niagara Falls, New York	43	04	54	79	03	42	15	119
3012	Niagara Intake, Niagara Falls, New York	43	04	40	79	00	55	17	121
LAKE ERIE (CHART DATUM 568.6 ft. / 173.5 m.)									
3020	Buffalo, New York	42	52	39	78	53	27	19	123
3028	Sturgeon Point, New York	42	41	27	79	02	52	21	125
3038	Erie, Pennsylvania	42	09	15	80	04	32	23	127
3053	FAIRPORT, Ohio (IGLD 1985)	41	45	00	81	17	00	25	129
3063	CLEVELAND, Ohio (IGLD 1955)	41	32	27	81	38	08	27	131
3079	Marblehead, Ohio	41	32	40	82	43	53	29	133
3085	Toledo, Ohio	41	41	36	83	28	20	31	135
3090	Fermi Power Plant, Stony Point, Michigan	41	57	35	83	15	30	33	137

NOTES: Locations shown in **CAPITAL** letters are master gauges.
Feet values are IGLD 1955, Metric values are IGLD 1985.

TABLE OF CONTENTS

Station Number and Location		Latitude			Longitude			Page	
		North			West			Feet	Meters
DETROIT RIVER									
4020	Gibraltar, Michigan	42	05	30	83	11	10	35	139
4030	Wyandotte, Michigan	42	12	12	83	08	50	37	141
4036	Fort Wayne, Detroit, Michigan	42	17	53	83	05	34	39	143
4049	Windmill Point, Detroit, Michigan	42	21	26	82	55	45	41	145
LAKE ST. CLAIR (CHART DATUM 571.7 ft. / 174.4 m.)									
4052	ST. CLAIR SHORES, Michigan	42	28	24	82	52	45	43	147
ST. CLAIR RIVER									
4070	Algonac, Michigan	42	37	15	82	31	37	45	149
4080	St. Clair S.P., St. Clair, Michigan	42	48	45	82	29	09	47	151
4087	Dry Dock, Port Huron, Michigan	42	56	43	82	26	37	49	153
4090	Mouth of the Black River, Port Huron, MI	42	58	25	82	25	16	51	155
4096	Dunn Paper Company, Port Huron, Michigan	43	00	12	82	25	20	53	157
4098	Fort Gratiot, Port Huron, Michigan	43	00	23	82	25	21	55	159
LAKE HURON (CHART DATUM 576.8 ft. / 176.0 m.)									
5002	Lakeport, Michigan	43	08	30	82	29	35	57	161
5014	HARBOR BEACH, Michigan	43	50	45	82	38	38	59	163
5035	Essexville, Michigan	43	38	29	83	50	48	61	165
5059	Harrisville, Michigan	44	39	34	83	17	11	63	167
5080	Mackinaw City, Michigan	45	46	40	84	43	10	65	169
5099	De Tour Village, Michigan	45	59	30	83	53	48	67	171

NOTES: Locations shown in **CAPITAL** letters are master gauges.
Feet values are IGLD 1955, Metric values are IGLD 1985.

TABLE OF CONTENTS

Station Number and Location		Latitude			Longitude			Page	
		North			West			Feet	Meters
ST. MARY'S RIVER									
6060	U.S. Slip below locks, Sault Ste. Marie, MI	46	30	03	84	20	24	69	173
6070	S.W. Pier above locks, Sault Ste. Marie, MI	46	30	05	84	22	21	71	175
LAKE MICHIGAN (CHART DATUM 576.8 ft. / 176.0 m.)									
7023	Ludington, Michigan	43	56	48	86	26	30	73	177
7031	Holland, Michigan	42	46	05	86	12	06	75	179
7044	Calumet Harbor, S. Chicago, Illinois	41	43	48	87	32	18	77	181
7057	Milwaukee, Wisconsin	43	00	05	87	53	13	79	183
7068	Kewaunee, Wisconsin	44	27	48	87	30	00	81	185
7072	Sturgeon Bay Canal, Wisconsin	44	47	40	87	18	48	83	187
7079	Green Bay, Wisconsin	44	32	27	88	00	30	85	189
7096	Port Inland, Michigan	45	58	10	85	52	20	87	191
LAKE SUPERIOR (CHART DATUM 600.0 ft. / 183.2 m.)									
9004	POINT IROQUOIS, Michigan (IGLD 1955)	46	29	06	84	37	52	89	193
9018	MARQUETTE C.G., Michigan (IGLD 1985)	46	32	42	87	22	42	91	195
9044	Ontonagon, Michigan	46	52	40	89	19	15	93	197
9064	Duluth, Minnesota	46	46	32	92	05	34	95	199
9090	Grand Marais, Minnesota	47	44	53	90	20	30	97	201
Lake Ontario Stages at OSWEGO, New York								98	202
Lake Erie Stages at CLEVELAND/FAIRPORT, Ohio								99	203
Lake St. Clair Stages at ST. CLAIR SHORES, Michigan								100	204
Lakes Huron-Michigan Stages at HARBOR BEACH, Michigan								101	205
Lake Superior Stages at MARQUETTE, Michigan								102	206

NOTES: Locations shown in **CAPITAL** letters are master gauges.
Feet values are IGLD 1955, Metric values are IGLD 1985.

Annual Summary of Levels, in Feet, 1991

International
Great Lakes
Datum (1955)

Station: 831-1030 Ogdensburg, New York on St. Lawrence River

HIGHEST

Monthly mean elevation: 245.44 May
Daily mean elevation: 245.90 23 Apr
Instant/hourly elevation: 246.28 1100/28 Mar

LOWEST

Monthly mean elevation: 242.73 Nov
Daily mean elevation: 242.21 11 Nov
Instant/hourly elevation: 241.17 0700/3 Dec

----- Extreme Daily Means by Month -----

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max	245.05	244.74	245.37	245.90	245.84	245.44	244.99	244.69	243.74	243.48	243.30	243.25
Day	18	8	28	23	7	1	8	1	23	7	25	15
Min	244.03	244.09	243.95	244.66	245.17	244.70	244.45	243.72	243.09	242.42	242.21	242.24
Day	11	25	3	21	18	30	29	31	25	31	11	3

----- Frequency Distribution of Daily Mean Levels -----

Elev. (ft.)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Elev. (ft.)	No. of days above elev.
245.80				2	2								245.80	4
245.60				5	3								245.60	12
245.40				5	10	4							245.40	31
245.20			1	7	14	14							245.20	67
245.00	1		1	1	2	6							245.00	78
244.80	3		2	4		4	16						244.80	107
244.60	9	4	10	6		2	12	2					244.60	152
244.40	12	13	10				3	4					244.40	194
244.20	4	6	3					11					244.20	218
244.00	2	5	3					5					244.00	233
243.80			1					7					243.80	241
243.60								2					243.60	250
243.40									7				243.40	267
243.20								15	2				243.20	284
243.00								7	7	1	2		243.00	304
242.80								1	13	1	5		242.80	327
242.60									5	8	10		242.60	350
242.40										4	5	3	242.40	362
242.20											2	1	242.20	365

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 831-1030 Ogdensburg, New York on St. Lawrence River

International
Great Lakes
Datum (1955)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	244.38	244.43	244.15	244.73	245.71	245.44	244.76	244.69	243.56	243.33	242.39	242.99
2	244.42	244.59	244.25	244.84	245.82	245.43	244.71	244.63	243.60	243.30	242.92	242.60
3	244.36	244.60	243.95	244.76	245.71	245.38	244.69	244.52	243.72	243.22	243.03	242.24
4	244.72	244.52	244.03	244.72	245.50	245.23	244.64	244.50	243.72	243.02	242.90	242.80
5	244.45	244.51	244.50	244.74	245.38	245.25	244.76	244.48	243.65	243.23	242.78	242.65
6	244.44	244.47	244.51	244.82	245.49	245.31	244.87	244.42	243.59	243.44	242.98	242.56
7	244.29	244.55	245.20	244.88	245.84	245.41	244.97	244.39	243.57	243.48	242.61	242.97
8	244.13	244.74	244.84	244.82	245.69	245.38	244.99	244.32	243.54	243.35	242.64	242.72
9	244.60	244.73	244.73	244.79	245.55	245.28	244.97	244.06	243.46	243.38	242.62	242.90
10	244.46	244.70	244.68	245.54	245.50	245.41	244.97	244.32	243.70	243.24	242.46	242.79
11	244.03	244.64	244.63	245.72	245.53	245.40	244.95	244.33	243.45	243.05	242.21	243.06
12	244.25	244.54	244.70	245.50	245.50	245.39	244.88	244.25	243.41	243.09	242.61	242.86
13	244.47	244.37	244.63	245.34	245.43	245.30	244.78	244.28	243.37	243.08	242.74	243.06
14	244.56	244.24	244.45	245.27	245.28	245.31	244.83	244.29	243.32	243.00	242.73	243.06
15	244.51	244.59	244.51	245.32	245.30	245.29	244.86	244.39	243.48	243.20	242.87	243.25
16	244.44	244.43	244.64	245.60	245.33	245.30	244.94	244.31	243.57	243.17	242.69	242.84
17	244.73	244.44	244.56	245.36	245.17	245.19	244.95	244.38	243.70	243.06	242.63	242.63
18	245.05	244.11	244.41	245.32	245.17	245.17	244.86	244.34	243.52	243.15	242.60	242.71
19	244.84	244.20	244.63	245.24	245.26	245.21	244.86	243.89	243.54	243.01	242.68	242.90
20	244.72	244.46	244.56	245.12	245.30	245.27	244.88	243.83	243.44	243.04	242.75	242.99
21	244.49	244.40	244.27	244.66	245.40	245.13	244.76	243.98	243.40	243.08	242.70	243.19
22	244.65	244.55	244.04	245.48	245.32	244.93	244.61	244.15	243.40	243.07	242.49	243.21
23	244.88	244.27	244.21	245.90	245.28	244.93	244.90	243.96	243.74	242.94	242.55	243.08
24	244.85	244.23	244.61	245.82	245.36	244.96	244.94	243.79	243.32	243.00	242.87	242.75
25	244.72	244.09	244.56	245.77	245.32	244.96	244.76	243.81	243.09	243.02	243.30	242.78
26	244.75	244.16	244.48	245.75	245.23	245.01	244.79	244.02	243.43	242.96	242.82	242.95
27	244.76	244.24	244.54	245.75	245.43	245.08	244.63	244.07	243.62	242.96	242.76	242.87
28	244.71	244.19	245.37	245.39	245.47	245.16	244.60	244.01	243.44	242.54	242.99	242.97
29	244.49		244.95	245.46	245.39	244.79	244.45	243.85	243.35	242.45	242.59	242.62
30	244.44		244.75	245.64	245.38	244.70	244.55	243.95	243.21	242.47	242.89	242.50
31	244.61		244.78		245.48		244.69	243.72		242.42		242.73
Mean	244.55	244.43	244.55	245.27	245.44	245.20	244.80	244.19	243.50	243.06	242.73	242.85
Max. Hr. Day	245.55 1600 18	244.88 1400 8	246.28 1100 28	246.10 1900 10	246.03 1600 7	245.64 1200 12	245.30 0700 8	244.87 1800 1	244.07 0400 4	243.85 2200 5	243.59 0900 25	244.42 2300 14
Min. Hr. Day	243.85 2000 11	243.94 0200 23	243.34 0400 4	244.27 2000 21	244.77 1700 17	244.55 0700 30	244.34 2100 29	243.48 2400 31	242.78 0500 25	242.23 2300 30	242.00 0900 11	241.17 0700 3

* Indicates Less than 90% of the Hourly Data Available.
/ Indicates No Data.

Annual Mean 244.21

International
Great Lakes
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 831-1062 Alexandria Bay C.G., New York on St. Lawrence River

HIGHEST

Monthly mean elevation: 246.19 May
Daily mean elevation: 246.50 7 May
Instant/hourly elevation: 246.66 1400/2 May

LOWEST

Monthly mean elevation: 243.11 Nov
Daily mean elevation: 242.76 11 Nov
Instant/hourly elevation: 242.24 0600/3 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 245.43 | 245.50 | 245.96 | 246.39 | 246.50 | 246.11 | 245.70 | 245.27 | 244.20 | 243.80 | 243.53 | 243.53 |
| Day | 31     | 15     | 28     | 27     | 7      | 2      | 8      | 2      | 4      | 7      | 25     | 15     |
| Min | 244.47 | 245.09 | 244.97 | 245.53 | 245.96 | 245.50 | 245.16 | 244.24 | 243.64 | 243.00 | 242.76 | 242.89 |
| Day | 11     | 25     | 3      | 4      | 26     | 30     | 29     | 31     | 25     | 31     | 11     | 3      |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.
(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.
(ft.) | No. of days
above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.40 | | | | | 4 | | | | | | | | 246.40 | 4 |
| 246.20 | | | | 7 | 9 | | | | | | | | 246.20 | 20 |
| 246.00 | | | | 6 | 17 | 9 | | | | | | | 246.00 | 52 |
| 245.80 | | | 2 | 7 | 1 | 12 | | | | | | | 245.80 | 74 |
| 245.60 | | | 1 | 3 | | 7 | 5 | | | | | | 245.60 | 90 |
| 245.40 | 2 | 1 | 14 | 7 | | 2 | 19 | | | | | | 245.40 | 135 |
| 245.20 | 7 | 18 | 8 | | | | 6 | 2 | | | | | 245.20 | 176 |
| 245.00 | 7 | 9 | 5 | | | | 1 | 5 | | | | | 245.00 | 203 |
| 244.80 | 5 | | 1 | | | | | 2 | | | | | 244.80 | 211 |
| 244.60 | 8 | | | | | | | 9 | | | | | 244.60 | 228 |
| 244.40 | 2 | | | | | | | 9 | | | | | 244.40 | 239 |
| 244.20 | | | | | | | | 4 | | | | | 244.20 | 243 |
| 244.00 | | | | | | | | | 12 | | | | 244.00 | 255 |
| 243.80 | | | | | | | | | 14 | | | | 243.80 | 269 |
| 243.60 | | | | | | | | | 4 | | | | 243.60 | 282 |
| 243.40 | | | | | | | | | | 9 | | | 243.40 | 299 |
| 243.20 | | | | | | | | | | 13 | 1 | 3 | 243.20 | 323 |
| 243.00 | | | | | | | | | | 5 | 7 | 12 | 243.00 | 354 |
| 242.80 | | | | | | | | | | 3 | 15 | 13 | 242.80 | 364 |
| 242.60 | | | | | | | | | | 1 | 6 | 3 | 242.60 | 365 |
| | | | | | | | | | | | 1 | | | |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 831-1062 Alexandria Bay C.G., New York on St. Lawrence River

International
Great Lakes
Datum (1955)

| Day | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 | 244.74 | 245.23 | 245.07 | 245.55 | 246.40 | 246.11 | 245.52 | 245.27 | 244.12 | 243.73 | 242.95 | 243.25 |
| 2 | 244.75 | 245.39 | 245.12 | 245.66 | 246.49 | 246.11 | 245.46 | 245.27 | 244.12 | 243.69 | 243.35 | 242.97 |
| 3 | 244.75 | 245.37 | 244.97 | 245.56 | 246.46 | 246.06 | 245.44 | 245.15 | 244.18 | 243.63 | 243.33 | 242.89 |
| 4 | 244.98 | 245.33 | 245.14 | 245.53 | 246.30 | 245.98 | 245.39 | 245.18 | 244.20 | 243.50 | 243.23 | 243.16 |
| 5 | 244.77 | 245.32 | 245.36 | 245.55 | 246.21 | 245.99 | 245.51 | 245.15 | 244.13 | 243.66 | 243.14 | 243.04 |
| 6 | 244.78 | 245.28 | 245.35 | 245.56 | 246.32 | 246.00 | 245.57 | 245.10 | 244.09 | 243.80 | 243.32 | 243.01 |
| 7 | 244.66 | 245.32 | 245.82 | 245.61 | 246.50 | 246.04 | 245.61 | 245.07 | 244.08 | 243.80 | 243.03 | 243.29 |
| 8 | 244.56 | 245.39 | 245.57 | 245.57 | 246.42 | 246.03 | 245.70 | 245.00 | 244.05 | 243.70 | 243.08 | 243.12 |
| 9 | 244.96 | 245.40 | 245.51 | 245.57 | 246.32 | 245.96 | 245.65 | 244.69 | 244.00 | 243.72 | 243.04 | 243.25 |
| 10 | 244.80 | 245.38 | 245.50 | 246.03 | 246.30 | 246.02 | 245.63 | 244.83 | 244.15 | 243.64 | 242.92 | 243.17 |
| 11 | 244.47 | 245.36 | 245.46 | 246.11 | 246.27 | 246.02 | 245.63 | 244.80 | 243.96 | 243.51 | 242.76 | 243.32 |
| 12 | 244.80 | 245.31 | 245.51 | 245.96 | 246.29 | 246.05 | 245.57 | 244.74 | 243.93 | 243.53 | 243.02 | 243.19 |
| 13 | 244.96 | 245.24 | 245.45 | 245.86 | 246.23 | 246.00 | 245.51 | 244.75 | 243.89 | 243.52 | 243.12 | 243.34 |
| 14 | 245.04 | 245.20 | 245.36 | 245.84 | 246.16 | 245.98 | 245.52 | 244.74 | 243.84 | 243.43 | 243.08 | 243.38 |
| 15 | 244.98 | 245.50 | 245.41 | 245.95 | 246.13 | 245.98 | 245.51 | 244.80 | 243.97 | 243.60 | 243.20 | 243.53 |
| 16 | 244.93 | 245.38 | 245.48 | 246.12 | 246.11 | 246.02 | 245.53 | 244.75 | 244.01 | 243.55 | 243.07 | 243.21 |
| 17 | 245.19 | 245.37 | 245.39 | 246.02 | 246.04 | 245.92 | 245.55 | 244.79 | 244.09 | 243.48 | 243.01 | 243.10 |
| 18 | 245.41 | 245.10 | 245.32 | 246.00 | 246.04 | 245.89 | 245.49 | 244.80 | 243.99 | 243.54 | 242.99 | 243.14 |
| 19 | 245.22 | 245.20 | 245.49 | 245.94 | 246.06 | 245.91 | 245.48 | 244.49 | 244.00 | 243.46 | 243.07 | 243.24 |
| 20 | 245.12 | 245.34 | 245.42 | 245.88 | 246.07 | 245.95 | 245.49 | 244.43 | 243.93 | 243.45 | 243.09 | 243.28 |
| 21 | 245.02 | 245.26 | 245.18 | 245.70 | 246.11 | 245.85 | 245.44 | 244.53 | 243.88 | 243.48 | 243.06 | 243.44 |
| 22 | 245.15 | 245.38 | 245.10 | 246.20 | 246.07 | 245.71 | 245.36 | 244.60 | 243.86 | 243.45 | 242.95 | 243.44 |
| 23 | 245.40 | 245.14 | 245.22 | 246.36 | 246.04 | 245.69 | 245.54 | 244.47 | 244.14 | 243.38 | 242.98 | 243.34 |
| 24 | 245.28 | 245.20 | 245.48 | 246.38 | 246.06 | 245.69 | 245.51 | 244.35 | 243.77 | 243.40 | 243.23 | 243.12 |
| 25 | 245.22 | 245.09 | 245.43 | 246.36 | 246.04 | 245.67 | 245.42 | 244.35 | 243.64 | 243.40 | 243.53 | 243.17 |
| 26 | 245.26 | 245.14 | 245.35 | 246.35 | 245.96 | 245.70 | 245.45 | 244.45 | 243.91 | 243.36 | 243.14 | 243.28 |
| 27 | 245.28 | 245.17 | 245.40 | 246.39 | 246.10 | 245.73 | 245.34 | 244.47 | 244.00 | 243.37 | 243.13 | 243.20 |
| 28 | 245.24 | 245.11 | 245.96 | 246.20 | 246.13 | 245.77 | 245.28 | 244.44 | 243.83 | 243.07 | 243.25 | 243.27 |
| 29 | 245.05 | | 245.66 | 246.25 | 246.07 | 245.53 | 245.16 | 244.35 | 243.78 | 243.03 | 242.98 | 243.02 |
| 30 | 245.15 | | 245.57 | 246.36 | 246.08 | 245.50 | 245.24 | 244.41 | 243.67 | 243.05 | 243.22 | 242.98 |
| 31 | 245.43 | | 245.54 | | 246.14 | | 245.30 | 244.24 | | 243.00 | | 243.13 |
| Mean | 245.01 | 245.28 | 245.41 | 245.95 | 246.19 | 245.90 | 245.48 | 244.72 | 243.97 | 243.48 | 243.11 | 243.20 |
| Max.
Hr.
Day | 245.82
1600
18 | 245.68
0200
17 | 246.53
1000
28 | 246.53
2000
30 | 246.66
1400
2 | 246.33
1500
12 | 245.96
0700
8 | 245.43
1600
2 | 244.41
1300
23 | 244.08
2100
6 | 243.71
1400
25 | 244.35
2200
14 |
| Min.
Hr.
Day | 244.35
1800
11 | 244.85
0100
23 | 244.76
0300
4 | 245.43
1800
9 | 245.76
1700
17 | 245.31
0500
30 | 245.09
0800
29 | 244.00
2400
31 | 243.45
0400
25 | 242.88
2100
30 | 242.63
0400
11 | 242.24
0600
3 |

* Indicates Less than 90% of the Hourly Data Available.
/ Indicates No Data.

Annual Mean 244.81

International
Great Lakes
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 831-2000 Cape Vincent, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 246.41 May
Daily mean elevation: 246.64 2 May
Instant/hourly elevation: 246.84 2000/1 May

LOWEST

Monthly mean elevation: 243.35 Nov
Daily mean elevation: 243.16 11 Nov
Instant/hourly elevation: 242.29 0400/3 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 245.61 | 245.68 | 246.06 | 246.55 | 246.64 | 246.30 | 245.83 | 245.32 | 244.53 | 244.05 | 243.64 | 243.64 |
| Day | 31     | 15     | 28     | 30     | 2      | 1      | 8      | 1      | 4      | 6      | 2      | 15     |
| Min | 244.80 | 245.33 | 245.22 | 245.74 | 246.21 | 245.67 | 245.28 | 244.59 | 243.99 | 243.41 | 243.16 | 243.18 |
| Day | 11     | 18     | 3      | 8      | 26     | 30     | 29     | 31     | 30     | 31     | 11     | 2      |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.
(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.
(ft.) | No. of days
above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.60 | | | | | 3 | | | | | | | | 246.60 | 3 |
| 246.40 | | | | 7 | 11 | | | | | | | | 246.40 | 21 |
| 246.20 | | | | 2 | 17 | 8 | | | | | | | 246.20 | 48 |
| 246.00 | | | 1 | 9 | | 12 | | | | | | | 246.00 | 70 |
| 245.80 | | | 2 | 4 | | 8 | 1 | | | | | | 245.80 | 85 |
| 245.60 | 1 | 2 | 17 | 8 | | 2 | 15 | | | | | | 245.60 | 130 |
| 245.40 | 7 | 18 | 8 | | | | 11 | | | | | | 245.40 | 174 |
| 245.20 | 7 | 8 | 3 | | | | 4 | 5 | | | | | 245.20 | 201 |
| 245.00 | | | | | | | | 12 | | | | | 245.00 | 220 |
| 244.80 | 5 | | | | | | | 6 | | | | | 244.80 | 231 |
| 244.60 | 1 | | | | | | | 7 | | | | | 244.60 | 239 |
| 244.40 | | | | | | | | 1 | 8 | | | | 244.40 | 248 |
| 244.20 | | | | | | | | | 15 | | | | 244.20 | 263 |
| 244.00 | | | | | | | | | 6 | 2 | | | 244.00 | 271 |
| 243.80 | | | | | | | | | 1 | 14 | | | 243.80 | 286 |
| 243.60 | | | | | | | | | | 11 | 1 | 4 | 243.60 | 302 |
| 243.40 | | | | | | | | | | 4 | 7 | 18 | 243.40 | 331 |
| 243.20 | | | | | | | | | | | 20 | 8 | 243.20 | 359 |
| 243.00 | | | | | | | | | | | 2 | 1 | 243.00 | 362 |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 831-2000 Cape Vincent, New York on Lake Ontario

International
Great Lakes
Datum (1955)

| Day | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 | 245.00 | 245.40 | 245.32 | 245.79 | 246.56 | 246.30 | 245.67 | 245.32 | 244.50 | 244.00 | 243.36 | 243.41 |
| 2 | 244.97 | 245.54 | 245.35 | 245.86 | 246.64 | 246.28 | 245.62 | 245.28 | 244.48 | 243.96 | 243.64 | 243.18 |
| 3 | 245.02 | 245.49 | 245.22 | 245.77 | 246.63 | 246.26 | 245.60 | 245.22 | 244.53 | 243.93 | 243.56 | 243.32 |
| 4 | 245.16 | 245.45 | 245.49 | 245.75 | 246.57 | 246.22 | 245.59 | 245.24 | 244.53 | 243.82 | 243.46 | 243.38 |
| 5 | 245.00 | 245.45 | 245.58 | 245.76 | 246.47 | 246.21 | 245.72 | 245.22 | 244.47 | 243.99 | 243.41 | 243.30 |
| 6 | 245.01 | 245.40 | 245.58 | 245.75 | 246.58 | 246.21 | 245.73 | 245.19 | 244.43 | 244.05 | 243.56 | 243.35 |
| 7 | 244.92 | 245.46 | 245.98 | 245.76 | 246.62 | 246.23 | 245.76 | 245.15 | 244.42 | 244.03 | 243.32 | 243.53 |
| 8 | 244.88 | 245.51 | 245.74 | 245.74 | 246.58 | 246.22 | 245.83 | 245.11 | 244.40 | 243.95 | 243.35 | 243.36 |
| 9 | 245.20 | 245.53 | 245.70 | 245.75 | 246.52 | 246.16 | 245.78 | 244.98 | 244.37 | 243.97 | 243.31 | 243.46 |
| 10 | 245.02 | 245.52 | 245.69 | 246.06 | 246.52 | 246.19 | 245.75 | 245.10 | 244.45 | 243.92 | 243.19 | 243.43 |
| 11 | 244.80 | 245.49 | 245.68 | 246.03 | 246.49 | 246.16 | 245.77 | 245.05 | 244.31 | 243.83 | 243.16 | 243.49 |
| 12 | 245.12 | 245.48 | 245.72 | 245.94 | 246.50 | 246.19 | 245.72 | 245.02 | 244.27 | 243.84 | 243.26 | 243.42 |
| 13 | 245.22 | 245.39 | 245.66 | 245.88 | 246.47 | 246.13 | 245.69 | 245.06 | 244.24 | 243.83 | 243.33 | 243.51 |
| 14 | 245.29 | 245.42 | 245.61 | 245.90 | 246.41 | 246.10 | 245.69 | 245.01 | 244.22 | 243.76 | 243.26 | 243.64 |
| 15 | 245.22 | 245.68 | 245.67 | 246.06 | 246.40 | 246.10 | 245.64 | 245.10 | 244.31 | 243.88 | 243.38 | 243.64 |
| 16 | 245.20 | 245.61 | 245.70 | 246.14 | 246.37 | 246.13 | 245.64 | 245.02* | 244.33 | 243.82 | 243.28 | 243.46 |
| 17 | 245.37 | 245.54 | 245.62 | 246.14 | 246.34 | 246.07 | 245.65 | 245.08* | 244.34 | 243.77 | 243.25 | 243.44 |
| 18 | 245.52 | 245.33 | 245.60 | 246.12 | 246.35 | 246.04 | 245.58 | 245.10 | 244.31 | 243.81 | 243.24 | 243.45 |
| 19 | 245.36 | 245.45 | 245.73 | 246.08 | 246.33 | 246.06 | 245.58 | 244.88 | 244.30 | 243.76 | 243.29 | 243.50 |
| 20 | 245.33* | 245.56 | 245.64 | 246.07 | 246.32 | 246.08 | 245.57 | 244.83 | 244.27 | 243.74 | 243.28 | 243.49 |
| 21 | / | 245.47 | 245.49 | 246.01 | 246.33 | 245.98 | 245.53 | 244.91 | 244.20 | 243.77 | 243.26 | 243.62 |
| 22 | / | 245.55 | 245.46 | 246.39 | 246.29 | 245.86 | 245.48 | 244.92 | 244.20 | 243.71 | 243.22 | 243.61 |
| 23 | / | 245.37 | 245.60 | 246.37 | 246.26 | 245.85 | 245.61 | 244.81 | 244.36 | 243.68 | 243.25 | 243.50 |
| 24 | 245.48* | 245.43 | 245.73 | 246.43 | 246.27 | 245.84 | 245.56 | 244.72 | 244.06 | 243.68 | 243.45 | 243.39 |
| 25 | 245.49 | 245.34 | 245.67 | 246.46 | 246.25 | 245.83 | 245.50 | 244.73 | 244.01 | 243.67 | 243.57 | 243.44 |
| 26 | 245.56 | 245.40 | 245.60 | 246.47 | 246.21 | 245.82 | 245.52 | 244.78 | 244.24 | 243.65 | 243.31 | 243.52 |
| 27 | 245.56 | 245.41 | 245.67 | 246.49 | 246.28 | 245.84 | 245.42 | 244.76 | 244.22 | 243.64 | 243.38 | 243.42 |
| 28 | 245.54 | 245.36 | 246.06 | 246.41 | 246.30 | 245.84 | 245.36 | 244.74 | 244.09 | 243.45 | 243.38 | 243.45 |
| 29 | 245.33 | | 245.84 | 246.45 | 246.27 | 245.67 | 245.28 | 244.68 | 244.08 | 243.44 | 243.22 | 243.30 |
| 30 | 245.41 | | 245.80 | 246.55 | 246.28 | 245.67 | 245.35 | 244.73 | 243.99 | 243.43 | 243.44 | 243.34 |
| 31 | 245.61 | | 245.73 | | 246.31 | | 245.36 | 244.59 | | 243.41 | | 243.42 |
| Mean | 245.24 | 245.47 | 245.64 | 246.08 | 246.41 | 246.05 | 245.60 | 244.98 | 244.30 | 243.78 | 243.35 | 243.44 |
| Max.
Hr.
Day | 245.88
0300
28 | 245.97
2400
16 | 246.74
0800
28 | 246.70
1900
30 | 246.84
2000
1 | 246.47
1300
12 | 246.19
0500
8 | 245.39
0100
18 | 244.72
0200
4 | 244.48
2100
5 | 243.86
2400
27 | 244.94
1900
14 |
| Min.
Hr.
Day | 244.72
1200
11 | 245.08
2300
22 | 245.09
0100
4 | 245.59
2300
9 | 245.94
1100
26 | 245.43
0500
30 | 245.21
0700
29 | 244.41
2300
31 | 243.79
0200
25 | 243.25
2000
30 | 242.94
0800
11 | 242.29
0400
3 |

* Indicates Less than 90% of the Hourly Data Available.
/ Indicates No Data.

Annual Mean 245.03

International
Great Lakes
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 905-2030 Oswego, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 246.48 May
Daily mean elevation: 246.72 3 May
Instant/hourly elevation: 246.88 1800/1 May

LOWEST

Monthly mean elevation: 243.44 Nov
Daily mean elevation: 243.32 19 Nov
Instant/hourly elevation: 242.63 0300/3 Dec

----- Extreme Daily Means by Month -----

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 245.77 | 245.76 | 246.03 | 246.59 | 246.72 | 246.41 | 245.93 | 245.45 | 244.69 | 244.17 | 243.61 | 243.81 |
| Day | 31 | 15 | 7 | 30 | 3 | 1 | 8 | 5 | 1 | 7 | 25 | 15 |
| Min | 244.94 | 245.41 | 245.38 | 245.81 | 246.29 | 245.85 | 245.31 | 244.74 | 243.99 | 243.59 | 243.32 | 243.41 |
| Day | 1 | 18 | 1 | 6 | 26 | 30 | 30 | 26 | 30 | 29 | 19 | 8 |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.
(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.
(ft.) | No. of days
above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.60 | | | | | 5 | | | | | | | | 246.60 | 5 |
| 246.40 | | | | 9 | 14 | 1 | | | | | | | 246.40 | 29 |
| 246.20 | | | | 4 | 12 | 16 | | | | | | | 246.20 | 61 |
| 246.00 | | | 1 | 7 | | 5 | | | | | | | 246.00 | 74 |
| 245.80 | | | 8 | 10 | | 8 | 4 | | | | | | 245.80 | 104 |
| 245.60 | 3 | 6 | 17 | | | | 23 | | | | | | 245.60 | 153 |
| 245.40 | 12 | 22 | 4 | | | | 1 | 2 | | | | | 245.40 | 194 |
| 245.20 | 6 | | 1 | | | | 3 | 8 | | | | | 245.20 | 212 |
| 245.00 | 8 | | | | | | | 9 | | | | | 245.00 | 229 |
| 244.80 | 2 | | | | | | | 7 | | | | | 244.80 | 238 |
| 244.60 | | | | | | | | 5 | 2 | | | | 244.60 | 245 |
| 244.40 | | | | | | | | | 14 | | | | 244.40 | 259 |
| 244.20 | | | | | | | | | 9 | | | | 244.20 | 268 |
| 244.00 | | | | | | | | | 4 | 4 | | | 244.00 | 276 |
| 243.80 | | | | | | | | | 1 | 16 | | 1 | 243.80 | 294 |
| 243.60 | | | | | | | | | | 9 | 1 | 6 | 243.60 | 310 |
| 243.40 | | | | | | | | | | 2 | 17 | 24 | 243.40 | 353 |
| 243.20 | | | | | | | | | | | 12 | | 243.20 | 365 |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 905-2030 Oswego, New York on Lake Ontario

International
Great Lakes
Datum (1955)

| Day | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 | 244.94 | 245.56 | 245.38 | 245.86 | 246.59 | 246.41 | 245.79 | 245.33 | 244.69 | 244.03 | 243.52 | 243.46 |
| 2 | 245.04 | 245.46 | 245.43 | 245.92 | 246.68 | 246.39 | 245.75 | 245.40 | 244.59 | 243.97 | 243.60 | 243.41 |
| 3 | 245.09 | 245.51 | 245.54 | 245.85 | 246.72 | 246.37 | 245.72 | 245.34 | 244.56 | 244.00 | 243.58 | 243.43 |
| 4 | 245.15 | 245.50 | 245.71 | 245.82 | 246.65 | 246.36 | 245.67 | 245.41 | 244.61 | 243.96 | 243.55 | 243.63 |
| 5 | 245.06 | 245.52 | 245.69 | 245.82 | 246.59 | 246.29 | 245.70 | 245.45 | 244.55 | 243.97 | 243.49 | 243.46 |
| 6 | 245.13 | 245.50 | 245.60 | 245.81 | 246.57 | 246.28 | 245.74 | 245.35 | 244.51 | 244.09 | 243.48 | 243.50 |
| 7 | 245.12 | 245.56 | 246.03 | 245.82 | 246.62 | 246.27 | 245.78 | 245.28 | 244.54 | 244.17 | 243.50 | 243.48 |
| 8 | 245.03 | 245.57 | 245.86 | 245.83 | 246.62 | 246.27 | 245.93 | 245.22 | 244.53 | 244.00 | 243.44 | 243.41 |
| 9 | 245.12 | 245.59 | 245.80 | 245.88 | 246.60 | 246.23 | 245.88 | 245.17 | 244.45 | 243.94 | 243.42 | 243.57 |
| 10 | 245.23 | 245.61 | 245.86 | 246.04 | 246.59 | 246.22 | 245.87 | 245.21 | 244.51 | 244.01 | 243.41 | 243.50 |
| 11 | 245.00 | 245.69 | 245.85 | 246.16 | 246.56 | 246.25 | 245.84 | 245.27 | 244.48 | 243.98 | 243.47 | 243.51 |
| 12 | 245.25 | 245.57 | 245.83 | 246.05 | 246.56 | 246.37 | 245.79 | 245.19 | 244.43 | 243.96 | 243.38 | 243.42 |
| 13 | 245.30 | 245.49 | 245.80 | 246.01 | 246.53 | 246.34 | 245.80 | 245.17 | 244.41 | 243.96 | 243.39 | 243.52 |
| 14 | 245.24 | 245.53 | 245.77 | 246.00 | 246.53 | 246.25 | 245.75 | 245.13 | 244.32 | 243.84 | 243.36 | 243.75 |
| 15 | 245.29 | 245.76 | 245.78 | 246.06 | 246.47 | 246.21 | 245.74 | 245.14 | 244.33 | 243.84 | 243.40 | 243.81 |
| 16 | 245.31 | 245.68 | 245.78 | 246.19 | 246.43 | 246.26 | 245.69 | 245.14 | 244.35 | 243.92 | 243.50 | 243.60 |
| 17 | 245.51 | 245.56 | 245.71 | 246.22 | 246.51 | 246.23 | 245.69 | 245.09 | 244.46 | 243.87 | 243.37 | 243.49 |
| 18 | 245.67 | 245.41 | 245.70 | 246.22 | 246.48 | 246.18 | 245.69 | 245.15 | 244.40 | 243.87 | 243.32 | 243.69 |
| 19 | 245.42 | 245.47 | 245.80 | 246.19 | 246.42 | 246.15 | 245.68 | 245.04 | 244.49 | 243.94 | 243.32 | 243.60 |
| 20 | 245.52 | 245.62 | 245.77 | 246.21 | 246.39 | 246.16 | 245.67 | 244.91 | 244.43 | 243.84 | 243.36 | 243.52 |
| 21 | 245.54 | 245.50 | 245.64 | 246.39 | 246.36 | 246.15 | 245.66 | 244.95 | 244.32 | 243.76 | 243.43 | 243.72 |
| 22 | 245.50 | 245.66 | 245.64 | 246.44 | 246.35 | 246.02 | 245.62 | 244.95 | 244.18 | 243.77 | 243.40 | 243.60 |
| 23 | 245.50 | 245.53 | 245.48 | 246.44 | 246.32 | 245.98 | 245.71 | 244.94 | 244.25 | 243.72 | 243.36 | 243.61 |
| 24 | 245.69 | 245.47 | 245.71 | 246.52 | 246.29 | 245.93 | 245.66 | 244.83 | 244.19 | 243.69 | 243.47 | 243.55 |
| 25 | 245.59 | 245.50 | 245.76 | 246.54 | 246.31 | 245.89 | 245.63 | 244.75 | 244.18 | 243.71 | 243.61 | 243.62 |
| 26 | 245.54 | 245.50 | 245.70 | 246.55 | 246.29 | 245.88 | 245.66 | 244.74 | 244.29 | 243.72 | 243.45 | 243.53 |
| 27 | 245.52 | 245.51 | 245.64 | 246.58 | 246.32 | 245.87 | 245.61 | 244.75 | 244.33 | 243.76 | 243.33 | 243.56 |
| 28 | 245.58 | 245.44 | 245.90 | 246.57 | 246.35 | 245.91 | 245.50 | 244.77 | 244.22 | 243.67 | 243.41 | 243.51 |
| 29 | 245.49 | | 245.90 | 246.56 | 246.34 | 245.88 | 245.37 | 244.79 | 244.17 | 243.59 | 243.36 | 243.55 |
| 30 | 245.56 | | 245.89 | 246.59 | 246.32 | 245.85 | 245.31 | 244.81 | 243.99 | 243.63 | 243.41 | 243.60 |
| 31 | 245.77 | | 245.84 | | 246.40 | | 245.40 | 244.85 | | 243.60 | | 243.54 |
| Mean | 245.35 | 245.55 | 245.74 | 246.17 | 246.48 | 246.16 | 245.69 | 245.08 | 244.39 | 243.86 | 243.44 | 243.55 |
| Max.
Hr.
Day | 246.01
1500
18 | 245.91
0100
1 | 246.36
0400
28 | 246.72
1400
30 | 246.88
1800
1 | 246.56
1600
12 | 246.10
1000
8 | 245.50
1500
4 | 244.80
0200
1 | 244.41
2000
5 | 243.78
1700
2 | 244.51
1800
14 |
| Min.
Hr.
Day | 244.75
2300
11 | 245.26
1800
18 | 245.22
1700
27 | 245.67
2100
9 | 246.07
1300
30 | 245.65
0100
27 | 245.23
0400
30 | 244.64
0400
27 | 243.87
2200
30 | 243.52
0400
29 | 243.06
1100
21 | 242.63
0300
3 |

* Indicates Less than 90% of the Hourly Data Available.
/ Indicates No Data.

Annual Mean 245.12

International
Great Lakes
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 905-2058 Rochester, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 246.50 May
Daily mean elevation: 246.69 4 May
Instant/hourly elevation: 246.94 1500/1 May

LOWEST

Monthly mean elevation: 243.43 Nov
Daily mean elevation: 243.35 27 Nov
Instant/hourly elevation: 243.04 0600/3 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 245.57 | 245.63 | 245.93 | 246.63 | 246.69 | 246.42 | 245.92 | 245.37 | 244.73 | 244.05 | 243.56 | 243.66 |
| Day | 25     | 11     | 29     | 29     | 4      | 1      | 9      | 5      | 1      | 4      | 1      | 30     |
| Min | 244.97 | 245.46 | 245.45 | 245.80 | 246.33 | 245.87 | 245.27 | 244.80 | 244.00 | 243.60 | 243.35 | 243.45 |
| Day | 1      | 28     | 1      | 6      | 28     | 30     | 30     | 26     | 30     | 31     | 27     | 1      |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.
(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.
(ft.) | No. of days
above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.60 | | | | 5 | 10 | | | | | | | | 246.60 | 15 |
| 246.40 | | | | 4 | 12 | 1 | | | | | | | 246.40 | 32 |
| 246.20 | | | | 5 | 9 | 16 | | | | | | | 246.20 | 62 |
| 246.00 | | | | 6 | | 5 | | | | | | | 246.00 | 73 |
| 245.80 | | | 9 | 9 | | 8 | 7 | | | | | | 245.80 | 106 |
| 245.60 | | 2 | 19 | 1 | | | 18 | | | | | | 245.60 | 146 |
| 245.40 | 15 | 26 | 3 | | | | 3 | | | | | | 245.40 | 193 |
| 245.20 | 6 | | | | | | 3 | 7 | | | | | 245.20 | 209 |
| 245.00 | 9 | | | | | | | 12 | | | | | 245.00 | 230 |
| 244.80 | 1 | | | | | | | 11 | | | | | 244.80 | 242 |
| 244.60 | | | | | | | | 1 | 3 | | | | 244.60 | 246 |
| 244.40 | | | | | | | | | 13 | | | | 244.40 | 259 |
| 244.20 | | | | | | | | | 9 | | | | 244.20 | 268 |
| 244.00 | | | | | | | | | 4 | 3 | | | 244.00 | 275 |
| 243.80 | | | | | | | | | 1 | 17 | | | 243.80 | 293 |
| 243.60 | | | | | | | | | | 10 | | 4 | 243.60 | 307 |
| 243.40 | | | | | | | | | | 1 | 18 | 26 | 243.40 | 352 |
| 243.20 | | | | | | | | | | | 12 | | 243.20 | 364 |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 905-2058 Rochester, New York on Lake Ontario

International
Great Lakes
Datum (1955)

| Day | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1 | 244.97 | 245.58 | 245.45 | 245.86 | 246.65 | 246.42 | 245.81 | 245.30 | 244.73 | 243.98 | 243.56 | 243.45 |
| 2 | 245.03 | 245.49 | 245.46 | 245.88 | 246.68 | 246.38 | 245.77 | 245.34 | 244.63 | 244.00 | 243.54 | 243.48 |
| 3 | 245.07 | 245.52 | 245.57 | 245.88 | 246.69 | 246.37 | 245.72 | 245.35 | 244.54 | 244.02 | 243.50 | 243.53 |
| 4 | 245.06 | 245.51 | 245.70 | 245.85 | 246.69 | 246.37 | 245.73 | 245.37 | 244.58 | 244.05 | 243.51 | 243.55 |
| 5 | 245.09 | 245.53 | 245.71 | 245.86 | 246.66 | 246.33 | 245.74 | 245.37 | 244.61 | 243.94 | 243.51 | 243.51 |
| 6 | 245.14 | 245.54 | 245.70 | 245.80 | 246.61 | 246.29 | 245.76 | 245.30 | 244.60 | 243.95 | 243.44 | 243.52 |
| 7 | 245.17 | 245.56 | 245.79 | 245.81 | 246.62 | 246.26 | 245.83 | 245.23 | 244.56 | 244.01 | 243.52 | 243.46 |
| 8 | 245.09 | 245.55 | 245.86 | 245.86 | 246.65 | 246.26 | 245.91 | 245.19 | 244.53 | 244.00 | 243.48 | 243.52 |
| 9 | 245.10 | 245.55 | 245.84 | 245.94 | 246.64 | 246.26 | 245.92 | 245.20 | 244.50 | 243.92 | 243.45 | 243.54 |
| 10 | 245.21 | 245.60 | 245.86 | 245.95 | 246.61 | 246.23 | 245.88 | 245.15 | 244.48 | 243.97 | 243.41 | 243.54 |
| 11 | 245.12 | 245.63 | 245.87 | 246.06 | 246.57 | 246.27 | 245.84 | 245.19 | 244.53 | 243.96 | 243.46 | 243.52 |
| 12 | 245.26 | 245.58 | 245.84 | 246.06 | 246.56 | 246.33 | 245.82 | 245.19 | 244.48 | 243.93 | 243.39 | 243.52 |
| 13 | 245.28 | 245.55 | 245.82 | 246.09 | 246.55 | 246.30 | 245.79 | 245.17 | 244.39 | 243.91 | 243.38 | 243.52 |
| 14 | 245.26 | 245.56 | 245.80 | 246.08 | 246.54 | 246.24 | 245.75 | 245.13 | 244.32 | 243.85 | 243.40 | 243.58 |
| 15 | 245.31 | 245.61 | 245.77 | 246.11 | 246.50 | 246.21 | 245.73 | 245.12 | 244.30 | 243.85 | 243.41 | 243.58 |
| 16 | 245.37 | 245.60 | 245.75 | 246.20 | 246.48 | 246.23 | 245.70 | 245.13 | 244.37 | 243.88 | 243.50 | 243.64 |
| 17 | 245.43 | 245.56 | 245.74 | 246.24 | 246.50 | 246.24 | 245.68 | 245.06 | 244.47 | 243.84 | 243.42 | 243.53 |
| 18 | 245.44 | 245.55 | 245.75 | 246.25 | 246.52 | 246.19 | 245.71 | 245.11 | 244.43 | 243.88 | 243.38 | 243.66 |
| 19 | 245.46 | 245.55 | 245.76 | 246.25 | 246.46 | 246.14 | 245.68 | 245.10 | 244.47 | 243.94 | 243.35 | 243.60 |
| 20 | 245.52 | 245.55 | 245.78 | 246.27 | 246.41 | 246.12 | 245.67 | 244.97 | 244.42 | 243.83 | 243.39 | 243.55 |
| 21 | 245.57 | 245.55 | 245.74 | 246.36 | 246.41 | 246.14 | 245.68 | 244.90 | 244.31 | 243.77 | 243.40 | 243.55 |
| 22 | 245.53 | 245.58 | 245.70 | 246.43 | 246.37 | 246.07 | 245.62 | 244.89 | 244.18 | 243.76 | 243.43 | 243.58 |
| 23 | 245.48 | 245.57 | 245.62 | 246.48 | 246.36 | 245.99 | 245.64 | 244.94 | 244.16 | 243.75 | 243.39 | 243.57 |
| 24 | 245.57 | 245.49 | 245.70 | 246.54 | 246.33 | 245.96 | 245.66 | 244.89 | 244.27 | 243.74 | 243.38 | 243.59 |
| 25 | 245.57 | 245.52 | 245.75 | 246.56 | 246.35 | 245.91 | 245.62 | 244.82 | 244.24 | 243.74 | 243.38 | 243.59 |
| 26 | 245.52 | 245.49 | 245.76 | 246.61 | 246.36 | 245.91 | 245.60 | 244.80 | 244.14 | 243.76 | 243.45 | 243.55 |
| 27 | 245.50 | 245.47 | 245.70 | 246.62 | 246.34 | 245.87 | 245.55 | 244.84 | 244.24 | 243.76 | 243.35 | 243.59 |
| 28 | 245.53 | 245.46 | 245.79 | 246.63 | 246.33 | 245.89 | 245.48 | 244.89 | 244.21 | 243.74 | 243.38 | 243.56 |
| 29 | 245.56 | | 245.93 | 246.63 | 246.36 | 245.93 | 245.38 | 244.88 | 244.13 | 243.65 | 243.43 | 243.62 |
| 30 | 245.55 | | 245.90 | 246.61 | 246.34 | 245.87 | 245.27 | 244.84 | 244.00 | 243.65 | 243.41 | 243.66* |
| 31 | 245.53 | | 245.88 | | 246.41 | | 245.30 | 244.89 | | 243.60 | | / |
| Mean | 245.33 | 245.55 | 245.75 | 246.19 | 246.50 | 246.17 | 245.69 | 245.08 | 244.39 | 243.86 | 243.43 | 243.56 |
| Max. | 245.81 | 246.00 | 246.15 | 246.80 | 246.94 | 246.61 | 246.19 | 245.54 | 244.86 | 244.27 | 243.82 | 243.87 |
| Hr. | 1300 | 0300 | 1800 | 0900 | 1500 | 2400 | 0400 | 0900 | 0700 | 0700 | 2200 | 1700 |
| Day | 28 | 20 | 27 | 30 | 1 | 15 | 7 | 3 | 1 | 19 | 20 | 14 |
| Min. | 244.88 | 245.19 | 245.25 | 245.60 | 246.07 | 245.74 | 245.14 | 244.71 | 243.83 | 243.51 | 243.10 | 243.04 |
| Hr. | 2200 | 0200 | 2200 | 2000 | 0800 | 1200 | 1100 | 0400 | 1200 | 0500 | 1500 | 0600 |
| Day | 1 | 20 | 23 | 6 | 31 | 27 | 30 | 26 | 30 | 30 | 21 | 3 |

* Indicates Less than 90% of the Hourly Data Available.
/ Indicates No Data.

Annual Mean 245.12

Annual Summary of Levels, in Feet, 1991

International
Great Lakes
Datum (1955)

Station: 905-2076 Olcott, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 246.58 May
Daily mean elevation: 246.76 5 May
Instant/hourly elevation: 246.93 1900/1 May

LOWEST

Monthly mean elevation: 243.49 Nov
Daily mean elevation: 243.32 25 Nov
Instant/hourly elevation: 242.90 1800/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 245.67 | 245.71 | 245.98 | 246.74 | 246.76 | 246.47 | 245.98 | 245.40 | 244.74 | 244.08 | 243.74 | 243.71 |
| Day | 29     | 18     | 31     | 28     | 5      | 1      | 9      | 1      | 1      | 4      | 1      | 29     |
| Min | 245.03 | 245.53 | 245.57 | 245.90 | 246.41 | 245.90 | 245.37 | 244.85 | 244.08 | 243.71 | 243.32 | 243.46 |
| Day | 1      | 27     | 1      | 2      | 28     | 30     | 31     | 30     | 30     | 31     | 25     | 1      |

| ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~ |     |     |     |     |     |     |     |     |     |     |     |     |                |                            |
|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| Elev.<br>(ft.)                                          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
| 246.60                                                  |     |     |     | 7   | 14  |     |     |     |     |     |     |     | 246.60         | 21                         |
| 246.40                                                  |     |     |     | 3   | 17  | 3   |     |     |     |     |     |     | 246.40         | 44                         |
| 246.20                                                  |     |     |     | 7   |     | 15  |     |     |     |     |     |     | 246.20         | 66                         |
| 246.00                                                  |     |     |     | 4   |     | 10  |     |     |     |     |     |     | 246.00         | 80                         |
| 245.80                                                  |     |     | 22  | 9   |     | 2   | 13  |     |     |     |     |     | 245.80         | 126                        |
| 245.60                                                  | 5   | 12  | 7   |     |     |     | 12  |     |     |     |     |     | 245.60         | 162                        |
| 245.40                                                  | 12  | 16  | 2   |     |     |     | 4   |     |     |     |     |     | 245.40         | 196                        |
| 245.20                                                  | 7   |     |     |     |     |     | 2   | 12  |     |     |     |     | 245.20         | 217                        |
| 245.00                                                  | 7   |     |     |     |     |     |     | 10  |     |     |     |     | 245.00         | 234                        |
| 244.80                                                  |     |     |     |     |     |     |     | 9   |     |     |     |     | 244.80         | 243                        |
| 244.60                                                  |     |     |     |     |     |     |     |     | 8   |     |     |     | 244.60         | 251                        |
| 244.40                                                  |     |     |     |     |     |     |     |     | 11  |     |     |     | 244.40         | 262                        |
| 244.20                                                  |     |     |     |     |     |     |     |     | 6   |     |     |     | 244.20         | 268                        |
| 244.00                                                  |     |     |     |     |     |     |     |     | 5   |     |     |     | 244.00         | 278                        |
| 243.80                                                  |     |     |     |     |     |     |     |     |     | 5   |     |     | 243.80         | 300                        |
| 243.60                                                  |     |     |     |     |     |     |     |     |     | 22  |     |     | 243.60         | 322                        |
| 243.40                                                  |     |     |     |     |     |     |     |     |     | 4   | 3   | 15  | 243.40         | 363                        |
| 243.20                                                  |     |     |     |     |     |     |     |     |     |     | 25  | 16  | 243.20         | 365                        |
|                                                         |     |     |     |     |     |     |     |     |     |     | 2   |     |                |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 905-2076 Olcott, New York on Lake Ontario

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 245.03               | 245.64               | 245.57               | 245.93               | 246.71               | 246.47               | 245.88               | 245.40               | 244.74               | 244.04               | 243.74               | 243.46               |
| 2                  | 245.07               | 245.57               | 245.59               | 245.90               | 246.71               | 246.44               | 245.89               | 245.39               | 244.68               | 244.07               | 243.62               | 243.55               |
| 3                  | 245.09               | 245.55               | 245.67               | 245.93               | 246.70               | 246.42               | 245.86               | 245.39               | 244.71               | 244.07               | 243.63               | 243.61               |
| 4                  | 245.04               | 245.58               | 245.72               | 245.94               | 246.75               | 246.39               | 245.88               | 245.34               | 244.71               | 244.08               | 243.59               | 243.53               |
| 5                  | 245.17               | 245.59               | 245.78               | 245.92               | 246.76               | 246.40               | 245.92               | 245.33               | 244.71               | 244.01               | 243.59               | 243.60               |
| 6                  | 245.19               | 245.64               | 245.88               | 245.91               | 246.70               | 246.39               | 245.94               | 245.30               | 244.67               | 243.99               | 243.51               | 243.59               |
| 7                  | 245.26               | 245.62               | 245.72               | 245.92               | 246.71               | 246.38               | 245.97               | 245.27               | 244.64               | 243.94               | 243.53               | 243.52               |
| 8                  | 245.31               | 245.59               | 245.88               | 245.95               | 246.71               | 246.36               | 245.96               | 245.24               | 244.61               | 243.98               | 243.51               | 243.59               |
| 9                  | 245.20               | 245.60               | 245.93               | 246.02               | 246.70               | 246.35               | 245.98               | 245.23               | 244.56               | 243.96               | 243.50               | 243.55               |
| 10                 | 245.28               | 245.62               | 245.90               | 245.96               | 246.68               | 246.30               | 245.92               | 245.19               | 244.52               | 243.98               | 243.49               | 243.59               |
| 11                 | 245.46               | 245.63               | 245.89               | 246.02               | 246.66               | 246.35               | 245.88               | 245.25               | 244.56               | 244.00               | 243.46               | 243.56               |
| 12                 | 245.38               | 245.64               | 245.86               | 246.13               | 246.63               | 246.33               | 245.86               | 245.24               | 244.51               | 243.97               | 243.44               | 243.64               |
| 13                 | 245.37               | 245.68               | 245.89               | 246.20               | 246.61               | 246.28               | 245.81               | 245.22               | 244.49               | 243.92               | 243.43               | 243.60               |
| 14                 | 245.38               | 245.69               | 245.87               | 246.23               | 246.63               | 246.29               | 245.77               | 245.20               | 244.43               | 243.96               | 243.47               | 243.49               |
| 15                 | 245.43               | 245.59               | 245.82               | 246.24               | 246.60               | 246.29               | 245.79               | 245.17               | 244.43               | 243.89               | 243.47               | 243.52               |
| 16                 | 245.50               | 245.58               | 245.80               | 246.28               | 246.57               | 246.28               | 245.80               | 245.16               | 244.53               | 243.91               | 243.46               | 243.64               |
| 17                 | 245.41               | 245.59               | 245.85               | 246.32               | 246.59               | 246.30               | 245.77               | 245.15               | 244.50               | 243.91               | 243.46               | 243.65               |
| 18                 | 245.36               | 245.71               | 245.86               | 246.33               | 246.58               | 246.25               | 245.76               | 245.16               | 244.45               | 243.91               | 243.48               | 243.68               |
| 19                 | 245.51               | 245.62               | 245.78               | 246.37               | 246.54               | 246.18               | 245.73               | 245.07               | 244.42               | 243.85               | 243.44               | 243.60               |
| 20                 | 245.59               | 245.54               | 245.81               | 246.41               | 246.50               | 246.19               | 245.70               | 245.02               | 244.38               | 243.87               | 243.48               | 243.62               |
| 21                 | 245.62               | 245.60               | 245.89               | 246.40               | 246.46               | 246.19               | 245.69               | 244.98               | 244.31               | 243.86               | 243.48               | 243.52               |
| 22                 | 245.61               | 245.56               | 245.90               | 246.45               | 246.46               | 246.13               | 245.67               | 244.98               | 244.27               | 243.84               | 243.50               | 243.55               |
| 23                 | 245.51               | 245.65               | 245.93               | 246.58               | 246.48               | 246.08               | 245.67               | 245.04               | 244.24               | 243.85               | 243.46               | 243.61               |
| 24                 | 245.56               | 245.62               | 245.79               | 246.62               | 246.44               | 246.05               | 245.65               | 245.02               | 244.26               | 243.85               | 243.38               | 243.66               |
| 25                 | 245.62               | 245.60               | 245.82               | 246.65               | 246.45               | 246.05               | 245.65               | 244.97               | 244.22               | 243.85               | 243.32               | 243.62               |
| 26                 | 245.57               | 245.54               | 245.89               | 246.68               | 246.47               | 246.04               | 245.58               | 244.96               | 244.16               | 243.85               | 243.48               | 243.61               |
| 27                 | 245.55               | 245.53               | 245.96               | 246.69               | 246.42               | 246.02               | 245.55               | 244.97               | 244.18               | 243.80               | 243.46               | 243.63               |
| 28                 | 245.54               | 245.56               | 245.86               | 246.74               | 246.41               | 246.00               | 245.49               | 244.94               | 244.18               | 243.83               | 243.42               | 243.63               |
| 29                 | 245.67               |                      | 245.96               | 246.73               | 246.45               | 246.02               | 245.46               | 244.91               | 244.11               | 243.80               | 243.53               | 243.71               |
| 30                 | 245.63               |                      | 245.94               | 246.72               | 246.47               | 245.90               | 245.40               | 244.85               | 244.08               | 243.74               | 243.46               | 243.70               |
| 31                 | 245.50               |                      | 245.98               |                      | 246.48               |                      | 245.37               | 244.87               |                      | 243.71               |                      | 243.69               |
| Mean               | 245.40               | 245.60               | 245.84               | 246.27               | 246.58               | 246.24               | 245.75               | 245.14               | 244.44               | 243.91               | 243.49               | 243.60               |
| Max.<br>Hr.<br>Day | 245.79<br>1800<br>29 | 245.82<br>0100<br>14 | 246.30<br>1800<br>27 | 246.82<br>0400<br>30 | 246.93<br>1900<br>1  | 246.56<br>1700<br>1  | 246.29<br>0500<br>7  | 245.56<br>0900<br>3  | 244.84<br>1100<br>4  | 244.21<br>0700<br>2  | 243.82<br>2400<br>28 | 244.11<br>0300<br>3  |
| Min.<br>Hr.<br>Day | 244.90<br>2300<br>1  | 245.29<br>2400<br>16 | 245.43<br>0700<br>1  | 245.76<br>1500<br>10 | 246.26<br>1700<br>29 | 245.76<br>0900<br>30 | 245.29<br>1600<br>31 | 244.76<br>2400<br>30 | 243.96<br>2400<br>30 | 243.62<br>0400<br>31 | 243.17<br>0500<br>28 | 242.90<br>1800<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 245.19

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 906-3007 Ashland Avenue, Niagara Falls, New York on Niagara River

HIGHEST

Monthly mean elevation: 322.48 Apr  
Daily mean elevation: 326.32 7 Mar  
Instant/hourly elevation: 337.57 0900/28 Mar

LOWEST

Monthly mean elevation: 315.49 Nov  
Daily mean elevation: 314.34 11 Nov  
Instant/hourly elevation: 314.07 0500/19 Oct

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 325.49 | 325.43 | 326.32 | 324.49 | 324.22 | 321.66 | 322.01 | 321.64 | 321.56 | 321.75 | 319.14 | 319.90 |
| Day | 28     | 15     | 7      | 23     | 7      | 17     | 8      | 11     | 4      | 6      | 25     | 15     |
| Min | 317.15 | 317.43 | 316.75 | 321.50 | 321.22 | 321.16 | 321.25 | 321.26 | 320.33 | 320.18 | 314.34 | 314.35 |
| Day | 11     | 6      | 14     | 13     | 18     | 13     | 29     | 20     | 30     | 19     | 11     | 30     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 326.00         |     |     | 1   |     |     |     |     |     |     |     |     |     | 326.00         | 1                          |
| 325.50         |     |     |     |     |     |     |     |     |     |     |     |     | 325.50         | 1                          |
| 325.00         | 2   | 1   | 1   |     |     |     |     |     |     |     |     |     | 325.00         | 5                          |
| 324.50         |     |     |     |     |     |     |     |     |     |     |     |     | 324.50         | 5                          |
| 324.00         | 1   |     |     | 1   | 1   |     |     |     |     |     |     |     | 324.00         | 8                          |
| 323.50         | 1   | 1   |     | 4   |     |     |     |     |     |     |     |     | 323.50         | 14                         |
| 323.00         | 1   |     |     | 2   | 4   |     |     |     |     |     |     |     | 323.00         | 21                         |
| 322.50         | 1   |     |     | 4   | 3   |     |     |     |     |     |     |     | 322.50         | 29                         |
| 322.00         |     | 1   |     | 8   | 4   |     | 1   |     |     |     |     |     | 322.00         | 43                         |
| 321.50         | 2   |     |     | 10  | 16  | 7   | 3   | 5   | 2   | 1   |     |     | 321.50         | 89                         |
| 321.00         | 3   |     |     | 1   | 3   | 23  | 27  | 26  | 15  | 2   |     |     | 321.00         | 189                        |
| 320.50         | 2   |     |     |     |     |     |     |     | 3   | 10  |     |     | 320.50         | 204                        |
| 320.00         | 3   | 4   | 3   |     |     |     |     |     | 10  | 18  |     |     | 320.00         | 242                        |
| 319.50         | 5   | 2   | 2   |     |     |     |     |     |     |     |     | 1   | 319.50         | 252                        |
| 319.00         | 2   | 6   | 2   |     |     |     |     |     |     |     | 1   |     | 319.00         | 263                        |
| 318.50         |     | 3   | 3   |     |     |     |     |     |     |     |     | 2   | 318.50         | 271                        |
| 318.00         | 2   | 4   | 6   |     |     |     |     |     |     |     | 1   | 2   | 318.00         | 286                        |
| 317.50         | 2   | 5   | 5   |     |     |     |     |     |     |     |     | 2   | 317.50         | 300                        |
| 317.00         | 4   | 1   | 6   |     |     |     |     |     |     |     | 2   | 1   | 317.00         | 314                        |
| 316.50         |     |     | 2   |     |     |     |     |     |     |     | 2   | 3   | 316.50         | 321                        |
| 316.00         |     |     |     |     |     |     |     |     |     |     | 2   | 1   | 316.00         | 324                        |
| 315.50         |     |     |     |     |     |     |     |     |     |     | 2   | 3   | 315.50         | 329                        |
| 315.00         |     |     |     |     |     |     |     |     |     |     | 7   | 5   | 315.00         | 341                        |
| 314.50         |     |     |     |     |     |     |     |     |     |     | 9   | 8   | 314.50         | 358                        |
| 314.00         |     |     |     |     |     |     |     |     |     |     | 4   | 3   | 314.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3007 Ashland Avenue, Niagara Falls, New York on Niagara River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 320.58               | 317.94               | 316.94               | 322.09               | 323.22               | 321.39               | 321.38               | 321.41               | 321.15               | 320.59               | 314.37               | 314.83               |
| 2                  | 320.73               | 317.77               | 317.85               | 322.14               | 323.21               | 321.26               | 321.37               | 321.37               | 321.24               | 320.42               | 317.49               | 314.71               |
| 3                  | 320.24               | 318.29               | 317.48               | 321.94               | 323.37               | 321.25               | 321.39               | 321.30               | 321.34               | 320.39               | 317.01               | 318.84               |
| 4                  | 321.50               | 318.67               | 320.01               | 321.71               | 322.38               | 321.18               | 321.46               | 321.41               | 321.56               | 320.36               | 315.26               | 318.03               |
| 5                  | 319.74               | 318.68               | 318.64               | 321.77               | 322.21               | 321.29               | 321.56               | 321.36               | 321.46               | 321.13               | 315.41               | 317.45               |
| 6                  | 318.10               | 317.43               | 317.70               | 321.91               | 322.88               | 321.29               | 321.40               | 321.26               | 321.43               | 321.75               | 316.51               | 318.05               |
| 7                  | 317.74               | 317.53               | 326.32               | 322.21               | 324.22               | 321.33               | 321.48               | 321.44               | 321.47               | 321.45               | 314.71               | 317.60               |
| 8                  | 317.33               | 318.25               | 320.09               | 321.92               | 323.37               | 321.49               | 322.01               | 321.45               | 321.43               | 320.71               | 314.67               | 314.91               |
| 9                  | 320.03               | 319.29               | 318.25               | 321.88               | 322.71               | 321.22               | 321.57               | 321.44               | 321.26               | 320.48               | 314.57               | 315.17               |
| 10                 | 319.54               | 319.53               | 318.14               | 323.66               | 322.43               | 321.29               | 321.42               | 321.46               | 321.48               | 320.38               | 314.40               | 315.46               |
| 11                 | 317.15               | 320.17               | 317.31               | 322.18               | 321.97               | 321.42               | 321.28               | 321.64               | 321.42               | 320.55               | 314.34               | 315.49               |
| 12                 | 319.43               | 319.20               | 318.10               | 321.74               | 322.18               | 321.53               | 321.35               | 321.61               | 321.32               | 320.47               | 315.03               | 314.73               |
| 13                 | 319.75               | 317.74               | 317.20               | 321.50               | 321.92               | 321.16               | 321.36               | 321.41               | 321.32               | 320.61               | 316.02               | 315.18               |
| 14                 | 321.55               | 319.33               | 316.75               | 321.77               | 322.00               | 321.25               | 321.43               | 321.39               | 321.22               | 320.27               | 315.42               | 318.96               |
| 15                 | 319.90               | 325.43               | 317.57               | 323.38               | 321.84               | 321.32               | 321.40               | 321.57               | 321.31               | 320.59               | 315.63               | 319.90               |
| 16                 | 319.84               | 323.83               | 318.12               | 322.96               | 322.00               | 321.56               | 321.36               | 321.38               | 320.48               | 320.64               | 314.41               | 316.89               |
| 17                 | 322.53               | 322.10               | 317.25               | 322.10               | 322.53               | 321.66               | 321.41               | 321.47               | 320.42               | 320.24               | 314.68               | 316.81               |
| 18                 | 325.49               | 317.77               | 317.73               | 322.02               | 321.22               | 321.47               | 321.50               | 321.62               | 320.40               | 320.26               | 314.76               | 316.09               |
| 19                 | 321.89               | 318.27               | 319.76               | 321.64               | 321.40               | 321.51               | 321.46               | 321.34               | 320.55               | 320.18               | 315.06               | 314.74               |
| 20                 | 321.47               | 320.07               | 319.05               | 321.86               | 321.74               | 321.56               | 321.32               | 321.26               | 320.48               | 320.36               | 314.82               | 315.83               |
| 21                 | 319.40               | 319.62               | 318.53               | 322.35               | 321.72               | 321.52               | 321.36               | 321.39               | 320.45               | 320.53               | 314.84               | 317.55               |
| 22                 | 320.24               | 320.39               | 317.06               | 323.90               | 321.72               | 321.32               | 321.32               | 321.54               | 320.43               | 320.52               | 314.77               | 316.64               |
| 23                 | 323.64               | 319.40               | 317.08               | 324.49               | 321.55               | 321.34               | 321.51               | 321.29               | 321.30               | 320.31               | 314.70               | 315.53               |
| 24                 | 321.25               | 318.74               | 319.45               | 323.61               | 321.65               | 321.50               | 321.34               | 321.29               | 320.69               | 320.34               | 318.19               | 315.39               |
| 25                 | 317.20               | 318.08               | 318.44               | 323.67               | 321.83               | 321.54               | 321.38               | 321.27               | 320.42               | 320.46               | 319.14               | 314.84               |
| 26                 | 317.28               | 319.25               | 318.85               | 323.11               | 321.41               | 321.37               | 321.33               | 321.50               | 321.54               | 320.54               | 315.24               | 315.78               |
| 27                 | 324.49               | 320.07               | 319.63               | 322.65               | 321.69               | 321.44               | 321.33               | 321.34               | 320.84               | 320.68               | 316.08               | 314.60               |
| 28                 | 325.49               | 319.36               | 325.16               | 322.50               | 321.53               | 321.42               | 321.40               | 321.33               | 320.42               | 320.30               | 316.55               | 314.36               |
| 29                 | 317.93               |                      | 320.38               | 322.94               | 321.55               | 321.50               | 321.25               | 321.36               | 320.46               | 320.32               | 315.02               | 314.65               |
| 30                 | 318.01               |                      | 318.44               | 322.91               | 321.53               | 321.41               | 321.34               | 321.35               | 320.33               | 320.28               | 315.56               | 314.35               |
| 31                 | 323.06               |                      | 317.72               |                      | 321.60               |                      | 321.32               | 321.44               |                      | 320.25               |                      | 314.38               |
| Mean               | 320.40               | 319.36               | 318.74               | 322.48               | 322.15               | 321.39               | 321.41               | 321.41               | 320.99               | 320.53               | 315.49               | 316.06               |
| Max.<br>Hr.<br>Day | 331.31<br>0400<br>28 | 330.04<br>1800<br>15 | 337.57<br>0900<br>28 | 328.40<br>1000<br>10 | 327.23<br>1600<br>7  | 326.80<br>1300<br>18 | 326.35<br>1500<br>23 | 326.79<br>1500<br>15 | 327.12<br>1700<br>26 | 326.98<br>1900<br>6  | 322.03<br>2200<br>24 | 331.63<br>2000<br>14 |
| Min.<br>Hr.<br>Day | 315.81<br>0500<br>26 | 316.44<br>0900<br>18 | 315.86<br>2400<br>31 | 314.46<br>0200<br>13 | 314.25<br>0300<br>26 | 314.11<br>0600<br>4  | 314.12<br>0300<br>29 | 314.17<br>2400<br>27 | 314.11<br>0100<br>1  | 314.07<br>0500<br>19 | 314.14<br>0300<br>2  | 314.15<br>0600<br>12 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 320.03

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 906-3009

American Falls, Niagara Falls, New York on Niagara River

HIGHEST

Monthly mean elevation: 558.73 Apr  
Daily mean elevation: 559.58 4 Jan  
Instant/hourly elevation: 559.81 1500/28 Mar

LOWEST

Monthly mean elevation: 558.40 Aug  
Daily mean elevation: 557.56 29 Jan  
Instant/hourly elevation: 557.31 2100/2 Aug

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 559.58 | 558.98 | 559.53 | 559.30 | 559.35 | 558.68 | 558.75 | 558.61 | 558.87 | 558.86 | 559.17 | 559.23 |
| Day | 4 | 20 | 28 | 10 | 7 | 28 | 8 | 11 | 23 | 6 | 25 | 15 |
| Min | 557.56 | 557.89 | 558.28 | 558.39 | 558.27 | 558.22 | 558.21 | 558.27 | 558.18 | 558.25 | 557.95 | 558.34 |
| Day | 29 | 1 | 11 | 13 | 18 | 4 | 29 | 24 | 1 | 19 | 12 | 30 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 559.40         | 3   |     | 1   |     |     |     |     |     |     |     |     |     | 559.40         | 4                          |
| 559.20         | 4   |     |     | 2   | 2   |     |     |     |     |     |     | 1   | 559.20         | 13                         |
| 559.00         | 2   |     | 2   | 3   | 1   |     |     |     |     |     | 2   |     | 559.00         | 23                         |
| 558.80         | 3   | 9   | 7   | 3   | 2   |     |     |     | 1   | 1   | 3   | 5   | 558.80         | 57                         |
| 558.60         | 7   | 10  | 7   | 11  | 4   | 3   | 3   | 1   | 1   | 3   | 13  | 7   | 558.60         | 127                        |
| 558.40         | 5   | 6   | 10  | 10  | 20  | 20  | 20  | 15  | 20  | 18  | 8   | 15  | 558.40         | 294                        |
| 558.20         | 2   | 1   | 4   | 1   | 2   | 7   | 8   | 15  | 7   | 9   | 2   | 3   | 558.20         | 355                        |
| 558.00         | 1   |     |     |     |     |     |     |     | 1   |     | 1   |     | 558.00         | 358                        |
| 557.80         | 1   | 2   |     |     |     |     |     |     |     |     | 1   |     | 557.80         | 362                        |
| 557.60         | 2   |     |     |     |     |     |     |     |     |     |     |     | 557.60         | 364                        |
| 557.40         | 1   |     |     |     |     |     |     |     |     |     |     |     | 557.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3009 American Falls, Niagara Falls, New York on Niagara River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 559.41               | 557.89               | 558.50               | 558.61               | 558.97               | 558.30               | 558.53               | 558.40               | 558.18               | 558.43               | 558.45               | 558.58              |
| 2                  | 559.41               | 558.00               | 558.68               | 558.62               | 559.28               | 558.22               | 558.51               | 558.32               | 558.42               | 558.43               | 558.99               | 558.49              |
| 3                  | 559.32               | 558.27               | 558.55               | 558.44               | 558.94               | 558.35               | 558.46               | 558.35               | 558.40               | 558.37               | 558.90               | 558.95              |
| 4                  | 559.58               | 558.72               | 558.52               | 558.44               | 558.58               | 558.22               | 558.56               | 558.44               | 558.51               | 558.36               | 558.71               | 558.90              |
| 5                  | 559.25               | 558.81               | 558.77               | 558.55               | 558.61               | 558.45               | 558.60               | 558.34               | 558.58               | 558.68               | 558.75               | 558.84              |
| 6                  | 558.92               | 558.57               | 558.60               | 558.75               | 559.01               | 558.46               | 558.49               | 558.31               | 558.50               | 558.86               | 558.87               | 558.82              |
| 7                  | 558.83               | 558.65               | 559.00               | 558.77               | 559.35               | 558.42               | 558.64               | 558.37               | 558.49               | 558.75               | 558.62               | 558.80              |
| 8                  | 558.71               | 558.81               | 558.41               | 558.63               | 558.76               | 558.43               | 558.75               | 558.41               | 558.45               | 558.52               | 558.64               | 558.40              |
| 9                  | 559.24               | 558.94               | 558.48               | 558.56               | 558.53               | 558.40               | 558.62               | 558.37               | 558.34               | 558.45               | 558.62               | 558.57              |
| 10                 | 559.11               | 558.92               | 558.56               | 559.30               | 558.48               | 558.45               | 558.51               | 558.49               | 558.54               | 558.47               | 558.51               | 558.59              |
| 11                 | 558.64               | 558.72               | 558.28               | 558.61               | 558.65               | 558.53               | 558.46               | 558.61               | 558.42               | 558.43               | 558.33               | 558.68              |
| 12                 | 559.16               | 558.70               | 558.55               | 558.59               | 558.58               | 558.49               | 558.39               | 558.42               | 558.36               | 558.49               | 557.95               | 558.52              |
| 13                 | 558.74               | 558.64               | 558.34               | 558.39               | 558.56               | 558.40               | 558.43               | 558.43               | 558.31               | 558.42               | 558.17               | 558.58              |
| 14                 | 558.73               | 558.50               | 558.32               | 558.50               | 558.66               | 558.43               | 558.47               | 558.37               | 558.35               | 558.33               | 558.57               | 558.83              |
| 15                 | 558.67               | 558.88               | 558.65               | 558.80               | 558.47               | 558.42               | 558.53               | 558.42               | 558.46               | 558.50               | 558.60               | 559.23              |
| 16                 | 558.66               | 558.73               | 558.82               | 558.83               | 558.47               | 558.67               | 558.49               | 558.44               | 558.44               | 558.43               | 558.38               | 558.80              |
| 17                 | 558.55               | 558.89               | 558.64               | 558.57               | 558.58               | 558.53               | 558.52               | 558.39               | 558.41               | 558.28               | 558.59               | 558.66              |
| 18                 | 558.86               | 558.65               | 558.72               | 558.57               | 558.27               | 558.49               | 558.56               | 558.49               | 558.45               | 558.28               | 558.62               | 558.65              |
| 19                 | 559.26               | 558.73               | 559.10               | 558.51               | 558.50               | 558.55               | 558.52               | 558.30               | 558.45               | 558.25               | 558.66               | 558.53              |
| 20                 | 558.64               | 558.98               | 558.96               | 558.62               | 558.51               | 558.52               | 558.39               | 558.35               | 558.42               | 558.43               | 558.61               | 558.64              |
| 21                 | 558.56               | 558.89               | 558.85               | 558.72               | 558.46               | 558.46               | 558.35               | 558.55               | 558.46               | 558.47               | 558.60               | 558.75              |
| 22                 | 558.52               | 558.87               | 558.50               | 559.18               | 558.47               | 558.31               | 558.49               | 558.47               | 558.47               | 558.49               | 558.58               | 558.52              |
| 23                 | 558.54               | 558.57               | 558.36               | 559.24               | 558.47               | 558.46               | 558.52               | 558.31               | 558.87               | 558.39               | 558.58               | 558.45              |
| 24                 | 558.44               | 558.56               | 558.95               | 559.20               | 558.51               | 558.49               | 558.39               | 558.27               | 558.44               | 558.44               | 559.12               | 558.59              |
| 25                 | 558.22               | 558.59               | 558.45               | 559.15               | 558.46               | 558.45               | 558.41               | 558.40               | 558.44               | 558.50               | 559.17               | 558.42              |
| 26                 | 558.24               | 558.59               | 558.67               | 558.93               | 558.42               | 558.47               | 558.34               | 558.40               | 558.77               | 558.49               | 558.61               | 558.52              |
| 27                 | 558.01               | 558.73               | 558.89               | 558.60               | 558.46               | 558.51               | 558.43               | 558.41               | 558.50               | 558.63               | 558.74               | 558.41              |
| 28                 | 557.69               | 558.68               | 559.53               | 558.67               | 558.50               | 558.68               | 558.42               | 558.41               | 558.39               | 558.33               | 558.68               | 558.39              |
| 29                 | 557.56               |                      | 559.07               | 558.62               | 558.43               | 558.61               | 558.21               | 558.44               | 558.45               | 558.42               | 558.62               | 558.51              |
| 30                 | 557.66               |                      | 558.84               | 558.98               | 558.40               | 558.56               | 558.32               | 558.44               | 558.28               | 558.44               | 558.74               | 558.34              |
| 31                 | 557.82               |                      | 558.72               |                      | 558.51               |                      | 558.35               | 558.42               |                      | 558.39               |                      | 558.45              |
| Mean               | 558.68               | 558.66               | 558.69               | 558.73               | 558.61               | 558.46               | 558.47               | 558.40               | 558.45               | 558.46               | 558.63               | 558.63              |
| Max.<br>Hr.<br>Day | 559.65<br>1900<br>18 | 559.81<br>1500<br>15 | 559.81<br>1500<br>28 | 559.71<br>0700<br>23 | 559.75<br>1500<br>2  | 559.33<br>0700<br>16 | 559.32<br>0700<br>5  | 559.23<br>0700<br>31 | 559.54<br>0800<br>23 | 559.36<br>2200<br>5  | 559.65<br>2400<br>24 | 559.77<br>1500<br>3 |
| Min.<br>Hr.<br>Day | 557.34<br>0400<br>29 | 557.55<br>1400<br>1  | 557.64<br>1000<br>11 | 557.45<br>2100<br>29 | 557.37<br>2100<br>27 | 557.39<br>2100<br>17 | 557.33<br>2100<br>30 | 557.31<br>2100<br>2  | 557.44<br>1900<br>28 | 557.42<br>2000<br>28 | 557.89<br>1300<br>12 | 558.09<br>2400<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 558.57

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 906-3012 Niagara Intake, Niagara Falls, New York on Niagara River

HIGHEST

Monthly mean elevation: 561.61 Jan  
Daily mean elevation: 562.68 7 Mar  
Instant/hourly elevation: 563.38 0800/28 Mar

LOWEST

Monthly mean elevation: 561.14 Oct  
Daily mean elevation: 560.42 12 Nov  
Instant/hourly elevation: 560.08 2100/13 Sep

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 562.32 | 562.18 | 562.68 | 562.26 | 562.27 | 561.45 | 561.55 | 561.47 | 561.67 | 561.67 | 562.02 | 562.10 |
| Day | 27     | 15     | 7      | 10     | 7      | 16     | 8      | 11     | 23     | 6      | 25     | 15     |
| Min | 561.15 | 561.23 | 560.91 | 561.10 | 560.99 | 561.00 | 561.06 | 561.04 | 560.88 | 560.91 | 560.42 | 560.88 |
| Day | 30     | 25     | 14     | 13     | 18     | 22     | 29     | 24     | 1      | 28     | 12     | 30     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 562.60         |     |     | 2   |     |     |     |     |     |     |     |     |     | 562.60         | 2                          |
| 562.40         |     |     |     |     |     |     |     |     |     |     |     |     | 562.40         | 2                          |
| 562.20         | 3   |     |     | 1   | 1   |     |     |     |     |     |     |     | 562.20         | 7                          |
| 562.00         |     | 1   | 1   | 3   | 1   |     |     |     |     |     | 1   | 1   | 562.00         | 15                         |
| 561.80         | 1   | 1   | 4   | 2   | 1   |     |     |     |     |     | 1   |     | 561.80         | 25                         |
| 561.60         |     | 10  | 2   | 3   | 2   |     |     |     | 1   | 1   | 1   | 3   | 561.60         | 48                         |
| 561.40         | 3   | 7   | 6   | 3   | 1   | 2   | 1   | 1   | 1   | 2   | 3   | 5   | 561.40         | 83                         |
| 561.20         | 5   | 9   | 9   | 16  | 21  | 16  | 24  | 13  | 8   | 3   | 6   | 6   | 561.20         | 219                        |
| 561.00         | 1   |     | 3   | 2   | 3   | 11  | 6   | 17  | 18  | 20  | 13  | 11  | 561.00         | 324                        |
| 560.80         |     |     | 4   |     | 1   | 1   |     |     | 2   | 5   | 3   | 5   | 560.80         | 345                        |
| 560.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 560.60         | 346                        |
| 560.40         |     |     |     |     |     |     |     |     |     |     | 1   |     | 560.40         | 347                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3012 Niagara Intake, Niagara Falls, New York on Niagara River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | /                    | 561.53               | 561.09               | 561.38               | 561.80               | 561.16               | 561.28               | 561.24               | 560.88               | 561.16               | 560.94               | 561.17              |
| 2                  | /                    | 561.67               | 561.32               | 561.40               | 562.16               | 561.10               | 561.24               | 561.16               | 561.15               | 561.16               | 561.70               | 561.05              |
| 3                  | /                    | 561.65               | 561.12               | 561.21               | 561.78               | 561.20               | 561.21               | 561.18               | 561.18               | 561.07               | 561.57               | 561.74              |
| 4                  | /                    | 561.58               | 561.22               | 561.20               | 561.35               | 561.10               | 561.30               | 561.29               | 561.27               | 561.03               | 561.28               | 561.66              |
| 5                  | /                    | 561.58               | 561.48               | 561.33               | 561.34               | 561.32               | 561.35               | 561.18               | 561.36               | 561.46               | 561.33               | 561.55              |
| 6                  | /                    | 561.26               | 561.26               | 561.47               | 561.85               | 561.30               | 561.24               | 561.14               | 561.26               | 561.67               | 561.52               | 561.54              |
| 7                  | /                    | 561.34               | 562.68               | 561.52               | 562.27               | 561.25               | 561.39               | 561.21               | 561.27               | 561.52               | 561.17               | 561.52              |
| 8                  | /                    | 561.62               | 561.94               | 561.38               | 561.56               | 561.22               | 561.55               | 561.26               | 561.21               | 561.26               | 561.20               | 560.95              |
| 9                  | /                    | 561.72               | 561.50               | 561.28               | 561.29               | 561.18               | 561.38               | 561.19               | 561.11               | 561.16               | 561.16               | 561.17              |
| 10                 | /                    | 561.72               | 561.36               | 562.26               | 561.24               | 561.21               | 561.29               | 561.33               | 561.32               | 561.15               | 561.04               | 561.21              |
| 11                 | /                    | 561.62               | 560.97               | 561.36               | 561.37               | 561.32               | 561.25               | 561.47               | 561.18               | 561.11               | 560.83               | 561.31              |
| 12                 | /                    | 561.43               | 561.25               | 561.32               | 561.34               | 561.27               | 561.18               | 561.27               | 561.11               | 561.17               | 560.42               | 561.09              |
| 13                 | /                    | 561.30               | 560.92               | 561.10               | 561.28               | 561.16               | 561.24               | 561.25               | 561.05               | 561.13               | 560.72               | 561.19              |
| 14                 | /                    | 561.39               | 560.91               | 561.23               | 561.39               | 561.20               | 561.29               | 561.18               | 561.07               | 560.99               | 561.14               | 561.67              |
| 15                 | /                    | 562.18               | 561.27               | 561.67               | 561.20               | 561.18               | 561.35               | 561.24               | 561.23               | 561.25               | 561.20               | 562.10              |
| 16                 | /                    | 561.80               | 561.50               | 561.66               | 561.20               | 561.45               | 561.30               | 561.24               | 561.17               | 561.14               | 560.92               | 561.49              |
| 17                 | /                    | 561.86               | 561.22               | 561.34               | 561.32               | 561.30               | 561.34               | 561.21               | 561.09               | 560.95               | 561.16               | 561.34              |
| 18                 | /                    | 561.36               | 561.36               | 561.33               | 560.99               | 561.23               | 561.39               | 561.30               | 561.17               | 560.96               | 561.20               | 561.30              |
| 19                 | 562.30*              | 561.43               | 561.87               | 561.23               | 561.24               | 561.28               | 561.34               | 561.09               | 561.19               | 560.91               | 561.25               | 561.12              |
| 20                 | 561.49               | 561.75               | 561.66               | 561.37               | 561.27               | 561.24               | 561.21               | 561.12               | 561.14               | 561.10               | 561.19               | 561.27              |
| 21                 | 561.32               | 561.66               | 561.52               | 561.50               | 561.22               | 561.17               | 561.19               | 561.35               | 561.18               | 561.15               | 561.18               | 561.45              |
| 22                 | 561.30               | 561.67               | 561.04               | 562.06               | 561.23               | 561.00               | 561.30               | 561.29               | 561.20               | 561.17               | 561.15               | 561.18              |
| 23                 | 561.53               | 561.25               | 560.95               | 562.15               | 561.23               | 561.18               | 561.36               | 561.10               | 561.67               | 561.02               | 561.15               | 561.06              |
| 24                 | 561.48               | 561.23               | 561.89               | 562.06               | 561.29               | 561.23               | 561.24               | 561.04               | 561.15               | 561.08               | 561.94               | 561.21              |
| 25                 | 561.21               | 561.23               | 562.04               | 562.00               | 561.24               | 561.21               | 561.26               | 561.18               | 561.14               | 561.15               | 562.02               | 560.99              |
| 26                 | 561.37               | 561.27               | 561.60               | 561.72               | 561.20               | 561.20               | 561.19               | 561.19               | 561.58               | 561.15               | 561.20               | 561.14              |
| 27                 | 562.32               | 561.59               | 561.61               | 561.32               | 561.26               | 561.25               | 561.28               | 561.19               | 561.25               | 561.32               | 561.40               | 560.97              |
| 28                 | 562.24               | 561.41               | 562.65               | 561.40               | 561.29               | 561.42               | 561.25               | 561.17               | 561.12               | 560.91               | 561.34               | 560.95              |
| 29                 | 561.33               |                      | 561.81               | 561.37               | 561.23               | 561.36               | 561.06               | 561.20               | 561.17               | 561.05               | 561.21               | 561.10              |
| 30                 | 561.15               |                      | 561.48               | 561.81               | 561.22               | 561.30               | 561.17               | 561.19               | 560.99               | 561.06               | 561.41               | 560.88              |
| 31                 | 561.83               |                      | 561.31               |                      | 561.35               |                      | 561.18               | 561.17               |                      | 561.02               |                      | 561.02              |
| Mean               | 561.61               | 561.54               | 561.48               | 561.51               | 561.39               | 561.23               | 561.28               | 561.21               | 561.20               | 561.14               | 561.23               | 561.27              |
| Max.<br>Hr.<br>Day | 563.05<br>0200<br>28 | 563.28<br>1500<br>15 | 563.38<br>0800<br>28 | 562.87<br>1500<br>10 | 562.77<br>1500<br>2  | 562.25<br>0700<br>16 | 562.22<br>0700<br>18 | 562.26<br>0700<br>11 | 562.61<br>0700<br>23 | 562.24<br>0800<br>27 | 562.66<br>2400<br>24 | 563.03<br>1200<br>3 |
| Min.<br>Hr.<br>Day | 561.00<br>1400<br>30 | 560.94<br>0600<br>14 | 560.37<br>1100<br>11 | 560.14<br>2100<br>29 | 560.15<br>2100<br>16 | 560.19<br>2100<br>12 | 560.26<br>2100<br>1  | 560.17<br>2100<br>17 | 560.08<br>2100<br>13 | 560.15<br>2000<br>31 | 560.36<br>1200<br>12 | 560.48<br>2400<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 561.34



Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 906-3020 Buffalo Harbor, Buffalo, New York on Lake Erie

HIGHEST

Monthly mean elevation: 571.87 Jun  
Daily mean elevation: 573.33 18 Jan  
Instant/hourly elevation: 576.66 0700/28 Mar

LOWEST

Monthly mean elevation: 570.53 Oct  
Daily mean elevation: 569.29 28 Oct  
Instant/hourly elevation: 567.45 2300/2 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 573.33 | 572.28 | 573.28 | 572.75 | 572.46 | 572.21 | 572.11 | 571.70 | 571.64 | 571.65 | 572.41 | 572.28 |
| Day | 18 | 15 | 28 | 10 | 7 | 16 | 8 | 1 | 23 | 6 | 24 | 14 |
| Min | 570.82 | 571.00 | 570.80 | 571.00 | 571.15 | 570.88 | 571.13 | 570.71 | 570.40 | 569.29 | 569.83 | 569.47 |
| Day | 11 | 13 | 13 | 12 | 18 | 22 | 28 | 20 | 1 | 28 | 10 | 2 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 573.20         | 1   |     | 1   |     |     |     |     |     |     |     |     |     | 573.20         | 2                          |
| 573.00         |     |     |     |     |     |     |     |     |     |     |     |     | 573.00         | 2                          |
| 572.80         | 2   |     |     |     |     |     |     |     |     |     |     |     | 572.80         | 4                          |
| 572.60         |     |     |     | 1   |     |     |     |     |     |     |     |     | 572.60         | 5                          |
| 572.40         | 1   |     | 1   |     | 1   |     |     |     |     |     | 1   |     | 572.40         | 9                          |
| 572.20         | 3   | 2   |     |     | 3   | 1   |     |     |     |     |     | 1   | 572.20         | 19                         |
| 572.00         | 4   |     | 1   | 4   | 3   | 5   | 1   |     |     |     | 1   |     | 572.00         | 38                         |
| 571.80         | 4   |     | 1   | 4   | 14  | 15  | 3   |     |     |     |     | 1   | 571.80         | 80                         |
| 571.60         | 7   | 6   | 5   | 10  | 7   | 7   | 19  | 1   | 1   | 1   | 1   |     | 571.60         | 145                        |
| 571.40         | 3   | 10  | 13  | 6   | 1   | 1   | 5   | 7   | 1   | 1   | 1   | 1   | 571.40         | 194                        |
| 571.20         | 1   | 6   | 5   | 2   | 1   | 1   | 1   | 12  | 5   |     |     | 2   | 571.20         | 230                        |
| 571.00         | 4   | 3   | 1   | 2   | 1   |     | 2   | 6   | 10  | 1   | 1   | 5   | 571.00         | 266                        |
| 570.80         | 1   | 1   | 2   | 1   |     | 1   |     | 2   | 3   | 3   | 3   | 1   | 570.80         | 287                        |
| 570.60         |     |     | 1   |     |     |     |     | 3   | 3   | 3   | 3   | 1   | 570.60         | 301                        |
| 570.40         |     |     |     |     |     |     |     |     | 3   | 12  | 3   | 9   | 570.40         | 328                        |
| 570.20         |     |     |     |     |     |     |     |     | 1   | 7   | 6   | 7   | 570.20         | 349                        |
| 570.00         |     |     |     |     |     |     |     |     |     | 1   | 8   | 1   | 570.00         | 359                        |
| 569.80         |     |     |     |     |     |     |     |     |     | 1   | 2   | 1   | 569.80         | 363                        |
| 569.60         |     |     |     |     |     |     |     |     |     |     |     | 1   | 569.60         | 363                        |
| 569.40         |     |     |     |     |     |     |     |     |     |     |     |     | 569.40         | 364                        |
| 569.20         |     |     |     |     |     |     |     |     |     | 1   |     |     | 569.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3020 Buffalo Harbor, Buffalo, New York on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 571.80               | 571.39               | 571.28               | 571.77               | 572.15               | 571.93               | 571.47               | 571.70               | 570.40               | 570.73               | 570.09               | 570.47               |
| 2                  | 571.68               | 571.56               | 571.35               | 571.78               | 572.26               | 571.96               | 571.64               | 571.46               | 570.96               | 570.79               | 572.09               | 569.47               |
| 3                  | 572.08               | 571.45               | 570.99               | 571.42               | 572.09               | 571.90               | 571.62               | 571.37               | 571.22               | 570.62               | 571.58               | 571.11               |
| 4                  | 572.31               | 571.33               | 571.62               | 571.46               | 571.70               | 571.79               | 571.68               | 571.49               | 571.19               | 570.46               | 570.72               | 571.41               |
| 5                  | 571.67               | 571.30               | 571.47               | 571.63               | 571.48               | 571.95               | 571.88               | 571.36               | 571.11               | 571.44               | 570.58               | 571.05               |
| 6                  | 571.61               | 571.18               | 571.58               | 571.64               | 572.36               | 571.96               | 571.76               | 571.15               | 571.08               | 571.65               | 571.15               | 571.03               |
| 7                  | 571.12               | 571.28               | 572.60               | 571.67               | 572.46               | 571.96               | 571.90               | 571.19               | 571.08               | 571.06               | 570.16               | 571.05               |
| 8                  | 571.13               | 571.55               | 571.58               | 571.53               | 571.91               | 572.05               | 572.11               | 570.97               | 571.05               | 570.99               | 570.25               | 570.39               |
| 9                  | 571.93               | 571.74               | 571.46               | 571.63               | 571.78               | 572.00               | 571.78               | 571.11               | 571.05               | 570.83               | 570.14               | 570.50               |
| 10                 | 571.18               | 571.48               | 571.51               | 572.75               | 571.81               | 572.14               | 571.76               | 571.43               | 571.32               | 570.54               | 569.83               | 570.58               |
| 11                 | 570.82               | 571.59               | 571.44               | 571.76               | 571.83               | 572.20               | 571.72               | 571.53               | 571.01               | 570.45               | 570.08               | 570.59               |
| 12                 | 571.96               | 571.43               | 571.40               | 571.00               | 571.94               | 572.10               | 571.55               | 571.23               | 570.94               | 570.47               | 570.41               | 570.36               |
| 13                 | 571.74               | 571.00               | 570.80               | 571.15               | 571.88               | 571.87               | 571.49               | 571.23               | 570.94               | 570.44               | 570.97               | 570.59               |
| 14                 | 572.05               | 571.61               | 571.16               | 571.25               | 571.92               | 571.87               | 571.63               | 571.35               | 570.91               | 570.49               | 570.30               | 572.28               |
| 15                 | 571.47               | 572.28               | 571.47               | 572.11               | 571.82               | 572.07               | 571.61               | 571.40               | 571.16               | 570.93               | 570.64               | 571.83               |
| 16                 | 571.50               | 572.25               | 571.48               | 571.88               | 571.83               | 572.21               | 571.66               | 571.33               | 571.25               | 570.58               | 570.22               | 570.84               |
| 17                 | 572.42               | 571.70               | 571.33               | 571.55               | 571.73               | 571.94               | 571.75               | 571.56               | 571.22               | 570.44               | 569.97               | 571.25               |
| 18                 | 573.33               | 571.04               | 571.63               | 571.42               | 571.15               | 571.79               | 571.72               | 571.29               | 571.27               | 570.59               | 570.15               | 570.49               |
| 19                 | 572.27               | 571.42               | 571.84               | 571.08               | 571.40               | 571.92               | 571.72               | 570.73               | 571.03               | 570.28               | 570.30               | 570.36               |
| 20                 | 571.62               | 571.66               | 571.48               | 571.27               | 571.71               | 571.89               | 571.74               | 570.71               | 570.95               | 570.44               | 570.32               | 570.53               |
| 21                 | 571.50               | 571.53               | 571.31               | 571.60               | 571.76               | 571.75               | 571.74               | 571.46               | 570.77               | 570.47               | 570.17               | 571.31               |
| 22                 | 571.75               | 571.71               | 570.98               | 572.11               | 571.78               | 570.88               | 571.68               | 571.41               | 570.81               | 570.34               | 570.14               | 571.19               |
| 23                 | 572.96               | 571.05               | 571.42               | 571.97               | 571.77               | 571.36               | 571.84               | 571.19               | 571.64               | 570.28               | 570.29               | 570.57               |
| 24                 | 572.15               | 571.31               | 572.13               | 572.01               | 571.84               | 571.64               | 571.75               | 570.77               | 570.45               | 570.28               | 572.41               | 570.70               |
| 25                 | 571.92               | 571.43               | 571.70               | 571.86               | 571.81               | 571.77               | 571.64               | 571.00               | 570.77               | 570.41               | 571.66               | 570.34               |
| 26                 | 572.14               | 571.42               | 571.41               | 571.83               | 571.82               | 571.79               | 571.42               | 571.22               | 571.56               | 570.39               | 570.58               | 570.57               |
| 27                 | 572.22               | 571.74               | 571.63               | 571.78               | 571.96               | 571.88               | 571.32               | 571.30               | 571.07               | 570.37               | 570.90               | 570.26               |
| 28                 | 571.83               | 571.31               | 573.28               | 571.76               | 571.92               | 571.99               | 571.13               | 571.23               | 570.74               | 569.29               | 570.73               | 570.03               |
| 29                 | 571.24               |                      | 571.66               | 571.76               | 571.95               | 571.89               | 571.20               | 571.19               | 570.56               | 569.97               | 570.12               | 570.31               |
| 30                 | 571.18               |                      | 571.60               | 572.12               | 572.05               | 571.74               | 571.67               | 571.26               | 570.60               | 570.24               | 570.94               | 569.97               |
| 31                 | 572.87               |                      | 571.55               |                      | 572.23               |                      | 571.55               | 571.02               |                      | 570.13               |                      | 570.24               |
| Mean               | 571.85               | 571.49               | 571.55               | 571.68               | 571.87               | 571.87               | 571.65               | 571.25               | 571.00               | 570.53               | 570.60               | 570.70               |
| Max.<br>Hr.<br>Day | 574.84<br>0800<br>31 | 573.51<br>0100<br>1  | 576.66<br>0700<br>28 | 575.65<br>1700<br>15 | 573.11<br>1700<br>6  | 572.81<br>0600<br>16 | 573.16<br>0100<br>8  | 572.56<br>2200<br>17 | 573.52<br>0400<br>23 | 573.73<br>1600<br>5  | 573.81<br>0300<br>2  | 576.50<br>1800<br>14 |
| Min.<br>Hr.<br>Day | 569.42<br>0200<br>11 | 570.54<br>2000<br>13 | 570.26<br>2100<br>3  | 570.19<br>0200<br>16 | 570.45<br>2300<br>17 | 570.51<br>1000<br>22 | 570.62<br>2200<br>28 | 570.25<br>0200<br>20 | 569.90<br>0500<br>1  | 568.94<br>1000<br>28 | 569.55<br>1800<br>10 | 567.45<br>2300<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.34

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 906-3028 Sturgeon Point, New York on Lake Erie

HIGHEST

Monthly mean elevation: 571.84 May  
Daily mean elevation: 572.97 18 Jan  
Instant/hourly elevation: 575.68 0700/28 Mar

LOWEST

Monthly mean elevation: 570.49 Oct  
Daily mean elevation: 569.34 28 Oct  
Instant/hourly elevation: 567.78 2300/2 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 572.97 | 572.27 | 572.82 | 572.44 | 572.29 | 572.14 | 571.96 | 571.59 | 571.47 | 571.52 | 572.03 | 572.02 |
| Day | 18     | 15     | 28     | 10     | 6      | 16     | 8      | 1      | 23     | 6      | 24     | 14     |
| Min | 570.88 | 571.01 | 570.84 | 571.02 | 571.21 | 570.91 | 571.11 | 570.74 | 570.41 | 569.34 | 569.89 | 569.51 |
| Day | 11     | 13     | 13     | 12     | 18     | 22     | 28     | 19     | 1      | 28     | 10     | 2      |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.80         | 2   |     | 1   |     |     |     |     |     |     |     |     |     | 572.80         | 3                          |
| 572.60         | 1   |     |     |     |     |     |     |     |     |     |     |     | 572.60         | 4                          |
| 572.40         |     |     | 1   | 1   |     |     |     |     |     |     |     |     | 572.40         | 6                          |
| 572.20         | 1   | 1   |     |     | 2   |     |     |     |     |     |     |     | 572.20         | 10                         |
| 572.00         | 6   | 1   | 1   | 2   | 4   | 4   |     |     |     |     | 1   | 1   | 572.00         | 30                         |
| 571.80         | 5   |     | 1   | 5   | 10  | 15  | 3   |     |     |     |     |     | 571.80         | 69                         |
| 571.60         | 5   | 6   | 6   | 10  | 12  | 8   | 13  |     |     |     | 1   | 1   | 571.60         | 131                        |
| 571.40         | 5   | 10  | 12  | 6   | 1   | 1   | 11  | 4   | 2   | 1   | 1   |     | 571.40         | 185                        |
| 571.20         | 2   | 7   | 5   | 3   | 2   | 1   | 2   | 12  | 2   | 1   | 1   | 1   | 571.20         | 224                        |
| 571.00         | 3   | 3   | 3   | 3   |     |     | 2   | 10  | 9   |     |     | 3   | 571.00         | 260                        |
| 570.80         | 1   |     | 1   |     |     | 1   |     | 2   | 9   | 3   | 1   | 5   | 570.80         | 283                        |
| 570.60         |     |     |     |     |     |     |     | 3   | 4   | 3   | 4   | 1   | 570.60         | 298                        |
| 570.40         |     |     |     |     |     |     |     |     | 4   | 10  | 5   | 9   | 570.40         | 326                        |
| 570.20         |     |     |     |     |     |     |     |     |     | 10  | 6   | 7   | 570.20         | 349                        |
| 570.00         |     |     |     |     |     |     |     |     |     | 1   | 8   | 2   | 570.00         | 360                        |
| 569.80         |     |     |     |     |     |     |     |     |     | 1   | 2   |     | 569.80         | 363                        |
| 569.60         |     |     |     |     |     |     |     |     |     |     |     |     | 569.60         | 363                        |
| 569.40         |     |     |     |     |     |     |     |     |     |     |     | 1   | 569.40         | 364                        |
| 569.20         |     |     |     |     |     |     |     |     |     | 1   |     |     | 569.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3028 Sturgeon Point, New York on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 571.70               | 571.39               | 571.30               | 571.73               | 572.07               | 571.91               | 571.44               | 571.59               | 570.41               | 570.67               | 570.13               | 570.41               |
| 2                  | 571.62               | 571.60               | 571.34               | 571.72               | 572.17               | 571.91               | 571.62               | 571.40               | 570.91               | 570.72               | 571.75               | 569.51               |
| 3                  | 572.02               | 571.48               | 571.06               | 571.39               | 572.03               | 571.89               | 571.57               | 571.34               | 571.16               | 570.60               | 571.35               | 571.01               |
| 4                  | 572.08               | 571.37               | 571.64               | 571.45               | 571.71               | 571.77               | 571.60               | 571.44               | 571.13               | 570.43               | 570.66               | 571.33               |
| 5                  | 571.63               | 571.33               | 571.47               | 571.57               | 571.52               | 571.90               | 571.83               | 571.34               | 571.08               | 571.33               | 570.50               | 570.91               |
| 6                  | 571.59               | 571.22               | 571.61               | 571.60               | 572.29               | 571.90               | 571.70               | 571.12               | 571.02               | 571.52               | 570.98               | 570.93               |
| 7                  | 571.17               | 571.32               | 572.49               | 571.61               | 572.28               | 571.90               | 571.85               | 571.16               | 571.03               | 570.97               | 570.15               | 570.86               |
| 8                  | 571.17               | 571.55               | 571.61               | 571.51               | 571.87               | 571.98               | 571.96               | 570.95               | 571.03               | 570.89               | 570.23               | 570.35               |
| 9                  | 571.84               | 571.71               | 571.49               | 571.61               | 571.76               | 571.95               | 571.71               | 571.08               | 571.00               | 570.73               | 570.13               | 570.46               |
| 10                 | 571.18               | 571.49               | 571.55               | 572.44               | 571.80               | 572.05               | 571.69               | 571.37               | 571.24               | 570.52               | 569.89               | 570.52               |
| 11                 | 570.88               | 571.60               | 571.47               | 571.70               | 571.80               | 572.13               | 571.66               | 571.45               | 570.98               | 570.45               | 570.20               | 570.50               |
| 12                 | 571.91               | 571.43               | 571.42               | 571.02               | 571.91               | 572.05               | 571.51               | 571.19               | 570.89               | 570.45               | 570.45               | 570.31               |
| 13                 | 571.68               | 571.01               | 570.84               | 571.18               | 571.86               | 571.83               | 571.47               | 571.17               | 570.89               | 570.44               | 570.80               | 570.50               |
| 14                 | 571.91               | 571.61               | 571.20               | 571.25               | 571.86               | 571.80               | 571.58               | 571.29               | 570.88               | 570.45               | 570.22               | 572.02               |
| 15                 | 571.45               | 572.27               | 571.49               | 571.96               | 571.80               | 571.98               | 571.54               | 571.33               | 571.07               | 570.83               | 570.52               | 571.68               |
| 16                 | 571.52               | 572.18               | 571.50               | 571.77               | 571.80               | 572.14               | 571.58               | 571.26               | 571.17               | 570.56               | 570.21               | 570.82               |
| 17                 | 572.30               | 571.64               | 571.35               | 571.52               | 571.73               | 571.91               | 571.68               | 571.49               | 571.15               | 570.44               | 569.99               | 571.10               |
| 18                 | 572.97               | 571.06               | 571.64               | 571.42               | 571.21               | 571.75               | 571.64               | 571.23               | 571.21               | 570.56               | 570.11               | 570.50               |
| 19                 | 572.08               | 571.43               | 571.82               | 571.10               | 571.39               | 571.86               | 571.64               | 570.74               | 570.99               | 570.29               | 570.25               | 570.35               |
| 20                 | 571.58               | 571.63               | 571.47               | 571.32               | 571.69               | 571.84               | 571.66               | 570.75               | 570.91               | 570.38               | 570.28               | 570.44               |
| 21                 | 571.56               | 571.53               | 571.33               | 571.66               | 571.74               | 571.73               | 571.66               | 571.39               | 570.74               | 570.40               | 570.17               | 571.09               |
| 22                 | 571.71               | 571.70               | 571.06               | 572.06               | 571.75               | 570.91               | 571.63               | 571.33               | 570.77               | 570.29               | 570.15               | 570.97               |
| 23                 | 572.69               | 571.07               | 571.44               | 571.92               | 571.74               | 571.36               | 571.75               | 571.17               | 571.47               | 570.24               | 570.29               | 570.48               |
| 24                 | 572.04               | 571.32               | 572.02               | 571.97               | 571.81               | 571.57               | 571.66               | 570.79               | 570.47               | 570.25               | 572.03               | 570.64               |
| 25                 | 571.85               | 571.44               | 571.68               | 571.84               | 571.80               | 571.68               | 571.56               | 570.97               | 570.75               | 570.35               | 571.41               | 570.30               |
| 26                 | 572.05               | 571.43               | 571.39               | 571.83               | 571.82               | 571.72               | 571.38               | 571.16               | 571.44               | 570.34               | 570.54               | 570.48               |
| 27                 | 572.04               | 571.73               | 571.62               | 571.79               | 571.91               | 571.78               | 571.30               | 571.24               | 570.98               | 570.34               | 570.73               | 570.23               |
| 28                 | 571.82               | 571.30               | 572.82               | 571.77               | 571.88               | 571.88               | 571.11               | 571.19               | 570.69               | 569.34               | 570.54               | 570.03               |
| 29                 | 571.30               |                      | 571.58               | 571.75               | 571.88               | 571.81               | 571.18               | 571.13               | 570.54               | 569.99               | 570.14               | 570.32               |
| 30                 | 571.25               |                      | 571.58               | 572.05               | 572.00               | 571.69               | 571.58               | 571.21               | 570.56               | 570.24               | 570.79               | 570.02               |
| 31                 | 572.81               |                      | 571.52               |                      | 572.13               |                      | 571.47               | 571.04               |                      | 570.14               |                      | 570.23               |
| Mean               | 571.79               | 571.49               | 571.54               | 571.65               | 571.84               | 571.82               | 571.59               | 571.20               | 570.95               | 570.49               | 570.52               | 570.62               |
| Max.<br>Hr.<br>Day | 574.76<br>0900<br>31 | 573.15<br>0100<br>1  | 575.68<br>0700<br>28 | 574.90<br>1700<br>15 | 572.88<br>1700<br>6  | 572.78<br>0300<br>16 | 573.04<br>0100<br>8  | 572.45<br>2200<br>17 | 573.06<br>0300<br>23 | 573.36<br>1600<br>5  | 572.98<br>0300<br>2  | 575.64<br>1700<br>14 |
| Min.<br>Hr.<br>Day | 569.60<br>0200<br>11 | 570.62<br>2000<br>13 | 570.44<br>0200<br>23 | 570.21<br>0100<br>16 | 570.69<br>2300<br>17 | 570.58<br>2200<br>22 | 570.68<br>2200<br>28 | 570.21<br>0100<br>20 | 569.96<br>0500<br>1  | 569.02<br>1000<br>28 | 569.63<br>1000<br>21 | 567.78<br>2300<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.29

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 906-3038 Erie, Pennsylvania on Lake Erie

HIGHEST

Monthly mean elevation: 571.97 Jun  
Daily mean elevation: 572.49 18 Jan  
Instant/hourly elevation: 573.95 1900/14 Dec

LOWEST

Monthly mean elevation: 570.52 Nov  
Daily mean elevation: 569.91 28 Oct  
Instant/hourly elevation: 568.68 2200/2 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 572.49 | 572.22 | 572.35 | 572.15 | 572.30 | 572.13 | 571.90 | 571.59 | 571.33 | 571.22 | 571.38 | 571.55 |
| Day | 18 | 15 | 28 | 10 | 6 | 11 | 7 | 1 | 26 | 6 | 24 | 14 |
| Min | 571.27 | 571.23 | 571.19 | 571.31 | 571.57 | 571.46 | 571.38 | 571.03 | 570.63 | 569.91 | 570.20 | 569.92 |
| Day | 11 | 13 | 13 | 12 | 18 | 22 | 28 | 19 | 30 | 28 | 10 | 2 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.40         | 1   |     |     |     |     |     |     |     |     |     |     |     | 572.40         | 1                          |
| 572.20         | 2   | 1   | 1   |     | 2   |     |     |     |     |     |     |     | 572.20         | 7                          |
| 572.00         | 1   |     | 1   | 5   | 8   | 15  |     |     |     |     |     |     | 572.00         | 37                         |
| 571.80         | 8   | 1   | 2   | 6   | 18  | 13  | 3   |     |     |     |     |     | 571.80         | 88                         |
| 571.60         | 12  | 4   | 15  | 14  | 2   | 1   | 23  |     |     |     |     |     | 571.60         | 159                        |
| 571.40         | 6   | 18  | 10  | 3   | 1   | 1   | 3   | 10  |     |     |     | 1   | 571.40         | 212                        |
| 571.20         | 1   | 4   | 1   | 2   |     |     | 2   | 17  | 7   | 1   | 2   | 2   | 571.20         | 251                        |
| 571.00         |     |     | 1   |     |     |     |     | 4   | 14  | 1   | 2   |     | 571.00         | 273                        |
| 570.80         |     |     |     |     |     |     |     |     | 5   | 1   |     | 4   | 570.80         | 283                        |
| 570.60         |     |     |     |     |     |     |     |     | 4   | 7   | 3   | 6   | 570.60         | 303                        |
| 570.40         |     |     |     |     |     |     |     |     |     | 16  | 7   | 11  | 570.40         | 337                        |
| 570.20         |     |     |     |     |     |     |     |     |     | 4   | 15  | 6   | 570.20         | 362                        |
| 570.00         |     |     |     |     |     |     |     |     |     |     | 1   |     | 570.00         | 363                        |
| 569.80         |     |     |     |     |     |     |     |     |     | 1   |     | 1   | 569.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3038 Erie, Pennsylvania on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 571.67               | 571.46               | 571.42               | 571.80               | 572.11               | 572.05               | 571.66               | 571.59               | 570.82               | 570.74               | 570.38               | 570.46               |
| 2                  | 571.72               | 571.56               | 571.46               | 571.77               | 572.18               | 572.05               | 571.80               | 571.46               | 571.14               | 570.74               | 571.30               | 569.92               |
| 3                  | 571.98               | 571.48               | 571.46               | 571.56               | 572.09               | 572.11               | 571.78               | 571.51               | 571.24               | 570.66               | 571.05               | 570.83               |
| 4                  | 571.88               | 571.43               | 571.78               | 571.61               | 571.90               | 572.01               | 571.76               | 571.56               | 571.23               | 570.61               | 570.67               | 571.30               |
| 5                  | 571.73               | 571.44               | 571.59               | 571.68               | 571.79               | 572.09               | 571.90               | 571.49               | 571.21               | 571.12               | 570.52               | 570.72               |
| 6                  | 571.72               | 571.40               | 571.64               | 571.68               | 572.30               | 572.09               | 571.80               | 571.31               | 571.16               | 571.22               | 570.74               | 570.81               |
| 7                  | 571.51               | 571.45               | 572.16               | 571.65               | 572.26               | 572.07               | 571.90               | 571.34               | 571.16               | 570.96               | 570.35               | 570.61               |
| 8                  | 571.45               | 571.56               | 571.73               | 571.63               | 571.96               | 572.08               | 571.88               | 571.17               | 571.17               | 570.79               | 570.39               | 570.40               |
| 9                  | 571.85               | 571.60               | 571.64               | 571.71               | 571.93               | 572.07               | 571.79               | 571.36               | 571.15               | 570.65               | 570.32               | 570.51               |
| 10                 | 571.44               | 571.55               | 571.72               | 572.15               | 571.96               | 572.12               | 571.78               | 571.47               | 571.25               | 570.58               | 570.20               | 570.52               |
| 11                 | 571.27               | 571.67               | 571.67               | 571.74               | 571.95               | 572.13               | 571.77               | 571.51               | 571.15               | 570.57               | 570.34               | 570.50               |
| 12                 | 571.96               | 571.51               | 571.60               | 571.31               | 571.98               | 572.12               | 571.66               | 571.30               | 571.06               | 570.59               | 570.44               | 570.35               |
| 13                 | 571.77               | 571.23               | 571.19               | 571.44               | 571.98               | 571.98               | 571.73               | 571.30               | 571.04               | 570.60               | 570.60               | 570.52               |
| 14                 | 571.79               | 571.64               | 571.48               | 571.49               | 571.97               | 571.94               | 571.76               | 571.37               | 571.05               | 570.54               | 570.29               | 571.55               |
| 15                 | 571.60               | 572.22               | 571.65               | 571.79               | 571.95               | 572.04               | 571.74               | 571.36               | 571.12               | 570.75               | 570.42               | 571.39               |
| 16                 | 571.68               | 571.92               | 571.63               | 571.78               | 571.95               | 572.11               | 571.73               | 571.30               | 571.13               | 570.58               | 570.36               | 570.78               |
| 17                 | 572.16               | 571.54               | 571.54               | 571.64               | 571.94               | 572.05               | 571.73               | 571.44               | 571.14               | 570.46               | 570.21               | 570.86               |
| 18                 | 572.49               | 571.29               | 571.75               | 571.61               | 571.57               | 571.94               | 571.72               | 571.27               | 571.21               | 570.51               | 570.23               | 570.66               |
| 19                 | 571.91               | 571.48               | 571.83               | 571.38               | 571.66               | 572.00               | 571.71               | 571.03               | 571.08               | 570.48               | 570.34               | 570.42               |
| 20                 | 571.71               | 571.59               | 571.61               | 571.67               | 571.90               | 571.98               | 571.71               | 571.11               | 571.03               | 570.48               | 570.37               | 570.44               |
| 21                 | 571.79               | 571.55               | 571.57               | 571.90               | 571.91               | 571.93               | 571.71               | 571.51               | 570.89               | 570.43               | 570.40               | 570.85               |
| 22                 | 571.80               | 571.65               | 571.35               | 572.11               | 571.90               | 571.46               | 571.70               | 571.42               | 570.85               | 570.37               | 570.38               | 570.71               |
| 23                 | 572.27               | 571.32               | 571.56               | 572.02               | 571.89               | 571.65               | 571.76               | 571.32               | 571.28               | 570.34               | 570.44               | 570.48               |
| 24                 | 572.00               | 571.49               | 571.95               | 572.04               | 571.92               | 571.83               | 571.71               | 571.11               | 570.71               | 570.35               | 571.38               | 570.68               |
| 25                 | 571.83               | 571.57               | 571.75               | 571.98               | 571.88               | 571.88               | 571.63               | 571.21               | 570.89               | 570.41               | 571.03               | 570.42               |
| 26                 | 571.85               | 571.55               | 571.58               | 571.99               | 571.95               | 571.88               | 571.53               | 571.32               | 571.33               | 570.47               | 570.55               | 570.45               |
| 27                 | 571.77               | 571.70               | 571.70               | 571.97               | 572.02               | 571.89               | 571.47               | 571.33               | 570.97               | 570.50               | 570.54               | 570.37               |
| 28                 | 571.72               | 571.43               | 572.35               | 571.96               | 572.01               | 571.92               | 571.38               | 571.30               | 570.75               | 569.91               | 570.39               | 570.26               |
| 29                 | 571.45               |                      | 571.71               | 571.95               | 572.04               | 571.88               | 571.40               | 571.27               | 570.67               | 570.30               | 570.32               | 570.49               |
| 30                 | 571.49               |                      | 571.71               | 572.13               | 572.07               | 571.86               | 571.65               | 571.33               | 570.63               | 570.48               | 570.63               | 570.34               |
| 31                 | 572.35               |                      | 571.66               |                      | 572.17               |                      | 571.54               | 571.22               |                      | 570.41               |                      | 570.40               |
| Mean               | 571.79               | 571.55               | 571.66               | 571.77               | 571.97               | 571.97               | 571.70               | 571.34               | 571.05               | 570.57               | 570.52               | 570.61               |
| Max.<br>Hr.<br>Day | 573.45<br>1000<br>31 | 572.49<br>1800<br>15 | 573.70<br>0700<br>28 | 573.26<br>1900<br>15 | 572.73<br>1500<br>6  | 572.54<br>0500<br>16 | 572.25<br>2300<br>7  | 572.03<br>2100<br>17 | 572.01<br>0500<br>23 | 572.51<br>1900<br>5  | 572.02<br>0500<br>2  | 573.95<br>1900<br>14 |
| Min.<br>Hr.<br>Day | 570.38<br>0100<br>11 | 571.01<br>2000<br>13 | 570.97<br>0700<br>13 | 570.64<br>0100<br>16 | 571.33<br>2300<br>17 | 571.14<br>0900<br>22 | 571.09<br>2300<br>28 | 570.69<br>2400<br>19 | 570.35<br>0200<br>30 | 569.60<br>1200<br>28 | 569.97<br>1900<br>17 | 568.68<br>2200<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.38

# Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 906-3053 Fairport, Ohio on Lake Erie

## HIGHEST

Monthly mean elevation: 572.13 Jun  
Daily mean elevation: 572.26 4 Jun  
Instant/hourly elevation: 572.81 2100/15 Jun

## LOWEST

Monthly mean elevation: 570.45 Nov  
Daily mean elevation: 570.27 13 Nov  
Instant/hourly elevation: 569.93 2000/14 Dec

## ~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 571.96 | 571.70 | 571.84 | 572.18 | 572.21 | 572.26 | 572.00 | 571.68 | 571.42 | 570.81 | 570.72 | 570.68 |
| Day | 21     | 15     | 29     | 28     | 31     | 4      | 13     | 20     | 1      | 4      | 1      | 4      |
| Min | 571.45 | 571.45 | 571.54 | 571.69 | 572.00 | 571.92 | 571.60 | 571.32 | 570.78 | 570.42 | 570.27 | 570.36 |
| Day | 31     | 17     | 1      | 15     | 25     | 28     | 29     | 17     | 30     | 21     | 13     | 22     |

## ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.20         |     |     |     |     | 1   | 8   |     |     |     |     |     |     | 572.20         | 9                          |
| 572.00         |     |     |     | 11  | 28  | 16  |     |     |     |     |     |     | 572.00         | 64                         |
| 571.80         | 8   |     | 5   | 2   | 2   | 6   | 16  |     |     |     |     |     | 571.80         | 103                        |
| 571.60         | 18  | 5   | 24  | 17  |     |     | 14  |     |     |     |     |     | 571.60         | 183                        |
| 571.40         | 5   | 23  | 2   |     |     |     | 1   | 27  | 1   |     |     |     | 571.40         | 242                        |
| 571.20         |     |     |     |     |     |     |     | 2   | 12  |     |     |     | 571.20         | 256                        |
| 571.00         |     |     |     |     |     |     |     |     | 9   |     |     |     | 571.00         | 265                        |
| 570.80         |     |     |     |     |     |     |     |     | 7   | 1   |     |     | 570.80         | 273                        |
| 570.60         |     |     |     |     |     |     |     |     | 1   | 16  | 1   | 3   | 570.60         | 294                        |
| 570.40         |     |     |     |     |     |     |     |     |     | 14  | 19  | 25  | 570.40         | 352                        |
| 570.20         |     |     |     |     |     |     |     |     |     |     | 10  | 3   | 570.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3053 Fairport, Ohio on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 571.66               | 571.51               | 571.54               | 571.82               | 572.11               | 572.25               | 571.94               | 571.58               | 571.42               | 570.75               | 570.72               | 570.50               |
| 2                  | 571.74               | 571.49               | 571.56               | 571.76               | 572.16               | 572.22               | 571.96               | 571.57               | 571.32               | 570.73               | 570.47               | 570.52               |
| 3                  | 571.83               | 571.46               | 571.77               | 571.75               | 572.13               | 572.25               | 571.94               | 571.66               | 571.28               | 570.76               | 570.38               | 570.58               |
| 4                  | 571.72               | 571.48               | 571.76               | 571.76               | 572.14               | 572.26               | 571.93               | 571.59               | 571.33               | 570.81               | 570.46               | 570.68               |
| 5                  | 571.77               | 571.50               | 571.68               | 571.69               | 572.13               | 572.22               | 571.91               | 571.58               | 571.32               | 570.78               | 570.44               | 570.40               |
| 6                  | 571.83               | 571.55               | 571.71               | 571.70               | 572.10               | 572.22               | 571.93               | 571.55               | 571.30               | 570.77               | 570.36               | 570.47               |
| 7                  | 571.90               | 571.56               | 571.72               | 571.69               | 572.03               | 572.22               | 571.97               | 571.51               | 571.28               | 570.76               | 570.54               | 570.37               |
| 8                  | 571.83               | 571.50               | 571.80               | 571.76               | 572.09               | 572.19               | 571.94               | 571.47               | 571.26               | 570.56               | 570.47               | 570.46               |
| 9                  | 571.78               | 571.46               | 571.74               | 571.77               | 572.11               | 572.19               | 571.94               | 571.56               | 571.26               | 570.50               | 570.46               | 570.53               |
| 10                 | 571.78               | 571.59               | 571.83               | 571.74               | 572.10               | 572.15               | 571.89               | 571.52               | 571.22               | 570.69               | 570.53               | 570.48               |
| 11                 | 571.89               | 571.58               | 571.80               | 571.76               | 572.09               | 572.17               | 571.88               | 571.47               | 571.28               | 570.67               | 570.51               | 570.43               |
| 12                 | 571.88               | 571.51               | 571.76               | 571.77               | 572.05               | 572.19               | 571.86               | 571.49               | 571.25               | 570.71               | 570.44               | 570.47               |
| 13                 | 571.80               | 571.53               | 571.80               | 571.78               | 572.08               | 572.14               | 572.00               | 571.47               | 571.22               | 570.70               | 570.27               | 570.52               |
| 14                 | 571.64               | 571.62               | 571.82               | 571.80               | 572.09               | 572.11               | 571.92               | 571.42               | 571.20               | 570.58               | 570.35               | 570.55               |
| 15                 | 571.74               | 571.70               | 571.75               | 571.69               | 572.07               | 572.14               | 571.87               | 571.44               | 571.14               | 570.56               | 570.32               | 570.59               |
| 16                 | 571.84               | 571.45               | 571.73               | 571.77               | 572.07               | 572.17               | 571.85               | 571.38               | 571.12               | 570.57               | 570.48               | 570.48               |
| 17                 | 571.78               | 571.45               | 571.76               | 571.80               | 572.11               | 572.18               | 571.79               | 571.32               | 571.15               | 570.53               | 570.42               | 570.52               |
| 18                 | 571.63               | 571.54               | 571.76               | 571.80               | 572.12               | 572.14               | 571.79               | 571.42               | 571.13               | 570.50               | 570.39               | 570.66               |
| 19                 | 571.66               | 571.51               | 571.77               | 571.85               | 572.08               | 572.10               | 571.78               | 571.48               | 571.11               | 570.67               | 570.42               | 570.50               |
| 20                 | 571.80               | 571.54               | 571.76               | 572.14               | 572.06               | 572.10               | 571.77               | 571.68               | 571.13               | 570.49               | 570.49               | 570.41               |
| 21                 | 571.96               | 571.53               | 571.80               | 572.15               | 572.04               | 572.11               | 571.77               | 571.55               | 571.01               | 570.42               | 570.53               | 570.41               |
| 22                 | 571.77               | 571.59               | 571.81               | 572.09               | 572.04               | 572.21               | 571.76               | 571.49               | 570.94               | 570.43               | 570.57               | 570.36               |
| 23                 | 571.54               | 571.62               | 571.77               | 572.11               | 572.03               | 572.07               | 571.77               | 571.52               | 570.87               | 570.44               | 570.57               | 570.47               |
| 24                 | 571.74               | 571.58               | 571.76               | 572.14               | 572.00               | 572.03               | 571.76               | 571.55               | 571.03               | 570.46               | 570.39               | 570.51               |
| 25                 | 571.67               | 571.62               | 571.79               | 572.14               | 572.00               | 572.00               | 571.73               | 571.49               | 570.99               | 570.49               | 570.49               | 570.50               |
| 26                 | 571.57               | 571.61               | 571.78               | 572.15               | 572.12               | 572.00               | 571.69               | 571.44               | 570.96               | 570.60               | 570.45               | 570.42               |
| 27                 | 571.46               | 571.59               | 571.76               | 572.17               | 572.13               | 571.94               | 571.64               | 571.46*              | 570.93               | 570.69               | 570.28               | 570.48               |
| 28                 | 571.51               | 571.55               | 571.67               | 572.18               | 572.15               | 571.92               | 571.63               | 571.43*              | 570.85               | 570.77               | 570.32               | 570.52               |
| 29                 | 571.63               |                      | 571.84               | 572.15               | 572.14               | 571.94               | 571.60               | 571.42               | 570.83               | 570.72               | 570.51               | 570.59               |
| 30                 | 571.67               |                      | 571.82               | 572.13               | 572.17               | 571.97               | 571.66               | 571.41               | 570.78               | 570.67               | 570.39               | 570.63               |
| 31                 | 571.45               |                      | 571.75               |                      | 572.21               |                      | 571.62               | 571.47               |                      | 570.70               |                      | 570.56               |
| Mean               | 571.72               | 571.54               | 571.75               | 571.90               | 572.10               | 572.13               | 571.82               | 571.50               | 571.13               | 570.63               | 570.45               | 570.50               |
| Max.<br>Hr.<br>Day | 572.17<br>0100<br>21 | 571.98<br>2000<br>22 | 572.09<br>0200<br>28 | 572.56<br>2400<br>23 | 572.61<br>2300<br>31 | 572.81<br>2100<br>15 | 572.49<br>2200<br>7  | 571.93<br>2000<br>20 | 571.63<br>2000<br>3  | 571.27<br>2000<br>6  | 571.14<br>2300<br>1  | 571.57<br>1900<br>15 |
| Min.<br>Hr.<br>Day | 571.12<br>0800<br>31 | 571.14<br>0100<br>1  | 571.03<br>0800<br>28 | 571.09<br>1800<br>15 | 571.63<br>0200<br>25 | 571.80<br>1600<br>29 | 571.48<br>1400<br>29 | 571.06<br>1900<br>17 | 570.48<br>0400<br>23 | 570.31<br>2000<br>25 | 570.00<br>1500<br>13 | 569.93<br>2000<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.43



International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 906-3063 Cleveland, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 572.06 Jun  
Daily mean elevation: 572.32 22 Jun  
Instant/hourly elevation: 572.81 1200/1 May

LOWEST

Monthly mean elevation: 570.28 Nov  
Daily mean elevation: 569.81 24 Nov  
Instant/hourly elevation: 569.17 2000/14 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 571.97 | 571.59 | 571.89 | 572.17 | 572.16 | 572.32 | 571.93 | 571.74 | 571.53 | 570.92 | 570.67 | 570.62 |
| Day | 11     | 23     | 13     | 20     | 18     | 22     | 13     | 20     | 1      | 28     | 1      | 2      |
| Min | 571.09 | 571.15 | 571.37 | 571.49 | 571.86 | 571.82 | 571.52 | 571.12 | 570.65 | 570.28 | 569.81 | 570.03 |
| Day | 31     | 16     | 28     | 15     | 7      | 28     | 31     | 17     | 30     | 21     | 24     | 22     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.20         |     |     |     |     |     | 3   |     |     |     |     |     |     | 572.20         | 3                          |
| 572.00         |     |     |     | 8   | 16  | 19  |     |     |     |     |     |     | 572.00         | 46                         |
| 571.80         | 4   |     | 2   | 4   | 15  | 8   | 12  |     |     |     |     |     | 571.80         | 91                         |
| 571.60         | 11  |     | 22  | 12  |     |     | 14  | 1   |     |     |     |     | 571.60         | 151                        |
| 571.40         | 10  | 15  | 6   | 6   |     |     | 5   | 17  | 1   |     |     |     | 571.40         | 211                        |
| 571.20         | 3   | 12  | 1   |     |     |     |     | 12  | 7   |     |     |     | 571.20         | 246                        |
| 571.00         | 3   | 1   |     |     |     |     |     | 1   | 12  |     |     |     | 571.00         | 263                        |
| 570.80         |     |     |     |     |     |     |     |     | 5   | 1   |     |     | 570.80         | 269                        |
| 570.60         |     |     |     |     |     |     |     |     | 5   | 10  | 1   | 1   | 570.60         | 286                        |
| 570.40         |     |     |     |     |     |     |     |     |     | 12  | 8   | 9   | 570.40         | 315                        |
| 570.20         |     |     |     |     |     |     |     |     |     | 8   | 11  | 17  | 570.20         | 351                        |
| 570.00         |     |     |     |     |     |     |     |     |     |     | 7   | 4   | 570.00         | 362                        |
| 569.80         |     |     |     |     |     |     |     |     |     |     | 3   |     | 569.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3063 Cleveland, Ohio on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 571.48               | 571.42               | 571.41               | 571.70               | 572.03               | 572.21               | 571.92              | 571.47               | 571.53               | 570.67               | 570.67               | 570.42               |
| 2                  | 571.65               | 571.31               | 571.46               | 571.66               | 572.01               | 572.18               | 571.89              | 571.51               | 571.32               | 570.58               | 569.99               | 570.62               |
| 3                  | 571.67               | 571.31               | 571.76               | 571.70               | 572.03               | 572.20               | 571.88              | 571.57               | 571.18               | 570.67               | 570.08               | 570.43               |
| 4                  | 571.53               | 571.34               | 571.67               | 571.67               | 572.09               | 572.23               | 571.88              | 571.54               | 571.29               | 570.68               | 570.28               | 570.29               |
| 5                  | 571.65               | 571.39               | 571.57               | 571.59               | 572.13               | 572.16               | 571.82              | 571.49               | 571.28               | 570.48               | 570.27               | 570.14               |
| 6                  | 571.74               | 571.47               | 571.56               | 571.58               | 571.92               | 572.16               | 571.84              | 571.50               | 571.27               | 570.47               | 570.03               | 570.32               |
| 7                  | 571.87               | 571.48               | 571.56               | 571.58               | 571.86               | 572.15               | 571.84              | 571.45               | 571.22               | 570.55               | 570.48               | 570.10               |
| 8                  | 571.81               | 571.33               | 571.71               | 571.61               | 572.00               | 572.11               | 571.84              | 571.48               | 571.20               | 570.32               | 570.40               | 570.33               |
| 9                  | 571.63               | 571.29               | 571.63               | 571.60               | 572.04               | 572.10               | 571.86              | 571.52               | 571.17               | 570.32               | 570.38               | 570.41               |
| 10                 | 571.79               | 571.46               | 571.74               | 571.51               | 572.04               | 572.06               | 571.81              | 571.44               | 571.14               | 570.55               | 570.50               | 570.30               |
| 11                 | 571.97               | 571.47               | 571.74               | 571.68               | 572.00               | 572.05               | 571.80              | 571.35               | 571.23               | 570.56               | 570.46               | 570.30               |
| 12                 | 571.74               | 571.39               | 571.70               | 571.80               | 571.96               | 572.09               | 571.80              | 571.42               | 571.21               | 570.64               | 570.30               | 570.33               |
| 13                 | 571.68               | 571.52               | 571.89               | 571.77               | 571.96               | 572.09               | 571.93              | 571.39               | 571.18               | 570.62               | 570.02               | 570.39               |
| 14                 | 571.41               | 571.54               | 571.78               | 571.73               | 571.98               | 572.06               | 571.85              | 571.32               | 571.15               | 570.41               | 570.23               | 570.22               |
| 15                 | 571.63               | 571.57               | 571.66               | 571.49               | 572.00               | 572.02               | 571.80              | 571.30               | 571.05               | 570.38               | 570.17               | 570.33               |
| 16                 | 571.73               | 571.15               | 571.64               | 571.66               | 571.98               | 572.00               | 571.76              | 571.28               | 571.03               | 570.47               | 570.42               | 570.33               |
| 17                 | 571.55               | 571.28               | 571.68               | 571.70               | 572.04               | 572.11               | 571.67              | 571.12               | 571.08               | 570.41               | 570.37               | 570.26               |
| 18                 | 571.26               | 571.49               | 571.65               | 571.74               | 572.16               | 572.10               | 571.68              | 571.32               | 571.00               | 570.41               | 570.27               | 570.56               |
| 19                 | 571.41               | 571.37               | 571.64               | 571.89               | 572.10               | 572.01               | 571.67              | 571.48               | 571.07               | 570.62               | 570.31               | 570.40               |
| 20                 | 571.71               | 571.39               | 571.70               | 572.17               | 571.98               | 572.02               | 571.66              | 571.74               | 571.07               | 570.40               | 570.40               | 570.23               |
| 21                 | 571.90               | 571.37               | 571.73               | 572.12               | 571.95               | 572.04               | 571.64              | 571.45               | 570.96               | 570.28               | 570.50               | 570.20               |
| 22                 | 571.59               | 571.47               | 571.84               | 571.98               | 571.96               | 572.32               | 571.66              | 571.37               | 570.82               | 570.33               | 570.53               | 570.03               |
| 23                 | 571.09               | 571.59               | 571.70               | 571.96               | 571.95               | 572.08               | 571.68              | 571.47               | 570.68               | 570.35               | 570.42               | 570.36               |
| 24                 | 571.55               | 571.49               | 571.63               | 572.02               | 571.92               | 571.98               | 571.65              | 571.54               | 571.02               | 570.38               | 569.81               | 570.33               |
| 25                 | 571.49               | 571.52               | 571.68               | 572.07               | 571.95               | 571.92               | 571.64              | 571.46               | 570.91               | 570.41               | 570.17               | 570.42               |
| 26                 | 571.33               | 571.50               | 571.70               | 572.06               | 572.05               | 571.90               | 571.65              | 571.34               | 570.83               | 570.53               | 570.30               | 570.30               |
| 27                 | 571.19               | 571.40               | 571.55               | 572.10               | 572.01               | 571.85               | 571.59              | 571.33               | 570.79               | 570.64               | 569.97               | 570.40               |
| 28                 | 571.33               | 571.43               | 571.37               | 572.10               | 572.09               | 571.82               | 571.60              | 571.35               | 570.78               | 570.92               | 570.17               | 570.48               |
| 29                 | 571.55               |                      | 571.80               | 572.07               | 572.06               | 571.84               | 571.54              | 571.36               | 570.78               | 570.72               | 570.41               | 570.53               |
| 30                 | 571.60               |                      | 571.73               | 571.99               | 572.05               | 571.91               | 571.52              | 571.33               | 570.65               | 570.65               | 570.20               | 570.59               |
| 31                 | 571.09               |                      | 571.62               |                      | 572.05               |                      | 571.52              | 571.47               |                      | 570.65               |                      | 570.48               |
| Mean               | 571.57               | 571.42               | 571.66               | 571.81               | 572.01               | 572.06               | 571.74              | 571.42               | 571.06               | 570.52               | 570.28               | 570.35               |
| Max.<br>Hr.<br>Day | 572.38<br>0200<br>11 | 571.89<br>0200<br>15 | 572.15<br>0500<br>23 | 572.48<br>0100<br>16 | 572.81<br>1200<br>1  | 572.62<br>0900<br>1  | 572.25<br>0600<br>8 | 571.94<br>1900<br>20 | 571.80<br>0600<br>1  | 571.12<br>1300<br>28 | 570.92<br>1800<br>1  | 571.45<br>1900<br>15 |
| Min.<br>Hr.<br>Day | 570.50<br>0900<br>31 | 570.79<br>1900<br>16 | 570.43<br>0800<br>28 | 570.67<br>1900<br>15 | 571.61<br>0900<br>31 | 571.41<br>0100<br>16 | 571.22<br>0200<br>8 | 570.95<br>0200<br>18 | 570.08<br>0400<br>23 | 569.84<br>1900<br>5  | 569.52<br>1900<br>24 | 569.17<br>2000<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.32

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 906-3079 Marblehead, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 572.13 Jun  
Daily mean elevation: 572.75 22 Jun  
Instant/hourly elevation: 573.38 0200/11 Jan

LOWEST

Monthly mean elevation: 570.15 Nov  
Daily mean elevation: 568.80 24 Nov  
Instant/hourly elevation: 566.87 1800/14 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 572.37 | 571.78 | 572.55 | 572.47 | 572.68 | 572.75 | 572.16 | 571.81 | 571.33 | 571.54 | 570.73 | 571.08 |
| Day | 11     | 23     | 13     | 19     | 18     | 22     | 1      | 24     | 4      | 28     | 1      | 2      |
| Min | 570.68 | 571.07 | 570.67 | 570.99 | 571.53 | 571.82 | 571.47 | 570.96 | 570.35 | 569.84 | 568.80 | 569.07 |
| Day | 18     | 15     | 28     | 10     | 6      | 28     | 30     | 17     | 26     | 6      | 24     | 14     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.60         |     |     |     |     | 1   | 1   |     |     |     |     |     |     | 572.60         | 2                          |
| 572.40         |     |     | 1   | 1   | 1   | 2   |     |     |     |     |     |     | 572.40         | 7                          |
| 572.20         | 1   |     | 2   | 2   | 2   | 5   |     |     |     |     |     |     | 572.20         | 17                         |
| 572.00         | 3   |     | 2   | 7   | 19  | 14  | 1   |     |     |     |     |     | 572.00         | 63                         |
| 571.80         | 1   |     | 5   | 7   | 6   | 8   | 12  | 1   |     |     |     |     | 571.80         | 103                        |
| 571.60         | 7   | 3   | 12  | 5   | 1   |     | 14  | 3   |     |     |     |     | 571.60         | 148                        |
| 571.40         | 5   | 9   | 8   | 6   | 1   |     | 4   | 13  |     | 1   |     |     | 571.40         | 195                        |
| 571.20         | 2   | 11  | 1   | 1   |     |     |     | 11  | 10  |     |     |     | 571.20         | 231                        |
| 571.00         | 1   | 3   | 1   |     |     |     |     |     | 8   |     |     | 1   | 571.00         | 245                        |
| 570.80         |     |     |     | 1   |     |     |     | 1   | 5   | 1   |     |     | 570.80         | 253                        |
| 570.60         | 1   |     | 1   |     |     |     |     |     | 3   | 6   | 2   | 2   | 570.60         | 268                        |
| 570.40         |     |     |     |     |     |     |     |     |     | 7   | 8   | 6   | 570.40         | 289                        |
| 570.20         |     |     |     |     |     |     |     |     | 2   | 9   | 7   | 10  | 570.20         | 317                        |
| 570.00         |     |     |     |     |     |     |     |     |     | 2   | 5   | 3   | 570.00         | 327                        |
| 569.80         |     |     |     |     |     |     |     |     |     | 2   | 3   | 5   | 569.80         | 337                        |
| 569.60         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 569.60         | 339                        |
| 569.40         |     |     |     |     |     |     |     |     |     |     | 2   | 2   | 569.40         | 343                        |
| 569.20         |     |     |     |     |     |     |     |     |     |     |     |     | 569.20         | 343                        |
| 569.00         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 569.00         | 345                        |
| 568.80         |     |     |     |     |     |     |     |     |     |     |     |     | 568.80         | 345                        |
| 568.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 568.60         | 346                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3079 Marblehead, Ohio on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| 1                  | 571.45*              | /                    | 571.49               | 571.52               | 571.93               | 572.26               | 572.16               | 571.38               | /                    | 570.62               | 570.73              | 570.39               |
| 2                  | 571.74*              | 571.47*              | 571.52               | 571.64               | 571.92               | 572.23               | 571.92               | 571.54               | /                    | 570.54               | 569.10              | 571.08               |
| 3                  | 571.44               | 571.39               | 571.86               | 571.82               | 572.05               | 572.28               | 571.95               | 571.52               | 571.18*              | 570.70               | 569.51              | 570.07               |
| 4                  | 571.49*              | 571.44               | 571.56               | 571.69               | 572.26               | 572.45               | 571.87               | 571.52               | 571.33               | 570.80               | 570.05              | 569.41               |
| 5                  | 571.68*              | 571.40               | 571.62               | 571.60               | 572.35               | 572.24               | 571.72               | 571.52               | 571.32               | 569.97               | 570.16              | 569.97               |
| 6                  | 571.76               | 571.51               | 571.49               | 571.57               | 571.53               | 572.20               | 571.87               | 571.62               | 571.31               | 569.84               | 569.66              | 569.99               |
| 7                  | 572.12               | 571.44               | 571.13               | 571.57               | 571.66               | 572.20               | 571.74               | 571.52               | 571.25               | 570.27               | 570.48              | 569.99               |
| 8                  | 572.08               | 571.23               | 571.66               | 571.65               | 572.07               | 572.12               | 571.84               | 571.71               | 571.21               | 570.18               | 570.38              | 570.33               |
| 9                  | 571.58               | 571.17               | 571.66               | 571.58               | 572.07               | 572.12               | 571.96               | 571.62               | 571.23               | 570.21               | 570.40              | 570.39               |
| 10                 | 572.10               | 571.33               | 571.67               | 570.99               | 572.10               | 572.04               | 571.86               | 571.42               | 571.05               | 570.54               | 570.61              | 570.21               |
| 11                 | 572.37               | 571.32               | 571.78               | 571.72               | 572.06               | 571.99               | 571.86               | 571.29               | 571.28               | 570.48*              | 570.47              | 570.26               |
| 12                 | 571.56               | 571.38               | 571.89               | 572.27               | 571.99               | 572.10               | 571.91               | 571.48               | 571.30               | /                    | 570.20              | 570.38               |
| 13                 | 571.62               | 571.69               | 572.55               | 572.06               | 572.01               | 572.20               | 571.93               | 571.42               | 571.24               | /                    | 569.81              | 570.37               |
| 14                 | 571.28               | 571.36               | 572.02               | 572.00               | 572.04               | 572.11               | 571.94               | 571.26               | 571.23               | /                    | 570.26              | 569.07               |
| 15                 | 571.70               | 571.07*              | 571.71               | 571.28               | 572.08               | 571.93               | 571.84               | 571.26               | 571.04               | 570.20*              | 570.10              | 569.45               |
| 16                 | 571.74               | /                    | 571.69               | 571.60               | 572.03               | 571.95               | 571.76               | 571.25               | 570.98               | 570.41               | 570.47              | 570.12               |
| 17                 | 571.20               | 571.47*              | 571.82               | 571.78               | 572.10               | 572.16               | 571.66               | 570.96               | 571.02               | 570.39               | 570.53              | 569.86               |
| 18                 | 570.68               | 571.63               | 571.58               | 571.87               | 572.68               | 572.21               | 571.66               | 571.35               | 570.84               | 570.36               | 570.39              | 570.42               |
| 19                 | 571.26               | 571.35               | 571.51               | 572.47               | 572.41               | 572.08               | 571.66               | 571.51*              | 571.03               | 570.55               | 570.35              | 570.45               |
| 20                 | 571.74               | 571.27               | 571.79               | 572.38*              | 572.07               | 572.07               | 571.62               | /                    | 571.01               | 570.37               | 570.44              | 570.22               |
| 21                 | 571.88*              | 571.30               | 571.78               | 572.14               | 572.02               | 572.11               | 571.61               | 571.37*              | 571.02               | 570.25               | 570.52              | 569.83               |
| 22                 | /                    | 571.36               | 572.12               | 571.86               | 572.01               | 572.75               | 571.62               | 571.37               | 570.80               | 570.36               | 570.59              | 569.79               |
| 23                 | /                    | 571.78               | 571.68               | 571.96               | 572.00               | 572.50               | 571.58               | 571.56               | 570.38               | 570.38               | 570.39              | 570.30               |
| 24                 | /                    | 571.51               | 571.23               | 571.98               | 571.92               | 572.15               | 571.59               | 571.81               | 571.20               | 570.43               | 568.80              | 570.05               |
| 25                 | /                    | 571.47               | 571.64               | 572.12               | 572.03               | 572.03               | 571.63               | 571.59               | 570.85               | 570.39               | 569.57              | 570.43               |
| 26                 | /                    | 571.46               | 571.84               | 572.12               | 572.05               | 571.95               | 571.73               | 571.42               | 570.35               | 570.57               | 570.21              | 570.23               |
| 27                 | /                    | 571.19               | 571.50               | 572.16               | 572.03*              | 571.88               | 571.72               | 571.36               | 570.71               | 570.70               | 569.81              | 570.45               |
| 28                 | /                    | 571.51               | 570.67               | 572.18               | 572.12*              | 571.82               | 571.77               | 571.39               | 570.84               | 571.54               | 570.20              | 570.64               |
| 29                 | /                    |                      | 571.83               | 572.19               | 572.12               | 571.87               | 571.65               | 571.42               | 570.86               | 570.97               | 570.47              | 570.44               |
| 30                 | /                    |                      | 571.75               | 571.83               | 572.05               | 571.97               | 571.47               | 571.30*              | 570.73               | 570.74               | 569.93              | 570.73               |
| 31                 | /                    |                      | 571.60               |                      | 571.97               |                      | 571.54               | /                    |                      | 570.79               |                     | 570.55               |
| Mean               | 571.64               | 571.40               | 571.67               | 571.85               | 572.06               | 572.13               | 571.76               | 571.44               | 571.02               | 570.48               | 570.15              | 570.19               |
| Max.<br>Hr.<br>Day | 573.38<br>0200<br>11 | 572.08<br>0600<br>23 | 572.84<br>1000<br>13 | 573.15<br>2200<br>19 | 573.09<br>2300<br>17 | 573.25<br>0900<br>22 | 572.36<br>2100<br>1  | 572.26<br>2000<br>8  | 572.01<br>1100<br>4  | 571.77<br>1400<br>28 | 571.21<br>1500<br>1 | 572.66<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 570.11<br>1500<br>18 | 570.75<br>2400<br>27 | 569.08<br>0800<br>28 | 569.85<br>1600<br>15 | 570.94<br>0600<br>7  | 571.56<br>0400<br>16 | 571.06<br>0600<br>30 | 570.64<br>2200<br>17 | 569.66<br>0200<br>23 | 568.87<br>2000<br>5  | 568.06<br>0700<br>2 | 566.87<br>1800<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.32

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 906-3085 Toledo, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 572.20 Jun  
Daily mean elevation: 573.39 18 May  
Instant/hourly elevation: 574.63 1900/19 Apr

LOWEST

Monthly mean elevation: 570.04 Nov  
Daily mean elevation: 567.62 24 Nov  
Instant/hourly elevation: 563.82 2200/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 572.84 | 572.01 | 573.38 | 573.27 | 573.39 | 573.15 | 572.40 | 572.24 | 572.43 | 572.31 | 570.87 | 571.73 |
| Day | 11 | 23 | 13 | 19 | 18 | 22 | 1 | 20 | 1 | 28 | 1 | 2 |
| Min | 569.89 | 570.38 | 569.70 | 570.34 | 571.01 | 571.73 | 571.37 | 570.81 | 569.85 | 569.31 | 567.62 | 567.93 |
| Day | 23 | 15 | 28 | 10 | 6 | 28 | 30 | 17 | 26 | 5 | 24 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 573.20         |     |     | 1   | 1   | 1   |     |     |     |     |     |     |     | 573.20         | 3                          |
| 573.00         |     |     |     | 1   |     | 1   |     |     |     |     |     |     | 573.00         | 5                          |
| 572.80         | 1   |     |     |     | 1   | 1   |     |     |     |     |     |     | 572.80         | 8                          |
| 572.60         |     |     |     |     | 1   | 1   |     |     |     |     |     |     | 572.60         | 10                         |
| 572.40         |     |     | 1   | 3   | 1   |     |     |     | 1   |     |     |     | 572.40         | 16                         |
| 572.20         | 3   |     | 2   | 5   | 4   | 10  | 1   | 1   |     | 1   |     |     | 572.20         | 43                         |
| 572.00         |     | 1   | 2   | 3   | 16  | 9   | 2   | 3   |     |     |     |     | 572.00         | 79                         |
| 571.80         | 3   | 2   | 5   | 4   | 3   | 7   | 13  |     |     |     |     |     | 571.80         | 116                        |
| 571.60         | 8   | 2   | 8   | 5   | 2   | 1   | 3   | 5   |     |     |     | 1   | 571.60         | 151                        |
| 571.40         | 3   | 4   | 6   | 5   |     |     | 11  | 10  | 1   |     |     |     | 571.40         | 191                        |
| 571.20         | 6   | 10  | 3   | 1   | 1   |     | 1   | 8   | 11  | 1   |     |     | 571.20         | 233                        |
| 571.00         | 2   | 6   |     |     | 1   |     |     | 3   | 3   |     |     |     | 571.00         | 248                        |
| 570.80         | 2   | 1   |     | 1   |     |     |     | 1   | 7   | 4   | 1   | 2   | 570.80         | 267                        |
| 570.60         |     |     | 2   |     |     |     |     |     | 3   | 5   | 5   | 1   | 570.60         | 283                        |
| 570.40         |     | 1   |     |     |     |     |     |     | 2   | 11  | 7   | 5   | 570.40         | 309                        |
| 570.20         | 1   | 1   |     | 1   |     |     |     |     |     | 3   | 5   | 9   | 570.20         | 329                        |
| 570.00         | 1   |     |     |     |     |     |     |     | 1   | 3   | 3   | 1   | 570.00         | 338                        |
| 569.80         | 1   |     |     |     |     |     |     |     | 1   | 1   |     | 5   | 569.80         | 346                        |
| 569.60         |     |     | 1   |     |     |     |     |     |     |     | 4   | 2   | 569.60         | 353                        |
| 569.40         |     |     |     |     |     |     |     |     |     |     |     | 2   | 569.40         | 355                        |
| 569.20         |     |     |     |     |     |     |     |     |     | 2   | 1   |     | 569.20         | 358                        |
| 569.00         |     |     |     |     |     |     |     |     |     |     | 1   |     | 569.00         | 359                        |
| 568.80         |     |     |     |     |     |     |     |     |     |     | 1   |     | 568.80         | 360                        |
| 568.60         |     |     |     |     |     |     |     |     |     |     |     | 2   | 568.60         | 362                        |
| 568.40         |     |     |     |     |     |     |     |     |     |     |     |     | 568.40         | 362                        |
| 568.20         |     |     |     |     |     |     |     |     |     |     |     |     | 568.20         | 362                        |
| 568.00         |     |     |     |     |     |     |     |     |     |     |     |     | 568.00         | 362                        |
| 567.80         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 567.80         | 364                        |
| 567.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 567.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3085 Toledo, Ohio on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| 1                  | 571.67               | 571.45               | 571.60               | 571.30               | 571.74               | 572.38               | 572.40               | 571.30               | 572.43               | 570.70               | 570.87              | 570.40               |
| 2                  | 571.79               | 571.30               | 571.58               | 571.68               | 571.64               | 572.35               | 571.90               | 571.59               | 571.51               | 570.50               | 567.94              | 571.73               |
| 3                  | 571.31               | 571.39               | 571.90               | 572.05               | 572.11               | 572.33               | 571.91               | 571.39               | 571.16               | 570.78               | 568.81              | 569.88               |
| 4                  | 571.36               | 571.40               | 571.42               | 571.74               | 572.57               | 572.74               | 571.86               | 571.46               | 571.28               | 570.93               | 569.78              | 568.65               |
| 5                  | 571.75               | 571.47               | 571.69               | 571.63               | 572.75               | 572.39               | 571.55               | 571.55               | 571.36               | 569.31               | 570.17              | 569.91               |
| 6                  | 571.84               | 571.67               | 571.34               | 571.55               | 571.01               | 572.27               | 571.85               | 571.79               | 571.35               | 569.35               | 569.33              | 569.67               |
| 7                  | 572.24               | 571.51               | 570.67               | 571.59               | 571.38               | 572.26               | 571.56               | 571.57               | 571.27               | 570.08               | 570.50              | 569.91               |
| 8                  | 572.31               | 571.15               | 571.69               | 571.69               | 572.22               | 572.15               | 571.78               | 572.07               | 571.22               | 570.12               | 570.38              | 570.37               |
| 9                  | 571.58               | 571.16               | 571.72               | 571.43               | 572.22               | 572.14               | 572.06               | 571.66               | 571.27               | 570.13               | 570.43              | 570.40               |
| 10                 | 572.37               | 571.18               | 571.70               | 570.34               | 572.21               | 571.96               | 571.85               | 571.38               | 570.96               | 570.56               | 570.69              | 570.19               |
| 11                 | 572.84               | 571.22               | 571.97               | 571.84               | 572.16               | 571.83               | 571.92               | 571.25               | 571.31               | 570.63               | 570.46              | 570.31               |
| 12                 | 571.43               | 571.40               | 572.29               | 573.04               | 572.02               | 572.15               | 572.06               | 571.54               | 571.35               | 570.70               | 570.18              | 570.47               |
| 13                 | 571.66               | 572.00               | 573.38               | 572.60               | 572.03               | 572.36               | 571.83               | 571.44               | 571.28               | 570.56               | 569.65              | 570.41               |
| 14                 | 571.29               | 571.16               | 572.35               | 572.42               | 572.02               | 572.19               | 571.98               | 571.19               | 571.33               | 570.41               | 570.34              | 567.93               |
| 15                 | 571.81               | 570.38               | 571.79               | 570.88               | 572.16               | 571.81               | 571.87               | 571.18               | 570.97               | 569.83               | 570.07              | 568.62               |
| 16                 | 571.82               | 570.42               | 571.79               | 571.57               | 572.07               | 571.93               | 571.79               | 571.20               | 570.79               | 570.39               | 570.56              | 569.92               |
| 17                 | 571.04               | 571.13               | 572.02               | 571.97               | 572.13               | 572.20               | 571.58               | 570.81               | 570.90               | 570.43               | 570.76              | 569.45               |
| 18                 | 570.33               | 571.88               | 571.50               | 572.19               | 573.39               | 572.32               | 571.62               | 571.43               | 570.59               | 570.44               | 570.53              | 570.21               |
| 19                 | 571.20               | 571.38               | 571.40               | 573.27               | 572.82               | 572.10               | 571.59               | 572.04               | 570.89               | 570.46               | 570.47              | 570.50               |
| 20                 | 571.77               | 571.20               | 571.98               | 572.42               | 572.21               | 572.10               | 571.53               | 572.24               | 570.96               | 570.40               | 570.53              | 570.26               |
| 21                 | 571.68               | 571.31               | 571.83               | 572.16               | 572.08               | 572.21               | 571.56               | 571.37               | 571.12               | 570.24               | 570.62              | 569.65               |
| 22                 | 571.56               | 571.22               | 572.57               | 571.71               | 572.08               | 573.15               | 571.51               | 571.34               | 570.80               | 570.45               | 570.70              | 569.54               |
| 23                 | 569.89               | 572.01               | 571.43               | 571.98               | 572.04               | 572.85               | 571.41               | 571.68               | 570.02               | 570.47               | 570.24              | 570.30               |
| 24                 | 570.96               | 571.48               | 570.74               | 571.93               | 571.94               | 572.32               | 571.46               | 572.03               | 571.34               | 570.49               | 567.62              | 569.88               |
| 25                 | 571.37               | 571.40               | 571.65               | 572.28               | 572.08               | 572.14               | 571.58               | 571.75               | 570.73               | 570.45               | 569.06              | 570.52               |
| 26                 | 571.25               | 571.39               | 572.03               | 572.28               | 572.06               | 571.93               | 571.81               | 571.45               | 569.85               | 570.66               | 570.22              | 570.23               |
| 27                 | 570.99               | 570.95               | 571.35               | 572.33               | 572.01               | 571.86               | 571.87               | 571.35               | 570.58               | 570.87               | 569.68              | 570.52               |
| 28                 | 571.23               | 571.62               | 569.70               | 572.33               | 572.11               | 571.73               | 571.92               | 571.41               | 570.94               | 572.31               | 570.35              | 570.82               |
| 29                 | 571.64               |                      | 571.81               | 572.37               | 572.11               | 571.82               | 571.82               | 571.47               | 571.01               | 571.33               | 570.61              | 570.38               |
| 30                 | 571.62               |                      | 571.78               | 571.45               | 571.98               | 572.02               | 571.37               | 571.29               | 570.83               | 570.87               | 569.61              | 570.85               |
| 31                 | 570.17               |                      | 571.56               |                      | 571.81               |                      | 571.54               | 571.71               |                      | 570.99               |                     | 570.66               |
| Mean               | 571.48               | 571.33               | 571.68               | 571.93               | 572.10               | 572.20               | 571.75               | 571.51               | 571.05               | 570.51               | 570.04              | 570.08               |
| Max.<br>Hr.<br>Day | 574.51<br>0100<br>11 | 572.79<br>0900<br>28 | 574.08<br>0900<br>13 | 574.63<br>1900<br>19 | 574.40<br>1500<br>18 | 573.87<br>0900<br>22 | 572.88<br>2100<br>1  | 572.93<br>0300<br>20 | 572.90<br>2000<br>1  | 572.92<br>1300<br>28 | 571.74<br>1300<br>1 | 574.36<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 568.75<br>1000<br>31 | 569.56<br>0200<br>1  | 567.20<br>0800<br>28 | 568.40<br>1700<br>15 | 570.14<br>1600<br>6  | 571.32<br>0600<br>30 | 570.75<br>0500<br>30 | 570.26<br>2400<br>17 | 568.70<br>0500<br>23 | 567.67<br>1200<br>6  | 566.54<br>1000<br>2 | 563.82<br>2200<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.30

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 906-3090 Fermi Power Plant, Stony Point, Michigan on Lake Erie

HIGHEST

Monthly mean elevation: 572.12 Jun  
Daily mean elevation: 572.84 18 May  
Instant/hourly elevation: 574.02 0100/11 Jan

LOWEST

Monthly mean elevation: 570.12 Dec  
Daily mean elevation: 568.38 14 Dec  
Instant/hourly elevation: 565.08 2100/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 572.71 | 571.83 | 572.68 | 572.56 | 572.84 | 572.75 | 572.27 | 571.90 | 572.10 | 571.80 | 570.87 | 571.32 |
| Day | 11 | 23 | 13 | 12 | 18 | 22 | 1 | 20 | 1 | 28 | 1 | 2 |
| Min | 570.32 | 570.32 | 570.35 | 570.56 | 571.38 | 571.78 | 571.33 | 570.97 | 569.94 | 569.63 | 568.39 | 568.38 |
| Day | 31 | 15 | 28 | 10 | 6 | 28 | 30 | 17 | 26 | 6 | 24 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.80         |     |     |     |     | 1   |     |     |     |     |     |     |     | 572.80         | 1                          |
| 572.60         | 1   |     | 1   |     |     | 1   |     |     |     |     |     |     | 572.60         | 4                          |
| 572.40         |     |     |     | 2   | 2   | 1   |     |     |     |     |     |     | 572.40         | 9                          |
| 572.20         | 1   |     | 1   | 5   | 1   | 6   | 1   |     |     |     |     |     | 572.20         | 24                         |
| 572.00         | 2   |     |     | 3   | 17  | 14  | 1   |     | 1   |     |     |     | 572.00         | 62                         |
| 571.80         |     | 1   | 7   | 7   | 7   | 7   | 9   | 3   |     |     |     |     | 571.80         | 103                        |
| 571.60         | 7   | 2   | 12  | 9   | 1   | 1   | 12  | 3   |     | 1   |     |     | 571.60         | 151                        |
| 571.40         | 6   | 6   | 6   | 1   | 1   |     | 7   | 11  | 1   |     |     |     | 571.40         | 190                        |
| 571.20         | 8   | 11  | 1   | 2   | 1   |     | 1   | 13  | 9   |     |     | 1   | 571.20         | 237                        |
| 571.00         | 3   | 6   |     |     |     |     |     |     | 4   | 1   |     |     | 571.00         | 251                        |
| 570.80         |     |     | 1   |     |     |     |     | 1   | 9   | 2   | 1   |     | 570.80         | 265                        |
| 570.60         |     | 1   | 1   |     |     |     |     |     | 2   | 5   | 1   | 2   | 570.60         | 277                        |
| 570.40         | 1   |     |     | 1   |     |     |     |     | 1   | 11  | 8   | 6   | 570.40         | 305                        |
| 570.20         | 2   | 1   | 1   |     |     |     |     |     |     | 7   | 9   | 9   | 570.20         | 334                        |
| 570.00         |     |     |     |     |     |     |     |     | 1   | 1   | 2   | 4   | 570.00         | 342                        |
| 569.80         |     |     |     |     |     |     |     |     | 1   | 1   | 4   | 2   | 569.80         | 350                        |
| 569.60         |     |     |     |     |     |     |     |     |     | 2   |     | 4   | 569.60         | 356                        |
| 569.40         |     |     |     |     |     |     |     |     |     |     | 1   |     | 569.40         | 357                        |
| 569.20         |     |     |     |     |     |     |     |     |     |     | 1   |     | 569.20         | 358                        |
| 569.00         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 569.00         | 360                        |
| 568.80         |     |     |     |     |     |     |     |     |     |     |     | 1   | 568.80         | 361                        |
| 568.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 568.60         | 362                        |
| 568.40         |     |     |     |     |     |     |     |     |     |     |     |     | 568.40         | 362                        |
| 568.20         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 568.20         | 364                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 906-3090 Fermi Power Plant, Stony Point, Michigan on Lake Erie

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 571.56               | 571.44               | 571.60               | 571.30               | 571.82               | 572.28               | 572.27               | 571.32               | 572.10               | 570.67               | 570.87               | 570.34               |
| 2                  | 571.58               | 571.30               | 571.54               | 571.61               | 571.72               | 572.24               | 571.88               | 571.56               | 571.46               | 570.60               | 568.71               | 571.32               |
| 3                  | 571.22               | 571.36               | 571.54               | 571.95               | 572.02               | 572.13               | 571.95               | 571.41               | 571.25*              | 570.74               | 569.20               | 569.92               |
| 4                  | 571.39               | 571.39               | 571.32               | 571.74               | 572.35               | 572.34               | 571.90               | 571.37               | 571.28*              | 570.92               | 569.95               | 569.04               |
| 5                  | 571.69               | 571.42               | 571.69               | 571.64               | 572.55               | 572.20               | 571.62               | 571.47               | 571.30               | 569.72               | 570.32               | 570.14               |
| 6                  | 571.76               | 571.52               | 571.45               | 571.64               | 571.38               | 572.17               | 571.88               | 571.66               | 571.35               | 569.63               | 569.52               | 569.79               |
| 7                  | 572.08               | 571.41               | 570.76               | 571.63               | 571.53               | 572.19               | 571.64               | 571.49               | 571.21*              | 570.16               | 570.38               | 570.07               |
| 8                  | 572.20               | 571.23               | 571.65               | 571.67               | 572.11               | 572.12               | 571.72               | 571.82               | /                    | 570.36               | 570.34               | 570.45               |
| 9                  | 571.55               | 571.18               | 571.77               | 571.55               | 572.16               | 572.11               | 571.96               | 571.51               | 571.26*              | 570.26               | 570.40               | 570.35               |
| 10                 | 572.22               | 571.15               | 571.65               | 570.56               | 572.11               | 572.01               | 571.83               | 571.32               | 570.96*              | 570.51               | 570.55               | 570.26               |
| 11                 | 572.71               | 571.15               | 571.82               | 571.68               | 572.09               | 571.88               | 571.86               | 571.22               | 571.18*              | 570.58               | 570.36               | 570.30               |
| 12                 | 571.35               | 571.37               | 572.00               | 572.56               | 571.99               | 572.07               | 572.04               | 571.48               | 571.25*              | 570.59               | 570.18               | 570.58               |
| 13                 | 571.66               | 571.80               | 572.68               | 572.26               | 571.98               | 572.25               | 571.79               | 571.41               | 571.24               | 570.51               | 569.83               | 570.36               |
| 14                 | 571.37               | 571.13               | 571.91               | 572.24               | 572.01               | 572.18               | 571.88               | 571.22               | 571.27               | 570.58               | 570.34               | 568.38               |
| 15                 | 571.75               | 570.32               | 571.69               | 571.26               | 572.09               | 571.90               | 571.85               | 571.21               | 571.04               | 569.93               | 570.12               | 568.93               |
| 16                 | 571.71               | 570.70               | 571.72               | 571.61               | 572.05               | 571.91               | 571.77               | 571.26               | 570.91               | 570.39               | 570.45               | 570.02               |
| 17                 | 571.02               | 571.21               | 571.88               | 571.85               | 571.99               | 572.12               | 571.62               | 570.97               | 570.89               | 570.46               | 570.64               | 569.61               |
| 18                 | 570.47               | 571.75               | 571.49               | 571.93               | 572.84               | 572.23               | 571.64               | 571.38               | 570.67               | 570.37               | 570.51               | 570.09               |
| 19                 | 571.31               | 571.39               | 571.42               | 572.50               | 572.51               | 572.05               | 571.63               | 571.73               | 570.83               | 570.36               | 570.45               | 570.46               |
| 20                 | 571.62               | 571.27               | 571.89               | 571.88               | 572.11               | 572.06               | 571.58               | 571.90               | 570.86               | 570.39               | 570.50               | 570.31               |
| 21                 | 571.53               | 571.36               | 571.85               | 571.88               | 572.02               | 572.12               | 571.57               | 571.36               | 571.06               | 570.32               | 570.51               | 569.72               |
| 22                 | 571.62               | 571.15               | 572.38               | 571.72               | 572.02               | 572.75               | 571.60               | 571.38               | 570.93               | 570.43               | 570.60               | 569.79               |
| 23                 | 570.38               | 571.83               | 571.75               | 572.02               | 572.00               | 572.53               | 571.41               | 571.55               | 570.09               | 570.47               | 570.38               | 570.22               |
| 24                 | 571.02               | 571.44               | 570.98               | 571.94               | 571.95               | 572.22               | 571.45               | 571.84               | 571.12               | 570.51               | 568.39               | 569.94               |
| 25                 | 571.34               | 571.34               | 571.62               | 572.19               | 572.02               | 572.09               | 571.55               | 571.64               | 570.74               | 570.50               | 569.31               | 570.45               |
| 26                 | 571.25               | 571.38               | 571.98               | 572.18               | 572.10               | 571.97               | 571.70               | 571.45               | 569.94               | 570.61               | 570.26               | 570.26               |
| 27                 | 571.10               | 571.04               | 571.72               | 572.23               | 572.03               | 571.90               | 571.75               | 571.34               | 570.53               | 570.64               | 570.00               | 570.44               |
| 28                 | 571.26               | 571.59               | 570.35               | 572.25               | 572.09               | 571.78               | 571.78               | 571.38               | 570.85               | 571.80               | 570.27               | 570.65               |
| 29                 | 571.57               |                      | 571.62               | 572.32               | 572.10               | 571.84               | 571.69               | 571.42               | 570.88               | 571.17               | 570.56               | 570.28               |
| 30                 | 571.56               |                      | 571.69               | 571.86               | 572.02               | 571.91               | 571.33               | 571.27               | 570.84               | 570.78               | 569.96               | 570.69               |
| 31                 | 570.32               |                      | 571.69               |                      | 571.86               |                      | 571.54               | 571.42               |                      | 570.82               |                      | 570.59               |
| Mean               | 571.46               | 571.31               | 571.65               | 571.86               | 572.05               | 572.12               | 571.73               | 571.44               | 571.01               | 570.51               | 570.13               | 570.12               |
| Max.<br>Hr.<br>Day | 574.02<br>0100<br>11 | 572.61<br>0800<br>28 | 573.15<br>0800<br>13 | 573.27<br>2000<br>19 | 573.46<br>1500<br>18 | 573.42<br>0900<br>22 | 572.75<br>2100<br>1  | 572.52<br>1600<br>20 | 572.51<br>2000<br>1  | 572.30<br>1200<br>28 | 571.57<br>1400<br>1  | 573.66<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 568.95<br>1100<br>31 | 569.76<br>0100<br>1  | 567.98<br>0700<br>28 | 569.19<br>1600<br>15 | 570.66<br>1500<br>6  | 571.36<br>1900<br>15 | 570.81<br>0400<br>30 | 570.36<br>2300<br>17 | 568.90<br>0400<br>23 | 568.27<br>1800<br>5  | 567.60<br>2000<br>24 | 565.08<br>2100<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.28



International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 904-4020 Gibraltar, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 572.30 Jun  
Daily mean elevation: 572.86 18 May  
Instant/hourly elevation: 573.94 0300/11 Jan

LOWEST

Monthly mean elevation: 570.41 Dec  
Daily mean elevation: 569.12 24 Nov  
Instant/hourly elevation: 566.84 2100/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 572.76 | 571.92 | 572.66 | 572.61 | 572.86 | 572.83 | 572.49 | 572.23 | 572.40 | 571.91 | 571.24 | 571.38 |
| Day | 11 | 23 | 13 | 12 | 18 | 22 | 1 | 20 | 1 | 28 | 1 | 2 |
| Min | 570.73 | 570.47 | 570.71 | 570.75 | 571.66 | 572.01 | 571.68 | 571.52 | 570.51 | 570.31 | 569.12 | 569.13 |
| Day | 31 | 15 | 28 | 10 | 6 | 28 | 30 | 17 | 26 | 6 | 24 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.80         |     |     |     |     | 1   | 1   |     |     |     |     |     |     | 572.80         | 2                          |
| 572.60         | 1   |     | 1   | 1   | 1   | 1   |     |     |     |     |     |     | 572.60         | 7                          |
| 572.40         |     |     | 1   | 2   | 2   | 6   | 1   |     |     |     |     |     | 572.40         | 19                         |
| 572.20         | 2   |     |     | 6   | 12  | 15  | 2   | 1   | 1   |     |     |     | 572.20         | 58                         |
| 572.00         | 1   |     | 3   | 5   | 11  | 7   | 12  | 4   |     |     |     |     | 572.00         | 101                        |
| 571.80         | 7   | 3   | 12  | 5   | 2   |     | 13  | 12  | 1   | 1   |     |     | 571.80         | 157                        |
| 571.60         | 8   | 3   | 8   | 8   | 2   |     | 3   | 13  | 11  |     |     |     | 571.60         | 213                        |
| 571.40         | 5   | 14  | 3   | 2   |     |     |     | 1   | 5   | 1   |     |     | 571.40         | 244                        |
| 571.20         | 4   | 6   |     |     |     |     |     |     | 8   | 1   | 1   | 1   | 571.20         | 265                        |
| 571.00         |     | 1   | 1   |     |     |     |     |     | 1   | 6   |     |     | 571.00         | 274                        |
| 570.80         | 1   |     | 1   |     |     |     |     |     | 1   | 10  | 1   | 3   | 570.80         | 291                        |
| 570.60         | 2   |     | 1   | 1   |     |     |     |     | 1   | 9   | 13  | 6   | 570.60         | 324                        |
| 570.40         |     | 1   |     |     |     |     |     |     | 1   | 1   | 6   | 10  | 570.40         | 343                        |
| 570.20         |     |     |     |     |     |     |     |     |     | 2   | 4   | 4   | 570.20         | 353                        |
| 570.00         |     |     |     |     |     |     |     |     |     |     |     | 3   | 570.00         | 356                        |
| 569.80         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 569.80         | 358                        |
| 569.60         |     |     |     |     |     |     |     |     |     |     | 2   |     | 569.60         | 360                        |
| 569.40         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 569.40         | 362                        |
| 569.20         |     |     |     |     |     |     |     |     |     |     |     | 1   | 569.20         | 363                        |
| 569.00         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 569.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 904-4020 Gibraltar, Michigan on Detroit River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                 | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 571.82               | 571.65               | 571.76               | 571.44               | 571.96              | 572.44               | 572.49               | 571.69               | 572.40               | 571.08               | 571.24               | 570.57               |
| 2                  | 571.73               | 571.52               | 571.66               | 571.74               | 571.86              | 572.41               | 572.12               | 571.91               | 571.87               | 571.06               | 569.42               | 571.38               |
| 3                  | 571.40               | 571.55               | 571.54               | 572.08               | 572.14              | 572.26               | 572.18               | 571.80               | 571.67               | 571.13               | 569.69               | 570.30               |
| 4                  | 571.63               | 571.57               | 571.42               | 571.89               | 572.43              | 572.43               | 572.18               | 571.72               | 571.65               | 571.30               | 570.31               | 569.54               |
| 5                  | 571.91               | 571.57               | 571.84               | 571.76               | 572.62              | 572.34               | 571.91               | 571.83               | 571.76               | 570.42               | 570.69               | 570.54               |
| 6                  | 571.89               | 571.65               | 571.63               | 571.80               | 571.66              | 572.32               | 572.14               | 572.00               | 571.76               | 570.31               | 569.96               | 570.13               |
| 7                  | 572.14               | 571.55               | 570.92               | 571.78               | 571.73              | 572.35               | 571.94               | 571.85               | 571.70               | 570.64               | 570.61               | 570.41               |
| 8                  | 572.32               | 571.42               | 571.81               | 571.80               | 572.23              | 572.30               | 571.95               | 572.10               | 571.65               | 570.85               | 570.58               | 570.72               |
| 9                  | 571.69               | 571.36               | 571.98               | 571.72               | 572.28              | 572.30               | 572.21               | 571.87               | 571.73               | 570.72               | 570.65               | 570.58               |
| 10                 | 572.27               | 571.30               | 571.78               | 570.75               | 572.25              | 572.21               | 572.11               | 571.72               | 571.42               | 570.90               | 570.77               | 570.55               |
| 11                 | 572.76               | 571.27               | 571.93               | 571.79               | 572.22              | 572.09               | 572.13               | 571.64               | 571.62               | 570.95               | 570.61               | 570.54               |
| 12                 | 571.51               | 571.52               | 572.07               | 572.61               | 572.12              | 572.22               | 572.30               | 571.88               | 571.71               | 570.94               | 570.47               | 570.86               |
| 13                 | 571.86               | 571.88               | 572.66               | 572.31               | 572.12              | 572.42               | 572.06               | 571.81               | 571.67               | 570.89               | 570.21               | 570.59               |
| 14                 | 571.63               | 571.27               | 571.96               | 572.38               | 572.13              | 572.39               | 572.13               | 571.67               | 571.70               | 571.08               | 570.59               | 569.13               |
| 15                 | 571.86               | 570.47               | 571.80               | 571.55               | 572.23              | 572.14               | 572.14               | 571.64               | 571.51               | 570.40               | 570.40               | 569.35               |
| 16                 | 571.82               | 571.10               | 571.85               | 571.78               | 572.30              | 572.10               | 572.07               | 571.69               | 571.39               | 570.78               | 570.66               | 570.29               |
| 17                 | 571.24               | 571.44               | 571.98               | 571.97               | 572.19              | 572.30               | 571.93               | 571.52               | 571.36               | 570.85               | 570.84               | 569.99               |
| 18                 | 570.75               | 571.90               | 571.61               | 572.04               | 572.86              | 572.41               | 571.94               | 571.78               | 571.20               | 570.74               | 570.76               | 570.27               |
| 19                 | 571.56               | 571.56               | 571.56               | 572.47               | 572.58              | 572.24               | 571.94               | 572.07               | 571.29               | 570.70               | 570.68               | 570.68               |
| 20                 | 571.71               | 571.45               | 572.01               | 571.87               | 572.24              | 572.26               | 571.89               | 572.23               | 571.29               | 570.75               | 570.72               | 570.62               |
| 21                 | 571.63               | 571.53               | 571.97               | 571.96               | 572.15              | 572.32               | 571.88               | 571.80               | 571.50               | 570.71               | 570.73               | 570.06               |
| 22                 | 571.87               | 571.27               | 572.45               | 571.85               | 572.17              | 572.83               | 571.92               | 571.82               | 571.43               | 570.78               | 570.80               | 570.18               |
| 23                 | 570.93               | 571.92               | 571.96               | 572.16               | 572.15              | 572.65               | 571.72               | 571.93               | 570.69               | 570.80               | 570.71               | 570.45               |
| 24                 | 571.32               | 571.60               | 571.17               | 572.08               | 572.10              | 572.42               | 571.78               | 572.18               | 571.48               | 570.85               | 569.12               | 570.23               |
| 25                 | 571.57               | 571.44               | 571.74               | 572.30               | 572.19              | 572.31               | 571.86               | 572.05               | 571.22               | 570.84               | 569.70               | 570.68               |
| 26                 | 571.52               | 571.51               | 572.12               | 572.28               | 572.31              | 572.23               | 571.99               | 571.87               | 570.51               | 570.93               | 570.53               | 570.53               |
| 27                 | 571.36               | 571.23               | 571.94               | 572.33               | 572.21              | 572.17               | 572.06               | 571.78               | 570.99               | 570.91               | 570.50               | 570.66               |
| 28                 | 571.49               | 571.73               | 570.71               | 572.34               | 572.26              | 572.01               | 572.06               | 571.81               | 571.25               | 571.91               | 570.50               | 570.83               |
| 29                 | 571.76               |                      | 571.72               | 572.41               | 572.28              | 572.07               | 572.00               | 571.84               | 571.26               | 571.45               | 570.76               | 570.49               |
| 30                 | 571.71               |                      | 571.81               | 572.06               | 572.21              | 572.13               | 571.68               | 571.72               | 571.28               | 571.05               | 570.32               | 570.86               |
| 31                 | 570.73               |                      | 571.90               |                      | 572.06              |                      | 571.90               | 571.80               |                      | 571.04               |                      | 570.79               |
| Mean               | 571.66               | 571.47               | 571.78               | 571.98               | 572.20              | 572.30               | 572.02               | 571.84               | 571.47               | 570.90               | 570.45               | 570.41               |
| Max.<br>Hr.<br>Day | 573.94<br>0300<br>11 | 572.85<br>0800<br>28 | 573.15<br>1400<br>22 | 573.35<br>0200<br>16 | 573.34<br>1700<br>5 | 573.55<br>0900<br>22 | 572.93<br>2100<br>1  | 572.69<br>1700<br>20 | 572.75<br>2000<br>1  | 572.38<br>0100<br>29 | 571.91<br>1500<br>1  | 573.76<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 569.41<br>1100<br>31 | 570.08<br>2100<br>15 | 568.55<br>0800<br>28 | 569.54<br>1700<br>15 | 570.97<br>1600<br>6 | 571.61<br>2000<br>15 | 571.24<br>0400<br>30 | 571.06<br>2400<br>17 | 569.74<br>0500<br>23 | 569.25<br>1800<br>5  | 568.47<br>2200<br>24 | 566.84<br>2100<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 571.54

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 904-4030 Wyandotte, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 573.45 Jun  
Daily mean elevation: 573.79 22 Jun  
Instant/hourly elevation: 574.27 0100/11 Jan

LOWEST

Monthly mean elevation: 571.81 Nov  
Daily mean elevation: 570.96 24 Nov  
Instant/hourly elevation: 570.06 2300/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 573.64 | 572.86 | 573.45 | 573.43 | 573.75 | 573.79 | 573.49 | 573.34 | 573.35 | 572.84 | 572.36 | 572.45 |
| Day | 11 | 23 | 13 | 29 | 18 | 22 | 1 | 20 | 1 | 28 | 1 | 2 |
| Min | 572.26 | 572.09 | 572.00 | 572.17 | 572.90 | 573.20 | 572.95 | 572.81 | 571.94 | 571.74 | 570.96 | 571.18 |
| Day | 18 | 15 | 28 | 10 | 6 | 28 | 30 | 17 | 26 | 6 | 24 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 573.60         | 1   |     |     |     | 1   | 3   |     |     |     |     |     |     | 573.60         | 5                          |
| 573.40         |     |     | 1   | 3   | 7   | 17  | 1   |     |     |     |     |     | 573.40         | 34                         |
| 573.20         | 2   |     | 1   | 10  | 19  | 9   | 13  | 2   | 1   |     |     |     | 573.20         | 91                         |
| 573.00         | 6   |     | 3   | 5   | 2   | 1   | 15  | 13  | 1   |     |     |     | 573.00         | 137                        |
| 572.80         | 12  | 3   | 15  | 9   | 2   |     | 2   | 16  | 3   | 1   |     |     | 572.80         | 200                        |
| 572.60         | 6   | 10  | 8   | 2   |     |     |     |     | 5   |     |     |     | 572.60         | 231                        |
| 572.40         | 3   | 13  |     |     |     |     |     |     | 9   | 2   |     | 1   | 572.40         | 259                        |
| 572.20         | 1   | 1   | 2   |     |     |     |     |     | 3   | 7   | 1   |     | 572.20         | 274                        |
| 572.00         |     | 1   |     | 1   |     |     |     |     | 1   | 15  | 8   | 5   | 572.00         | 305                        |
| 571.80         |     |     | 1   |     |     |     |     |     | 1   | 4   | 11  | 14  | 571.80         | 336                        |
| 571.60         |     |     |     |     |     |     |     |     |     | 2   | 5   | 7   | 571.60         | 350                        |
| 571.40         |     |     |     |     |     |     |     |     |     |     | 1   | 2   | 571.40         | 353                        |
| 571.20         |     |     |     |     |     |     |     |     |     |     | 2   |     | 571.20         | 355                        |
| 571.00         |     |     |     |     |     |     |     |     |     |     | 1   | 2   | 571.00         | 358                        |
| 570.80         |     |     |     |     |     |     |     |     |     |     | 1   |     | 570.80         | 359                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 904-4030 Wyandotte, Michigan on Detroit River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 573.01               | 572.85               | 572.75               | 572.69               | 573.13               | 573.58               | 573.49               | 572.93               | 573.35               | 572.30               | 572.36               | 571.92               |
| 2                  | 573.00               | 572.77               | 572.75               | 572.86               | 573.04               | 573.55               | 573.30               | 573.07               | 573.16*              | 572.25               | 571.04               | 572.45               |
| 3                  | 572.85               | 572.71               | 572.75               | 573.04               | 573.23               | 573.51               | 573.30               | 573.03               | /                    | 572.32               | 571.26               | 572.02               |
| 4                  | 572.89               | 572.62               | 572.68               | 572.92               | 573.44               | 573.61               | 573.27               | 572.96               | /                    | 572.48               | 571.67               | 571.44               |
| 5                  | 573.09               | 572.61               | 572.92               | 572.84               | 573.53               | 573.49               | 573.12               | 573.04               | /                    | 571.85               | 571.87               | 571.90               |
| 6                  | 573.05               | 572.65               | 572.81               | 572.82               | 572.90               | 573.46               | 573.28               | 573.11               | /                    | 571.74               | 571.46               | 571.70               |
| 7                  | 573.17               | 572.61               | 572.38               | 572.81               | 572.91               | 573.48               | 573.13               | 573.03               | 572.83*              | 571.96               | 571.92               | 571.79               |
| 8                  | 573.28               | 572.53               | 572.92               | 572.85               | 573.28               | 573.44               | 573.21               | 573.18               | 572.73               | 572.03               | 571.90               | 571.99               |
| 9                  | 572.95               | 572.54               | 573.00               | 572.82               | 573.33               | 573.43               | 573.36               | 573.09               | 572.75               | 571.98               | 571.96               | 571.98               |
| 10                 | 573.27               | 572.51               | 572.90               | 572.17               | 573.31               | 573.34               | 573.28               | 572.99               | 572.56               | 572.15               | 572.04               | 571.91               |
| 11                 | 573.64               | 572.48               | 573.01               | 572.91               | 573.28               | 573.30               | 573.30               | 572.94               | 572.77               | 572.18               | 571.98               | 571.91               |
| 12                 | 573.00               | 572.58               | 573.07               | 573.42               | 573.23               | 573.39               | 573.38               | 573.07               | 572.82               | 572.19               | 571.87               | 572.09               |
| 13                 | 573.13               | 572.82               | 573.45               | 573.29               | 573.25               | 573.50               | 573.28               | 573.01               | 572.80               | 572.16               | 571.66               | 571.96               |
| 14                 | 572.84               | 572.49               | 573.04               | 573.36               | 573.26               | 573.45               | 573.30               | 572.93               | 572.83               | 572.24               | 571.91               | 571.18               |
| 15                 | 572.90               | 572.09               | 572.88               | 572.63               | 573.31               | 573.29               | 573.29               | 572.89               | 572.67               | 571.80               | 571.80               | 571.19               |
| 16                 | 572.88               | 572.32               | 572.86               | 572.91               | 573.27               | 573.32               | 573.22               | 572.90               | 572.56               | 572.03               | 572.00               | 571.70               |
| 17                 | 572.51               | 572.48               | 572.92               | 573.07               | 573.26               | 573.45               | 573.12               | 572.81               | 572.57               | 572.08               | 572.09               | 571.60               |
| 18                 | 572.26               | 572.68               | 572.74               | 573.12               | 573.75               | 573.51               | 573.14               | 572.99               | 572.50*              | 572.05               | 572.03               | 571.77               |
| 19                 | 572.68               | 572.52               | 572.65               | 573.42               | 573.57               | 573.42               | 573.11               | 573.20               | /                    | 572.04               | 571.97               | 571.99               |
| 20                 | 572.83               | 572.47               | 572.95               | 573.28               | 573.37               | 573.43               | 573.08               | 573.34               | 572.36*              | 572.04               | 572.04               | 571.94               |
| 21                 | 572.85               | 572.57               | 572.92               | 573.29               | 573.30               | 573.48               | 573.08               | 573.03               | /                    | 571.98               | 572.09               | 571.66               |
| 22                 | 572.94               | 572.48               | 573.21               | 573.12               | 573.28               | 573.79               | 573.09               | 572.88*              | 572.42*              | 572.05               | 572.13               | 571.62               |
| 23                 | 572.48               | 572.86               | 572.78               | 573.29               | 573.26               | 573.74               | 572.98               | 573.14*              | 572.06*              | 572.03               | 572.03               | 571.87               |
| 24                 | 572.72               | 572.64               | 572.36               | 573.28               | 573.22               | 573.56               | 573.01               | 573.21               | 572.47*              | 572.05               | 570.96               | 571.77               |
| 25                 | 572.70               | 572.58               | 572.75               | 573.37               | 573.30               | 573.46               | 573.06               | 573.14               | 572.38*              | 572.05               | 571.36               | 572.00               |
| 26                 | 572.70               | 572.61               | 572.99               | 573.36               | 573.41               | 573.38               | 573.17               | 572.96               | 571.94               | 572.18               | 571.81               | 571.90               |
| 27                 | 572.61               | 572.44               | 572.83               | 573.40               | 573.39               | 573.30               | 573.20               | 572.91               | 572.26               | 572.25               | 571.73               | 572.00               |
| 28                 | 572.74               | 572.67               | 572.00               | 573.38               | 573.46               | 573.20               | 573.19               | 572.94               | 572.44               | 572.84               | 571.83               | 572.10               |
| 29                 | 572.96               |                      | 572.82               | 573.43               | 573.45               | 573.25               | 573.16               | 572.95               | 572.48               | 572.57               | 572.04               | 571.96               |
| 30                 | 573.03               |                      | 572.91               | 573.04               | 573.41               | 573.31               | 572.95               | 572.88               | 572.43               | 572.25               | 571.62               | 572.19               |
| 31                 | 572.59               |                      | 572.90               |                      | 573.33               |                      | 573.04               | 572.99               |                      | 572.25               |                      | 572.11               |
| Mean               | 572.89               | 572.58               | 572.84               | 573.07               | 573.31               | 573.45               | 573.19               | 573.02               | 572.59               | 572.14               | 571.81               | 571.86               |
| Max.<br>Hr.<br>Day | 574.27<br>0100<br>11 | 573.28<br>0900<br>28 | 573.67<br>1100<br>13 | 573.88<br>2200<br>13 | 574.02<br>1600<br>18 | 574.15<br>0800<br>22 | 573.71<br>2200<br>1  | 573.58<br>1600<br>20 | 573.53<br>1000<br>1  | 573.15<br>0100<br>29 | 572.76<br>1400<br>1  | 573.90<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 572.04<br>1800<br>23 | 571.96<br>2100<br>15 | 570.89<br>0600<br>28 | 570.71<br>1500<br>15 | 572.57<br>0500<br>7  | 573.09<br>0500<br>30 | 572.76<br>0500<br>30 | 572.59<br>2400<br>17 | 571.68<br>1900<br>26 | 571.23<br>1700<br>5  | 570.70<br>2200<br>24 | 570.06<br>2300<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 572.73

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 904-4036 Fort Wayne, Detroit, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 573.85 Jun  
Daily mean elevation: 574.12 22 Jun  
Instant/hourly elevation: 574.37 0400/11 Jan

LOWEST

Monthly mean elevation: 572.29 Nov  
Daily mean elevation: 571.56 24 Nov  
Instant/hourly elevation: 570.85 2200/14 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 573.98 | 573.24 | 573.72 | 573.79 | 574.05 | 574.12 | 573.84 | 573.68 | 573.68 | 573.17 | 572.77 | 572.83 |
| Day | 11     | 1      | 13     | 29     | 18     | 22     | 1      | 20     | 1      | 28     | 1      | 2      |
| Min | 572.84 | 572.64 | 572.44 | 572.64 | 573.33 | 573.64 | 573.41 | 573.22 | 572.45 | 572.25 | 571.56 | 571.76 |
| Day | 18     | 15     | 28     | 10     | 7      | 28     | 30     | 17     | 26     | 6      | 24     | 15     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 574.00         |     |     |     |     | 1   | 3   |     |     |     |     |     |     | 574.00         | 4                          |
| 573.80         | 1   |     |     |     | 5   | 17  | 1   |     |     |     |     |     | 573.80         | 28                         |
| 573.60         | 2   |     | 1   | 13  | 21  | 10  | 13  | 1   | 1   |     |     |     | 573.60         | 90                         |
| 573.40         | 10  |     | 2   | 4   | 2   |     | 17  | 17  | 1   |     |     |     | 573.40         | 143                        |
| 573.20         | 12  | 1   | 15  | 8   | 2   |     |     | 13  | 10  |     |     |     | 573.20         | 204                        |
| 573.00         | 4   | 8   | 10  | 4   |     |     |     |     | 5   | 1   |     |     | 573.00         | 236                        |
| 572.80         | 2   | 17  | 1   |     |     |     |     |     | 10  | 2   |     | 1   | 572.80         | 269                        |
| 572.60         |     | 2   | 1   | 1   |     |     |     |     | 2   | 11  | 1   | 1   | 572.60         | 288                        |
| 572.40         |     |     | 1   |     |     |     |     |     | 1   | 14  | 12  | 11  | 572.40         | 327                        |
| 572.20         |     |     |     |     |     |     |     |     |     | 3   | 8   | 12  | 572.20         | 350                        |
| 572.00         |     |     |     |     |     |     |     |     |     |     | 4   | 4   | 572.00         | 358                        |
| 571.80         |     |     |     |     |     |     |     |     |     |     | 2   |     | 571.80         | 360                        |
| 571.60         |     |     |     |     |     |     |     |     |     |     | 1   | 2   | 571.60         | 363                        |
| 571.40         |     |     |     |     |     |     |     |     |     |     | 2   |     | 571.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 904-4036 Fort Wayne, Detroit, Michigan on Detroit River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 573.48               | 573.24               | 573.10               | 573.10               | 573.54               | 573.98               | 573.84               | 573.38               | 573.68               | 572.74               | 572.77               | 572.38               |
| 2                  | 573.54               | 573.16               | 573.14               | 573.26               | 573.46               | 573.95               | 573.72               | 573.48               | 573.41               | 572.70               | 571.60               | 572.83               |
| 3                  | 573.38               | 573.07               | 573.19               | 573.40               | 573.63               | 573.94               | 573.71               | 573.46               | 573.26               | 572.75               | 571.79               | 572.52               |
| 4                  | 573.39               | 572.98               | 573.17               | 573.29               | 573.77               | 574.02               | 573.67               | 573.40               | 573.28               | 572.89               | 572.15               | 572.03               |
| 5                  | 573.53               | 572.98               | 573.34               | 573.22               | 573.87               | 573.89               | 573.56               | 573.48               | 573.31               | 572.37               | 572.31               | 572.36               |
| 6                  | 573.53               | 573.01               | 573.23               | 573.21               | 573.34               | 573.86               | 573.68               | 573.55               | 573.28               | 572.25               | 571.98               | 572.21               |
| 7                  | 573.60               | 572.99               | 572.89               | 573.20               | 573.33               | 573.87               | 573.56               | 573.49               | 573.22               | 572.44               | 572.37               | 572.26               |
| 8                  | 573.68               | 572.94               | 573.34               | 573.23               | 573.65               | 573.83               | 573.64               | 573.60               | 573.22               | 572.48               | 572.37               | 572.44               |
| 9                  | 573.38               | 572.95               | 573.39               | 573.20               | 573.70               | 573.82               | 573.77               | 573.54               | 573.22               | 572.45               | 572.42               | 572.45               |
| 10                 | 573.62               | 572.93               | 573.31               | 572.64               | 573.69               | 573.74               | 573.71               | 573.45               | 573.03               | 572.60               | 572.49               | 572.38               |
| 11                 | 573.98               | 572.90               | 573.39               | 573.31               | 573.65               | 573.72               | 573.71               | 573.39               | 573.22               | 572.61               | 572.45               | 572.40               |
| 12                 | 573.45               | 572.98               | 573.43               | 573.71               | 573.63               | 573.80               | 573.77               | 573.50               | 573.22               | 572.63               | 572.36               | 572.53               |
| 13                 | 573.52               | 573.15               | 573.72               | 573.62               | 573.64               | 573.88               | 573.70               | 573.43               | 573.20               | 572.62               | 572.17               | 572.43               |
| 14                 | 573.24               | 572.91               | 573.40               | 573.70               | 573.64               | 573.84               | 573.72               | 573.35               | 573.21               | 572.65               | 572.37               | 571.77               |
| 15                 | 573.22               | 572.64               | 573.25               | 573.05               | 573.69               | 573.71               | 573.71               | 573.31               | 573.09               | 572.30               | 572.29               | 571.76               |
| 16                 | 573.21               | 572.79               | 573.22               | 573.30               | 573.66               | 573.74               | 573.65               | 573.29               | 572.98               | 572.48               | 572.44               | 572.21               |
| 17                 | 573.01               | 572.84               | 573.26               | 573.46               | 573.66               | 573.84               | 573.56               | 573.22               | 572.99               | 572.52               | 572.52               | 572.12               |
| 18                 | 572.84               | 572.96               | 573.13               | 573.49               | 574.05               | 573.89               | 573.55               | 573.38               | 572.90               | 572.51               | 572.48               | 572.26               |
| 19                 | 573.16               | 572.84               | 573.05               | 573.74               | 573.90               | 573.82               | 573.53               | 573.56               | 572.95               | 572.52               | 572.41               | 572.44               |
| 20                 | 573.29               | 572.84               | 573.29               | 573.71               | 573.75               | 573.82               | 573.50               | 573.68               | 572.95               | 572.51               | 572.49               | 572.39               |
| 21                 | 573.27               | 572.95               | 573.27               | 573.72               | 573.69               | 573.87               | 573.51               | 573.43               | 573.06               | 572.44               | 572.55               | 572.20               |
| 22                 | 573.34               | 572.91               | 573.49               | 573.56               | 573.67               | 574.12               | 573.52               | 573.42               | 572.99               | 572.49               | 572.58               | 572.13               |
| 23                 | 572.97               | 573.20               | 573.12               | 573.70               | 573.65               | 574.10               | 573.43               | 573.51               | 572.63               | 572.47               | 572.47               | 572.36               |
| 24                 | 573.16               | 573.03               | 572.77               | 573.71               | 573.61               | 573.94               | 573.45               | 573.58               | 573.02               | 572.48               | 571.56               | 572.28               |
| 25                 | 573.39               | 572.99               | 573.11               | 573.76               | 573.68               | 573.86               | 573.50               | 573.55               | 572.88               | 572.49               | 571.91               | 572.47               |
| 26                 | 573.44               | 573.08               | 573.31               | 573.75               | 573.80               | 573.78               | 573.58               | 573.40               | 572.45               | 572.64               | 572.28               | 572.38               |
| 27                 | 573.29               | 572.95               | 573.17               | 573.76               | 573.80               | 573.71               | 573.60               | 573.36               | 572.73               | 572.71               | 572.18               | 572.47               |
| 28                 | 573.32               | 573.09               | 572.44               | 573.74               | 573.85               | 573.64               | 573.59               | 573.36               | 572.87               | 573.17               | 572.28               | 572.54               |
| 29                 | 573.50               |                      | 573.19               | 573.79               | 573.86               | 573.66               | 573.58               | 573.37               | 572.90               | 572.95               | 572.47               | 572.45               |
| 30                 | 573.50               |                      | 573.30               | 573.43               | 573.81               | 573.74               | 573.41               | 573.29               | 572.84               | 572.67               | 572.10               | 572.63               |
| 31                 | 573.12               |                      | 573.27               |                      | 573.76               |                      | 573.47               | 573.42               |                      | 572.69               |                      | 572.57               |
| Mean               | 573.37               | 572.98               | 573.22               | 573.46               | 573.69               | 573.85               | 573.61               | 573.44               | 573.07               | 572.59               | 572.29               | 572.34               |
| Max.<br>Hr.<br>Day | 574.37<br>0400<br>11 | 573.54<br>0900<br>28 | 573.89<br>0800<br>13 | 574.05<br>2200<br>19 | 574.22<br>1400<br>18 | 574.36<br>1000<br>22 | 574.00<br>2200<br>1  | 573.93<br>1800<br>8  | 573.90<br>0300<br>1  | 573.41<br>2400<br>28 | 573.07<br>1400<br>1  | 574.19<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 572.57<br>1800<br>23 | 572.55<br>1000<br>15 | 571.51<br>0500<br>28 | 571.34<br>1500<br>15 | 573.09<br>0900<br>7  | 573.52<br>0400<br>30 | 573.27<br>0500<br>30 | 573.07<br>0800<br>17 | 572.24<br>1900<br>26 | 571.86<br>1300<br>6  | 571.36<br>0700<br>24 | 570.85<br>2200<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 573.16

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 904-4049 Windmill Point, Detroit, Michigan on the Detroit River

HIGHEST

Monthly mean elevation: 574.60 Jun  
Daily mean elevation: 574.79 23 Jun  
Instant/hourly elevation: 574.91 0400/23 Jun

LOWEST

Monthly mean elevation: 573.12 Nov  
Daily mean elevation: 572.57 2 Nov  
Instant/hourly elevation: 572.12 1400/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 574.46 | 573.90 | 574.29 | 574.64 | 574.66 | 574.79 | 574.52 | 574.37 | 574.33 | 573.78 | 573.49 | 573.56 |
| Day | 2 | 23 | 13 | 20 | 28 | 23 | 1 | 20 | 1 | 28 | 1 | 2 |
| Min | 573.73 | 573.44 | 573.31 | 573.59 | 574.15 | 574.43 | 574.23 | 574.02 | 573.38 | 573.12 | 572.57 | 572.81 |
| Day | 18 | 19 | 28 | 10 | 7 | 28 | 30 | 17 | 26 | 6 | 2 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 574.60         |     |     |     | 1   | 4   | 12  |     |     |     |     |     |     | 574.60         | 17                         |
| 574.40         | 2   |     |     | 10  | 15  | 18  | 12  |     |     |     |     |     | 574.40         | 74                         |
| 574.20         | 8   |     | 1   | 5   | 10  |     | 19  | 19  | 1   |     |     |     | 574.20         | 137                        |
| 574.00         | 7   |     | 12  | 6   | 2   |     |     | 12  | 5   |     |     |     | 574.00         | 181                        |
| 573.80         | 10  | 6   | 14  | 7   |     |     |     |     | 10  |     |     |     | 573.80         | 228                        |
| 573.60         | 4   | 17  | 2   |     |     |     |     |     | 10  | 3   |     |     | 573.60         | 264                        |
| 573.40         |     | 5   | 1   | 1   |     |     |     |     | 3   | 8   | 1   | 3   | 573.40         | 286                        |
| 573.20         |     |     | 1   |     |     |     |     |     | 1   | 18  | 13  | 15  | 573.20         | 334                        |
| 573.00         |     |     |     |     |     |     |     |     |     | 2   | 8   | 11  | 573.00         | 355                        |
| 572.80         |     |     |     |     |     |     |     |     |     |     | 5   | 2   | 572.80         | 362                        |
| 572.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 572.60         | 363                        |
| 572.40         |     |     |     |     |     |     |     |     |     |     | 2   |     | 572.40         | 365                        |

## Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 904-4049 Windmill Point, Detroit, Michigan on the Detroit River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 574.33               | 573.79               | 573.84               | 573.96               | 574.34               | 574.73               | 574.52              | 574.20               | 574.33               | 573.53               | 573.49               | 573.22               |
| 2                  | 574.46               | 573.71               | 573.92               | 574.03               | 574.29               | 574.72               | 574.48              | 574.27               | 574.15               | 573.44               | 572.57               | 573.56               |
| 3                  | 574.35               | 573.66               | 574.12               | 574.06               | 574.40               | 574.74               | 574.45              | 574.26               | 574.03               | 573.53               | 572.78               | 573.42               |
| 4                  | 574.31               | 573.65               | 574.11               | 574.01               | 574.49               | 574.79               | 574.40              | 574.23               | 574.08               | 573.64               | 572.99               | 573.09               |
| 5                  | 574.33               | 573.68               | 574.14               | 573.98               | 574.51               | 574.67               | 574.35              | 574.28               | 574.06               | 573.24               | 573.04               | 573.19               |
| 6                  | 574.32               | 573.70               | 574.03               | 573.91               | 574.16               | 574.63               | 574.43              | 574.30               | 574.03               | 573.12               | 572.89               | 573.14               |
| 7                  | 574.33               | 573.75               | 573.87               | 573.92               | 574.15               | 574.60               | 574.34              | 574.26               | 573.98               | 573.28               | 573.17               | 573.14               |
| 8                  | 574.34               | 573.71               | 574.10               | 573.95               | 574.39               | 574.59               | 574.46              | 574.35               | 574.00               | 573.22               | 573.20               | 573.25               |
| 9                  | 574.16               | 573.74               | 574.08               | 573.95               | 574.42               | 574.58               | 574.50              | 574.34               | 573.94               | 573.27               | 573.22               | 573.34               |
| 10                 | 574.26               | 573.73               | 574.09               | 573.59               | 574.40               | 574.52               | 574.46              | 574.27               | 573.85               | 573.39               | 573.30               | 573.22               |
| 11                 | 574.43               | 573.72               | 574.14               | 574.09               | 574.40               | 574.52               | 574.49              | 574.24               | 574.00               | 573.39               | 573.30               | 573.25               |
| 12                 | 574.20               | 573.74               | 574.13               | 574.31               | 574.38               | 574.59               | 574.49              | 574.24               | 573.95               | 573.42               | 573.22               | 573.29               |
| 13                 | 574.17               | 573.81               | 574.29               | 574.29               | 574.40               | 574.60               | 574.50              | 574.22               | 573.92               | 573.42               | 573.04               | 573.30               |
| 14                 | 573.89               | 573.74               | 574.16               | 574.37               | 574.41               | 574.54               | 574.48              | 574.17               | 573.95               | 573.34               | 573.18               | 572.81               |
| 15                 | 573.80               | 573.62               | 573.99               | 573.84               | 574.43               | 574.47               | 574.45              | 574.12               | 573.84               | 573.17               | 573.14               | 572.87               |
| 16                 | 573.81               | 573.57               | 573.93               | 574.07               | 574.39               | 574.54               | 574.40              | 574.08               | 573.76               | 573.27               | 573.28               | 573.10               |
| 17                 | 573.77               | 573.45               | 573.94               | 574.23               | 574.49               | 574.58               | 574.32              | 574.02               | 573.79               | 573.28               | 573.30               | 573.04               |
| 18                 | 573.73               | 573.50               | 573.89               | 574.26               | 574.66               | 574.61               | 574.35              | 574.17               | 573.71               | 573.32               | 573.25               | 573.18               |
| 19                 | 573.86               | 573.44               | 573.82               | 574.47               | 574.60               | 574.58               | 574.32              | 574.31               | 573.76               | 573.34               | 573.22               | 573.27               |
| 20                 | 574.08               | 573.51               | 573.94               | 574.64               | 574.51               | 574.58               | 574.30              | 574.37               | 573.78               | 573.30               | 573.31               | 573.20               |
| 21                 | 574.07               | 573.66               | 573.95               | 574.59               | 574.45               | 574.63               | 574.32              | 574.24               | 573.81               | 573.22               | 573.38               | 573.17               |
| 22                 | 574.02               | 573.74               | 574.04               | 574.45               | 574.42               | 574.78               | 574.30              | 574.20               | 573.71               | 573.24               | 573.39               | 573.02               |
| 23                 | 573.74               | 573.90               | 573.69               | 574.50               | 574.41               | 574.79               | 574.26              | 574.28               | 573.54               | 573.22               | 573.28               | 573.26               |
| 24                 | 573.82               | 573.82               | 573.58               | 574.50               | 574.36               | 574.68               | 574.26              | 574.29               | 573.78               | 573.21               | 572.58               | 573.20               |
| 25                 | 573.90               | 573.83               | 573.82               | 574.52               | 574.42               | 574.62               | 574.30              | 574.26               | 573.65               | 573.23               | 572.90               | 573.30               |
| 26                 | 573.93               | 573.86               | 573.92               | 574.50               | 574.50               | 574.52               | 574.35              | 574.17               | 573.38               | 573.39               | 573.10               | 573.21               |
| 27                 | 573.87               | 573.77               | 573.76               | 574.50               | 574.57               | 574.46               | 574.36              | 574.13               | 573.57               | 573.54               | 572.89               | 573.31               |
| 28                 | 573.85               | 573.83               | 573.31               | 574.46               | 574.66               | 574.43               | 574.36              | 574.14               | 573.66               | 573.78               | 573.12               | 573.35               |
| 29                 | 573.93               |                      | 573.98               | 574.49               | 574.64               | 574.45               | 574.36              | 574.13               | 573.69               | 573.62               | 573.26               | 573.34               |
| 30                 | 574.01               |                      | 574.06               | 574.15               | 574.61               | 574.50               | 574.23              | 574.06               | 573.58               | 573.44               | 572.93               | 573.46               |
| 31                 | 573.84               |                      | 573.97               |                      | 574.60               |                      | 574.24              | 574.25               |                      | 573.48               |                      | 573.39               |
| Mean               | 574.06               | 573.70               | 573.96               | 574.22               | 574.45               | 574.60               | 574.38              | 574.22               | 573.84               | 573.36               | 573.12               | 573.22               |
| Max.<br>Hr.<br>Day | 574.58<br>2200<br>10 | 573.98<br>2100<br>23 | 574.44<br>2200<br>22 | 574.76<br>2400<br>19 | 574.86<br>2300<br>28 | 574.91<br>0400<br>23 | 574.62<br>1700<br>1 | 574.61<br>2300<br>8  | 574.48<br>0700<br>1  | 573.95<br>2400<br>28 | 573.74<br>1400<br>1  | 574.26<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 573.34<br>1700<br>23 | 573.39<br>0500<br>20 | 572.45<br>0300<br>28 | 572.59<br>1500<br>15 | 573.83<br>1200<br>7  | 574.23<br>1900<br>15 | 573.85<br>2100<br>7 | 573.81<br>2200<br>30 | 573.29<br>1700<br>26 | 572.81<br>1600<br>5  | 572.26<br>1300<br>30 | 572.12<br>1400<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 573.93



International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 903-4052 St. Clair Shores, Michigan on Lake St. Clair

HIGHEST

Monthly mean elevation: 574.78 Jun  
Daily mean elevation: 574.93 23 Jun  
Instant/hourly elevation: 575.01 0500/23 Jun

LOWEST

Monthly mean elevation: 573.42 Nov  
Daily mean elevation: 573.14 24 Nov  
Instant/hourly elevation: 572.45 1300/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 574.71 | 574.11 | 574.38 | 574.72 | 574.83 | 574.93 | 574.75 | 574.61 | 574.53 | 573.94 | 573.76 | 573.67 |
| Day | 11 | 24 | 5 | 24 | 28 | 23 | 13 | 9 | 1 | 4 | 1 | 2 |
| Min | 574.02 | 573.67 | 573.69 | 573.88 | 574.41 | 574.66 | 574.53 | 574.36 | 573.73 | 573.51 | 573.14 | 573.18 |
| Day | 28 | 18 | 28 | 10 | 7 | 28 | 30 | 30 | 26 | 15 | 24 | 15 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 574.80         |     |     |     |     | 1   | 9   |     |     |     |     |     |     | 574.80         | 10                         |
| 574.60         | 3   |     |     | 10  | 11  | 21  | 22  | 1   |     |     |     |     | 574.60         | 78                         |
| 574.40         | 10  |     |     | 6   | 19  |     | 9   | 26  | 2   |     |     |     | 574.40         | 150                        |
| 574.20         | 3   |     | 12  | 5   |     |     |     | 4   | 11  |     |     |     | 574.20         | 185                        |
| 574.00         | 15  | 7   | 14  | 8   |     |     |     |     | 9   |     |     |     | 574.00         | 238                        |
| 573.80         |     | 17  | 4   | 1   |     |     |     |     | 7   | 5   |     |     | 573.80         | 272                        |
| 573.60         |     | 4   | 1   |     |     |     |     |     | 1   | 14  | 2   | 4   | 573.60         | 298                        |
| 573.40         |     |     |     |     |     |     |     |     |     | 12  | 16  | 21  | 573.40         | 347                        |
| 573.20         |     |     |     |     |     |     |     |     |     |     | 8   | 4   | 573.20         | 359                        |
| 573.00         |     |     |     |     |     |     |     |     |     |     | 4   | 2   | 573.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 903-4052 St. Clair Shores, Michigan on Lake St. Clair

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 574.61               | 573.95               | 574.07               | 574.15               | 574.55               | 574.88               | 574.74              | 574.52               | 574.53               | 573.83               | 573.76               | 573.44               |
| 2                  | 574.65               | 573.89               | 574.07               | 574.21               | 574.48               | 574.89               | 574.71              | 574.55               | 574.42               | 573.78               | 573.16               | 573.67               |
| 3                  | 574.59               | 573.84               | 574.22               | 574.23               | 574.57               | 574.86               | 574.69              | 574.54               | 574.34               | 573.81               | 573.20               | 573.63               |
| 4                  | 574.58               | 573.84               | 574.28               | 574.20               | 574.63               | 574.87               | 574.66              | 574.52               | 574.34               | 573.94               | 573.32               | 573.41               |
| 5                  | 574.59               | 573.86               | 574.38               | 574.17               | 574.65               | 574.83               | 574.63              | 574.56               | 574.34               | 573.68               | 573.38               | 573.50               |
| 6                  | 574.55               | 573.91               | 574.26               | 574.13               | 574.48               | 574.79               | 574.68              | 574.57               | 574.31               | 573.54               | 573.26               | 573.43               |
| 7                  | 574.54               | 573.95               | 574.10               | 574.12               | 574.41               | 574.78               | 574.62              | 574.56               | 574.27               | 573.60               | 573.41               | 573.42               |
| 8                  | 574.55               | 573.95               | 574.30               | 574.14               | 574.56               | 574.76               | 574.70              | 574.60               | 574.28               | 573.63               | 573.46               | 573.52               |
| 9                  | 574.45               | 573.95               | 574.29               | 574.14               | 574.58               | 574.76               | 574.74              | 574.61               | 574.23               | 573.61               | 573.51               | 573.54               |
| 10                 | 574.49               | 573.93               | 574.25               | 573.88               | 574.57               | 574.72               | 574.74              | 574.57               | 574.14               | 573.66               | 573.52               | 573.51               |
| 11                 | 574.71               | 573.93               | 574.27               | 574.21               | 574.56               | 574.73               | 574.73              | 574.56               | 574.24               | 573.67               | 573.54               | 573.52               |
| 12                 | 574.56               | 573.95               | 574.25               | 574.39               | 574.56               | 574.76               | 574.75              | 574.54               | 574.23               | 573.68               | 573.50               | 573.58               |
| 13                 | 574.51               | 574.00               | 574.33               | 574.41               | 574.57               | 574.77               | 574.75              | 574.52               | 574.22               | 573.71               | 573.40               | 573.53               |
| 14                 | 574.22               | 574.03               | 574.24               | 574.51               | 574.57               | 574.75               | 574.73              | 574.48               | 574.22               | 573.69               | 573.44               | 573.19               |
| 15                 | 574.03               | 573.95               | 574.15               | 574.18               | 574.58               | 574.71               | 574.72              | 574.43               | 574.15               | 573.51               | 573.41               | 573.18               |
| 16                 | 574.03               | 573.85               | 574.09               | 574.27               | 574.56               | 574.73               | 574.69              | 574.40               | 574.08               | 573.58               | 573.48               | 573.40               |
| 17                 | 574.04               | 573.67               | 574.09               | 574.41               | 574.59               | 574.77               | 574.62              | 574.38               | 574.10               | 573.59               | 573.56               | 573.34               |
| 18                 | 574.03               | 573.67               | 574.05               | 574.41               | 574.72               | 574.78               | 574.63              | 574.45               | 574.02               | 573.60               | 573.51               | 573.37               |
| 19                 | 574.12               | 573.68               | 574.02               | 574.52               | 574.71               | 574.78               | 574.60              | 574.53               | 574.03               | 573.58               | 573.45               | 573.52               |
| 20                 | 574.20               | 573.73               | 574.10               | 574.63               | 574.68               | 574.78               | 574.59              | 574.60               | 574.04               | 573.61               | 573.53               | 573.51               |
| 21                 | 574.29               | 573.88               | 574.14               | 574.71               | 574.63               | 574.80               | 574.59              | 574.55               | 574.10               | 573.56               | 573.60               | 573.45               |
| 22                 | 574.29               | 573.91               | 574.17               | 574.65               | 574.59               | 574.88               | 574.59              | 574.51               | 574.04               | 573.55               | 573.61               | 573.38               |
| 23                 | 574.07               | 574.08               | 573.95               | 574.70               | 574.57               | 574.93               | 574.54              | 574.54               | 573.89               | 573.52               | 573.55               | 573.46               |
| 24                 | 574.03               | 574.11               | 573.82               | 574.72               | 574.55               | 574.88               | 574.55              | 574.56               | 574.00               | 573.52               | 573.14               | 573.46               |
| 25                 | 574.07               | 574.07               | 573.99               | 574.70               | 574.59               | 574.83               | 574.58              | 574.54               | 573.95               | 573.55               | 573.18               | 573.54               |
| 26                 | 574.10               | 574.10               | 574.10               | 574.68               | 574.70               | 574.77               | 574.61              | 574.46               | 573.73               | 573.67               | 573.34               | 573.50               |
| 27                 | 574.04               | 574.02               | 573.99               | 574.66               | 574.76               | 574.71               | 574.62              | 574.42               | 573.85               | 573.76               | 573.29               | 573.53               |
| 28                 | 574.02               | 574.05               | 573.69               | 574.64               | 574.83               | 574.66               | 574.61              | 574.41               | 573.93               | 573.93               | 573.35               | 573.56               |
| 29                 | 574.08               |                      | 574.11               | 574.66               | 574.80               | 574.67               | 574.61              | 574.39               | 573.96               | 573.89               | 573.47               | 573.53               |
| 30                 | 574.17               |                      | 574.20               | 574.47               | 574.80               | 574.70               | 574.53              | 574.36               | 573.88               | 573.69               | 573.29               | 573.65               |
| 31                 | 574.06               |                      | 574.22               |                      | 574.80               |                      | 574.54              | 574.46               |                      | 573.71               |                      | 573.62               |
| Mean               | 574.30               | 573.92               | 574.14               | 574.40               | 574.62               | 574.78               | 574.65              | 574.51               | 574.13               | 573.67               | 573.42               | 573.48               |
| Max.<br>Hr.<br>Day | 574.79<br>0800<br>11 | 574.18<br>2100<br>23 | 574.57<br>2200<br>22 | 574.81<br>0100<br>24 | 574.95<br>2300<br>28 | 575.01<br>0500<br>23 | 574.85<br>2300<br>7 | 574.76<br>1600<br>8  | 574.67<br>0800<br>1  | 574.13<br>2400<br>28 | 573.94<br>1300<br>1  | 574.06<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 573.69<br>1700<br>23 | 573.63<br>1600<br>19 | 573.18<br>0200<br>28 | 573.13<br>1400<br>15 | 574.25<br>1100<br>7  | 574.58<br>1100<br>28 | 574.26<br>2100<br>7 | 574.15<br>1700<br>17 | 573.62<br>1800<br>26 | 573.33<br>1300<br>5  | 572.83<br>1300<br>30 | 572.45<br>1300<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 574.17

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 901-4070 Algonac, Michigan on St. Clair River

HIGHEST

Monthly mean elevation: 575.20 Jun  
Daily mean elevation: 575.28 2 Jun  
Instant/hourly elevation: 575.77 1400/15 Apr

LOWEST

Monthly mean elevation: 574.11 Nov  
Daily mean elevation: 573.99 29 Nov  
Instant/hourly elevation: 573.89 1800/28 Nov

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 575.20 | 575.14 | 574.86 | 575.19 | 575.25 | 575.28 | 575.20 | 575.06 | 574.83 | 574.56 | 574.50 | 574.33 |
| Day | 13     | 16     | 28     | 30     | 31     | 2      | 7      | 10     | 2      | 5      | 2      | 14     |
| Min | 574.61 | 574.36 | 574.42 | 574.57 | 574.95 | 575.09 | 575.04 | 574.85 | 574.38 | 574.04 | 573.99 | 574.06 |
| Day | 27     | 6      | 26     | 8      | 17     | 30     | 29     | 31     | 30     | 23     | 29     | 28     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 575.20         |     |     |     |     | 3   | 9   |     |     |     |     |     |     | 575.20         | 12                         |
| 575.00         | 10  | 2   |     | 9   | 8   | 21  | 31  | 15  |     |     |     |     | 575.00         | 108                        |
| 574.80         | 12  | 2   | 1   | 5   | 20  |     |     | 16  | 4   |     |     |     | 574.80         | 168                        |
| 574.60         | 9   | 2   | 13  | 11  |     |     |     |     | 18  |     |     |     | 574.60         | 221                        |
| 574.40         |     | 18  | 17  | 5   |     |     |     |     | 7   | 3   | 2   |     | 574.40         | 273                        |
| 574.20         |     | 4   |     |     |     |     |     |     | 1   | 15  | 2   | 6   | 574.20         | 301                        |
| 574.00         |     |     |     |     |     |     |     |     |     | 13  | 23  | 25  | 574.00         | 362                        |
| 573.80         |     |     |     |     |     |     |     |     |     |     | 3   |     | 573.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 901-4070 Algonac, Michigan on St. Clair River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 575.12               | 574.53               | 574.48               | 574.66               | 575.08               | 575.27               | 575.14               | 575.06               | 574.81               | 574.36               | 574.22               | 574.07               |
| 2                  | 575.06               | 574.48               | 574.46               | 574.62               | 575.05               | 575.28               | 575.12               | 575.03               | 574.83               | 574.39               | 574.50               | 574.07               |
| 3                  | 575.10               | 574.49               | 574.50               | 574.61               | 575.00               | 575.23               | 575.14               | 575.04               | 574.82               | 574.34               | 574.25               | 574.19               |
| 4                  | 575.08               | 574.51               | 574.69               | 574.58               | 574.99               | 575.18               | 575.17               | 575.03               | 574.81               | 574.42               | 574.16               | 574.21               |
| 5                  | 574.97               | 574.39               | 574.78               | 574.58               | 575.00               | 575.18               | 575.16               | 575.03               | 574.80               | 574.56               | 574.16               | 574.27               |
| 6                  | 574.91               | 574.36               | 574.78               | 574.60               | 574.96               | 575.18               | 575.14               | 575.03               | 574.80               | 574.46               | 574.16               | 574.15               |
| 7                  | 574.88               | 574.40               | 574.77               | 574.58               | 574.98               | 575.20               | 575.20               | 575.02               | 574.78               | 574.33               | 574.04               | 574.15               |
| 8                  | 574.83               | 574.42               | 574.69               | 574.57               | 574.97               | 575.20               | 575.18               | 575.01               | 574.75               | 574.37               | 574.05               | 574.13               |
| 9                  | 574.86               | 574.41               | 574.71               | 574.64               | 574.95               | 575.19               | 575.18               | 575.05               | 574.73               | 574.26               | 574.05               | 574.12               |
| 10                 | 574.79               | 574.44               | 574.61               | 574.76               | 574.96               | 575.20               | 575.17               | 575.06               | 574.76               | 574.21               | 574.03               | 574.21               |
| 11                 | 574.85               | 574.43               | 574.58               | 574.61               | 574.95               | 575.22               | 575.16               | 575.04               | 574.71               | 574.22               | 574.05               | 574.15               |
| 12                 | 574.99               | 574.41               | 574.52               | 574.66               | 574.96               | 575.15               | 575.16               | 575.03               | 574.69               | 574.22               | 574.08               | 574.13               |
| 13                 | 575.20               | 574.37               | 574.52               | 574.69               | 574.97               | 575.17               | 575.15               | 575.00               | 574.70               | 574.24               | 574.15               | 574.13               |
| 14                 | 575.06               | 574.48               | 574.61               | 574.72               | 574.97               | 575.16               | 575.15               | 575.00               | 574.69               | 574.35               | 574.02               | 574.33               |
| 15                 | 575.00               | 574.85               | 574.63               | 574.93               | 574.98               | 575.20               | 575.17               | 574.97               | 574.67               | 574.26               | 574.04               | 574.21               |
| 16                 | 575.08               | 575.14               | 574.52               | 574.86               | 574.98               | 575.20               | 575.17               | 574.94               | 574.74               | 574.19               | 574.05               | 574.13               |
| 17                 | 574.88               | 575.01               | 574.45               | 574.78               | 574.95               | 575.19               | 575.16               | 575.01               | 574.69               | 574.18               | 574.03               | 574.18               |
| 18                 | 574.80               | 574.86               | 574.48               | 574.79               | 574.99               | 575.19               | 575.11               | 574.94               | 574.70               | 574.15               | 573.99               | 574.08               |
| 19                 | 574.70               | 574.76               | 574.49               | 574.81               | 575.03               | 575.21               | 575.10               | 574.91               | 574.66               | 574.18               | 574.01               | 574.10               |
| 20                 | 574.65               | 574.66               | 574.46               | 574.91               | 575.06               | 575.20               | 575.11               | 574.98               | 574.61               | 574.22               | 574.09               | 574.19               |
| 21                 | 574.74               | 574.47               | 574.45               | 575.04               | 575.02               | 575.19               | 575.10               | 575.04               | 574.60               | 574.20               | 574.12               | 574.17               |
| 22                 | 575.01               | 574.48               | 574.64               | 575.14               | 574.99               | 575.19               | 575.10               | 575.02               | 574.62               | 574.09               | 574.11               | 574.28               |
| 23                 | 575.12               | 574.47               | 574.79               | 575.10               | 574.97               | 575.23               | 575.13               | 574.97               | 574.61               | 574.04               | 574.17               | 574.11               |
| 24                 | 575.12               | 574.48               | 574.59               | 575.09               | 574.99               | 575.26               | 575.09               | 574.97               | 574.51               | 574.07               | 574.44               | 574.14               |
| 25                 | 574.89               | 574.50               | 574.43               | 575.05               | 575.00               | 575.24               | 575.08               | 574.96               | 574.55               | 574.16               | 574.07               | 574.12               |
| 26                 | 574.78               | 574.50               | 574.42               | 575.03               | 575.12               | 575.22               | 575.07               | 574.94               | 574.56               | 574.20               | 574.04               | 574.14               |
| 27                 | 574.61               | 574.53               | 574.52               | 575.02               | 575.20               | 575.19               | 575.07               | 574.93               | 574.49               | 574.22               | 574.20               | 574.07               |
| 28                 | 574.68               | 574.45               | 574.86               | 575.01               | 575.20               | 575.17               | 575.05               | 574.88               | 574.45               | 574.21               | 573.99               | 574.06               |
| 29                 | 574.82               |                      | 574.56               | 575.00               | 575.21               | 575.13               | 575.04               | 574.86               | 574.42               | 574.18               | 573.99               | 574.12               |
| 30                 | 574.87               |                      | 574.63               | 575.19               | 575.25               | 575.09               | 575.05               | 574.87               | 574.38               | 574.16               | 574.18               | 574.12               |
| 31                 | 574.64               |                      | 574.75               |                      | 575.25               |                      | 575.08               | 574.85               |                      | 574.19               |                      | 574.12               |
| Mean               | 574.91               | 574.55               | 574.59               | 574.82               | 575.03               | 575.20               | 575.13               | 574.98               | 574.66               | 574.25               | 574.11               | 574.15               |
| Max.<br>Hr.<br>Day | 575.52<br>1900<br>23 | 575.53<br>1000<br>16 | 575.38<br>0200<br>28 | 575.77<br>1400<br>15 | 575.63<br>0100<br>29 | 575.42<br>1400<br>1  | 575.60<br>2100<br>7  | 575.22<br>1700<br>17 | 574.99<br>2100<br>3  | 574.86<br>1300<br>5  | 574.78<br>0300<br>2  | 574.68<br>1600<br>14 |
| Min.<br>Hr.<br>Day | 574.45<br>1300<br>27 | 574.31<br>1700<br>13 | 574.01<br>1500<br>1  | 574.43<br>0300<br>7  | 574.79<br>2100<br>17 | 574.90<br>0200<br>29 | 574.90<br>2100<br>30 | 574.76<br>1300<br>31 | 574.23<br>1300<br>30 | 573.96<br>1900<br>10 | 573.89<br>1800<br>28 | 573.93<br>1800<br>23 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 574.70

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 901-4080 St. Clair S.P., St. Clair, Michigan on St. Clair River

HIGHEST

Monthly mean elevation: 576.54 Jun  
Daily mean elevation: 576.80 14 Jan  
Instant/hourly elevation: 577.03 2200/28 May

LOWEST

Monthly mean elevation: 575.48 Nov  
Daily mean elevation: 575.24 18 Nov  
Instant/hourly elevation: 575.00 1800/12 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 576.80 | 576.62 | 576.01 | 576.45 | 576.57 | 576.62 | 576.61 | 576.51 | 576.23 | 575.83 | 575.64 | 575.81 |
| Day | 14 | 17 | 29 | 20 | 31 | 3 | 8 | 4 | 4 | 4 | 3 | 15 |
| Min | 575.85 | 575.60 | 575.51 | 575.76 | 576.25 | 576.40 | 576.43 | 576.20 | 575.62 | 575.31 | 575.24 | 575.35 |
| Day | 19 | 28 | 1 | 4 | 11 | 14 | 29 | 29 | 30 | 23 | 18 | 12 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 576.60         | 3   | 1   |     |     |     | 2   | 1   |     |     |     |     |     | 576.60         | 7                          |
| 576.40         | 4   | 1   |     | 2   | 6   | 27  | 30  | 10  |     |     |     |     | 576.40         | 87                         |
| 576.20         | 5   | 4   |     | 10  | 25  | 1   |     | 20  | 1   |     |     |     | 576.20         | 153                        |
| 576.00         | 11  | 1   | 2   | 6   |     |     |     | 1   | 20  |     |     |     | 576.00         | 194                        |
| 575.80         | 8   | 1   | 8   | 10  |     |     |     | 8   |     | 2   |     | 1   | 575.80         | 232                        |
| 575.60         |     | 19  | 18  | 2   |     |     |     | 1   |     | 15  | 1   | 9   | 575.60         | 297                        |
| 575.40         |     | 1   | 3   |     |     |     |     |     |     | 11  | 24  | 20  | 575.40         | 356                        |
| 575.20         |     |     |     |     |     |     |     |     |     | 3   | 5   | 1   | 575.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 901-4080 St. Clair S.P., St. Clair, Michigan on St. Clair River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                 | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 576.08               | 576.55               | 575.51               | 575.91               | 576.35               | 576.62               | 576.46              | 576.44              | 576.14               | 575.74               | 575.45               | 575.56               |
| 2                  | 576.25               | 576.28               | 575.78               | 575.91               | 576.33               | 576.59               | 576.44              | 576.41              | 576.14               | 575.70               | 575.58               | 575.63               |
| 3                  | 576.13               | 576.04               | 575.92               | 575.80               | 576.32               | 576.62               | 576.44              | 576.42              | 576.09               | 575.71               | 575.64               | 575.57               |
| 4                  | 576.16               | 575.73               | 576.00               | 575.76               | 576.27               | 576.59               | 576.46              | 576.51              | 576.23               | 575.83               | 575.57               | 575.63               |
| 5                  | 576.09               | 575.64               | 575.86               | 575.82               | 576.26               | 576.58               | 576.50              | 576.48              | 576.15               | 575.70               | 575.44               | 575.65               |
| 6                  | 576.03               | 575.61               | 575.78               | 575.82               | 576.34               | 576.55               | 576.46              | 576.42              | 576.15               | 575.81               | 575.53               | 575.48               |
| 7                  | 576.05               | 575.64               | 576.01               | 575.81               | 576.37               | 576.54               | 576.52              | 576.40              | 576.08               | 575.79               | 575.58               | 575.50               |
| 8                  | 575.85               | 575.63               | 575.84               | 575.84               | 576.31               | 576.55               | 576.61              | 576.38              | 576.11               | 575.66               | 575.52               | 575.45               |
| 9                  | 575.92               | 575.67               | 575.76               | 575.90               | 576.26               | 576.53               | 576.58              | 576.48              | 575.95               | 575.66               | 575.47               | 575.59               |
| 10                 | 575.98               | 575.72               | 575.78               | 576.04               | 576.28               | 576.52               | 576.54              | 576.49              | 576.16               | 575.66               | 575.50               | 575.47               |
| 11                 | 575.85               | 575.76               | 575.78               | 576.02               | 576.25               | 576.55               | 576.54              | 576.47              | 576.14               | 575.66               | 575.51               | 575.59               |
| 12                 | 576.11               | 575.61               | 575.71               | 575.96               | 576.31               | 576.54               | 576.51              | 576.41              | 576.06               | 575.72               | 575.47               | 575.35               |
| 13                 | 576.37               | 575.62               | 575.73               | 575.94               | 576.28               | 576.48               | 576.56              | 576.38              | 576.05               | 575.68               | 575.50               | 575.56               |
| 14                 | 576.80               | 575.76               | 575.81               | 575.87               | 576.34               | 576.40               | 576.54              | 576.37              | 576.01               | 575.57               | 575.41               | 575.61               |
| 15                 | 576.68               | 576.23               | 575.78               | 576.04               | 576.31               | 576.51               | 576.52              | 576.34              | 576.02               | 575.60               | 575.41               | 575.81               |
| 16                 | 576.24               | 576.26               | 575.70               | 576.18               | 576.27               | 576.55               | 576.48              | 576.29              | 576.04               | 575.57               | 575.60               | 575.57               |
| 17                 | 576.02               | 576.62               | 575.64               | 576.13               | 576.44               | 576.58               | 576.47              | 576.33              | 576.15               | 575.54               | 575.42               | 575.54               |
| 18                 | 575.99               | 576.25               | 575.71               | 576.12               | 576.34               | 576.55               | 576.48              | 576.35              | 576.04               | 575.66               | 575.24               | 575.67               |
| 19                 | 575.85               | 575.91               | 575.72               | 576.23               | 576.36               | 576.56               | 576.44              | 576.33              | 576.15               | 575.64               | 575.34               | 575.52               |
| 20                 | 576.03               | 575.79               | 575.67               | 576.45               | 576.38               | 576.56               | 576.47              | 576.37              | 576.08               | 575.60               | 575.56               | 575.50               |
| 21                 | 575.96               | 575.66               | 575.59               | 576.38               | 576.33               | 576.58               | 576.47              | 576.40              | 575.97               | 575.49               | 575.54               | 575.63               |
| 22                 | 575.95               | 575.80               | 575.67               | 576.42               | 576.31               | 576.56               | 576.46              | 576.37              | 575.89               | 575.48               | 575.49               | 575.64               |
| 23                 | 576.11               | 575.69               | 575.68               | 576.34               | 576.28               | 576.60               | 576.54              | 576.38              | 576.03               | 575.31               | 575.45               | 575.67               |
| 24                 | 576.49               | 575.62               | 575.74               | 576.37               | 576.30               | 576.56               | 576.51              | 576.30              | 575.93               | 575.35               | 575.59               | 575.57               |
| 25                 | 576.55               | 575.72               | 575.70               | 576.31               | 576.35               | 576.54               | 576.52              | 576.23              | 575.83               | 575.46               | 575.60               | 575.59               |
| 26                 | 576.36               | 575.69               | 575.56               | 576.28               | 576.37               | 576.50               | 576.51              | 576.22              | 575.99               | 575.62               | 575.47               | 575.49               |
| 27                 | 576.04               | 575.67               | 575.63               | 576.26               | 576.52               | 576.47               | 576.49              | 576.24              | 576.01               | 575.68               | 575.28               | 575.51               |
| 28                 | 576.28               | 575.60               | 575.99               | 576.25               | 576.55               | 576.51               | 576.47              | 576.23              | 575.83               | 575.51               | 575.48               | 575.47               |
| 29                 | 576.44               |                      | 576.01               | 576.21               | 576.50               | 576.49               | 576.43              | 576.20              | 575.83               | 575.32               | 575.40               | 575.66               |
| 30                 | 576.46               |                      | 575.91               | 576.32               | 576.53               | 576.48               | 576.45              | 576.24              | 575.62               | 575.49               | 575.37               | 575.52               |
| 31                 | 576.67               |                      | 575.88               |                      | 576.57               |                      | 576.49              | 576.38              |                      | 575.60               |                      | 575.45               |
| Mean               | 576.19               | 575.85               | 575.77               | 576.09               | 576.35               | 576.54               | 576.50              | 576.36              | 576.03               | 575.61               | 575.48               | 575.56               |
| Max.<br>Hr.<br>Day | 576.98<br>1400<br>31 | 576.89<br>0700<br>17 | 576.39<br>0300<br>28 | 576.65<br>1600<br>30 | 577.03<br>2200<br>28 | 576.81<br>1400<br>3  | 576.84<br>2400<br>7 | 576.66<br>0500<br>3 | 576.55<br>0100<br>4  | 576.01<br>1200<br>4  | 576.04<br>1500<br>30 | 576.01<br>0300<br>15 |
| Min.<br>Hr.<br>Day | 575.42<br>2400<br>22 | 575.43<br>0300<br>24 | 575.39<br>1700<br>26 | 575.64<br>0600<br>7  | 575.94<br>2300<br>19 | 576.19<br>2400<br>12 | 576.07<br>1400<br>6 | 576.03<br>1100<br>6 | 575.23<br>1300<br>30 | 575.16<br>0600<br>23 | 575.01<br>0800<br>30 | 575.00<br>1800<br>12 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 576.03

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 901-4087 Dry Dock, Port Huron, Michigan on St. Clair River

HIGHEST

Monthly mean elevation: 577.68 Jun  
Daily mean elevation: 577.82 8 Jul  
Instant/hourly elevation: 578.11 1000/8 Jul

LOWEST

Monthly mean elevation: 576.64 Nov  
Daily mean elevation: 576.21 27 Nov  
Instant/hourly elevation: 575.79 2400/6 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 577.30 | 577.33 | 577.20 | 577.71 | 577.71 | 577.80 | 577.82 | 577.74 | 577.40 | 577.02 | 576.91 | 577.16 |
| Day | 24     | 15     | 29     | 20     | 31     | 3      | 8      | 4      | 4      | 4      | 25     | 15     |
| Min | 576.69 | 576.58 | 576.40 | 576.75 | 577.28 | 577.48 | 577.54 | 577.32 | 576.62 | 576.30 | 576.21 | 576.44 |
| Day | 11     | 28     | 23     | 4      | 6      | 14     | 4      | 26     | 30     | 29     | 27     | 12     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 577.80         |     |     |     |     |     |     | 1   |     |     |     |     |     | 577.80         | 1                          |
| 577.60         |     |     |     | 1   | 3   | 27  | 24  | 9   |     |     |     |     | 577.60         | 65                         |
| 577.40         |     |     |     | 4   | 19  | 3   | 6   | 16  |     |     |     |     | 577.40         | 113                        |
| 577.20         | 6   | 2   |     | 11  | 9   |     |     | 6   | 13  |     |     |     | 577.20         | 160                        |
| 577.00         | 12  | 1   | 4   | 4   |     |     |     |     | 13  | 1   |     | 2   | 577.00         | 197                        |
| 576.80         | 8   | 7   | 6   | 8   |     |     |     |     | 3   | 11  | 4   | 10  | 576.80         | 254                        |
| 576.60         | 5   | 16  | 14  | 2   |     |     |     |     | 1   | 11  | 13  | 17  | 576.60         | 333                        |
| 576.40         |     | 2   | 6   |     |     |     |     |     |     | 6   | 10  | 2   | 576.40         | 359                        |
| 576.20         |     |     | 1   |     |     |     |     |     |     | 2   | 3   |     | 576.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 901-4087 Dry Dock, Port Huron, Michigan on St. Clair River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 576.91               | 577.17               | 576.44               | 577.01               | 577.42               | 577.76               | 577.61               | 577.60               | 577.28               | 576.88              | 576.51               | 576.85               |
| 2                  | 577.25               | 576.97               | 576.82               | 577.00               | 577.46               | 577.68               | 577.55               | 577.64               | 577.22               | 576.76              | 576.44               | 577.00               |
| 3                  | 577.05               | 576.80               | 577.09               | 576.82               | 577.45               | 577.80               | 577.55               | 577.64               | 577.19               | 576.84              | 576.81               | 576.76               |
| 4                  | 577.08               | 576.66               | 577.12               | 576.75               | 577.36               | 577.77               | 577.54               | 577.74               | 577.40               | 577.02              | 576.77               | 576.88               |
| 5                  | 577.04               | 576.67               | 576.77               | 576.86               | 577.35               | 577.75               | 577.61               | 577.68               | 577.26               | 576.58              | 576.53               | 576.84               |
| 6                  | 576.99               | 576.67               | 576.57               | 576.76               | 577.28               | 577.72               | 577.64               | 577.63               | 577.27               | 576.94              | 576.66               | 576.62               |
| 7                  | 577.03               | 576.73               | 577.06               | 576.84               | 577.46               | 577.69               | 577.63               | 577.59               | 577.19               | 577.00              | 576.88               | 576.62               |
| 8                  | 576.71               | 576.62               | 576.81               | 576.92               | 577.43               | 577.69               | 577.82               | 577.56               | 577.23               | 576.73              | 576.77               | 576.65               |
| 9                  | 576.86               | 576.71               | 576.65               | 576.92               | 577.36               | 577.66               | 577.75               | 577.66               | 577.01               | 576.79              | 576.66               | 576.87               |
| 10                 | 577.01               | 576.81               | 576.79               | 577.09               | 577.40               | 577.63               | 577.68               | 577.67               | 577.32               | 576.85              | 576.74               | 576.55               |
| 11                 | 576.69               | 576.88               | 576.80               | 577.24               | 577.36               | 577.68               | 577.68               | 577.65               | 577.35               | 576.81              | 576.74               | 576.80               |
| 12                 | 577.02               | 576.63               | 576.74               | 577.08               | 577.44               | 577.73               | 577.64               | 577.57               | 577.17               | 576.93              | 576.66               | 576.44               |
| 13                 | 577.05               | 576.69               | 576.79               | 577.03               | 577.39               | 577.61               | 577.73               | 577.52               | 577.18               | 576.85              | 576.65               | 576.78               |
| 14                 | 577.29               | 576.86               | 576.85               | 576.88               | 577.43               | 577.48               | 577.72               | 577.52               | 577.13               | 576.55              | 576.58               | 576.75               |
| 15                 | 577.29               | 577.33               | 576.80               | 576.96               | 577.43               | 577.63               | 577.65               | 577.45               | 577.09               | 576.74              | 576.60               | 577.16               |
| 16                 | 577.08               | 576.97               | 576.70               | 577.26               | 577.39               | 577.71               | 577.61               | 577.44               | 577.17               | 576.68              | 576.91               | 576.80               |
| 17                 | 576.97               | 577.31               | 576.67               | 577.27               | 577.61               | 577.74               | 577.61               | 577.43               | 577.33               | 576.69              | 576.59               | 576.76               |
| 18                 | 576.96               | 576.95               | 576.76               | 577.25               | 577.49               | 577.68               | 577.61               | 577.54               | 577.16               | 576.88              | 576.31               | 577.04               |
| 19                 | 576.79               | 576.67               | 576.78               | 577.41               | 577.51               | 577.71               | 577.59               | 577.53               | 577.38               | 576.91              | 576.50               | 576.73               |
| 20                 | 577.16               | 576.71               | 576.72               | 577.71               | 577.47               | 577.71               | 577.61               | 577.54               | 577.30               | 576.74              | 576.77               | 576.63               |
| 21                 | 576.98               | 576.62               | 576.56               | 577.54               | 577.43               | 577.76               | 577.63               | 577.51               | 577.12               | 576.57              | 576.75               | 576.90               |
| 22                 | 576.73               | 576.93               | 576.53               | 577.50               | 577.44               | 577.75               | 577.56               | 577.46               | 576.95               | 576.58              | 576.70               | 576.80               |
| 23                 | 576.83               | 576.73               | 576.40               | 577.37               | 577.38               | 577.76               | 577.76               | 577.53               | 577.20               | 576.40              | 576.57               | 577.00               |
| 24                 | 577.30               | 576.58               | 576.72               | 577.43               | 577.41               | 577.67               | 577.71               | 577.42               | 577.13               | 576.46              | 576.53               | 576.82               |
| 25                 | 577.21               | 576.75               | 576.78               | 577.36               | 577.49               | 577.65               | 577.71               | 577.32               | 576.93               | 576.59              | 576.91               | 576.86               |
| 26                 | 577.00               | 576.72               | 576.53               | 577.34               | 577.43               | 577.58               | 577.72               | 577.32               | 577.22               | 576.80              | 576.69               | 576.66               |
| 27                 | 576.73               | 576.63               | 576.45               | 577.32               | 577.60               | 577.53               | 577.66               | 577.34               | 577.26               | 576.93              | 576.21               | 576.76               |
| 28                 | 577.02               | 576.58               | 576.98               | 577.32               | 577.60               | 577.65               | 577.65               | 577.34               | 576.98               | 576.66              | 576.74               | 576.73               |
| 29                 | 577.20               |                      | 577.20               | 577.26               | 577.57               | 577.62               | 577.57               | 577.33               | 577.03               | 576.30              | 576.59               | 576.97               |
| 30                 | 577.18               |                      | 577.00               | 577.29               | 577.65               | 577.67               | 577.62               | 577.35               | 576.62               | 576.64              | 576.38               | 576.75               |
| 31                 | 577.22               |                      | 576.83               |                      | 577.71               |                      | 577.63               | 577.63               |                      | 576.79              |                      | 576.66               |
| Mean               | 577.02               | 576.80               | 576.76               | 577.16               | 577.46               | 577.68               | 577.65               | 577.52               | 577.17               | 576.74              | 576.64               | 576.79               |
| Max.<br>Hr.<br>Day | 577.59<br>1300<br>31 | 577.56<br>1200<br>17 | 577.56<br>0300<br>29 | 578.00<br>0200<br>20 | 578.09<br>1100<br>29 | 578.06<br>2100<br>15 | 578.11<br>1000<br>8  | 577.96<br>1500<br>10 | 577.73<br>0100<br>4  | 577.26<br>0700<br>4 | 577.39<br>1000<br>20 | 577.30<br>0300<br>15 |
| Min.<br>Hr.<br>Day | 576.01<br>2300<br>22 | 576.35<br>0500<br>24 | 576.14<br>1500<br>23 | 576.54<br>1600<br>6  | 576.67<br>2300<br>28 | 577.31<br>2000<br>26 | 577.25<br>2300<br>20 | 577.15<br>2300<br>30 | 576.09<br>1300<br>30 | 575.99<br>0900<br>5 | 575.80<br>0800<br>30 | 575.79<br>2400<br>6  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 577.12



International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 901-4090    Mouth of the Black River, Port Huron, MI    on St. Clair River

| HIGHEST                   |        |             |  | LOWEST                    |        |            |  |
|---------------------------|--------|-------------|--|---------------------------|--------|------------|--|
| Monthly mean elevation:   | 578.06 | Jun         |  | Monthly mean elevation:   | 577.02 | Nov        |  |
| Daily mean elevation:     | 578.20 | 8 Jul       |  | Daily mean elevation:     | 576.50 | 27 Nov     |  |
| Instant/hourly elevation: | 578.62 | 1700/29 May |  | Instant/hourly elevation: | 576.11 | 0100/7 Dec |  |

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 577.60 | 577.71 | 577.65 | 578.15 | 578.11 | 578.20 | 578.20 | 578.13 | 577.80 | 577.39 | 577.35 | 577.58 |
| Day | 24 | 15 | 29 | 20 | 31 | 3 | 8 | 4 | 19 | 7 | 16 | 15 |
| Min | 576.99 | 576.91 | 576.68 | 577.09 | 577.59 | 577.84 | 577.89 | 577.67 | 576.99 | 576.66 | 576.50 | 576.78 |
| Day | 11 | 28 | 23 | 4 | 6 | 14 | 2 | 26 | 30 | 29 | 27 | 12 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.00         |     |     |     | 1   | 3   | 24  | 16  | 9   |     |     |     |     | 578.00         | 53                         |
| 577.80         |     |     |     | 3   | 19  | 6   | 15  | 15  |     |     |     |     | 577.80         | 111                        |
| 577.60         |     | 1   | 1   | 12  | 8   |     |     | 7   | 10  |     |     |     | 577.60         | 150                        |
| 577.40         | 10  | 1   | 3   | 2   | 1   |     |     |     | 15  |     |     | 4   | 577.40         | 186                        |
| 577.20         | 13  | 4   | 4   | 8   |     |     |     |     | 4   | 11  | 3   | 9   | 577.20         | 242                        |
| 577.00         | 6   | 14  | 15  | 4   |     |     |     |     |     | 12  | 14  | 14  | 577.00         | 321                        |
| 576.80         | 2   | 8   | 5   |     |     |     |     |     | 1   | 6   | 9   | 3   | 576.80         | 355                        |
| 576.60         |     |     | 3   |     |     |     |     |     |     | 2   | 3   | 1   | 576.60         | 364                        |
| 576.40         |     |     |     |     |     |     |     |     |     |     | 1   |     | 576.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 901-4090 Mouth of the Black River, Port Huron, MI on St. Clair River

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 577.20               | 577.38               | 576.78               | 577.35               | 577.81               | 578.16               | 577.97              | 577.98               | 577.65               | 577.26               | 576.89               | 577.26              |
| 2                  | 577.60               | 577.20               | 577.21               | 577.38               | 577.84               | 578.10               | 577.89              | 578.04               | 577.58               | 577.17               | 576.76               | 577.43              |
| 3                  | 577.37               | 577.07               | 577.53               | 577.18               | 577.84               | 578.20               | 577.95              | 578.02               | 577.54               | 577.25               | 577.20               | 577.16              |
| 4                  | 577.41               | 577.00               | 577.51               | 577.09               | 577.74               | 578.16               | 577.91              | 578.13               | 577.78               | 577.39               | 577.19               | 577.28              |
| 5                  | 577.38               | 577.05               | 577.10               | 577.22               | 577.74               | 578.10               | 577.98              | 578.07               | 577.63               | 576.90               | 576.90               | 577.21              |
| 6                  | 577.33               | 577.05               | 576.86               | 577.11               | 577.59               | 578.07               | 577.99              | 578.01               | 577.63               | 577.32               | 577.05               | 576.98              |
| 7                  | 577.38               | 577.11               | 577.43               | 577.20               | 577.84               | 578.06               | 578.04              | 577.95               | 577.55               | 577.39               | 577.31               | 577.01              |
| 8                  | 577.02               | 576.99               | 577.16               | 577.31               | 577.82               | 578.07               | 578.20              | 577.93               | 577.59               | 577.05               | 577.19               | 577.01              |
| 9                  | 577.19               | 577.07               | 576.97               | 577.32               | 577.76               | 578.02               | 578.14              | 578.05               | 577.35               | 577.15               | 577.03               | 577.28              |
| 10                 | 577.36               | 577.18               | 577.14               | 577.48               | 577.79               | 577.99               | 578.05              | 578.06               | 577.71               | 577.26               | 577.16               | 576.91              |
| 11                 | 576.99               | 577.25               | 577.17               | 577.69               | 577.74               | 578.04               | 578.08              | 578.01               | 577.75               | 577.19               | 577.14               | 577.20              |
| 12                 | 577.36               | 576.96               | 577.09               | 577.46               | 577.84               | 578.09               | 578.02              | 577.94               | 577.55               | 577.34               | 577.03               | 576.78              |
| 13                 | 577.30               | 577.06               | 577.16               | 577.40               | 577.81               | 577.98               | 578.11              | 577.89               | 577.55               | 577.24               | 577.03               | 577.20              |
| 14                 | 577.47               | 577.23               | 577.21               | 577.23               | 577.82               | 577.84               | 578.10              | 577.88               | 577.51               | 576.88               | 576.96               | 577.11              |
| 15                 | 577.51               | 577.71               | 577.16               | 577.29               | 577.83               | 578.02               | 578.03              | 577.81               | 577.44               | 577.12               | 576.98               | 577.58              |
| 16                 | 577.39               | 577.20               | 577.05               | 577.66               | 577.80               | 578.11               | 577.97              | 577.82               | 577.56               | 577.05               | 577.35               | 577.21              |
| 17                 | 577.30               | 577.53               | 577.02               | 577.69               | 578.04               | 578.12               | 577.98              | 577.81               | 577.71               | 577.05               | 576.98               | 577.13              |
| 18                 | 577.29               | 577.20               | 577.13               | 577.64               | 577.88               | 578.05               | 577.97              | 577.92               | 577.51               | 577.30               | 576.67               | 577.45              |
| 19                 | 577.14               | 576.91               | 577.15               | 577.84               | 577.90               | 578.08               | 577.96              | 577.93               | 577.80               | 577.32               | 576.87               | 577.14              |
| 20                 | 577.56               | 577.02               | 577.09               | 578.15               | 577.85               | 578.09               | 578.00              | 577.92               | 577.70               | 577.11               | 577.16               | 576.99              |
| 21                 | 577.35               | 576.96               | 576.91               | 577.95               | 577.82               | 578.14               | 577.97              | 577.87               | 577.49               | 576.93               | 577.15               | 577.28              |
| 22                 | 577.02               | 577.34               | 576.85               | 577.88               | 577.83               | 578.16               | 577.92              | 577.83               | 577.31               | 576.97               | 577.09               | 577.17              |
| 23                 | 577.10               | 577.10               | 576.68               | 577.72               | 577.78               | 578.14               | 578.15              | 577.89               | 577.58               | 576.76               | 576.94               | 577.42              |
| 24                 | 577.60               | 576.91               | 577.06               | 577.78               | 577.80               | 578.05               | 578.10              | 577.79               | 577.52               | 576.84               | 576.84               | 577.21              |
| 25                 | 577.46               | 577.11               | 577.15               | 577.72               | 577.88               | 578.01               | 578.11              | 577.68               | 577.30               | 576.93               | 577.33               | 577.25              |
| 26                 | 577.24               | 577.08               | 576.86               | 577.71               | 577.82               | 577.95               | 578.10              | 577.67               | 577.59               | 577.20               | 577.09               | 577.04              |
| 27                 | 577.00               | 576.97               | 576.75               | 577.67               | 578.00               | 577.86               | 578.04              | 577.71               | 577.68               | 577.35               | 576.50               | 577.14              |
| 28                 | 577.29               | 576.91               | 577.37               | 577.69               | 577.99               | 578.03               | 578.03              | 577.72               | 577.37               | 577.06               | 577.17               | 577.14              |
| 29                 | 577.46               |                      | 577.65               | 577.63               | 577.99               | 577.99               | 577.95              | 577.69               | 577.42               | 576.66               | 576.96               | 577.40              |
| 30                 | 577.44               |                      | 577.39               | 577.63               | 578.05               | 578.06               | 578.00              | 577.72               | 576.99               | 577.02               | 576.74               | 577.14              |
| 31                 | 577.43               |                      | 577.16               |                      | 578.11               |                      | 578.02              | 578.03               |                      | 577.20               |                      | 577.05              |
| Mean               | 577.32               | 577.13               | 577.12               | 577.54               | 577.85               | 578.06               | 578.02              | 577.90               | 577.54               | 577.12               | 577.02               | 577.18              |
| Max.<br>Hr.<br>Day | 577.96<br>1700<br>23 | 578.12<br>1400<br>22 | 578.07<br>0300<br>29 | 578.48<br>0200<br>20 | 578.62<br>1700<br>29 | 578.41<br>1900<br>3  | 578.50<br>1000<br>8 | 578.33<br>1500<br>10 | 578.18<br>0100<br>4  | 577.71<br>2400<br>18 | 577.67<br>1000<br>20 | 577.78<br>0200<br>9 |
| Min.<br>Hr.<br>Day | 576.12<br>2300<br>22 | 576.51<br>1900<br>16 | 576.20<br>0300<br>28 | 576.86<br>1600<br>6  | 576.25<br>2300<br>28 | 577.59<br>0100<br>27 | 577.45<br>1100<br>6 | 577.56<br>0900<br>26 | 576.39<br>1200<br>30 | 576.37<br>0900<br>5  | 576.12<br>1000<br>27 | 576.11<br>0100<br>7 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 577.48

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 901-4096 Dunn Paper Company, Port Huron, MI on St. Clair River

HIGHEST

Monthly mean elevation: 578.47 Jun  
Daily mean elevation: 578.66 8 Jul  
Instant/hourly elevation: 579.12 2100/28 May

LOWEST

Monthly mean elevation: 577.42 Nov  
Daily mean elevation: 576.79 27 Nov  
Instant/hourly elevation: 576.27 2300/22 Jan

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 577.98 | 578.09 | 578.04 | 578.60 | 578.48 | 578.63 | 578.66 | 578.58 | 578.22 | 577.84 | 577.78 | 578.03 |
| Day | 20     | 15     | 29     | 20     | 17     | 3      | 8      | 4      | 19     | 7      | 16     | 15     |
| Min | 577.26 | 577.15 | 576.95 | 577.47 | 577.97 | 578.26 | 578.30 | 578.06 | 577.34 | 577.05 | 576.79 | 577.13 |
| Day | 27     | 19     | 23     | 4      | 6      | 27     | 4      | 26     | 30     | 29     | 27     | 12     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.60         |     |     |     |     |     | 2   | 1   |     |     |     |     |     | 578.60         | 3                          |
| 578.40         |     |     |     | 1   | 3   | 22  | 19  | 10  |     |     |     |     | 578.40         | 58                         |
| 578.20         |     |     |     | 3   | 15  | 6   | 11  | 13  | 1   |     |     |     | 578.20         | 107                        |
| 578.00         |     | 1   | 1   | 10  | 12  |     |     | 8   | 9   |     |     | 1   | 578.00         | 149                        |
| 577.80         | 3   |     | 2   | 5   | 1   |     |     |     | 15  | 2   |     | 4   | 577.80         | 181                        |
| 577.60         | 17  | 5   | 3   | 5   |     |     |     |     | 4   | 12  | 4   | 10  | 577.60         | 241                        |
| 577.40         | 6   | 12  | 14  | 6   |     |     |     |     |     | 10  | 12  | 11  | 577.40         | 312                        |
| 577.20         | 5   | 9   | 6   |     |     |     |     |     | 1   | 5   | 9   | 4   | 577.20         | 351                        |
| 577.00         |     | 1   | 4   |     |     |     |     |     |     | 2   | 4   | 1   | 577.00         | 363                        |
| 576.80         |     |     | 1   |     |     |     |     |     |     |     |     |     | 576.80         | 364                        |
| 576.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 576.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 901-4096 Dunn Paper Company, Port Huron, MI on St. Clair River

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 577.48               | 577.62               | 577.12               | 577.73               | 578.20               | 578.53               | 578.40              | 578.41               | 578.06               | 577.66               | 577.26               | 577.67              |
| 2                  | 577.97               | 577.41               | 577.60               | 577.78               | 578.22               | 578.46               | 578.31              | 578.46               | 577.98               | 577.57               | 577.08               | 577.90              |
| 3                  | 577.69               | 577.36               | 577.94               | 577.55               | 578.24               | 578.63               | 578.36              | 578.43               | 577.93               | 577.67               | 577.61               | 577.57              |
| 4                  | 577.74               | 577.33               | 577.90               | 577.47               | 578.17               | 578.61               | 578.30              | 578.58               | 578.20               | 577.79               | 577.59               | 577.70              |
| 5                  | 577.74               | 577.43               | 577.41               | 577.59               | 578.15               | 578.56               | 578.39              | 578.51               | 578.04               | 577.24               | 577.25               | 577.62              |
| 6                  | 577.68               | 577.42               | 577.20               | 577.51               | 577.97               | 578.54               | 578.39              | 578.43               | 578.03               | 577.71               | 577.48               | 577.38              |
| 7                  | 577.76               | 577.48               | 577.79               | 577.59               | 578.21               | 578.50               | 578.46              | 578.38               | 577.95               | 577.84               | 577.75               | 577.43              |
| 8                  | 577.36               | 577.35               | 577.50               | 577.70               | 578.26               | 578.50               | 578.66              | 578.35               | 578.00               | 577.46               | 577.60               | 577.39              |
| 9                  | 577.51               | 577.45               | 577.29               | 577.73               | 578.15               | 578.45               | 578.55              | 578.50               | 577.74               | 577.58               | 577.46               | 577.69              |
| 10                 | 577.75               | 577.57               | 577.50               | 577.84               | 578.20               | 578.40               | 578.48              | 578.50               | 578.16               | 577.70               | 577.57               | 577.28              |
| 11                 | 577.33               | 577.69               | 577.54               | 578.09               | 578.14               | 578.45               | 578.50              | 578.46               | 578.17               | 577.64               | 577.56               | 577.62              |
| 12                 | 577.70               | 577.33               | 577.46               | 577.86               | 578.24               | 578.54               | 578.46              | 578.39               | 577.98               | 577.80               | 577.44               | 577.13              |
| 13                 | 577.56               | 577.44               | 577.54               | 577.81               | 578.20               | 578.41               | 578.54              | 578.32               | 577.95               | 577.69               | 577.40               | 577.61              |
| 14                 | 577.65               | 577.63               | 577.59               | 577.60               | 578.24               | 578.26               | 578.53              | 578.31               | 577.91               | 577.24               | 577.37               | 577.49              |
| 15                 | 577.73               | 578.09               | 577.50               | 577.61               | 578.20               | 578.38               | 578.42              | 578.22               | 577.87               | 577.52               | 577.38               | 578.03              |
| 16                 | 577.71               | 577.44               | 577.40               | 578.06               | 578.19               | 578.51               | 578.38              | 578.22               | 577.93               | 577.49               | 577.78               | 577.62              |
| 17                 | 577.64               | 577.78               | 577.37               | 578.09               | 578.48               | 578.54               | 578.41              | 578.19               | 578.15               | 577.44               | 577.38               | 577.57              |
| 18                 | 577.66               | 577.45               | 577.52               | 578.05               | 578.30               | 578.47               | 578.37              | 578.35               | 577.90               | 577.77               | 577.04               | 577.93              |
| 19                 | 577.48               | 577.15               | 577.51               | 578.26               | 578.33               | 578.49               | 578.37              | 578.34               | 578.22               | 577.77               | 577.27               | 577.55              |
| 20                 | 577.98               | 577.34               | 577.46               | 578.60               | 578.27               | 578.50               | 578.43              | 578.34               | 578.13               | 577.54               | 577.57               | 577.34              |
| 21                 | 577.74               | 577.31               | 577.25               | 578.35               | 578.23               | 578.55               | 578.43              | 578.28               | 577.89               | 577.34               | 577.55               | 577.74              |
| 22                 | 577.28               | 577.73               | 577.14               | 578.26               | 578.23               | 578.56               | 578.33              | 578.24               | 577.70               | 577.41               | 577.51               | 577.57              |
| 23                 | 577.36               | 577.48               | 576.95               | 578.10               | 578.20               | 578.57               | 578.57              | 578.31               | 577.99               | 577.18               | 577.33               | 577.88              |
| 24                 | 577.91               | 577.25               | 577.39               | 578.19               | 578.19               | 578.45               | 578.52              | 578.19               | 577.93               | 577.25               | 577.15               | 577.64              |
| 25                 | 577.71               | 577.48               | 577.55               | 578.11               | 578.28               | 578.42               | 578.54              | 578.09               | 577.67               | 577.35               | 577.75               | 577.71              |
| 26                 | 577.47               | 577.44               | 577.22               | 578.09               | 578.19               | 578.33               | 578.55              | 578.06               | 578.00               | 577.64               | 577.50               | 577.44              |
| 27                 | 577.26               | 577.31               | 577.08               | 578.03               | 578.35               | 578.26               | 578.47              | 578.12               | 578.11               | 577.83               | 576.79               | 577.57              |
| 28                 | 577.55               | 577.27               | 577.68               | 578.04               | 578.37               | 578.43               | 578.44              | 578.12               | 577.75               | 577.46               | 577.58               | 577.58              |
| 29                 | 577.75               |                      | 578.04               | 578.00               | 578.43               | 578.36               | 578.40              | 578.10               | 577.85               | 577.05               | 577.38               | 577.86              |
| 30                 | 577.73               |                      | 577.77               | 577.95               | 578.38               | 578.49               | 578.43              | 578.15               | 577.34               | 577.47               | 577.07               | 577.56              |
| 31                 | 577.67               |                      | 577.49               |                      | 578.46               |                      | 578.44              | 578.48               |                      | 577.64               |                      | 577.46              |
| Mean               | 577.63               | 577.47               | 577.47               | 577.92               | 578.25               | 578.47               | 578.45              | 578.32               | 577.95               | 577.54               | 577.42               | 577.60              |
| Max.<br>Hr.<br>Day | 578.28<br>1700<br>23 | 578.74<br>1400<br>22 | 578.50<br>2000<br>28 | 579.01<br>0200<br>20 | 579.12<br>2100<br>28 | 578.87<br>2000<br>21 | 578.96<br>1000<br>8 | 578.88<br>1900<br>2  | 578.53<br>0200<br>11 | 578.17<br>1100<br>18 | 578.08<br>1000<br>20 | 578.22<br>0500<br>2 |
| Min.<br>Hr.<br>Day | 576.27<br>2300<br>22 | 576.69<br>1900<br>16 | 576.55<br>1500<br>23 | 577.21<br>1300<br>15 | 577.44<br>2300<br>28 | 577.78<br>1900<br>26 | 577.72<br>1300<br>6 | 577.91<br>1000<br>17 | 576.67<br>1300<br>30 | 576.75<br>1500<br>5  | 576.35<br>0500<br>30 | 576.52<br>2400<br>6 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 577.87

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 901-4098 Fort Gratiot, Port Huron, Michigan on St. Clair River

HIGHEST

Monthly mean elevation: 578.80 Jun  
Daily mean elevation: 579.05 20 Apr  
Instant/hourly elevation: 579.67 2100/28 May

LOWEST

Monthly mean elevation: 577.70 Feb  
Daily mean elevation: 577.04 27 Nov  
Instant/hourly elevation: 576.29 2300/22 Jan

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.31 | 578.39 | 578.37 | 579.05 | 578.85 | 579.00 | 578.99 | 578.93 | 578.59 | 578.20 | 578.19 | 578.42 |
| Day | 20 | 15 | 29 | 20 | 17 | 4 | 8 | 4 | 19 | 7 | 16 | 15 |
| Min | 577.39 | 577.32 | 577.13 | 577.74 | 578.23 | 578.55 | 578.60 | 578.35 | 577.65 | 577.32 | 577.04 | 577.41 |
| Day | 27 | 19 | 23 | 4 | 6 | 27 | 4 | 26 | 30 | 29 | 27 | 12 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.00         |     |     |     | 1   |     |     |     |     |     |     |     |     | 579.00         | 1                          |
| 578.80         |     |     |     |     | 1   | 17  | 11  | 6   |     |     |     |     | 578.80         | 36                         |
| 578.60         |     |     |     | 2   | 7   | 11  | 19  | 14  |     |     |     |     | 578.60         | 89                         |
| 578.40         |     |     |     | 3   | 22  | 2   | 1   | 9   | 7   |     |     | 1   | 578.40         | 134                        |
| 578.20         | 2   | 1   | 3   | 9   | 1   |     |     | 2   | 16  |     |     | 4   | 578.20         | 172                        |
| 578.00         | 4   | 2   | 2   | 7   |     |     |     |     | 4   | 9   | 3   | 5   | 578.00         | 208                        |
| 577.80         | 12  | 3   | 6   | 6   |     |     |     |     | 2   | 10  | 11  | 12  | 577.80         | 270                        |
| 577.60         | 8   | 9   | 12  | 2   |     |     |     |     | 1   | 7   | 8   | 7   | 577.60         | 324                        |
| 577.40         | 4   | 12  | 4   |     |     |     |     |     |     | 4   | 4   | 2   | 577.40         | 354                        |
| 577.20         | 1   | 1   | 3   |     |     |     |     |     |     | 1   | 3   |     | 577.20         | 363                        |
| 577.00         |     |     | 1   |     |     |     |     |     |     |     | 1   |     | 577.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 901-4098 Fort Gratiot, Port Huron, Michigan on St. Clair River

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 577.66               | 577.76               | 577.35               | 578.03               | 578.50               | 578.85               | 578.71              | 578.73               | 578.39               | 578.00               | 577.56               | 578.06               |
| 2                  | 578.23               | 577.54               | 577.90               | 578.09               | 578.54               | 578.79               | 578.61              | 578.81               | 578.29               | 577.86               | 577.30               | 578.30               |
| 3                  | 577.90               | 577.53               | 578.30               | 577.84               | 578.59               | 578.98               | 578.67              | 578.78               | 578.22               | 577.99               | 577.97               | 577.92               |
| 4                  | 577.96               | 577.56               | 578.21               | 577.74               | 578.50               | 579.00               | 578.60              | 578.93               | 578.54               | 578.13               | 577.96               | 578.07               |
| 5                  | 577.97               | 577.70               | 577.64               | 577.88               | 578.47               | 578.91               | 578.69              | 578.88               | 578.34               | 577.49               | 577.55               | 577.94               |
| 6                  | 577.92               | 577.69               | 577.41               | 577.76               | 578.23               | 578.87               | 578.68              | 578.77               | 578.35               | 578.01               | 577.78               | 577.72               |
| 7                  | 578.02               | 577.76               | 578.05               | 577.84               | 578.51               | 578.82               | 578.79              | 578.72               | 578.26               | 578.20               | 578.15               | 577.74               |
| 8                  | 577.58               | 577.60               | 577.74               | 578.00               | 578.58               | 578.83               | 578.99              | 578.69               | 578.32               | 577.72               | 578.00               | 577.72               |
| 9                  | 577.73               | 577.71               | 577.50               | 578.04               | 578.47               | 578.74               | 578.90              | 578.85               | 578.01               | 577.87               | 577.81               | 578.06               |
| 10                 | 578.01               | 577.85               | 577.77               | 578.11               | 578.51               | 578.68               | 578.81              | 578.83               | 578.48               | 578.01               | 577.96               | 577.57               |
| 11                 | 577.56               | 578.01               | 577.81               | 578.43               | 578.45               | 578.77               | 578.84              | 578.80               | 578.52               | 577.97               | 577.95               | 577.95               |
| 12                 | 577.94               | 577.58               | 577.71               | 578.18               | 578.56               | 578.89               | 578.79              | 578.72               | 578.29               | 578.17               | 577.80               | 577.41               |
| 13                 | 577.72               | 577.73               | 577.83               | 578.10               | 578.53               | 578.76               | 578.90              | 578.64               | 578.27               | 578.03               | 577.73               | 577.96               |
| 14                 | 577.72               | 577.93               | 577.88               | 577.85               | 578.55               | 578.56               | 578.84              | 578.63               | 578.23               | 577.53               | 577.73               | 577.80               |
| 15                 | 577.86               | 578.39               | 577.76               | 577.85               | 578.52               | 578.72               | 578.76              | 578.51               | 578.15               | 577.84               | 577.73               | 578.42               |
| 16                 | 577.94               | 577.56               | 577.65               | 578.36               | 578.49               | 578.84               | 578.66              | 578.55               | 578.22               | 577.80               | 578.19               | 577.96               |
| 17                 | 577.87               | 577.91               | 577.62               | 578.40               | 578.85               | 578.87               | 578.71              | 578.51               | 578.48               | 577.76               | 577.74               | 577.88               |
| 18                 | 577.89               | 577.60               | 577.79               | 578.40               | 578.66               | 578.81               | 578.69              | 578.70               | 578.21               | 578.14               | 577.34               | 578.34               |
| 19                 | 577.72               | 577.32               | 577.76               | 578.62               | 578.67               | 578.84               | 578.68              | 578.70               | 578.59               | 578.15               | 577.60               | 577.89               |
| 20                 | 578.31               | 577.55               | 577.70               | 579.05               | 578.58               | 578.83               | 578.75              | 578.69               | 578.48               | 577.87               | 577.92               | 577.67               |
| 21                 | 578.01               | 577.53               | 577.50               | 578.71               | 578.54               | 578.89               | 578.75              | 578.61               | 578.22               | 577.62               | 577.90               | 578.09               |
| 22                 | 577.45               | 578.01               | 577.37               | 578.57               | 578.55               | 578.93               | 578.64              | 578.55               | 577.98               | 577.74               | 577.84               | 577.88               |
| 23                 | 577.49               | 577.75               | 577.13               | 578.38               | 578.49               | 578.92               | 578.92              | 578.64               | 578.30               | 577.48               | 577.64               | 578.28               |
| 24                 | 578.10               | 577.49               | 577.66               | 578.50               | 578.50               | 578.76               | 578.85              | 578.51               | 578.29               | 577.54               | 577.42               | 577.99               |
| 25                 | 577.86               | 577.75               | 577.85               | 578.40               | 578.59               | 578.73               | 578.89              | 578.39               | 577.98               | 577.64               | 578.16               | 578.07               |
| 26                 | 577.61               | 577.69               | 577.48               | 578.40               | 578.47               | 578.64               | 578.89              | 578.35               | 578.35               | 578.00               | 577.86               | 577.77               |
| 27                 | 577.39               | 577.56               | 577.32               | 578.32               | 578.63               | 578.55               | 578.83              | 578.42               | 578.48               | 578.19               | 577.04               | 577.93               |
| 28                 | 577.71               | 577.51               | 577.91               | 578.37               | 578.66               | 578.76               | 578.79              | 578.45               | 578.09               | 577.82               | 577.96               | 577.93               |
| 29                 | 577.94               |                      | 578.37               | 578.29               | 578.72               | 578.66               | 578.73              | 578.41               | 578.18               | 577.32               | 577.74               | 578.28               |
| 30                 | 577.89               |                      | 578.07               | 578.19               | 578.69               | 578.82               | 578.76              | 578.46               | 577.65               | 577.74               | 577.36               | 577.92               |
| 31                 | 577.77               |                      | 577.74               |                      | 578.79               |                      | 578.78              | 578.87               |                      | 577.99               |                      | 577.79               |
| Mean               | 577.83               | 577.70               | 577.73               | 578.22               | 578.56               | 578.80               | 578.77              | 578.65               | 578.27               | 577.86               | 577.76               | 577.95               |
| Max.<br>Hr.<br>Day | 578.64<br>1200<br>20 | 579.19<br>1400<br>22 | 578.88<br>2000<br>28 | 579.50<br>0200<br>20 | 579.67<br>2100<br>28 | 579.30<br>1700<br>3  | 579.32<br>1000<br>8 | 579.32<br>1900<br>2  | 578.94<br>0200<br>11 | 578.66<br>2400<br>18 | 578.43<br>0100<br>16 | 578.68<br>1800<br>29 |
| Min.<br>Hr.<br>Day | 576.29<br>2300<br>22 | 576.72<br>1900<br>16 | 576.66<br>1500<br>23 | 577.30<br>1300<br>15 | 577.17<br>2300<br>28 | 578.21<br>0100<br>27 | 577.96<br>1300<br>6 | 578.14<br>1000<br>17 | 576.78<br>1200<br>30 | 576.87<br>1500<br>5  | 576.53<br>1200<br>27 | 576.68<br>0100<br>7  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.18

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5002 Lakeport, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 578.95 Jun  
Daily mean elevation: 579.12 8 Jul  
Instant/hourly elevation: 579.40 1500/8 Jul

LOWEST

Monthly mean elevation: 577.82 Feb  
Daily mean elevation: 577.21 23 Mar  
Instant/hourly elevation: 576.57 2300/22 Jan

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.40 | 578.43 | 578.48 | 579.03 | 578.96 | 579.10 | 579.12 | 579.05 | 578.74 | 578.32 | 578.31 | 578.58 |
| Day | 20     | 15     | 29     | 20     | 17     | 4      | 8      | 4      | 19     | 7      | 16     | 15     |
| Min | 577.52 | 577.45 | 577.21 | 577.88 | 578.43 | 578.73 | 578.76 | 578.67 | 577.98 | 577.48 | 577.25 | 577.66 |
| Day | 27     | 19     | 23     | 6      | 6      | 14     | 4      | 17     | 30     | 29     | 27     | 12     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.00         |     |     |     | 1   |     | 9   | 7   | 1   |     |     |     |     | 579.00         | 18                         |
| 578.80         |     |     |     | 1   | 7   | 18  | 22  | 16  |     |     |     |     | 578.80         | 82                         |
| 578.60         |     |     |     | 3   | 21  | 3   | 2   | 8   | 6   |     |     |     | 578.60         | 125                        |
| 578.40         |     | 1   | 1   | 10  | 3   |     |     |     | 12  |     |     | 3   | 578.40         | 155                        |
| 578.20         | 2   |     | 2   | 5   |     |     |     |     | 9   | 7   | 3   | 5   | 578.20         | 188                        |
| 578.00         | 10  | 3   | 2   | 5   |     |     |     |     | 2   | 8   | 8   | 14  | 578.00         | 240                        |
| 577.80         | 11  | 11  | 14  | 5   |     |     |     |     | 1   | 6   | 10  | 7   | 577.80         | 305                        |
| 577.60         | 7   | 12  | 7   |     |     |     |     |     |     | 5   | 4   | 2   | 577.60         | 342                        |
| 577.40         | 1   | 1   | 4   |     |     |     |     |     |     | 1   | 4   |     | 577.40         | 353                        |
| 577.20         |     |     | 1   |     |     |     |     |     |     |     | 1   |     | 577.20         | 355                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5002 Lakeport, Michigan on Lake Huron

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                 | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------|---------------------|
| 1                  | 577.82               | 577.87               | 577.50               | 578.16               | 578.65               | 578.99               | 578.89              | 578.87               | 578.53               | 578.07*             | 577.72               | 578.22              |
| 2                  | 578.35               | 577.64               | 577.98               | 578.23               | 578.69               | 578.91               | 578.78              | 578.94               | 578.43               | /                   | 577.46               | 578.45              |
| 3                  | 578.02               | 577.66               | 578.29               | 577.96               | 578.76               | 579.08               | 578.83              | 578.94               | 578.38               | /                   | 578.13               | 578.02              |
| 4                  | 578.10               | 577.71               | 578.26               | 577.89               | 578.60               | 579.10               | 578.76              | 579.05               | 578.66               | 578.25*             | 578.12               | 578.18              |
| 5                  | 578.15               | 577.83               | 577.76               | 578.02               | 578.57               | 579.08               | 578.83              | 579.00               | 578.49               | 577.63              | 577.72               | 578.12              |
| 6                  | 578.06               | 577.83               | 577.57               | 577.88               | 578.43               | 579.04               | 578.86              | 578.91               | 578.48               | 578.18              | 577.90               | 577.85              |
| 7                  | 578.16               | 577.87               | 578.17               | 577.99               | 578.68               | 578.98               | 578.85              | 578.87               | 578.41               | 578.32              | 578.30               | 577.90              |
| 8                  | 577.77               | 577.73               | 577.87               | 578.12               | 578.73               | 578.98               | 579.12              | 578.85               | 578.44               | 577.91              | 578.12               | 577.88              |
| 9                  | 577.87               | 577.87               | 577.66               | 578.13               | 578.62               | 578.92               | 579.03              | 578.97               | 578.19               | 578.03              | 577.98               | 578.18              |
| 10                 | 578.18               | 577.99               | 577.90               | 578.24               | 578.68               | 578.89               | 578.95              | 578.98               | 578.60               | 578.17              | 578.09               | 577.77              |
| 11                 | 577.71               | 578.10               | 577.94               | 578.56               | 578.61               | 578.95               | 578.98              | 578.96               | 578.62               | 578.10              | 578.07               | 578.13              |
| 12                 | 577.98               | 577.77               | 577.87               | 578.34               | 578.73               | 579.05               | 578.92              | 578.86               | 578.45               | 578.26              | 577.94               | 577.66              |
| 13                 | 577.83               | 577.88               | 577.94               | 578.25               | 578.65               | 578.88               | 579.05              | 578.78               | 578.41               | 578.22*             | 577.88               | 578.12              |
| 14                 | 577.80               | 578.02               | 578.00               | 578.05               | 578.76               | 578.73               | 579.02              | 578.77               | 578.35               | /                   | 577.86               | 577.93              |
| 15                 | 577.93               | 578.43               | 577.91               | 577.99               | 578.69               | 578.90               | 578.92              | 578.70               | 578.29               | /                   | 577.89               | 578.58              |
| 16                 | 578.00               | 577.66               | 577.80               | 578.49               | 578.62               | 578.99               | 578.84              | 578.69               | 578.40               | 577.88*             | 578.31               | 578.12              |
| 17                 | 578.00               | 577.96               | 577.78               | 578.55               | 578.96               | 579.04               | 578.87              | 578.67               | 578.64               | 577.95              | 577.92               | 578.06              |
| 18                 | 578.08               | 577.66               | 577.92               | 578.51               | 578.79               | 578.94               | 578.87              | 578.81               | 578.39               | 578.23              | 577.53               | 578.47              |
| 19                 | 577.89               | 577.45               | 577.92               | 578.78               | 578.83               | 578.98               | 578.83              | 578.83               | 578.74               | 578.25              | 577.78               | 578.06              |
| 20                 | 578.40               | 577.69               | 577.85               | 579.03               | 578.77               | 578.97               | 578.91              | 578.84               | 578.61               | 578.04              | 578.13               | 577.90              |
| 21                 | 578.09               | 577.71               | 577.67               | 578.81               | 578.72               | 579.01               | 578.90              | 578.75               | 578.38               | 577.79              | 578.09               | 578.27              |
| 22                 | 577.62               | 578.10               | 577.47               | 578.70               | 578.72               | 579.02               | 578.82              | 578.72               | 578.14               | 577.87              | 577.98               | 578.08              |
| 23                 | 577.62               | 577.90               | 577.21               | 578.54               | 578.67               | 579.06               | 579.06              | 578.83               | 578.46               | 577.62              | 577.77               | 578.40              |
| 24                 | 578.17               | 577.64               | 577.78               | 578.64               | 578.70               | 578.92               | 579.00              | 578.73*              | 578.43               | 577.69              | 577.58               | 578.16              |
| 25                 | 577.95               | 577.89               | 577.98               | 578.56               | 578.79               | 578.89               | 579.06              | /                    | 578.34               | 577.80              | 578.30               | 578.23              |
| 26                 | 577.70               | 577.84               | 577.64               | 578.54               | 578.64               | 578.79               | 579.06              | /                    | 578.51               | 578.13              | 578.00               | 577.94              |
| 27                 | 577.52               | 577.70               | 577.53               | 578.52               | 578.83               | 578.77               | 578.96              | /                    | 578.63               | 578.28              | 577.25               | 578.11              |
| 28                 | 577.79               | 577.65               | 577.92               | 578.53               | 578.88               | 578.91               | 578.93              | /                    | 578.24               | 577.94              | 578.10               | 578.08              |
| 29                 | 578.04               |                      | 577.48               | 578.45               | 578.81               | 578.88               | 578.88              | /                    | 578.32               | 577.48              | 577.89               | 578.36              |
| 30                 | 577.96               |                      | 578.18               | 578.33               | 578.86               | 578.96               | 578.91              | /                    | 577.98               | 577.91              | 577.49               | 578.07              |
| 31                 | 577.89               |                      | 577.90               |                      | 578.92               |                      | 578.88              | 578.95*              |                      | 578.13              |                      | 577.94              |
| Mean               | 577.95               | 577.82               | 577.86               | 578.36               | 578.72               | 578.95               | 578.92              | 578.85               | 578.43               | 578.00              | 577.91               | 578.10              |
| Max.<br>Hr.<br>Day | 578.69<br>1400<br>2  | 579.14<br>1400<br>22 | 578.89<br>2000<br>28 | 579.37<br>0200<br>20 | 579.40<br>1500<br>29 | 579.40<br>1300<br>3  | 579.40<br>1500<br>8 | 579.36<br>1900<br>2  | 579.03<br>0100<br>19 | 578.72<br>1000<br>4 | 578.54<br>1000<br>20 | 578.80<br>0500<br>2 |
| Min.<br>Hr.<br>Day | 576.57<br>2300<br>22 | 576.94<br>1900<br>16 | 576.68<br>0300<br>28 | 577.47<br>1600<br>15 | 578.10<br>1700<br>13 | 578.36<br>1900<br>26 | 577.91<br>1300<br>6 | 578.46<br>0600<br>22 | 577.89<br>0900<br>18 | 577.16<br>0900<br>5 | 576.68<br>0700<br>30 | 576.84<br>0100<br>7 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.32



# Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5014 Harbor Beach, Michigan on Lake Huron

## HIGHEST

Monthly mean elevation: 578.87 Jun  
Daily mean elevation: 579.02 23 Jul  
Instant/hourly elevation: 579.36 2300/7 Jul

## LOWEST

Monthly mean elevation: 577.77 Mar  
Daily mean elevation: 577.23 23 Mar  
Instant/hourly elevation: 576.99 1500/23 Mar

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.20 | 578.10 | 578.34 | 578.70 | 578.87 | 578.97 | 579.02 | 578.91 | 578.67 | 578.30 | 578.28 | 578.48 |
| Day | 2      | 15     | 29     | 20     | 31     | 17     | 23     | 4      | 19     | 7      | 25     | 15     |
| Min | 577.63 | 577.45 | 577.23 | 577.87 | 578.39 | 578.68 | 578.66 | 578.40 | 577.82 | 577.54 | 577.51 | 577.79 |
| Day | 11     | 19     | 23     | 4      | 6      | 14     | 2      | 25     | 30     | 29     | 27     | 12     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.00         |     |     |     |     |     |     | 2   |     |     |     |     |     | 579.00         | 2                          |
| 578.80         |     |     |     |     | 2   | 27  | 20  | 8   |     |     |     |     | 578.80         | 59                         |
| 578.60         |     |     |     | 1   | 22  | 3   | 9   | 16  | 2   |     |     |     | 578.60         | 112                        |
| 578.40         |     |     |     | 13  | 6   |     |     | 6   | 10  |     |     | 1   | 578.40         | 148                        |
| 578.20         |     |     | 1   | 4   | 1   |     |     | 1   | 12  | 1   | 2   | 4   | 578.20         | 174                        |
| 578.00         | 9   | 1   | 2   | 7   |     |     |     |     | 5   | 14  | 8   | 15  | 578.00         | 235                        |
| 577.80         | 15  | 8   | 8   | 5   |     |     |     |     | 1   | 11  | 12  | 10  | 577.80         | 305                        |
| 577.60         | 7   | 16  | 14  |     |     |     |     |     |     | 4   | 5   | 1   | 577.60         | 352                        |
| 577.40         |     | 3   | 4   |     |     |     |     |     |     | 1   | 3   |     | 577.40         | 363                        |
| 577.20         |     |     | 2   |     |     |     |     |     |     |     |     |     | 577.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 907-5014 Harbor Beach, Michigan on Lake Huron

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 577.94               | 577.84               | 577.50               | 578.05               | 578.65               | 578.89               | 578.77              | 578.84               | 578.38               | 578.10              | 577.79               | 578.19               |
| 2                  | 578.20               | 577.67               | 577.81               | 578.17               | 578.66               | 578.83               | 578.66              | 578.90               | 578.31               | 578.00              | 577.60               | 578.38               |
| 3                  | 578.01               | 577.68               | 577.98               | 577.93               | 578.65               | 578.92               | 578.73              | 578.84               | 578.32               | 578.02              | 578.19               | 577.99               |
| 4                  | 578.13               | 577.71               | 577.95               | 577.87               | 578.51               | 578.90               | 578.74              | 578.91               | 578.57               | 578.18              | 578.13               | 578.11               |
| 5                  | 578.09               | 577.79               | 577.76               | 577.99               | 578.48               | 578.93               | 578.78              | 578.88               | 578.42               | 577.68              | 577.87               | 578.13               |
| 6                  | 577.96               | 577.77               | 577.56               | 577.95               | 578.39               | 578.93               | 578.79              | 578.80               | 578.40               | 578.18              | 577.97               | 577.88               |
| 7                  | 578.02               | 577.80               | 578.04               | 577.99               | 578.69               | 578.88               | 578.81              | 578.75               | 578.38               | 578.30              | 578.21               | 577.94               |
| 8                  | 577.70               | 577.74               | 577.82               | 578.10               | 578.70               | 578.90               | 578.99              | 578.74               | 578.36               | 578.02              | 578.06               | 577.93               |
| 9                  | 577.84               | 577.83               | 577.67               | 578.15               | 578.54               | 578.86               | 578.98              | 578.81               | 578.18               | 578.00              | 577.96               | 578.12               |
| 10                 | 578.04               | 577.88               | 577.78               | 578.23               | 578.59               | 578.89               | 578.86              | 578.85               | 578.50               | 578.11              | 578.00               | 577.88               |
| 11                 | 577.63               | 577.97               | 577.80               | 578.41               | 578.56               | 578.92               | 578.90              | 578.82               | 578.55               | 578.06              | 577.92               | 578.09               |
| 12                 | 577.83               | 577.75               | 577.75               | 578.21               | 578.68               | 578.96               | 578.83              | 578.75               | 578.32               | 578.13              | 577.92               | 577.79               |
| 13                 | 577.84               | 577.79               | 577.76               | 578.13               | 578.62               | 578.83               | 578.88              | 578.71               | 578.33               | 578.05              | 577.93               | 578.08               |
| 14                 | 577.80               | 577.83               | 577.80               | 578.02               | 578.68               | 578.68               | 578.88              | 578.72               | 578.30               | 577.75              | 577.85               | 577.95               |
| 15                 | 577.86               | 578.10               | 577.80               | 578.09               | 578.62               | 578.89               | 578.84              | 578.69               | 578.26               | 577.94              | 577.85               | 578.48               |
| 16                 | 577.90               | 577.75               | 577.73               | 578.50               | 578.59               | 578.96               | 578.81              | 578.66               | 578.44               | 577.97              | 578.15               | 578.11               |
| 17                 | 577.99               | 577.88               | 577.71               | 578.49               | 578.75               | 578.97               | 578.85              | 578.69               | 578.64               | 577.98              | 577.86               | 578.04               |
| 18                 | 578.07               | 577.63               | 577.77               | 578.41               | 578.67               | 578.86               | 578.85              | 578.77               | 578.42               | 578.09              | 577.53               | 578.34               |
| 19                 | 577.94               | 577.45               | 577.84               | 578.59               | 578.69               | 578.92               | 578.80              | 578.70               | 578.67               | 578.11              | 577.78               | 578.01               |
| 20                 | 578.17               | 577.70               | 577.79               | 578.70               | 578.65               | 578.90               | 578.86              | 578.66               | 578.49               | 577.96              | 578.05               | 577.96               |
| 21                 | 577.92               | 577.70               | 577.58               | 578.60               | 578.65               | 578.91               | 578.84              | 578.65               | 578.31               | 577.85              | 578.01               | 578.24               |
| 22                 | 577.69               | 577.97               | 577.40               | 578.60               | 578.67               | 578.84               | 578.79              | 578.66               | 578.13               | 577.82              | 577.89               | 578.14               |
| 23                 | 577.75               | 577.83               | 577.23               | 578.50               | 578.62               | 578.89               | 579.02              | 578.70               | 578.43               | 577.64              | 577.76               | 578.30               |
| 24                 | 578.10               | 577.59               | 577.74               | 578.54               | 578.70               | 578.81               | 579.01              | 578.51               | 578.35               | 577.75              | 577.72               | 578.14               |
| 25                 | 577.91               | 577.80               | 577.92               | 578.51               | 578.72               | 578.82               | 578.95              | 578.40               | 578.12               | 577.86              | 578.28               | 578.16               |
| 26                 | 577.75               | 577.76               | 577.62               | 578.46               | 578.62               | 578.78               | 578.92              | 578.46               | 578.42               | 578.07              | 578.01               | 577.96               |
| 27                 | 577.66               | 577.66               | 577.55               | 578.42               | 578.79               | 578.76               | 578.85              | 578.54               | 578.56               | 578.10              | 577.51               | 578.05               |
| 28                 | 577.81               | 577.59               | 577.97               | 578.44               | 578.77               | 578.92               | 578.81              | 578.54               | 578.17               | 577.85              | 578.03               | 578.01               |
| 29                 | 577.93               |                      | 578.34               | 578.38               | 578.77               | 578.85               | 578.78              | 578.50               | 578.18               | 577.54              | 577.89               | 578.16               |
| 30                 | 577.86               |                      | 578.09               | 578.38               | 578.82               | 578.81               | 578.83              | 578.55               | 577.82               | 577.88              | 577.63               | 577.98               |
| 31                 | 577.83               |                      | 577.90               |                      | 578.87               |                      | 578.90              | 578.73               |                      | 578.05              |                      | 577.89               |
| Mean               | 577.91               | 577.77               | 577.77               | 578.29               | 578.66               | 578.87               | 578.85              | 578.70               | 578.36               | 577.97              | 577.91               | 578.08               |
| Max.<br>Hr.<br>Day | 578.42<br>0700<br>2  | 578.25<br>1500<br>22 | 578.52<br>0100<br>29 | 578.96<br>0200<br>20 | 579.17<br>0100<br>29 | 579.30<br>2100<br>15 | 579.36<br>2300<br>7 | 579.14<br>1800<br>17 | 578.88<br>0100<br>19 | 578.54<br>1800<br>6 | 578.41<br>1900<br>25 | 578.62<br>0300<br>18 |
| Min.<br>Hr.<br>Day | 577.28<br>2200<br>22 | 577.31<br>0600<br>19 | 576.99<br>1500<br>23 | 577.67<br>2400<br>6  | 578.19<br>0900<br>6  | 578.39<br>0100<br>15 | 578.36<br>2100<br>3 | 578.31<br>0600<br>25 | 577.40<br>1100<br>30 | 577.25<br>0900<br>5 | 577.08<br>0700<br>30 | 577.36<br>2400<br>6  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.26

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5035 Essexville, Michigan on Lake Huron (Saginaw Bay)

HIGHEST

Monthly mean elevation: 578.96 Jun  
Daily mean elevation: 579.83 20 Apr  
Instant/hourly elevation: 580.82 1200/17 May

LOWEST

Monthly mean elevation: 577.66 Nov  
Daily mean elevation: 575.54 2 Nov  
Instant/hourly elevation: 575.20 0400/2 Nov

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.22 | 577.93 | 578.46 | 579.83 | 579.63 | 579.52 | 579.18 | 579.37 | 578.73 | 578.89 | 578.22 | 578.90 |
| Day | 20     | 17     | 13     | 20     | 17     | 21     | 13     | 19     | 11     | 4      | 16     | 2      |
| Min | 577.37 | 577.36 | 577.05 | 577.78 | 577.75 | 578.47 | 578.58 | 578.41 | 577.68 | 576.98 | 575.54 | 577.25 |
| Day | 27     | 16     | 23     | 6      | 6      | 27     | 17     | 26     | 30     | 5      | 2      | 14     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.80         |     |     |     | 1   |     |     |     |     |     |     |     |     | 579.80         | 1                          |
| 579.60         |     |     |     | 1   | 1   |     |     |     |     |     |     |     | 579.60         | 3                          |
| 579.40         |     |     |     |     |     | 2   |     |     |     |     |     |     | 579.40         | 5                          |
| 579.20         |     |     |     |     | 1   | 3   |     | 2   |     |     |     |     | 579.20         | 11                         |
| 579.00         |     |     |     | 1   |     | 5   | 4   | 1   |     |     |     |     | 579.00         | 22                         |
| 578.80         |     |     |     |     | 5   | 13  | 17  | 12  |     | 1   |     | 1   | 578.80         | 71                         |
| 578.60         |     |     |     | 3   | 15  | 5   | 9   | 7   |     |     |     |     | 578.60         | 112                        |
| 578.40         |     |     | 2   | 11  | 6   | 2   | 1   | 9   | 2   |     |     |     | 578.40         | 155                        |
| 578.20         | 2   |     | 1   | 2   | 2   |     |     |     | 10  | 1   |     | 1   | 578.20         | 179                        |
| 578.00         | 3   |     | 5   | 4   |     |     |     |     | 6   | 9   | 5   | 10  | 578.00         | 221                        |
| 577.80         | 14  | 7   | 8   | 6   |     |     |     |     | 2   | 5   | 10  | 7   | 577.80         | 280                        |
| 577.60         | 7   | 12  | 8   | 1   | 1   |     |     |     | 2   | 7   | 6   | 6   | 577.60         | 330                        |
| 577.40         | 3   | 8   | 5   |     |     |     |     |     |     | 3   | 2   | 1   | 577.40         | 352                        |
| 577.20         | 2   | 1   |     |     |     |     |     |     |     |     | 1   | 1   | 577.20         | 357                        |
| 577.00         |     |     | 2   |     |     |     |     |     |     |     |     |     | 577.00         | 359                        |
| 576.80         |     |     |     |     |     |     |     |     |     | 1   | 4   |     | 576.80         | 364                        |
| 576.60         |     |     |     |     |     |     |     |     |     |     |     |     | 576.60         | 364                        |
| 576.40         |     |     |     |     |     |     |     |     |     |     |     |     | 576.40         | 364                        |
| 576.20         |     |     |     |     |     |     |     |     |     |     |     |     | 576.20         | 364                        |
| 576.00         |     |     |     |     |     |     |     |     |     |     |     |     | 576.00         | 364                        |
| 575.80         |     |     |     |     |     |     |     |     |     |     |     |     | 575.80         | 364                        |
| 575.60         |     |     |     |     |     |     |     |     |     |     |     |     | 575.60         | 364                        |
| 575.40         |     |     |     |     |     |     |     |     |     |     | 1   |     | 575.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 907-5035      Essexville, Michigan      on Lake Huron (Saginaw Bay)

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 577.46               | 577.85               | 577.58               | 578.06               | 578.24               | 579.12               | 579.00               | 578.74               | 578.72               | 578.05              | 577.78               | 577.79               |
| 2                  | 578.22               | 577.59               | 578.17               | 578.12               | 578.53               | 578.94               | 578.72               | 578.92               | 578.40               | 577.87              | 575.54               | 578.90               |
| 3                  | 577.86               | 577.52               | 578.41               | 577.90               | 578.73               | 579.21               | 578.83               | 578.93               | 578.23               | 578.14              | 576.99               | 578.49               |
| 4                  | 577.89               | 577.65               | 578.01               | 577.88               | 578.88               | 579.36               | 578.62               | 579.10               | 578.59               | 578.89              | 577.80               | 578.04               |
| 5                  | 578.02               | 577.79               | 577.80               | 577.91               | 578.79               | 579.08               | 578.74               | 578.97               | 578.42               | 576.98              | 577.44               | 578.07               |
| 6                  | 577.90               | 577.75               | 577.47               | 577.78               | 577.75               | 578.97               | 578.73               | 578.88               | 578.42               | 577.70              | 577.30               | 577.84               |
| 7                  | 578.08               | 577.74               | 577.97               | 577.82               | 578.32               | 578.91               | 578.82               | 578.83               | 578.36               | 578.08              | 578.18               | 577.73               |
| 8                  | 577.75               | 577.63               | 577.75               | 578.31               | 578.76               | 578.99               | 579.06               | 578.81               | 578.46               | 577.84              | 577.98               | 577.90               |
| 9                  | 577.75               | 577.77               | 577.66               | 578.70               | 578.66               | 578.83               | 578.95               | 578.97               | 578.08               | 577.84              | 577.72               | 578.12               |
| 10                 | 578.10               | 577.80               | 577.98               | 578.10               | 578.67               | 578.66               | 578.89               | 578.88               | 578.45               | 578.13              | 577.95               | 577.63               |
| 11                 | 577.89               | 577.87               | 578.00               | 578.52               | 578.53               | 578.86               | 578.96               | 578.87               | 578.73               | 578.10              | 578.03               | 578.05               |
| 12                 | 577.81               | 577.58               | 577.94               | 578.60               | 578.70               | 579.16               | 578.84               | 578.79               | 578.44               | 578.36              | 577.90               | 577.72               |
| 13                 | 577.83               | 577.86               | 578.46               | 578.54               | 578.61               | 578.91               | 579.18               | 578.70               | 578.36               | 578.12              | 577.51               | 578.06               |
| 14                 | 577.72               | 577.79               | 578.16               | 578.18               | 578.76               | 578.52               | 578.98               | 578.69               | 578.38               | 577.45              | 577.95               | 577.25               |
| 15                 | 577.87               | 577.90               | 577.81               | 577.95               | 578.63               | 578.74               | 578.84               | 578.58               | 578.20               | 577.65              | 577.79               | 578.14               |
| 16                 | 577.92               | 577.36               | 577.73               | 578.33               | 578.59               | 578.93               | 578.69               | 578.49               | 578.01               | 577.65              | 578.22               | 577.94               |
| 17                 | 577.90               | 577.93               | 577.78               | 578.53               | 579.63               | 579.04               | 578.58               | 578.46               | 578.44               | 577.73              | 577.95               | 577.81               |
| 18                 | 577.90               | 577.75               | 577.80               | 578.52               | 579.37               | 578.91               | 578.78               | 578.80               | 577.86               | 578.13              | 577.61               | 578.37               |
| 19                 | 577.77               | 577.41               | 577.79               | 579.65               | 578.97               | 578.91               | 578.64               | 579.37               | 578.58               | 578.12              | 577.83               | 577.94               |
| 20                 | 578.22               | 577.57               | 577.92               | 579.83               | 578.76               | 578.98               | 578.84               | 578.95               | 578.48               | 577.65              | 578.08               | 577.66               |
| 21                 | 577.95               | 577.62               | 578.03               | 579.09               | 578.64               | 579.52               | 578.81               | 578.63               | 578.29               | 577.57              | 578.04               | 578.11               |
| 22                 | 577.57               | 577.83               | 577.86               | 578.62               | 578.68               | 579.49               | 578.67               | 578.62               | 577.84               | 577.93              | 577.92               | 577.60               |
| 23                 | 577.38               | 577.87               | 577.05               | 578.47               | 578.60               | 579.15               | 578.95               | 578.83               | 578.14               | 577.59              | 577.70               | 578.32               |
| 24                 | 578.00               | 577.57               | 577.59               | 578.77               | 578.60               | 578.90               | 578.82               | 578.83               | 578.33               | 577.73              | 576.93               | 577.98               |
| 25                 | 577.76               | 577.76               | 577.94               | 578.52               | 578.91               | 578.80               | 579.03               | 578.45               | 577.69               | 577.88              | 577.97               | 578.20               |
| 26                 | 577.45               | 577.71               | 577.61               | 578.54               | 578.57               | 578.70               | 579.04               | 578.41               | 578.10               | 578.31              | 577.87               | 577.76               |
| 27                 | 577.37               | 577.57               | 577.51               | 578.55               | 578.74               | 578.47               | 578.93               | 578.48               | 578.47               | 578.45              | 576.81               | 578.07               |
| 28                 | 577.64               | 577.60               | 577.20               | 578.53               | 578.87               | 578.72               | 578.92               | 578.51               | 578.06               | 578.31              | 577.98               | 578.10               |
| 29                 | 577.96               |                      | 578.40               | 578.52               | 578.75               | 578.91               | 578.96               | 578.51               | 578.36               | 577.68              | 578.10               | 578.29               |
| 30                 | 577.81               |                      | 578.04               | 577.90               | 578.76               | 579.22               | 578.83               | 578.51               | 577.68               | 578.14              | 576.98               | 578.27               |
| 31                 | 577.61               |                      | 577.55               |                      | 578.90               |                      | 578.71               | 579.33               |                      | 578.34              |                      | 577.93               |
| Mean               | 577.82               | 577.70               | 577.84               | 578.42               | 578.71               | 578.96               | 578.85               | 578.77               | 578.29               | 577.95              | 577.66               | 578.00               |
| Max.<br>Hr.<br>Day | 578.80<br>1200<br>20 | 578.34<br>0800<br>17 | 579.14<br>1900<br>2  | 580.72<br>2400<br>19 | 580.82<br>1200<br>17 | 580.34<br>1300<br>3  | 579.61<br>1800<br>13 | 580.19<br>1000<br>31 | 579.18<br>1100<br>29 | 579.34<br>1300<br>4 | 578.58<br>2400<br>16 | 580.18<br>0300<br>3  |
| Min.<br>Hr.<br>Day | 576.70<br>1400<br>28 | 576.60<br>2100<br>16 | 575.83<br>0600<br>28 | 577.04<br>1900<br>15 | 577.00<br>1200<br>6  | 578.00<br>0900<br>27 | 577.93<br>1100<br>17 | 578.15<br>0500<br>17 | 577.05<br>1900<br>25 | 575.65<br>1400<br>5 | 575.20<br>0400<br>2  | 575.81<br>1700<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean    578.25

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5059 Harrisville, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 578.76 Jul  
Daily mean elevation: 578.90 24 Jul  
Instant/hourly elevation: 579.26 1000/17 Jul

LOWEST

Monthly mean elevation: 577.64 Feb  
Daily mean elevation: 577.25 23 Mar  
Instant/hourly elevation: 576.86 1200/23 Mar

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.04 | 577.77 | 578.10 | 578.46 | 578.77 | 578.85 | 578.90 | 578.77 | 578.48 | 578.15 | 578.16 | 578.26 |
| Day | 2 | 17 | 29 | 22 | 31 | 17 | 24 | 1 | 17 | 7 | 3 | 15 |
| Min | 577.62 | 577.44 | 577.25 | 577.83 | 578.35 | 578.61 | 578.57 | 578.36 | 577.85 | 577.58 | 577.61 | 577.81 |
| Day | 11 | 19 | 23 | 4 | 5 | 30 | 2 | 25 | 30 | 29 | 18 | 31 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.80         |     |     |     |     |     | 7   | 8   |     |     |     |     |     | 578.80         | 15                         |
| 578.60         |     |     |     |     | 8   | 23  | 22  | 14  |     |     |     |     | 578.60         | 82                         |
| 578.40         |     |     |     | 5   | 21  |     | 1   | 14  | 2   |     |     |     | 578.40         | 125                        |
| 578.20         |     |     |     | 9   | 2   |     |     | 3   | 21  |     |     |     | 578.20         | 162                        |
| 578.00         | 1   |     | 1   | 6   |     |     |     |     | 6   | 4   | 4   | 8   | 578.00         | 192                        |
| 577.80         | 12  |     | 4   | 8   |     |     |     |     | 1   | 20  | 15  | 21  | 577.80         | 273                        |
| 577.60         | 18  | 19  | 14  |     |     |     |     |     |     | 6   | 11  |     | 577.60         | 341                        |
| 577.40         |     | 9   | 10  |     |     |     |     |     |     | 1   |     |     | 577.40         | 361                        |
| 577.20         |     |     | 2   |     |     |     |     |     |     |     |     |     | 577.20         | 363                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5059 Harrisville, Michigan on Lake Huron

| Day                | Jan                 | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 577.92              | 577.76               | 577.46               | 577.92               | 578.61               | 578.74               | 578.66               | 578.77               | 578.29               | 578.01              | 577.74               | 578.10               |
| 2                  | 578.04              | 577.60               | 577.59               | 578.02               | 578.53               | 578.73               | 578.57               | 578.75               | 578.26               | 577.95              | 577.70               | 578.24               |
| 3                  | 577.88              | 577.67               | 577.67               | 577.86               | 578.53               | 578.80               | 578.67               | 578.70               | 578.22               | 577.99              | 578.16               | 577.91               |
| 4                  | 577.99              | 577.71               | 577.69               | 577.83               | 578.36               | 578.77               | 578.67               | 578.75               | 578.40               | 578.11              | 578.06               | 577.90               |
| 5                  | 577.94              | 577.67               | 577.69               | 577.92               | 578.35               | 578.80               | 578.71               | 578.73               | 578.32               | 577.72              | 577.86               | 578.05               |
| 6                  | 577.77              | 577.64               | 577.54               | 577.98               | 578.41               | 578.80               | 578.71               | 578.67               | 578.29               | 578.02              | 577.91               | 577.85               |
| 7                  | 577.87              | 577.66               | 577.74               | 577.98               | 578.61               | 578.80               | 578.77               | 578.60               | 578.27               | 578.15              | 578.06               | 577.99               |
| 8                  | 577.64              | 577.74               | 577.74               | 578.02               | 578.56               | 578.81               | 578.90               | 578.61               | 578.25               | 577.98              | 577.92               | 577.88               |
| 9                  | 577.66              | 577.69               | 577.63               | 578.01               | 578.43               | 578.78               | 578.89               | 578.62               | 578.14               | 577.96              | 577.90               | 577.97               |
| 10                 | 577.90              | 577.66               | 577.64               | 578.02               | 578.47               | 578.82               | 578.79               | 578.67               | 578.30               | 578.00              | 577.92               | 577.91               |
| 11                 | 577.62              | 577.73               | 577.64               | 578.24               | 578.49               | 578.81               | 578.79               | 578.67               | 578.38               | 577.96              | 577.78               | 578.06               |
| 12                 | 577.64              | 577.67               | 577.60               | 578.05               | 578.56               | 578.85               | 578.73               | 578.64               | 578.24               | 577.93              | 577.82               | 577.85               |
| 13                 | 577.81              | 577.67               | 577.57               | 577.97               | 578.50               | 578.71               | 578.73               | 578.61               | 578.22               | 577.93              | 577.96               | 577.94               |
| 14                 | 577.80              | 577.55               | 577.59               | 577.94               | 578.59               | 578.65               | 578.77               | 578.64               | 578.22               | 577.82              | 577.84               | 577.85               |
| 15                 | 577.78              | 577.59               | 577.64               | 578.06               | 578.52               | 578.79               | 578.76               | 578.59               | 578.26               | 577.87              | 577.78               | 578.26               |
| 16                 | 577.75              | 577.68               | 577.63               | 578.43               | 578.53               | 578.83               | 578.75               | 578.58               | 578.32               | 577.93              | 577.95               | 577.99               |
| 17                 | 577.88              | 577.77               | 577.58               | 578.39               | 578.61               | 578.85               | 578.81               | 578.57               | 578.48               | 577.96              | 577.77               | 577.91               |
| 18                 | 577.98              | 577.53               | 577.58               | 578.30               | 578.51               | 578.78               | 578.74               | 578.66               | 578.27               | 577.88              | 577.61               | 578.10               |
| 19                 | 577.93              | 577.44               | 577.72               | 578.34               | 578.54               | 578.79               | 578.74               | 578.58               | 578.41               | 577.90              | 577.76               | 577.94               |
| 20                 | 577.95              | 577.64               | 577.65               | 578.39               | 578.53               | 578.79               | 578.74               | 578.55               | 578.31               | 577.89              | 577.89               | 577.95               |
| 21                 | 577.71              | 577.59               | 577.47               | 578.39               | 578.56               | 578.72               | 578.75               | 578.53               | 578.23               | 577.85              | 577.88               | 578.13               |
| 22                 | 577.70              | 577.67               | 577.33               | 578.46               | 578.54               | 578.70               | 578.77               | 578.54               | 578.16               | 577.76              | 577.82               | 578.20               |
| 23                 | 577.76              | 577.72               | 577.25               | 578.41               | 578.56               | 578.77               | 578.88               | 578.54               | 578.24               | 577.64              | 577.77               | 578.08               |
| 24                 | 577.94              | 577.49               | 577.63               | 578.40               | 578.60               | 578.72               | 578.90               | 578.41               | 578.16               | 577.74              | 577.73               | 577.97               |
| 25                 | 577.79              | 577.61               | 577.83               | 578.42               | 578.57               | 578.71               | 578.82               | 578.36               | 578.03               | 577.82              | 578.06               | 578.02               |
| 26                 | 577.72              | 577.62               | 577.59               | 578.32               | 578.57               | 578.71               | 578.81               | 578.40               | 578.21               | 577.94              | 577.93               | 577.90               |
| 27                 | 577.70              | 577.57               | 577.65               | 578.28*              | 578.70               | 578.71               | 578.76               | 578.45               | 578.32               | 577.92              | 577.62               | 577.93               |
| 28                 | 577.74              | 577.51               | 577.93               | /                    | 578.68               | 578.82               | 578.68               | 578.45               | 578.09               | 577.80              | 577.95               | 577.91               |
| 29                 | 577.79              |                      | 578.10               | /                    | 578.67               | 578.68               | 578.71               | 578.40               | 578.06               | 577.58              | 577.84               | 577.94               |
| 30                 | 577.70              |                      | 577.97               | 578.42*              | 578.73               | 578.61               | 578.71               | 578.42               | 577.85               | 577.78              | 577.64               | 577.86               |
| 31                 | 577.67              |                      | 577.89               |                      | 578.77               |                      | 578.83               | 578.51               |                      | 577.94              |                      | 577.81               |
| Mean               | 577.81              | 577.64               | 577.65               | 578.17               | 578.55               | 578.76               | 578.76               | 578.58               | 578.24               | 577.89              | 577.85               | 577.98               |
| Max.<br>Hr.<br>Day | 578.19<br>0300<br>2 | 577.98<br>0700<br>1  | 578.45<br>1900<br>28 | 578.67<br>0200<br>20 | 579.07<br>2300<br>28 | 579.04<br>1000<br>3  | 579.26<br>1000<br>17 | 578.95<br>1600<br>2  | 578.61<br>0300<br>11 | 578.30<br>0800<br>4 | 578.27<br>1900<br>3  | 578.47<br>1000<br>15 |
| Min.<br>Hr.<br>Day | 577.40<br>2300<br>8 | 577.21<br>1100<br>19 | 576.86<br>1200<br>23 | 577.70<br>0300<br>15 | 578.15<br>1300<br>6  | 578.36<br>1800<br>29 | 578.35<br>2400<br>1  | 578.24<br>0700<br>25 | 577.69<br>1000<br>30 | 577.41<br>1500<br>5 | 577.26<br>1500<br>27 | 577.44<br>2200<br>12 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.16

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5080 Mackinaw City, Michigan on Straits of Mackinac

HIGHEST

Monthly mean elevation: 578.80 Jun  
Daily mean elevation: 578.97 27 Jun  
Instant/hourly elevation: 579.32 1100/15 Jun

LOWEST

Monthly mean elevation: 577.59 Feb  
Daily mean elevation: 577.17 15 Feb  
Instant/hourly elevation: 576.93 2100/22 Feb

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.07 | 577.80 | 578.03 | 578.67 | 578.79 | 578.97 | 578.87 | 578.74 | 578.50 | 578.24 | 578.53 | 578.16 |
| Day | 22     | 3      | 31     | 30     | 30     | 27     | 22     | 1      | 16     | 5      | 2      | 22     |
| Min | 577.54 | 577.17 | 577.36 | 577.83 | 578.42 | 578.69 | 578.64 | 578.32 | 577.87 | 577.77 | 577.76 | 577.80 |
| Day | 31     | 15     | 2      | 1      | 4      | 21     | 29     | 31     | 29     | 18     | 16     | 23     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.80         |     |     |     |     |     | 11  | 11  |     |     |     |     |     | 578.80         | 22                         |
| 578.60         |     |     |     | 1   | 10  | 19  | 20  | 6   |     |     |     |     | 578.60         | 78                         |
| 578.40         |     |     |     | 3   | 21  |     |     | 24  | 3   |     | 1   |     | 578.40         | 130                        |
| 578.20         |     |     |     | 13  |     |     |     | 1   | 18  | 1   | 2   |     | 578.20         | 165                        |
| 578.00         | 2   |     | 1   | 6   |     |     |     |     | 6   | 9   | 4   | 8   | 578.00         | 201                        |
| 577.80         | 10  |     | 4   | 7   |     |     |     |     | 3   | 20  | 20  | 22  | 577.80         | 287                        |
| 577.60         | 17  | 14  | 15  |     |     |     |     |     |     | 1   | 3   | 1   | 577.60         | 338                        |
| 577.40         | 2   | 11  | 10  |     |     |     |     |     |     |     |     |     | 577.40         | 361                        |
| 577.20         |     | 2   | 1   |     |     |     |     |     |     |     |     |     | 577.20         | 364                        |
| 577.00         |     | 1   |     |     |     |     |     |     |     |     |     |     | 577.00         | 365                        |

## Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5080 Mackinaw City, Michigan on Straits of Mackinac

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 578.06               | 577.79               | 577.59               | 577.83               | 578.61               | 578.76               | 578.74               | 578.74               | 578.43               | 578.03               | 578.24               | 578.01              |
| 2                  | 577.77               | 577.70               | 577.36               | 577.92               | 578.47               | 578.79               | 578.80               | 578.62               | 578.40               | 577.98               | 578.53               | 577.88              |
| 3                  | 577.83               | 577.80               | 577.46               | 577.96               | 578.44               | 578.76               | 578.84               | 578.65               | 578.39               | 577.90               | 578.25               | 577.88              |
| 4                  | 577.94               | 577.76               | 577.52               | 577.97               | 578.42               | 578.74               | 578.85               | 578.62               | 578.36               | 577.82               | 577.98               | 577.82              |
| 5                  | 577.80               | 577.64               | 577.74               | 578.03               | 578.45               | 578.75               | 578.87               | 578.60               | 578.35               | 578.24               | 578.16               | 577.92              |
| 6                  | 577.70               | 577.64               | 577.66               | 578.05               | 578.70               | 578.77               | 578.86               | 578.56               | 578.29               | 578.04               | 577.94               | 578.07              |
| 7                  | 577.75               | 577.62               | 577.46               | 578.07               | 578.58               | 578.80               | 578.87               | 578.55               | 578.32               | 578.03               | 577.91               | 577.97              |
| 8                  | 577.85               | 577.72               | 577.74               | 577.95               | 578.48               | 578.80               | 578.79               | 578.55               | 578.26               | 578.09               | 577.96               | 577.92              |
| 9                  | 577.71               | 577.59               | 577.68               | 577.91               | 578.54               | 578.85               | 578.85               | 578.52               | 578.37               | 578.01               | 578.13               | 577.89              |
| 10                 | 577.75               | 577.49               | 577.67               | 577.91               | 578.55               | 578.88               | 578.79               | 578.53               | 578.23               | 577.93               | 577.84               | 578.10              |
| 11                 | 577.74               | 577.53               | 577.57               | 578.03               | 578.56               | 578.82               | 578.76               | 578.52               | 578.24               | 577.92               | 577.77               | 577.98              |
| 12                 | 577.68               | 577.64               | 577.54               | 578.03               | 578.53               | 578.77               | 578.76               | 578.54               | 578.28               | 577.85               | 577.87               | 578.04              |
| 13                 | 577.98               | 577.58               | 577.44               | 578.04               | 578.54               | 578.79               | 578.70               | 578.56               | 578.27               | 577.92               | 577.99               | 577.91              |
| 14                 | 577.91               | 577.33               | 577.52               | 578.28               | 578.56               | 578.87               | 578.72               | 578.58               | 578.30               | 578.11               | 577.85               | 577.98              |
| 15                 | 577.78               | 577.17               | 577.61               | 578.25               | 578.55               | 578.88               | 578.78               | 578.60               | 578.39               | 577.95               | 577.79               | 577.92              |
| 16                 | 577.72               | 577.72               | 577.61               | 578.40               | 578.57               | 578.81               | 578.86               | 578.65               | 578.50               | 578.18               | 577.76               | 578.02              |
| 17                 | 577.81               | 577.55               | 577.62               | 578.32               | 578.52               | 578.79               | 578.83               | 578.64               | 578.35               | 578.17               | 577.85               | 577.97              |
| 18                 | 577.83               | 577.59               | 577.59               | 578.30               | 578.55               | 578.82               | 578.78               | 578.56               | 578.44               | 577.77               | 577.96               | 577.87              |
| 19                 | 578.00               | 577.63               | 577.67               | 578.22               | 578.54               | 578.81               | 578.80               | 578.46               | 578.19               | 577.84               | 577.89               | 578.06              |
| 20                 | 577.57               | 577.68               | 577.62               | 578.28               | 578.58               | 578.79               | 578.75               | 578.50               | 578.15               | 577.96               | 577.81               | 578.14              |
| 21                 | 577.67               | 577.67               | 577.61               | 578.30               | 578.60               | 578.69               | 578.75               | 578.56               | 578.25               | 578.00               | 577.97               | 577.99              |
| 22                 | 578.07               | 577.33               | 577.50               | 578.36               | 578.59               | 578.74               | 578.87               | 578.47               | 578.35               | 577.83               | 577.91               | 578.16              |
| 23                 | 577.80               | 577.62               | 577.74               | 578.38               | 578.65               | 578.75               | 578.81               | 578.46               | 578.14               | 577.94               | 577.96               | 577.80              |
| 24                 | 577.78               | 577.56               | 577.75               | 578.38               | 578.67               | 578.78               | 578.82               | 578.48               | 578.06               | 577.96               | 577.84               | 577.92              |
| 25                 | 577.74               | 577.49               | 577.75               | 578.43               | 578.57               | 578.78               | 578.74               | 578.51               | 578.31               | 577.91               | 577.81               | 577.94              |
| 26                 | 577.85               | 577.58               | 577.81               | 578.38               | 578.78               | 578.83               | 578.73               | 578.56               | 577.93               | 577.84               | 577.92               | 577.96              |
| 27                 | 577.87               | 577.58               | 577.97               | 578.39               | 578.75               | 578.97               | 578.70               | 578.54               | 577.94               | 577.86               | 578.07               | 577.88              |
| 28                 | 577.69               | 577.59               | 577.83               | 578.46               | 578.76               | 578.83               | 578.65               | 578.47               | 578.07               | 577.99               | 577.83               | 577.90              |
| 29                 | 577.67               |                      | 577.75               | 578.46               | 578.79               | 578.78               | 578.64               | 578.48               | 577.87               | 578.14               | 577.88               | 577.82              |
| 30                 | 577.68               |                      | 577.91               | 578.67               | 578.79               | 578.71               | 578.70               | 578.46               | 578.06               | 577.91               | 578.03               | 577.89              |
| 31                 | 577.54               |                      | 578.03               |                      | 578.77               |                      | 578.80               | 578.32               |                      | 577.94               |                      | 577.88              |
| Mean               | 577.79               | 577.59               | 577.66               | 578.20               | 578.60               | 578.80               | 578.78               | 578.54               | 578.25               | 577.97               | 577.96               | 577.95              |
| Max.<br>Hr.<br>Day | 578.61<br>2200<br>22 | 578.07<br>1700<br>16 | 578.40<br>2400<br>27 | 578.84<br>2100<br>30 | 579.25<br>1100<br>29 | 579.32<br>1100<br>15 | 579.09<br>0800<br>22 | 579.00<br>0500<br>17 | 578.77<br>0200<br>18 | 578.53<br>0900<br>5  | 578.87<br>2200<br>1  | 578.64<br>2400<br>6 |
| Min.<br>Hr.<br>Day | 577.01<br>1500<br>28 | 576.93<br>2100<br>22 | 577.05<br>0400<br>7  | 577.54<br>1500<br>9  | 578.23<br>1800<br>4  | 578.48<br>1900<br>21 | 578.51<br>0200<br>29 | 578.18<br>2000<br>31 | 577.74<br>1800<br>30 | 577.51<br>0200<br>22 | 577.50<br>1200<br>30 | 577.45<br>0100<br>9 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.17



Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5099 De Tour Village, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 578.69 Jun  
Daily mean elevation: 578.83 27 Jun  
Instant/hourly elevation: 579.03 2000/29 May

LOWEST

Monthly mean elevation: 577.55 Feb  
Daily mean elevation: 577.08 15 Feb  
Instant/hourly elevation: 576.89 0500/7 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.07 | 577.80 | 578.01 | 578.44 | 578.73 | 578.83 | 578.79 | 578.65 | 578.40 | 578.18 | 578.33 | 578.17 |
| Day | 1      | 1      | 31     | 30     | 31     | 27     | 6      | 1      | 17     | 17     | 3      | 22     |
| Min | 577.40 | 577.08 | 577.28 | 577.69 | 578.25 | 578.53 | 578.47 | 578.27 | 577.84 | 577.71 | 577.65 | 577.63 |
| Day | 12     | 15     | 22     | 10     | 4      | 30     | 29     | 31     | 29     | 18     | 11     | 3      |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.80         |     |     |     |     |     | 2   |     |     |     |     |     |     | 578.80         | 2                          |
| 578.60         |     |     |     |     | 6   | 25  | 22  | 1   |     |     |     |     | 578.60         | 56                         |
| 578.40         |     |     |     | 1   | 21  | 3   | 9   | 20  |     |     |     |     | 578.40         | 110                        |
| 578.20         |     |     |     | 12  | 4   |     |     | 10  | 13  |     | 1   |     | 578.20         | 150                        |
| 578.00         | 2   |     | 1   | 4   |     |     |     |     | 13  | 4   | 3   | 4   | 578.00         | 181                        |
| 577.80         | 11  |     | 2   | 10  |     |     |     |     | 4   | 18  | 17  | 22  | 577.80         | 265                        |
| 577.60         | 12  | 10  | 8   | 3   |     |     |     |     |     | 9   | 9   | 5   | 577.60         | 321                        |
| 577.40         | 5   | 15  | 12  |     |     |     |     |     |     |     |     |     | 577.40         | 353                        |
| 577.20         | 1   | 2   | 8   |     |     |     |     |     |     |     |     |     | 577.20         | 364                        |
| 577.00         |     | 1   |     |     |     |     |     |     |     |     |     |     | 577.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-5099 De Tour Village, Michigan on Lake Huron

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 578.07               | 577.80               | 577.50               | 577.78               | 578.59               | 578.68               | 578.63               | 578.65               | 578.22               | 577.95               | 577.93               | 577.90              |
| 2                  | 577.85               | 577.63               | 577.28               | 577.96               | 578.43               | 578.67               | 578.58               | 578.60               | 578.27               | 577.88               | 577.97               | 578.00              |
| 3                  | 577.78               | 577.77               | 577.31               | 577.92               | 578.41               | 578.69               | 578.70               | 578.52               | 578.27               | 577.81               | 578.33               | 577.63              |
| 4                  | 578.00               | 577.75               | 577.40               | 577.85               | 578.25               | 578.63               | 578.70               | 578.49               | 578.29               | 577.79               | 578.08               | 577.66              |
| 5                  | 577.91               | 577.59               | 577.74               | 577.93               | 578.29               | 578.67               | 578.74               | 578.50               | 578.29               | 577.84               | 578.09               | 577.98              |
| 6                  | 577.63               | 577.57               | 577.57               | 578.00               | 578.44               | 578.71               | 578.79               | 578.49               | 578.20               | 577.95               | 577.85               | 577.89              |
| 7                  | 577.72               | 577.57               | 577.37               | 577.99               | 578.56               | 578.73               | 578.74               | 578.44               | 578.22               | 578.03               | 577.97               | 577.93              |
| 8                  | 577.78               | 577.71               | 577.73               | 577.94               | 578.50               | 578.72               | 578.62               | 578.45               | 578.19               | 578.04               | 577.88               | 577.90              |
| 9                  | 577.58               | 577.58               | 577.58               | 577.78               | 578.37               | 578.76               | 578.76               | 578.39               | 578.23               | 577.91               | 578.02               | 577.84              |
| 10                 | 577.79               | 577.49               | 577.54               | 577.69               | 578.43               | 578.81               | 578.68               | 578.44               | 578.12               | 577.90               | 577.91               | 578.00              |
| 11                 | 577.54               | 577.53               | 577.51               | 578.07               | 578.47               | 578.75               | 578.66               | 578.45               | 578.20               | 577.85               | 577.65               | 578.00              |
| 12                 | 577.40               | 577.64               | 577.45               | 577.96               | 578.50               | 578.68               | 578.63               | 578.45               | 578.15               | 577.74               | 577.78               | 578.01              |
| 13                 | 577.89               | 577.54               | 577.33               | 577.86               | 578.48               | 578.68               | 578.56               | 578.47               | 578.15               | 577.83               | 577.92               | 577.82              |
| 14                 | 577.89               | 577.23               | 577.38               | 578.01               | 578.51               | 578.72               | 578.60               | 578.50               | 578.22               | 578.00               | 577.88               | 577.82              |
| 15                 | 577.74               | 577.08               | 577.54               | 577.96               | 578.50               | 578.77               | 578.67               | 578.50               | 578.26               | 577.86               | 577.66               | 578.04              |
| 16                 | 577.60               | 577.69               | 577.58               | 578.38               | 578.48               | 578.72               | 578.70               | 578.54               | 578.31               | 578.04               | 577.74               | 578.00              |
| 17                 | 577.79               | 577.60               | 577.55               | 578.31               | 578.44               | 578.74               | 578.76               | 578.54               | 578.40               | 578.18               | 577.83               | 577.90              |
| 18                 | 577.86               | 577.50               | 577.46               | 578.24               | 578.34               | 578.69               | 578.67               | 578.50               | 578.20               | 577.71               | 577.78               | 577.92              |
| 19                 | 578.01               | 577.44               | 577.65               | 578.12               | 578.42               | 578.70               | 578.68               | 578.30               | 578.22               | 577.78               | 577.78               | 577.93              |
| 20                 | 577.65               | 577.66               | 577.62               | 578.12               | 578.49               | 578.71               | 578.66               | 578.40               | 578.08               | 577.92               | 577.74               | 578.12              |
| 21                 | 577.53               | 577.62               | 577.47               | 578.21               | 578.53               | 578.55               | 578.62               | 578.47               | 578.12               | 577.92               | 577.94               | 577.99              |
| 22                 | 577.95               | 577.30               | 577.28               | 578.32               | 578.52               | 578.53               | 578.74               | 578.40               | 578.22               | 577.80               | 577.84               | 578.17              |
| 23                 | 577.88               | 577.66               | 577.37               | 578.36               | 578.55               | 578.64               | 578.71               | 578.38               | 578.07               | 577.76               | 577.82               | 577.87              |
| 24                 | 577.83               | 577.44               | 577.53               | 578.28               | 578.60               | 578.67               | 578.77               | 578.33               | 578.08               | 577.88               | 577.74               | 577.86              |
| 25                 | 577.78               | 577.42               | 577.78               | 578.40               | 578.51               | 578.66               | 578.60               | 578.40               | 578.12               | 577.80               | 577.81               | 577.95              |
| 26                 | 577.87               | 577.54               | 577.73               | 578.28               | 578.64               | 578.71               | 578.59               | 578.48               | 577.88               | 577.82               | 577.93               | 577.90              |
| 27                 | 577.94               | 577.51               | 577.79               | 578.24               | 578.69               | 578.83               | 578.58               | 578.50               | 578.06               | 577.74               | 577.94               | 577.86              |
| 28                 | 577.71               | 577.57               | 577.79               | 578.27               | 578.69               | 578.79               | 578.53               | 578.43               | 577.95               | 577.81               | 577.83               | 577.84              |
| 29                 | 577.69               |                      | 577.87               | 578.31               | 578.64               | 578.67               | 578.47               | 578.39               | 577.84               | 577.83               | 577.86               | 577.72              |
| 30                 | 577.61               |                      | 577.88               | 578.44               | 578.73               | 578.53               | 578.53               | 578.38               | 577.89               | 577.72               | 577.71               | 577.76              |
| 31                 | 577.51               |                      | 578.01               |                      | 578.73               |                      | 578.75               | 578.27               |                      | 577.84               |                      | 577.80              |
| Mean               | 577.77               | 577.55               | 577.57               | 578.10               | 578.51               | 578.69               | 578.66               | 578.45               | 578.16               | 577.87               | 577.87               | 577.90              |
| Max.<br>Hr.<br>Day | 578.41<br>2300<br>22 | 577.97<br>1900<br>1  | 578.38<br>1700<br>28 | 578.67<br>1900<br>30 | 579.03<br>2000<br>29 | 578.97<br>2200<br>27 | 579.00<br>1300<br>6  | 578.73<br>1100<br>1  | 578.51<br>0100<br>18 | 578.34<br>1100<br>17 | 578.43<br>1700<br>3  | 578.45<br>2300<br>6 |
| Min.<br>Hr.<br>Day | 577.16<br>1700<br>28 | 576.94<br>2200<br>14 | 576.89<br>0500<br>7  | 577.42<br>1000<br>10 | 578.09<br>1800<br>4  | 578.42<br>0200<br>30 | 578.39<br>0800<br>30 | 578.17<br>1700<br>31 | 577.59<br>1700<br>30 | 577.51<br>0200<br>27 | 577.20<br>1400<br>30 | 577.20<br>0100<br>9 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.09

Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 907-6060 US Slip, Sault St Marie, Michigan below locks on St Marys R

HIGHEST

Monthly mean elevation: 579.69 Aug  
Daily mean elevation: 580.58 22 Aug  
Instant/hourly elevation: 580.84 0900/21 Aug

LOWEST

Monthly mean elevation: 578.78 Mar  
Daily mean elevation: 578.08 24 Mar  
Instant/hourly elevation: 577.75 1500/16 Nov

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 579.67 | 579.27 | 579.40 | 579.34 | 579.75 | 579.80 | 579.82 | 580.58 | 579.42 | 579.45 | 579.36 | 579.41 |
| Day | 5      | 4      | 6      | 23     | 26     | 29     | 6      | 22     | 3      | 29     | 1      | 20     |
| Min | 578.83 | 578.47 | 578.08 | 578.28 | 578.90 | 579.47 | 579.32 | 578.71 | 578.39 | 578.43 | 578.23 | 578.59 |
| Day | 20     | 24     | 24     | 10     | 2      | 16     | 30     | 31     | 29     | 12     | 16     | 1      |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 580.40         |     |     |     |     |     |     |     | 4   |     |     |     |     | 580.40         | 4                          |
| 580.20         |     |     |     |     |     |     |     | 3   |     |     |     |     | 580.20         | 4                          |
| 580.00         |     |     |     |     |     |     |     | 3   |     |     |     |     | 580.00         | 7                          |
| 579.80         |     |     |     |     |     |     | 1   | 3   |     |     |     |     | 579.80         | 11                         |
| 579.60         | 3   |     |     |     | 5   | 16  | 22  | 2   |     |     |     |     | 579.60         | 59                         |
| 579.40         | 12  |     |     |     | 19  | 14  | 7   | 12  |     | 1   |     | 1   | 579.40         | 127                        |
| 579.20         | 8   | 3   | 1   | 11  | 3   |     | 1   | 6   | 11  | 1   | 5   | 11  | 579.20         | 188                        |
| 579.00         | 2   | 11  | 4   | 12  | 3   |     |     |     | 8   | 8   | 8   | 14  | 579.00         | 258                        |
| 578.80         | 6   | 3   | 12  | 5   | 1   |     |     |     | 5   | 11  | 8   | 4   | 578.80         | 313                        |
| 578.60         |     | 8   | 7   | 1   |     |     |     | 1   | 1   | 5   | 6   |     | 578.60         | 342                        |
| 578.40         |     | 3   | 3   |     |     |     |     |     | 2   | 5   | 2   | 1   | 578.40         | 358                        |
| 578.20         |     |     | 2   | 1   |     |     |     |     | 1   |     | 1   |     | 578.20         | 363                        |
| 578.00         |     |     | 2   |     |     |     |     |     |     |     |     |     | 578.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 907-6060 US Slip, Sault St Marie, Michigan below locks on St Marys R

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 579.14 | 579.20 | 579.04 | 579.01 | 579.30 | 579.59 | 579.73 | 579.50 | 579.33 | 578.94 | 579.36 | 578.59 |
| 2    | 579.50 | 578.74 | 578.54 | 579.04 | 578.90 | 579.61 | 579.66 | 579.57 | 579.42 | 578.89 | 579.27 | 579.00 |
| 3    | 579.59 | 578.74 | 578.37 | 579.08 | 579.04 | 579.57 | 579.72 | 579.56 | 579.42 | 578.74 | 579.22 | 578.92 |
| 4    | 579.40 | 579.27 | 578.90 | 579.15 | 579.07 | 579.48 | 579.76 | 579.43 | 579.32 | 578.78 | 579.15 | 578.85 |
| 5    | 579.67 | 579.13 | 579.18 | 579.16 | 579.16 | 579.51 | 579.69 | 579.49 | 579.39 | 578.66 | 579.25 | 579.16 |
| 6    | 578.89 | 579.17 | 579.40 | 579.24 | 579.32 | 579.54 | 579.82 | 579.55 | 579.28 | 578.48 | 579.09 | 579.23 |
| 7    | 579.37 | 579.19 | 579.08 | 579.28 | 579.26 | 579.60 | 579.68 | 579.45 | 579.33 | 578.87 | 579.06 | 579.38 |
| 8    | 579.30 | 579.26 | 579.16 | 578.97 | 579.45 | 579.58 | 579.43 | 579.48 | 579.30 | 579.10 | 578.98 | 579.28 |
| 9    | 579.49 | 578.69 | 578.65 | 578.72 | 579.49 | 579.64 | 579.69 | 579.40 | 579.33 | 578.88 | 579.10 | 579.02 |
| 10   | 579.52 | 578.54 | 578.46 | 578.28 | 579.52 | 579.68 | 579.62 | 579.34 | 578.88 | 578.86 | 578.83 | 579.31 |
| 11   | 579.33 | 579.05 | 578.99 | 578.89 | 579.55 | 579.64 | 579.62 | 579.39 | 579.10 | 578.85 | 578.73 | 579.29 |
| 12   | 578.85 | 579.17 | 578.93 | 578.97 | 579.52 | 579.49 | 579.69 | 579.48 | 579.12 | 578.43 | 578.82 | 579.40 |
| 13   | 579.22 | 579.18 | 578.82 | 578.89 | 579.44 | 579.68 | 579.54 | 579.46 | 579.13 | 578.50 | 579.02 | 579.10 |
| 14   | 579.64 | 579.06 | 578.78 | 579.28 | 579.53 | 579.73 | 579.56 | 579.56 | 579.03 | 579.09 | 579.01 | 579.22 |
| 15   | 579.64 | 578.80 | 578.91 | 579.08 | 579.52 | 579.66 | 579.66 | 579.64 | 579.03 | 578.86 | 578.71 | 579.17 |
| 16   | 579.55 | 578.65 | 578.57 | 579.26 | 579.53 | 579.47 | 579.74 | 579.78 | 579.37 | 579.14 | 578.23 | 579.29 |
| 17   | 579.49 | 578.59 | 578.22 | 579.27 | 579.48 | 579.64 | 579.68 | 579.92 | 579.26 | 579.30 | 578.78 | 579.23 |
| 18   | 579.59 | 578.94 | 578.66 | 579.25 | 579.47 | 579.67 | 579.68 | 579.89 | 579.27 | 578.70 | 579.12 | 579.22 |
| 19   | 579.18 | 579.01 | 578.89 | 579.05 | 579.48 | 579.60 | 579.71 | 580.08 | 579.12 | 578.50 | 578.85 | 579.18 |
| 20   | 578.83 | 579.07 | 578.86 | 578.92 | 579.54 | 579.61 | 579.68 | 580.45 | 578.96 | 578.81 | 578.75 | 579.41 |
| 21   | 579.21 | 579.26 | 578.77 | 579.08 | 579.49 | 579.56 | 579.64 | 580.57 | 578.81 | 579.12 | 579.03 | 579.17 |
| 22   | 579.46 | 579.17 | 578.63 | 579.07 | 579.47 | 579.50 | 579.80 | 580.58 | 578.96 | 579.10 | 578.97 | 579.31 |
| 23   | 579.59 | 578.65 | 578.14 | 579.34 | 579.48 | 579.60 | 579.48 | 580.50 | 578.83 | 579.07 | 578.64 | 579.07 |
| 24   | 579.46 | 578.47 | 578.08 | 579.21 | 579.59 | 579.67 | 579.73 | 580.20 | 579.01 | 579.09 | 578.42 | 579.14 |
| 25   | 579.36 | 578.73 | 578.78 | 579.30 | 579.53 | 579.67 | 579.57 | 580.01 | 579.21 | 578.96 | 578.43 | 579.12 |
| 26   | 578.92 | 578.99 | 578.91 | 579.01 | 579.75 | 579.66 | 579.58 | 579.84 | 578.52 | 578.87 | 578.96 | 579.18 |
| 27   | 578.98 | 578.81 | 578.88 | 579.03 | 579.64 | 579.76 | 579.62 | 579.58 | 578.78 | 578.53 | 579.25 | 579.10 |
| 28   | 579.43 | 578.78 | 578.99 | 579.27 | 579.71 | 579.65 | 579.63 | 579.40 | 578.56 | 579.15 | 578.72 | 579.05 |
| 29   | 579.58 |        | 578.84 | 579.29 | 579.62 | 579.80 | 579.54 | 579.38 | 578.39 | 579.45 | 578.95 | 578.94 |
| 30   | 579.26 |        | 578.79 | 579.12 | 579.64 | 579.58 | 579.32 | 579.28 | 579.01 | 578.85 | 578.97 | 579.01 |
| 31   | 578.94 |        | 578.87 |        | 579.53 |        | 579.69 | 578.71 |        | 578.71 |        | 579.04 |
| Mean | 579.33 | 578.94 | 578.78 | 579.08 | 579.45 | 579.61 | 579.64 | 579.69 | 579.08 | 578.88 | 578.92 | 579.14 |
| Max. | 580.11 | 579.73 | 579.78 | 579.60 | 580.11 | 580.06 | 580.07 | 580.84 | 579.81 | 579.72 | 579.83 | 579.84 |
| Hr.  | 1400   | 1400   | 1500   | 1300   | 1400   | 1300   | 1600   | 0900   | 1700   | 1500   | 2200   | 0200   |
| Day  | 28     | 1      | 6      | 23     | 26     | 29     | 22     | 21     | 16     | 29     | 1      | 7      |
| Min. | 578.61 | 578.29 | 577.90 | 577.92 | 578.48 | 579.23 | 579.19 | 578.50 | 578.11 | 578.24 | 577.75 | 578.08 |
| Hr.  | 1500   | 0600   | 2000   | 1600   | 1700   | 1800   | 1600   | 0900   | 1700   | 0200   | 1500   | 0200   |
| Day  | 6      | 15     | 23     | 10     | 2      | 16     | 23     | 31     | 26     | 7      | 16     | 2      |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 579.21

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 907-6070 SW Pier, Sault St Marie, Michigan above locks, St Marys R

HIGHEST

Monthly mean elevation: 600.52 Nov  
Daily mean elevation: 601.53 26 Sep  
Instant/hourly elevation: 603.37 1100/30 Nov

LOWEST

Monthly mean elevation: 599.39 Mar  
Daily mean elevation: 599.08 5 Mar  
Instant/hourly elevation: 597.55 0853/29 May

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 600.04 | 599.85 | 600.10 | 600.10 | 600.27 | 600.36 | 600.85 | 600.79 | 601.53 | 601.00 | 601.22 | 601.10 |
| Day | 6      | 10     | 28     | 10     | 7      | 16     | 23     | 4      | 26     | 6      | 6      | 1      |
| Min | 599.32 | 599.26 | 599.08 | 599.16 | 599.79 | 599.91 | 600.09 | 600.05 | 600.13 | 599.67 | 599.91 | 600.12 |
| Day | 8      | 18     | 5      | 14     | 5      | 26     | 1      | 24     | 2      | 29     | 1      | 31     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 601.40         |     |     |     |     |     |     |     |     | 1   |     |     |     | 601.40         | 1                          |
| 601.20         |     |     |     |     |     |     |     |     |     |     | 1   |     | 601.20         | 2                          |
| 601.00         |     |     |     |     |     |     |     |     |     |     |     | 1   | 601.00         | 3                          |
| 600.80         |     |     |     |     |     |     | 1   |     | 4   | 1   | 5   |     | 600.80         | 14                         |
| 600.60         |     |     |     |     |     |     | 6   | 10  | 2   | 5   | 4   | 7   | 600.60         | 48                         |
| 600.40         |     |     |     |     |     |     | 16  | 13  | 9   | 7   | 9   | 11  | 600.40         | 113                        |
| 600.20         |     |     |     |     | 1   | 16  | 6   | 5   | 9   | 13  | 8   | 9   | 600.20         | 180                        |
| 600.00         | 2   |     | 1   | 1   | 12  | 11  | 2   | 3   | 5   | 2   | 1   | 3   | 600.00         | 223                        |
| 599.80         | 8   | 1   | 1   | 6   | 17  | 3   |     |     |     | 2   | 2   |     | 599.80         | 263                        |
| 599.60         | 14  | 6   | 2   | 12  | 1   |     |     |     |     | 1   |     |     | 599.60         | 299                        |
| 599.40         | 4   | 15  | 8   | 6   |     |     |     |     |     |     |     |     | 599.40         | 332                        |
| 599.20         | 3   | 6   | 13  | 3   |     |     |     |     |     |     |     |     | 599.20         | 357                        |
| 599.00         |     |     | 6   | 2   |     |     |     |     |     |     |     |     | 599.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 907-6070 SW Pier, Sault St Marie, Michigan above locks, St Marys R

International  
Great Lakes  
Datum (1955)

| Day                | Jan                 | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 600.00              | 599.35               | 599.25               | 599.68               | 600.02               | 600.13               | 600.09               | 600.68               | 600.19               | 600.33               | 599.91               | 601.10              |
| 2                  | 599.94              | 599.54               | 599.67               | 599.35               | 600.17               | 600.17               | 600.19               | 600.62               | 600.13               | 600.37               | 600.50               | 600.49              |
| 3                  | 599.98              | 599.53               | 599.45               | 599.20               | 600.09               | 600.21               | 600.24               | 600.71               | 600.38               | 600.49               | 600.88               | 600.48              |
| 4                  | 599.93              | 599.53               | 599.39               | 599.24               | 599.84               | 600.23               | 600.33               | 600.79               | 600.44               | 600.29               | 600.75               | 600.76              |
| 5                  | 599.72              | 599.61               | 599.08               | 599.38               | 599.79               | 600.28               | 600.41               | 600.62               | 600.38               | 600.71               | 600.33               | 600.33              |
| 6                  | 600.04              | 599.43               | 599.53               | 599.41               | 599.86               | 600.25               | 600.34               | 600.58               | 600.38               | 601.00               | 601.22               | 600.14              |
| 7                  | 599.60              | 599.48               | 599.43               | 599.53               | 600.27               | 600.17               | 600.40               | 600.59               | 600.33               | 600.63               | 600.83               | 600.62              |
| 8                  | 599.32              | 599.53               | 599.23               | 599.67               | 599.98               | 600.19               | 600.60               | 600.66               | 600.20               | 600.34               | 600.51               | 600.52              |
| 9                  | 599.94              | 599.74               | 599.45               | 599.70               | 599.89               | 600.06               | 600.49               | 600.66               | 600.24               | 600.59               | 600.38               | 600.53              |
| 10                 | 599.53              | 599.85               | 599.48               | 600.10               | 599.89               | 600.16               | 600.55               | 600.65               | 600.78               | 600.54               | 600.53               | 600.43              |
| 11                 | 599.40              | 599.61               | 599.18               | 599.61               | 599.89               | 600.25               | 600.46               | 600.63               | 600.43               | 600.36               | 600.48               | 600.50              |
| 12                 | 599.76              | 599.52               | 599.25               | 599.42               | 600.02               | 600.29               | 600.46               | 600.59               | 600.30               | 600.52               | 600.36               | 600.27              |
| 13                 | 599.50              | 599.42               | 599.34               | 599.52               | 599.94               | 599.98               | 600.62               | 600.59               | 600.49               | 600.28               | 600.44               | 600.54              |
| 14                 | 599.63              | 599.69               | 599.35               | 599.16               | 600.05               | 599.99               | 600.53               | 600.54               | 600.18               | 600.19               | 600.26               | 600.79              |
| 15                 | 599.61              | 599.68               | 599.29               | 599.74               | 599.93               | 600.22               | 600.39               | 600.47               | 600.44               | 600.62               | 600.66               | 600.62              |
| 16                 | 599.65              | 599.60               | 599.35               | 599.93               | 599.99               | 600.36               | 600.35               | 600.35               | 600.58               | 600.16               | 600.64               | 600.38              |
| 17                 | 599.80              | 599.48               | 599.39               | 599.88               | 600.08               | 600.24               | 600.44               | 600.61               | 600.56               | 600.29               | 600.20               | 600.72              |
| 18                 | 599.73              | 599.26               | 599.35               | 599.76               | 599.97               | 600.11               | 600.42               | 600.56               | 600.96               | 600.67               | 600.00               | 600.58              |
| 19                 | 599.76              | 599.43               | 599.37               | 599.83               | 600.00               | 600.28               | 600.54               | 600.45               | 600.82               | 600.52               | 600.47               | 600.39              |
| 20                 | 599.82              | 599.34               | 599.17               | 599.85               | 599.92               | 600.22               | 600.46               | 600.26               | 600.61               | 600.35               | 600.52               | 600.35              |
| 21                 | 599.61              | 599.41               | 599.12               | 599.88               | 599.91               | 600.28               | 600.57               | 600.17               | 600.40               | 600.38               | 600.28               | 600.61              |
| 22                 | 599.40              | 599.61               | 599.10               | 599.88               | 599.88               | 600.27               | 600.50               | 600.44               | 600.27               | 599.89               | 600.44               | 600.50              |
| 23                 | 600.01              | 599.36               | 599.24               | 599.79               | 599.87               | 600.24               | 600.85               | 600.22               | 600.95               | 600.24               | 600.39               | 600.72              |
| 24                 | 599.82              | 599.59               | 599.66               | 599.75               | 600.04               | 600.12               | 600.73               | 600.05               | 600.47               | 600.22               | 600.96               | 600.58              |
| 25                 | 599.80              | 599.52               | 599.32               | 599.65               | 600.04               | 600.11               | 600.68               | 600.14               | 600.46               | 600.54               | 600.90               | 600.22              |
| 26                 | 599.79              | 599.37               | 599.15               | 599.69               | 599.90               | 599.91               | 600.62               | 600.27               | 601.53               | 600.36               | 600.30               | 600.44              |
| 27                 | 599.76              | 599.43               | 599.53               | 599.54               | 600.08               | 600.14               | 600.59               | 600.40               | 600.81               | 600.35               | 600.45               | 600.30              |
| 28                 | 599.79              | 599.30               | 600.10               | 599.62               | 600.03               | 600.31               | 600.55               | 600.46               | 600.58               | 599.82               | 600.74               | 600.31              |
| 29                 | 599.68              |                      | 599.83               | 599.51               | 599.88               | 600.10               | 600.61               | 600.42               | 600.37               | 599.67               | 600.26               | 600.39              |
| 30                 | 599.52              |                      | 599.55               | 599.73               | 600.13               | 600.28               | 600.66               | 600.58               | 600.17               | 600.64               | 600.99               | 600.16              |
| 31                 | 599.86              |                      | 599.48               |                      | 600.20               |                      | 600.56               | 600.57               |                      | 600.44               |                      | 600.12              |
| Mean               | 599.73              | 599.51               | 599.39               | 599.63               | 599.99               | 600.18               | 600.49               | 600.49               | 600.49               | 600.38               | 600.52               | 600.48              |
| Max.<br>Hr.<br>Day | 601.10<br>2300<br>1 | 600.11<br>2400<br>14 | 601.19<br>0400<br>28 | 600.51<br>1200<br>10 | 602.50<br>1048<br>29 | 601.60<br>1300<br>27 | 601.30<br>1500<br>17 | 601.05<br>1600<br>3  | 602.17<br>1600<br>26 | 601.45<br>1900<br>6  | 603.37<br>1100<br>30 | 602.32<br>1900<br>1 |
| Min.<br>Hr.<br>Day | 598.78<br>1000<br>8 | 598.88<br>1700<br>1  | 598.11<br>0100<br>6  | 598.47<br>1500<br>14 | 597.55<br>0853<br>29 | 598.70<br>1500<br>27 | 599.06<br>1100<br>1  | 599.60<br>1200<br>16 | 599.07<br>0700<br>30 | 599.06<br>0100<br>29 | 599.46<br>0700<br>1  | 599.53<br>1900<br>6 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 600.11

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 908-7023 Ludington, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 579.13 Jun  
Daily mean elevation: 579.32 14 Jun  
Instant/hourly elevation: 579.70 2100/7 Jul

LOWEST

Monthly mean elevation: 577.94 Feb  
Daily mean elevation: 577.75 15 Feb  
Instant/hourly elevation: 577.54 1600/4 Jan

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.46 | 578.16 | 578.69 | 579.06 | 579.20 | 579.32 | 579.30 | 578.97 | 578.80 | 578.75 | 578.67 | 578.42 |
| Day | 11 | 19 | 23 | 29 | 31 | 14 | 4 | 19 | 9 | 5 | 1 | 6 |
| Min | 577.78 | 577.75 | 577.92 | 578.14 | 578.66 | 578.96 | 578.85 | 578.72 | 577.91 | 578.06 | 577.96 | 577.93 |
| Day | 4 | 15 | 19 | 2 | 1 | 28 | 31 | 31 | 27 | 17 | 7 | 15 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.20         |     |     |     |     |     | 6   | 7   |     |     |     |     |     | 579.20         | 13                         |
| 579.00         |     |     |     | 2   | 14  | 23  | 13  |     |     |     |     |     | 579.00         | 65                         |
| 578.80         |     |     |     | 7   | 13  | 1   | 11  | 19  |     |     |     |     | 578.80         | 116                        |
| 578.60         |     |     | 1   | 9   | 4   |     |     | 12  | 11  | 2   | 2   |     | 578.60         | 157                        |
| 578.40         | 1   |     | 3   | 4   |     |     |     | 8   | 8   | 2   | 1   | 2   | 578.40         | 178                        |
| 578.20         | 3   |     | 3   | 6   |     |     |     |     | 8   | 19  | 9   | 14  | 578.20         | 240                        |
| 578.00         | 13  | 6   | 18  | 2   |     |     |     |     | 2   | 8   | 15  | 13  | 578.00         | 317                        |
| 577.80         | 13  | 20  | 6   |     |     |     |     |     | 1   |     | 3   | 2   | 577.80         | 362                        |
| 577.60         | 1   | 2   |     |     |     |     |     |     |     |     |     |     | 577.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 908-7023 Ludington, Michigan on Lake Michigan

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                 | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 578.01               | 577.94               | 578.12               | 578.16               | 578.66               | 579.20               | 579.23              | 578.88              | 578.78               | 578.23               | 578.67               | 578.05               |
| 2                  | 577.90               | 578.02               | 578.11               | 578.14               | 578.76               | 579.28               | 579.29              | 578.94              | 578.68               | 578.26               | 578.64               | 577.99               |
| 3                  | 578.01               | 577.91               | 578.16               | 578.34               | 578.69               | 579.17               | 579.26              | 578.97              | 578.71               | 578.32               | 578.00               | 578.40               |
| 4                  | 577.78               | 577.97               | 578.02               | 578.39               | 578.95               | 579.20               | 579.30              | 578.92              | 578.61               | 578.35               | 578.10               | 578.26               |
| 5                  | 578.00               | 577.99               | 578.00               | 578.30               | 578.99               | 579.10               | 579.23              | 578.84              | 578.60               | 578.75               | 578.27               | 578.16               |
| 6                  | 578.14               | 578.04               | 578.16               | 578.36               | 579.02               | 579.13               | 579.21              | 578.93              | 578.63               | 578.22               | 578.10               | 578.42               |
| 7                  | 578.12               | 578.03               | 577.94               | 578.29               | 578.80               | 579.11               | 579.14              | 578.93              | 578.68               | 578.06               | 577.96               | 578.17               |
| 8                  | 578.18               | 577.92               | 577.92               | 578.42               | 578.81               | 579.08               | 579.10              | 578.85              | 578.63               | 578.30               | 578.17               | 578.31               |
| 9                  | 578.19               | 577.98               | 578.20               | 578.72               | 579.00               | 579.08               | 579.02              | 578.93              | 578.80               | 578.34               | 578.08               | 578.16               |
| 10                 | 577.98               | 577.92               | 578.09               | 578.56               | 578.98               | 579.03               | 579.08              | 578.82              | 578.52               | 578.26               | 578.08               | 578.18               |
| 11                 | 578.46               | 577.80               | 578.06               | 578.40               | 578.90               | 579.09               | 579.05              | 578.81              | 578.57               | 578.30               | 578.27               | 578.07               |
| 12                 | 578.29               | 577.90               | 578.07               | 578.50               | 578.84               | 579.10               | 579.11              | 578.86              | 578.63               | 578.31               | 578.15               | 578.41               |
| 13                 | 578.20               | 577.87               | 578.11               | 578.69               | 578.94               | 579.14               | 579.10              | 578.79              | 578.60               | 578.24               | 578.06               | 578.33               |
| 14                 | 578.18               | 578.00               | 578.12               | 578.76               | 578.89               | 579.32               | 579.03              | 578.78              | 578.58               | 578.40               | 578.20               | 578.38               |
| 15                 | 578.11               | 577.75               | 578.03               | 578.90               | 578.93               | 579.13               | 578.99              | 578.80              | 578.66               | 578.20               | 578.29               | 577.93               |
| 16                 | 578.25               | 577.82               | 578.01               | 578.59               | 578.94               | 579.12               | 578.95              | 578.81              | 578.61               | 578.11               | 578.07               | 578.27               |
| 17                 | 578.05               | 577.87               | 577.98               | 578.64               | 579.04               | 579.06               | 578.95              | 578.92              | 578.36               | 578.06               | 578.20               | 578.31               |
| 18                 | 577.95               | 578.07               | 578.16               | 578.74               | 579.10               | 579.11               | 578.99              | 578.86              | 578.52               | 578.09               | 578.37               | 578.16               |
| 19                 | 577.96               | 578.16               | 577.92               | 578.84               | 579.03               | 579.06               | 579.02              | 578.97              | 578.28               | 578.07               | 578.38               | 578.25               |
| 20                 | 578.00               | 577.93               | 578.02               | 578.87               | 579.02               | 579.06               | 579.09              | 578.88              | 578.30               | 578.12               | 578.18               | 578.12               |
| 21                 | 578.24               | 577.95               | 578.43               | 578.75               | 578.99               | 579.22               | 579.21              | 578.79              | 578.35               | 578.13               | 578.18               | 578.07               |
| 22                 | 578.13               | 577.86               | 578.46               | 578.70               | 578.98               | 579.24               | 579.18              | 578.78              | 578.44               | 578.25               | 578.19               | 578.04               |
| 23                 | 578.03               | 577.84               | 578.69               | 578.83               | 579.04               | 579.10               | 579.04              | 578.80              | 578.22               | 578.36               | 578.38               | 578.13               |
| 24                 | 577.93               | 578.08               | 578.30               | 578.80               | 579.04               | 579.10               | 578.96              | 578.90              | 578.28               | 578.26               | 578.40               | 578.27               |
| 25                 | 577.92               | 577.95               | 578.06               | 578.77               | 579.06               | 579.06               | 578.96              | 578.90              | 578.45               | 578.30               | 577.98               | 578.12               |
| 26                 | 577.99               | 577.89               | 578.36               | 578.88               | 579.18               | 579.10               | 578.95              | 578.79              | 578.06               | 578.32               | 578.11               | 578.27               |
| 27                 | 577.92               | 577.96               | 578.54               | 579.02               | 579.10               | 579.04               | 578.93              | 578.76              | 577.91               | 578.33               | 578.37               | 578.21               |
| 28                 | 577.96               | 577.97               | 578.03               | 578.97               | 579.16               | 578.96               | 578.90              | 578.76              | 578.12               | 578.50               | 578.04               | 578.20               |
| 29                 | 577.96               |                      | 577.93               | 579.06               | 579.20               | 579.24               | 579.02              | 578.80              | 578.25               | 578.71               | 578.28               | 578.31               |
| 30                 | 578.06               |                      | 578.14               | 578.98               | 579.18               | 579.26               | 578.95              | 578.73              | 578.38               | 578.52               | 578.46               | 578.30               |
| 31                 | 578.00               |                      | 578.24               |                      | 579.20               |                      | 578.85              | 578.72              |                      | 578.33               |                      | 578.31               |
| Mean               | 578.06               | 577.94               | 578.14               | 578.65               | 578.98               | 579.13               | 579.07              | 578.85              | 578.47               | 578.29               | 578.22               | 578.21               |
| Max.<br>Hr.<br>Day | 579.00<br>1700<br>11 | 578.39<br>0800<br>19 | 579.08<br>2100<br>27 | 579.40<br>0400<br>15 | 579.53<br>2000<br>31 | 579.63<br>0500<br>15 | 579.70<br>2100<br>7 | 579.25<br>1800<br>3 | 578.99<br>1200<br>9  | 579.03<br>0700<br>5  | 579.22<br>1900<br>1  | 578.97<br>2400<br>12 |
| Min.<br>Hr.<br>Day | 577.54<br>1600<br>4  | 577.60<br>1100<br>22 | 577.59<br>0300<br>29 | 577.96<br>1800<br>1  | 578.34<br>1400<br>3  | 578.73<br>2000<br>15 | 578.16<br>1800<br>7 | 578.45<br>1300<br>8 | 577.75<br>0500<br>27 | 577.66<br>1400<br>18 | 577.78<br>1900<br>28 | 577.64<br>1000<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.50



International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 908-7031 Holland, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 579.02 Jun  
Daily mean elevation: 579.22 30 Jun  
Instant/hourly elevation: 579.47 0500/2 Jul

LOWEST

Monthly mean elevation: 577.86 Feb  
Daily mean elevation: 577.68 16 Feb  
Instant/hourly elevation: 577.43 2000/22 Jan

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.41 | 578.23 | 578.50 | 578.87 | 579.05 | 579.22 | 579.17 | 578.97 | 578.68 | 578.66 | 578.34 | 578.50 |
| Day | 11     | 14     | 23     | 15     | 31     | 30     | 4      | 19     | 1      | 5      | 1      | 14     |
| Min | 577.73 | 577.68 | 577.80 | 577.98 | 578.48 | 578.75 | 578.71 | 578.56 | 577.86 | 577.73 | 577.72 | 577.79 |
| Day | 4      | 16     | 8      | 2      | 1      | 27     | 31     | 30     | 27     | 17     | 9      | 22     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.20         |     |     |     |     |     | 1   |     |     |     |     |     |     | 579.20         | 1                          |
| 579.00         |     |     |     |     | 5   | 16  | 13  |     |     |     |     |     | 579.00         | 35                         |
| 578.80         |     |     |     | 5   | 12  | 11  | 16  | 12  |     |     |     |     | 578.80         | 91                         |
| 578.60         |     |     |     | 11  | 9   | 2   | 2   | 17  | 1   | 1   |     |     | 578.60         | 134                        |
| 578.40         | 1   |     | 3   | 4   | 3   |     |     | 2   | 14  | 2   |     | 1   | 578.40         | 164                        |
| 578.20         | 4   | 1   | 3   | 4   |     |     |     |     | 7   | 8   | 5   | 6   | 578.20         | 202                        |
| 578.00         | 6   | 2   | 10  | 5   |     |     |     |     | 7   | 14  | 10  | 17  | 578.00         | 273                        |
| 577.80         | 15  | 16  | 14  | 1   |     |     |     |     | 1   | 4   | 13  | 6   | 577.80         | 343                        |
| 577.60         | 5   | 9   | 1   |     |     |     |     |     |     | 2   | 2   | 1   | 577.60         | 363                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 908-7031 Holland, Michigan on Lake Michigan

| Day                | Jan                  | Feb                  | Mar                 | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| 1                  | 577.80               | 577.83               | 577.93              | 578.16               | 578.48               | 579.14               | 579.12               | 578.83               | 578.68               | 578.03               | 578.34              | 577.89               |
| 2                  | 577.98               | 577.86               | 578.44              | 577.98               | 578.60               | 579.18               | 579.17               | 578.88               | 578.56               | 578.17               | 578.21              | 577.91               |
| 3                  | 577.93               | 577.68               | 578.25              | 578.14               | 578.60*              | 579.14               | 579.12               | 578.96               | 578.57               | 578.28               | 577.80              | 578.38               |
| 4                  | 577.73               | 577.75               | 577.98              | 578.24               | /                    | 579.13               | 579.17               | 578.87               | 578.44               | 578.33               | 577.94              | 578.27               |
| 5                  | 577.97               | 577.91               | 577.81              | 578.08               | /                    | 579.08               | 579.09               | 578.79               | 578.49               | 578.66               | 577.89              | 578.14               |
| 6                  | 578.18               | 577.91               | 578.19              | 578.06               | 578.80*              | 579.06               | 579.03               | 578.81               | 578.53               | 578.26               | 578.02              | 578.16               |
| 7                  | 578.01               | 577.88               | 577.88              | 578.08               | 578.66               | 579.04               | 579.13               | 578.85               | 578.55               | 578.02               | 577.86              | 578.01               |
| 8                  | 578.11               | 577.75               | 577.80              | 578.27               | 578.76               | 578.99               | 579.03               | 578.85               | 578.56               | 578.08               | 577.91              | 578.18               |
| 9                  | 578.16               | 577.87               | 578.17              | 578.69               | 578.91               | 578.95               | 578.87               | 578.85               | 578.54               | 578.19               | 577.72              | 578.07               |
| 10                 | 577.95               | 577.88               | 578.00              | 578.53               | 578.85               | 578.84               | 578.98               | 578.77               | 578.52               | 578.11               | 577.93              | 578.03               |
| 11                 | 578.41               | 577.79               | 577.94              | 578.31               | 578.77               | 578.96               | 578.95               | 578.77               | 578.44               | 578.17               | 578.14              | 577.99               |
| 12                 | 578.35               | 577.72               | 577.98              | 578.52               | 578.71               | 579.06               | 579.03               | 578.82               | 578.51               | 578.26               | 577.99              | 578.15               |
| 13                 | 577.92               | 577.90               | 578.13              | 578.61               | 578.76               | 579.06               | 579.11               | 578.78               | 578.51               | 578.06               | 577.82              | 578.22               |
| 14                 | 578.04               | 578.23               | 578.07              | 578.70               | 578.75               | 579.08               | 578.99               | 578.72               | 578.43               | 578.17               | 577.98              | 578.50               |
| 15                 | 578.12               | 578.13               | 577.93              | 578.87               | 578.80               | 578.96               | 578.93               | 578.74               | 578.49               | 578.12               | 578.22              | 578.00               |
| 16                 | 578.24               | 577.68               | 577.93              | 578.40               | 578.81               | 578.98               | 578.83               | 578.72               | 578.40               | 577.81               | 578.00              | 578.13               |
| 17                 | 578.00               | 577.82               | 577.99              | 578.52               | 579.00               | 578.95               | 578.79               | 578.71               | 578.17               | 577.73               | 578.02              | 578.31               |
| 18                 | 577.83               | 577.90               | 578.01              | 578.64               | 579.02               | 579.02               | 578.90               | 578.83               | 578.37               | 578.03               | 578.18              | 578.15               |
| 19                 | 577.80               | 577.97               | 577.81              | 578.82               | 578.97               | 578.95               | 578.90               | 578.97               | 578.21               | 577.92               | 578.16              | 578.06               |
| 20                 | 578.25               | 577.77               | 577.95              | 578.84               | 578.92               | 578.94               | 578.92               | 578.76               | 578.28               | 577.79               | 578.07              | 577.93               |
| 21                 | 578.26               | 577.83               | 578.20              | 578.70               | 578.87               | 579.17               | 579.07               | 578.65               | 578.26               | 577.86               | 577.93              | 577.92               |
| 22                 | 577.81               | 577.87               | 578.43              | 578.56               | 578.86               | 579.19               | 579.02               | 578.77               | 578.21               | 578.02               | 578.08              | 577.79               |
| 23                 | 577.95               | 577.70               | 578.50              | 578.66               | 578.84               | 579.01               | 578.90               | 578.76               | 578.08               | 578.02               | 578.12              | 578.08               |
| 24                 | 577.91               | 578.01               | 578.24              | 578.67               | 578.80               | 579.02               | 578.81               | 578.84               | 578.19               | 577.98               | 578.31              | 578.11               |
| 25                 | 577.89               | 577.89               | 577.99              | 578.62               | 578.93               | 578.99               | 578.97               | 578.77               | 578.24               | 578.20               | 577.90              | 578.05               |
| 26                 | 577.84               | 577.78               | 578.15              | 578.76               | 579.02               | 578.91               | 578.89               | 578.63               | 578.03               | 578.21               | 577.90              | 578.11               |
| 27                 | 577.76               | 577.87               | 578.27              | 578.79               | 578.95               | 578.75               | 578.86               | 578.56               | 577.86               | 578.31               | 578.15              | 578.12               |
| 28                 | 577.77               | 577.83               | 578.13              | 578.85               | 578.99               | 578.76               | 578.86               | 578.62               | 578.09               | 578.31               | 577.93              | 578.13               |
| 29                 | 577.90               |                      | 578.00              | 578.84               | 579.04               | 579.03               | 579.01               | 578.63               | 578.12               | 578.50               | 578.14              | 578.24               |
| 30                 | 577.97               |                      | 578.07              | 578.70               | 579.04               | 579.22               | 578.85               | 578.56               | 578.15               | 578.55               | 578.28              | 578.24               |
| 31                 | 577.98               |                      | 578.10              |                      | 579.05               |                      | 578.71               | 578.74               |                      | 578.30               |                     | 578.18               |
| Mean               | 577.99               | 577.86               | 578.07              | 578.52               | 578.85               | 579.02               | 578.97               | 578.77               | 578.35               | 578.14               | 578.03              | 578.11               |
| Max.<br>Hr.<br>Day | 578.69<br>0100<br>12 | 578.37<br>0400<br>15 | 578.88<br>1100<br>2 | 579.26<br>1000<br>15 | 579.29<br>1700<br>18 | 579.41<br>1900<br>21 | 579.47<br>0500<br>2  | 579.08<br>1700<br>19 | 578.81<br>1700<br>1  | 578.97<br>1000<br>5  | 578.71<br>1600<br>1 | 578.90<br>1900<br>14 |
| Min.<br>Hr.<br>Day | 577.43<br>2000<br>22 | 577.45<br>1600<br>16 | 577.64<br>2300<br>7 | 577.86<br>1000<br>2  | 578.40<br>1600<br>1  | 578.59<br>2200<br>27 | 578.52<br>1000<br>31 | 578.47<br>1100<br>30 | 577.69<br>0200<br>27 | 577.47<br>1600<br>17 | 577.55<br>1900<br>9 | 577.54<br>0600<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.39

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 908-7044 Calumet Harbor, Illinois on Lake Michigan

HIGHEST

Monthly mean elevation: 579.16 Jun  
Daily mean elevation: 579.64 22 Jun  
Instant/hourly elevation: 580.27 0300/8 Jul

LOWEST

Monthly mean elevation: 577.89 Feb  
Daily mean elevation: 577.30 27 Jan  
Instant/hourly elevation: 576.41 1900/22 Jan

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.57 | 578.49 | 578.86 | 579.21 | 579.41 | 579.64 | 579.40 | 579.49 | 578.99 | 578.94 | 578.28 | 578.39 |
| Day | 12 | 14 | 2 | 19 | 18 | 22 | 13 | 19 | 1 | 30 | 29 | 18 |
| Min | 577.30 | 577.40 | 577.78 | 578.00 | 578.45 | 578.78 | 578.74 | 578.58 | 577.97 | 577.60 | 577.32 | 577.59 |
| Day | 27 | 16 | 5 | 6 | 1 | 27 | 31 | 27 | 22 | 17 | 3 | 22 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.60         |     |     |     |     |     | 1   |     |     |     |     |     |     | 579.60         | 1                          |
| 579.40         |     |     |     |     | 1   |     |     | 1   |     |     |     |     | 579.40         | 3                          |
| 579.20         |     |     |     | 1   | 2   | 10  | 5   | 2   |     |     |     |     | 579.20         | 23                         |
| 579.00         |     |     |     | 1   | 11  | 14  | 14  | 10  |     |     |     |     | 579.00         | 73                         |
| 578.80         |     |     | 1   | 10  | 12  | 4   | 11  | 9   | 1   | 1   |     |     | 578.80         | 122                        |
| 578.60         |     |     | 2   | 7   | 4   | 1   | 1   | 7   | 2   | 2   |     |     | 578.60         | 148                        |
| 578.40         | 5   | 2   | 2   | 3   | 1   |     |     | 2   | 12  | 5   |     |     | 578.40         | 180                        |
| 578.20         | 3   |     | 2   | 4   |     |     |     |     | 6   | 4   | 4   | 11  | 578.20         | 214                        |
| 578.00         | 6   | 5   | 18  | 3   |     |     |     |     | 8   | 11  | 11  | 9   | 578.00         | 285                        |
| 577.80         | 6   | 11  | 5   | 1   |     |     |     |     | 1   | 4   | 7   | 9   | 577.80         | 329                        |
| 577.60         | 3   | 7   | 1   |     |     |     |     |     |     | 3   | 4   | 1   | 577.60         | 348                        |
| 577.40         | 6   | 2   |     |     |     |     |     |     |     | 1   | 3   | 1   | 577.40         | 361                        |
| 577.20         | 2   | 1   |     |     |     |     |     |     |     |     | 1   |     | 577.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 908-7044 Calumet Harbor, Illinois on Lake Michigan

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| 1                  | 577.55               | 577.71               | 577.89               | 578.22               | 578.45               | 579.12               | 579.22              | 578.87               | 578.99               | 578.07               | 578.02              | 577.81               |
| 2                  | 578.16               | 577.89               | 578.86               | 578.11               | 578.69               | 579.24               | 579.25              | 578.99               | 578.71               | 578.08               | 577.42              | 578.25               |
| 3                  | 577.95               | 577.67               | 578.76               | 578.27               | 578.91               | 579.34               | 579.04              | 579.28               | 578.55               | 578.28               | 577.32              | 578.36               |
| 4                  | 577.61               | 577.70               | 578.17               | 578.30               | 579.10               | 579.40               | 579.11              | 579.18               | 578.58               | 578.64               | 577.80              | 578.12               |
| 5                  | 577.84               | 577.98               | 577.78               | 578.06               | 579.09               | 579.34               | 579.07              | 579.09               | 578.62               | 578.43               | 577.55              | 577.88               |
| 6                  | 578.32               | 578.05               | 578.08               | 578.00               | 578.63               | 579.22               | 578.99              | 579.06               | 578.59               | 578.06               | 577.99              | 577.90               |
| 7                  | 578.30               | 577.99               | 578.02               | 578.06               | 578.61               | 579.16               | 579.17              | 579.06               | 578.54               | 577.96               | 578.01              | 577.82               |
| 8                  | 578.16               | 577.57               | 577.83               | 578.30               | 579.00               | 579.13               | 579.29              | 579.14               | 578.59               | 577.82               | 578.04              | 578.08               |
| 9                  | 578.16               | 577.86               | 578.03               | 578.81               | 579.02               | 579.07               | 579.00              | 579.24               | 578.43               | 578.20               | 577.60              | 578.13               |
| 10                 | 578.23               | 577.95               | 578.12               | 578.67               | 578.96               | 578.88               | 579.08              | 579.05               | 578.60               | 578.21               | 577.96              | 577.93               |
| 11                 | 578.55               | 577.97               | 578.17               | 578.55               | 578.88               | 578.99               | 579.08              | 579.00               | 578.58               | 578.19               | 578.22              | 577.99               |
| 12                 | 578.57               | 577.77               | 578.38               | 578.80               | 578.79               | 579.13               | 579.12              | 579.00               | 578.52               | 578.46               | 577.96              | 578.06               |
| 13                 | 577.63               | 578.05               | 578.79               | 578.88               | 578.85               | 579.21               | 579.40              | 579.01               | 578.58               | 578.18               | 577.68              | 578.23               |
| 14                 | 577.79               | 578.49               | 578.47               | 578.97               | 578.85               | 579.07               | 579.25              | 578.83               | 578.47               | 577.95               | 577.90              | 577.90               |
| 15                 | 578.18               | 578.42               | 578.10               | 578.81               | 578.91               | 579.05               | 579.13              | 578.76               | 578.40               | 578.11               | 578.24              | 577.95               |
| 16                 | 578.41               | 577.40               | 578.06               | 578.46               | 578.88               | 579.05               | 578.90              | 578.69               | 578.26               | 577.71               | 578.25              | 578.07               |
| 17                 | 577.90               | 577.77               | 578.19               | 578.62               | 579.26               | 579.12               | 578.85              | 578.64               | 578.17               | 577.60               | 578.15              | 578.24               |
| 18                 | 577.54               | 578.09               | 578.04               | 578.91               | 579.41               | 579.16               | 578.97              | 578.95               | 578.25               | 578.31               | 578.13              | 578.39               |
| 19                 | 577.53               | 577.98               | 577.83               | 579.21               | 579.24               | 579.11               | 578.83              | 579.49               | 578.34               | 578.15               | 578.16              | 578.02               |
| 20                 | 578.44               | 577.58               | 578.04               | 579.18               | 579.09               | 579.10               | 578.83              | 579.16               | 578.43               | 577.79               | 578.19              | 577.70               |
| 21                 | 578.50               | 577.72               | 578.20               | 578.92               | 579.03               | 579.39               | 578.95              | 578.83               | 578.19               | 577.74               | 578.02              | 577.81               |
| 22                 | 577.40               | 577.95               | 578.56               | 578.63               | 578.98               | 579.64               | 579.00              | 578.84               | 577.97               | 578.01               | 578.15              | 577.59               |
| 23                 | 577.54               | 577.83               | 578.17               | 578.69               | 578.89               | 579.37               | 578.96              | 578.98               | 578.09               | 578.01               | 577.73              | 578.24               |
| 24                 | 577.89               | 578.06               | 578.20               | 578.76               | 578.84               | 579.24               | 578.91              | 579.03               | 578.26               | 577.91               | 578.02              | 578.11               |
| 25                 | 577.88               | 578.04               | 578.03               | 578.77               | 579.04               | 579.19               | 579.15              | 578.76               | 578.06               | 578.17               | 577.92              | 578.15               |
| 26                 | 577.50               | 577.84               | 578.18               | 578.87               | 579.03               | 578.98               | 579.10              | 578.61               | 578.18               | 578.39               | 577.81              | 578.08               |
| 27                 | 577.30               | 577.78               | 577.91               | 578.86               | 578.95               | 578.78               | 579.06              | 578.58               | 578.05               | 578.60               | 577.72              | 578.28               |
| 28                 | 577.55               | 577.84               | 577.88               | 578.91               | 579.02               | 578.86               | 579.04              | 578.67               | 578.17               | 578.59               | 578.05              | 578.31               |
| 29                 | 578.15               |                      | 578.31               | 578.94               | 579.02               | 579.01               | 579.19              | 578.67               | 578.26               | 578.56               | 578.28              | 578.37               |
| 30                 | 578.01               |                      | 578.19               | 578.53               | 579.05               | 579.38               | 579.07              | 578.60               | 578.16               | 578.94               | 577.97              | 578.37               |
| 31                 | 577.82               |                      | 578.04               |                      | 579.14               |                      | 578.74              | 579.05               |                      | 578.71               |                     | 578.23               |
| Mean               | 577.95               | 577.89               | 578.17               | 578.64               | 578.96               | 579.16               | 579.06              | 578.94               | 578.39               | 578.19               | 577.97              | 578.08               |
| Max.<br>Hr.<br>Day | 578.99<br>2300<br>11 | 579.05<br>0300<br>15 | 579.57<br>1200<br>2  | 579.66<br>0200<br>15 | 579.81<br>2000<br>31 | 580.10<br>0600<br>15 | 580.27<br>0300<br>8 | 579.86<br>2000<br>8  | 579.17<br>1500<br>1  | 579.30<br>1700<br>30 | 578.80<br>0900<br>1 | 579.13<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 576.41<br>1900<br>22 | 576.82<br>1400<br>16 | 576.91<br>2100<br>27 | 577.79<br>2400<br>5  | 578.13<br>1100<br>1  | 578.40<br>2100<br>27 | 577.75<br>1900<br>7 | 578.25<br>0400<br>17 | 577.59<br>1100<br>25 | 577.23<br>1500<br>16 | 576.65<br>1800<br>1 | 577.16<br>0500<br>22 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.45

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 908-7057 Milwaukee, Wisconsin on Lake Michigan

HIGHEST

Monthly mean elevation: 579.17 Jun  
Daily mean elevation: 579.52 22 Jun  
Instant/hourly elevation: 579.95 1100/8 Aug

LOWEST

Monthly mean elevation: 577.90 Feb  
Daily mean elevation: 577.57 27 Jan  
Instant/hourly elevation: 577.27 0800/27 Jan

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.58 | 578.20 | 578.63 | 579.03 | 579.23 | 579.52 | 579.26 | 579.29 | 579.02 | 578.73 | 578.59 | 578.46 |
| Day | 11     | 18     | 22     | 19     | 18     | 22     | 2      | 8      | 1      | 29     | 1      | 3      |
| Min | 577.57 | 577.66 | 577.82 | 578.12 | 578.56 | 578.89 | 578.89 | 578.64 | 577.99 | 577.91 | 577.61 | 577.85 |
| Day | 27     | 16     | 28     | 2      | 1      | 28     | 31     | 30     | 27     | 20     | 3      | 22     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.40         |     |     |     |     |     | 2   |     |     |     |     |     |     | 579.40         | 2                          |
| 579.20         |     |     |     |     | 1   | 9   | 5   | 2   |     |     |     |     | 579.20         | 19                         |
| 579.00         |     |     |     | 2   | 13  | 16  | 19  | 9   | 1   |     |     |     | 579.00         | 79                         |
| 578.80         |     |     |     | 6   | 13  | 3   | 7   | 13  |     |     |     |     | 578.80         | 121                        |
| 578.60         |     |     | 1   | 10  | 3   |     |     | 7   | 8   | 4   |     |     | 578.60         | 154                        |
| 578.40         | 1   |     | 3   | 4   | 1   |     |     |     | 6   | 3   | 2   | 1   | 578.40         | 175                        |
| 578.20         | 5   |     | 7   | 4   |     |     |     |     | 9   | 11  | 7   | 12  | 578.20         | 230                        |
| 578.00         | 6   | 4   | 15  | 4   |     |     |     |     | 4   | 8   | 13  | 14  | 578.00         | 298                        |
| 577.80         | 8   | 20  | 5   |     |     |     |     |     | 2   | 5   | 7   | 4   | 577.80         | 349                        |
| 577.60         | 10  | 4   |     |     |     |     |     |     |     |     | 1   |     | 577.60         | 364                        |
| 577.40         | 1   |     |     |     |     |     |     |     |     |     |     |     | 577.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 908-7057 Milwaukee, Wisconsin on Lake Michigan

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                 | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                 |
|--------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|
| 1                  | 577.81               | 577.93               | 578.08               | 578.20              | 578.56               | 579.20               | 579.25               | 578.91               | 579.02               | 578.16               | 578.59              | 577.87              |
| 2                  | 577.94               | 577.93               | 578.54               | 578.12              | 578.69               | 579.26               | 579.26               | 579.10               | 578.80               | 578.21               | 577.90              | 578.16              |
| 3                  | 577.83               | 577.77               | 578.36               | 578.31              | 578.78               | 579.26               | 579.20               | 579.14               | 578.67               | 578.32               | 577.61              | 578.46              |
| 4                  | 577.63               | 577.82               | 578.07               | 578.36              | 579.04               | 579.32               | 579.20               | 579.07               | 578.59               | 578.64               | 577.92              | 578.17              |
| 5                  | 577.96               | 577.96               | 577.96               | 578.21              | 579.06               | 579.25               | 579.11               | 579.09               | 578.60               | 578.48               | 578.01              | 578.15              |
| 6                  | 578.18               | 578.01               | 578.09               | 578.19              | 578.87               | 579.22               | 579.08               | 579.15               | 578.67               | 578.10               | 577.93              | 578.25              |
| 7                  | 578.22               | 577.96               | 577.93               | 578.20              | 578.68               | 579.18               | 579.22               | 579.13               | 578.65               | 578.05               | 577.91              | 578.06              |
| 8                  | 578.26               | 577.79               | 577.90               | 578.37              | 578.92               | 579.14               | 579.07               | 579.29               | 578.66               | 578.23               | 578.03              | 578.25              |
| 9                  | 578.13               | 577.91               | 578.10               | 578.71              | 579.01               | 579.12               | 579.03               | 579.10               | 578.61               | 578.19               | 577.82              | 578.14              |
| 10                 | 578.19               | 577.84               | 578.06               | 578.54              | 578.96               | 578.97               | 579.07               | 579.00               | 578.52               | 578.17               | 578.02              | 578.08              |
| 11                 | 578.58               | 577.83               | 578.21               | 578.45              | 578.90               | 579.06               | 579.09               | 579.00               | 578.56               | 578.27               | 578.23              | 578.05              |
| 12                 | 578.38               | 577.83               | 578.37               | 578.74              | 578.84               | 579.13               | 579.20               | 579.02               | 578.63               | 578.34               | 578.05              | 578.36              |
| 13                 | 577.97               | 578.01               | 578.55               | 578.83              | 578.90               | 579.24               | 579.23               | 578.97               | 578.61               | 578.26               | 577.93              | 578.27              |
| 14                 | 578.04               | 578.17               | 578.29               | 578.94              | 578.88               | 579.19               | 579.16               | 578.88               | 578.59               | 578.22               | 578.14              | 578.02              |
| 15                 | 578.19               | 578.00               | 578.06               | 578.80              | 578.94               | 579.14               | 579.12               | 578.82               | 578.55               | 578.14               | 578.27              | 577.93              |
| 16                 | 578.20               | 577.66               | 578.07               | 578.47              | 578.94               | 579.04               | 579.01               | 578.80               | 578.33               | 577.93               | 578.12              | 578.23              |
| 17                 | 577.91               | 577.91               | 578.14               | 578.60              | 579.16               | 579.12               | 578.96               | 578.74               | 578.25               | 577.91               | 578.28              | 578.21              |
| 18                 | 577.70               | 578.20               | 578.04               | 578.79              | 579.23               | 579.17               | 579.00               | 578.92               | 578.25               | 578.09               | 578.44              | 578.25              |
| 19                 | 577.76               | 577.95               | 577.88               | 579.03              | 579.12               | 579.08               | 578.95               | 579.22               | 578.19               | 577.99               | 578.23              | 578.18              |
| 20                 | 578.23               | 577.75               | 578.11               | 579.00              | 579.06               | 579.11               | 578.98               | 579.08               | 578.36               | 577.91               | 578.16              | 578.01              |
| 21                 | 578.25               | 577.83               | 578.36               | 578.80              | 579.02               | 579.42               | 579.07               | 578.92               | 578.31               | 577.98               | 578.12              | 577.88              |
| 22                 | 577.80               | 577.85               | 578.63               | 578.68              | 579.00               | 579.52               | 579.01               | 578.88               | 578.24               | 578.21               | 578.27              | 577.85              |
| 23                 | 577.76               | 577.87               | 578.53               | 578.73              | 578.99               | 579.27               | 578.89               | 578.93               | 578.06               | 578.23               | 578.32              | 578.11              |
| 24                 | 577.80               | 577.98               | 578.18               | 578.76              | 578.93               | 579.25               | 578.90               | 578.98               | 578.29               | 578.16               | 578.20              | 578.11              |
| 25                 | 577.80               | 577.91               | 578.05               | 578.76              | 579.04               | 579.18               | 579.04               | 578.84               | 578.17               | 578.28               | 577.91              | 578.17              |
| 26                 | 577.64               | 577.84               | 578.32               | 578.87              | 579.13               | 579.14               | 579.03               | 578.68               | 578.00               | 578.37               | 578.04              | 578.19              |
| 27                 | 577.57               | 577.86               | 578.26               | 578.94              | 579.00               | 578.94               | 579.06               | 578.64               | 577.99               | 578.48               | 578.13              | 578.29              |
| 28                 | 577.69               | 577.94               | 577.82               | 578.96              | 579.15               | 578.89               | 579.14               | 578.69               | 578.18               | 578.68               | 578.06              | 578.25              |
| 29                 | 577.94               |                      | 578.08               | 579.01              | 579.15               | 579.13               | 579.24               | 578.71               | 578.28               | 578.73               | 578.36              | 578.32              |
| 30                 | 577.92               |                      | 578.17               | 578.68              | 579.12               | 579.29               | 579.07               | 578.64               | 578.33               | 578.63               | 578.17              | 578.39              |
| 31                 | 577.80               |                      | 578.17               |                     | 579.13               |                      | 578.89               | 578.98               |                      | 578.59               |                     | 578.33              |
| Mean               | 577.97               | 577.90               | 578.17               | 578.64              | 578.97               | 579.17               | 579.08               | 578.95               | 578.43               | 578.26               | 578.11              | 578.16              |
| Max.<br>Hr.<br>Day | 578.81<br>2400<br>11 | 578.49<br>1700<br>18 | 579.07<br>0900<br>27 | 579.40<br>0900<br>9 | 579.58<br>1800<br>31 | 579.75<br>0500<br>15 | 579.84<br>2100<br>7  | 579.95<br>1100<br>8  | 579.12<br>0500<br>1  | 579.38<br>2200<br>4  | 578.99<br>0900<br>1 | 578.85<br>0100<br>3 |
| Min.<br>Hr.<br>Day | 577.27<br>0800<br>27 | 577.41<br>1500<br>16 | 577.54<br>0500<br>28 | 578.00<br>0800<br>2 | 578.45<br>1800<br>1  | 578.67<br>0500<br>28 | 578.47<br>1000<br>17 | 578.52<br>1700<br>30 | 577.77<br>2300<br>26 | 577.58<br>1900<br>18 | 577.46<br>0700<br>3 | 577.49<br>0300<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.48

# Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 908-7068 Kewaunee, Wisconsin on Lake Michigan

## HIGHEST

Monthly mean elevation: 579.05 Jun  
Daily mean elevation: 579.23 22 Jun  
Instant/hourly elevation: 579.87 1700/14 Jun

## LOWEST

Monthly mean elevation: 577.81 Feb  
Daily mean elevation: 577.53 3 Nov  
Instant/hourly elevation: 577.42 0700/24 Jan

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.40 | 578.01 | 578.70 | 578.92 | 579.13 | 579.23 | 579.21 | 578.97 | 578.83 | 578.66 | 578.72 | 578.34 |
| Day | 11     | 19     | 23     | 29     | 26     | 22     | 2      | 3      | 1      | 29     | 1      | 3      |
| Min | 577.59 | 577.69 | 577.82 | 578.07 | 578.53 | 578.79 | 578.79 | 578.52 | 577.83 | 577.84 | 577.53 | 577.77 |
| Day | 4      | 17     | 19     | 2      | 1      | 28     | 17     | 30     | 26     | 18     | 3      | 15     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.20         |     |     |     |     |     | 2   | 1   |     |     |     |     |     | 579.20         | 3                          |
| 579.00         |     |     |     |     | 6   | 21  | 12  |     |     |     |     |     | 579.00         | 42                         |
| 578.80         |     |     |     | 4   | 19  | 6   | 17  | 16  | 1   |     |     |     | 578.80         | 105                        |
| 578.60         |     |     | 1   | 10  | 4   | 1   | 1   | 11  | 3   | 1   | 1   |     | 578.60         | 138                        |
| 578.40         |     |     | 1   | 7   | 2   |     |     | 4   | 10  | 2   |     |     | 578.40         | 164                        |
| 578.20         | 3   |     | 3   | 7   |     |     |     |     | 6   | 5   | 4   | 5   | 578.20         | 197                        |
| 578.00         | 9   | 1   | 9   | 2   |     |     |     |     | 7   | 16  | 13  | 19  | 578.00         | 273                        |
| 577.80         | 7   | 13  | 17  |     |     |     |     |     | 3   | 7   | 10  | 5   | 577.80         | 335                        |
| 577.60         | 11  | 14  |     |     |     |     |     |     |     |     | 1   | 2   | 577.60         | 363                        |
| 577.40         | 1   |     |     |     |     |     |     |     |     |     | 1   |     | 577.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 908-7068 Kewaunee, Wisconsin on Lake Michigan

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                 | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|---------------------|---------------------|
| 1                  | 577.82               | 577.86               | 577.98               | 578.09               | 578.53               | 579.10               | 579.13              | 578.82               | 578.83               | 578.07               | 578.72              | 577.78              |
| 2                  | 577.76               | 577.91               | 577.92               | 578.07               | 578.58               | 579.14               | 579.21              | 578.83               | 578.66               | 578.23               | 578.10              | 577.89              |
| 3                  | 577.81               | 577.84               | 578.07               | 578.22               | 578.71               | 579.06               | 579.11              | 578.97               | 578.57               | 578.18               | 577.53              | 578.34              |
| 4                  | 577.59               | 577.83               | 577.94               | 578.27               | 578.93               | 579.14               | 579.14              | 578.93               | 578.44               | 578.18               | 577.83              | 578.10              |
| 5                  | 577.79               | 577.85               | 577.94               | 578.21               | 578.93               | 579.07               | 579.05              | 578.95               | 578.51               | 578.45               | 578.12              | 578.14              |
| 6                  | 578.04               | 577.90               | 577.96               | 578.28               | 578.95               | 579.06               | 579.01              | 578.95               | 578.55               | 578.01               | 577.77              | 578.29              |
| 7                  | 578.06               | 577.86               | 577.83               | 578.22               | 578.66               | 579.06               | 579.01              | 578.96               | 578.54               | 577.97               | 577.82              | 578.02              |
| 8                  | 578.22               | 577.84               | 577.92               | 578.22               | 578.76               | 579.05               | 578.87              | 578.89               | 578.58               | 578.17               | 578.00              | 578.13              |
| 9                  | 578.06               | 577.80               | 578.04               | 578.54               | 578.91               | 579.04               | 579.00              | 578.92               | 578.62               | 578.10               | 577.91              | 578.08              |
| 10                 | 578.05               | 577.73               | 577.98               | 578.42               | 578.87               | 578.95               | 579.00              | 578.87               | 578.37               | 578.11               | 577.89              | 578.12              |
| 11                 | 578.40               | 577.70               | 578.07               | 578.29               | 578.84               | 578.97               | 579.01              | 578.85               | 578.51               | 578.17               | 578.08              | 577.96              |
| 12                 | 578.27               | 577.75               | 578.14               | 578.55               | 578.78               | 578.95               | 579.08              | 578.86               | 578.61               | 578.14               | 578.03              | 578.29              |
| 13                 | 578.06               | 577.79               | 578.12               | 578.60               | 578.84               | 579.12               | 579.06              | 578.83               | 578.54               | 578.22               | 577.92              | 578.16              |
| 14                 | 577.97               | 577.80               | 578.03               | 578.80               | 578.82               | 579.22               | 579.06              | 578.76               | 578.58               | 578.19               | 578.07              | 578.02              |
| 15                 | 578.01               | 577.70               | 577.91               | 578.77               | 578.86               | 579.00               | 579.02              | 578.74               | 578.54               | 578.01               | 578.10              | 577.77              |
| 16                 | 578.07               | 577.70               | 577.90               | 578.42               | 578.86               | 578.96               | 578.94              | 578.75               | 578.34               | 577.95               | 577.98              | 578.15              |
| 17                 | 577.92               | 577.69               | 577.95               | 578.53               | 578.91               | 579.02               | 578.79              | 578.68               | 578.17               | 577.90               | 578.18              | 578.10              |
| 18                 | 577.74               | 577.97               | 577.96               | 578.64               | 579.02               | 579.09               | 578.88              | 578.68               | 578.11               | 577.84               | 578.36              | 578.06              |
| 19                 | 577.81               | 578.01               | 577.82               | 578.65               | 578.94               | 579.03               | 578.88              | 578.93               | 578.04               | 577.92               | 578.11              | 578.19              |
| 20                 | 577.88               | 577.80               | 577.99               | 578.71               | 578.91               | 579.01               | 578.92              | 578.89               | 578.23               | 577.92               | 578.00              | 578.04              |
| 21                 | 578.12               | 577.85               | 578.27               | 578.63               | 578.88               | 579.15               | 578.95              | 578.79               | 578.28               | 577.99               | 578.06              | 577.86              |
| 22                 | 578.01               | 577.70               | 578.47               | 578.59               | 578.92               | 579.23               | 578.99              | 578.72               | 578.23               | 578.17               | 578.15              | 577.88              |
| 23                 | 577.65               | 577.83               | 578.70               | 578.65               | 578.93               | 579.09               | 578.82              | 578.75               | 577.97               | 578.18               | 578.38              | 577.94              |
| 24                 | 577.64               | 577.90               | 578.10               | 578.67               | 578.87               | 579.09               | 578.86              | 578.86               | 578.19               | 578.16               | 578.09              | 578.07              |
| 25                 | 577.78               | 577.78               | 577.97               | 578.66               | 578.88               | 579.05               | 578.96              | 578.75               | 578.20               | 578.13               | 577.85              | 578.10              |
| 26                 | 577.73               | 577.76               | 578.28               | 578.74               | 579.13               | 579.07               | 578.95              | 578.61               | 577.83               | 578.18               | 578.10              | 578.12              |
| 27                 | 577.69               | 577.80               | 578.30               | 578.89               | 578.96               | 578.91               | 578.92              | 578.53               | 577.85               | 578.25               | 578.13              | 578.13              |
| 28                 | 577.70               | 577.82               | 577.84               | 578.84               | 579.04               | 578.79               | 578.99              | 578.56               | 578.11               | 578.50               | 577.84              | 578.13              |
| 29                 | 577.75               |                      | 577.88               | 578.92               | 579.02               | 579.08               | 579.04              | 578.62               | 578.13               | 578.66               | 578.26              | 578.17              |
| 30                 | 577.91               |                      | 578.14               | 578.84               | 579.05               | 579.10               | 578.96              | 578.52               | 578.24               | 578.35               | 578.22              | 578.28              |
| 31                 | 577.75               |                      | 578.17               |                      | 579.03               |                      | 578.83              | 578.59               |                      | 578.36               |                     | 578.25              |
| Mean               | 577.91               | 577.81               | 578.05               | 578.53               | 578.88               | 579.05               | 578.98              | 578.79               | 578.35               | 578.15               | 578.05              | 578.08              |
| Max.<br>Hr.<br>Day | 578.64<br>2100<br>11 | 578.51<br>1600<br>18 | 579.02<br>1300<br>23 | 579.25<br>2300<br>29 | 579.54<br>2300<br>31 | 579.87<br>1700<br>14 | 579.61<br>2400<br>1 | 579.37<br>1700<br>8  | 578.91<br>0200<br>2  | 578.84<br>1000<br>29 | 579.14<br>2100<br>1 | 578.73<br>2400<br>6 |
| Min.<br>Hr.<br>Day | 577.42<br>0700<br>24 | 577.50<br>0300<br>17 | 577.53<br>2300<br>28 | 577.89<br>2000<br>8  | 578.27<br>0100<br>1  | 578.60<br>2100<br>15 | 578.25<br>0700<br>8 | 578.39<br>0200<br>31 | 577.60<br>2100<br>26 | 577.49<br>1800<br>18 | 577.43<br>1100<br>3 | 577.44<br>0900<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.39



International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 908-7072 Sturgeon Bay Canal, Wisconsin on Lake Michigan

HIGHEST

Monthly mean elevation: 579.01 Jun  
Daily mean elevation: 579.20 22 Jun  
Instant/hourly elevation: 579.77 2300/7 Jul

LOWEST

Monthly mean elevation: 577.78 Feb  
Daily mean elevation: 577.52 3 Nov  
Instant/hourly elevation: 577.40 1100/3 Nov

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.40 | 577.97 | 578.71 | 578.98 | 579.09 | 579.20 | 579.17 | 578.97 | 578.78 | 578.58 | 578.70 | 578.31 |
| Day | 11 | 19 | 23 | 29 | 26 | 22 | 2 | 3 | 1 | 29 | 1 | 6 |
| Min | 577.56 | 577.63 | 577.76 | 578.01 | 578.49 | 578.83 | 578.75 | 578.51 | 577.81 | 577.80 | 577.52 | 577.66 |
| Day | 4 | 22 | 7 | 2 | 1 | 28 | 17 | 27 | 26 | 18 | 3 | 1 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.00         |     |     |     |     | 3   | 15  | 8   |     |     |     |     |     | 579.00         | 26                         |
| 578.80         |     |     |     | 3   | 21  | 15  | 21  | 11  |     |     |     |     | 578.80         | 97                         |
| 578.60         |     |     | 1   | 6   | 5   |     | 2   | 15  | 2   |     | 1   |     | 578.60         | 129                        |
| 578.40         |     |     | 1   | 10  | 2   |     |     | 5   | 12  | 3   |     |     | 578.40         | 162                        |
| 578.20         | 3   |     | 2   | 6   |     |     |     |     | 6   | 3   | 3   | 4   | 578.20         | 189                        |
| 578.00         | 7   |     | 7   | 5   |     |     |     |     | 7   | 16  | 14  | 17  | 578.00         | 262                        |
| 577.80         | 8   | 12  | 16  |     |     |     |     |     | 3   | 8   | 7   | 8   | 577.80         | 324                        |
| 577.60         | 12  | 16  | 4   |     |     |     |     |     |     | 1   | 4   | 2   | 577.60         | 363                        |
| 577.40         | 1   |     |     |     |     |     |     |     |     |     | 1   |     | 577.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 908-7072 Sturgeon Bay Canal, Wisconsin on Lake Michigan

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                 | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|
| 1                  | 577.80               | 577.86               | 577.93               | 578.04               | 578.49              | 579.06               | 579.13               | 578.77               | 578.78               | 578.08               | 578.70              | 577.66              |
| 2                  | 577.75               | 577.87               | 577.80               | 578.01               | 578.61              | 579.03               | 579.17               | 578.85               | 578.63               | 578.20               | 577.91              | 577.84              |
| 3                  | 577.79               | 577.82               | 577.95               | 578.17               | 578.60              | 578.99               | 579.10               | 578.97               | 578.56               | 578.12               | 577.52              | 578.27              |
| 4                  | 577.56               | 577.82               | 577.87               | 578.27               | 578.84              | 579.08               | 579.11               | 578.90               | 578.42               | 578.19               | 577.83              | 578.06              |
| 5                  | 577.76               | 577.84               | 577.91               | 578.19               | 578.92              | 579.05               | 579.02               | 578.85               | 578.47               | 578.49               | 578.06              | 578.09              |
| 6                  | 577.99               | 577.89               | 577.88               | 578.24               | 578.93              | 579.02               | 579.00               | 578.86               | 578.50               | 577.98               | 577.76              | 578.31              |
| 7                  | 578.02               | 577.86               | 577.76               | 578.20               | 578.63              | 579.03               | 579.11               | 578.86               | 578.48               | 577.93               | 577.79              | 577.96              |
| 8                  | 578.25               | 577.83               | 577.89               | 578.21               | 578.72              | 578.98               | 578.97               | 578.89               | 578.54               | 578.15               | 577.94              | 578.11              |
| 9                  | 577.99               | 577.79               | 578.00               | 578.49               | 578.89              | 578.99               | 578.97               | 578.84               | 578.58               | 578.09               | 577.79              | 578.04              |
| 10                 | 578.01               | 577.69               | 577.95               | 578.37               | 578.81              | 578.92               | 578.95               | 578.80               | 578.38               | 578.07               | 577.85              | 578.04              |
| 11                 | 578.40               | 577.65               | 578.02               | 578.22               | 578.81              | 578.97               | 578.95               | 578.78               | 578.50               | 578.15               | 578.07              | 577.92              |
| 12                 | 578.23               | 577.70               | 578.07               | 578.47               | 578.71              | 578.95               | 579.02               | 578.82               | 578.53               | 578.15               | 578.02              | 578.25              |
| 13                 | 578.04               | 577.77               | 578.03               | 578.55               | 578.81              | 579.08               | 579.04               | 578.78               | 578.48               | 578.17               | 577.86              | 578.09              |
| 14                 | 577.96               | 577.72               | 577.94               | 578.76               | 578.78              | 579.12               | 579.00               | 578.74               | 578.58               | 578.18               | 578.05              | 577.94              |
| 15                 | 578.01               | 577.65               | 577.86               | 578.70               | 578.82              | 578.98               | 578.95               | 578.71               | 578.54               | 577.97               | 578.08              | 577.72              |
| 16                 | 578.04               | 577.67               | 577.87               | 578.39               | 578.82              | 578.91               | 578.86               | 578.71               | 578.30               | 577.92               | 577.95              | 578.09              |
| 17                 | 577.86               | 577.65               | 577.94               | 578.49               | 578.83              | 578.95               | 578.75               | 578.63               | 578.14               | 577.87               | 578.11              | 577.95              |
| 18                 | 577.73               | 577.95               | 577.88               | 578.57               | 578.98              | 579.04               | 578.86               | 578.62               | 578.12               | 577.80               | 578.27              | 578.01              |
| 19                 | 577.84               | 577.97               | 577.79               | 578.59               | 578.88              | 579.00               | 578.86               | 578.92               | 578.01               | 577.93               | 578.05              | 578.10              |
| 20                 | 577.87               | 577.75               | 577.91               | 578.68               | 578.89              | 579.00               | 578.92               | 578.81               | 578.23               | 577.85               | 578.01              | 578.04              |
| 21                 | 578.09               | 577.85               | 578.26               | 578.58               | 578.85              | 579.15               | 578.98               | 578.72               | 578.22               | 577.93               | 578.03              | 577.81              |
| 22                 | 578.03               | 577.63               | 578.50               | 578.54               | 578.85              | 579.20               | 578.95               | 578.64               | 578.21               | 578.12               | 578.08              | 577.82              |
| 23                 | 577.61               | 577.79*              | 578.71               | 578.60               | 578.87              | 579.04               | 578.83               | 578.72               | 577.93               | 578.13               | 578.34              | 577.84              |
| 24                 | 577.65               | 577.84               | 578.09               | 578.60               | 578.82              | 579.06               | 578.82               | 578.80               | 578.13               | 578.10               | 578.06              | 578.03              |
| 25                 | 577.81               | 577.77               | 577.95               | 578.65               | 578.87              | 578.99               | 578.94               | 578.73               | 578.16               | 578.16               | 577.81              | 578.05              |
| 26                 | 577.75               | 577.74               | 578.25               | 578.70               | 579.09              | 578.99               | 578.90               | 578.56               | 577.81               | 578.12               | 578.02              | 578.05              |
| 27                 | 577.70               | 577.76               | 578.18               | 578.79               | 578.90              | 578.86               | 578.85               | 578.51               | 577.85               | 578.25               | 578.08              | 578.09              |
| 28                 | 577.65               | 577.79               | 577.78               | 578.87               | 579.02              | 578.83               | 578.92               | 578.54               | 578.07               | 578.48               | 577.80              | 578.06              |
| 29                 | 577.68               |                      | 577.83               | 578.98               | 579.02              | 579.08               | 578.98               | 578.61               | 578.10               | 578.58               | 578.22              | 578.14              |
| 30                 | 577.84               |                      | 578.10               | 578.84               | 579.00              | 579.08               | 578.94               | 578.52               | 578.29               | 578.27               | 578.17              | 578.25              |
| 31                 | 577.74               |                      | 578.10               |                      | 578.97              |                      | 578.79               | 578.60               |                      | 578.32               |                     | 578.20              |
| Mean               | 577.89               | 577.78               | 578.00               | 578.49               | 578.84              | 579.01               | 578.96               | 578.74               | 578.32               | 578.12               | 578.01              | 578.03              |
| Max.<br>Hr.<br>Day | 578.57<br>1600<br>11 | 578.32<br>1100<br>19 | 579.03<br>0100<br>23 | 579.31<br>1700<br>29 | 579.34<br>0100<br>6 | 579.48<br>0700<br>14 | 579.77<br>2300<br>7  | 579.15<br>1400<br>2  | 578.91<br>0300<br>1  | 578.88<br>0300<br>5  | 579.04<br>1900<br>1 | 578.56<br>1500<br>6 |
| Min.<br>Hr.<br>Day | 577.40<br>1300<br>28 | 577.40<br>0100<br>23 | 577.42<br>2200<br>28 | 577.85<br>0300<br>2  | 578.32<br>0200<br>1 | 578.71<br>0400<br>28 | 578.49<br>0600<br>17 | 578.37<br>0200<br>31 | 577.61<br>0200<br>27 | 577.65<br>0800<br>18 | 577.40<br>1100<br>3 | 577.41<br>0100<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.35

# Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 908-7079 Green Bay, Wisconsin on Lake Michigan

## HIGHEST

Monthly mean elevation: 579.06 Jun  
Daily mean elevation: 579.83 21 Jun  
Instant/hourly elevation: 580.32 0300/5 Oct

## LOWEST

Monthly mean elevation: 577.74 Feb  
Daily mean elevation: 576.14 2 Nov  
Instant/hourly elevation: 575.62 1600/2 Nov

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.39 | 578.04 | 578.72 | 579.25 | 579.59 | 579.83 | 579.26 | 579.33 | 578.84 | 578.84 | 578.69 | 578.44 |
| Day | 11     | 18     | 23     | 9      | 17     | 21     | 13     | 19     | 1      | 4      | 23     | 3      |
| Min | 577.45 | 577.47 | 577.53 | 577.93 | 578.10 | 578.64 | 578.60 | 578.44 | 577.55 | 577.51 | 576.14 | 577.27 |
| Day | 4      | 15     | 28     | 2      | 1      | 27     | 16     | 27     | 18     | 16     | 2      | 1      |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.80         |     |     |     |     |     | 1   |     |     |     |     |     |     | 579.80         | 1                          |
| 579.60         |     |     |     |     |     |     |     |     |     |     |     |     | 579.60         | 1                          |
| 579.40         |     |     |     |     | 1   | 1   |     |     |     |     |     |     | 579.40         | 3                          |
| 579.20         |     |     |     | 1   | 2   | 4   | 3   | 1   |     |     |     |     | 579.20         | 14                         |
| 579.00         |     |     |     | 1   | 7   | 9   | 6   | 2   |     |     |     |     | 579.00         | 39                         |
| 578.80         |     |     |     | 6   | 11  | 12  | 15  | 8   | 1   | 1   |     |     | 578.80         | 93                         |
| 578.60         |     |     | 2   | 6   | 6   | 3   | 6   | 11  |     | 2   | 1   |     | 578.60         | 130                        |
| 578.40         |     |     |     | 5   | 2   |     | 1   | 9   | 11  | 4   | 1   | 1   | 578.40         | 164                        |
| 578.20         | 2   |     | 3   | 4   | 1   |     |     |     | 4   | 3   | 1   | 2   | 578.20         | 184                        |
| 578.00         | 5   | 1   | 5   | 6   | 1   |     |     |     | 4   | 9   | 8   | 10  | 578.00         | 233                        |
| 577.80         | 10  | 8   | 16  | 1   |     |     |     |     | 4   | 5   | 6   | 13  | 577.80         | 296                        |
| 577.60         | 10  | 14  | 4   |     |     |     |     |     | 5   | 5   | 9   | 2   | 577.60         | 345                        |
| 577.40         | 4   | 5   | 1   |     |     |     |     |     | 1   | 2   | 1   | 1   | 577.40         | 360                        |
| 577.20         |     |     |     |     |     |     |     |     |     |     | 1   | 2   | 577.20         | 363                        |
| 577.00         |     |     |     |     |     |     |     |     |     |     |     |     | 577.00         | 363                        |
| 576.80         |     |     |     |     |     |     |     |     |     |     | 1   |     | 576.80         | 364                        |
| 576.60         |     |     |     |     |     |     |     |     |     |     |     |     | 576.60         | 364                        |
| 576.40         |     |     |     |     |     |     |     |     |     |     |     |     | 576.40         | 364                        |
| 576.20         |     |     |     |     |     |     |     |     |     |     |     |     | 576.20         | 364                        |
| 576.00         |     |     |     |     |     |     |     |     |     |     | 1   |     | 576.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 908-7079 Green Bay, Wisconsin on Lake Michigan

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 577.65               | 577.83               | 577.96               | 578.02               | 578.10               | 579.16               | 579.25               | 578.66               | 578.84               | 577.97               | 578.49               | 577.27              |
| 2                  | 577.65               | 577.89               | 577.75               | 577.93               | 578.50               | 579.13               | 579.22               | 578.87               | 578.52               | 578.14               | 576.14               | 578.03              |
| 3                  | 577.69               | 577.81               | 577.90               | 578.14               | 578.87               | 579.33               | 579.06               | 579.09               | 578.49               | 578.20               | 576.90               | 578.44              |
| 4                  | 577.45               | 577.83               | 577.80               | 578.21               | 579.05               | 579.30               | 579.03               | 578.95               | 578.36               | 578.84               | 577.68               | 577.92              |
| 5                  | 577.77               | 577.79               | 577.92               | 578.11               | 579.22               | 579.13               | 578.97               | 578.82               | 578.34               | 578.27               | 577.75               | 578.14              |
| 6                  | 577.91               | 577.85               | 577.86               | 578.11               | 578.39               | 579.02               | 578.90               | 578.92               | 578.51               | 577.77               | 577.43               | 578.18              |
| 7                  | 577.94               | 577.84               | 577.64               | 578.05               | 578.52               | 578.94               | 579.02               | 578.92               | 578.48               | 577.74               | 577.62               | 577.97              |
| 8                  | 578.27               | 577.77               | 577.86               | 578.47               | 578.75               | 578.94               | 578.97               | 578.95               | 578.55               | 578.05               | 577.62               | 578.09              |
| 9                  | 577.98               | 577.72               | 577.99               | 579.25               | 578.92               | 578.85               | 578.82               | 578.94               | 578.40               | 578.00               | 577.33               | 577.92              |
| 10                 | 577.94               | 577.63               | 577.94               | 578.38               | 578.83               | 578.76               | 578.97               | 578.78               | 578.48               | 578.04               | 577.91               | 577.83              |
| 11                 | 578.39               | 577.56               | 578.05               | 578.36               | 578.76               | 578.95               | 578.96               | 578.75               | 578.49               | 578.14               | 578.12               | 577.82              |
| 12                 | 578.13               | 577.66               | 578.11               | 578.72               | 578.72               | 579.11               | 579.14               | 578.78               | 578.51               | 578.35               | 577.80               | 578.21              |
| 13                 | 578.04               | 577.74               | 578.07               | 578.85               | 578.79               | 579.00               | 579.26               | 578.70               | 578.47               | 578.11               | 577.65               | 578.06              |
| 14                 | 577.98               | 577.55               | 577.91               | 578.98               | 578.76               | 579.01               | 578.98               | 578.66               | 578.44               | 577.89               | 578.06               | 577.32              |
| 15                 | 577.98               | 577.47               | 577.82               | 578.63               | 578.77               | 578.88               | 578.81               | 578.56               | 578.45               | 577.81               | 578.10               | 577.62              |
| 16                 | 578.01               | 577.53               | 577.88               | 578.34               | 578.85               | 578.88               | 578.60               | 578.50               | 577.79               | 577.51               | 577.91               | 578.05              |
| 17                 | 577.82               | 577.62               | 577.91               | 578.42               | 579.59               | 578.94               | 578.72               | 578.50               | 577.88               | 577.65               | 578.13               | 577.88              |
| 18                 | 577.65               | 578.04               | 577.86               | 578.66               | 579.36               | 578.96               | 578.78               | 578.90               | 577.55               | 577.88               | 578.19               | 578.00              |
| 19                 | 577.76               | 577.96               | 577.75               | 579.16               | 578.98               | 578.94               | 578.75               | 579.33               | 577.94               | 577.78               | 578.07               | 578.00              |
| 20                 | 577.85               | 577.75               | 577.99               | 578.98               | 578.88               | 579.07               | 578.95               | 578.76               | 578.15               | 577.57               | 577.92               | 577.82              |
| 21                 | 578.01               | 577.75               | 578.38               | 578.64               | 578.83               | 579.83               | 579.09               | 578.59               | 578.02               | 577.77               | 577.87               | 577.66              |
| 22                 | 578.04               | 577.58               | 578.68               | 578.44               | 578.86               | 579.54               | 578.93               | 578.68               | 577.78               | 578.18               | 578.12               | 577.56              |
| 23                 | 577.50               | 577.74               | 578.72               | 578.58               | 578.83               | 579.15               | 578.70               | 578.72               | 577.77               | 578.13               | 578.69               | 577.87              |
| 24                 | 577.60               | 577.76               | 578.02               | 578.62               | 578.85               | 579.02               | 578.70               | 578.79               | 578.16               | 578.05               | 578.12               | 577.95              |
| 25                 | 577.71               | 577.74               | 577.90               | 578.59               | 579.08               | 578.95               | 578.93               | 578.62               | 577.75               | 578.23               | 577.69               | 577.99              |
| 26                 | 577.73               | 577.70               | 578.28               | 578.74               | 579.04               | 578.85               | 578.86               | 578.44               | 577.74               | 578.43               | 577.83               | 577.94              |
| 27                 | 577.81               | 577.73               | 578.23               | 578.85               | 578.94               | 578.64               | 578.81               | 578.44               | 577.85               | 578.44               | 577.73               | 578.06              |
| 28                 | 577.70               | 577.83               | 577.53               | 578.88               | 579.01               | 578.77               | 578.97               | 578.52               | 577.88               | 578.64               | 577.75               | 578.02              |
| 29                 | 577.56               |                      | 577.90               | 578.96               | 579.07               | 579.28               | 579.13               | 578.54               | 578.29               | 578.45               | 578.29               | 578.13              |
| 30                 | 577.91               |                      | 577.97               | 578.01               | 579.04               | 579.34               | 578.86               | 578.56               | 578.07               | 578.49               | 577.81               | 578.24              |
| 31                 | 577.70               |                      | 578.08               |                      | 579.09               |                      | 578.62               | 579.16               |                      | 578.66               |                      | 578.20              |
| Mean               | 577.84               | 577.74               | 577.99               | 578.54               | 578.88               | 579.06               | 578.93               | 578.75               | 578.20               | 578.10               | 577.82               | 577.94              |
| Max.<br>Hr.<br>Day | 579.20<br>0800<br>29 | 578.78<br>0600<br>23 | 579.45<br>0400<br>23 | 579.99<br>1000<br>14 | 580.08<br>1300<br>17 | 580.26<br>1400<br>21 | 580.15<br>1100<br>1  | 580.09<br>2000<br>3  | 579.42<br>0100<br>1  | 580.32<br>0300<br>5  | 579.34<br>0600<br>23 | 579.39<br>1700<br>5 |
| Min.<br>Hr.<br>Day | 576.02<br>0400<br>29 | 576.47<br>0100<br>23 | 576.58<br>1400<br>2  | 577.16<br>0300<br>1  | 577.66<br>1400<br>1  | 578.02<br>0400<br>27 | 576.26<br>0900<br>17 | 577.65<br>0200<br>17 | 576.76<br>0900<br>18 | 576.51<br>0100<br>20 | 575.62<br>1600<br>2  | 576.01<br>1200<br>1 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.32

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 908-7096 Port Inland, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 578.88 Jun  
Daily mean elevation: 579.08 2 Jul  
Instant/hourly elevation: 579.85 2000/1 Nov

LOWEST

Monthly mean elevation: 577.67 Feb  
Daily mean elevation: 577.30 15 Feb  
Instant/hourly elevation: 576.71 1200/2 Mar

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 578.15 | 577.97 | 578.46 | 578.97 | 579.06 | 579.05 | 579.08 | 578.78 | 578.68 | 578.57 | 578.92 | 578.31 |
| Day | 8 | 19 | 23 | 30 | 29 | 14 | 2 | 1 | 14 | 29 | 2 | 6 |
| Min | 577.47 | 577.30 | 577.37 | 577.89 | 578.45 | 578.73 | 578.70 | 578.31 | 577.63 | 577.79 | 577.64 | 577.65 |
| Day | 20 | 15 | 2 | 1 | 3 | 12 | 26 | 31 | 26 | 18 | 25 | 2 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.00         |     |     |     |     | 3   | 1   | 1   |     |     |     |     |     | 579.00         | 5                          |
| 578.80         |     |     |     | 1   | 3   | 25  | 18  |     |     |     | 1   |     | 578.80         | 53                         |
| 578.60         |     |     |     | 3   | 16  | 4   | 12  | 17  | 3   |     | 1   |     | 578.60         | 109                        |
| 578.40         |     |     | 1   | 7   | 7   |     |     | 13  | 9   | 2   |     |     | 578.40         | 148                        |
| 578.20         |     |     |     | 8   |     |     |     | 1   | 9   | 3   | 6   | 3   | 578.20         | 178                        |
| 578.00         | 5   |     | 6   | 8   |     |     |     |     | 4   | 11  | 5   | 10  | 578.00         | 227                        |
| 577.80         | 11  | 5   | 4   | 3   |     |     |     |     | 3   | 14  | 11  | 15  | 577.80         | 293                        |
| 577.60         | 13  | 15  | 19  |     |     |     |     |     | 2   | 1   | 6   | 3   | 577.60         | 352                        |
| 577.40         | 2   | 6   |     |     |     |     |     |     |     |     |     |     | 577.40         | 360                        |
| 577.20         |     | 2   | 1   |     |     |     |     |     |     |     |     |     | 577.20         | 363                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 908-7096 Port Inland, Michigan on Lake Michigan

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 577.85               | 577.74               | 577.76               | 577.89               | 578.56               | 578.89               | 578.98              | 578.78               | 578.63               | 578.05               | 578.68               | 577.81              |
| 2                  | 577.64               | 577.86               | 577.37               | 577.93               | 578.51               | 578.96               | 579.08              | 578.67               | 578.58               | 578.04               | 578.92               | 577.65              |
| 3                  | 577.78               | 577.92               | 577.62               | 578.07               | 578.45               | 578.84               | 578.91              | 578.70               | 578.48               | 577.98               | 577.79               | 578.05              |
| 4                  | 577.65               | 577.84               | 577.66               | 578.12               | 578.63               | 578.85               | 578.99              | 578.55               | 578.35               | 577.88               | 577.87               | 577.86              |
| 5                  | 577.68               | 577.73               | 577.80               | 578.11               | 578.63               | 578.82               | 578.95              | 578.62               | 578.42               | 578.44               | 578.34               | 577.85              |
| 6                  | 577.81               | 577.76               | 577.79               | 578.17               | 579.01               | 578.85               | 578.91              | 578.67               | 578.40               | 577.85               | 577.76               | 578.31              |
| 7                  | 577.82               | 577.73               | 577.63               | 578.13               | 578.47               | 578.89               | 578.94              | 578.70               | 578.44               | 577.90               | 577.72               | 577.90              |
| 8                  | 578.15               | 577.81               | 577.81               | 578.05               | 578.49               | 578.86               | 578.71              | 578.66               | 578.41               | 578.19               | 578.02               | 578.04              |
| 9                  | 577.84               | 577.67               | 577.84               | 578.12               | 578.68               | 578.94               | 578.84              | 578.62               | 578.64               | 578.08               | 578.21               | 577.98              |
| 10                 | 577.78               | 577.59               | 577.81               | 578.02               | 578.64               | 578.88               | 578.85              | 578.56               | 578.15               | 577.99               | 577.82               | 578.22              |
| 11                 | 578.09               | 577.55               | 577.74               | 577.96               | 578.67               | 578.86               | 578.83              | 578.55               | 578.28               | 578.08               | 577.94               | 577.92              |
| 12                 | 578.02               | 577.71               | 577.71               | 578.24               | 578.58               | 578.73*              | 578.87              | 578.61               | 578.41               | 577.92               | 577.97               | 578.25              |
| 13                 | 578.06               | 577.50               | 577.62               | 578.30               | 578.66               | 578.94*              | 578.76              | 578.64               | 578.40               | 578.03               | 577.96               | 578.03              |
| 14                 | 577.96               | 577.41               | 577.68               | 578.54               | 578.67               | 579.05               | 578.75              | 578.58               | 578.68*              | 578.29               | 577.97               | 578.15              |
| 15                 | 577.90               | 577.30               | 577.70               | 578.55               | 578.68               | 578.88*              | 578.82              | 578.61               | 578.53               | 577.93               | 578.00               | 577.68              |
| 16                 | 577.90               | 577.75               | 577.70               | 578.32               | 578.70               | 578.80               | 578.91              | 578.69               | 578.49               | 578.29               | 577.78               | 578.10              |
| 17                 | 577.80               | 577.45               | 577.73               | 578.39               | 578.59               | 578.83               | 578.84              | 578.61               | 578.21               | 578.15               | 577.99               | 577.98              |
| 18                 | 577.74               | 577.70               | 577.80               | 578.46               | 578.73               | 578.92               | 578.86              | 578.45               | 578.30               | 577.79               | 578.31               | 577.87              |
| 19                 | 577.93               | 577.97               | 577.70               | 578.35               | 578.63               | 578.85               | 578.83              | 578.57               | 577.99               | 577.86               | 577.94               | 578.16              |
| 20                 | 577.47               | 577.69               | 577.74               | 578.39               | 578.68               | 578.81               | 578.86              | 578.60               | 578.18               | 577.92               | 577.88               | 578.19              |
| 21                 | 577.86               | 577.76               | 578.02               | 578.36               | 578.69               | 578.79               | 578.88              | 578.62               | 578.33               | 577.97               | 578.06               | 577.87              |
| 22                 | 578.10*              | 577.35               | 578.15               | 578.40               | 578.76*              | 578.90               | 578.98              | 578.47               | 578.41               | 578.06               | 578.04               | 578.01              |
| 23                 | 577.63               | 577.64               | 578.46               | 578.49               | 578.82               | 578.81               | 578.74              | 578.51               | 577.93               | 578.11               | 578.22               | 577.74              |
| 24                 | 577.53               | 577.72               | 577.90               | 578.51               | 578.69               | 578.90               | 578.70              | 578.68               | 578.14               | 578.10               | 577.92               | 577.96              |
| 25                 | 577.74               | 577.58               | 577.77               | 578.53               | 578.68*              | 578.91*              | 578.71              | 578.70               | 578.38               | 577.94               | 577.64               | 577.97              |
| 26                 | 577.83               | 577.65               | 578.13               | 578.55               | /                    | 579.00*              | 578.70              | 578.63               | 577.63               | 577.89               | 578.04               | 577.98              |
| 27                 | 577.85               | 577.71               | 578.19               | 578.62               | /                    | 579.00               | 578.71              | 578.53               | 577.70               | 578.01               | 578.29               | 577.96              |
| 28                 | 577.64               | 577.67               | 577.76               | 578.65               | 579.05*              | 578.79               | 578.74              | 578.54               | 578.14               | 578.39               | 577.73               | 577.93              |
| 29                 | 577.61               |                      | 577.63               | 578.68               | 579.06               | 579.00               | 578.73              | 578.60               | 577.95               | 578.57               | 578.05               | 577.91              |
| 30                 | 577.76               |                      | 578.02               | 578.97               | 578.87               | 578.89               | 578.72              | 578.50               | 578.34               | 577.98               | 578.39               | 578.06              |
| 31                 | 577.72               |                      | 578.13               |                      | 578.81               |                      | 578.73              | 578.31               |                      | 577.99               |                      | 578.07              |
| Mean               | 577.81               | 577.67               | 577.82               | 578.33               | 578.69               | 578.88               | 578.83              | 578.60               | 578.30               | 578.05               | 578.04               | 577.98              |
| Max.<br>Hr.<br>Day | 578.75<br>2000<br>22 | 578.28<br>2200<br>1  | 578.73<br>1100<br>23 | 579.16<br>1300<br>30 | 579.64<br>2200<br>28 | 579.48<br>1200<br>29 | 579.48<br>2400<br>1 | 579.13<br>0300<br>17 | 579.20<br>2100<br>9  | 578.80<br>2400<br>28 | 579.85<br>2000<br>1  | 578.78<br>1800<br>6 |
| Min.<br>Hr.<br>Day | 576.92<br>1600<br>28 | 576.98<br>0200<br>15 | 576.71<br>1200<br>2  | 577.56<br>0900<br>10 | 578.20<br>0800<br>3  | 578.57<br>0300<br>28 | 578.39<br>1100<br>8 | 578.07<br>0400<br>31 | 577.34<br>2100<br>26 | 577.45<br>0200<br>22 | 577.26<br>2300<br>30 | 577.11<br>2400<br>1 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 578.25

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 909-9004 Point Iroquois, Michigan on Lake Superior (Whitefish Bay)

HIGHEST

Monthly mean elevation: 600.69 Dec  
Daily mean elevation: 601.35 26 Sep  
Instant/hourly elevation: 602.14 1000/30 Nov

LOWEST

Monthly mean elevation: 599.63 Mar  
Daily mean elevation: 599.37 22 Mar  
Instant/hourly elevation: 598.73 0800/29 May

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 600.31 | 600.02 | 600.20 | 600.15 | 600.36 | 600.47 | 600.89 | 600.90 | 601.35 | 600.98 | 601.22 | 601.08 |
| Day | 3      | 10     | 28     | 10     | 31     | 30     | 24     | 4      | 26     | 6      | 6      | 1      |
| Min | 599.67 | 599.54 | 599.37 | 599.56 | 600.02 | 600.17 | 600.36 | 600.41 | 600.36 | 600.12 | 600.31 | 600.39 |
| Day | 8      | 18     | 22     | 3      | 4      | 26     | 1      | 24     | 14     | 29     | 1      | 31     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 601.20         |     |     |     |     |     |     |     |     | 1   |     | 1   |     | 601.20         | 2                          |
| 601.00         |     |     |     |     |     |     |     |     | 1   |     | 2   | 1   | 601.00         | 6                          |
| 600.80         |     |     |     |     |     |     | 4   | 6   | 4   | 2   | 5   | 6   | 600.80         | 33                         |
| 600.60         |     |     |     |     |     |     | 16  | 17  | 9   | 11  | 11  | 16  | 600.60         | 113                        |
| 600.40         |     |     |     |     |     | 10  | 10  | 8   | 13  | 15  | 8   | 6   | 600.40         | 183                        |
| 600.20         | 7   |     |     |     | 11  | 18  | 1   |     | 2   | 1   | 3   | 2   | 600.20         | 228                        |
| 600.00         | 8   | 1   | 1   | 7   | 20  | 2   |     |     |     | 2   |     |     | 600.00         | 269                        |
| 599.80         | 11  | 8   | 3   | 12  |     |     |     |     |     |     |     |     | 599.80         | 303                        |
| 599.60         | 5   | 16  | 12  | 8   |     |     |     |     |     |     |     |     | 599.60         | 344                        |
| 599.40         |     | 3   | 12  | 3   |     |     |     |     |     |     |     |     | 599.40         | 362                        |
| 599.20         |     |     | 3   |     |     |     |     |     |     |     |     |     | 599.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 909-9004 Point Iroquois, Michigan on Lake Superior (Whitefish Bay)

| Day                | Jan                 | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 600.24              | 599.63               | 599.59               | 599.96               | 600.15               | 600.31               | 600.36               | 600.83               | 600.44               | 600.52               | 600.31               | 601.08              |
| 2                  | 600.29              | 599.74               | 599.87               | 599.67               | 600.24               | 600.34               | 600.44               | 600.82               | 600.36               | 600.60               | 600.59               | 600.72              |
| 3                  | 600.31              | 599.73               | 599.66               | 599.56               | 600.16               | 600.42               | 600.47               | 600.87               | 600.62               | 600.65               | 600.94               | 600.75              |
| 4                  | 600.22              | 599.79               | 599.67               | 599.59               | 600.02               | 600.40               | 600.51               | 600.90               | 600.64               | 600.56               | 600.88               | 600.94              |
| 5                  | 600.08              | 599.84               | 599.40               | 599.65               | 600.03               | 600.40               | 600.54               | 600.78               | 600.59               | 600.80               | 600.54               | 600.63              |
| 6                  | 600.25              | 599.72               | 599.92               | 599.66               | 600.06               | 600.37               | 600.54               | 600.71               | 600.56               | 600.98               | 601.22               | 600.46              |
| 7                  | 599.95              | 599.75               | 599.72               | 599.78               | 600.34               | 600.33               | 600.59               | 600.71               | 600.53               | 600.74               | 600.92               | 600.81              |
| 8                  | 599.67              | 599.81               | 599.52               | 599.88               | 600.15               | 600.32               | 600.69               | 600.73               | 600.43               | 600.52               | 600.68               | 600.76              |
| 9                  | 600.23              | 599.92               | 599.66               | 599.88               | 600.12               | 600.25               | 600.62               | 600.77               | 600.44               | 600.74               | 600.57               | 600.72              |
| 10                 | 599.86              | 600.02               | 599.66               | 600.15               | 600.10               | 600.34               | 600.66               | 600.78               | 600.85               | 600.67               | 600.73               | 600.66              |
| 11                 | 599.75              | 599.89               | 599.49               | 599.87               | 600.14               | 600.38               | 600.60               | 600.75               | 600.63               | 600.57               | 600.70               | 600.68              |
| 12                 | 599.99              | 599.81               | 599.54               | 599.76               | 600.19               | 600.45               | 600.65               | 600.72               | 600.52               | 600.67               | 600.60               | 600.54              |
| 13                 | 599.77              | 599.72               | 599.61               | 599.78               | 600.16               | 600.19               | 600.78               | 600.71               | 600.57               | 600.43               | 600.63               | 600.73              |
| 14                 | 599.95              | 599.97               | 599.62               | 599.60               | 600.22               | 600.23               | 600.66               | 600.67               | 600.36               | 600.41               | 600.52               | 600.93              |
| 15                 | 599.93              | 599.95               | 599.58               | 599.98               | 600.15               | 600.39               | 600.56               | 600.64               | 600.56               | 600.74               | 600.80               | 600.89              |
| 16                 | 599.98              | 599.79               | 599.54               | 600.09               | 600.23               | 600.46               | 600.54               | 600.60               | 600.70               | 600.41               | 600.73               | 600.62              |
| 17                 | 600.08              | 599.66               | 599.54               | 600.01               | 600.30               | 600.35               | 600.64               | 600.81               | 600.70               | 600.50               | 600.39               | 600.97              |
| 18                 | 600.04              | 599.54               | 599.58               | 599.95               | 600.19               | 600.32               | 600.60               | 600.82               | 601.01               | 600.78               | 600.32               | 600.80              |
| 19                 | 599.97              | 599.72               | 599.61               | 600.03               | 600.20               | 600.42               | 600.68               | 600.75               | 600.96               | 600.64               | 600.65               | 600.62              |
| 20                 | 600.02              | 599.63               | 599.43               | 600.01               | 600.13               | 600.41               | 600.62               | 600.62               | 600.77               | 600.53               | 600.70               | 600.62              |
| 21                 | 599.91              | 599.73               | 599.39               | 600.03               | 600.13               | 600.46               | 600.73               | 600.54               | 600.55               | 600.54               | 600.50               | 600.73              |
| 22                 | 599.70              | 599.92               | 599.37               | 600.02               | 600.08               | 600.46               | 600.70               | 600.76               | 600.50               | 600.22               | 600.64               | 600.67              |
| 23                 | 600.26              | 599.57               | 599.44               | 599.99               | 600.06               | 600.40               | 600.89               | 600.60               | 600.99               | 600.47               | 600.62               | 600.86              |
| 24                 | 600.08              | 599.77               | 599.78               | 599.96               | 600.22               | 600.32               | 600.89               | 600.41               | 600.63               | 600.51               | 601.01               | 600.78              |
| 25                 | 600.05              | 599.76               | 599.59               | 599.83               | 600.23               | 600.29               | 600.86               | 600.42               | 600.63               | 600.71               | 600.98               | 600.49              |
| 26                 | 599.97              | 599.67               | 599.46               | 599.87               | 600.14               | 600.17               | 600.78               | 600.49               | 601.35               | 600.58               | 600.53               | 600.66              |
| 27                 | 599.95              | 599.67               | 599.78               | 599.75               | 600.27               | 600.30               | 600.74               | 600.59               | 600.88               | 600.55               | 600.66               | 600.54              |
| 28                 | 600.06              | 599.56               | 600.20               | 599.86               | 600.27               | 600.47               | 600.72               | 600.62               | 600.67               | 600.16               | 600.83               | 600.52              |
| 29                 | 599.98              |                      | 599.98               | 599.79               | 600.16               | 600.42               | 600.78               | 600.56               | 600.51               | 600.12               | 600.52               | 600.56              |
| 30                 | 599.80              |                      | 599.72               | 599.83               | 600.34               | 600.47               | 600.83               | 600.73               | 600.41               | 600.81               | 601.01               | 600.40              |
| 31                 | 600.06              |                      | 599.71               |                      | 600.36               |                      | 600.72               | 600.69               |                      | 600.63               |                      | 600.39              |
| Mean               | 600.01              | 599.76               | 599.63               | 599.86               | 600.18               | 600.36               | 600.66               | 600.69               | 600.65               | 600.57               | 600.69               | 600.69              |
| Max.<br>Hr.<br>Day | 601.08<br>2300<br>1 | 600.23<br>1100<br>10 | 600.75<br>0300<br>28 | 600.50<br>1000<br>16 | 601.57<br>1100<br>29 | 601.13<br>1300<br>27 | 601.15<br>0700<br>24 | 601.04<br>0200<br>1  | 601.70<br>1800<br>18 | 601.19<br>2200<br>17 | 602.14<br>1000<br>30 | 601.99<br>1800<br>1 |
| Min.<br>Hr.<br>Day | 599.23<br>1000<br>8 | 599.33<br>1800<br>17 | 598.92<br>2000<br>5  | 599.11<br>1500<br>14 | 598.73<br>0800<br>29 | 599.47<br>1100<br>27 | 599.90<br>1000<br>1  | 600.18<br>0400<br>25 | 599.84<br>0200<br>30 | 599.67<br>0100<br>29 | 600.02<br>0200<br>18 | 599.92<br>1900<br>6 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 600.31



Annual Summary of Levels, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 909-9018 Marquette Coast Guard, Michigan on Lake Superior

HIGHEST

Monthly mean elevation: 600.79 Nov  
Daily mean elevation: 601.06 24 Nov  
Instant/hourly elevation: 601.26 2100/20 Jul

LOWEST

Monthly mean elevation: 599.76 Mar  
Daily mean elevation: 599.64 20 Mar  
Instant/hourly elevation: 599.43 2100/22 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 600.20 | 600.12 | 600.02 | 600.11 | 600.45 | 600.65 | 600.91 | 600.93 | 600.93 | 600.88 | 601.06 | 600.97 |
| Day | 6      | 15     | 2      | 30     | 31     | 29     | 25     | 18     | 26     | 6      | 24     | 15     |
| Min | 599.82 | 599.72 | 599.64 | 599.77 | 600.17 | 600.38 | 600.63 | 600.64 | 600.58 | 600.57 | 600.63 | 600.60 |
| Day | 22     | 28     | 20     | 3      | 1      | 26     | 1      | 26     | 2      | 28     | 2      | 31     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 601.00         |     |     |     |     |     |     |     |     |     |     | 1   |     | 601.00         | 1                          |
| 600.80         |     |     |     |     |     |     | 13  | 10  | 5   | 3   | 11  | 13  | 600.80         | 56                         |
| 600.60         |     |     |     |     |     | 1   | 18  | 21  | 24  | 25  | 18  | 17  | 600.60         | 180                        |
| 600.40         |     |     |     |     | 5   | 28  |     |     | 1   | 3   |     | 1   | 600.40         | 218                        |
| 600.20         |     |     |     |     | 25  | 1   |     |     |     |     |     |     | 600.20         | 244                        |
| 600.00         | 23  | 2   | 1   | 17  | 1   |     |     |     |     |     |     |     | 600.00         | 288                        |
| 599.80         | 8   | 17  | 8   | 11  |     |     |     |     |     |     |     |     | 599.80         | 332                        |
| 599.60         |     | 9   | 22  | 2   |     |     |     |     |     |     |     |     | 599.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 909-9018 Marquette Coast Guard, Michigan on Lake Superior

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 600.19               | 599.88               | 599.75               | 599.93               | 600.17               | 600.45               | 600.63               | 600.86               | 600.68               | 600.64               | 600.81               | 600.83               |
| 2                  | 600.18               | 599.87               | 600.02               | 599.83               | 600.22               | 600.47               | 600.67               | 600.89               | 600.58               | 600.71               | 600.63               | 600.87               |
| 3                  | 600.14               | 599.87               | 599.82               | 599.77               | 600.24               | 600.48               | 600.70               | 600.89               | 600.65               | 600.70               | 600.80               | 600.91               |
| 4                  | 600.09               | 599.90               | 599.72               | 599.80               | 600.23               | 600.46               | 600.73               | 600.87               | 600.73               | 600.72               | 600.89               | 600.92               |
| 5                  | 600.14               | 599.90               | 599.68               | 599.84               | 600.23               | 600.46               | 600.70               | 600.81               | 600.73               | 600.87               | 600.78               | 600.85               |
| 6                  | 600.20               | 599.88               | 599.95               | 599.89               | 600.30               | 600.46               | 600.70               | 600.79               | 600.70               | 600.88               | 600.88               | 600.74               |
| 7                  | 600.15               | 599.88               | 599.83               | 599.90               | 600.34               | 600.45               | 600.71               | 600.80               | 600.68               | 600.72               | 600.86               | 600.80               |
| 8                  | 600.01               | 599.87               | 599.70               | 599.95               | 600.29               | 600.44               | 600.75               | 600.80               | 600.65               | 600.69               | 600.77               | 600.87               |
| 9                  | 600.14               | 599.90               | 599.74               | 600.05               | 600.30               | 600.42               | 600.75               | 600.83               | 600.68               | 600.70               | 600.70               | 600.84               |
| 10                 | 600.09               | 600.00               | 599.73               | 600.03               | 600.29               | 600.42               | 600.76               | 600.83               | 600.75               | 600.73               | 600.86               | 600.75               |
| 11                 | 600.03               | 599.95               | 599.70               | 599.93               | 600.29               | 600.46               | 600.76               | 600.80               | 600.75               | 600.72               | 600.82               | 600.70               |
| 12                 | 600.07               | 599.83               | 599.68               | 599.90               | 600.30               | 600.45               | 600.75               | 600.78               | 600.69               | 600.73               | 600.73               | 600.76               |
| 13                 | 599.96               | 599.87               | 599.71               | 599.92               | 600.33               | 600.41               | 600.80               | 600.77               | 600.69               | 600.63               | 600.73               | 600.77               |
| 14                 | 600.04               | 600.11               | 599.69               | 599.94               | 600.29               | 600.50               | 600.76               | 600.76               | 600.71               | 600.65               | 600.73               | 600.85               |
| 15                 | 600.04               | 600.12               | 599.66               | 599.97               | 600.31               | 600.51               | 600.73               | 600.77               | 600.73               | 600.71               | 600.81               | 600.97               |
| 16                 | 600.02               | 599.82               | 599.67               | 600.04               | 600.34               | 600.51               | 600.71               | 600.77               | 600.74               | 600.60               | 600.75               | 600.81               |
| 17                 | 600.06               | 599.77               | 599.67               | 600.05               | 600.36               | 600.50               | 600.78               | 600.84               | 600.84               | 600.67               | 600.66               | 600.94               |
| 18                 | 600.05               | 599.76               | 599.66               | 600.06               | 600.34               | 600.49               | 600.76               | 600.93               | 600.84               | 600.74               | 600.66               | 600.91               |
| 19                 | 600.02               | 599.78               | 599.66               | 600.11               | 600.29               | 600.48               | 600.82               | 600.83               | 600.90               | 600.67               | 600.73               | 600.71               |
| 20                 | 600.19               | 599.76               | 599.64               | 600.10               | 600.30               | 600.50               | 600.83               | 600.75               | 600.82               | 600.63               | 600.75               | 600.71               |
| 21                 | 600.07               | 599.80               | 599.69               | 600.06               | 600.28               | 600.52               | 600.83               | 600.72               | 600.69               | 600.66               | 600.71               | 600.69               |
| 22                 | 599.82               | 599.92               | 599.65               | 600.04               | 600.30               | 600.52               | 600.82               | 600.79               | 600.68               | 600.64               | 600.76               | 600.75               |
| 23                 | 600.07               | 599.79               | 599.76               | 600.08               | 600.28               | 600.49               | 600.86               | 600.73               | 600.80               | 600.64               | 600.97               | 600.82               |
| 24                 | 600.09               | 599.84               | 599.79               | 600.06               | 600.33               | 600.48               | 600.91               | 600.65               | 600.77               | 600.72               | 601.06               | 600.76               |
| 25                 | 599.98               | 599.81               | 599.74               | 600.02               | 600.33               | 600.47               | 600.91               | 600.65               | 600.72               | 600.70               | 600.94               | 600.66               |
| 26                 | 599.86               | 599.77               | 599.79               | 600.04               | 600.41               | 600.38               | 600.85               | 600.64               | 600.93               | 600.71               | 600.72               | 600.70               |
| 27                 | 599.90               | 599.74               | 599.89               | 600.05               | 600.39               | 600.49               | 600.85               | 600.70               | 600.79               | 600.68               | 600.77               | 600.67               |
| 28                 | 600.06               | 599.72               | 600.00               | 600.09               | 600.42               | 600.56               | 600.86               | 600.71               | 600.68               | 600.57               | 600.82               | 600.63               |
| 29                 | 599.98               |                      | 599.99               | 600.09               | 600.42               | 600.65               | 600.86               | 600.68               | 600.65               | 600.60               | 600.79               | 600.66               |
| 30                 | 599.93               |                      | 599.83               | 600.11               | 600.45               | 600.56               | 600.85               | 600.74               | 600.65               | 600.78               | 600.92               | 600.62               |
| 31                 | 600.00               |                      | 599.85               |                      | 600.45               |                      | 600.83               | 600.80               |                      | 600.83               |                      | 600.60               |
| Mean               | 600.05               | 599.86               | 599.76               | 599.99               | 600.32               | 600.48               | 600.78               | 600.78               | 600.73               | 600.70               | 600.79               | 600.78               |
| Max.<br>Hr.<br>Day | 600.46<br>1900<br>1  | 600.36<br>0600<br>15 | 600.24<br>1400<br>6  | 600.30<br>0200<br>10 | 601.03<br>0400<br>30 | 601.23<br>1400<br>27 | 601.26<br>2100<br>20 | 601.01<br>0900<br>2  | 601.07<br>1700<br>18 | 601.13<br>0700<br>5  | 601.22<br>0700<br>30 | 601.11<br>2100<br>17 |
| Min.<br>Hr.<br>Day | 599.61<br>1600<br>22 | 599.58<br>1500<br>21 | 599.43<br>2100<br>22 | 599.61<br>1400<br>15 | 599.81<br>1500<br>29 | 599.77<br>2200<br>27 | 600.28<br>0100<br>17 | 600.39<br>1800<br>26 | 600.37<br>1000<br>9  | 600.34<br>1700<br>25 | 600.44<br>2200<br>2  | 600.29<br>1900<br>21 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 600.42

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 909-9044 Ontonagon, Michigan on Lake Superior

HIGHEST

Monthly mean elevation: 600.86 Nov  
Daily mean elevation: 601.06 1 Nov  
Instant/hourly elevation: 601.54 1500/29 May

LOWEST

Monthly mean elevation: 599.87 Mar  
Daily mean elevation: 599.75 24 Mar  
Instant/hourly elevation: 599.59 0500/27 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 600.30 | 600.08 | 600.05 | 600.34 | 600.62 | 600.73 | 600.95 | 600.90 | 600.94 | 600.89 | 601.06 | 600.94 |
| Day | 1      | 1      | 23     | 29     | 30     | 29     | 20     | 2      | 17     | 29     | 1      | 15     |
| Min | 600.02 | 599.77 | 599.75 | 599.88 | 600.21 | 600.49 | 600.76 | 600.70 | 600.68 | 600.69 | 600.75 | 600.68 |
| Day | 31     | 15     | 24     | 1      | 1      | 10     | 6      | 31     | 3      | 23     | 25     | 28     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 601.00         |     |     |     |     |     |     |     |     |     |     | 1   |     | 601.00         | 1                          |
| 600.80         |     |     |     |     |     |     | 23  | 14  | 9   | 6   | 21  | 17  | 600.80         | 91                         |
| 600.60         |     |     |     |     | 1   | 4   | 8   | 17  | 21  | 25  | 8   | 14  | 600.60         | 189                        |
| 600.40         |     |     |     |     | 23  | 26  |     |     |     |     |     |     | 600.40         | 238                        |
| 600.20         | 11  |     |     | 5   | 7   |     |     |     |     |     |     |     | 600.20         | 261                        |
| 600.00         | 20  | 1   | 2   | 17  |     |     |     |     |     |     |     |     | 600.00         | 301                        |
| 599.80         |     | 24  | 20  | 8   |     |     |     |     |     |     |     |     | 599.80         | 353                        |
| 599.60         |     | 3   | 9   |     |     |     |     |     |     |     |     |     | 599.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

International  
Great Lakes  
Datum (1955)

Station: 909-9044 Ontonagon, Michigan on Lake Superior

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 600.30               | 600.08               | 599.94               | 599.88               | 600.21               | 600.60               | 600.81               | 600.86               | 600.70               | 600.74               | 601.06               | 600.78              |
| 2                  | 600.25               | 600.00               | 599.86               | 599.93               | 600.26               | 600.53               | 600.81               | 600.90               | 600.68               | 600.74               | 600.93               | 600.94              |
| 3                  | 600.25               | 600.00               | 599.87               | 599.95               | 600.34               | 600.55               | 600.81               | 600.86               | 600.68               | 600.73               | 600.99               | 600.92              |
| 4                  | 600.19               | 599.98               | 599.85               | 599.97               | 600.40               | 600.55               | 600.78               | 600.84               | 600.73               | 600.77               | 600.93               | 600.85              |
| 5                  | 600.26               | 599.98               | 599.96               | 599.97               | 600.42               | 600.55               | 600.80               | 600.83               | 600.80               | 600.72               | 600.93               | 600.87              |
| 6                  | 600.23               | 599.96               | 599.78               | 600.01               | 600.44               | 600.55               | 600.76               | 600.86               | 600.79               | 600.74               | 600.82               | 600.89              |
| 7                  | 600.25               | 599.90               | 599.77               | 599.97               | 600.40               | 600.51               | 600.80               | 600.84               | 600.76               | 600.74               | 600.87               | 600.87              |
| 8                  | 600.26               | 599.86               | 599.84               | 599.98               | 600.46               | 600.53               | 600.79               | 600.80               | 600.78               | 600.82               | 600.81               | 600.87              |
| 9                  | 600.21               | 599.89               | 599.83               | 600.01               | 600.49               | 600.54               | 600.80               | 600.76               | 600.79               | 600.71               | 600.80               | 600.87              |
| 10                 | 600.22               | 599.89               | 599.82               | 599.89               | 600.48               | 600.49               | 600.82               | 600.76               | 600.78               | 600.74               | 600.89               | 600.82              |
| 11                 | 600.25               | 599.90               | 599.93               | 600.01               | 600.42               | 600.51               | 600.84               | 600.78               | 600.81               | 600.78               | 600.83               | 600.78              |
| 12                 | 600.17               | 599.90               | 599.88               | 600.05               | 600.44               | 600.54               | 600.84               | 600.76               | 600.82               | 600.74               | 600.82               | 600.88              |
| 13                 | 600.15               | 599.94               | 599.82               | 600.09               | 600.45               | 600.60               | 600.77               | 600.77               | 600.74               | 600.77               | 600.77               | 600.86              |
| 14                 | 600.16               | 599.87               | 599.75               | 600.18               | 600.43               | 600.56               | 600.77               | 600.79               | 600.89               | 600.78               | 600.84               | 600.88              |
| 15                 | 600.17               | 599.77               | 599.75               | 600.08               | 600.40               | 600.55               | 600.82               | 600.80               | 600.81               | 600.74               | 600.77               | 600.94              |
| 16                 | 600.14               | 599.81               | 599.79               | 600.11               | 600.41               | 600.53               | 600.84               | 600.86               | 600.80               | 600.82               | 600.78               | 600.93              |
| 17                 | 600.15               | 599.92               | 599.80               | 600.16               | 600.38               | 600.60               | 600.86               | 600.83               | 600.94               | 600.82               | 600.90               | 600.93              |
| 18                 | 600.17               | 599.96               | 599.76               | 600.19               | 600.44               | 600.59               | 600.90               | 600.80               | 600.89               | 600.73               | 600.91               | 600.86              |
| 19                 | 600.18               | 599.87               | 599.75               | 600.18               | 600.43               | 600.53               | 600.87               | 600.75               | 600.87               | 600.70               | 600.78               | 600.82              |
| 20                 | 600.21               | 599.88               | 599.89               | 600.14               | 600.45               | 600.57               | 600.95               | 600.73               | 600.84               | 600.74               | 600.77               | 600.77              |
| 21                 | 600.10               | 599.87               | 599.96               | 600.15               | 600.46               | 600.55               | 600.91               | 600.72               | 600.84               | 600.76               | 600.83               | 600.75              |
| 22                 | 600.06               | 599.80               | 600.02               | 600.15               | 600.49               | 600.53               | 600.87               | 600.73               | 600.78               | 600.79               | 600.85               | 600.72              |
| 23                 | 600.13               | 599.89               | 600.05               | 600.15               | 600.47               | 600.54               | 600.86               | 600.80               | 600.70               | 600.69               | 600.93               | 600.78              |
| 24                 | 600.12               | 599.82               | 599.75               | 600.16               | 600.42               | 600.53               | 600.91               | 600.82               | 600.78               | 600.76               | 600.80               | 600.75              |
| 25                 | 600.06               | 599.80               | 599.88               | 600.19               | 600.46               | 600.57               | 600.90               | 600.83               | 600.77               | 600.70               | 600.75               | 600.76              |
| 26                 | 600.02               | 599.84               | 599.98               | 600.23               | 600.60               | 600.62               | 600.90               | 600.82               | 600.70               | 600.75               | 600.84               | 600.72              |
| 27                 | 600.10               | 599.82               | 599.94               | 600.33               | 600.52               | 600.54               | 600.92               | 600.84               | 600.72               | 600.76               | 600.85               | 600.68              |
| 28                 | 600.14               | 599.87               | 599.98               | 600.26               | 600.54               | 600.62               | 600.92               | 600.82               | 600.74               | 600.87               | 600.84               | 600.68              |
| 29                 | 600.08               |                      | 599.92               | 600.34               | 600.49               | 600.73               | 600.87               | 600.79               | 600.76               | 600.89               | 600.91               | 600.70              |
| 30                 | 600.09               |                      | 599.94               | 600.28               | 600.62               | 600.71               | 600.84               | 600.78               | 600.73               | 600.76               | 600.85               | 600.71              |
| 31                 | 600.02               |                      | 599.93               |                      | 600.57               |                      | 600.82               | 600.70               |                      | 600.82               |                      | 600.69              |
| Mean               | 600.16               | 599.90               | 599.87               | 600.10               | 600.44               | 600.56               | 600.84               | 600.80               | 600.78               | 600.76               | 600.86               | 600.82              |
| Max.<br>Hr.<br>Day | 600.36<br>0700<br>1  | 600.14<br>1900<br>1  | 600.27<br>1400<br>23 | 600.44<br>2000<br>29 | 601.54<br>1500<br>29 | 601.34<br>1100<br>29 | 601.12<br>1200<br>20 | 601.04<br>1600<br>26 | 601.10<br>2300<br>18 | 600.99<br>1000<br>17 | 601.25<br>2300<br>1  | 601.08<br>1400<br>2 |
| Min.<br>Hr.<br>Day | 599.97<br>1500<br>31 | 599.70<br>1500<br>15 | 599.59<br>0500<br>27 | 599.78<br>1500<br>1  | 599.92<br>2000<br>29 | 599.80<br>1400<br>27 | 600.46<br>0400<br>1  | 600.59<br>2100<br>31 | 600.52<br>0900<br>23 | 600.60<br>0800<br>23 | 600.62<br>1700<br>30 | 600.56<br>1800<br>1 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 600.49

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 909-9064 Duluth, Minnesota on Lake Superior

HIGHEST

Monthly mean elevation: 601.00 Aug  
Daily mean elevation: 601.28 28 Oct  
Instant/hourly elevation: 601.75 1700/28 Oct

LOWEST

Monthly mean elevation: 599.95 Feb  
Daily mean elevation: 599.68 15 Feb  
Instant/hourly elevation: 599.43 0500/6 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 600.40 | 600.17 | 600.41 | 600.64 | 600.78 | 601.02 | 601.18 | 601.14 | 601.24 | 601.28 | 601.17 | 601.17 |
| Day | 10     | 13     | 22     | 27     | 29     | 30     | 1      | 24     | 14     | 28     | 1      | 2      |
| Min | 599.83 | 599.68 | 599.70 | 600.03 | 600.16 | 600.58 | 600.84 | 600.88 | 600.59 | 600.61 | 600.60 | 600.66 |
| Day | 25     | 15     | 6      | 1      | 1      | 10     | 23     | 30     | 26     | 6      | 6      | 1      |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 601.20         |     |     |     |     |     |     |     |     | 2   | 1   |     |     | 601.20         | 3                          |
| 601.00         |     |     |     |     |     | 1   | 13  | 11  | 8   | 4   | 9   | 5   | 601.00         | 54                         |
| 600.80         |     |     |     |     |     | 4   | 18  | 20  | 12  | 16  | 16  | 16  | 600.80         | 156                        |
| 600.60         |     |     |     | 2   | 16  | 24  |     |     | 7   | 10  | 4   | 10  | 600.60         | 229                        |
| 600.40         |     |     | 1   | 3   | 12  | 1   |     |     | 1   |     | 1   |     | 600.40         | 248                        |
| 600.20         | 8   |     | 4   | 14  | 2   |     |     |     |     |     |     |     | 600.20         | 276                        |
| 600.00         | 11  | 8   | 8   | 11  | 1   |     |     |     |     |     |     |     | 600.00         | 315                        |
| 599.80         | 12  | 17  | 16  |     |     |     |     |     |     |     |     |     | 599.80         | 360                        |
| 599.60         |     | 3   | 2   |     |     |     |     |     |     |     |     |     | 599.60         | 365                        |

## Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 909-9064 Duluth, Minnesota on Lake Superior

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 600.20               | 600.17               | 600.05               | 600.03               | 600.16               | 600.74               | 601.18              | 600.92               | 601.05               | 600.88               | 601.17               | 600.66               |
| 2                  | 600.08               | 599.99               | 599.92               | 600.13               | 600.30               | 600.70               | 601.00              | 601.05               | 601.02               | 600.80               | 600.62               | 601.17               |
| 3                  | 599.99               | 600.00               | 599.98               | 600.15               | 600.67               | 600.76               | 601.01              | 601.00               | 600.78               | 600.83               | 600.74               | 601.00               |
| 4                  | 599.97               | 599.98               | 599.98               | 600.11               | 600.71               | 600.77               | 600.97              | 600.99               | 600.82               | 600.87               | 600.94               | 600.82               |
| 5                  | 600.29               | 600.12               | 600.09               | 600.11               | 600.64               | 600.72               | 600.97              | 601.04               | 600.91               | 600.62               | 600.92               | 601.04               |
| 6                  | 600.16               | 600.05               | 599.70               | 600.13               | 600.40               | 600.70               | 600.88              | 601.10               | 600.94               | 600.61               | 600.60               | 601.04               |
| 7                  | 600.34               | 599.94               | 599.85               | 600.11               | 600.45               | 600.67               | 600.89              | 601.13               | 600.97               | 600.83               | 600.82               | 600.97               |
| 8                  | 600.27               | 599.88               | 600.04               | 600.22               | 600.63               | 600.72               | 600.91              | 601.09               | 601.21               | 600.89               | 600.87               | 600.90               |
| 9                  | 600.14               | 599.88               | 599.87               | 600.17               | 600.63               | 600.71               | 600.94              | 600.99               | 601.01               | 600.72               | 600.88               | 600.98               |
| 10                 | 600.40               | 599.74               | 600.07               | 600.07               | 600.57               | 600.58               | 600.98              | 600.96               | 600.93               | 600.87               | 601.05               | 600.81               |
| 11                 | 600.31               | 599.88               | 600.32               | 600.25               | 600.51               | 600.68               | 601.00              | 600.98               | 601.07               | 600.80               | 600.97               | 600.85               |
| 12                 | 600.14               | 599.95               | 600.17               | 600.32               | 600.56               | 600.80               | 601.02              | 600.95               | 601.05               | 600.84               | 600.93               | 600.93               |
| 13                 | 600.24               | 600.17               | 599.98               | 600.36               | 600.55               | 600.82               | 600.94              | 600.91               | 600.97               | 601.02               | 600.86               | 601.01               |
| 14                 | 600.18               | 599.87               | 599.90               | 600.42               | 600.56               | 600.79               | 600.98              | 600.91               | 601.24               | 600.68               | 601.01               | 600.69               |
| 15                 | 600.24               | 599.68               | 599.90               | 600.13               | 600.56               | 600.68               | 601.03              | 600.89               | 601.10               | 600.74               | 600.82               | 600.84               |
| 16                 | 600.10               | 599.81               | 599.95               | 600.10               | 600.59               | 600.65               | 601.01              | 600.99               | 600.76               | 600.92               | 600.91               | 601.01               |
| 17                 | 600.00               | 600.04               | 599.92               | 600.24               | 600.64               | 600.77               | 600.99              | 600.89               | 601.04               | 600.71               | 601.13               | 600.76               |
| 18                 | 600.17               | 600.16               | 599.80               | 600.30               | 600.67               | 600.75               | 601.05              | 600.99               | 600.74               | 600.64               | 601.10               | 600.89               |
| 19                 | 600.06               | 599.88               | 599.87               | 600.36               | 600.59               | 600.67               | 600.95              | 600.96               | 600.81               | 600.79               | 600.87               | 600.97               |
| 20                 | 600.26               | 599.98               | 600.11               | 600.29               | 600.57               | 600.76               | 601.08              | 601.00               | 600.92               | 600.85               | 600.86               | 600.71               |
| 21                 | 600.05               | 599.88               | 600.29               | 600.29               | 600.60               | 600.81               | 601.11              | 600.92               | 601.00               | 600.91               | 601.01               | 600.72               |
| 22                 | 600.00               | 599.80               | 600.41               | 600.27               | 600.61               | 600.74               | 600.97              | 600.91               | 600.68               | 601.12               | 600.91               | 600.69               |
| 23                 | 599.89               | 600.06               | 600.31               | 600.23               | 600.61               | 600.75               | 600.84              | 601.08               | 600.69               | 600.84               | 601.11               | 600.81               |
| 24                 | 599.96               | 599.85               | 599.90               | 600.31               | 600.52               | 600.74               | 600.93              | 601.14               | 600.86               | 600.85               | 600.79               | 600.71               |
| 25                 | 599.83               | 599.90               | 600.11               | 600.35               | 600.63               | 600.78               | 600.99              | 601.11               | 600.62               | 600.81               | 600.84               | 600.87               |
| 26                 | 599.90               | 599.93               | 600.22               | 600.48               | 600.61               | 600.85               | 601.01              | 601.05               | 600.59               | 600.98               | 601.08               | 600.79               |
| 27                 | 599.94               | 599.89               | 599.90               | 600.64               | 600.63               | 600.77               | 601.06              | 601.00               | 600.81               | 601.08               | 600.84               | 600.74               |
| 28                 | 599.98               | 600.03               | 599.82               | 600.44               | 600.68               | 600.80               | 601.16              | 601.02               | 600.82               | 601.28               | 600.95               | 600.78               |
| 29                 | 599.97               |                      | 599.97               | 600.63               | 600.78               | 600.89               | 601.08              | 600.95               | 601.05               | 600.92               | 601.12               | 600.86               |
| 30                 | 600.08               |                      | 600.08               | 600.35               | 600.70               | 601.02               | 601.05              | 600.88               | 600.77               | 600.84               | 600.71               | 600.86               |
| 31                 | 599.99               |                      | 599.97               |                      | 600.75               |                      | 600.94              | 601.12               |                      | 601.06               |                      | 600.86               |
| Mean               | 600.10               | 599.95               | 600.01               | 600.27               | 600.58               | 600.75               | 601.00              | 601.00               | 600.91               | 600.86               | 600.91               | 600.86               |
| Max.<br>Hr.<br>Day | 600.70<br>2400<br>10 | 600.55<br>1700<br>18 | 601.00<br>0200<br>23 | 601.00<br>0400<br>30 | 601.40<br>1400<br>29 | 601.59<br>0300<br>29 | 601.58<br>1700<br>1 | 601.38<br>2400<br>24 | 601.56<br>0900<br>14 | 601.75<br>1700<br>28 | 601.45<br>0200<br>18 | 601.54<br>1200<br>2  |
| Min.<br>Hr.<br>Day | 599.57<br>1700<br>25 | 599.48<br>1800<br>10 | 599.43<br>0500<br>6  | 599.65<br>0900<br>16 | 599.83<br>1300<br>1  | 600.21<br>0800<br>27 | 600.55<br>0300<br>8 | 600.63<br>0800<br>22 | 600.07<br>2200<br>25 | 600.16<br>2000<br>17 | 600.11<br>1800<br>2  | 600.18<br>2200<br>21 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 600.60

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1991

Station: 909-9090 Grand Marais, Minnesota on Lake Superior

HIGHEST

Monthly mean elevation: 600.76 Jul  
Daily mean elevation: 600.88 6 Dec  
Instant/hourly elevation: 601.46 1400/29 May

LOWEST

Monthly mean elevation: 599.74 Mar  
Daily mean elevation: 599.58 6 Mar  
Instant/hourly elevation: 599.37 1300/6 Mar

| ----- Extreme Daily Means by Month ----- |        |        |        |        |        |        |        |        |        |        |        |        |
|------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                                          | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
| Max                                      | 600.12 | 599.93 | 599.88 | 600.23 | 600.54 | 600.61 | 600.82 | 600.78 | 600.88 | 600.81 | 600.88 | 600.88 |
| Day                                      | 10     | 1      | 30     | 30     | 29     | 30     | 20     | 24     | 14     | 29     | 1      | 6      |
| Min                                      | 599.77 | 599.58 | 599.58 | 599.80 | 600.10 | 600.42 | 600.69 | 600.62 | 600.44 | 600.48 | 600.58 | 600.59 |
| Day                                      | 23     | 15     | 6      | 1      | 1      | 27     | 13     | 30     | 26     | 5      | 6      | 23     |

| ----- Frequency Distribution of Daily Mean Levels ----- |     |     |     |     |     |     |     |     |     |     |     |     | Elev.<br>(ft.) | No. of days<br>above elev. |
|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| Elev.<br>(ft.)                                          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |                |                            |
| 600.80                                                  |     |     |     |     |     |     | 4   |     | 2   | 1   | 6   | 4   | 600.80         | 17                         |
| 600.60                                                  |     |     |     |     |     | 1   | 27  | 31  | 24  | 22  | 22  | 24  | 600.60         | 168                        |
| 600.40                                                  |     |     |     |     | 5   | 29  |     |     | 4   | 8   | 2   | 3   | 600.40         | 219                        |
| 600.20                                                  |     |     |     | 3   | 24  |     |     |     |     |     |     |     | 600.20         | 246                        |
| 600.00                                                  | 10  |     |     | 12  | 2   |     |     |     |     |     |     |     | 600.00         | 270                        |
| 599.80                                                  | 19  | 9   | 7   | 14  |     |     |     |     |     |     |     |     | 599.80         | 319                        |
| 599.60                                                  | 2   | 18  | 23  | 1   |     |     |     |     |     |     |     |     | 599.60         | 363                        |
| 599.40                                                  |     | 1   | 1   |     |     |     |     |     |     |     |     |     | 599.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1991

Station: 909-9090 Grand Marais, Minnesota on Lake Superior

International  
Great Lakes  
Datum (1955)

| Day                | Jan                  | Feb                  | Mar                 | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 600.07               | 599.93               | 599.76              | 599.80               | 600.10               | 600.49               | 600.74               | 600.75               | 600.70               | 600.66               | 600.88               | 600.62               |
| 2                  | 600.01               | 599.85               | 599.66              | 599.88               | 600.14               | 600.46               | 600.71               | 600.77               | 600.70               | 600.60               | 600.82               | 600.87               |
| 3                  | 599.95               | 599.85               | 599.74              | 599.90               | 600.23               | 600.43               | 600.72               | 600.74               | 600.64               | 600.65               | 600.69               | 600.79               |
| 4                  | 599.95               | 599.83               | 599.70              | 599.89               | 600.29               | 600.44               | 600.71               | 600.73               | 600.64               | 600.65               | 600.79               | 600.68               |
| 5                  | 600.04               | 599.86               | 599.82              | 599.88               | 600.27               | 600.43               | 600.73               | 600.76               | 600.66               | 600.48               | 600.83               | 600.81               |
| 6                  | 599.98               | 599.86               | 599.58              | 599.90               | 600.21               | 600.44               | 600.71               | 600.78               | 600.66               | 600.53               | 600.58               | 600.88               |
| 7                  | 600.09               | 599.82               | 599.70              | 599.86               | 600.23               | 600.44               | 600.71               | 600.75               | 600.69               | 600.63               | 600.72               | 600.78               |
| 8                  | 600.10               | 599.77               | 599.77              | 599.86               | 600.32               | 600.46               | 600.72               | 600.70               | 600.81               | 600.68               | 600.81               | 600.75               |
| 9                  | 599.97               | 599.74               | 599.71              | 599.89               | 600.34               | 600.50               | 600.73               | 600.69               | 600.77               | 600.60               | 600.71               | 600.79               |
| 10                 | 600.12               | 599.65               | 599.73              | 599.81               | 600.31               | 600.43               | 600.72               | 600.69               | 600.65               | 600.65               | 600.78               | 600.74               |
| 11                 | 600.07               | 599.72               | 599.84              | 599.92               | 600.31               | 600.43               | 600.75               | 600.69               | 600.73               | 600.63               | 600.77               | 600.76               |
| 12                 | 600.00               | 599.75               | 599.76              | 599.95               | 600.30               | 600.44               | 600.75               | 600.68               | 600.75               | 600.63               | 600.79               | 600.76               |
| 13                 | 600.06               | 599.82               | 599.69              | 599.97               | 600.35               | 600.43               | 600.69               | 600.67               | 600.71               | 600.71               | 600.76               | 600.80               |
| 14                 | 600.02               | 599.66               | 599.66              | 600.06               | 600.30               | 600.48               | 600.74               | 600.69               | 600.88               | 600.63               | 600.76               | 600.67               |
| 15                 | 600.04               | 599.58               | 599.67              | 599.92               | 600.33               | 600.46               | 600.77               | 600.67               | 600.79               | 600.59               | 600.66               | 600.72               |
| 16                 | 599.97               | 599.69               | 599.69              | 599.94               | 600.32               | 600.46               | 600.73*              | 600.69               | 600.68               | 600.69               | 600.70               | 600.82               |
| 17                 | 599.91               | 599.77               | 599.69              | 600.03               | 600.31               | 600.52               | 600.79               | 600.67               | 600.80               | 600.69               | 600.79               | 600.61               |
| 18                 | 599.97               | 599.82               | 599.64              | 600.06               | 600.33               | 600.50               | 600.81               | 600.70               | 600.61               | 600.54               | 600.83               | 600.75               |
| 19                 | 599.99               | 599.72               | 599.64              | 600.04               | 600.32               | 600.50               | 600.78               | 600.71               | 600.65               | 600.59               | 600.71               | 600.77               |
| 20                 | 599.94               | 599.77               | 599.76              | 600.02               | 600.32               | 600.46               | 600.82               | 600.73               | 600.70               | 600.61               | 600.72               | 600.65               |
| 21                 | 599.91               | 599.73               | 599.78              | 600.02               | 600.33               | 600.45               | 600.80               | 600.72               | 600.75               | 600.65               | 600.79               | 600.62               |
| 22                 | 599.98               | 599.63               | 599.84              | 600.04               | 600.34               | 600.45               | 600.81               | 600.67               | 600.68               | 600.74               | 600.71               | 600.63               |
| 23                 | 599.77               | 599.77               | 599.85              | 600.04               | 600.34               | 600.46               | 600.72               | 600.78               | 600.56               | 600.59               | 600.80               | 600.59               |
| 24                 | 599.83               | 599.66               | 599.71              | 600.06               | 600.29               | 600.48               | 600.76               | 600.78               | 600.68               | 600.61               | 600.61               | 600.61               |
| 25                 | 599.82               | 599.71               | 599.82              | 600.11               | 600.34               | 600.50               | 600.76               | 600.76               | 600.59               | 600.63               | 600.67               | 600.69               |
| 26                 | 599.84               | 599.73               | 599.88              | 600.13               | 600.40               | 600.51               | 600.78               | 600.73               | 600.44               | 600.71               | 600.85               | 600.61               |
| 27                 | 599.83               | 599.72               | 599.74              | 600.21               | 600.42               | 600.42               | 600.80               | 600.72               | 600.60               | 600.68               | 600.71               | 600.60               |
| 28                 | 599.80               | 599.77               | 599.65              | 600.15               | 600.41               | 600.50               | 600.81               | 600.72               | 600.61               | 600.80               | 600.79               | 600.60               |
| 29                 | 599.83               |                      | 599.76              | 600.23               | 600.54               | 600.60               | 600.78               | 600.69               | 600.68               | 600.81               | 600.79               | 600.61               |
| 30                 | 599.91               |                      | 599.88              | 600.23               | 600.47               | 600.61               | 600.79               | 600.62               | 600.61               | 600.66               | 600.59               | 600.65               |
| 31                 | 599.81               |                      | 599.80              |                      | 600.48               |                      | 600.79               | 600.68               |                      | 600.79               |                      | 600.64               |
| Mean               | 599.95               | 599.76               | 599.74              | 599.99               | 600.32               | 600.47               | 600.76               | 600.71               | 600.68               | 600.65               | 600.75               | 600.71               |
| Max.<br>Hr.<br>Day | 600.37<br>0800<br>8  | 600.14<br>1700<br>1  | 600.29<br>1600<br>5 | 600.49<br>0900<br>30 | 601.46<br>1400<br>29 | 600.91<br>1100<br>29 | 601.13<br>0100<br>22 | 600.98<br>1600<br>25 | 601.17<br>0500<br>9  | 601.23<br>0800<br>29 | 601.20<br>0800<br>18 | 601.16<br>1800<br>6  |
| Min.<br>Hr.<br>Day | 599.56<br>1700<br>27 | 599.46<br>2100<br>15 | 599.37<br>1300<br>6 | 599.62<br>0800<br>16 | 599.85<br>1800<br>29 | 599.92<br>0400<br>27 | 600.40<br>2200<br>16 | 600.43<br>2400<br>1  | 600.17<br>2300<br>25 | 600.28<br>1700<br>17 | 600.21<br>0600<br>30 | 600.15<br>2200<br>21 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 600.37



# Monthly Water Level Stages, in Feet, 1900 thru Dec 1991

## L a k e O n t a r i o a t O s w e g o

International Great  
Lakes Datum (1955)

Chart Datum  
242.80

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1946   | 1952   | 1952   | 1973   | 1952   | 1952   | 1947   | 1947   | 1947   | 1945   | 1945   | 1945   |
| High | 246.10 | 246.46 | 246.77 | 247.69 | 247.95 | 248.06 | 247.74 | 247.45 | 246.91 | 246.33 | 246.18 | 246.19 |
| Mean | 244.09 | 244.17 | 244.44 | 245.11 | 245.51 | 245.64 | 245.52 | 245.17 | 244.73 | 244.35 | 244.10 | 244.04 |
|      | 1935   | 1936   | 1935   | 1935   | 1935   | 1935   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   |
| Low  | 241.67 | 241.59 | 242.08 | 242.38 | 242.67 | 242.91 | 242.75 | 242.26 | 241.94 | 241.72 | 241.45 | 241.48 |

## M o n t h l y C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1991    | 1932    | 1976    | 1936    | 1929    | 1947    | 1917    | 1915    | 1915    | 1945    | 1926    | 1927    |
| Max<br>Rise | +0.95   | +0.70   | +1.15   | +1.54   | +0.99   | +1.12   | +0.48   | +0.30   | +0.03   | +0.36   | +0.31   | +0.80   |
| Mean        | +0.05   | +0.09   | +0.26   | +0.68   | +0.40   | +0.13   | -0.11   | -0.35   | -0.44   | -0.39   | -0.25   | -0.06   |
|             | 1918    | 1964    | 1978    | 1915    | 1987    | 1987    | 1978    | 1973    | 1974    | 1974    | 1964    | 1904    |
| Max<br>Fall | -0.58   | -0.51   | -0.48   | -0.23   | -0.24   | -0.35   | -0.60   | -0.84   | -0.93   | -0.91   | -0.67   | -0.55   |

1900 thru 1991 mean 244.74

# Monthly Water Level Stages, in Feet, 1900 thru Dec 1991

## L a k e E r i e a t C l e v e l a n d

Chart Datum  
568.60

International Great  
Lakes Datum (1955)

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1987   | 1986   | 1986   | 1985   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   |
| High | 573.05 | 572.85 | 573.11 | 573.46 | 573.43 | 573.70 | 573.66 | 573.37 | 572.96 | 573.31 | 573.01 | 573.11 |
| Mean | 570.01 | 570.00 | 570.26 | 570.80 | 571.08 | 571.21 | 571.16 | 570.96 | 570.68 | 570.35 | 570.09 | 570.03 |
|      | 1935   | 1936   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   |
| Low  | 567.62 | 567.49 | 567.65 | 568.20 | 568.43 | 568.46 | 568.46 | 568.36 | 568.23 | 567.95 | 567.60 | 567.53 |

## M o n t h l y C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1950    | 1990    | 1976    | 1913    | 1947    | 1989    | 1902    | 1915    | 1926    | 1986    | 1985    | 1927    |
| Max<br>Rise | +0.78   | +0.70   | +1.12   | +1.58   | +0.95   | +0.66   | +0.63   | +0.26   | +0.13   | +0.35   | +0.54   | +0.52   |
| Mean        | -0.01   | -0.01   | +0.26   | +0.54   | +0.28   | +0.13   | -0.05   | -0.19   | -0.29   | -0.32   | -0.27   | -0.06   |
|             | 1918    | 1956    | 1931    | 1918    | 1985    | 1977    | 1919    | 1930    | 1937    | 1966    | 1924    | 1917    |
| Max<br>Fall | -0.67   | -0.56   | -0.31   | +0.02   | -0.18   | -0.24   | -0.33   | -0.46   | -0.57   | -0.64   | -0.64   | -0.42   |

1900 thru 1991 mean 570.55

# Monthly Water Level Stages, in Feet, 1900 thru Dec 1991

## L a k e   S t .   C l a i r   a t   S t .   C l a i r   S h o r e s

International Great  
Lakes Datum (1955)

Chart Datum  
571.70

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   |
| High | 576.13 | 576.17 | 576.17 | 576.21 | 576.25 | 576.51 | 576.56 | 576.45 | 576.31 | 576.69 | 576.20 | 576.14 |
| Mean | 572.85 | 572.62 | 573.02 | 573.55 | 573.83 | 574.00 | 574.07 | 573.95 | 573.74 | 573.46 | 573.17 | 573.18 |
|      | 1936   | 1926   | 1934   | 1901   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1925   |
| Low  | 569.86 | 569.88 | 570.41 | 571.09 | 571.64 | 571.74 | 571.88 | 571.60 | 571.36 | 571.13 | 570.83 | 571.05 |

## M o n t h l y   C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1916    | 1981    | 1956    | 1913    | 1984    | 1901    | 1902    | 1915    | 1912    | 1986    | 1985    | 1914    |
| Max<br>Rise | +0.57   | +0.97   | +1.79   | +1.53   | +1.42   | +0.81   | +0.62   | +0.22   | +0.08   | +0.38   | +0.42   | +0.63   |
| Mean        | -0.32   | -0.24   | +0.41   | +0.53   | +0.28   | +0.17   | +0.06   | -0.11   | -0.22   | -0.28   | -0.29   | +0.01   |
|             | 1956    | 1939    | 1932    | 1984    | 1987    | 1977    | 1919    | 1921    | 1913    | 1948    | 1924    | 1919    |
| Max<br>Fall | -1.86   | -1.68   | -0.82   | -1.55   | -0.15   | -0.16   | -0.21   | -0.32   | -0.49   | -0.56   | -0.65   | -0.48   |

1900 thru 1991   mean   573.45

# Monthly Water Level Stages, in Feet, 1900 thru Dec 1991

## L a k e   H u r o n - M i c h i g a n   a t   H a r b o r   B e a c h

Chart Datum  
576.80

International Great  
Lakes Datum (1955)

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1987   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   |
| High | 580.65 | 580.36 | 580.40 | 580.75 | 580.89 | 581.07 | 581.27 | 581.34 | 581.26 | 581.62 | 581.29 | 580.87 |
| Mean | 577.92 | 577.87 | 577.92 | 578.19 | 578.49 | 578.71 | 578.84 | 578.79 | 578.63 | 578.42 | 578.21 | 578.05 |
|      | 1965   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   |
| Low  | 575.39 | 575.44 | 575.35 | 575.36 | 575.79 | 575.90 | 575.96 | 575.97 | 575.94 | 575.77 | 575.57 | 575.40 |

## M o n t h l y   C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1960    | 1938    | 1976    | 1929    | 1960    | 1943    | 1917    | 1972    | 1972    | 1986    | 1928    | 1934    |
| Max<br>Rise | +0.13   | +0.37   | +0.35   | +0.70   | +0.83   | +0.68   | +0.43   | +0.18   | +0.13   | +0.36   | +0.16   | +0.23   |
| Mean        | -0.14   | -0.04   | +0.04   | +0.27   | +0.30   | +0.22   | +0.13   | -0.05   | -0.16   | -0.21   | -0.20   | -0.16   |
|             | 1944    | 1987    | 1968    | 1915    | 1987    | 1988    | 1988    | 1931    | 1955    | 1948    | 1930    | 1929    |
| Max<br>Fall | -0.39   | -0.30   | -0.26   | -0.12   | -0.07   | -0.08   | -0.20   | -0.27   | -0.55   | -0.55   | -0.53   | -0.51   |

1900 thru 1991   mean   578.34

# Monthly Water Level Stages, in Feet, 1900 thru Dec 1991

## L a k e   S u p e r i o r   a t   M a r q u e t t e

International Great  
Lakes Datum (1955)

Chart Datum  
600.00

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1985   | 1985   | 1985   | 1985   |
| High | 601.64 | 601.38 | 601.31 | 601.49 | 601.72 | 601.77 | 601.91 | 602.04 | 602.06 | 602.24 | 602.24 | 601.99 |
| Mean | 600.38 | 600.17 | 600.04 | 600.09 | 600.42 | 600.70 | 600.92 | 601.02 | 601.05 | 600.98 | 600.85 | 600.63 |
|      | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1925   | 1925   | 1925   |
| Low  | 598.58 | 598.37 | 598.32 | 598.23 | 598.30 | 598.63 | 598.99 | 599.15 | 599.46 | 599.49 | 599.17 | 598.94 |

## M o n t h l y   C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1939    | 1937    | 1979    | 1945    | 1960    | 1950    | 1952    | 1911    | 1900    | 1941    | 1970    | 1909    |
| Max<br>Rise | -0.08   | -0.05   | +0.09   | +0.45   | +0.75   | +0.61   | +0.49   | +0.47   | +0.52   | +0.35   | +0.22   | +0.00   |
| Mean        | -0.25   | -0.21   | -0.13   | +0.05   | +0.33   | +0.28   | +0.21   | +0.10   | +0.02   | -0.06   | -0.13   | -0.22   |
|             | 1908    | 1978    | 1956    | 1975    | 1929    | 1986    | 1910    | 1954    | 1954    | 1952    | 1952    | 1904    |
| Max<br>Fall | -0.44   | -0.37   | -0.31   | -0.20   | -0.02   | +0.05   | -0.02   | -0.09   | -0.23   | -0.47   | -0.48   | -0.40   |

1900 thru 1991   mean   600.61

W a t e r   L e v e l s  
i n  
M e t e r s

( I G L D   1 9 8 5 )

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 831-1030 Ogdensburg, New York on St. Lawrence River

HIGHEST

Monthly mean elevation: 74.92 May  
Daily mean elevation: 75.06 23 Apr  
Instant/hourly elevation: 75.18 1100/28 Mar

LOWEST

Monthly mean elevation: 74.10 Nov  
Daily mean elevation: 73.94 11 Nov  
Instant/hourly elevation: 73.62 0700/3 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max | 74.80 | 74.71 | 74.90 | 75.06 | 75.05 | 74.92 | 74.79 | 74.69 | 74.40 | 74.32 | 74.27 | 74.26 |
| Day | 18 | 9 | 28 | 23 | 7 | 7 | 8 | 1 | 23 | 7 | 25 | 15 |
| Min | 74.49 | 74.51 | 74.47 | 74.69 | 74.84 | 74.70 | 74.62 | 74.40 | 74.21 | 74.00 | 73.94 | 73.95 |
| Day | 11 | 25 | 3 | 21 | 18 | 30 | 29 | 31 | 25 | 31 | 11 | 3 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.05          |     |     |     | 1   |     |     |     |     |     |     |     |     | 75.05          | 1                          |
| 75.00          |     |     |     | 5   | 3   |     |     |     |     |     |     |     | 75.00          | 9                          |
| 74.95          |     |     |     | 3   | 3   |     |     |     |     |     |     |     | 74.95          | 15                         |
| 74.90          |     |     |     | 4   | 11  | 6   |     |     |     |     |     |     | 74.90          | 36                         |
| 74.85          |     |     | 1   | 6   | 12  | 11  |     |     |     |     |     |     | 74.85          | 66                         |
| 74.80          |     |     | 1   | 1   | 2   | 6   |     |     |     |     |     |     | 74.80          | 76                         |
| 74.75          | 1   |     | 1   |     |     | 5   | 9   |     |     |     |     |     | 74.75          | 92                         |
| 74.70          | 6   | 2   | 4   | 8   |     | 1   | 13  |     |     |     |     |     | 74.70          | 126                        |
| 74.65          | 8   | 5   | 9   | 2   |     | 1   | 7   | 2   |     |     |     |     | 74.65          | 160                        |
| 74.60          | 10  | 11  | 8   |     |     |     | 2   | 4   |     |     |     |     | 74.60          | 195                        |
| 74.55          | 4   | 4   | 2   |     |     |     |     | 11  |     |     |     |     | 74.55          | 216                        |
| 74.50          | 1   | 6   | 2   |     |     |     |     | 1   |     |     |     |     | 74.50          | 226                        |
| 74.45          | 1   |     | 3   |     |     |     |     | 7   |     |     |     |     | 74.45          | 237                        |
| 74.40          |     |     |     |     |     |     |     | 5   |     |     |     |     | 74.40          | 242                        |
| 74.35          |     |     |     |     |     |     |     | 1   |     |     |     |     | 74.35          | 252                        |
| 74.30          |     |     |     |     |     |     |     |     | 9   |     |     |     | 74.30          | 266                        |
| 74.25          |     |     |     |     |     |     |     |     | 12  | 2   |     |     | 74.25          | 279                        |
| 74.20          |     |     |     |     |     |     |     |     | 7   | 4   | 1   | 1   | 74.20          | 290                        |
| 74.15          |     |     |     |     |     |     |     |     | 2   | 7   |     |     | 74.15          | 317                        |
| 74.10          |     |     |     |     |     |     |     |     |     | 14  | 4   | 9   | 74.10          | 332                        |
| 74.05          |     |     |     |     |     |     |     |     |     |     | 7   | 8   | 74.05          | 352                        |
| 74.00          |     |     |     |     |     |     |     |     |     |     | 12  | 8   | 74.00          | 361                        |
| 73.95          |     |     |     |     |     |     |     |     |     | 3   | 4   | 2   | 73.95          | 363                        |
| 73.90          |     |     |     |     |     |     |     |     |     | 1   | 1   | 1   | 73.90          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 831-1030 Ogdensburg, New York on St. Lawrence River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                 | Mar                 | Apr                 | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                 | Dec                 |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1                  | 74.60               | 74.62               | 74.53               | 74.71               | 75.00               | 74.92               | 74.72               | 74.69               | 74.35               | 74.28               | 73.99               | 74.18               |
| 2                  | 74.61               | 74.66               | 74.56               | 74.74               | 75.04               | 74.92               | 74.70               | 74.68               | 74.36               | 74.27               | 74.16               | 74.06               |
| 3                  | 74.59               | 74.67               | 74.47               | 74.72               | 75.01               | 74.90               | 74.69               | 74.64               | 74.40               | 74.25               | 74.19               | 73.95               |
| 4                  | 74.70               | 74.64               | 74.49               | 74.70               | 74.94               | 74.86               | 74.68               | 74.64               | 74.40               | 74.19               | 74.15               | 74.12               |
| 5                  | 74.62               | 74.64               | 74.64               | 74.71               | 74.90               | 74.87               | 74.72               | 74.63               | 74.38               | 74.25               | 74.11               | 74.07               |
| 6                  | 74.62               | 74.63               | 74.64               | 74.74               | 74.94               | 74.88               | 74.75               | 74.61               | 74.36               | 74.31               | 74.17               | 74.04               |
| 7                  | 74.57               | 74.65               | 74.85               | 74.75               | 75.05               | 74.92               | 74.78               | 74.60               | 74.35               | 74.32               | 74.06               | 74.17               |
| 8                  | 74.52               | 74.71               | 74.74               | 74.73               | 75.00               | 74.90               | 74.79               | 74.58               | 74.34               | 74.29               | 74.07               | 74.09               |
| 9                  | 74.67               | 74.71               | 74.71               | 74.72               | 74.96               | 74.88               | 74.78               | 74.50               | 74.32               | 74.30               | 74.06               | 74.15               |
| 10                 | 74.62               | 74.70               | 74.69               | 74.96               | 74.94               | 74.91               | 74.78               | 74.58               | 74.39               | 74.25               | 74.01               | 74.12               |
| 11                 | 74.49               | 74.68               | 74.68               | 75.01               | 74.95               | 74.91               | 74.78               | 74.58               | 74.32               | 74.20               | 73.94               | 74.20               |
| 12                 | 74.56               | 74.65               | 74.70               | 74.94               | 74.94               | 74.91               | 74.75               | 74.56               | 74.30               | 74.21               | 74.06               | 74.14               |
| 13                 | 74.63               | 74.60               | 74.68               | 74.89               | 74.92               | 74.88               | 74.72               | 74.57               | 74.29               | 74.20               | 74.10               | 74.20               |
| 14                 | 74.66               | 74.56               | 74.62               | 74.87               | 74.87               | 74.88               | 74.74               | 74.57               | 74.28               | 74.18               | 74.10               | 74.20               |
| 15                 | 74.64               | 74.66               | 74.64               | 74.89               | 74.88               | 74.88               | 74.75               | 74.60               | 74.32               | 74.24               | 74.14               | 74.26               |
| 16                 | 74.62               | 74.62               | 74.68               | 74.97               | 74.89               | 74.88               | 74.77               | 74.58               | 74.35               | 74.23               | 74.08               | 74.13               |
| 17                 | 74.71               | 74.62               | 74.66               | 74.90               | 74.84               | 74.85               | 74.77               | 74.60               | 74.39               | 74.20               | 74.07               | 74.07               |
| 18                 | 74.80               | 74.52               | 74.61               | 74.89               | 74.84               | 74.84               | 74.75               | 74.59               | 74.34               | 74.23               | 74.06               | 74.09               |
| 19                 | 74.74               | 74.54               | 74.68               | 74.86               | 74.87               | 74.85               | 74.74               | 74.45               | 74.34               | 74.18               | 74.08               | 74.15               |
| 20                 | 74.70               | 74.62               | 74.65               | 74.83               | 74.88               | 74.87               | 74.75               | 74.43               | 74.31               | 74.19               | 74.10               | 74.18               |
| 21                 | 74.64               | 74.61               | 74.57               | 74.69               | 74.91               | 74.83               | 74.72               | 74.48               | 74.30               | 74.20               | 74.09               | 74.24               |
| 22                 | 74.68               | 74.65               | 74.50               | 74.94               | 74.89               | 74.77               | 74.67               | 74.53               | 74.30               | 74.20               | 74.02               | 74.24               |
| 23                 | 74.75               | 74.57               | 74.55               | 75.06               | 74.88               | 74.77               | 74.76               | 74.47               | 74.40               | 74.16               | 74.04               | 74.20               |
| 24                 | 74.74               | 74.55               | 74.67               | 75.04               | 74.90               | 74.78               | 74.77               | 74.42               | 74.28               | 74.18               | 74.14               | 74.10               |
| 25                 | 74.70               | 74.51               | 74.66               | 75.02               | 74.89               | 74.78               | 74.72               | 74.43               | 74.21               | 74.18               | 74.27               | 74.11               |
| 26                 | 74.71               | 74.53               | 74.63               | 75.02               | 74.86               | 74.79               | 74.72               | 74.49               | 74.31               | 74.17               | 74.13               | 74.16               |
| 27                 | 74.72               | 74.56               | 74.65               | 75.02               | 74.92               | 74.81               | 74.68               | 74.50               | 74.37               | 74.17               | 74.11               | 74.14               |
| 28                 | 74.70               | 74.54               | 74.90               | 74.91               | 74.93               | 74.84               | 74.67               | 74.49               | 74.31               | 74.04               | 74.18               | 74.17               |
| 29                 | 74.63               |                     | 74.78               | 74.93               | 74.91               | 74.72               | 74.62               | 74.44               | 74.28               | 74.01               | 74.05               | 74.06               |
| 30                 | 74.62               |                     | 74.71               | 74.98               | 74.90               | 74.70               | 74.65               | 74.47               | 74.24               | 74.02               | 74.15               | 74.03               |
| 31                 | 74.67               |                     | 74.72               |                     | 74.94               |                     | 74.70               | 74.40               |                     | 74.00               |                     | 74.10               |
| Mean               | 74.65               | 74.61               | 74.65               | 74.87               | 74.92               | 74.85               | 74.73               | 74.54               | 74.33               | 74.20               | 74.10               | 74.13               |
| Max.<br>Hr.<br>Day | 74.96<br>1600<br>18 | 74.75<br>1400<br>8  | 75.18<br>1100<br>28 | 75.12<br>1900<br>10 | 75.10<br>1600<br>7  | 74.98<br>1200<br>12 | 74.88<br>0700<br>8  | 74.75<br>1800<br>1  | 74.51<br>0400<br>4  | 74.44<br>2200<br>5  | 74.36<br>0900<br>25 | 74.61<br>2300<br>14 |
| Min.<br>Hr.<br>Day | 74.44<br>2000<br>11 | 74.47<br>0200<br>23 | 74.28<br>0400<br>4  | 74.57<br>2000<br>21 | 74.72<br>1700<br>17 | 74.65<br>0700<br>30 | 74.59<br>2100<br>29 | 74.33<br>2400<br>31 | 74.11<br>0500<br>25 | 73.94<br>2300<br>30 | 73.88<br>0900<br>11 | 73.62<br>0700<br>3  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 74.55



Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 831-1062 Alexandria Bay C.G., New York on St. Lawrence River

HIGHEST

Monthly mean elevation: 75.19 May  
Daily mean elevation: 75.28 7 May  
Instant/hourly elevation: 75.33 1400/2 May

LOWEST

Monthly mean elevation: 74.25 Nov  
Daily mean elevation: 74.14 11 Nov  
Instant/hourly elevation: 73.99 0600/3 Dec

----- Extreme Daily Means by Month -----

|     | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max | 74.96 | 74.98 | 75.12 | 75.25 | 75.28 | 75.17 | 75.04 | 74.91 | 74.58 | 74.46 | 74.38 | 74.38 |
| Day | 31    | 15    | 28    | 27    | 7     | 1     | 8     | 2     | 4     | 7     | 25    | 15    |
| Min | 74.67 | 74.86 | 74.82 | 74.99 | 75.12 | 74.98 | 74.88 | 74.60 | 74.41 | 74.22 | 74.14 | 74.18 |
| Day | 11    | 28    | 3     | 4     | 26    | 30    | 29    | 31    | 25    | 31    | 11    | 3     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.25          |     |     |     |     | 5   |     |     |     |     |     |     |     | 75.25          | 5                          |
| 75.20          |     |     |     | 7   | 6   |     |     |     |     |     |     |     | 75.20          | 18                         |
| 75.15          |     |     |     | 4   | 12  | 2   |     |     |     |     |     |     | 75.15          | 36                         |
| 75.10          |     |     | 1   | 6   | 8   | 17  |     |     |     |     |     |     | 75.10          | 68                         |
| 75.05          |     |     | 1   | 3   |     | 3   |     |     |     |     |     |     | 75.05          | 75                         |
| 75.00          |     |     | 1   | 3   |     | 6   | 5   |     |     |     |     |     | 75.00          | 90                         |
| 74.95          | 1   | 1   | 13  | 7   |     | 2   | 19  |     |     |     |     |     | 74.95          | 133                        |
| 74.90          | 5   | 16  | 8   |     |     |     | 5   | 2   |     |     |     |     | 74.90          | 169                        |
| 74.85          | 7   | 11  | 5   |     |     |     | 2   | 4   |     |     |     |     | 74.85          | 198                        |
| 74.80          | 8   |     | 2   |     |     |     |     | 2   |     |     |     |     | 74.80          | 210                        |
| 74.75          | 4   |     |     |     |     |     |     | 5   |     |     |     |     | 74.75          | 219                        |
| 74.70          | 4   |     |     |     |     |     |     | 6   |     |     |     |     | 74.70          | 229                        |
| 74.65          | 2   |     |     |     |     |     |     | 7   |     |     |     |     | 74.65          | 238                        |
| 74.60          |     |     |     |     |     |     |     | 4   |     |     |     |     | 74.60          | 242                        |
| 74.55          |     |     |     |     |     |     |     | 1   |     |     |     |     | 74.55          | 250                        |
| 74.50          |     |     |     |     |     |     |     |     | 7   |     |     |     | 74.50          | 261                        |
| 74.45          |     |     |     |     |     |     |     |     | 11  |     |     |     | 74.45          | 272                        |
| 74.40          |     |     |     |     |     |     |     |     | 9   |     |     |     | 74.40          | 282                        |
| 74.35          |     |     |     |     |     |     |     |     | 3   |     |     |     | 74.35          | 296                        |
| 74.30          |     |     |     |     |     |     |     |     |     | 12  | 1   | 1   | 74.30          | 312                        |
| 74.25          |     |     |     |     |     |     |     |     |     | 6   | 3   | 7   | 74.25          | 335                        |
| 74.20          |     |     |     |     |     |     |     |     |     |     | 9   | 14  | 74.20          | 360                        |
| 74.15          |     |     |     |     |     |     |     |     |     | 4   | 13  | 8   | 74.15          | 364                        |
| 74.10          |     |     |     |     |     |     |     |     |     |     | 3   | 1   | 74.10          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 831-1062 Alexandria Bay C.G., New York on St. Lawrence River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                 | Mar                 | Apr                 | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                 | Dec                 |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1                  | 74.75               | 74.90               | 74.85               | 75.00               | 75.26               | 75.17               | 74.99               | 74.91               | 74.56               | 74.44               | 74.20               | 74.29               |
| 2                  | 74.75               | 74.95               | 74.86               | 75.03               | 75.28               | 75.16               | 74.97               | 74.91               | 74.56               | 74.43               | 74.32               | 74.21               |
| 3                  | 74.75               | 74.94               | 74.82               | 75.00               | 75.27               | 75.15               | 74.96               | 74.88               | 74.58               | 74.41               | 74.32               | 74.18               |
| 4                  | 74.82               | 74.93               | 74.87               | 74.99               | 75.22               | 75.13               | 74.95               | 74.88               | 74.58               | 74.37               | 74.29               | 74.27               |
| 5                  | 74.76               | 74.92               | 74.94               | 75.00               | 75.20               | 75.13               | 74.98               | 74.87               | 74.56               | 74.42               | 74.26               | 74.23               |
| 6                  | 74.76               | 74.91               | 74.93               | 75.00               | 75.23               | 75.13               | 75.00               | 74.86               | 74.55               | 74.46               | 74.32               | 74.22               |
| 7                  | 74.72               | 74.92               | 75.08               | 75.01               | 75.28               | 75.14               | 75.01               | 74.85               | 74.55               | 74.46               | 74.23               | 74.31               |
| 8                  | 74.69               | 74.95               | 75.00               | 75.00               | 75.26               | 75.14               | 75.04               | 74.83               | 74.54               | 74.43               | 74.24               | 74.25               |
| 9                  | 74.82               | 74.95               | 74.98               | 75.00               | 75.23               | 75.12               | 75.03               | 74.73               | 74.52               | 74.44               | 74.23               | 74.30               |
| 10                 | 74.77               | 74.94               | 74.98               | 75.14               | 75.22               | 75.14               | 75.02               | 74.78               | 74.57               | 74.41               | 74.19               | 74.27               |
| 11                 | 74.67               | 74.94               | 74.97               | 75.17               | 75.22               | 75.14               | 75.02               | 74.77               | 74.51               | 74.38               | 74.14               | 74.32               |
| 12                 | 74.77               | 74.92               | 74.98               | 75.12               | 75.22               | 75.15               | 75.00               | 74.75               | 74.50               | 74.38               | 74.22               | 74.28               |
| 13                 | 74.82               | 74.90               | 74.96               | 75.09               | 75.20               | 75.13               | 74.98               | 74.75               | 74.49               | 74.38               | 74.26               | 74.32               |
| 14                 | 74.84               | 74.89               | 74.94               | 75.08               | 75.18               | 75.13               | 74.99               | 74.75               | 74.47               | 74.35               | 74.24               | 74.33               |
| 15                 | 74.82               | 74.98               | 74.95               | 75.12               | 75.17               | 75.12               | 74.98               | 74.77               | 74.52               | 74.40               | 74.28               | 74.38               |
| 16                 | 74.81               | 74.94               | 74.97               | 75.17               | 75.16               | 75.14               | 74.99               | 74.75               | 74.53               | 74.39               | 74.24               | 74.28               |
| 17                 | 74.88               | 74.94               | 74.95               | 75.14               | 75.14               | 75.11               | 75.00               | 74.76               | 74.55               | 74.36               | 74.22               | 74.25               |
| 18                 | 74.95               | 74.86               | 74.93               | 75.13               | 75.14               | 75.10               | 74.98               | 74.77               | 74.52               | 74.38               | 74.22               | 74.26               |
| 19                 | 74.90               | 74.89               | 74.98               | 75.11               | 75.15               | 75.11               | 74.98               | 74.67               | 74.52               | 74.36               | 74.24               | 74.29               |
| 20                 | 74.86               | 74.93               | 74.96               | 75.10               | 75.15               | 75.12               | 74.98               | 74.66               | 74.50               | 74.36               | 74.24               | 74.30               |
| 21                 | 74.83               | 74.91               | 74.88               | 75.04               | 75.16               | 75.09               | 74.96               | 74.68               | 74.49               | 74.36               | 74.24               | 74.35               |
| 22                 | 74.87               | 74.94               | 74.86               | 75.19               | 75.16               | 75.04               | 74.94               | 74.71               | 74.48               | 74.36               | 74.20               | 74.35               |
| 23                 | 74.95               | 74.87               | 74.89               | 75.24               | 75.14               | 75.04               | 74.99               | 74.67               | 74.56               | 74.33               | 74.21               | 74.32               |
| 24                 | 74.92               | 74.89               | 74.97               | 75.25               | 75.15               | 75.04               | 74.98               | 74.63               | 74.45               | 74.34               | 74.29               | 74.25               |
| 25                 | 74.90               | 74.86               | 74.96               | 75.24               | 75.15               | 75.03               | 74.96               | 74.63               | 74.41               | 74.34               | 74.38               | 74.27               |
| 26                 | 74.91               | 74.87               | 74.94               | 75.24               | 75.12               | 75.04               | 74.97               | 74.66               | 74.50               | 74.33               | 74.26               | 74.30               |
| 27                 | 74.92               | 74.88               | 74.95               | 75.25               | 75.16               | 75.05               | 74.93               | 74.66               | 74.52               | 74.33               | 74.26               | 74.28               |
| 28                 | 74.90               | 74.86               | 75.12               | 75.19               | 75.17               | 75.06               | 74.91               | 74.66               | 74.47               | 74.24               | 74.29               | 74.30               |
| 29                 | 74.84               |                     | 75.03               | 75.21               | 75.16               | 74.99               | 74.88               | 74.63               | 74.46               | 74.23               | 74.21               | 74.22               |
| 30                 | 74.87               |                     | 75.00               | 75.24               | 75.16               | 74.98               | 74.90               | 74.65               | 74.42               | 74.23               | 74.29               | 74.21               |
| 31                 | 74.96               |                     | 74.99               |                     | 75.18               |                     | 74.92               | 74.60               |                     | 74.22               |                     | 74.26               |
| Mean               | 74.83               | 74.91               | 74.95               | 75.12               | 75.19               | 75.10               | 74.97               | 74.74               | 74.52               | 74.36               | 74.25               | 74.28               |
| Max.<br>Hr.<br>Day | 75.08<br>1600<br>18 | 75.04<br>0200<br>17 | 75.29<br>1000<br>28 | 75.29<br>2000<br>30 | 75.33<br>1400<br>2  | 75.23<br>1500<br>12 | 75.12<br>0700<br>8  | 74.96<br>1600<br>2  | 74.65<br>1300<br>23 | 74.55<br>2100<br>6  | 74.44<br>1400<br>25 | 74.63<br>2200<br>14 |
| Min.<br>Hr.<br>Day | 74.63<br>1800<br>11 | 74.78<br>0100<br>23 | 74.76<br>0300<br>4  | 74.96<br>1800<br>9  | 75.06<br>1700<br>17 | 74.92<br>0500<br>30 | 74.86<br>0800<br>29 | 74.52<br>2400<br>31 | 74.36<br>0400<br>25 | 74.18<br>2100<br>30 | 74.11<br>0400<br>11 | 73.99<br>0600<br>3  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 74.77

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 831-2000 Cape Vincent, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 75.28 May  
Daily mean elevation: 75.34 7 May  
Instant/hourly elevation: 75.41 2000/1 May

LOWEST

Monthly mean elevation: 74.34 Nov  
Daily mean elevation: 74.28 11 Nov  
Instant/hourly elevation: 74.02 0400/3 Dec

----- Extreme Daily Means by Month -----

|     | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max | 75.03 | 75.05 | 75.17 | 75.32 | 75.34 | 75.24 | 75.10 | 74.94 | 74.70 | 74.56 | 74.43 | 74.43 |
| Day | 31    | 15    | 28    | 30    | 7     | 2     | 8     | 1     | 4     | 6     | 2     | 15    |
| Min | 74.79 | 74.95 | 74.91 | 75.07 | 75.21 | 75.05 | 74.93 | 74.72 | 74.54 | 74.36 | 74.28 | 74.29 |
| Day | 11    | 25    | 3     | 8     | 26    | 30    | 29    | 31    | 30    | 31    | 11    | 2     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.30          |     |     |     | 1   | 9   |     |     |     |     |     |     |     | 75.30          | 10                         |
| 75.25          |     |     |     | 8   | 9   |     |     |     |     |     |     |     | 75.25          | 27                         |
| 75.20          |     |     |     |     | 13  | 10  |     |     |     |     |     |     | 75.20          | 50                         |
| 75.15          |     |     | 1   | 8   |     | 10  |     |     |     |     |     |     | 75.15          | 69                         |
| 75.10          |     |     | 1   | 5   |     | 2   |     |     |     |     |     |     | 75.10          | 77                         |
| 75.05          |     |     | 11  | 8   |     | 6   | 10  |     |     |     |     |     | 75.05          | 112                        |
| 75.00          | 4   | 7   | 12  |     |     | 2   | 13  |     |     |     |     |     | 75.00          | 150                        |
| 74.95          | 6   | 19  | 3   |     |     |     | 6   |     |     |     |     |     | 74.95          | 184                        |
| 74.90          | 6   | 2   | 3   |     |     |     | 2   | 5   |     |     |     |     | 74.90          | 202                        |
| 74.85          | 3   |     |     |     |     |     |     | 9   |     |     |     |     | 74.85          | 214                        |
| 74.80          | 8   |     |     |     |     |     |     | 7   |     |     |     |     | 74.80          | 229                        |
| 74.75          | 1   |     |     |     |     |     |     | 8   |     |     |     |     | 74.75          | 238                        |
| 74.70          |     |     |     |     |     |     |     | 2   |     |     |     |     | 74.70          | 240                        |
| 74.65          |     |     |     |     |     |     |     |     | 9   |     |     |     | 74.65          | 249                        |
| 74.60          |     |     |     |     |     |     |     |     | 14  |     |     |     | 74.60          | 263                        |
| 74.55          |     |     |     |     |     |     |     |     | 5   | 1   |     |     | 74.55          | 269                        |
| 74.50          |     |     |     |     |     |     |     |     | 2   | 9   |     |     | 74.50          | 280                        |
| 74.45          |     |     |     |     |     |     |     |     |     | 11  |     |     | 74.45          | 291                        |
| 74.40          |     |     |     |     |     |     |     |     |     | 6   | 4   | 4   | 74.40          | 305                        |
| 74.35          |     |     |     |     |     |     |     |     |     | 4   | 4   | 18  | 74.35          | 331                        |
| 74.30          |     |     |     |     |     |     |     |     |     |     | 18  | 8   | 74.30          | 357                        |
| 74.25          |     |     |     |     |     |     |     |     |     |     | 4   | 1   | 74.25          | 362                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 831-2000 Cape Vincent, New York on Lake Ontario

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                 | Mar                 | Apr                 | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                 | Dec                 |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1                  | 74.85               | 74.97               | 74.94               | 75.09               | 75.32               | 75.24               | 75.05               | 74.94               | 74.70               | 74.54               | 74.34               | 74.36               |
| 2                  | 74.84               | 75.01               | 74.95               | 75.11               | 75.34               | 75.24               | 75.04               | 74.93               | 74.69               | 74.53               | 74.43               | 74.29               |
| 3                  | 74.85               | 75.00               | 74.91               | 75.08               | 75.34               | 75.23               | 75.03               | 74.91               | 74.70               | 74.52               | 74.41               | 74.33               |
| 4                  | 74.89               | 74.98               | 75.00               | 75.07               | 75.32               | 75.22               | 75.03               | 74.92               | 74.70               | 74.49               | 74.38               | 74.35               |
| 5                  | 74.85               | 74.98               | 75.02               | 75.08               | 75.30               | 75.22               | 75.07               | 74.91               | 74.68               | 74.54               | 74.36               | 74.33               |
| 6                  | 74.85               | 74.97               | 75.02               | 75.07               | 75.33               | 75.22               | 75.07               | 74.90               | 74.67               | 74.56               | 74.41               | 74.34               |
| 7                  | 74.82               | 74.98               | 75.15               | 75.08               | 75.34               | 75.22               | 75.08               | 74.89               | 74.67               | 74.55               | 74.33               | 74.40               |
| 8                  | 74.81               | 75.00               | 75.07               | 75.07               | 75.33               | 75.22               | 75.10               | 74.88               | 74.66               | 74.53               | 74.34               | 74.35               |
| 9                  | 74.90               | 75.01               | 75.06               | 75.08               | 75.31               | 75.20               | 75.08               | 74.84               | 74.65               | 74.53               | 74.33               | 74.38               |
| 10                 | 74.85               | 75.00               | 75.06               | 75.17               | 75.31               | 75.21               | 75.08               | 74.88               | 74.68               | 74.52               | 74.30               | 74.37               |
| 11                 | 74.79               | 75.00               | 75.06               | 75.16               | 75.30               | 75.20               | 75.08               | 74.86               | 74.64               | 74.49               | 74.28               | 74.38               |
| 12                 | 74.88               | 74.99               | 75.06               | 75.13               | 75.30               | 75.21               | 75.07               | 74.85               | 74.62               | 74.49               | 74.32               | 74.36               |
| 13                 | 74.91               | 74.97               | 75.05               | 75.12               | 75.29               | 75.19               | 75.06               | 74.86               | 74.62               | 74.49               | 74.34               | 74.39               |
| 14                 | 74.94               | 74.97               | 75.03               | 75.12               | 75.28               | 75.18               | 75.06               | 74.85               | 74.61               | 74.47               | 74.32               | 74.43               |
| 15                 | 74.91               | 75.05               | 75.05               | 75.17               | 75.27               | 75.18               | 75.04               | 74.88               | 74.64               | 74.51               | 74.35               | 74.43               |
| 16                 | 74.91               | 75.03               | 75.06               | 75.19               | 75.26               | 75.19               | 75.04               | 74.85*              | 74.64               | 74.49               | 74.32               | 74.38               |
| 17                 | 74.96               | 75.01               | 75.04               | 75.19               | 75.26               | 75.17               | 75.04               | 74.87*              | 74.64               | 74.47               | 74.31               | 74.37               |
| 18                 | 75.00               | 74.95               | 75.03               | 75.19               | 75.26               | 75.16               | 75.02               | 74.88               | 74.64               | 74.48               | 74.31               | 74.37               |
| 19                 | 74.96               | 74.98               | 75.07               | 75.18               | 75.25               | 75.17               | 75.02               | 74.81               | 74.63               | 74.47               | 74.32               | 74.39               |
| 20                 | 74.95*              | 75.02               | 75.04               | 75.17               | 75.25               | 75.17               | 75.02               | 74.79               | 74.62               | 74.46               | 74.32               | 74.39               |
| 21                 | /                   | 74.99               | 74.99               | 75.15               | 75.25               | 75.14               | 75.01               | 74.82               | 74.60               | 74.47               | 74.32               | 74.42               |
| 22                 | /                   | 75.01               | 74.98               | 75.27               | 75.24               | 75.11               | 74.99               | 74.82               | 74.60               | 74.45               | 74.30               | 74.42               |
| 23                 | /                   | 74.96               | 75.03               | 75.26               | 75.23               | 75.10               | 75.03               | 74.79               | 74.65               | 74.44               | 74.31               | 74.39               |
| 24                 | 74.99*              | 74.98               | 75.07               | 75.28               | 75.23               | 75.10               | 75.02               | 74.76               | 74.56               | 74.44               | 74.37               | 74.35               |
| 25                 | 75.00               | 74.95               | 75.05               | 75.29               | 75.23               | 75.10               | 75.00               | 74.76               | 74.54               | 74.44               | 74.41               | 74.37               |
| 26                 | 75.02               | 74.97               | 75.03               | 75.30               | 75.21               | 75.10               | 75.00               | 74.78               | 74.62               | 74.43               | 74.33               | 74.40               |
| 27                 | 75.02               | 74.97               | 75.05               | 75.30               | 75.24               | 75.10               | 74.98               | 74.77               | 74.61               | 74.43               | 74.35               | 74.36               |
| 28                 | 75.01               | 74.96               | 75.17               | 75.28               | 75.24               | 75.10               | 74.96               | 74.77               | 74.57               | 74.37               | 74.35               | 74.37               |
| 29                 | 74.95               |                     | 75.10               | 75.29               | 75.23               | 75.05               | 74.93               | 74.75               | 74.56               | 74.37               | 74.30               | 74.33               |
| 30                 | 74.97               |                     | 75.09               | 75.32               | 75.24               | 75.05               | 74.95               | 74.76               | 74.54               | 74.37               | 74.37               | 74.34               |
| 31                 | 75.03               |                     | 75.07               |                     | 75.24               |                     | 74.96               | 74.72               |                     | 74.36               |                     | 74.37               |
| Mean               | 74.92               | 74.99               | 75.04               | 75.18               | 75.28               | 75.17               | 75.03               | 74.84               | 74.63               | 74.47               | 74.34               | 74.37               |
| Max.<br>Hr.<br>Day | 75.11<br>0300<br>28 | 75.14<br>2400<br>16 | 75.38<br>0800<br>28 | 75.36<br>1900<br>30 | 75.41<br>2000<br>1  | 75.29<br>1300<br>12 | 75.21<br>0500<br>8  | 74.96<br>0100<br>18 | 74.76<br>0200<br>4  | 74.69<br>2100<br>5  | 74.50<br>2400<br>27 | 74.83<br>1900<br>14 |
| Min.<br>Hr.<br>Day | 74.76<br>1200<br>11 | 74.87<br>2300<br>22 | 74.87<br>0100<br>4  | 75.03<br>2300<br>9  | 75.13<br>1100<br>26 | 74.98<br>0500<br>30 | 74.91<br>0700<br>29 | 74.67<br>2300<br>31 | 74.48<br>0200<br>25 | 74.31<br>2000<br>30 | 74.22<br>0800<br>11 | 74.02<br>0400<br>3  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 74.85

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 905-2030 Oswego, New York on Lake Ontario

## HIGHEST

Monthly mean elevation: 75.28 May  
Daily mean elevation: 75.36 3 May  
Instant/hourly elevation: 75.41 1800/1 May

## LOWEST

Monthly mean elevation: 74.36 Nov  
Daily mean elevation: 74.32 27 Nov  
Instant/hourly elevation: 74.11 0300/3 Dec

## ----- Extreme Daily Means by Month -----

|     | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max | 75.07 | 75.06 | 75.15 | 75.32 | 75.36 | 75.26 | 75.12 | 74.97 | 74.74 | 74.58 | 74.41 | 74.47 |
| Day | 31    | 15    | 7     | 30    | 3     | 2     | 8     | 5     | 1     | 7     | 25    | 15    |
| Min | 74.82 | 74.96 | 74.95 | 75.08 | 75.23 | 75.09 | 74.93 | 74.75 | 74.53 | 74.40 | 74.32 | 74.35 |
| Day | 1     | 18    | 1     | 7     | 26    | 30    | 30    | 26    | 30    | 29    | 27    | 12    |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.35          |     |     |     |     | 1   |     |     |     |     |     |     |     | 75.35          | 1                          |
| 75.30          |     |     |     | 5   | 11  |     |     |     |     |     |     |     | 75.30          | 17                         |
| 75.25          |     |     |     | 5   | 9   | 2   |     |     |     |     |     |     | 75.25          | 33                         |
| 75.20          |     |     |     | 1   | 10  | 13  |     |     |     |     |     |     | 75.20          | 57                         |
| 75.15          |     |     |     | 6   |     | 6   |     |     |     |     |     |     | 75.15          | 69                         |
| 75.10          |     |     | 3   | 5   |     | 4   | 1   |     |     |     |     |     | 75.10          | 82                         |
| 75.05          | 1   | 1   | 14  | 8   |     | 5   | 11  |     |     |     |     |     | 75.05          | 122                        |
| 75.00          | 5   | 10  | 10  |     |     |     | 15  |     |     |     |     |     | 75.00          | 162                        |
| 74.95          | 9   | 17  | 3   |     |     |     | 1   | 3   |     |     |     |     | 74.95          | 195                        |
| 74.90          | 5   |     | 1   |     |     |     | 3   | 5   |     |     |     |     | 74.90          | 209                        |
| 74.85          | 6   |     |     |     |     |     |     | 10  |     |     |     |     | 74.85          | 225                        |
| 74.80          | 5   |     |     |     |     |     |     | 5   |     |     |     |     | 74.80          | 235                        |
| 74.75          |     |     |     |     |     |     |     | 7   |     |     |     |     | 74.75          | 242                        |
| 74.70          |     |     |     |     |     |     |     | 1   | 3   |     |     |     | 74.70          | 246                        |
| 74.65          |     |     |     |     |     |     |     |     | 12  |     |     |     | 74.65          | 258                        |
| 74.60          |     |     |     |     |     |     |     |     | 8   |     |     |     | 74.60          | 266                        |
| 74.55          |     |     |     |     |     |     |     |     | 6   | 2   |     |     | 74.55          | 274                        |
| 74.50          |     |     |     |     |     |     |     |     | 1   | 12  |     |     | 74.50          | 287                        |
| 74.45          |     |     |     |     |     |     |     |     |     | 9   |     | 1   | 74.45          | 297                        |
| 74.40          |     |     |     |     |     |     |     |     |     | 7   |     | 10  | 74.40          | 316                        |
| 74.35          |     |     |     |     |     |     |     |     |     | 1   | 12  | 17  | 74.35          | 346                        |
| 74.30          |     |     |     |     |     |     |     |     |     |     | 16  | 3   | 74.30          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 905-2030 Oswego, New York on Lake Ontario

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                 | Mar                 | Apr                 | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                 | Dec                 |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1                  | 74.82               | 75.00               | 74.95               | 75.10               | 75.32               | 75.26               | 75.08               | 74.93               | 74.74               | 74.54               | 74.38               | 74.36               |
| 2                  | 74.84               | 74.97               | 74.96               | 75.12               | 75.34               | 75.26               | 75.06               | 74.96               | 74.71               | 74.52               | 74.41               | 74.35               |
| 3                  | 74.86               | 74.99               | 75.00               | 75.09               | 75.36               | 75.25               | 75.05               | 74.94               | 74.70               | 74.53               | 74.40               | 74.36               |
| 4                  | 74.88               | 74.99               | 75.05               | 75.08               | 75.34               | 75.25               | 75.04               | 74.96               | 74.72               | 74.52               | 74.39               | 74.42               |
| 5                  | 74.85               | 74.99               | 75.04               | 75.08               | 75.32               | 75.23               | 75.05               | 74.97               | 74.70               | 74.52               | 74.38               | 74.37               |
| 6                  | 74.87               | 74.99               | 75.02               | 75.08               | 75.31               | 75.22               | 75.06               | 74.94               | 74.69               | 74.56               | 74.37               | 74.38               |
| 7                  | 74.87               | 75.01               | 75.15               | 75.08               | 75.33               | 75.22               | 75.07               | 74.92               | 74.69               | 74.58               | 74.38               | 74.37               |
| 8                  | 74.84               | 75.01               | 75.10               | 75.09               | 75.33               | 75.22               | 75.12               | 74.90               | 74.69               | 74.53               | 74.36               | 74.35               |
| 9                  | 74.87               | 75.02               | 75.08               | 75.10               | 75.32               | 75.21               | 75.10               | 74.89               | 74.67               | 74.51               | 74.35               | 74.40               |
| 10                 | 74.90               | 75.02               | 75.10               | 75.15               | 75.32               | 75.20               | 75.10               | 74.90               | 74.69               | 74.53               | 74.35               | 74.38               |
| 11                 | 74.84               | 75.04               | 75.09               | 75.19               | 75.31               | 75.22               | 75.09               | 74.92               | 74.68               | 74.52               | 74.37               | 74.38               |
| 12                 | 74.91               | 75.01               | 75.09               | 75.15               | 75.31               | 75.25               | 75.08               | 74.89               | 74.66               | 74.52               | 74.34               | 74.35               |
| 13                 | 74.92               | 74.98               | 75.08               | 75.14               | 75.30               | 75.24               | 75.08               | 74.88               | 74.65               | 74.52               | 74.34               | 74.38               |
| 14                 | 74.91               | 75.00               | 75.07               | 75.14               | 75.30               | 75.22               | 75.06               | 74.88               | 74.63               | 74.48               | 74.34               | 74.45               |
| 15                 | 74.92               | 75.06               | 75.07               | 75.16               | 75.28               | 75.20               | 75.06               | 74.88               | 74.63               | 74.48               | 74.35               | 74.47               |
| 16                 | 74.93               | 75.04               | 75.07               | 75.20               | 75.27               | 75.22               | 75.05               | 74.88               | 74.64               | 74.50               | 74.38               | 74.41               |
| 17                 | 74.99               | 75.01               | 75.05               | 75.21               | 75.29               | 75.21               | 75.04               | 74.86               | 74.67               | 74.49               | 74.34               | 74.37               |
| 18                 | 75.04               | 74.96               | 75.05               | 75.20               | 75.28               | 75.20               | 75.04               | 74.88               | 74.65               | 74.49               | 74.32               | 74.43               |
| 19                 | 74.96               | 74.98               | 75.08               | 75.20               | 75.27               | 75.18               | 75.04               | 74.85               | 74.68               | 74.51               | 74.32               | 74.41               |
| 20                 | 74.99               | 75.02               | 75.07               | 75.20               | 75.26               | 75.19               | 75.04               | 74.81               | 74.66               | 74.48               | 74.34               | 74.38               |
| 21                 | 75.00               | 74.99               | 75.03               | 75.26               | 75.25               | 75.18               | 75.03               | 74.82               | 74.63               | 74.46               | 74.36               | 74.44               |
| 22                 | 74.98               | 75.04               | 75.03               | 75.27               | 75.25               | 75.14               | 75.02               | 74.82               | 74.58               | 74.46               | 74.35               | 74.41               |
| 23                 | 74.99               | 75.00               | 74.98               | 75.27               | 75.24               | 75.13               | 75.05               | 74.81               | 74.60               | 74.44               | 74.33               | 74.41               |
| 24                 | 75.04               | 74.98               | 75.05               | 75.30               | 75.23               | 75.12               | 75.04               | 74.78               | 74.59               | 74.44               | 74.37               | 74.39               |
| 25                 | 75.01               | 74.98               | 75.06               | 75.30               | 75.23               | 75.10               | 75.03               | 74.76               | 74.58               | 74.44               | 74.41               | 74.41               |
| 26                 | 75.00               | 74.99               | 75.05               | 75.31               | 75.23               | 75.10               | 75.04               | 74.75               | 74.62               | 74.44               | 74.36               | 74.39               |
| 27                 | 74.99               | 74.99               | 75.03               | 75.32               | 75.24               | 75.10               | 75.02               | 74.76               | 74.63               | 74.46               | 74.32               | 74.40               |
| 28                 | 75.01               | 74.97               | 75.11               | 75.31               | 75.24               | 75.11               | 74.99               | 74.76               | 74.60               | 74.43               | 74.35               | 74.38               |
| 29                 | 74.98               |                     | 75.11               | 75.31               | 75.24               | 75.10               | 74.95               | 74.77               | 74.58               | 74.40               | 74.33               | 74.39               |
| 30                 | 75.01               |                     | 75.10               | 75.32               | 75.24               | 75.09               | 74.93               | 74.78               | 74.53               | 74.42               | 74.35               | 74.41               |
| 31                 | 75.07               |                     | 75.09               |                     | 75.26               |                     | 74.95               | 74.79               |                     | 74.41               |                     | 74.39               |
| Mean               | 74.94               | 75.00               | 75.06               | 75.19               | 75.28               | 75.19               | 75.04               | 74.86               | 74.65               | 74.49               | 74.36               | 74.39               |
| Max.<br>Hr.<br>Day | 75.14<br>1500<br>18 | 75.11<br>0100<br>1  | 75.25<br>0400<br>28 | 75.36<br>1400<br>30 | 75.41<br>1800<br>1  | 75.31<br>1600<br>12 | 75.17<br>1000<br>8  | 74.99<br>1500<br>4  | 74.77<br>0200<br>1  | 74.65<br>2000<br>5  | 74.46<br>1700<br>2  | 74.68<br>1800<br>14 |
| Min.<br>Hr.<br>Day | 74.76<br>2300<br>11 | 74.91<br>1800<br>18 | 74.90<br>1700<br>27 | 75.04<br>2100<br>9  | 75.16<br>1300<br>30 | 75.03<br>0100<br>27 | 74.90<br>0400<br>30 | 74.72<br>0400<br>27 | 74.49<br>2200<br>30 | 74.38<br>0400<br>29 | 74.24<br>1100<br>21 | 74.11<br>0300<br>3  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 74.87

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 905-2058 Rochester, New York on Lake Ontario

## HIGHEST

Monthly mean elevation: 75.28 May  
Daily mean elevation: 75.34 4 May  
Instant/hourly elevation: 75.41 1500/1 May

## LOWEST

Monthly mean elevation: 74.35 Nov  
Daily mean elevation: 74.32 27 Nov  
Instant/hourly elevation: 74.23 0600/3 Dec

## ----- Extreme Daily Means by Month -----

|            | Jan         | Feb         | Mar         | Apr         | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov         | Dec         |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Max<br>Day | 75.00<br>25 | 75.02<br>11 | 75.10<br>30 | 75.32<br>29 | 75.34<br>4  | 75.25<br>1  | 75.10<br>9  | 74.94<br>5  | 74.74<br>1  | 74.53<br>4  | 74.38<br>2  | 74.42<br>30 |
| Min<br>Day | 74.82<br>1  | 74.96<br>28 | 74.96<br>2  | 75.07<br>7  | 75.23<br>30 | 75.09<br>30 | 74.91<br>30 | 74.76<br>26 | 74.52<br>30 | 74.40<br>31 | 74.32<br>27 | 74.35<br>1  |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.30          |     |     |     | 5   | 10  |     |     |     |     |     |     |     | 75.30          | 15                         |
| 75.25          |     |     |     | 4   | 9   |     |     |     |     |     |     |     | 75.25          | 28                         |
| 75.20          |     |     |     | 2   | 12  | 12  |     |     |     |     |     |     | 75.20          | 54                         |
| 75.15          |     |     |     | 6   |     | 9   |     |     |     |     |     |     | 75.15          | 69                         |
| 75.10          |     |     |     | 5   |     | 3   |     |     |     |     |     |     | 75.10          | 77                         |
| 75.05          |     |     | 15  | 8   |     | 6   | 10  |     |     |     |     |     | 75.05          | 116                        |
| 75.00          |     | 3   | 13  |     |     |     | 16  |     |     |     |     |     | 75.00          | 148                        |
| 74.95          | 14  | 25  | 3   |     |     |     | 2   |     |     |     |     |     | 74.95          | 192                        |
| 74.90          | 4   |     |     |     |     |     | 3   | 6   |     |     |     |     | 74.90          | 205                        |
| 74.85          | 6   |     |     |     |     |     |     | 12  |     |     |     |     | 74.85          | 223                        |
| 74.80          | 7   |     |     |     |     |     |     | 2   |     |     |     |     | 74.80          | 232                        |
| 74.75          |     |     |     |     |     |     |     | 11  |     |     |     |     | 74.75          | 243                        |
| 74.70          |     |     |     |     |     |     |     |     | 2   |     |     |     | 74.70          | 245                        |
| 74.65          |     |     |     |     |     |     |     |     | 12  |     |     |     | 74.65          | 257                        |
| 74.60          |     |     |     |     |     |     |     |     | 7   |     |     |     | 74.60          | 264                        |
| 74.55          |     |     |     |     |     |     |     |     | 8   |     |     |     | 74.55          | 272                        |
| 74.50          |     |     |     |     |     |     |     |     | 1   | 8   |     |     | 74.50          | 281                        |
| 74.45          |     |     |     |     |     |     |     |     |     | 12  |     |     | 74.45          | 293                        |
| 74.40          |     |     |     |     |     |     |     |     |     | 10  |     | 3   | 74.40          | 306                        |
| 74.35          |     |     |     |     |     |     |     |     |     | 1   | 9   | 26  | 74.35          | 342                        |
| 74.30          |     |     |     |     |     |     |     |     |     |     | 21  | 1   | 74.30          | 364                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 905-2058 Rochester, New York on Lake Ontario

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                 | Mar                 | Apr                 | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                 | Dec                 |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1                  | 74.82               | 75.00               | 74.96               | 75.09               | 75.32               | 75.25               | 75.07               | 74.92               | 74.74               | 74.51               | 74.38               | 74.35               |
| 2                  | 74.83               | 74.97               | 74.96               | 75.09               | 75.33               | 75.24               | 75.06               | 74.93               | 74.71               | 74.52               | 74.38               | 74.36               |
| 3                  | 74.84               | 74.98               | 75.00               | 75.09               | 75.34               | 75.24               | 75.04               | 74.93               | 74.68               | 74.52               | 74.37               | 74.38               |
| 4                  | 74.84               | 74.98               | 75.04               | 75.08               | 75.34               | 75.24               | 75.05               | 74.94               | 74.69               | 74.53               | 74.37               | 74.38               |
| 5                  | 74.85               | 74.98               | 75.04               | 75.08               | 75.33               | 75.23               | 75.05               | 74.94               | 74.70               | 74.50               | 74.37               | 74.37               |
| 6                  | 74.87               | 74.99               | 75.04               | 75.07               | 75.32               | 75.22               | 75.06               | 74.92               | 74.70               | 74.50               | 74.35               | 74.37               |
| 7                  | 74.88               | 74.99               | 75.06               | 75.07               | 75.32               | 75.21               | 75.08               | 74.89               | 74.69               | 74.52               | 74.37               | 74.36               |
| 8                  | 74.85               | 74.99               | 75.09               | 75.09               | 75.32               | 75.21               | 75.10               | 74.88               | 74.68               | 74.52               | 74.36               | 74.37               |
| 9                  | 74.85               | 74.99               | 75.08               | 75.11               | 75.32               | 75.21               | 75.10               | 74.88               | 74.67               | 74.49               | 74.35               | 74.38               |
| 10                 | 74.89               | 75.00               | 75.09               | 75.11               | 75.31               | 75.20               | 75.09               | 74.87               | 74.66               | 74.51               | 74.34               | 74.38               |
| 11                 | 74.86               | 75.02               | 75.09               | 75.15               | 75.30               | 75.21               | 75.08               | 74.88               | 74.68               | 74.51               | 74.36               | 74.37               |
| 12                 | 74.90               | 75.00               | 75.08               | 75.15               | 75.30               | 75.23               | 75.07               | 74.88               | 74.66               | 74.50               | 74.33               | 74.37               |
| 13                 | 74.91               | 74.99               | 75.07               | 75.16               | 75.30               | 75.22               | 75.06               | 74.87               | 74.64               | 74.49               | 74.33               | 74.37               |
| 14                 | 74.90               | 74.99               | 75.07               | 75.15               | 75.29               | 75.20               | 75.05               | 74.86               | 74.62               | 74.47               | 74.34               | 74.39               |
| 15                 | 74.92               | 75.01               | 75.06               | 75.16               | 75.28               | 75.19               | 75.04               | 74.86               | 74.61               | 74.47               | 74.34               | 74.39               |
| 16                 | 74.94               | 75.01               | 75.05               | 75.19               | 75.27               | 75.20               | 75.04               | 74.86               | 74.63               | 74.48               | 74.37               | 74.41               |
| 17                 | 74.95               | 74.99               | 75.05               | 75.20               | 75.28               | 75.20               | 75.03               | 74.84               | 74.66               | 74.47               | 74.34               | 74.38               |
| 18                 | 74.96               | 74.99               | 75.05               | 75.20               | 75.28               | 75.19               | 75.04               | 74.86               | 74.65               | 74.48               | 74.33               | 74.42               |
| 19                 | 74.96               | 74.99               | 75.05               | 75.20               | 75.27               | 75.17               | 75.03               | 74.86               | 74.66               | 74.50               | 74.32               | 74.40               |
| 20                 | 74.98               | 74.99               | 75.06               | 75.21               | 75.25               | 75.16               | 75.03               | 74.81               | 74.65               | 74.46               | 74.33               | 74.38               |
| 21                 | 75.00               | 74.99               | 75.05               | 75.24               | 75.25               | 75.17               | 75.03               | 74.79               | 74.61               | 74.45               | 74.34               | 74.38               |
| 22                 | 74.98               | 75.00               | 75.04               | 75.26               | 75.24               | 75.15               | 75.01               | 74.79               | 74.57               | 74.44               | 74.34               | 74.39               |
| 23                 | 74.97               | 75.00               | 75.01               | 75.27               | 75.24               | 75.13               | 75.02               | 74.80               | 74.57               | 74.44               | 74.33               | 74.39               |
| 24                 | 75.00               | 74.97               | 75.04               | 75.29               | 75.23               | 75.12               | 75.02               | 74.79               | 74.60               | 74.44               | 74.33               | 74.39               |
| 25                 | 75.00               | 74.98               | 75.05               | 75.30               | 75.23               | 75.10               | 75.01               | 74.77               | 74.59               | 74.44               | 74.33               | 74.39               |
| 26                 | 74.98               | 74.97               | 75.06               | 75.31               | 75.24               | 75.10               | 75.01               | 74.76               | 74.56               | 74.44               | 74.35               | 74.38               |
| 27                 | 74.98               | 74.96               | 75.04               | 75.32               | 75.23               | 75.09               | 74.99               | 74.78               | 74.59               | 74.44               | 74.32               | 74.39               |
| 28                 | 74.98               | 74.96               | 75.06               | 75.32               | 75.23               | 75.09               | 74.97               | 74.79               | 74.58               | 74.44               | 74.33               | 74.38               |
| 29                 | 74.99               |                     | 75.10               | 75.32               | 75.24               | 75.10               | 74.94               | 74.79               | 74.56               | 74.41               | 74.35               | 74.40               |
| 30                 | 74.99               |                     | 75.10               | 75.31               | 75.23               | 75.09               | 74.91               | 74.78               | 74.52               | 74.41               | 74.34               | 74.42*              |
| 31                 | 74.99               |                     | 75.09               |                     | 75.25               |                     | 74.92               | 74.79               |                     | 74.40               |                     | /                   |
| Mean               | 74.92               | 74.99               | 75.05               | 75.19               | 75.28               | 75.18               | 75.03               | 74.85               | 74.64               | 74.48               | 74.35               | 74.38               |
| Max.<br>Hr.<br>Day | 75.07<br>1300<br>28 | 75.13<br>0300<br>20 | 75.17<br>1800<br>27 | 75.37<br>0900<br>30 | 75.41<br>1500<br>1  | 75.31<br>2400<br>15 | 75.19<br>0400<br>7  | 74.99<br>0900<br>3  | 74.78<br>0700<br>1  | 74.60<br>0700<br>19 | 74.46<br>2200<br>20 | 74.48<br>1700<br>14 |
| Min.<br>Hr.<br>Day | 74.79<br>2200<br>1  | 74.88<br>0200<br>20 | 74.90<br>2200<br>23 | 75.01<br>2000<br>6  | 75.15<br>0800<br>31 | 75.05<br>1200<br>27 | 74.87<br>1100<br>30 | 74.74<br>0400<br>26 | 74.47<br>1200<br>30 | 74.37<br>0500<br>30 | 74.24<br>1500<br>21 | 74.23<br>0600<br>3  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 74.86



# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 905-2076 Olcott, New York on Lake Ontario

## HIGHEST

Monthly mean elevation: 75.30 May  
Daily mean elevation: 75.35 5 May  
Instant/hourly elevation: 75.40 1900/1 May

## LOWEST

Monthly mean elevation: 74.35 Nov  
Daily mean elevation: 74.30 25 Nov  
Instant/hourly elevation: 74.17 1800/14 Dec

## ~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max | 75.02 | 75.03 | 75.11 | 75.34 | 75.35 | 75.26 | 75.11 | 74.94 | 74.73 | 74.53 | 74.43 | 74.42 |
| Day | 29    | 18    | 31    | 30    | 5     | 1     | 9     | 1     | 1     | 4     | 1     | 31    |
| Min | 74.82 | 74.98 | 74.99 | 75.09 | 75.24 | 75.09 | 74.93 | 74.77 | 74.53 | 74.42 | 74.30 | 74.34 |
| Day | 4     | 28    | 2     | 7     | 28    | 30    | 31    | 30    | 30    | 31    | 25    | 1     |

## ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.30          |     |     |     | 7   | 13  |     |     |     |     |     |     |     | 75.30          | 20                         |
| 75.25          |     |     |     | 1   | 14  | 1   |     |     |     |     |     |     | 75.25          | 36                         |
| 75.20          |     |     |     | 6   | 4   | 12  |     |     |     |     |     |     | 75.20          | 58                         |
| 75.15          |     |     |     | 5   |     | 9   |     |     |     |     |     |     | 75.15          | 72                         |
| 75.10          |     |     | 2   | 2   |     | 7   | 3   |     |     |     |     |     | 75.10          | 86                         |
| 75.05          |     |     | 21  | 9   |     | 1   | 12  |     |     |     |     |     | 75.05          | 129                        |
| 75.00          | 1   | 8   | 6   |     |     |     | 10  |     |     |     |     |     | 75.00          | 154                        |
| 74.95          | 13  | 20  | 2   |     |     |     | 3   |     |     |     |     |     | 74.95          | 192                        |
| 74.90          | 8   |     |     |     |     |     | 3   |     |     |     |     |     | 74.90          | 208                        |
| 74.85          | 5   |     |     |     |     |     |     | 5   |     |     |     |     | 74.85          | 226                        |
| 74.80          | 4   |     |     |     |     |     |     | 13  |     |     |     |     | 74.80          | 236                        |
| 74.75          |     |     |     |     |     |     |     | 6   |     |     |     |     | 74.75          | 243                        |
| 74.70          |     |     |     |     |     |     |     | 7   |     |     |     |     | 74.70          | 249                        |
| 74.65          |     |     |     |     |     |     |     |     | 6   |     |     |     | 74.65          | 258                        |
| 74.60          |     |     |     |     |     |     |     |     | 9   |     |     |     | 74.60          | 263                        |
| 74.55          |     |     |     |     |     |     |     |     | 5   |     |     |     | 74.55          | 271                        |
| 74.50          |     |     |     |     |     |     |     |     | 8   |     |     |     | 74.50          | 280                        |
| 74.45          |     |     |     |     |     |     |     |     | 2   |     |     |     | 74.45          | 300                        |
| 74.40          |     |     |     |     |     |     |     |     |     | 7   |     |     | 74.40          | 309                        |
| 74.35          |     |     |     |     |     |     |     |     |     | 20  |     |     | 74.35          | 344                        |
| 74.30          |     |     |     |     |     |     |     |     |     | 4   | 1   | 4   | 74.30          | 364                        |
| 74.25          |     |     |     |     |     |     |     |     |     |     | 10  | 25  | 74.25          | 365                        |
|                |     |     |     |     |     |     |     |     |     |     | 18  | 2   |                |                            |
|                |     |     |     |     |     |     |     |     |     |     | 1   |     |                |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 905-2076 Olcott, New York on Lake Ontario

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                 | Mar                 | Apr                 | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                 | Dec                 |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1                  | 74.82               | 75.01               | 74.99               | 75.10               | 75.34               | 75.26               | 75.08               | 74.94               | 74.73               | 74.52               | 74.43               | 74.34               |
| 2                  | 74.83               | 74.99               | 74.99               | 75.09               | 75.33               | 75.25               | 75.08               | 74.93               | 74.72               | 74.53               | 74.39               | 74.37               |
| 3                  | 74.84               | 74.98               | 75.02               | 75.10               | 75.33               | 75.25               | 75.08               | 74.93               | 74.72               | 74.53               | 74.40               | 74.39               |
| 4                  | 74.82               | 74.99               | 75.03               | 75.10               | 75.35               | 75.24               | 75.08               | 74.92               | 74.72               | 74.53               | 74.38               | 74.36               |
| 5                  | 74.86               | 74.99               | 75.05               | 75.09               | 75.35               | 75.24               | 75.09               | 74.91               | 74.72               | 74.51               | 74.38               | 74.39               |
| 6                  | 74.87               | 75.01               | 75.08               | 75.09               | 75.33               | 75.24               | 75.10               | 74.90               | 74.71               | 74.51               | 74.36               | 74.38               |
| 7                  | 74.89               | 75.00               | 75.03               | 75.09               | 75.34               | 75.23               | 75.11               | 74.89               | 74.70               | 74.49               | 74.37               | 74.36               |
| 8                  | 74.91               | 74.99               | 75.08               | 75.10               | 75.33               | 75.23               | 75.11               | 74.89               | 74.70               | 74.50               | 74.36               | 74.38               |
| 9                  | 74.87               | 75.00               | 75.10               | 75.12               | 75.33               | 75.22               | 75.11               | 74.88               | 74.68               | 74.50               | 74.36               | 74.37               |
| 10                 | 74.90               | 75.00               | 75.09               | 75.10               | 75.33               | 75.21               | 75.09               | 74.87               | 74.67               | 74.50               | 74.35               | 74.38               |
| 11                 | 74.95               | 75.01               | 75.08               | 75.12               | 75.32               | 75.22               | 75.08               | 74.89               | 74.68               | 74.51               | 74.34               | 74.37               |
| 12                 | 74.93               | 75.01               | 75.07               | 75.16               | 75.31               | 75.22               | 75.07               | 74.89               | 74.66               | 74.50               | 74.34               | 74.40               |
| 13                 | 74.93               | 75.02               | 75.08               | 75.18               | 75.30               | 75.20               | 75.06               | 74.88               | 74.66               | 74.48               | 74.33               | 74.39               |
| 14                 | 74.93               | 75.02               | 75.08               | 75.19               | 75.31               | 75.20               | 75.05               | 74.87               | 74.64               | 74.50               | 74.35               | 74.35               |
| 15                 | 74.94               | 74.99               | 75.06               | 75.19               | 75.30               | 75.20               | 75.06               | 74.86               | 74.64               | 74.48               | 74.35               | 74.36               |
| 16                 | 74.97               | 74.99               | 75.06               | 75.20               | 75.29               | 75.20               | 75.06               | 74.86               | 74.67               | 74.48               | 74.34               | 74.40               |
| 17                 | 74.94               | 74.99               | 75.07               | 75.22               | 75.30               | 75.21               | 75.05               | 74.86               | 74.66               | 74.48               | 74.34               | 74.40               |
| 18                 | 74.92               | 75.03               | 75.08               | 75.22               | 75.30               | 75.19               | 75.05               | 74.86               | 74.65               | 74.48               | 74.35               | 74.41               |
| 19                 | 74.97               | 75.00               | 75.05               | 75.23               | 75.28               | 75.17               | 75.04               | 74.84               | 74.64               | 74.46               | 74.34               | 74.39               |
| 20                 | 74.99               | 74.98               | 75.06               | 75.24               | 75.27               | 75.18               | 75.03               | 74.82               | 74.62               | 74.47               | 74.35               | 74.39               |
| 21                 | 75.00               | 75.00               | 75.09               | 75.24               | 75.26               | 75.18               | 75.02               | 74.81               | 74.60               | 74.47               | 74.35               | 74.36               |
| 22                 | 75.00               | 74.98               | 75.09               | 75.25               | 75.26               | 75.16               | 75.02               | 74.81               | 74.59               | 74.46               | 74.36               | 74.37               |
| 23                 | 74.97               | 75.01               | 75.10               | 75.29               | 75.26               | 75.14               | 75.02               | 74.82               | 74.58               | 74.46               | 74.34               | 74.39               |
| 24                 | 74.98               | 75.00               | 75.05               | 75.31               | 75.25               | 75.13               | 75.01               | 74.82               | 74.59               | 74.46               | 74.32               | 74.40               |
| 25                 | 75.00               | 75.00               | 75.06               | 75.32               | 75.25               | 75.13               | 75.01               | 74.80               | 74.57               | 74.46               | 74.30               | 74.39               |
| 26                 | 74.99               | 74.98               | 75.08               | 75.33               | 75.26               | 75.13               | 74.99               | 74.80               | 74.56               | 74.46               | 74.35               | 74.39               |
| 27                 | 74.98               | 74.98               | 75.10               | 75.33               | 75.25               | 75.12               | 74.98               | 74.80               | 74.56               | 74.45               | 74.34               | 74.40               |
| 28                 | 74.98               | 74.98               | 75.08               | 75.34               | 75.24               | 75.12               | 74.96               | 74.80               | 74.56               | 74.46               | 74.33               | 74.39               |
| 29                 | 75.02               |                     | 75.11               | 75.34               | 75.26               | 75.13               | 74.95               | 74.79               | 74.54               | 74.45               | 74.36               | 74.42               |
| 30                 | 75.00               |                     | 75.10               | 75.34               | 75.26               | 75.09               | 74.93               | 74.77               | 74.53               | 74.43               | 74.34               | 74.42               |
| 31                 | 74.96               |                     | 75.11               |                     | 75.26               |                     | 74.93               | 74.78               |                     | 74.42               |                     | 74.42               |
| Mean               | 74.94               | 75.00               | 75.07               | 75.20               | 75.30               | 75.19               | 75.04               | 74.85               | 74.64               | 74.48               | 74.35               | 74.38               |
| Max.<br>Hr.<br>Day | 75.05<br>1800<br>29 | 75.06<br>0100<br>14 | 75.21<br>1800<br>27 | 75.37<br>0400<br>30 | 75.40<br>1900<br>1  | 75.29<br>1700<br>1  | 75.21<br>0500<br>7  | 74.98<br>0900<br>3  | 74.76<br>1100<br>4  | 74.57<br>0700<br>2  | 74.45<br>2400<br>28 | 74.54<br>0300<br>3  |
| Min.<br>Hr.<br>Day | 74.78<br>2300<br>1  | 74.90<br>2400<br>16 | 74.94<br>0700<br>1  | 75.04<br>1500<br>10 | 75.20<br>1700<br>29 | 75.04<br>0900<br>30 | 74.90<br>1600<br>31 | 74.74<br>2400<br>30 | 74.50<br>2400<br>30 | 74.39<br>0400<br>31 | 74.26<br>0500<br>28 | 74.17<br>1800<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 74.87

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 906-3007 Ashland Avenue, Niagara Falls, New York on Niagara River

## HIGHEST

Monthly mean elevation: 98.45 Apr  
Daily mean elevation: 99.62 7 Mar  
Instant/hourly elevation: 103.05 0900/28 Mar

## LOWEST

Monthly mean elevation: 96.32 Nov  
Daily mean elevation: 95.97 30 Dec  
Instant/hourly elevation: 95.89 0500/19 Oct

## ----- Extreme Daily Means by Month -----

|     | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max | 99.37 | 99.35 | 99.62 | 99.07 | 98.98 | 98.20 | 98.31 | 98.20 | 98.17 | 98.23 | 97.43 | 97.67 |
| Day | 28    | 15    | 7     | 23    | 7     | 17    | 8     | 11    | 4     | 6     | 25    | 15    |
| Min | 96.83 | 96.91 | 96.70 | 98.15 | 98.07 | 98.05 | 98.08 | 98.08 | 97.80 | 97.75 | 95.97 | 95.97 |
| Day | 11    | 6     | 14    | 13    | 18    | 13    | 29    | 25    | 30    | 19    | 11    | 30    |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 99.60          |     |     | 1   |     |     |     |     |     |     |     |     |     | 99.60          | 1                          |
| 99.45          |     |     |     |     |     |     |     |     |     |     |     |     | 99.45          | 1                          |
| 99.30          | 2   | 1   |     |     |     |     |     |     |     |     |     |     | 99.30          | 4                          |
| 99.15          |     |     | 1   |     |     |     |     |     |     |     |     |     | 99.15          | 5                          |
| 99.00          | 1   |     |     | 1   |     |     |     |     |     |     |     |     | 99.00          | 7                          |
| 98.85          |     | 1   |     | 1   | 1   |     |     |     |     |     |     |     | 98.85          | 10                         |
| 98.70          | 1   |     |     | 4   | 2   |     |     |     |     |     |     |     | 98.70          | 17                         |
| 98.55          | 1   |     |     | 4   | 3   |     |     |     |     |     |     |     | 98.55          | 25                         |
| 98.40          | 1   |     |     | 3   | 4   |     |     |     |     |     |     |     | 98.40          | 33                         |
| 98.25          | 1   | 1   |     | 11  | 7   |     | 1   |     |     |     |     |     | 98.25          | 54                         |
| 98.10          | 3   |     |     | 6   | 13  | 17  | 21  | 22  | 8   | 2   |     |     | 98.10          | 146                        |
| 97.95          | 1   |     |     |     | 1   | 13  | 9   | 9   | 9   | 1   |     |     | 97.95          | 189                        |
| 97.80          | 2   | 1   | 1   |     |     |     |     |     | 12  | 17  |     |     | 97.80          | 222                        |
| 97.65          | 4   | 3   | 2   |     |     |     |     |     | 1   | 11  |     | 1   | 97.65          | 244                        |
| 97.50          | 6   | 3   | 3   |     |     |     |     |     |     |     |     |     | 97.50          | 256                        |
| 97.35          |     | 5   | 1   |     |     |     |     |     |     |     | 1   | 1   | 97.35          | 264                        |
| 97.20          |     | 3   | 5   |     |     |     |     |     |     |     |     | 1   | 97.20          | 273                        |
| 97.05          | 3   | 5   | 4   |     |     |     |     |     |     |     | 1   | 2   | 97.05          | 288                        |
| 96.90          | 1   | 5   | 6   |     |     |     |     |     |     |     | 1   | 3   | 96.90          | 304                        |
| 96.75          | 4   |     | 6   |     |     |     |     |     |     |     | 1   |     | 96.75          | 315                        |
| 96.60          |     |     | 1   |     |     |     |     |     |     |     | 2   | 3   | 96.60          | 321                        |
| 96.45          |     |     |     |     |     |     |     |     |     |     | 2   | 1   | 96.45          | 324                        |
| 96.30          |     |     |     |     |     |     |     |     |     |     | 2   | 5   | 96.30          | 331                        |
| 96.15          |     |     |     |     |     |     |     |     |     |     | 7   | 3   | 96.15          | 341                        |
| 96.00          |     |     |     |     |     |     |     |     |     |     | 9   | 8   | 96.00          | 358                        |
| 95.85          |     |     |     |     |     |     |     |     |     |     | 4   | 3   | 95.85          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3007 Ashland Avenue, Niagara Falls, New York on Niagara River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| 1                  | 97.87                | 97.07                | 96.76                | 98.33                | 98.68               | 98.12               | 98.12               | 98.12               | 98.05               | 97.88               | 95.98               | 96.12                |
| 2                  | 97.92                | 97.02                | 97.04                | 98.35                | 98.68               | 98.08               | 98.11               | 98.12               | 98.07               | 97.82               | 96.93               | 96.08                |
| 3                  | 97.77                | 97.18                | 96.93                | 98.29                | 98.72               | 98.08               | 98.12               | 98.09               | 98.10               | 97.82               | 96.79               | 97.34                |
| 4                  | 98.15                | 97.29                | 97.70                | 98.22                | 98.42               | 98.06               | 98.14               | 98.12               | 98.17               | 97.81               | 96.25               | 97.10                |
| 5                  | 97.62                | 97.29                | 97.28                | 98.24                | 98.37               | 98.09               | 98.17               | 98.11               | 98.14               | 98.04               | 96.30               | 96.92                |
| 6                  | 97.12                | 96.91                | 96.99                | 98.28                | 98.57               | 98.09               | 98.12               | 98.08               | 98.13               | 98.23               | 96.63               | 97.10                |
| 7                  | 97.01                | 96.94                | 99.62                | 98.37                | 98.98               | 98.10               | 98.15               | 98.13               | 98.14               | 98.14               | 96.08               | 96.97                |
| 8                  | 96.88                | 97.16                | 97.72                | 98.28                | 98.72               | 98.15               | 98.31               | 98.14               | 98.13               | 97.91               | 96.07               | 96.14                |
| 9                  | 97.70                | 97.48                | 97.16                | 98.27                | 98.52               | 98.07               | 98.17               | 98.14               | 98.08               | 97.84               | 96.04               | 96.22                |
| 10                 | 97.56                | 97.55                | 97.13                | 98.81                | 98.44               | 98.09               | 98.13               | 98.14               | 98.15               | 97.81               | 95.99               | 96.31                |
| 11                 | 96.83                | 97.75                | 96.88                | 98.36                | 98.30               | 98.13               | 98.09               | 98.20               | 98.13               | 97.86               | 95.97               | 96.32                |
| 12                 | 97.52                | 97.45                | 97.12                | 98.22                | 98.36               | 98.16               | 98.11               | 98.18               | 98.10               | 97.84               | 96.18               | 96.09                |
| 13                 | 97.62                | 97.01                | 96.84                | 98.15                | 98.28               | 98.05               | 98.11               | 98.12               | 98.10               | 97.88               | 96.48               | 96.23                |
| 14                 | 98.17                | 97.49                | 96.70                | 98.24                | 98.30               | 98.08               | 98.13               | 98.12               | 98.07               | 97.78               | 96.30               | 97.38                |
| 15                 | 97.67                | 99.35                | 96.96                | 98.72                | 98.26               | 98.10               | 98.12               | 98.18               | 98.10               | 97.88               | 96.36               | 97.67                |
| 16                 | 97.65                | 98.86                | 97.12                | 98.60                | 98.30               | 98.17               | 98.11               | 98.12               | 97.84               | 97.89               | 95.99               | 96.75                |
| 17                 | 98.47                | 98.34                | 96.86                | 98.34                | 98.47               | 98.20               | 98.13               | 98.14               | 97.82               | 97.77               | 96.07               | 96.72                |
| 18                 | 99.37                | 97.02                | 97.00                | 98.31                | 98.07               | 98.14               | 98.15               | 98.19               | 97.82               | 97.78               | 96.10               | 96.51                |
| 19                 | 98.27                | 97.17                | 97.62                | 98.20                | 98.12               | 98.16               | 98.14               | 98.10               | 97.86               | 97.75               | 96.19               | 96.09                |
| 20                 | 98.14                | 97.72                | 97.41                | 98.26                | 98.23               | 98.17               | 98.10               | 98.08               | 97.84               | 97.80               | 96.12               | 96.42                |
| 21                 | 97.51                | 97.58                | 97.25                | 98.41                | 98.22               | 98.16               | 98.11               | 98.12               | 97.83               | 97.86               | 96.12               | 96.95                |
| 22                 | 97.77                | 97.82                | 96.80                | 98.88                | 98.22               | 98.10               | 98.10               | 98.16               | 97.83               | 97.86               | 96.10               | 96.67                |
| 23                 | 98.81                | 97.51                | 96.81                | 99.07                | 98.17               | 98.10               | 98.16               | 98.09               | 98.09               | 97.79               | 96.08               | 96.34                |
| 24                 | 98.08                | 97.31                | 97.53                | 98.80                | 98.20               | 98.15               | 98.10               | 98.09               | 97.91               | 97.80               | 97.14               | 96.29                |
| 25                 | 96.84                | 97.11                | 97.22                | 98.81                | 98.25               | 98.16               | 98.12               | 98.08               | 97.82               | 97.84               | 97.43               | 96.12                |
| 26                 | 96.87                | 97.47                | 97.34                | 98.64                | 98.13               | 98.11               | 98.10               | 98.15               | 98.16               | 97.86               | 96.24               | 96.41                |
| 27                 | 99.06                | 97.72                | 97.58                | 98.50                | 98.21               | 98.13               | 98.10               | 98.10               | 97.95               | 97.90               | 96.50               | 96.05                |
| 28                 | 99.37                | 97.50                | 99.27                | 98.46                | 98.16               | 98.13               | 98.12               | 98.10               | 97.82               | 97.79               | 96.64               | 95.98                |
| 29                 | 97.06                |                      | 97.81                | 98.59                | 98.17               | 98.15               | 98.08               | 98.11               | 97.84               | 97.79               | 96.18               | 96.07                |
| 30                 | 97.09                |                      | 97.22                | 98.58                | 98.16               | 98.13               | 98.10               | 98.11               | 97.80               | 97.78               | 96.34               | 95.97                |
| 31                 | 98.63                |                      | 97.00                |                      | 98.18               |                     | 98.10               | 98.14               |                     | 97.77               |                     | 95.98                |
| Mean               | 97.82                | 97.50                | 97.31                | 98.45                | 98.35               | 98.12               | 98.13               | 98.13               | 98.00               | 97.86               | 96.32               | 96.49                |
| Max.<br>Hr.<br>Day | 101.14<br>0400<br>28 | 100.76<br>1800<br>15 | 103.05<br>0900<br>28 | 100.26<br>1000<br>10 | 99.90<br>1600<br>7  | 99.77<br>1300<br>18 | 99.63<br>1500<br>23 | 99.77<br>1500<br>15 | 99.87<br>1700<br>26 | 99.82<br>1900<br>6  | 98.32<br>2200<br>24 | 101.24<br>2000<br>14 |
| Min.<br>Hr.<br>Day | 96.42<br>0500<br>26  | 96.61<br>0900<br>18  | 96.43<br>2400<br>31  | 96.01<br>0200<br>13  | 95.94<br>0300<br>26 | 95.90<br>0600<br>4  | 95.90<br>0300<br>29 | 95.92<br>2400<br>27 | 95.90<br>0100<br>1  | 95.89<br>0500<br>19 | 95.91<br>0300<br>2  | 95.91<br>0600<br>12  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 97.71

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 906-3009 American Falls, Niagara Falls, New York on Niagara River

HIGHEST

Monthly mean elevation: 170.46 Apr  
Daily mean elevation: 170.72 4 Jan  
Instant/hourly elevation: 170.79 1500/28 Mar

LOWEST

Monthly mean elevation: 170.36 Aug  
Daily mean elevation: 170.10 29 Jan  
Instant/hourly elevation: 170.03 2100/2 Aug

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 170.72 | 170.53 | 170.70 | 170.63 | 170.65 | 170.44 | 170.46 | 170.42 | 170.50 | 170.50 | 170.59 | 170.61 |
| Day | 4 | 20 | 28 | 10 | 7 | 28 | 8 | 11 | 23 | 6 | 25 | 15 |
| Min | 170.10 | 170.20 | 170.32 | 170.36 | 170.32 | 170.30 | 170.30 | 170.32 | 170.29 | 170.31 | 170.22 | 170.34 |
| Day | 29 | 1 | 11 | 13 | 18 | 4 | 29 | 24 | 1 | 19 | 12 | 30 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 170.70         | 1   |     |     |     |     |     |     |     |     |     |     |     | 170.70         | 1                          |
| 170.65         | 2   |     | 1   |     |     |     |     |     |     |     |     |     | 170.65         | 4                          |
| 170.60         | 4   |     |     | 2   | 2   |     |     |     |     |     |     | 1   | 170.60         | 13                         |
| 170.55         | 2   |     | 2   | 3   |     |     |     |     |     |     | 2   |     | 170.55         | 22                         |
| 170.50         | 1   | 5   | 4   | 2   | 3   |     |     |     |     |     | 2   | 2   | 170.50         | 41                         |
| 170.45         | 4   | 9   | 6   | 5   | 1   |     | 1   |     | 2   | 2   | 4   | 6   | 170.45         | 81                         |
| 170.40         | 6   | 10  | 6   | 12  | 7   | 4   | 5   | 1   | 1   | 2   | 16  | 9   | 170.40         | 160                        |
| 170.35         | 4   | 1   | 8   | 6   | 17  | 21  | 20  | 18  | 20  | 19  | 2   | 12  | 170.35         | 308                        |
| 170.30         | 1   | 1   | 4   |     | 1   | 3   | 4   | 12  | 6   | 8   | 2   | 1   | 170.30         | 351                        |
| 170.25         | 1   |     |     |     |     | 2   | 1   |     | 1   |     | 1   |     | 170.25         | 357                        |
| 170.20         | 1   | 1   |     |     |     |     |     |     |     |     | 1   |     | 170.20         | 360                        |
| 170.15         | 1   | 1   |     |     |     |     |     |     |     |     |     |     | 170.15         | 362                        |
| 170.10         | 2   |     |     |     |     |     |     |     |     |     |     |     | 170.10         | 364                        |
| 170.05         | 1   |     |     |     |     |     |     |     |     |     |     |     | 170.05         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3009 American Falls, Niagara Falls, New York on Niagara River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 170.67               | 170.20               | 170.39               | 170.42               | 170.53               | 170.33               | 170.40               | 170.36               | 170.29               | 170.37               | 170.38               | 170.41              |
| 2                  | 170.67               | 170.24               | 170.44               | 170.42               | 170.63               | 170.30               | 170.39               | 170.34               | 170.36               | 170.37               | 170.54               | 170.39              |
| 3                  | 170.64               | 170.32               | 170.40               | 170.37               | 170.52               | 170.34               | 170.38               | 170.34               | 170.36               | 170.35               | 170.51               | 170.53              |
| 4                  | 170.72               | 170.46               | 170.40               | 170.37               | 170.41               | 170.30               | 170.41               | 170.37               | 170.39               | 170.34               | 170.45               | 170.51              |
| 5                  | 170.62               | 170.48               | 170.47               | 170.40               | 170.42               | 170.37               | 170.42               | 170.34               | 170.41               | 170.44               | 170.46               | 170.49              |
| 6                  | 170.52               | 170.41               | 170.42               | 170.46               | 170.54               | 170.38               | 170.39               | 170.33               | 170.39               | 170.50               | 170.50               | 170.49              |
| 7                  | 170.49               | 170.43               | 170.54               | 170.47               | 170.65               | 170.36               | 170.43               | 170.35               | 170.39               | 170.47               | 170.42               | 170.48              |
| 8                  | 170.45               | 170.48               | 170.36               | 170.43               | 170.47               | 170.37               | 170.46               | 170.36               | 170.37               | 170.40               | 170.43               | 170.36              |
| 9                  | 170.62               | 170.52               | 170.38               | 170.41               | 170.40               | 170.36               | 170.42               | 170.35               | 170.34               | 170.37               | 170.42               | 170.41              |
| 10                 | 170.58               | 170.52               | 170.41               | 170.63               | 170.38               | 170.37               | 170.39               | 170.38               | 170.40               | 170.38               | 170.39               | 170.42              |
| 11                 | 170.43               | 170.46               | 170.32               | 170.42               | 170.43               | 170.40               | 170.38               | 170.42               | 170.37               | 170.37               | 170.34               | 170.44              |
| 12                 | 170.59               | 170.45               | 170.40               | 170.42               | 170.41               | 170.39               | 170.36               | 170.37               | 170.35               | 170.38               | 170.22               | 170.40              |
| 13                 | 170.46               | 170.43               | 170.34               | 170.36               | 170.41               | 170.36               | 170.37               | 170.37               | 170.33               | 170.37               | 170.29               | 170.41              |
| 14                 | 170.46               | 170.39               | 170.34               | 170.39               | 170.44               | 170.37               | 170.38               | 170.35               | 170.34               | 170.34               | 170.41               | 170.49              |
| 15                 | 170.44               | 170.50               | 170.44               | 170.48               | 170.38               | 170.36               | 170.40               | 170.36               | 170.38               | 170.39               | 170.42               | 170.61              |
| 16                 | 170.44               | 170.46               | 170.49               | 170.49               | 170.38               | 170.44               | 170.39               | 170.37               | 170.37               | 170.37               | 170.35               | 170.48              |
| 17                 | 170.40               | 170.51               | 170.43               | 170.41               | 170.41               | 170.40               | 170.40               | 170.35               | 170.36               | 170.32               | 170.42               | 170.44              |
| 18                 | 170.50               | 170.43               | 170.46               | 170.41               | 170.32               | 170.39               | 170.41               | 170.39               | 170.37               | 170.32               | 170.43               | 170.44              |
| 19                 | 170.62               | 170.46               | 170.57               | 170.39               | 170.39               | 170.40               | 170.40               | 170.33               | 170.37               | 170.31               | 170.44               | 170.40              |
| 20                 | 170.43               | 170.53               | 170.53               | 170.43               | 170.39               | 170.40               | 170.36               | 170.34               | 170.36               | 170.37               | 170.42               | 170.43              |
| 21                 | 170.41               | 170.51               | 170.50               | 170.46               | 170.38               | 170.38               | 170.34               | 170.40               | 170.38               | 170.38               | 170.42               | 170.46              |
| 22                 | 170.39               | 170.50               | 170.39               | 170.60               | 170.38               | 170.33               | 170.39               | 170.38               | 170.38               | 170.39               | 170.41               | 170.39              |
| 23                 | 170.40               | 170.41               | 170.35               | 170.62               | 170.38               | 170.38               | 170.40               | 170.33               | 170.50               | 170.35               | 170.41               | 170.38              |
| 24                 | 170.37               | 170.41               | 170.52               | 170.60               | 170.39               | 170.38               | 170.36               | 170.32               | 170.37               | 170.37               | 170.58               | 170.42              |
| 25                 | 170.30               | 170.42               | 170.37               | 170.59               | 170.38               | 170.37               | 170.36               | 170.36               | 170.37               | 170.39               | 170.59               | 170.36              |
| 26                 | 170.31               | 170.42               | 170.44               | 170.52               | 170.36               | 170.38               | 170.34               | 170.36               | 170.47               | 170.39               | 170.42               | 170.40              |
| 27                 | 170.24               | 170.46               | 170.51               | 170.42               | 170.38               | 170.39               | 170.37               | 170.36               | 170.39               | 170.43               | 170.46               | 170.36              |
| 28                 | 170.14               | 170.44               | 170.70               | 170.44               | 170.39               | 170.44               | 170.36               | 170.36               | 170.35               | 170.34               | 170.44               | 170.36              |
| 29                 | 170.10               |                      | 170.56               | 170.42               | 170.37               | 170.42               | 170.30               | 170.37               | 170.37               | 170.37               | 170.43               | 170.39              |
| 30                 | 170.13               |                      | 170.49               | 170.53               | 170.36               | 170.41               | 170.33               | 170.37               | 170.32               | 170.37               | 170.46               | 170.34              |
| 31                 | 170.18               |                      | 170.46               |                      | 170.39               |                      | 170.34               | 170.36               |                      | 170.36               |                      | 170.37              |
| Mean               | 170.44               | 170.44               | 170.45               | 170.46               | 170.42               | 170.38               | 170.38               | 170.36               | 170.37               | 170.38               | 170.43               | 170.43              |
| Max.<br>Hr.<br>Day | 170.74<br>1900<br>18 | 170.79<br>1500<br>15 | 170.79<br>1500<br>28 | 170.76<br>0700<br>23 | 170.77<br>1500<br>2  | 170.64<br>0700<br>16 | 170.64<br>0700<br>5  | 170.61<br>0700<br>31 | 170.71<br>0800<br>23 | 170.65<br>2200<br>5  | 170.74<br>2400<br>24 | 170.78<br>1500<br>3 |
| Min.<br>Hr.<br>Day | 170.04<br>0400<br>29 | 170.10<br>1400<br>1  | 170.13<br>1000<br>11 | 170.07<br>2100<br>29 | 170.04<br>2100<br>27 | 170.05<br>2100<br>17 | 170.03<br>2100<br>30 | 170.03<br>2100<br>2  | 170.07<br>1900<br>28 | 170.06<br>2000<br>28 | 170.20<br>1300<br>12 | 170.26<br>2400<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 170.41

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 906-3012 Niagara Intake, Niagara Falls, New York on Niagara River

HIGHEST

Monthly mean elevation: 171.34 Jan  
Daily mean elevation: 171.67 7 Mar  
Instant/hourly elevation: 171.88 0800/28 Mar

LOWEST

Monthly mean elevation: 171.20 Oct  
Daily mean elevation: 170.98 12 Nov  
Instant/hourly elevation: 170.87 2100/13 Sep

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 171.56 | 171.52 | 171.67 | 171.54 | 171.54 | 171.29 | 171.32 | 171.30 | 171.36 | 171.36 | 171.47 | 171.49 |
| Day | 27     | 15     | 7      | 10     | 7      | 16     | 8      | 11     | 23     | 6      | 25     | 15     |
| Min | 171.20 | 171.22 | 171.13 | 171.18 | 171.15 | 171.16 | 171.17 | 171.17 | 171.12 | 171.13 | 170.98 | 171.12 |
| Day | 30     | 25     | 14     | 13     | 18     | 22     | 29     | 24     | 1      | 28     | 12     | 30     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 171.65         |     |     | 2   |     |     |     |     |     |     |     |     |     | 171.65         | 2                          |
| 171.60         |     |     |     |     |     |     |     |     |     |     |     |     | 171.60         | 2                          |
| 171.55         | 1   |     |     |     |     |     |     |     |     |     |     |     | 171.55         | 3                          |
| 171.50         | 2   | 1   |     | 2   | 2   |     |     |     |     |     |     |     | 171.50         | 10                         |
| 171.45         |     |     | 1   | 3   |     |     |     |     |     |     | 1   | 1   | 171.45         | 16                         |
| 171.40         | 1   | 1   | 3   |     | 1   |     |     |     |     |     | 1   |     | 171.40         | 23                         |
| 171.35         |     | 7   | 2   | 4   | 2   |     |     |     | 1   | 1   | 1   | 3   | 171.35         | 44                         |
| 171.30         | 1   | 7   | 5   | 2   | 1   |     | 1   |     | 1   | 1   | 2   | 3   | 171.30         | 68                         |
| 171.25         | 4   | 6   | 4   | 11  | 6   | 3   | 8   | 3   | 1   | 1   | 4   | 3   | 171.25         | 122                        |
| 171.20         | 3   | 6   | 7   | 7   | 18  | 22  | 21  | 22  | 15  | 5   | 10  | 9   | 171.20         | 267                        |
| 171.15         | 1   |     | 3   | 1   |     | 5   | 1   | 6   | 10  | 18  | 6   | 7   | 171.15         | 325                        |
| 171.10         |     |     | 4   |     | 1   |     |     |     | 2   | 5   | 2   | 5   | 171.10         | 344                        |
| 171.05         |     |     |     |     |     |     |     |     |     |     | 2   |     | 171.05         | 346                        |
| 171.00         |     |     |     |     |     |     |     |     |     |     |     |     | 171.00         | 346                        |
| 170.95         |     |     |     |     |     |     |     |     |     |     | 1   |     | 170.95         | 347                        |

## Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3012 Niagara Intake, Niagara Falls, New York on Niagara River

International  
Great Lakes  
Datum (1985)

| Day  | Jan     | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | /       | 171.32 | 171.18 | 171.27 | 171.40 | 171.20 | 171.24 | 171.23 | 171.12 | 171.20 | 171.14 | 171.21 |
| 2    | /       | 171.36 | 171.25 | 171.28 | 171.51 | 171.18 | 171.23 | 171.20 | 171.20 | 171.20 | 171.37 | 171.17 |
| 3    | /       | 171.35 | 171.19 | 171.22 | 171.39 | 171.22 | 171.22 | 171.21 | 171.21 | 171.18 | 171.33 | 171.38 |
| 4    | /       | 171.33 | 171.22 | 171.22 | 171.26 | 171.18 | 171.24 | 171.24 | 171.24 | 171.16 | 171.24 | 171.36 |
| 5    | /       | 171.33 | 171.30 | 171.26 | 171.26 | 171.25 | 171.26 | 171.21 | 171.26 | 171.30 | 171.26 | 171.32 |
| 6    | /       | 171.23 | 171.23 | 171.30 | 171.41 | 171.25 | 171.23 | 171.20 | 171.23 | 171.36 | 171.32 | 171.32 |
| 7    | /       | 171.26 | 171.67 | 171.31 | 171.54 | 171.23 | 171.27 | 171.22 | 171.24 | 171.31 | 171.21 | 171.31 |
| 8    | /       | 171.34 | 171.44 | 171.27 | 171.33 | 171.22 | 171.32 | 171.23 | 171.22 | 171.24 | 171.22 | 171.14 |
| 9    | /       | 171.38 | 171.31 | 171.24 | 171.24 | 171.21 | 171.27 | 171.21 | 171.19 | 171.20 | 171.20 | 171.21 |
| 10   | /       | 171.37 | 171.26 | 171.54 | 171.23 | 171.22 | 171.24 | 171.26 | 171.25 | 171.20 | 171.17 | 171.22 |
| 11   | /       | 171.34 | 171.15 | 171.26 | 171.27 | 171.25 | 171.23 | 171.30 | 171.21 | 171.19 | 171.10 | 171.25 |
| 12   | /       | 171.29 | 171.23 | 171.25 | 171.26 | 171.24 | 171.21 | 171.24 | 171.19 | 171.21 | 170.98 | 171.18 |
| 13   | /       | 171.24 | 171.13 | 171.18 | 171.24 | 171.20 | 171.23 | 171.23 | 171.17 | 171.19 | 171.07 | 171.21 |
| 14   | /       | 171.27 | 171.13 | 171.22 | 171.28 | 171.22 | 171.24 | 171.21 | 171.18 | 171.15 | 171.20 | 171.36 |
| 15   | /       | 171.52 | 171.24 | 171.36 | 171.22 | 171.21 | 171.26 | 171.23 | 171.22 | 171.23 | 171.22 | 171.49 |
| 16   | /       | 171.40 | 171.31 | 171.36 | 171.22 | 171.29 | 171.25 | 171.23 | 171.21 | 171.20 | 171.13 | 171.30 |
| 17   | /       | 171.42 | 171.22 | 171.26 | 171.25 | 171.24 | 171.26 | 171.22 | 171.18 | 171.14 | 171.20 | 171.26 |
| 18   | /       | 171.26 | 171.26 | 171.26 | 171.15 | 171.22 | 171.27 | 171.24 | 171.21 | 171.14 | 171.21 | 171.25 |
| 19   | 171.55* | 171.29 | 171.42 | 171.22 | 171.23 | 171.24 | 171.26 | 171.18 | 171.21 | 171.13 | 171.23 | 171.19 |
| 20   | 171.30  | 171.38 | 171.36 | 171.27 | 171.24 | 171.23 | 171.22 | 171.19 | 171.20 | 171.18 | 171.21 | 171.24 |
| 21   | 171.25  | 171.36 | 171.31 | 171.31 | 171.22 | 171.21 | 171.21 | 171.26 | 171.21 | 171.20 | 171.21 | 171.29 |
| 22   | 171.25  | 171.36 | 171.17 | 171.48 | 171.22 | 171.16 | 171.25 | 171.24 | 171.22 | 171.21 | 171.20 | 171.21 |
| 23   | 171.32  | 171.23 | 171.14 | 171.51 | 171.22 | 171.21 | 171.26 | 171.18 | 171.36 | 171.16 | 171.20 | 171.17 |
| 24   | 171.30  | 171.22 | 171.43 | 171.48 | 171.24 | 171.22 | 171.23 | 171.17 | 171.20 | 171.18 | 171.44 | 171.22 |
| 25   | 171.22  | 171.22 | 171.47 | 171.46 | 171.23 | 171.22 | 171.23 | 171.21 | 171.20 | 171.20 | 171.47 | 171.15 |
| 26   | 171.27  | 171.24 | 171.34 | 171.38 | 171.22 | 171.22 | 171.21 | 171.21 | 171.33 | 171.20 | 171.22 | 171.20 |
| 27   | 171.56  | 171.34 | 171.34 | 171.25 | 171.24 | 171.23 | 171.24 | 171.21 | 171.23 | 171.25 | 171.28 | 171.15 |
| 28   | 171.53  | 171.28 | 171.66 | 171.28 | 171.24 | 171.28 | 171.23 | 171.21 | 171.19 | 171.13 | 171.26 | 171.14 |
| 29   | 171.26  |        | 171.40 | 171.27 | 171.23 | 171.26 | 171.17 | 171.22 | 171.21 | 171.17 | 171.22 | 171.18 |
| 30   | 171.20  |        | 171.30 | 171.40 | 171.22 | 171.25 | 171.21 | 171.21 | 171.15 | 171.18 | 171.28 | 171.12 |
| 31   | 171.41  |        | 171.25 |        | 171.26 |        | 171.21 | 171.21 |        | 171.16 |        | 171.16 |
| Mean | 171.34  | 171.32 | 171.30 | 171.31 | 171.27 | 171.23 | 171.24 | 171.22 | 171.21 | 171.20 | 171.22 | 171.24 |
| Max. | 171.78  | 171.85 | 171.88 | 171.72 | 171.69 | 171.54 | 171.53 | 171.54 | 171.65 | 171.53 | 171.66 | 171.77 |
| Hr.  | 0200    | 1500   | 0800   | 1500   | 1500   | 0700   | 0700   | 0700   | 0700   | 0800   | 2400   | 1200   |
| Day  | 28      | 15     | 28     | 10     | 2      | 16     | 18     | 11     | 23     | 27     | 24     | 3      |
| Min. | 171.16  | 171.14 | 170.96 | 170.89 | 170.90 | 170.91 | 170.93 | 170.90 | 170.87 | 170.90 | 170.96 | 171.00 |
| Hr.  | 1400    | 0600   | 1100   | 2100   | 2100   | 2100   | 2100   | 2100   | 2100   | 2000   | 1200   | 2400   |
| Day  | 30      | 14     | 11     | 29     | 16     | 12     | 1      | 17     | 13     | 31     | 12     | 2      |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 171.26



International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 906-3020 Buffalo Harbor, Buffalo, New York on Lake Erie

HIGHEST

Monthly mean elevation: 174.51 Jun  
Daily mean elevation: 174.95 18 Jan  
Instant/hourly elevation: 175.97 0700/28 Mar

LOWEST

Monthly mean elevation: 174.10 Oct  
Daily mean elevation: 173.72 28 Oct  
Instant/hourly elevation: 173.16 2300/2 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.95 | 174.63 | 174.94 | 174.78 | 174.69 | 174.61 | 174.58 | 174.46 | 174.44 | 174.44 | 174.67 | 174.63 |
| Day | 18 | 15 | 28 | 10 | 7 | 16 | 8 | 1 | 23 | 6 | 24 | 14 |
| Min | 174.19 | 174.24 | 174.18 | 174.24 | 174.29 | 174.21 | 174.28 | 174.16 | 174.06 | 173.72 | 173.89 | 173.78 |
| Day | 11 | 13 | 13 | 12 | 18 | 22 | 28 | 20 | 1 | 28 | 10 | 2 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.90         | 1   |     | 1   |     |     |     |     |     |     |     |     |     | 174.90         | 2                          |
| 174.85         |     |     |     |     |     |     |     |     |     |     |     |     | 174.85         | 2                          |
| 174.80         | 2   |     |     |     |     |     |     |     |     |     |     |     | 174.80         | 4                          |
| 174.75         |     |     |     | 1   |     |     |     |     |     |     |     |     | 174.75         | 5                          |
| 174.70         |     |     | 1   |     |     |     |     |     |     |     |     |     | 174.70         | 6                          |
| 174.65         | 1   |     |     |     | 2   |     |     |     |     |     | 1   |     | 174.65         | 10                         |
| 174.60         | 3   | 2   |     |     | 2   | 2   |     |     |     |     |     | 1   | 174.60         | 20                         |
| 174.55         | 4   |     | 1   | 3   | 3   | 4   | 1   |     |     |     | 1   |     | 174.55         | 37                         |
| 174.50         | 3   |     |     | 4   | 7   | 15  | 2   |     |     |     |     |     | 174.50         | 68                         |
| 174.45         | 4   | 4   | 2   | 7   | 14  | 6   | 11  | 1   |     |     |     | 1   | 174.45         | 118                        |
| 174.40         | 4   | 6   | 8   | 6   |     | 1   | 11  | 2   | 2   | 1   | 2   |     | 174.40         | 161                        |
| 174.35         | 3   | 7   | 10  | 4   | 2   |     | 3   | 8   |     | 1   |     | 1   | 174.35         | 200                        |
| 174.30         | 1   | 5   | 4   | 2   |     | 1   | 2   | 9   | 5   |     |     | 2   | 174.30         | 231                        |
| 174.25         | 4   | 3   | 1   | 2   | 1   |     | 1   | 5   | 8   | 1   | 1   | 4   | 174.25         | 262                        |
| 174.20         |     | 1   | 2   | 1   |     | 1   |     | 3   | 7   | 2   | 3   | 1   | 174.20         | 283                        |
| 174.15         | 1   |     | 1   |     |     |     |     | 3   | 4   | 3   | 2   | 1   | 174.15         | 298                        |
| 174.10         |     |     |     |     |     |     |     |     | 2   | 3   | 3   | 6   | 174.10         | 312                        |
| 174.05         |     |     |     |     |     |     |     |     | 2   | 11  | 1   | 5   | 174.05         | 331                        |
| 174.00         |     |     |     |     |     |     |     |     |     | 6   | 5   | 6   | 174.00         | 348                        |
| 173.95         |     |     |     |     |     |     |     |     |     | 1   | 9   |     | 173.95         | 358                        |
| 173.90         |     |     |     |     |     |     |     |     |     | 1   | 1   | 2   | 173.90         | 362                        |
| 173.85         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.85         | 363                        |
| 173.80         |     |     |     |     |     |     |     |     |     |     |     | 1   | 173.80         | 363                        |
| 173.75         |     |     |     |     |     |     |     |     |     |     |     | 1   | 173.75         | 364                        |
| 173.70         |     |     |     |     |     |     |     |     |     | 1   |     |     | 173.70         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3020 Buffalo Harbor, Buffalo, New York on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.49               | 174.36               | 174.33               | 174.48               | 174.60               | 174.53               | 174.39               | 174.46               | 174.06               | 174.16               | 173.97               | 174.08               |
| 2                  | 174.45               | 174.42               | 174.35               | 174.48               | 174.63               | 174.54               | 174.44               | 174.38               | 174.23               | 174.18               | 174.58               | 173.78               |
| 3                  | 174.57               | 174.38               | 174.24               | 174.37               | 174.58               | 174.52               | 174.43               | 174.36               | 174.31               | 174.13               | 174.42               | 174.28               |
| 4                  | 174.64               | 174.34               | 174.43               | 174.38               | 174.46               | 174.48               | 174.45               | 174.39               | 174.30               | 174.08               | 174.16               | 174.37               |
| 5                  | 174.45               | 174.33               | 174.39               | 174.44               | 174.39               | 174.53               | 174.51               | 174.36               | 174.28               | 174.38               | 174.12               | 174.26               |
| 6                  | 174.43               | 174.30               | 174.42               | 174.44               | 174.66               | 174.54               | 174.47               | 174.29               | 174.27               | 174.44               | 174.29               | 174.25               |
| 7                  | 174.28               | 174.33               | 174.73               | 174.45               | 174.69               | 174.54               | 174.52               | 174.30               | 174.27               | 174.26               | 173.99               | 174.26               |
| 8                  | 174.28               | 174.41               | 174.42               | 174.40               | 174.52               | 174.56               | 174.58               | 174.24               | 174.26               | 174.24               | 174.02               | 174.06               |
| 9                  | 174.53               | 174.47               | 174.38               | 174.44               | 174.48               | 174.55               | 174.48               | 174.28               | 174.26               | 174.19               | 173.98               | 174.09               |
| 10                 | 174.30               | 174.39               | 174.40               | 174.78               | 174.49               | 174.59               | 174.48               | 174.37               | 174.34               | 174.10               | 173.89               | 174.11               |
| 11                 | 174.19               | 174.42               | 174.38               | 174.48               | 174.50               | 174.61               | 174.46               | 174.41               | 174.25               | 174.08               | 173.96               | 174.12               |
| 12                 | 174.54               | 174.38               | 174.37               | 174.24               | 174.53               | 174.58               | 174.41               | 174.31               | 174.23               | 174.08               | 174.06               | 174.05               |
| 13                 | 174.47               | 174.24               | 174.18               | 174.29               | 174.51               | 174.51               | 174.39               | 174.31               | 174.22               | 174.07               | 174.24               | 174.12               |
| 14                 | 174.56               | 174.43               | 174.29               | 174.32               | 174.52               | 174.51               | 174.44               | 174.35               | 174.22               | 174.09               | 174.03               | 174.63               |
| 15                 | 174.39               | 174.63               | 174.39               | 174.58               | 174.49               | 174.57               | 174.43               | 174.37               | 174.29               | 174.22               | 174.13               | 174.50               |
| 16                 | 174.40               | 174.62               | 174.39               | 174.51               | 174.50               | 174.61               | 174.44               | 174.34               | 174.32               | 174.12               | 174.00               | 174.20               |
| 17                 | 174.68               | 174.46               | 174.34               | 174.41               | 174.47               | 174.53               | 174.47               | 174.42               | 174.31               | 174.07               | 173.93               | 174.32               |
| 18                 | 174.95               | 174.26               | 174.44               | 174.37               | 174.29               | 174.48               | 174.46               | 174.33               | 174.33               | 174.12               | 173.98               | 174.09               |
| 19                 | 174.63               | 174.37               | 174.50               | 174.27               | 174.36               | 174.52               | 174.46               | 174.16               | 174.25               | 174.02               | 174.03               | 174.05               |
| 20                 | 174.43               | 174.45               | 174.39               | 174.32               | 174.46               | 174.52               | 174.47               | 174.16               | 174.23               | 174.07               | 174.04               | 174.10               |
| 21                 | 174.40               | 174.41               | 174.34               | 174.43               | 174.48               | 174.47               | 174.47               | 174.38               | 174.17               | 174.08               | 173.99               | 174.34               |
| 22                 | 174.47               | 174.46               | 174.24               | 174.58               | 174.48               | 174.21               | 174.45               | 174.37               | 174.18               | 174.04               | 173.98               | 174.30               |
| 23                 | 174.84               | 174.26               | 174.37               | 174.54               | 174.48               | 174.35               | 174.50               | 174.30               | 174.44               | 174.02               | 174.03               | 174.11               |
| 24                 | 174.59               | 174.34               | 174.59               | 174.55               | 174.50               | 174.44               | 174.47               | 174.17               | 174.08               | 174.02               | 174.67               | 174.15               |
| 25                 | 174.52               | 174.37               | 174.46               | 174.51               | 174.49               | 174.48               | 174.44               | 174.24               | 174.17               | 174.06               | 174.45               | 174.04               |
| 26                 | 174.59               | 174.37               | 174.37               | 174.50               | 174.49               | 174.48               | 174.37               | 174.31               | 174.42               | 174.06               | 174.12               | 174.11               |
| 27                 | 174.62               | 174.47               | 174.44               | 174.48               | 174.54               | 174.51               | 174.34               | 174.34               | 174.26               | 174.05               | 174.21               | 174.02               |
| 28                 | 174.50               | 174.34               | 174.94               | 174.47               | 174.52               | 174.54               | 174.28               | 174.31               | 174.16               | 173.72               | 174.16               | 173.95               |
| 29                 | 174.32               |                      | 174.45               | 174.48               | 174.53               | 174.52               | 174.31               | 174.30               | 174.11               | 173.93               | 173.98               | 174.03               |
| 30                 | 174.30               |                      | 174.43               | 174.59               | 174.56               | 174.47               | 174.45               | 174.32               | 174.12               | 174.01               | 174.23               | 173.93               |
| 31                 | 174.81               |                      | 174.41               |                      | 174.62               |                      | 174.41               | 174.25               |                      | 173.98               |                      | 174.01               |
| Mean               | 174.50               | 174.39               | 174.41               | 174.45               | 174.51               | 174.51               | 174.44               | 174.32               | 174.24               | 174.10               | 174.12               | 174.15               |
| Max.<br>Hr.<br>Day | 175.41<br>0800<br>31 | 175.01<br>0100<br>1  | 175.97<br>0700<br>28 | 175.66<br>1700<br>15 | 174.89<br>1700<br>6  | 174.80<br>0600<br>16 | 174.90<br>0100<br>8  | 174.72<br>2200<br>17 | 175.01<br>0400<br>23 | 175.08<br>1600<br>5  | 175.10<br>0300<br>2  | 175.92<br>1800<br>14 |
| Min.<br>Hr.<br>Day | 173.76<br>0200<br>11 | 174.10<br>2000<br>13 | 174.02<br>2100<br>3  | 174.00<br>0200<br>16 | 174.08<br>2300<br>17 | 174.09<br>1000<br>22 | 174.13<br>2200<br>28 | 174.02<br>0200<br>20 | 173.91<br>0500<br>1  | 173.62<br>1000<br>28 | 173.80<br>1800<br>10 | 173.16<br>2300<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.35

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 906-3028 Sturgeon Point, New York on Lake Erie

HIGHEST

Monthly mean elevation: 174.50 May  
Daily mean elevation: 174.84 18 Jan  
Instant/hourly elevation: 175.67 0700/28 Mar

LOWEST

Monthly mean elevation: 174.09 Oct  
Daily mean elevation: 173.74 28 Oct  
Instant/hourly elevation: 173.26 2300/2 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.84 | 174.63 | 174.80 | 174.68 | 174.64 | 174.59 | 174.54 | 174.42 | 174.39 | 174.40 | 174.56 | 174.56 |
| Day | 18     | 15     | 28     | 10     | 6      | 16     | 8      | 1      | 23     | 6      | 24     | 14     |
| Min | 174.21 | 174.25 | 174.20 | 174.25 | 174.31 | 174.22 | 174.28 | 174.17 | 174.06 | 173.74 | 173.91 | 173.79 |
| Day | 11     | 13     | 13     | 12     | 18     | 22     | 28     | 20     | 1      | 28     | 10     | 2      |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 174.80         | 1                          |
| 174.75         | 2   |     | 1   |     |     |     |     |     |     |     |     |     | 174.75         | 4                          |
| 174.70         |     |     |     |     |     |     |     |     |     |     |     |     | 174.70         | 4                          |
| 174.65         |     |     | 1   | 1   |     |     |     |     |     |     |     |     | 174.65         | 6                          |
| 174.60         | 1   | 1   |     |     | 2   |     |     |     |     |     |     |     | 174.60         | 10                         |
| 174.55         | 6   | 1   | 1   | 2   | 4   | 4   |     |     |     |     | 1   | 1   | 174.55         | 30                         |
| 174.50         | 2   |     |     | 3   | 8   | 12  | 1   |     |     |     |     |     | 174.50         | 56                         |
| 174.45         | 5   | 3   | 1   | 9   | 14  | 10  | 6   |     |     |     | 1   |     | 174.45         | 105                        |
| 174.40         | 6   | 7   | 9   | 5   |     | 2   | 16  | 1   |     |     |     | 1   | 174.40         | 152                        |
| 174.35         | 2   | 8   | 10  | 5   | 2   |     | 5   | 6   | 2   | 1   | 1   |     | 174.35         | 194                        |
| 174.30         | 2   | 5   | 5   | 2   | 1   | 1   | 1   | 9   | 2   | 1   | 1   | 1   | 174.30         | 225                        |
| 174.25         | 3   | 2   | 2   | 2   |     |     | 2   | 10  | 6   |     |     | 2   | 174.25         | 254                        |
| 174.20         | 1   | 1   |     | 1   |     | 1   |     | 2   | 12  | 2   | 1   | 4   | 174.20         | 279                        |
| 174.15         |     |     | 1   |     |     |     |     | 3   | 3   | 3   | 3   | 2   | 174.15         | 294                        |
| 174.10         |     |     |     |     |     |     |     |     | 2   | 4   | 1   | 1   | 174.10         | 302                        |
| 174.05         |     |     |     |     |     |     |     |     | 3   | 9   | 5   | 9   | 174.05         | 328                        |
| 174.00         |     |     |     |     |     |     |     |     |     | 8   | 5   | 7   | 174.00         | 348                        |
| 173.95         |     |     |     |     |     |     |     |     |     | 1   | 9   |     | 173.95         | 358                        |
| 173.90         |     |     |     |     |     |     |     |     |     | 1   | 2   | 2   | 173.90         | 363                        |
| 173.85         |     |     |     |     |     |     |     |     |     |     |     |     | 173.85         | 363                        |
| 173.80         |     |     |     |     |     |     |     |     |     |     |     |     | 173.80         | 363                        |
| 173.75         |     |     |     |     |     |     |     |     |     |     |     | 1   | 173.75         | 364                        |
| 173.70         |     |     |     |     |     |     |     |     |     | 1   |     |     | 173.70         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3028 Sturgeon Point, New York on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.46               | 174.36               | 174.34               | 174.47               | 174.57               | 174.52               | 174.38               | 174.42               | 174.06               | 174.14               | 173.98               | 174.07               |
| 2                  | 174.43               | 174.43               | 174.35               | 174.46               | 174.60               | 174.52               | 174.43               | 174.37               | 174.22               | 174.16               | 174.47               | 173.79               |
| 3                  | 174.56               | 174.39               | 174.26               | 174.36               | 174.56               | 174.52               | 174.42               | 174.35               | 174.30               | 174.12               | 174.35               | 174.25               |
| 4                  | 174.57               | 174.36               | 174.44               | 174.38               | 174.46               | 174.48               | 174.43               | 174.38               | 174.28               | 174.07               | 174.14               | 174.34               |
| 5                  | 174.44               | 174.34               | 174.39               | 174.42               | 174.40               | 174.52               | 174.50               | 174.35               | 174.27               | 174.34               | 174.09               | 174.22               |
| 6                  | 174.42               | 174.31               | 174.43               | 174.43               | 174.64               | 174.52               | 174.46               | 174.28               | 174.25               | 174.40               | 174.24               | 174.22               |
| 7                  | 174.30               | 174.34               | 174.70               | 174.43               | 174.63               | 174.52               | 174.50               | 174.29               | 174.25               | 174.24               | 173.99               | 174.20               |
| 8                  | 174.30               | 174.41               | 174.43               | 174.40               | 174.51               | 174.54               | 174.54               | 174.23               | 174.25               | 174.21               | 174.01               | 174.05               |
| 9                  | 174.50               | 174.46               | 174.39               | 174.43               | 174.48               | 174.53               | 174.46               | 174.27               | 174.24               | 174.16               | 173.98               | 174.08               |
| 10                 | 174.30               | 174.40               | 174.41               | 174.68               | 174.49               | 174.56               | 174.46               | 174.36               | 174.32               | 174.10               | 173.91               | 174.10               |
| 11                 | 174.21               | 174.43               | 174.39               | 174.46               | 174.49               | 174.59               | 174.45               | 174.38               | 174.24               | 174.08               | 174.00               | 174.09               |
| 12                 | 174.52               | 174.38               | 174.37               | 174.25               | 174.52               | 174.56               | 174.40               | 174.30               | 174.21               | 174.08               | 174.08               | 174.03               |
| 13                 | 174.45               | 174.25               | 174.20               | 174.30               | 174.51               | 174.50               | 174.39               | 174.30               | 174.21               | 174.07               | 174.18               | 174.09               |
| 14                 | 174.52               | 174.43               | 174.31               | 174.32               | 174.51               | 174.49               | 174.42               | 174.33               | 174.21               | 174.08               | 174.01               | 174.56               |
| 15                 | 174.38               | 174.63               | 174.39               | 174.54               | 174.49               | 174.54               | 174.41               | 174.34               | 174.27               | 174.19               | 174.10               | 174.45               |
| 16                 | 174.40               | 174.60               | 174.40               | 174.48               | 174.49               | 174.59               | 174.42               | 174.32               | 174.30               | 174.11               | 174.00               | 174.19               |
| 17                 | 174.64               | 174.44               | 174.35               | 174.40               | 174.47               | 174.52               | 174.45               | 174.40               | 174.29               | 174.07               | 173.94               | 174.28               |
| 18                 | 174.84               | 174.26               | 174.44               | 174.37               | 174.31               | 174.47               | 174.44               | 174.32               | 174.31               | 174.11               | 173.97               | 174.09               |
| 19                 | 174.57               | 174.38               | 174.49               | 174.28               | 174.36               | 174.51               | 174.44               | 174.17               | 174.24               | 174.03               | 174.02               | 174.04               |
| 20                 | 174.42               | 174.44               | 174.39               | 174.34               | 174.46               | 174.50               | 174.44               | 174.17               | 174.22               | 174.06               | 174.03               | 174.07               |
| 21                 | 174.41               | 174.41               | 174.34               | 174.44               | 174.47               | 174.47               | 174.44               | 174.36               | 174.16               | 174.06               | 173.99               | 174.27               |
| 22                 | 174.46               | 174.46               | 174.26               | 174.57               | 174.47               | 174.22               | 174.44               | 174.34               | 174.17               | 174.03               | 173.99               | 174.24               |
| 23                 | 174.76               | 174.26               | 174.38               | 174.53               | 174.47               | 174.35               | 174.47               | 174.30               | 174.39               | 174.01               | 174.03               | 174.09               |
| 24                 | 174.56               | 174.34               | 174.56               | 174.54               | 174.49               | 174.42               | 174.45               | 174.18               | 174.08               | 174.02               | 174.56               | 174.14               |
| 25                 | 174.50               | 174.38               | 174.45               | 174.50               | 174.49               | 174.45               | 174.42               | 174.23               | 174.17               | 174.04               | 174.37               | 174.03               |
| 26                 | 174.56               | 174.38               | 174.36               | 174.50               | 174.49               | 174.46               | 174.36               | 174.30               | 174.38               | 174.04               | 174.10               | 174.09               |
| 27                 | 174.56               | 174.47               | 174.43               | 174.48               | 174.52               | 174.48               | 174.34               | 174.32               | 174.24               | 174.04               | 174.16               | 174.01               |
| 28                 | 174.49               | 174.34               | 174.80               | 174.48               | 174.51               | 174.51               | 174.28               | 174.30               | 174.15               | 173.74               | 174.10               | 173.95               |
| 29                 | 174.34               |                      | 174.42               | 174.47               | 174.51               | 174.49               | 174.30               | 174.28               | 174.10               | 173.94               | 173.98               | 174.04               |
| 30                 | 174.32               |                      | 174.42               | 174.56               | 174.55               | 174.46               | 174.42               | 174.31               | 174.11               | 174.01               | 174.18               | 173.94               |
| 31                 | 174.80               |                      | 174.40               |                      | 174.59               |                      | 174.39               | 174.26               |                      | 173.98               |                      | 174.01               |
| Mean               | 174.48               | 174.40               | 174.41               | 174.44               | 174.50               | 174.49               | 174.42               | 174.31               | 174.23               | 174.09               | 174.10               | 174.13               |
| Max.<br>Hr.<br>Day | 175.39<br>0900<br>31 | 174.90<br>0100<br>1  | 175.67<br>0700<br>28 | 175.43<br>1700<br>15 | 174.82<br>1700<br>6  | 174.79<br>0300<br>16 | 174.87<br>0100<br>8  | 174.69<br>2200<br>17 | 174.87<br>0300<br>23 | 174.96<br>1600<br>5  | 174.85<br>0300<br>2  | 175.66<br>1700<br>14 |
| Min.<br>Hr.<br>Day | 173.82<br>0200<br>11 | 174.13<br>2000<br>13 | 174.07<br>0200<br>23 | 174.00<br>0100<br>16 | 174.15<br>2300<br>17 | 174.12<br>2200<br>22 | 174.15<br>2200<br>28 | 174.00<br>0100<br>20 | 173.93<br>0500<br>1  | 173.64<br>1000<br>28 | 173.83<br>1000<br>21 | 173.26<br>2300<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.33

International  
Great Lakes  
Datum (1985)

# Annual Summary of Levels, in Meters, 1991

Station: 906-3038 Erie, Pennsylvania on Lake Erie

## HIGHEST

Monthly mean elevation: 174.53 Jun  
Daily mean elevation: 174.68 18 Jan  
Instant/hourly elevation: 175.13 1900/14 Dec

## LOWEST

Monthly mean elevation: 174.08 Nov  
Daily mean elevation: 173.90 2 Dec  
Instant/hourly elevation: 173.52 2200/2 Dec

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.68 | 174.60 | 174.64 | 174.58 | 174.63 | 174.58 | 174.51 | 174.41 | 174.33 | 174.30 | 174.35 | 174.40 |
| Day | 18     | 15     | 28     | 30     | 6      | 11     | 7      | 1      | 26     | 6      | 24     | 14     |
| Min | 174.31 | 174.30 | 174.29 | 174.33 | 174.41 | 174.37 | 174.35 | 174.24 | 174.12 | 173.90 | 173.99 | 173.90 |
| Day | 11     | 13     | 13     | 12     | 18     | 22     | 28     | 19     | 30     | 28     | 17     | 2      |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.65         | 1   |     |     |     |     |     |     |     |     |     |     |     | 174.65         | 1                          |
| 174.60         | 2   |     | 1   |     | 2   |     |     |     |     |     |     |     | 174.60         | 6                          |
| 174.55         | 1   | 1   | 1   | 3   | 5   | 10  |     |     |     |     |     |     | 174.55         | 27                         |
| 174.50         | 4   | 1   | 1   | 8   | 18  | 12  | 2   |     |     |     |     |     | 174.50         | 73                         |
| 174.45         | 9   |     | 4   | 5   | 4   | 6   | 12  |     |     |     |     |     | 174.45         | 113                        |
| 174.40         | 8   |     | 16  | 9   | 2   | 1   | 12  | 1   |     |     |     |     | 174.40         | 168                        |
| 174.35         | 5   | 16  | 6   | 3   |     | 1   | 4   | 9   |     |     |     | 1   | 174.35         | 213                        |
| 174.30         | 1   | 3   | 1   | 2   |     |     | 1   | 15  | 3   |     | 2   | 2   | 174.30         | 243                        |
| 174.25         |     | 1   | 1   |     |     |     |     | 5   | 14  | 2   |     |     | 174.25         | 266                        |
| 174.20         |     |     |     |     |     |     |     | 1   | 5   | 1   | 2   |     | 174.20         | 275                        |
| 174.15         |     |     |     |     |     |     |     |     | 5   | 1   |     | 5   | 174.15         | 286                        |
| 174.10         |     |     |     |     |     |     |     |     | 3   | 8   | 4   | 5   | 174.10         | 306                        |
| 174.05         |     |     |     |     |     |     |     |     |     | 12  | 6   | 10  | 174.05         | 334                        |
| 174.00         |     |     |     |     |     |     |     |     |     | 6   | 13  | 7   | 174.00         | 360                        |
| 173.95         |     |     |     |     |     |     |     |     |     |     | 3   |     | 173.95         | 363                        |
| 173.90         |     |     |     |     |     |     |     |     |     |     |     |     | 173.90         | 363                        |
| 173.85         |     |     |     |     |     |     |     |     |     | 1   |     | 1   | 173.85         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3038 Erie, Pennsylvania on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.44               | 174.37               | 174.36               | 174.47               | 174.57               | 174.55               | 174.43               | 174.41               | 174.18               | 174.15               | 174.04               | 174.07               |
| 2                  | 174.45               | 174.40               | 174.37               | 174.47               | 174.59               | 174.55               | 174.48               | 174.37               | 174.27               | 174.15               | 174.32               | 173.90               |
| 3                  | 174.53               | 174.38               | 174.37               | 174.40               | 174.56               | 174.57               | 174.47               | 174.39               | 174.30               | 174.13               | 174.25               | 174.18               |
| 4                  | 174.50               | 174.36               | 174.47               | 174.42               | 174.50               | 174.54               | 174.46               | 174.40               | 174.30               | 174.11               | 174.13               | 174.32               |
| 5                  | 174.45               | 174.36               | 174.41               | 174.44               | 174.47               | 174.56               | 174.51               | 174.38               | 174.30               | 174.27               | 174.08               | 174.14               |
| 6                  | 174.45               | 174.35               | 174.43               | 174.44               | 174.63               | 174.56               | 174.48               | 174.33               | 174.28               | 174.30               | 174.15               | 174.17               |
| 7                  | 174.39               | 174.37               | 174.58               | 174.43               | 174.62               | 174.56               | 174.51               | 174.34               | 174.28               | 174.22               | 174.03               | 174.11               |
| 8                  | 174.37               | 174.40               | 174.45               | 174.42               | 174.53               | 174.56               | 174.50               | 174.28               | 174.28               | 174.17               | 174.04               | 174.05               |
| 9                  | 174.49               | 174.42               | 174.43               | 174.45               | 174.51               | 174.56               | 174.47               | 174.34               | 174.28               | 174.13               | 174.02               | 174.08               |
| 10                 | 174.37               | 174.40               | 174.45               | 174.58               | 174.52               | 174.57               | 174.47               | 174.37               | 174.31               | 174.10               | 173.99               | 174.09               |
| 11                 | 174.31               | 174.44               | 174.44               | 174.46               | 174.52               | 174.58               | 174.47               | 174.39               | 174.28               | 174.10               | 174.03               | 174.08               |
| 12                 | 174.52               | 174.39               | 174.42               | 174.33               | 174.53               | 174.57               | 174.43               | 174.32               | 174.25               | 174.11               | 174.06               | 174.03               |
| 13                 | 174.47               | 174.30               | 174.29               | 174.37               | 174.53               | 174.53               | 174.45               | 174.32               | 174.24               | 174.11               | 174.11               | 174.08               |
| 14                 | 174.47               | 174.43               | 174.38               | 174.38               | 174.53               | 174.52               | 174.46               | 174.34               | 174.25               | 174.09               | 174.02               | 174.40               |
| 15                 | 174.42               | 174.60               | 174.43               | 174.47               | 174.52               | 174.55               | 174.46               | 174.34               | 174.27               | 174.15               | 174.06               | 174.35               |
| 16                 | 174.44               | 174.51               | 174.42               | 174.47               | 174.52               | 174.57               | 174.45               | 174.32               | 174.27               | 174.10               | 174.04               | 174.16               |
| 17                 | 174.59               | 174.40               | 174.40               | 174.43               | 174.52               | 174.55               | 174.46               | 174.37               | 174.28               | 174.07               | 173.99               | 174.19               |
| 18                 | 174.68               | 174.32               | 174.46               | 174.42               | 174.41               | 174.52               | 174.45               | 174.32               | 174.30               | 174.08               | 174.00               | 174.13               |
| 19                 | 174.51               | 174.38               | 174.48               | 174.35               | 174.43               | 174.54               | 174.45               | 174.24               | 174.26               | 174.07               | 174.03               | 174.05               |
| 20                 | 174.45               | 174.41               | 174.42               | 174.44               | 174.51               | 174.53               | 174.45               | 174.27               | 174.24               | 174.07               | 174.04               | 174.06               |
| 21                 | 174.47               | 174.40               | 174.41               | 174.51               | 174.51               | 174.52               | 174.45               | 174.39               | 174.20               | 174.06               | 174.05               | 174.19               |
| 22                 | 174.47               | 174.43               | 174.34               | 174.57               | 174.51               | 174.37               | 174.45               | 174.36               | 174.19               | 174.04               | 174.04               | 174.14               |
| 23                 | 174.62               | 174.33               | 174.40               | 174.54               | 174.50               | 174.43               | 174.46               | 174.33               | 174.32               | 174.03               | 174.06               | 174.07               |
| 24                 | 174.54               | 174.38               | 174.52               | 174.55               | 174.51               | 174.49               | 174.45               | 174.27               | 174.14               | 174.03               | 174.35               | 174.14               |
| 25                 | 174.48               | 174.40               | 174.46               | 174.53               | 174.50               | 174.50               | 174.42               | 174.30               | 174.20               | 174.05               | 174.24               | 174.06               |
| 26                 | 174.49               | 174.40               | 174.41               | 174.53               | 174.52               | 174.50               | 174.39               | 174.33               | 174.33               | 174.07               | 174.09               | 174.06               |
| 27                 | 174.47               | 174.45               | 174.44               | 174.53               | 174.54               | 174.50               | 174.38               | 174.33               | 174.22               | 174.08               | 174.09               | 174.04               |
| 28                 | 174.45               | 174.36               | 174.64               | 174.52               | 174.54               | 174.51               | 174.35               | 174.32               | 174.16               | 173.90               | 174.05               | 174.01               |
| 29                 | 174.37               |                      | 174.45               | 174.52               | 174.55               | 174.50               | 174.36               | 174.31               | 174.13               | 174.02               | 174.02               | 174.08               |
| 30                 | 174.38               |                      | 174.45               | 174.58               | 174.56               | 174.49               | 174.43               | 174.33               | 174.12               | 174.07               | 174.12               | 174.03               |
| 31                 | 174.64               |                      | 174.43               |                      | 174.59               |                      | 174.40               | 174.30               |                      | 174.05               |                      | 174.05               |
| Mean               | 174.47               | 174.40               | 174.43               | 174.47               | 174.53               | 174.53               | 174.45               | 174.34               | 174.25               | 174.10               | 174.08               | 174.11               |
| Max.<br>Hr.<br>Day | 174.98<br>1000<br>31 | 174.69<br>1800<br>15 | 175.06<br>0700<br>28 | 174.92<br>1900<br>15 | 174.76<br>1500<br>6  | 174.70<br>0500<br>16 | 174.61<br>2300<br>7  | 174.55<br>2100<br>17 | 174.54<br>0500<br>23 | 174.69<br>1900<br>5  | 174.54<br>0500<br>2  | 175.13<br>1900<br>14 |
| Min.<br>Hr.<br>Day | 174.04<br>0100<br>11 | 174.24<br>2000<br>13 | 174.22<br>0700<br>13 | 174.12<br>0100<br>16 | 174.33<br>2300<br>17 | 174.27<br>0900<br>22 | 174.26<br>2300<br>28 | 174.14<br>2400<br>19 | 174.03<br>0200<br>30 | 173.80<br>1200<br>28 | 173.92<br>1900<br>17 | 173.52<br>2200<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.35

International  
Great Lakes  
Datum (1985)

# Annual Summary of Levels, in Meters, 1991

Station: 906-3053 Fairport, Ohio on Lake Erie

## HIGHEST

Monthly mean elevation: 174.56 Jun  
Daily mean elevation: 174.60 4 Jun  
Instant/hourly elevation: 174.77 2100/15 Jun

## LOWEST

Monthly mean elevation: 174.05 Nov  
Daily mean elevation: 173.99 13 Nov  
Instant/hourly elevation: 173.89 2000/14 Dec

## ~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.51 | 174.43 | 174.47 | 174.58 | 174.58 | 174.60 | 174.52 | 174.42 | 174.34 | 174.16 | 174.13 | 174.12 |
| Day | 21     | 15     | 29     | 28     | 31     | 4      | 13     | 20     | 1      | 4      | 1      | 4      |
| Min | 174.35 | 174.35 | 174.38 | 174.42 | 174.52 | 174.50 | 174.40 | 174.31 | 174.15 | 174.04 | 173.99 | 174.02 |
| Day | 31     | 17     | 1      | 7      | 25     | 29     | 31     | 17     | 30     | 22     | 13     | 22     |

## ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.55         |     |     |     | 9   | 13  | 19  |     |     |     |     |     |     | 174.55         | 41                         |
| 174.50         | 1   |     |     | 2   | 18  | 8   | 3   |     |     |     |     |     | 174.50         | 73                         |
| 174.45         | 10  |     | 10  | 5   |     | 3   | 15  |     |     |     |     |     | 174.45         | 116                        |
| 174.40         | 15  | 1   | 19  | 14  |     |     | 11  | 2   |     |     |     |     | 174.40         | 178                        |
| 174.35         | 4   | 25  | 2   |     |     |     | 2   | 20  |     |     |     |     | 174.35         | 231                        |
| 174.30         | 1   | 2   |     |     |     |     |     | 9   | 5   |     |     |     | 174.30         | 248                        |
| 174.25         |     |     |     |     |     |     |     |     | 13  |     |     |     | 174.25         | 261                        |
| 174.20         |     |     |     |     |     |     |     |     | 5   |     |     |     | 174.20         | 266                        |
| 174.15         |     |     |     |     |     |     |     |     | 6   | 1   |     |     | 174.15         | 273                        |
| 174.10         |     |     |     |     |     |     |     |     | 1   | 16  | 1   | 2   | 174.10         | 293                        |
| 174.05         |     |     |     |     |     |     |     |     |     | 10  | 11  | 20  | 174.05         | 334                        |
| 174.00         |     |     |     |     |     |     |     |     |     | 4   | 16  | 9   | 174.00         | 363                        |
| 173.95         |     |     |     |     |     |     |     |     |     |     | 2   |     | 173.95         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3053 Fairport, Ohio on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.42               | 174.37               | 174.38               | 174.47               | 174.56               | 174.60               | 174.50               | 174.39               | 174.34               | 174.14               | 174.13               | 174.06               |
| 2                  | 174.44               | 174.36               | 174.39               | 174.45               | 174.57               | 174.59               | 174.51               | 174.39               | 174.32               | 174.13               | 174.06               | 174.07               |
| 3                  | 174.47               | 174.36               | 174.45               | 174.44               | 174.56               | 174.60               | 174.50               | 174.42               | 174.30               | 174.14               | 174.03               | 174.09               |
| 4                  | 174.44               | 174.36               | 174.45               | 174.45               | 174.56               | 174.60               | 174.50               | 174.40               | 174.32               | 174.16               | 174.05               | 174.12               |
| 5                  | 174.45               | 174.37               | 174.42               | 174.42               | 174.56               | 174.59               | 174.49               | 174.39               | 174.31               | 174.15               | 174.04               | 174.03               |
| 6                  | 174.47               | 174.38               | 174.43               | 174.43               | 174.55               | 174.59               | 174.50               | 174.38               | 174.31               | 174.15               | 174.02               | 174.06               |
| 7                  | 174.49               | 174.39               | 174.44               | 174.42               | 174.53               | 174.59               | 174.51               | 174.37               | 174.30               | 174.14               | 174.08               | 174.02               |
| 8                  | 174.47               | 174.37               | 174.46               | 174.45               | 174.55               | 174.58               | 174.50               | 174.36               | 174.30               | 174.08               | 174.05               | 174.05               |
| 9                  | 174.45               | 174.36               | 174.44               | 174.45               | 174.55               | 174.58               | 174.50               | 174.39               | 174.29               | 174.06               | 174.05               | 174.07               |
| 10                 | 174.46               | 174.40               | 174.47               | 174.44               | 174.55               | 174.57               | 174.49               | 174.37               | 174.28               | 174.12               | 174.07               | 174.06               |
| 11                 | 174.49               | 174.39               | 174.46               | 174.45               | 174.55               | 174.57               | 174.48               | 174.36               | 174.30               | 174.12               | 174.07               | 174.04               |
| 12                 | 174.48               | 174.37               | 174.45               | 174.45               | 174.54               | 174.58               | 174.48               | 174.36               | 174.29               | 174.13               | 174.04               | 174.06               |
| 13                 | 174.46               | 174.38               | 174.46               | 174.45               | 174.54               | 174.56               | 174.52               | 174.36               | 174.28               | 174.12               | 173.99               | 174.07               |
| 14                 | 174.41               | 174.40               | 174.46               | 174.46               | 174.55               | 174.55               | 174.50               | 174.34               | 174.28               | 174.09               | 174.02               | 174.08               |
| 15                 | 174.44               | 174.43               | 174.44               | 174.43               | 174.54               | 174.56               | 174.48               | 174.35               | 174.26               | 174.08               | 174.01               | 174.09               |
| 16                 | 174.47               | 174.35               | 174.44               | 174.45               | 174.54               | 174.57               | 174.48               | 174.33               | 174.25               | 174.08               | 174.06               | 174.06               |
| 17                 | 174.45               | 174.35               | 174.45               | 174.46               | 174.56               | 174.58               | 174.46               | 174.31               | 174.26               | 174.07               | 174.04               | 174.07               |
| 18                 | 174.41               | 174.38               | 174.45               | 174.46               | 174.56               | 174.56               | 174.46               | 174.34               | 174.26               | 174.06               | 174.03               | 174.11               |
| 19                 | 174.42               | 174.37               | 174.45               | 174.48               | 174.54               | 174.55               | 174.45               | 174.36               | 174.25               | 174.12               | 174.04               | 174.06               |
| 20                 | 174.46               | 174.38               | 174.45               | 174.56               | 174.54               | 174.55               | 174.45               | 174.42               | 174.26               | 174.06               | 174.06               | 174.04               |
| 21                 | 174.51               | 174.38               | 174.46               | 174.57               | 174.53               | 174.56               | 174.45               | 174.38               | 174.22               | 174.04               | 174.07               | 174.04               |
| 22                 | 174.45               | 174.40               | 174.46               | 174.55               | 174.53               | 174.58               | 174.45               | 174.37               | 174.20               | 174.04               | 174.08               | 174.02               |
| 23                 | 174.38               | 174.40               | 174.45               | 174.55               | 174.53               | 174.54               | 174.45               | 174.37               | 174.18               | 174.05               | 174.08               | 174.05               |
| 24                 | 174.44               | 174.39               | 174.45               | 174.56               | 174.52               | 174.53               | 174.45               | 174.38               | 174.22               | 174.05               | 174.03               | 174.07               |
| 25                 | 174.42               | 174.40               | 174.46               | 174.56               | 174.52               | 174.52               | 174.44               | 174.36               | 174.21               | 174.06               | 174.06               | 174.06               |
| 26                 | 174.39               | 174.40               | 174.45               | 174.57               | 174.56               | 174.52               | 174.43               | 174.35               | 174.20               | 174.09               | 174.05               | 174.04               |
| 27                 | 174.36               | 174.40               | 174.45               | 174.57               | 174.56               | 174.50               | 174.41               | 174.36*              | 174.19               | 174.12               | 174.00               | 174.06               |
| 28                 | 174.37               | 174.38               | 174.42               | 174.58               | 174.56               | 174.50               | 174.41               | 174.35*              | 174.17               | 174.15               | 174.01               | 174.07               |
| 29                 | 174.41               |                      | 174.47               | 174.57               | 174.56               | 174.50               | 174.40               | 174.34               | 174.16               | 174.13               | 174.06               | 174.09               |
| 30                 | 174.42               |                      | 174.46               | 174.56               | 174.57               | 174.51               | 174.42               | 174.34               | 174.15               | 174.12               | 174.03               | 174.10               |
| 31                 | 174.35               |                      | 174.44               |                      | 174.58               |                      | 174.40               | 174.36               |                      | 174.12               |                      | 174.08               |
| Mean               | 174.44               | 174.38               | 174.45               | 174.49               | 174.55               | 174.56               | 174.47               | 174.37               | 174.26               | 174.10               | 174.05               | 174.06               |
| Max.<br>Hr.<br>Day | 174.57<br>0100<br>21 | 174.52<br>2000<br>22 | 174.55<br>0200<br>28 | 174.69<br>2400<br>23 | 174.71<br>2300<br>31 | 174.77<br>2100<br>15 | 174.67<br>2200<br>7  | 174.50<br>2000<br>20 | 174.41<br>2000<br>3  | 174.30<br>2000<br>6  | 174.26<br>2300<br>1  | 174.39<br>1900<br>15 |
| Min.<br>Hr.<br>Day | 174.25<br>0800<br>31 | 174.26<br>0100<br>1  | 174.22<br>0800<br>28 | 174.24<br>1800<br>15 | 174.41<br>0200<br>25 | 174.46<br>1600<br>29 | 174.36<br>1400<br>29 | 174.23<br>1900<br>17 | 174.06<br>0400<br>23 | 174.00<br>2000<br>25 | 173.91<br>1500<br>13 | 173.89<br>2000<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.35



International  
Great Lakes  
Datum (1985)

# Annual Summary of Levels, in Meters, 1991

Station: 906-3063 Cleveland, Ohio on Lake Erie

## HIGHEST

Monthly mean elevation: 174.55 Jun  
Daily mean elevation: 174.62 22 Jun  
Instant/hourly elevation: 174.77 1200/1 May

## LOWEST

Monthly mean elevation: 174.00 Nov  
Daily mean elevation: 173.86 24 Nov  
Instant/hourly elevation: 173.66 2000/14 Dec

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.52 | 174.40 | 174.50 | 174.58 | 174.58 | 174.62 | 174.51 | 174.45 | 174.38 | 174.20 | 174.12 | 174.11 |
| Day | 11     | 23     | 13     | 20     | 18     | 22     | 13     | 20     | 1      | 28     | 1      | 2      |
| Min | 174.25 | 174.27 | 174.34 | 174.37 | 174.49 | 174.47 | 174.38 | 174.26 | 174.12 | 174.00 | 173.86 | 173.93 |
| Day | 31     | 16     | 28     | 15     | 7      | 28     | 31     | 17     | 30     | 21     | 24     | 22     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.60         |     |     |     |     |     | 1   |     |     |     |     |     |     | 174.60         | 1                          |
| 174.55         |     |     |     | 4   | 5   | 13  |     |     |     |     |     |     | 174.55         | 23                         |
| 174.50         | 1   |     |     | 7   | 23  | 10  | 1   |     |     |     |     |     | 174.50         | 65                         |
| 174.45         | 4   |     | 4   | 3   | 3   | 6   | 14  |     |     |     |     |     | 174.45         | 99                         |
| 174.40         | 11  |     | 20  | 11  |     |     | 11  | 1   |     |     |     |     | 174.40         | 153                        |
| 174.35         | 7   | 14  | 5   | 5   |     |     | 5   | 16  | 1   |     |     |     | 174.35         | 206                        |
| 174.30         | 4   | 13  | 2   |     |     |     |     | 13  | 3   |     |     |     | 174.30         | 241                        |
| 174.25         | 2   | 1   |     |     |     |     |     | 1   | 10  |     |     |     | 174.25         | 255                        |
| 174.20         | 2   |     |     |     |     |     |     |     | 8   |     |     |     | 174.20         | 265                        |
| 174.15         |     |     |     |     |     |     |     |     | 5   | 1   |     |     | 174.15         | 271                        |
| 174.10         |     |     |     |     |     |     |     |     | 3   | 10  | 1   |     | 174.10         | 286                        |
| 174.05         |     |     |     |     |     |     |     |     |     | 8   | 5   | 1   | 174.05         | 304                        |
| 174.00         |     |     |     |     |     |     |     |     |     | 11  | 10  | 18  | 174.00         | 343                        |
| 173.95         |     |     |     |     |     |     |     |     |     | 1   | 8   | 5   | 173.95         | 357                        |
| 173.90         |     |     |     |     |     |     |     |     |     |     | 5   | 2   | 173.90         | 364                        |
| 173.85         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.85         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3063 Cleveland, Ohio on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.37               | 174.35               | 174.35               | 174.44               | 174.54               | 174.59               | 174.50              | 174.36               | 174.38               | 174.12               | 174.12               | 174.05               |
| 2                  | 174.42               | 174.32               | 174.36               | 174.42               | 174.53               | 174.58               | 174.50              | 174.38               | 174.32               | 174.09               | 173.92               | 174.11               |
| 3                  | 174.43               | 174.32               | 174.45               | 174.44               | 174.54               | 174.59               | 174.49              | 174.40               | 174.28               | 174.12               | 173.94               | 174.05               |
| 4                  | 174.38               | 174.32               | 174.43               | 174.43               | 174.56               | 174.60               | 174.49              | 174.39               | 174.31               | 174.13               | 174.00               | 174.01               |
| 5                  | 174.42               | 174.34               | 174.40               | 174.40               | 174.57               | 174.58               | 174.47              | 174.37               | 174.31               | 174.06               | 174.00               | 173.96               |
| 6                  | 174.45               | 174.37               | 174.39               | 174.40               | 174.50               | 174.58               | 174.48              | 174.37               | 174.30               | 174.06               | 173.93               | 174.02               |
| 7                  | 174.49               | 174.37               | 174.39               | 174.40               | 174.49               | 174.57               | 174.48              | 174.36               | 174.29               | 174.08               | 174.06               | 173.95               |
| 8                  | 174.47               | 174.32               | 174.44               | 174.41               | 174.53               | 174.56               | 174.48              | 174.37               | 174.28               | 174.02               | 174.04               | 174.02               |
| 9                  | 174.42               | 174.31               | 174.41               | 174.41               | 174.54               | 174.56               | 174.48              | 174.38               | 174.27               | 174.02               | 174.04               | 174.04               |
| 10                 | 174.46               | 174.36               | 174.45               | 174.38               | 174.54               | 174.54               | 174.47              | 174.36               | 174.26               | 174.09               | 174.07               | 174.01               |
| 11                 | 174.52               | 174.37               | 174.45               | 174.43               | 174.53               | 174.54               | 174.46              | 174.33               | 174.29               | 174.09               | 174.06               | 174.01               |
| 12                 | 174.45               | 174.34               | 174.44               | 174.47               | 174.51               | 174.56               | 174.46              | 174.35               | 174.28               | 174.11               | 174.01               | 174.02               |
| 13                 | 174.43               | 174.38               | 174.50               | 174.46               | 174.52               | 174.56               | 174.51              | 174.34               | 174.28               | 174.11               | 173.92               | 174.04               |
| 14                 | 174.35               | 174.39               | 174.46               | 174.45               | 174.52               | 174.54               | 174.48              | 174.32               | 174.27               | 174.04               | 173.99               | 173.99               |
| 15                 | 174.42               | 174.40               | 174.42               | 174.37               | 174.53               | 174.54               | 174.47              | 174.31               | 174.24               | 174.04               | 173.97               | 174.02               |
| 16                 | 174.45               | 174.27               | 174.42               | 174.42               | 174.52               | 174.53               | 174.45              | 174.31               | 174.23               | 174.06               | 174.05               | 174.02               |
| 17                 | 174.39               | 174.31               | 174.43               | 174.44               | 174.54               | 174.56               | 174.43              | 174.26               | 174.25               | 174.04               | 174.03               | 174.00               |
| 18                 | 174.30               | 174.37               | 174.42               | 174.45               | 174.58               | 174.56               | 174.43              | 174.32               | 174.22               | 174.04               | 174.00               | 174.09               |
| 19                 | 174.35               | 174.34               | 174.42               | 174.49               | 174.56               | 174.53               | 174.43              | 174.37               | 174.24               | 174.11               | 174.01               | 174.04               |
| 20                 | 174.44               | 174.34               | 174.44               | 174.58               | 174.52               | 174.54               | 174.42              | 174.45               | 174.24               | 174.04               | 174.04               | 173.99               |
| 21                 | 174.50               | 174.34               | 174.45               | 174.56               | 174.51               | 174.54               | 174.42              | 174.36               | 174.21               | 174.00               | 174.07               | 173.98               |
| 22                 | 174.40               | 174.37               | 174.48               | 174.52               | 174.51               | 174.62               | 174.42              | 174.34               | 174.17               | 174.02               | 174.08               | 173.93               |
| 23                 | 174.25               | 174.40               | 174.44               | 174.52               | 174.51               | 174.55               | 174.43              | 174.36               | 174.13               | 174.02               | 174.05               | 174.03               |
| 24                 | 174.39               | 174.37               | 174.42               | 174.54               | 174.50               | 174.52               | 174.42              | 174.39               | 174.23               | 174.03               | 173.86               | 174.02               |
| 25                 | 174.37               | 174.38               | 174.43               | 174.55               | 174.51               | 174.50               | 174.42              | 174.36               | 174.20               | 174.04               | 173.97               | 174.05               |
| 26                 | 174.32               | 174.38               | 174.44               | 174.55               | 174.54               | 174.50               | 174.42              | 174.33               | 174.17               | 174.08               | 174.01               | 174.01               |
| 27                 | 174.28               | 174.34               | 174.39               | 174.56               | 174.53               | 174.48               | 174.40              | 174.32               | 174.16               | 174.11               | 173.91               | 174.04               |
| 28                 | 174.32               | 174.36               | 174.34               | 174.56               | 174.56               | 174.47               | 174.40              | 174.33               | 174.16               | 174.20               | 173.97               | 174.06               |
| 29                 | 174.39               |                      | 174.47               | 174.55               | 174.55               | 174.48               | 174.39              | 174.33               | 174.15               | 174.14               | 174.04               | 174.08               |
| 30                 | 174.41               |                      | 174.44               | 174.52               | 174.54               | 174.50               | 174.38              | 174.32               | 174.12               | 174.12               | 173.98               | 174.10               |
| 31                 | 174.25               |                      | 174.41               |                      | 174.54               |                      | 174.38              | 174.36               |                      | 174.12               |                      | 174.06               |
| Mean               | 174.40               | 174.35               | 174.42               | 174.47               | 174.53               | 174.55               | 174.45              | 174.35               | 174.24               | 174.08               | 174.00               | 174.02               |
| Max.<br>Hr.<br>Day | 174.64<br>0200<br>11 | 174.49<br>0200<br>15 | 174.57<br>0500<br>23 | 174.67<br>0100<br>16 | 174.77<br>1200<br>1  | 174.72<br>0900<br>1  | 174.60<br>0600<br>8 | 174.51<br>1900<br>20 | 174.47<br>0600<br>1  | 174.26<br>1300<br>28 | 174.20<br>1800<br>1  | 174.36<br>1900<br>15 |
| Min.<br>Hr.<br>Day | 174.07<br>0900<br>31 | 174.16<br>1900<br>16 | 174.05<br>0800<br>28 | 174.12<br>1900<br>15 | 174.41<br>0900<br>31 | 174.35<br>0100<br>16 | 174.29<br>0200<br>8 | 174.21<br>0200<br>18 | 173.94<br>0400<br>23 | 173.87<br>1900<br>5  | 173.77<br>1900<br>24 | 173.66<br>2000<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.32

International  
Great Lakes  
Datum (1985)

# Annual Summary of Levels, in Meters, 1991

Station: 906-3079 Marblehead, Ohio on Lake Erie

## HIGHEST

Monthly mean elevation: 174.56 Jun  
Daily mean elevation: 174.75 22 Jun  
Instant/hourly elevation: 174.94 0200/11 Jan

## LOWEST

Monthly mean elevation: 173.96 Nov  
Daily mean elevation: 173.55 24 Nov  
Instant/hourly elevation: 172.96 1800/14 Dec

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.64 | 174.46 | 174.69 | 174.67 | 174.73 | 174.75 | 174.57 | 174.46 | 174.32 | 174.38 | 174.14 | 174.24 |
| Day | 11     | 23     | 13     | 19     | 18     | 22     | 1      | 24     | 5      | 28     | 1      | 2      |
| Min | 174.12 | 174.24 | 174.12 | 174.22 | 174.38 | 174.47 | 174.36 | 174.21 | 174.02 | 173.86 | 173.55 | 173.63 |
| Day | 18     | 15     | 28     | 10     | 6      | 28     | 30     | 17     | 26     | 6      | 24     | 14     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.70         |     |     |     |     | 1   | 1   |     |     |     |     |     |     | 174.70         | 2                          |
| 174.65         |     |     |     | 1   |     | 2   |     |     |     |     |     |     | 174.65         | 6                          |
| 174.60         | 1   |     | 1   | 2   | 2   | 1   |     |     |     |     |     |     | 174.60         | 12                         |
| 174.55         | 1   |     | 1   | 6   | 5   | 14  | 1   |     |     |     |     |     | 174.55         | 40                         |
| 174.50         | 2   |     | 1   | 4   | 18  | 8   | 3   |     |     |     |     |     | 174.50         | 76                         |
| 174.45         | 1   | 1   | 8   | 5   | 3   | 4   | 9   |     |     |     |     |     | 174.45         | 108                        |
| 174.40         | 7   | 2   | 9   | 4   | 1   |     | 13  | 3   |     |     |     |     | 174.40         | 147                        |
| 174.35         | 4   | 7   | 8   | 6   | 1   |     | 5   | 9   |     | 1   |     |     | 174.35         | 188                        |
| 174.30         | 1   | 11  |     |     |     |     |     | 12  | 4   |     |     |     | 174.30         | 216                        |
| 174.25         | 3   | 4   | 2   | 1   |     |     |     | 3   | 8   |     |     |     | 174.25         | 237                        |
| 174.20         |     | 1   |     | 1   |     |     |     | 1   | 7   |     |     | 1   | 174.20         | 249                        |
| 174.15         |     |     |     |     |     |     |     |     | 5   | 2   |     |     | 174.15         | 256                        |
| 174.10         | 1   |     | 1   |     |     |     |     |     | 2   | 3   | 1   | 2   | 174.10         | 266                        |
| 174.05         |     |     |     |     |     |     |     |     |     | 6   | 8   | 1   | 174.05         | 281                        |
| 174.00         |     |     |     |     |     |     |     |     | 2   | 8   | 6   | 10  | 174.00         | 307                        |
| 173.95         |     |     |     |     |     |     |     |     |     | 5   | 5   | 5   | 173.95         | 322                        |
| 173.90         |     |     |     |     |     |     |     |     |     | 1   | 2   | 5   | 173.90         | 330                        |
| 173.85         |     |     |     |     |     |     |     |     |     | 1   | 3   | 3   | 173.85         | 337                        |
| 173.80         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 173.80         | 339                        |
| 173.75         |     |     |     |     |     |     |     |     |     |     | 2   |     | 173.75         | 341                        |
| 173.70         |     |     |     |     |     |     |     |     |     |     |     | 2   | 173.70         | 343                        |
| 173.65         |     |     |     |     |     |     |     |     |     |     |     |     | 173.65         | 343                        |
| 173.60         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 173.60         | 345                        |
| 173.55         |     |     |     |     |     |     |     |     |     |     |     |     | 173.55         | 345                        |
| 173.50         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.50         | 346                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3079 Marblehead, Ohio on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| 1                  | 174.36*              | /                    | 174.37               | 174.38               | 174.50               | 174.60               | 174.57               | 174.33               | /                    | 174.10               | 174.14              | 174.03               |
| 2                  | 174.44*              | 174.36*              | 174.38               | 174.41               | 174.50               | 174.59               | 174.50               | 174.38               | /                    | 174.08               | 173.64              | 174.24               |
| 3                  | 174.35               | 174.34               | 174.48               | 174.47               | 174.54               | 174.61               | 174.51               | 174.38               | 174.28*              | 174.13               | 173.76              | 173.94               |
| 4                  | 174.37*              | 174.35               | 174.39               | 174.43               | 174.60               | 174.66               | 174.48               | 174.38               | 174.32               | 174.16               | 173.93              | 173.73               |
| 5                  | 174.43*              | 174.34               | 174.41               | 174.40               | 174.63               | 174.60               | 174.44               | 174.38               | 174.32               | 173.91               | 173.96              | 173.90               |
| 6                  | 174.45               | 174.38               | 174.37               | 174.39               | 174.38               | 174.58               | 174.48               | 174.41               | 174.31               | 173.86               | 173.81              | 173.91               |
| 7                  | 174.56               | 174.35               | 174.26               | 174.39               | 174.42               | 174.58               | 174.44               | 174.38               | 174.29               | 174.00               | 174.06              | 173.91               |
| 8                  | 174.55               | 174.29               | 174.42               | 174.42               | 174.54               | 174.56               | 174.47               | 174.44               | 174.28               | 173.97               | 174.03              | 174.01               |
| 9                  | 174.39               | 174.27               | 174.42               | 174.40               | 174.54               | 174.56               | 174.51               | 174.41               | 174.29               | 173.98               | 174.04              | 174.03               |
| 10                 | 174.55               | 174.32               | 174.42               | 174.22               | 174.56               | 174.54               | 174.48               | 174.35               | 174.24               | 174.08               | 174.10              | 173.98               |
| 11                 | 174.64               | 174.32               | 174.46               | 174.44               | 174.54               | 174.52               | 174.48               | 174.31               | 174.30               | 174.06*              | 174.06              | 173.99               |
| 12                 | 174.39               | 174.34               | 174.49               | 174.61               | 174.52               | 174.56               | 174.50               | 174.37               | 174.31               | /                    | 173.98              | 174.03               |
| 13                 | 174.41               | 174.43               | 174.69               | 174.54               | 174.53               | 174.58               | 174.50               | 174.35               | 174.29               | /                    | 173.86              | 174.03               |
| 14                 | 174.30               | 174.33               | 174.53               | 174.52               | 174.53               | 174.56               | 174.51               | 174.30               | 174.29               | /                    | 173.99              | 173.63               |
| 15                 | 174.43               | 174.24*              | 174.44               | 174.30               | 174.55               | 174.50               | 174.47               | 174.30               | 174.23               | 173.97*              | 173.94              | 173.75               |
| 16                 | 174.44               | /                    | 174.43               | 174.40               | 174.53               | 174.51               | 174.45               | 174.30               | 174.21               | 174.04               | 174.06              | 173.95               |
| 17                 | 174.28               | 174.36*              | 174.47               | 174.46               | 174.56               | 174.57               | 174.42               | 174.21               | 174.23               | 174.03               | 174.08              | 173.87               |
| 18                 | 174.12               | 174.41               | 174.39               | 174.48               | 174.73               | 174.59               | 174.42               | 174.33               | 174.17               | 174.02               | 174.03              | 174.04               |
| 19                 | 174.30               | 174.33               | 174.37               | 174.67               | 174.65               | 174.55               | 174.42               | 174.38*              | 174.23               | 174.08               | 174.02              | 174.05               |
| 20                 | 174.45               | 174.30               | 174.46               | 174.64               | 174.54               | 174.54               | 174.41               | /                    | 174.22               | 174.03               | 174.05              | 173.98               |
| 21                 | 174.49*              | 174.31               | 174.46               | 174.57               | 174.53               | 174.56               | 174.40               | 174.33*              | 174.22               | 173.99               | 174.07              | 173.86               |
| 22                 | /                    | 174.33               | 174.56               | 174.48               | 174.53               | 174.75               | 174.41               | 174.33               | 174.16               | 174.02               | 174.09              | 173.85               |
| 23                 | /                    | 174.46               | 174.42               | 174.51               | 174.52               | 174.68               | 174.39               | 174.39               | 174.03               | 174.03               | 174.03              | 174.00               |
| 24                 | /                    | 174.37               | 174.29               | 174.52               | 174.50               | 174.57               | 174.40               | 174.46               | 174.28               | 174.04               | 173.55              | 173.93               |
| 25                 | /                    | 174.36               | 174.41               | 174.56               | 174.53               | 174.53               | 174.41               | 174.40               | 174.17               | 174.03               | 173.78              | 174.05               |
| 26                 | /                    | 174.36               | 174.48               | 174.56               | 174.54               | 174.51               | 174.44               | 174.34               | 174.02               | 174.09               | 173.98              | 173.98               |
| 27                 | /                    | 174.28               | 174.37               | 174.57               | 174.53*              | 174.49               | 174.44               | 174.33               | 174.13               | 174.13               | 173.86              | 174.05               |
| 28                 | /                    | 174.37               | 174.12               | 174.58               | 174.56*              | 174.47               | 174.45               | 174.34               | 174.17               | 174.38               | 173.98              | 174.11               |
| 29                 | /                    |                      | 174.47               | 174.58               | 174.56               | 174.48               | 174.42               | 174.35               | 174.18               | 174.21               | 174.06              | 174.05               |
| 30                 | /                    |                      | 174.45               | 174.47               | 174.54               | 174.51               | 174.36               | 174.31*              | 174.14               | 174.14               | 173.89              | 174.14               |
| 31                 | /                    |                      | 174.40               |                      | 174.51               |                      | 174.38               | /                    |                      | 174.16               |                     | 174.08               |
| Mean               | 174.41               | 174.34               | 174.42               | 174.48               | 174.54               | 174.56               | 174.45               | 174.35               | 174.23               | 174.06               | 173.96              | 173.97               |
| Max.<br>Hr.<br>Day | 174.94<br>0200<br>11 | 174.55<br>0600<br>23 | 174.78<br>1000<br>13 | 174.87<br>2200<br>19 | 174.86<br>2300<br>17 | 174.90<br>0900<br>22 | 174.63<br>2100<br>1  | 174.60<br>2000<br>8  | 174.53<br>1100<br>4  | 174.45<br>1400<br>28 | 174.28<br>1500<br>1 | 174.72<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 173.95<br>1500<br>18 | 174.14<br>2400<br>27 | 173.63<br>0800<br>28 | 173.87<br>1600<br>15 | 174.20<br>0600<br>7  | 174.39<br>0400<br>16 | 174.24<br>0600<br>30 | 174.11<br>2200<br>17 | 173.81<br>0200<br>23 | 173.57<br>2000<br>5  | 173.32<br>0700<br>2 | 172.96<br>1800<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.32

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 906-3085 Toledo, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 174.59 Jun  
Daily mean elevation: 174.95 18 May  
Instant/hourly elevation: 175.33 1900/19 Apr

LOWEST

Monthly mean elevation: 173.93 Nov  
Daily mean elevation: 173.19 24 Nov  
Instant/hourly elevation: 172.03 2200/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.78 | 174.53 | 174.95 | 174.91 | 174.95 | 174.88 | 174.65 | 174.60 | 174.66 | 174.62 | 174.18 | 174.44 |
| Day | 11 | 23 | 13 | 19 | 18 | 22 | 1 | 20 | 1 | 28 | 1 | 2 |
| Min | 173.88 | 174.03 | 173.82 | 174.02 | 174.22 | 174.44 | 174.33 | 174.16 | 173.87 | 173.71 | 173.19 | 173.28 |
| Day | 23 | 15 | 28 | 10 | 6 | 28 | 30 | 17 | 26 | 5 | 24 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.90         |     |     | 1   | 1   | 1   |     |     |     |     |     |     |     | 174.90         | 3                          |
| 174.80         |     |     |     | 1   |     | 1   |     |     |     |     |     |     | 174.80         | 5                          |
| 174.70         | 1   |     |     | 1   | 2   | 2   |     |     |     |     |     |     | 174.70         | 11                         |
| 174.60         | 2   |     | 3   | 7   | 1   | 9   | 1   |     | 1   | 1   |     |     | 174.60         | 36                         |
| 174.50         | 1   | 2   | 4   | 6   | 22  | 11  | 3   | 4   |     |     |     |     | 174.50         | 89                         |
| 174.40         | 11  | 3   | 11  | 6   | 3   | 7   | 15  | 5   |     |     |     | 1   | 174.40         | 151                        |
| 174.30         | 7   | 12  | 9   | 6   | 1   |     | 12  | 17  | 9   | 1   |     |     | 174.30         | 225                        |
| 174.20         | 6   | 9   |     |     | 1   |     |     | 4   | 9   | 1   |     |     | 174.20         | 255                        |
| 174.10         |     |     | 2   | 1   |     |     |     | 1   | 7   | 8   | 5   | 3   | 174.10         | 282                        |
| 174.00         | 1   | 2   |     | 1   |     |     |     |     | 2   | 13  | 11  | 11  | 174.00         | 323                        |
| 173.90         | 1   |     |     |     |     |     |     |     | 1   | 4   | 5   | 4   | 173.90         | 338                        |
| 173.80         | 1   |     | 1   |     |     |     |     |     | 1   | 1   | 3   | 7   | 173.80         | 352                        |
| 173.70         |     |     |     |     |     |     |     |     |     | 2   | 2   | 2   | 173.70         | 358                        |
| 173.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.60         | 359                        |
| 173.50         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.50         | 360                        |
| 173.40         |     |     |     |     |     |     |     |     |     |     |     | 2   | 173.40         | 362                        |
| 173.30         |     |     |     |     |     |     |     |     |     |     |     |     | 173.30         | 362                        |
| 173.20         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 173.20         | 364                        |
| 173.10         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.10         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3085 Toledo, Ohio on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| 1                  | 174.42               | 174.36               | 174.40               | 174.31               | 174.45               | 174.64               | 174.65               | 174.31               | 174.66               | 174.13               | 174.18              | 174.04               |
| 2                  | 174.46               | 174.31               | 174.40               | 174.43               | 174.42               | 174.63               | 174.50               | 174.40               | 174.38               | 174.07               | 173.29              | 174.44               |
| 3                  | 174.32               | 174.34               | 174.50               | 174.54               | 174.56               | 174.63               | 174.50               | 174.34               | 174.27               | 174.15               | 173.56              | 173.88               |
| 4                  | 174.33               | 174.34               | 174.35               | 174.45               | 174.70               | 174.75               | 174.48               | 174.36               | 174.31               | 174.20               | 173.85              | 173.50               |
| 5                  | 174.45               | 174.36               | 174.43               | 174.41               | 174.75               | 174.64               | 174.39               | 174.39               | 174.33               | 173.71               | 173.97              | 173.89               |
| 6                  | 174.48               | 174.42               | 174.32               | 174.39               | 174.22               | 174.61               | 174.48               | 174.46               | 174.33               | 173.72               | 173.71              | 173.82               |
| 7                  | 174.60               | 174.38               | 174.12               | 174.40               | 174.34               | 174.61               | 174.39               | 174.40               | 174.30               | 173.94               | 174.07              | 173.89               |
| 8                  | 174.62               | 174.27               | 174.43               | 174.43               | 174.59               | 174.57               | 174.46               | 174.55               | 174.29               | 173.95               | 174.03              | 174.03               |
| 9                  | 174.40               | 174.27               | 174.44               | 174.35               | 174.59               | 174.57               | 174.54               | 174.42               | 174.30               | 173.96               | 174.05              | 174.04               |
| 10                 | 174.64               | 174.28               | 174.43               | 174.02               | 174.59               | 174.51               | 174.48               | 174.34               | 174.21               | 174.08               | 174.12              | 173.97               |
| 11                 | 174.78               | 174.29               | 174.52               | 174.48               | 174.58               | 174.47               | 174.50               | 174.30               | 174.31               | 174.11               | 174.06              | 174.01               |
| 12                 | 174.35               | 174.34               | 174.62               | 174.84               | 174.53               | 174.57               | 174.54               | 174.38               | 174.33               | 174.13               | 173.97              | 174.06               |
| 13                 | 174.42               | 174.53               | 174.95               | 174.71               | 174.54               | 174.64               | 174.47               | 174.36               | 174.31               | 174.09               | 173.81              | 174.04               |
| 14                 | 174.31               | 174.27               | 174.63               | 174.66               | 174.53               | 174.58               | 174.52               | 174.28               | 174.32               | 174.04               | 174.02              | 173.28               |
| 15                 | 174.47               | 174.03               | 174.46               | 174.19               | 174.58               | 174.47               | 174.49               | 174.28               | 174.21               | 173.87               | 173.94              | 173.49               |
| 16                 | 174.47               | 174.04               | 174.46               | 174.40               | 174.55               | 174.50               | 174.46               | 174.28               | 174.16               | 174.04               | 174.08              | 173.89               |
| 17                 | 174.23               | 174.26               | 174.53               | 174.52               | 174.56               | 174.59               | 174.40               | 174.16               | 174.19               | 174.05               | 174.15              | 173.75               |
| 18                 | 174.02               | 174.49               | 174.37               | 174.58               | 174.95               | 174.62               | 174.41               | 174.35               | 174.10               | 174.05               | 174.08              | 173.98               |
| 19                 | 174.28               | 174.34               | 174.34               | 174.91               | 174.78               | 174.56               | 174.40               | 174.54               | 174.19               | 174.06               | 174.06              | 174.07               |
| 20                 | 174.45               | 174.28               | 174.52               | 174.65               | 174.59               | 174.56               | 174.38               | 174.60               | 174.21               | 174.04               | 174.08              | 174.00               |
| 21                 | 174.43               | 174.31               | 174.47               | 174.57               | 174.55               | 174.59               | 174.39               | 174.33               | 174.26               | 173.99               | 174.11              | 173.81               |
| 22                 | 174.39               | 174.29               | 174.70               | 174.44               | 174.55               | 174.88               | 174.38               | 174.32               | 174.16               | 174.05               | 174.13              | 173.78               |
| 23                 | 173.88               | 174.53               | 174.35               | 174.52               | 174.54               | 174.78               | 174.34               | 174.43               | 173.92               | 174.06               | 173.99              | 174.01               |
| 24                 | 174.21               | 174.37               | 174.14               | 174.51               | 174.51               | 174.62               | 174.36               | 174.53               | 174.32               | 174.07               | 173.19              | 173.88               |
| 25                 | 174.33               | 174.34               | 174.42               | 174.61               | 174.55               | 174.57               | 174.40               | 174.45               | 174.14               | 174.05               | 173.63              | 174.07               |
| 26                 | 174.30               | 174.34               | 174.54               | 174.61               | 174.54               | 174.50               | 174.47               | 174.36               | 173.87               | 174.12               | 173.98              | 173.99               |
| 27                 | 174.22               | 174.21               | 174.33               | 174.63               | 174.53               | 174.48               | 174.48               | 174.33               | 174.09               | 174.18               | 173.82              | 174.08               |
| 28                 | 174.29               | 174.41               | 173.82               | 174.62               | 174.56               | 174.44               | 174.50               | 174.35               | 174.20               | 174.62               | 174.02              | 174.17               |
| 29                 | 174.42               |                      | 174.47               | 174.64               | 174.56               | 174.47               | 174.47               | 174.36               | 174.22               | 174.32               | 174.10              | 174.03               |
| 30                 | 174.41               |                      | 174.46               | 174.36               | 174.52               | 174.53               | 174.33               | 174.31               | 174.17               | 174.18               | 173.80              | 174.18               |
| 31                 | 173.97               |                      | 174.39               |                      | 174.47               |                      | 174.38               | 174.44               |                      | 174.22               |                     | 174.12               |
| Mean               | 174.37               | 174.32               | 174.43               | 174.50               | 174.56               | 174.59               | 174.45               | 174.38               | 174.24               | 174.07               | 173.93              | 173.94               |
| Max.<br>Hr.<br>Day | 175.29<br>0100<br>11 | 174.77<br>0900<br>28 | 175.16<br>0900<br>13 | 175.33<br>1900<br>19 | 175.26<br>1500<br>18 | 175.10<br>0900<br>22 | 174.79<br>2100<br>1  | 174.81<br>0300<br>20 | 174.80<br>2000<br>1  | 174.81<br>1300<br>28 | 174.45<br>1300<br>1 | 175.24<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 173.54<br>1000<br>31 | 173.78<br>0200<br>1  | 173.06<br>0800<br>28 | 173.43<br>1700<br>15 | 173.96<br>1600<br>6  | 174.32<br>0600<br>30 | 174.14<br>0500<br>30 | 174.00<br>2400<br>17 | 173.52<br>0500<br>23 | 173.21<br>1200<br>6  | 172.86<br>1000<br>2 | 172.03<br>2200<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.31

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 906-3090 Fermi Power Plant, Stony Point, Michigan on Lake Erie

HIGHEST

Monthly mean elevation: 174.57 Jun  
Daily mean elevation: 174.79 18 May  
Instant/hourly elevation: 175.15 0100/11 Jan

LOWEST

Monthly mean elevation: 173.96 Dec  
Daily mean elevation: 173.43 14 Dec  
Instant/hourly elevation: 172.42 2100/14 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.75 | 174.48 | 174.74 | 174.71 | 174.79 | 174.76 | 174.62 | 174.50 | 174.57 | 174.47 | 174.19 | 174.33 |
| Day | 11     | 23     | 13     | 12     | 18     | 22     | 1      | 20     | 1      | 28     | 1      | 2      |
| Min | 174.02 | 174.02 | 174.03 | 174.10 | 174.34 | 174.47 | 174.33 | 174.22 | 173.91 | 173.81 | 173.44 | 173.43 |
| Day | 31     | 15     | 28     | 10     | 6      | 28     | 30     | 17     | 26     | 6      | 24     | 14     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.75         |     |     |     |     | 1   | 1   |     |     |     |     |     |     | 174.75         | 2                          |
| 174.70         | 1   |     | 1   | 1   |     |     |     |     |     |     |     |     | 174.70         | 5                          |
| 174.65         |     |     |     | 1   | 2   | 1   |     |     |     |     |     |     | 174.65         | 9                          |
| 174.60         |     |     | 1   | 4   | 1   | 4   | 1   |     |     |     |     |     | 174.60         | 20                         |
| 174.55         | 3   |     |     | 3   | 9   | 13  |     |     | 1   |     |     |     | 174.55         | 49                         |
| 174.50         |     |     | 3   | 4   | 13  | 6   | 3   |     |     |     |     |     | 174.50         | 78                         |
| 174.45         | 2   | 3   | 6   | 5   | 2   | 5   | 11  | 3   |     | 1   |     |     | 174.45         | 116                        |
| 174.40         | 6   | 1   | 11  | 8   | 1   |     | 9   | 3   |     |     |     |     | 174.40         | 155                        |
| 174.35         | 5   | 5   | 5   | 1   | 1   |     | 6   | 11  | 1   |     |     |     | 174.35         | 190                        |
| 174.30         | 7   | 9   | 1   | 2   | 1   |     | 1   | 10  | 7   |     |     | 1   | 174.30         | 229                        |
| 174.25         | 2   | 7   |     |     |     |     |     | 3   | 4   | 1   |     |     | 174.25         | 246                        |
| 174.20         | 2   | 1   | 1   |     |     |     |     | 1   | 4   | 1   |     |     | 174.20         | 256                        |
| 174.15         |     |     | 1   |     |     |     |     |     | 7   | 2   | 1   |     | 174.15         | 267                        |
| 174.10         |     | 1   |     |     |     |     |     |     | 2   | 6   | 2   | 2   | 174.10         | 280                        |
| 174.05         | 1   |     |     | 1   |     |     |     |     | 1   | 9   | 7   | 6   | 174.05         | 305                        |
| 174.00         | 2   | 1   | 1   |     |     |     |     |     |     | 6   | 8   | 6   | 174.00         | 329                        |
| 173.95         |     |     |     |     |     |     |     |     |     | 2   | 3   | 4   | 173.95         | 338                        |
| 173.90         |     |     |     |     |     |     |     |     | 2   |     | 3   | 4   | 173.90         | 347                        |
| 173.85         |     |     |     |     |     |     |     |     |     | 1   | 1   | 3   | 173.85         | 352                        |
| 173.80         |     |     |     |     |     |     |     |     |     | 2   |     | 2   | 173.80         | 356                        |
| 173.75         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.75         | 357                        |
| 173.70         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.70         | 358                        |
| 173.65         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.65         | 359                        |
| 173.60         |     |     |     |     |     |     |     |     |     |     |     | 1   | 173.60         | 360                        |
| 173.55         |     |     |     |     |     |     |     |     |     |     |     | 1   | 173.55         | 361                        |
| 173.50         |     |     |     |     |     |     |     |     |     |     | 1   |     | 173.50         | 362                        |
| 173.45         |     |     |     |     |     |     |     |     |     |     |     | 1   | 173.45         | 362                        |
| 173.40         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 173.40         | 364                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 906-3090 Fermi Power Plant, Stony Point, Michigan on Lake Erie

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.40               | 174.36               | 174.41               | 174.32               | 174.48               | 174.62               | 174.62               | 174.33               | 174.57               | 174.13               | 174.19               | 174.03               |
| 2                  | 174.41               | 174.32               | 174.39               | 174.41               | 174.45               | 174.61               | 174.50               | 174.40               | 174.37               | 174.11               | 173.53               | 174.33               |
| 3                  | 174.30               | 174.34               | 174.40               | 174.52               | 174.54               | 174.57               | 174.52               | 174.36               | 174.31*              | 174.15               | 173.68               | 173.90               |
| 4                  | 174.35               | 174.35               | 174.33               | 174.46               | 174.64               | 174.64               | 174.50               | 174.34               | 174.32*              | 174.21               | 173.91               | 173.63               |
| 5                  | 174.44               | 174.36               | 174.44               | 174.42               | 174.70               | 174.59               | 174.42               | 174.37               | 174.32               | 173.84               | 174.02               | 173.97               |
| 6                  | 174.46               | 174.39               | 174.37               | 174.42               | 174.34               | 174.58               | 174.50               | 174.43               | 174.34               | 173.81               | 173.78               | 173.86               |
| 7                  | 174.56               | 174.36               | 174.16               | 174.42               | 174.39               | 174.59               | 174.42               | 174.38               | 174.29*              | 173.98               | 174.04               | 173.95               |
| 8                  | 174.60               | 174.30               | 174.43               | 174.43               | 174.57               | 174.57               | 174.45               | 174.48               | /                    | 174.03               | 174.03               | 174.06               |
| 9                  | 174.40               | 174.28               | 174.46               | 174.40               | 174.58               | 174.57               | 174.52               | 174.38               | 174.31*              | 174.00               | 174.05               | 174.03               |
| 10                 | 174.60               | 174.28               | 174.43               | 174.10               | 174.57               | 174.54               | 174.48               | 174.33               | 174.22*              | 174.08               | 174.09               | 174.00               |
| 11                 | 174.75               | 174.28               | 174.48               | 174.44               | 174.56               | 174.50               | 174.49               | 174.30               | 174.28*              | 174.10               | 174.04               | 174.02               |
| 12                 | 174.34               | 174.34               | 174.53               | 174.71               | 174.53               | 174.56               | 174.54               | 174.38               | 174.31*              | 174.11               | 173.98               | 174.10               |
| 13                 | 174.43               | 174.48               | 174.74               | 174.61               | 174.53               | 174.61               | 174.47               | 174.36               | 174.30               | 174.08               | 173.87               | 174.04               |
| 14                 | 174.34               | 174.27               | 174.51               | 174.61               | 174.54               | 174.59               | 174.50               | 174.30               | 174.31               | 174.10               | 174.03               | 173.43               |
| 15                 | 174.46               | 174.02               | 174.44               | 174.31               | 174.56               | 174.50               | 174.49               | 174.29               | 174.24               | 173.90               | 173.96               | 173.60               |
| 16                 | 174.45               | 174.14               | 174.45               | 174.42               | 174.55               | 174.51               | 174.46               | 174.31               | 174.20               | 174.04               | 174.06               | 173.93               |
| 17                 | 174.24               | 174.29               | 174.50               | 174.49               | 174.53               | 174.57               | 174.42               | 174.22               | 174.20               | 174.07               | 174.12               | 173.81               |
| 18                 | 174.07               | 174.46               | 174.38               | 174.51               | 174.79               | 174.60               | 174.43               | 174.35               | 174.13               | 174.04               | 174.08               | 173.95               |
| 19                 | 174.32               | 174.35               | 174.36               | 174.69               | 174.69               | 174.55               | 174.42               | 174.45               | 174.18               | 174.03               | 174.06               | 174.06               |
| 20                 | 174.42               | 174.31               | 174.50               | 174.50               | 174.57               | 174.55               | 174.40               | 174.50               | 174.19               | 174.04               | 174.08               | 174.02               |
| 21                 | 174.39               | 174.34               | 174.49               | 174.50               | 174.54               | 174.57               | 174.40               | 174.34               | 174.25               | 174.02               | 174.08               | 173.84               |
| 22                 | 174.42               | 174.28               | 174.65               | 174.45               | 174.54               | 174.76               | 174.41               | 174.35               | 174.21               | 174.06               | 174.11               | 173.86               |
| 23                 | 174.04               | 174.48               | 174.46               | 174.54               | 174.54               | 174.70               | 174.36               | 174.40               | 173.95               | 174.07               | 174.04               | 173.99               |
| 24                 | 174.24               | 174.36               | 174.22               | 174.52               | 174.52               | 174.60               | 174.37               | 174.49               | 174.27               | 174.08               | 173.44               | 173.91               |
| 25                 | 174.34               | 174.33               | 174.42               | 174.59               | 174.54               | 174.56               | 174.40               | 174.42               | 174.15               | 174.08               | 173.72               | 174.06               |
| 26                 | 174.31               | 174.34               | 174.53               | 174.59               | 174.56               | 174.53               | 174.44               | 174.37               | 173.91               | 174.11               | 174.00               | 174.00               |
| 27                 | 174.26               | 174.24               | 174.45               | 174.60               | 174.54               | 174.50               | 174.46               | 174.33               | 174.09               | 174.12               | 173.93               | 174.06               |
| 28                 | 174.31               | 174.41               | 174.03               | 174.61               | 174.56               | 174.47               | 174.47               | 174.34               | 174.18               | 174.47               | 174.01               | 174.12               |
| 29                 | 174.40               |                      | 174.42               | 174.63               | 174.57               | 174.48               | 174.44               | 174.36               | 174.19               | 174.28               | 174.10               | 174.01               |
| 30                 | 174.40               |                      | 174.44               | 174.49               | 174.54               | 174.51               | 174.33               | 174.31               | 174.18               | 174.16               | 173.91               | 174.14               |
| 31                 | 174.02               |                      | 174.44               |                      | 174.49               |                      | 174.39               | 174.36               |                      | 174.18               |                      | 174.10               |
| Mean               | 174.37               | 174.32               | 174.43               | 174.49               | 174.55               | 174.57               | 174.45               | 174.36               | 174.23               | 174.08               | 173.96               | 173.96               |
| Max.<br>Hr.<br>Day | 175.15<br>0100<br>11 | 174.72<br>0800<br>28 | 174.88<br>0800<br>13 | 174.92<br>2000<br>19 | 174.98<br>1500<br>18 | 174.97<br>0900<br>22 | 174.76<br>2100<br>1  | 174.69<br>1600<br>20 | 174.69<br>2000<br>1  | 174.63<br>1200<br>28 | 174.40<br>1400<br>1  | 175.04<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 173.60<br>1100<br>31 | 173.85<br>0100<br>1  | 173.31<br>0700<br>28 | 173.68<br>1600<br>15 | 174.13<br>1500<br>6  | 174.34<br>1900<br>15 | 174.17<br>0400<br>30 | 174.04<br>2300<br>17 | 173.59<br>0400<br>23 | 173.40<br>1800<br>5  | 173.19<br>2000<br>24 | 172.42<br>2100<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.32



International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 904-4020 Gibraltar, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 174.64 Jun  
Daily mean elevation: 174.82 18 May  
Instant/hourly elevation: 175.14 0300/11 Jan

LOWEST

Monthly mean elevation: 174.07 Dec  
Daily mean elevation: 173.68 14 Dec  
Instant/hourly elevation: 172.98 2100/14 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 174.78 | 174.53 | 174.75 | 174.74 | 174.82 | 174.80 | 174.70 | 174.62 | 174.67 | 174.52 | 174.32 | 174.36 |
| Day | 11     | 23     | 13     | 12     | 18     | 22     | 1      | 20     | 1      | 28     | 1      | 2      |
| Min | 174.16 | 174.08 | 174.16 | 174.17 | 174.45 | 174.56 | 174.45 | 174.40 | 174.10 | 174.04 | 173.68 | 173.68 |
| Day | 31     | 15     | 28     | 10     | 6      | 28     | 30     | 17     | 26     | 6      | 24     | 14     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.80         |     |     |     |     | 1   |     |     |     |     |     |     |     | 174.80         | 1                          |
| 174.75         | 1   |     |     |     |     | 1   |     |     |     |     |     |     | 174.75         | 3                          |
| 174.70         |     |     | 1   | 1   | 2   | 1   |     |     | 1   |     |     |     | 174.70         | 8                          |
| 174.65         |     |     | 1   | 4   | 1   | 8   | 1   |     |     |     |     |     | 174.65         | 24                         |
| 174.60         | 2   |     |     | 4   | 14  | 13  | 4   | 2   |     |     |     |     | 174.60         | 63                         |
| 174.55         | 1   |     | 3   | 5   | 9   | 7   | 10  | 3   |     |     |     |     | 174.55         | 101                        |
| 174.50         | 5   | 3   | 9   | 5   | 2   |     | 13  | 7   | 1   | 1   |     |     | 174.50         | 147                        |
| 174.45         | 7   | 1   | 8   | 8   | 1   |     | 2   | 15  | 6   |     |     |     | 174.45         | 195                        |
| 174.40         | 6   | 9   | 5   | 1   | 1   |     | 1   | 3   | 5   |     |     |     | 174.40         | 226                        |
| 174.35         | 4   | 8   | 1   | 1   |     |     |     | 1   | 7   | 1   |     | 1   | 174.35         | 250                        |
| 174.30         | 2   | 5   |     |     |     |     |     |     | 7   | 1   | 1   |     | 174.30         | 266                        |
| 174.25         |     | 1   | 1   |     |     |     |     |     |     | 6   |     |     | 174.25         | 274                        |
| 174.20         | 1   |     | 1   |     |     |     |     |     | 1   | 6   |     |     | 174.20         | 283                        |
| 174.15         | 2   |     | 1   | 1   |     |     |     |     |     | 11  | 8   | 5   | 174.15         | 311                        |
| 174.10         |     |     |     |     |     |     |     |     | 1   | 2   | 8   | 10  | 174.10         | 332                        |
| 174.05         |     | 1   |     |     |     |     |     |     | 1   | 2   | 5   | 4   | 174.05         | 345                        |
| 174.00         |     |     |     |     |     |     |     |     |     | 1   | 3   | 4   | 174.00         | 353                        |
| 173.95         |     |     |     |     |     |     |     |     |     |     |     | 3   | 173.95         | 356                        |
| 173.90         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 173.90         | 358                        |
| 173.85         |     |     |     |     |     |     |     |     |     |     |     |     | 173.85         | 358                        |
| 173.80         |     |     |     |     |     |     |     |     |     |     | 2   |     | 173.80         | 360                        |
| 173.75         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 173.75         | 362                        |
| 173.70         |     |     |     |     |     |     |     |     |     |     |     | 1   | 173.70         | 363                        |
| 173.65         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 173.65         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 904-4020 Gibraltar, Michigan on Detroit River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                 | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.50               | 174.44               | 174.48               | 174.38               | 174.54              | 174.69               | 174.70               | 174.46               | 174.67               | 174.27               | 174.32               | 174.12               |
| 2                  | 174.47               | 174.40               | 174.45               | 174.47               | 174.51              | 174.68               | 174.59               | 174.52               | 174.51               | 174.26               | 173.77               | 174.36               |
| 3                  | 174.37               | 174.42               | 174.41               | 174.58               | 174.59              | 174.63               | 174.61               | 174.49               | 174.45               | 174.29               | 173.85               | 174.03               |
| 4                  | 174.44               | 174.42               | 174.37               | 174.52               | 174.68              | 174.68               | 174.61               | 174.46               | 174.45               | 174.34               | 174.04               | 173.80               |
| 5                  | 174.53               | 174.42               | 174.50               | 174.48               | 174.74              | 174.65               | 174.52               | 174.50               | 174.48               | 174.07               | 174.15               | 174.11               |
| 6                  | 174.52               | 174.44               | 174.44               | 174.49               | 174.45              | 174.65               | 174.60               | 174.55               | 174.48               | 174.04               | 173.93               | 173.98               |
| 7                  | 174.60               | 174.42               | 174.22               | 174.48               | 174.47              | 174.66               | 174.53               | 174.51               | 174.46               | 174.14               | 174.13               | 174.07               |
| 8                  | 174.65               | 174.37               | 174.50               | 174.49               | 174.62              | 174.64               | 174.54               | 174.58               | 174.44               | 174.20               | 174.12               | 174.16               |
| 9                  | 174.46               | 174.36               | 174.55               | 174.46               | 174.64              | 174.64               | 174.62               | 174.51               | 174.47               | 174.16               | 174.14               | 174.12               |
| 10                 | 174.63               | 174.34               | 174.48               | 174.17               | 174.63              | 174.61               | 174.58               | 174.47               | 174.38               | 174.22               | 174.18               | 174.11               |
| 11                 | 174.78               | 174.33               | 174.53               | 174.49               | 174.62              | 174.58               | 174.59               | 174.44               | 174.44               | 174.23               | 174.13               | 174.11               |
| 12                 | 174.40               | 174.40               | 174.57               | 174.74               | 174.59              | 174.62               | 174.64               | 174.51               | 174.46               | 174.23               | 174.08               | 174.20               |
| 13                 | 174.51               | 174.52               | 174.75               | 174.65               | 174.59              | 174.68               | 174.57               | 174.49               | 174.45               | 174.21               | 174.01               | 174.12               |
| 14                 | 174.44               | 174.33               | 174.54               | 174.67               | 174.59              | 174.67               | 174.59               | 174.45               | 174.46               | 174.27               | 174.12               | 173.68               |
| 15                 | 174.51               | 174.08               | 174.49               | 174.42               | 174.62              | 174.59               | 174.59               | 174.44               | 174.40               | 174.06               | 174.06               | 173.74               |
| 16                 | 174.50               | 174.28               | 174.51               | 174.48               | 174.64              | 174.58               | 174.57               | 174.46               | 174.37               | 174.18               | 174.14               | 174.03               |
| 17                 | 174.32               | 174.38               | 174.54               | 174.54               | 174.61              | 174.64               | 174.53               | 174.40               | 174.36               | 174.20               | 174.20               | 173.94               |
| 18                 | 174.17               | 174.52               | 174.43               | 174.56               | 174.82              | 174.68               | 174.53               | 174.49               | 174.31               | 174.17               | 174.17               | 174.02               |
| 19                 | 174.42               | 174.42               | 174.42               | 174.70               | 174.73              | 174.62               | 174.53               | 174.57               | 174.33               | 174.15               | 174.15               | 174.15               |
| 20                 | 174.46               | 174.38               | 174.56               | 174.51               | 174.62              | 174.63               | 174.52               | 174.62               | 174.34               | 174.17               | 174.16               | 174.13               |
| 21                 | 174.44               | 174.41               | 174.54               | 174.54               | 174.60              | 174.65               | 174.52               | 174.49               | 174.40               | 174.16               | 174.16               | 173.96               |
| 22                 | 174.51               | 174.33               | 174.69               | 174.51               | 174.60              | 174.80               | 174.53               | 174.50               | 174.38               | 174.18               | 174.19               | 174.00               |
| 23                 | 174.22               | 174.53               | 174.54               | 174.60               | 174.60              | 174.75               | 174.47               | 174.53               | 174.38               | 174.18               | 174.19               | 174.00               |
| 24                 | 174.34               | 174.43               | 174.30               | 174.58               | 174.58              | 174.68               | 174.48               | 174.61               | 174.15               | 174.19               | 174.16               | 174.08               |
| 25                 | 174.42               | 174.38               | 174.47               | 174.64               | 174.61              | 174.64               | 174.51               | 174.56               | 174.32               | 174.20               | 173.85               | 174.15               |
| 26                 | 174.41               | 174.40               | 174.59               | 174.64               | 174.64              | 174.62               | 174.55               | 174.51               | 174.10               | 174.22               | 174.10               | 174.10               |
| 27                 | 174.36               | 174.32               | 174.53               | 174.65               | 174.62              | 174.60               | 174.57               | 174.48               | 174.24               | 174.22               | 174.10               | 174.14               |
| 28                 | 174.40               | 174.47               | 174.16               | 174.66               | 174.63              | 174.56               | 174.57               | 174.49               | 174.32               | 174.52               | 174.10               | 174.20               |
| 29                 | 174.48               |                      | 174.46               | 174.68               | 174.64              | 174.57               | 174.55               | 174.50               | 174.33               | 174.38               | 174.17               | 174.09               |
| 30                 | 174.46               |                      | 174.49               | 174.57               | 174.62              | 174.59               | 174.45               | 174.47               | 174.33               | 174.26               | 174.04               | 174.20               |
| 31                 | 174.16               |                      | 174.52               |                      | 174.57              |                      | 174.52               | 174.49               |                      | 174.26               |                      | 174.18               |
| Mean               | 174.45               | 174.39               | 174.48               | 174.54               | 174.61              | 174.64               | 174.56               | 174.50               | 174.39               | 174.22               | 174.08               | 174.07               |
| Max.<br>Hr.<br>Day | 175.14<br>0300<br>11 | 174.81<br>0800<br>28 | 174.90<br>1400<br>22 | 174.96<br>0200<br>16 | 174.96<br>1700<br>5 | 175.02<br>0900<br>22 | 174.84<br>2100<br>1  | 174.76<br>1700<br>20 | 174.78<br>2000<br>1  | 174.67<br>0100<br>29 | 174.52<br>1500<br>1  | 175.09<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 173.76<br>1100<br>31 | 173.97<br>2100<br>15 | 173.50<br>0800<br>28 | 173.80<br>1700<br>15 | 174.24<br>1600<br>6 | 174.43<br>2000<br>15 | 174.32<br>0400<br>30 | 174.26<br>2400<br>17 | 173.86<br>0500<br>23 | 173.71<br>1800<br>5  | 173.48<br>2200<br>24 | 172.98<br>2100<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.41

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 904-4030 Wyandotte, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 174.98 Jun  
Daily mean elevation: 175.09 22 Jun  
Instant/hourly elevation: 175.23 0100/11 Jan

LOWEST

Monthly mean elevation: 174.48 Nov  
Daily mean elevation: 174.22 24 Nov  
Instant/hourly elevation: 173.95 2300/14 Dec

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 175.04 | 174.80 | 174.98 | 174.98 | 175.08 | 175.09 | 175.00 | 174.95 | 174.95 | 174.80 | 174.65 | 174.68 |
| Day | 11 | 23 | 13 | 29 | 18 | 22 | 1 | 20 | 1 | 28 | 1 | 2 |
| Min | 174.62 | 174.57 | 174.54 | 174.59 | 174.81 | 174.91 | 174.83 | 174.79 | 174.52 | 174.46 | 174.22 | 174.29 |
| Day | 18 | 15 | 28 | 10 | 6 | 28 | 30 | 17 | 26 | 6 | 24 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 175.05         |     |     |     |     | 1   | 2   |     |     |     |     |     |     | 175.05         | 3                          |
| 175.00         | 1   |     |     |     | 2   | 4   |     |     |     |     |     |     | 175.00         | 10                         |
| 174.95         |     |     | 1   | 8   | 7   | 16  | 3   |     |     |     |     |     | 174.95         | 45                         |
| 174.90         | 2   |     | 1   | 5   | 17  | 8   | 12  | 3   | 1   |     |     |     | 174.90         | 94                         |
| 174.85         | 5   |     | 2   | 5   | 2   |     | 13  | 11  | 1   |     |     |     | 174.85         | 133                        |
| 174.80         | 9   |     | 12  | 3   | 2   |     | 3   | 16  |     |     |     |     | 174.80         | 178                        |
| 174.75         | 7   | 5   | 10  | 6   |     |     |     | 1   | 7   | 1   |     |     | 174.75         | 215                        |
| 174.70         | 4   | 12  | 2   | 2   |     |     |     |     | 4   | 1   |     |     | 174.70         | 240                        |
| 174.65         | 2   | 9   | 1   |     |     |     |     |     | 7   | 1   |     | 1   | 174.65         | 261                        |
| 174.60         | 1   | 1   | 1   |     |     |     |     |     | 2   | 7   | 1   |     | 174.60         | 274                        |
| 174.55         |     | 1   |     | 1   |     |     |     |     | 1   | 10  | 3   | 4   | 174.55         | 294                        |
| 174.50         |     |     | 1   |     |     |     |     |     | 1   | 8   | 12  | 14  | 174.50         | 330                        |
| 174.45         |     |     |     |     |     |     |     |     |     | 3   | 6   | 4   | 174.45         | 343                        |
| 174.40         |     |     |     |     |     |     |     |     |     |     | 3   | 5   | 174.40         | 351                        |
| 174.35         |     |     |     |     |     |     |     |     |     |     | 1   | 1   | 174.35         | 353                        |
| 174.30         |     |     |     |     |     |     |     |     |     |     | 2   |     | 174.30         | 355                        |
| 174.25         |     |     |     |     |     |     |     |     |     |     |     | 2   | 174.25         | 357                        |
| 174.20         |     |     |     |     |     |     |     |     |     |     | 2   |     | 174.20         | 359                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 904-4030 Wyandotte, Michigan on Detroit River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.85               | 174.80               | 174.77               | 174.75               | 174.89               | 175.02               | 175.00               | 174.82               | 174.95               | 174.63               | 174.65               | 174.52               |
| 2                  | 174.84               | 174.78               | 174.77               | 174.80               | 174.86               | 175.01               | 174.94               | 174.87               | 174.90*              | 174.62               | 174.25               | 174.68               |
| 3                  | 174.80               | 174.76               | 174.77               | 174.86               | 174.92               | 175.00               | 174.94               | 174.86               | /                    | 174.64               | 174.32               | 174.55               |
| 4                  | 174.81               | 174.73               | 174.75               | 174.82               | 174.98               | 175.03               | 174.93               | 174.83               | /                    | 174.69               | 174.44               | 174.37               |
| 5                  | 174.87               | 174.73               | 174.82               | 174.80               | 175.01               | 175.00               | 174.88               | 174.86               | /                    | 174.50               | 174.50               | 174.51               |
| 6                  | 174.86               | 174.74               | 174.79               | 174.79               | 174.81               | 174.99               | 174.93               | 174.88               | /                    | 174.46               | 174.38               | 174.45               |
| 7                  | 174.90               | 174.73               | 174.66               | 174.79               | 174.82               | 174.99               | 174.89               | 174.86               | 174.80*              | 174.53               | 174.52               | 174.48               |
| 8                  | 174.93               | 174.70               | 174.82               | 174.80               | 174.93               | 174.98               | 174.91               | 174.90               | 174.76               | 174.55               | 174.51               | 174.54               |
| 9                  | 174.83               | 174.71               | 174.85               | 174.79               | 174.95               | 174.98               | 174.96               | 174.88               | 174.77               | 174.54               | 174.53               | 174.54               |
| 10                 | 174.93               | 174.70               | 174.82               | 174.59               | 174.94               | 174.95               | 174.93               | 174.84               | 174.71               | 174.59               | 174.55               | 174.51               |
| 11                 | 175.04               | 174.69               | 174.85               | 174.82               | 174.93               | 174.94               | 174.94               | 174.83               | 174.78               | 174.60               | 174.53               | 174.52               |
| 12                 | 174.85               | 174.72               | 174.87               | 174.97               | 174.92               | 174.96               | 174.96               | 174.87               | 174.79               | 174.60               | 174.50               | 174.57               |
| 13                 | 174.88               | 174.79               | 174.98               | 174.94               | 174.92               | 175.00               | 174.93               | 174.85               | 174.78               | 174.59               | 174.44               | 174.53               |
| 14                 | 174.80               | 174.69               | 174.86               | 174.96               | 174.93               | 174.98               | 174.94               | 174.82               | 174.79               | 174.61               | 174.51               | 174.29               |
| 15                 | 174.82               | 174.57               | 174.81               | 174.74               | 174.94               | 174.93               | 174.93               | 174.81               | 174.75               | 174.48               | 174.48               | 174.30               |
| 16                 | 174.81               | 174.64               | 174.80               | 174.82               | 174.93               | 174.94               | 174.91               | 174.82               | 174.71               | 174.55               | 174.54               | 174.45               |
| 17                 | 174.70               | 174.69               | 174.82               | 174.87               | 174.93               | 174.98               | 174.88               | 174.79               | 174.71               | 174.56               | 174.57               | 174.42               |
| 18                 | 174.62               | 174.75               | 174.77               | 174.88               | 175.08               | 175.00               | 174.89               | 174.84               | 174.69*              | 174.56               | 174.55               | 174.47               |
| 19                 | 174.75               | 174.70               | 174.74               | 174.98               | 175.02               | 174.98               | 174.88               | 174.91               | /                    | 174.55               | 174.53               | 174.54               |
| 20                 | 174.80               | 174.69               | 174.83               | 174.93               | 174.96               | 174.98               | 174.87               | 174.95               | 174.65*              | 174.55               | 174.55               | 174.52               |
| 21                 | 174.80               | 174.72               | 174.82               | 174.93               | 174.94               | 174.99               | 174.87               | 174.86               | /                    | 174.54               | 174.57               | 174.44               |
| 22                 | 174.83               | 174.69               | 174.91               | 174.88               | 174.93               | 175.09               | 174.88               | 174.81*              | 174.67*              | 174.56               | 174.58               | 174.43               |
| 23                 | 174.69               | 174.80               | 174.78               | 174.93               | 174.93               | 175.07               | 174.84               | 174.89*              | 174.56               | 174.55               | 174.55               | 174.50               |
| 24                 | 174.76               | 174.74               | 174.65               | 174.93               | 174.91               | 175.02               | 174.85               | 174.91               | 174.68*              | 174.56               | 174.22               | 174.47               |
| 25                 | 174.76               | 174.72               | 174.77               | 174.96               | 174.94               | 174.99               | 174.87               | 174.89               | 174.66*              | 174.56               | 174.35               | 174.54               |
| 26                 | 174.75               | 174.73               | 174.84               | 174.96               | 174.97               | 174.96               | 174.90               | 174.84               | 174.52               | 174.60               | 174.48               | 174.51               |
| 27                 | 174.73               | 174.68               | 174.80               | 174.97               | 174.96               | 174.94               | 174.91               | 174.82               | 174.62               | 174.62               | 174.46               | 174.54               |
| 28                 | 174.77               | 174.75               | 174.54               | 174.96               | 174.98               | 174.91               | 174.90               | 174.83               | 174.68               | 174.80               | 174.49               | 174.57               |
| 29                 | 174.83               |                      | 174.79               | 174.98               | 174.98               | 174.92               | 174.90               | 174.83               | 174.69               | 174.72               | 174.55               | 174.53               |
| 30                 | 174.86               |                      | 174.82               | 174.86               | 174.97               | 174.94               | 174.83               | 174.81               | 174.67               | 174.62               | 174.43               | 174.60               |
| 31                 | 174.72               |                      | 174.82               |                      | 174.95               |                      | 174.86               | 174.84               |                      | 174.62               |                      | 174.58               |
| Mean               | 174.81               | 174.72               | 174.80               | 174.87               | 174.94               | 174.98               | 174.90               | 174.85               | 174.72               | 174.58               | 174.48               | 174.50               |
| Max.<br>Hr.<br>Day | 175.23<br>0100<br>11 | 174.93<br>0900<br>28 | 175.05<br>1100<br>13 | 175.12<br>2200<br>13 | 175.16<br>1600<br>18 | 175.20<br>0800<br>22 | 175.06<br>2200<br>1  | 175.02<br>1600<br>20 | 175.01<br>1000<br>1  | 174.89<br>0100<br>29 | 174.77<br>1400<br>1  | 175.12<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 174.55<br>1800<br>23 | 174.53<br>2100<br>15 | 174.20<br>0600<br>28 | 174.15<br>1500<br>15 | 174.72<br>0500<br>7  | 174.87<br>0500<br>30 | 174.77<br>0500<br>30 | 174.72<br>2400<br>17 | 174.44<br>1900<br>26 | 174.31<br>1700<br>5  | 174.14<br>2200<br>24 | 173.95<br>2300<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.76

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 904-4036 Fort Wayne, Detroit, Michigan on Detroit River

|                                              |                                              |
|----------------------------------------------|----------------------------------------------|
| HIGHEST                                      | LOWEST                                       |
| Monthly mean elevation: 175.10 Jun           | Monthly mean elevation: 174.62 Nov           |
| Daily mean elevation: 175.18 23 Jun          | Daily mean elevation: 174.40 24 Nov          |
| Instant/hourly elevation: 175.26 1000/22 Jun | Instant/hourly elevation: 174.19 2200/14 Dec |

| ~~~~~ Extreme Daily Means by Month ~~~~~ |        |        |        |        |        |        |        |        |        |        |        |        |
|------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                                          | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
| Max                                      | 175.14 | 174.92 | 175.06 | 175.08 | 175.16 | 175.18 | 175.10 | 175.05 | 175.05 | 174.89 | 174.77 | 174.79 |
| Day                                      | 11     | 1      | 13     | 29     | 18     | 23     | 1      | 20     | 1      | 28     | 1      | 2      |
| Min                                      | 174.79 | 174.73 | 174.67 | 174.73 | 174.94 | 175.04 | 174.97 | 174.91 | 174.68 | 174.61 | 174.40 | 174.46 |
| Day                                      | 18     | 15     | 28     | 10     | 7      | 29     | 30     | 17     | 26     | 6      | 24     | 15     |

| ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~ |     |     |     |     |     |     |     |     |     |     |     |     |                |                            |
|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| Elev.<br>(ft.)                                          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
| 175.15                                                  |     |     |     |     | 1   | 2   |     |     |     |     |     |     | 175.15         | 3                          |
| 175.10                                                  | 1   |     |     |     | 2   | 9   |     |     |     |     |     |     | 175.10         | 15                         |
| 175.05                                                  |     |     | 1   | 12  | 9   | 17  | 10  |     |     |     |     |     | 175.05         | 64                         |
| 175.00                                                  | 3   |     |     | 2   | 15  | 2   | 12  | 7   | 1   |     |     |     | 175.00         | 106                        |
| 174.95                                                  | 13  |     | 5   | 4   | 2   |     | 9   | 16  | 1   |     |     |     | 174.95         | 156                        |
| 174.90                                                  | 7   | 1   | 12  | 6   | 2   |     |     | 8   | 10  |     |     |     | 174.90         | 202                        |
| 174.85                                                  | 4   | 6   | 10  | 5   |     |     |     |     | 3   | 1   |     |     | 174.85         | 231                        |
| 174.80                                                  | 2   | 16  | 1   |     |     |     |     |     | 9   | 2   |     |     | 174.80         | 261                        |
| 174.75                                                  | 1   | 4   | 1   |     |     |     |     |     | 4   | 2   | 1   | 1   | 174.75         | 275                        |
| 174.70                                                  |     | 1   |     | 1   |     |     |     |     | 1   | 10  | 1   | 2   | 174.70         | 291                        |
| 174.65                                                  |     |     | 1   |     |     |     |     |     | 1   | 13  | 11  | 12  | 174.65         | 329                        |
| 174.60                                                  |     |     |     |     |     |     |     |     |     | 3   | 8   | 8   | 174.60         | 348                        |
| 174.55                                                  |     |     |     |     |     |     |     |     |     |     | 4   | 5   | 174.55         | 357                        |
| 174.50                                                  |     |     |     |     |     |     |     |     |     |     | 2   | 1   | 174.50         | 360                        |
| 174.45                                                  |     |     |     |     |     |     |     |     |     |     | 1   | 2   | 174.45         | 363                        |
| 174.40                                                  |     |     |     |     |     |     |     |     |     |     | 1   |     | 174.40         | 364                        |
| 174.35                                                  |     |     |     |     |     |     |     |     |     |     | 1   |     | 174.35         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 904-4036 Fort Wayne, Detroit, Michigan on Detroit River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 174.99               | 174.92               | 174.87               | 174.87               | 175.00               | 175.14               | 175.10               | 174.96               | 175.05               | 174.76               | 174.77               | 174.65               |
| 2                  | 175.00               | 174.89               | 174.88               | 174.92               | 174.98               | 175.13               | 175.06               | 174.99               | 174.96               | 174.75               | 174.41               | 174.79               |
| 3                  | 174.96               | 174.86               | 174.90               | 174.96               | 175.03               | 175.13               | 175.06               | 174.98               | 174.92               | 174.76               | 174.47               | 174.69               |
| 4                  | 174.96               | 174.84               | 174.89               | 174.93               | 175.08               | 175.15               | 175.04               | 174.96               | 174.93               | 174.81               | 174.58               | 174.55               |
| 5                  | 175.00               | 174.83               | 174.95               | 174.91               | 175.11               | 175.11               | 175.01               | 174.99               | 174.94               | 174.65               | 174.63               | 174.65               |
| 6                  | 175.00               | 174.84               | 174.91               | 174.90               | 174.95               | 175.10               | 175.05               | 175.01               | 174.93               | 174.61               | 174.53               | 174.60               |
| 7                  | 175.02               | 174.84               | 174.81               | 174.90               | 174.94               | 175.10               | 175.01               | 174.99               | 174.91               | 174.67               | 174.65               | 174.62               |
| 8                  | 175.05               | 174.82               | 174.94               | 174.91               | 175.04               | 175.09               | 175.04               | 175.02               | 174.91               | 174.68               | 174.65               | 174.67               |
| 9                  | 174.96               | 174.83               | 174.96               | 174.90               | 175.06               | 175.09               | 175.08               | 175.01               | 174.91               | 174.67               | 174.66               | 174.67               |
| 10                 | 175.03               | 174.82               | 174.94               | 174.73               | 175.05               | 175.07               | 175.06               | 174.98               | 174.85               | 174.72               | 174.69               | 174.65               |
| 11                 | 175.14               | 174.81               | 174.96               | 174.94               | 175.04               | 175.06               | 175.06               | 174.96               | 174.91               | 174.72               | 174.67               | 174.66               |
| 12                 | 174.98               | 174.84               | 174.97               | 175.06               | 175.03               | 175.08               | 175.08               | 174.99               | 174.91               | 174.73               | 174.65               | 174.70               |
| 13                 | 175.00               | 174.89               | 175.06               | 175.03               | 175.04               | 175.11               | 175.06               | 174.97               | 174.90               | 174.73               | 174.59               | 174.67               |
| 14                 | 174.92               | 174.82               | 174.96               | 175.06               | 175.04               | 175.10               | 175.06               | 174.95               | 174.91               | 174.73               | 174.65               | 174.47               |
| 15                 | 174.91               | 174.73               | 174.92               | 174.86               | 175.05               | 175.06               | 175.06               | 174.94               | 174.87               | 174.63               | 174.62               | 174.46               |
| 16                 | 174.90               | 174.78               | 174.91               | 174.93               | 175.04               | 175.07               | 175.04               | 174.93               | 174.84               | 174.68               | 174.67               | 174.60               |
| 17                 | 174.84               | 174.79               | 174.92               | 174.98               | 175.04               | 175.10               | 175.01               | 174.91               | 174.84               | 174.70               | 174.70               | 174.57               |
| 18                 | 174.79               | 174.83               | 174.88               | 174.99               | 175.16               | 175.11               | 175.01               | 174.96               | 174.81               | 174.69               | 174.68               | 174.62               |
| 19                 | 174.89               | 174.79               | 174.86               | 175.07               | 175.12               | 175.09               | 175.00               | 175.01               | 174.83               | 174.69               | 174.66               | 174.67               |
| 20                 | 174.93               | 174.79               | 174.93               | 175.06               | 175.07               | 175.09               | 175.00               | 175.05               | 174.83               | 174.69               | 174.69               | 174.66               |
| 21                 | 174.92               | 174.82               | 174.92               | 175.06               | 175.05               | 175.11               | 175.00               | 174.97               | 174.86               | 174.67               | 174.70               | 174.60               |
| 22                 | 174.94               | 174.82               | 174.99               | 175.01               | 175.04               | 175.18               | 175.00               | 174.97               | 174.84               | 174.69               | 174.71               | 174.58               |
| 23                 | 174.83               | 174.90               | 174.88               | 175.06               | 175.04               | 175.18               | 174.97               | 175.00               | 174.73               | 174.68               | 174.68               | 174.65               |
| 24                 | 174.89               | 174.85               | 174.77               | 175.06               | 175.03               | 175.13               | 174.98               | 175.02               | 174.85               | 174.68               | 174.40               | 174.62               |
| 25                 | 174.96               | 174.84               | 174.88               | 175.07               | 175.05               | 175.10               | 174.99               | 175.01               | 174.80               | 174.69               | 174.51               | 174.68               |
| 26                 | 174.98               | 174.87               | 174.94               | 175.07               | 175.08               | 175.08               | 175.02               | 174.96               | 174.68               | 174.73               | 174.62               | 174.65               |
| 27                 | 174.93               | 174.83               | 174.89               | 175.07               | 175.09               | 175.06               | 175.02               | 174.95               | 174.76               | 174.75               | 174.59               | 174.68               |
| 28                 | 174.94               | 174.87               | 174.67               | 175.07               | 175.10               | 175.04               | 175.02               | 174.95               | 174.80               | 174.89               | 174.62               | 174.70               |
| 29                 | 174.99               |                      | 174.90               | 175.08               | 175.10               | 175.04               | 175.02               | 174.95               | 174.81               | 174.83               | 174.68               | 174.67               |
| 30                 | 174.99               |                      | 174.93               | 174.97               | 175.09               | 175.07               | 174.97               | 174.93               | 174.79               | 174.74               | 174.57               | 174.73               |
| 31                 | 174.88               |                      | 174.92               |                      | 175.07               |                      | 174.98               | 174.97               |                      | 174.75               |                      | 174.71               |
| Mean               | 174.95               | 174.83               | 174.91               | 174.98               | 175.05               | 175.10               | 175.03               | 174.98               | 174.86               | 174.72               | 174.62               | 174.64               |
| Max.<br>Hr.<br>Day | 175.26<br>0400<br>11 | 175.01<br>0900<br>28 | 175.11<br>0800<br>13 | 175.16<br>2200<br>19 | 175.21<br>1400<br>18 | 175.26<br>1000<br>22 | 175.15<br>2200<br>1  | 175.12<br>1800<br>8  | 175.12<br>0300<br>1  | 174.97<br>2400<br>28 | 174.86<br>1400<br>1  | 175.20<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 174.71<br>1800<br>23 | 174.70<br>1000<br>15 | 174.39<br>0500<br>28 | 174.34<br>1500<br>15 | 174.87<br>0900<br>7  | 175.00<br>0400<br>30 | 174.92<br>0500<br>30 | 174.86<br>0800<br>17 | 174.61<br>1900<br>26 | 174.49<br>1300<br>6  | 174.34<br>0700<br>24 | 174.19<br>2200<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 174.89

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 904-4049 Windmill Point, Detroit, Michigan on the Detroit River

## HIGHEST

Monthly mean elevation: 175.33 Jun  
Daily mean elevation: 175.38 23 Jun  
Instant/hourly elevation: 175.42 0400/23 Jun

## LOWEST

Monthly mean elevation: 174.88 Nov  
Daily mean elevation: 174.71 24 Nov  
Instant/hourly elevation: 174.57 1400/14 Dec

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 175.28 | 175.11 | 175.23 | 175.34 | 175.34 | 175.38 | 175.30 | 175.26 | 175.24 | 175.08 | 174.99 | 175.01 |
| Day | 2      | 23     | 13     | 20     | 29     | 23     | 13     | 20     | 1      | 28     | 1      | 2      |
| Min | 175.06 | 174.97 | 174.93 | 175.02 | 175.19 | 175.27 | 175.21 | 175.15 | 174.95 | 174.88 | 174.71 | 174.78 |
| Day | 23     | 19     | 28     | 10     | 7      | 28     | 30     | 17     | 26     | 6      | 24     | 14     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 175.35         |     |     |     |     |     | 6   |     |     |     |     |     |     | 175.35         | 6                          |
| 175.30         |     |     |     | 2   | 7   | 16  |     |     |     |     |     |     | 175.30         | 31                         |
| 175.25         | 2   |     |     | 10  | 19  | 8   | 14  | 1   |     |     |     |     | 175.25         | 85                         |
| 175.20         | 8   |     | 1   | 4   | 3   |     | 17  | 18  | 1   |     |     |     | 175.20         | 137                        |
| 175.15         | 5   |     | 11  | 4   | 2   |     |     | 11  | 3   |     |     |     | 175.15         | 173                        |
| 175.10         | 6   | 1   | 11  | 8   |     |     |     | 1   | 9   |     |     |     | 175.10         | 209                        |
| 175.05         | 10  | 16  | 5   | 1   |     |     |     |     | 9   | 1   |     |     | 175.05         | 251                        |
| 175.00         |     | 7   | 2   | 1   |     |     |     |     | 6   | 2   |     | 1   | 175.00         | 270                        |
| 174.95         |     | 4   |     |     |     |     |     |     | 1   | 11  | 3   | 3   | 174.95         | 292                        |
| 174.90         |     |     | 1   |     |     |     |     |     | 1   | 12  | 11  | 11  | 174.90         | 328                        |
| 174.85         |     |     |     |     |     |     |     |     |     | 5   | 6   | 12  | 174.85         | 351                        |
| 174.80         |     |     |     |     |     |     |     |     |     |     | 6   | 2   | 174.80         | 359                        |
| 174.75         |     |     |     |     |     |     |     |     |     |     | 2   | 2   | 174.75         | 363                        |
| 174.70         |     |     |     |     |     |     |     |     |     |     | 2   |     | 174.70         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 904-4049 Windmill Point, Detroit, Michigan on the Detroit River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 175.24               | 175.08               | 175.09               | 175.13               | 175.24               | 175.36               | 175.30              | 175.20               | 175.24               | 175.00               | 174.99               | 174.90               |
| 2                  | 175.28               | 175.06               | 175.12               | 175.15               | 175.23               | 175.36               | 175.29              | 175.22               | 175.19               | 174.97               | 174.71               | 175.01               |
| 3                  | 175.25               | 175.04               | 175.18               | 175.16               | 175.27               | 175.37               | 175.28              | 175.22               | 175.15               | 175.00               | 174.77               | 174.97               |
| 4                  | 175.24               | 175.04               | 175.18               | 175.14               | 175.29               | 175.38               | 175.26              | 175.21               | 175.17               | 175.04               | 174.84               | 174.86               |
| 5                  | 175.24               | 175.05               | 175.18               | 175.14               | 175.30               | 175.35               | 175.25              | 175.23               | 175.16               | 174.91               | 174.85               | 174.90               |
| 6                  | 175.24               | 175.05               | 175.15               | 175.12               | 175.19               | 175.34               | 175.27              | 175.23               | 175.15               | 174.88               | 174.81               | 174.88               |
| 7                  | 175.24               | 175.07               | 175.10               | 175.12               | 175.19               | 175.33               | 175.25              | 175.22               | 175.14               | 174.92               | 174.89               | 174.88               |
| 8                  | 175.25               | 175.06               | 175.18               | 175.13               | 175.26               | 175.32               | 175.28              | 175.25               | 175.14               | 174.90               | 174.90               | 174.91               |
| 9                  | 175.19               | 175.06               | 175.17               | 175.13               | 175.27               | 175.32               | 175.30              | 175.25               | 175.12               | 174.92               | 174.91               | 174.94               |
| 10                 | 175.22               | 175.06               | 175.17               | 175.02               | 175.26               | 175.30               | 175.28              | 175.22               | 175.10               | 174.96               | 174.93               | 174.90               |
| 11                 | 175.27               | 175.06               | 175.18               | 175.17               | 175.26               | 175.30               | 175.29              | 175.22               | 175.14               | 174.96               | 174.93               | 174.92               |
| 12                 | 175.20               | 175.06               | 175.18               | 175.24               | 175.26               | 175.32               | 175.29              | 175.22               | 175.13               | 174.97               | 174.91               | 174.93               |
| 13                 | 175.20               | 175.09               | 175.23               | 175.23               | 175.26               | 175.32               | 175.30              | 175.21               | 175.12               | 174.97               | 174.85               | 174.93               |
| 14                 | 175.11               | 175.06               | 175.19               | 175.26               | 175.27               | 175.31               | 175.29              | 175.20               | 175.13               | 174.94               | 174.89               | 174.78               |
| 15                 | 175.08               | 175.03               | 175.14               | 175.10               | 175.27               | 175.29               | 175.28              | 175.18               | 175.10               | 174.89               | 174.88               | 174.80               |
| 16                 | 175.09               | 175.01               | 175.12               | 175.16               | 175.26               | 175.31               | 175.27              | 175.17               | 175.07               | 174.92               | 174.92               | 174.87               |
| 17                 | 175.07               | 174.98               | 175.12               | 175.21               | 175.29               | 175.32               | 175.24              | 175.15               | 175.08               | 174.92               | 174.93               | 174.85               |
| 18                 | 175.06               | 174.99               | 175.11               | 175.22               | 175.34               | 175.33               | 175.25              | 175.20               | 175.05               | 174.94               | 174.91               | 174.90               |
| 19                 | 175.10               | 174.97               | 175.09               | 175.28               | 175.32               | 175.32               | 175.24              | 175.24               | 175.07               | 174.94               | 174.91               | 174.92               |
| 20                 | 175.17               | 174.99               | 175.13               | 175.34               | 175.30               | 175.32               | 175.23              | 175.26               | 175.08               | 174.93               | 174.93               | 174.90               |
| 21                 | 175.17               | 175.04               | 175.13               | 175.32               | 175.28               | 175.34               | 175.24              | 175.22               | 175.08               | 174.90               | 174.96               | 174.89               |
| 22                 | 175.15               | 175.06               | 175.16               | 175.28               | 175.27               | 175.38               | 175.23              | 175.20               | 175.06               | 174.91               | 174.96               | 174.84               |
| 23                 | 175.06               | 175.11               | 175.05               | 175.30               | 175.27               | 175.38               | 175.22              | 175.23               | 175.00               | 174.91               | 174.92               | 174.92               |
| 24                 | 175.09               | 175.09               | 175.02               | 175.30               | 175.25               | 175.35               | 175.22              | 175.23               | 175.08               | 174.90               | 174.71               | 174.90               |
| 25                 | 175.11               | 175.09               | 175.09               | 175.30               | 175.27               | 175.33               | 175.24              | 175.22               | 175.04               | 174.91               | 174.81               | 174.93               |
| 26                 | 175.12               | 175.10               | 175.12               | 175.30               | 175.30               | 175.30               | 175.25              | 175.20               | 174.95               | 174.96               | 174.87               | 174.90               |
| 27                 | 175.10               | 175.07               | 175.07               | 175.30               | 175.32               | 175.28               | 175.25              | 175.18               | 175.01               | 175.00               | 174.80               | 174.93               |
| 28                 | 175.10               | 175.09               | 174.93               | 175.28               | 175.34               | 175.27               | 175.25              | 175.18               | 175.04               | 175.08               | 174.88               | 174.94               |
| 29                 | 175.12               |                      | 175.14               | 175.29               | 175.34               | 175.28               | 175.25              | 175.18               | 175.05               | 175.03               | 174.92               | 174.94               |
| 30                 | 175.14               |                      | 175.16               | 175.19               | 175.33               | 175.30               | 175.21              | 175.16               | 175.02               | 174.97               | 174.82               | 174.98               |
| 31                 | 175.09               |                      | 175.13               |                      | 175.33               |                      | 175.22              | 175.22               |                      | 174.98               |                      | 174.96               |
| Mean               | 175.16               | 175.05               | 175.13               | 175.21               | 175.28               | 175.33               | 175.26              | 175.21               | 175.10               | 174.95               | 174.88               | 174.91               |
| Max.<br>Hr.<br>Day | 175.32<br>2200<br>10 | 175.14<br>2100<br>23 | 175.28<br>2200<br>22 | 175.38<br>2400<br>19 | 175.40<br>2300<br>28 | 175.42<br>0400<br>23 | 175.33<br>1700<br>1 | 175.33<br>2300<br>8  | 175.29<br>0700<br>1  | 175.13<br>2400<br>28 | 175.06<br>1400<br>1  | 175.22<br>2400<br>2  |
| Min.<br>Hr.<br>Day | 174.94<br>1700<br>23 | 174.96<br>0500<br>20 | 174.67<br>0300<br>28 | 174.71<br>1500<br>15 | 175.09<br>1200<br>7  | 175.21<br>1900<br>15 | 175.10<br>2100<br>7 | 175.08<br>2200<br>30 | 174.93<br>1700<br>26 | 174.78<br>1600<br>5  | 174.61<br>1300<br>30 | 174.57<br>1400<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 175.12



Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 903-4052 St. Clair Shores, Michigan on Lake St. Clair

HIGHEST

Monthly mean elevation: 175.39 Jun  
Daily mean elevation: 175.43 23 Jun  
Instant/hourly elevation: 175.45 0500/23 Jun

LOWEST

Monthly mean elevation: 174.97 Nov  
Daily mean elevation: 174.88 24 Nov  
Instant/hourly elevation: 174.67 1300/14 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 175.36 | 175.18 | 175.26 | 175.37 | 175.40 | 175.43 | 175.37 | 175.33 | 175.31 | 175.13 | 175.07 | 175.05 |
| Day | 11     | 26     | 5      | 24     | 28     | 23     | 15     | 20     | 1      | 4      | 1      | 2      |
| Min | 175.15 | 175.05 | 175.05 | 175.11 | 175.27 | 175.35 | 175.31 | 175.26 | 175.06 | 175.00 | 174.88 | 174.90 |
| Day | 28     | 19     | 28     | 10     | 7      | 29     | 31     | 30     | 26     | 24     | 24     | 15     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 175.40         |     |     |     |     |     | 7   |     |     |     |     |     |     | 175.40         | 7                          |
| 175.35         | 1   |     |     | 5   | 8   | 21  | 12  |     |     |     |     |     | 175.35         | 54                         |
| 175.30         | 9   |     |     | 6   | 20  | 2   | 19  | 17  | 1   |     |     |     | 175.30         | 128                        |
| 175.25         | 3   |     | 1   | 6   | 3   |     |     | 14  | 1   |     |     |     | 175.25         | 156                        |
| 175.20         | 4   |     | 12  | 5   |     |     |     |     | 11  |     |     |     | 175.20         | 188                        |
| 175.15         | 11  | 6   | 12  | 7   |     |     |     |     | 8   |     |     |     | 175.15         | 232                        |
| 175.10         | 3   | 14  | 4   | 1   |     |     |     |     | 7   | 3   |     |     | 175.10         | 264                        |
| 175.05         |     | 5   | 1   |     |     |     |     |     | 2   | 6   | 1   |     | 175.05         | 279                        |
| 175.00         |     | 3   | 1   |     |     |     |     |     |     | 18  | 5   | 6   | 175.00         | 312                        |
| 174.95         |     |     |     |     |     |     |     |     |     | 4   | 14  | 21  | 174.95         | 351                        |
| 174.90         |     |     |     |     |     |     |     |     |     |     | 6   | 2   | 174.90         | 359                        |
| 174.85         |     |     |     |     |     |     |     |     |     |     | 4   | 2   | 174.85         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 903-4052 St. Clair Shores, Michigan on Lake St. Clair

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 175.33               | 175.13               | 175.17               | 175.19               | 175.31               | 175.42               | 175.37              | 175.30               | 175.31               | 175.10               | 175.07               | 174.98               |
| 2                  | 175.34               | 175.11               | 175.17               | 175.21               | 175.29               | 175.42               | 175.36              | 175.32               | 175.28               | 175.08               | 174.89               | 175.05               |
| 3                  | 175.33               | 175.10               | 175.21               | 175.22               | 175.32               | 175.41               | 175.36              | 175.31               | 175.25               | 175.09               | 174.90               | 175.03               |
| 4                  | 175.32               | 175.10               | 175.23               | 175.21               | 175.34               | 175.41               | 175.35              | 175.31               | 175.25               | 175.13               | 174.94               | 174.97               |
| 5                  | 175.32               | 175.10               | 175.26               | 175.20               | 175.34               | 175.40               | 175.34              | 175.32               | 175.25               | 175.05               | 174.96               | 174.99               |
| 6                  | 175.31               | 175.12               | 175.23               | 175.18               | 175.29               | 175.39               | 175.35              | 175.32               | 175.24               | 175.00               | 174.92               | 174.97               |
| 7                  | 175.31               | 175.13               | 175.18               | 175.18               | 175.27               | 175.38               | 175.33              | 175.32               | 175.23               | 175.02               | 174.97               | 174.97               |
| 8                  | 175.32               | 175.13               | 175.24               | 175.19               | 175.32               | 175.38               | 175.36              | 175.33               | 175.23               | 175.03               | 174.98               | 175.00               |
| 9                  | 175.28               | 175.13               | 175.24               | 175.19               | 175.32               | 175.38               | 175.37              | 175.33               | 175.22               | 175.03               | 175.00               | 175.00               |
| 10                 | 175.30               | 175.12               | 175.22               | 175.11               | 175.32               | 175.37               | 175.37              | 175.32               | 175.19               | 175.04               | 175.00               | 175.00               |
| 11                 | 175.36               | 175.12               | 175.23               | 175.21               | 175.32               | 175.37               | 175.37              | 175.32               | 175.22               | 175.05               | 175.01               | 175.00               |
| 12                 | 175.32               | 175.13               | 175.22               | 175.26               | 175.32               | 175.38               | 175.37              | 175.31               | 175.22               | 175.05               | 174.99               | 175.02               |
| 13                 | 175.30               | 175.14               | 175.25               | 175.27               | 175.32               | 175.38               | 175.37              | 175.30               | 175.21               | 175.06               | 174.96               | 175.00               |
| 14                 | 175.21               | 175.16               | 175.22               | 175.30               | 175.32               | 175.38               | 175.37              | 175.29               | 175.21               | 175.05               | 174.98               | 174.90               |
| 15                 | 175.16               | 175.13               | 175.19               | 175.20               | 175.32               | 175.36               | 175.37              | 175.28               | 175.19               | 175.00               | 174.97               | 174.90               |
| 16                 | 175.15               | 175.10               | 175.18               | 175.23               | 175.32               | 175.37               | 175.36              | 175.27               | 175.17               | 175.02               | 174.99               | 174.96               |
| 17                 | 175.16               | 175.05               | 175.17               | 175.27               | 175.33               | 175.38               | 175.34              | 175.26               | 175.18               | 175.02               | 175.01               | 174.94               |
| 18                 | 175.15               | 175.05               | 175.16               | 175.27               | 175.37               | 175.38               | 175.34              | 175.28               | 175.15               | 175.02               | 175.00               | 174.95               |
| 19                 | 175.18               | 175.05               | 175.15               | 175.31               | 175.36               | 175.38               | 175.33              | 175.31               | 175.16               | 175.02               | 174.98               | 175.00               |
| 20                 | 175.21               | 175.06               | 175.18               | 175.34               | 175.35               | 175.38               | 175.32              | 175.33               | 175.16               | 175.03               | 175.00               | 175.00               |
| 21                 | 175.23               | 175.11               | 175.19               | 175.36               | 175.34               | 175.39               | 175.33              | 175.31               | 175.18               | 175.01               | 175.02               | 174.98               |
| 22                 | 175.24               | 175.12               | 175.20               | 175.34               | 175.33               | 175.42               | 175.32              | 175.30               | 175.16               | 175.01               | 175.03               | 174.96               |
| 23                 | 175.17               | 175.17               | 175.13               | 175.36               | 175.32               | 175.43               | 175.31              | 175.31               | 175.11               | 175.00               | 175.01               | 174.98               |
| 24                 | 175.16               | 175.18               | 175.09               | 175.37               | 175.31               | 175.41               | 175.32              | 175.32               | 175.15               | 175.00               | 174.88               | 174.98               |
| 25                 | 175.17               | 175.17               | 175.14               | 175.36               | 175.33               | 175.40               | 175.32              | 175.31               | 175.13               | 175.01               | 174.90               | 175.00               |
| 26                 | 175.18               | 175.18               | 175.18               | 175.36               | 175.36               | 175.38               | 175.33              | 175.29               | 175.06               | 175.05               | 174.95               | 174.99               |
| 27                 | 175.16               | 175.15               | 175.14               | 175.35               | 175.38               | 175.36               | 175.34              | 175.27               | 175.10               | 175.07               | 174.93               | 175.00               |
| 28                 | 175.15               | 175.16               | 175.05               | 175.34               | 175.40               | 175.35               | 175.33              | 175.27               | 175.12               | 175.12               | 174.95               | 175.01               |
| 29                 | 175.17               |                      | 175.18               | 175.35               | 175.39               | 175.35               | 175.33              | 175.27               | 175.13               | 175.11               | 174.98               | 175.00               |
| 30                 | 175.20               |                      | 175.21               | 175.29               | 175.39               | 175.36               | 175.31              | 175.26               | 175.11               | 175.05               | 174.93               | 175.04               |
| 31                 | 175.16               |                      | 175.21               |                      | 175.39               |                      | 175.31              | 175.28               |                      | 175.06               |                      | 175.03               |
| Mean               | 175.24               | 175.12               | 175.19               | 175.27               | 175.34               | 175.39               | 175.34              | 175.30               | 175.19               | 175.04               | 174.97               | 174.99               |
| Max.<br>Hr.<br>Day | 175.39<br>0800<br>11 | 175.20<br>2100<br>23 | 175.32<br>2200<br>22 | 175.39<br>0100<br>24 | 175.44<br>2300<br>28 | 175.45<br>0500<br>23 | 175.40<br>2300<br>7 | 175.38<br>1600<br>8  | 175.35<br>0800<br>1  | 175.19<br>2400<br>28 | 175.13<br>1300<br>1  | 175.16<br>2300<br>2  |
| Min.<br>Hr.<br>Day | 175.05<br>1700<br>23 | 175.03<br>1600<br>19 | 174.90<br>0200<br>28 | 174.88<br>1400<br>15 | 175.22<br>1100<br>7  | 175.32<br>1100<br>28 | 175.22<br>2100<br>7 | 175.19<br>1700<br>17 | 175.03<br>1800<br>26 | 174.94<br>1300<br>5  | 174.79<br>1300<br>30 | 174.67<br>1300<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 175.20

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 901-4070 Algonac, Michigan on St. Clair River

## HIGHEST

Monthly mean elevation: 175.51 Jun  
Daily mean elevation: 175.53 24 Jun  
Instant/hourly elevation: 175.68 1400/15 Apr

## LOWEST

Monthly mean elevation: 175.18 Nov  
Daily mean elevation: 175.14 29 Nov  
Instant/hourly elevation: 175.11 1800/28 Nov

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 175.51 | 175.49 | 175.41 | 175.51 | 175.52 | 175.53 | 175.51 | 175.47 | 175.40 | 175.32 | 175.30 | 175.24 |
| Day | 13     | 16     | 28     | 30     | 31     | 24     | 7      | 10     | 2      | 5      | 2      | 14     |
| Min | 175.33 | 175.25 | 175.27 | 175.32 | 175.43 | 175.47 | 175.46 | 175.40 | 175.26 | 175.16 | 175.14 | 175.16 |
| Day | 27     | 6      | 26     | 8      | 17     | 30     | 30     | 31     | 30     | 24     | 29     | 28     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 175.50         | 1   |     |     | 1   | 5   | 19  | 1   |     |     |     |     |     | 175.50         | 27                         |
| 175.45         | 8   | 1   |     | 6   | 5   | 11  | 30  | 11  |     |     |     |     | 175.45         | 99                         |
| 175.40         | 9   | 2   | 1   | 5   | 21  |     |     | 19  |     |     |     |     | 175.40         | 156                        |
| 175.35         | 9   | 2   | 6   | 6   |     |     |     | 1   | 15  |     |     |     | 175.35         | 195                        |
| 175.30         | 4   | 2   | 10  | 12  |     |     |     |     | 10  | 1   |     |     | 175.30         | 234                        |
| 175.25         |     | 20  | 14  |     |     |     |     |     | 5   | 4   | 2   |     | 175.25         | 279                        |
| 175.20         |     | 1   |     |     |     |     |     |     |     | 13  | 2   | 6   | 175.20         | 301                        |
| 175.15         |     |     |     |     |     |     |     |     |     | 13  | 18  | 25  | 175.15         | 357                        |
| 175.10         |     |     |     |     |     |     |     |     |     |     | 8   |     | 175.10         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 901-4070 Algonac, Michigan on St. Clair River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 175.48               | 175.31               | 175.29               | 175.35               | 175.47               | 175.53               | 175.49               | 175.47               | 175.39               | 175.25               | 175.21               | 175.16               |
| 2                  | 175.47               | 175.29               | 175.28               | 175.33               | 175.46               | 175.53               | 175.49               | 175.46               | 175.40               | 175.26               | 175.30               | 175.16               |
| 3                  | 175.48               | 175.29               | 175.30               | 175.33               | 175.45               | 175.52               | 175.49               | 175.46               | 175.39               | 175.25               | 175.22               | 175.20               |
| 4                  | 175.47               | 175.30               | 175.35               | 175.32               | 175.44               | 175.50               | 175.50               | 175.46               | 175.39               | 175.27               | 175.19               | 175.21               |
| 5                  | 175.44               | 175.26               | 175.38               | 175.32               | 175.45               | 175.50               | 175.50               | 175.46               | 175.39               | 175.32               | 175.19               | 175.23               |
| 6                  | 175.42               | 175.25               | 175.38               | 175.32               | 175.44               | 175.50               | 175.49               | 175.46               | 175.39               | 175.28               | 175.19               | 175.19               |
| 7                  | 175.41               | 175.26               | 175.38               | 175.32               | 175.44               | 175.51               | 175.51               | 175.45               | 175.38               | 175.24               | 175.16               | 175.19               |
| 8                  | 175.40               | 175.27               | 175.35               | 175.32               | 175.44               | 175.51               | 175.50               | 175.45               | 175.37               | 175.26               | 175.16               | 175.18               |
| 9                  | 175.40               | 175.27               | 175.36               | 175.34               | 175.43               | 175.50               | 175.50               | 175.46               | 175.36               | 175.22               | 175.16               | 175.18               |
| 10                 | 175.38               | 175.28               | 175.33               | 175.38               | 175.44               | 175.51               | 175.50               | 175.47               | 175.37               | 175.21               | 175.15               | 175.21               |
| 11                 | 175.40               | 175.28               | 175.32               | 175.33               | 175.43               | 175.52               | 175.50               | 175.46               | 175.36               | 175.21               | 175.16               | 175.19               |
| 12                 | 175.45               | 175.27               | 175.30               | 175.34               | 175.44               | 175.49               | 175.50               | 175.46               | 175.35               | 175.21               | 175.17               | 175.18               |
| 13                 | 175.51               | 175.26               | 175.30               | 175.35               | 175.44               | 175.50               | 175.49               | 175.45               | 175.36               | 175.22               | 175.19               | 175.18               |
| 14                 | 175.47               | 175.29               | 175.33               | 175.36               | 175.44               | 175.50               | 175.49               | 175.45               | 175.35               | 175.25               | 175.15               | 175.24               |
| 15                 | 175.45               | 175.40               | 175.33               | 175.43               | 175.44               | 175.51               | 175.50               | 175.44               | 175.35               | 175.22               | 175.15               | 175.21               |
| 16                 | 175.47               | 175.49               | 175.30               | 175.40               | 175.44               | 175.51               | 175.50               | 175.43               | 175.37               | 175.20               | 175.16               | 175.18               |
| 17                 | 175.41               | 175.45               | 175.28               | 175.38               | 175.43               | 175.51               | 175.50               | 175.45               | 175.36               | 175.20               | 175.15               | 175.20               |
| 18                 | 175.39               | 175.41               | 175.29               | 175.38               | 175.44               | 175.51               | 175.48               | 175.43               | 175.36               | 175.19               | 175.14               | 175.17               |
| 19                 | 175.36               | 175.37               | 175.29               | 175.39               | 175.46               | 175.51               | 175.48               | 175.42               | 175.34               | 175.20               | 175.15               | 175.17               |
| 20                 | 175.34               | 175.34               | 175.28               | 175.42               | 175.47               | 175.51               | 175.48               | 175.44               | 175.33               | 175.21               | 175.17               | 175.20               |
| 21                 | 175.37               | 175.29               | 175.28               | 175.46               | 175.45               | 175.51               | 175.48               | 175.46               | 175.33               | 175.20               | 175.18               | 175.20               |
| 22                 | 175.45               | 175.29               | 175.34               | 175.49               | 175.44               | 175.51               | 175.48               | 175.45               | 175.33               | 175.17               | 175.18               | 175.23               |
| 23                 | 175.49               | 175.29               | 175.38               | 175.48               | 175.44               | 175.52               | 175.49               | 175.44               | 175.33               | 175.16               | 175.20               | 175.18               |
| 24                 | 175.48               | 175.29               | 175.32               | 175.48               | 175.44               | 175.53               | 175.48               | 175.44               | 175.30               | 175.16               | 175.28               | 175.18               |
| 25                 | 175.41               | 175.30               | 175.28               | 175.46               | 175.45               | 175.52               | 175.47               | 175.44               | 175.31               | 175.19               | 175.16               | 175.18               |
| 26                 | 175.38               | 175.30               | 175.27               | 175.46               | 175.48               | 175.52               | 175.47               | 175.43               | 175.31               | 175.20               | 175.16               | 175.19               |
| 27                 | 175.33               | 175.30               | 175.30               | 175.45               | 175.51               | 175.50               | 175.47               | 175.43               | 175.29               | 175.21               | 175.20               | 175.16               |
| 28                 | 175.35               | 175.28               | 175.41               | 175.45               | 175.51               | 175.50               | 175.46               | 175.41               | 175.28               | 175.21               | 175.14               | 175.16               |
| 29                 | 175.39               |                      | 175.31               | 175.45               | 175.51               | 175.49               | 175.46               | 175.41               | 175.27               | 175.20               | 175.14               | 175.18               |
| 30                 | 175.41               |                      | 175.34               | 175.51               | 175.52               | 175.47               | 175.46               | 175.41               | 175.26               | 175.19               | 175.20               | 175.18               |
| 31                 | 175.34               |                      | 175.37               |                      | 175.52               |                      | 175.47               | 175.40               |                      | 175.20               |                      | 175.18               |
| Mean               | 175.42               | 175.31               | 175.32               | 175.39               | 175.46               | 175.51               | 175.49               | 175.44               | 175.35               | 175.22               | 175.18               | 175.19               |
| Max.<br>Hr.<br>Day | 175.61<br>1900<br>23 | 175.61<br>1000<br>16 | 175.56<br>0200<br>28 | 175.68<br>1400<br>15 | 175.64<br>0100<br>29 | 175.58<br>1400<br>1  | 175.63<br>2100<br>7  | 175.52<br>1700<br>17 | 175.44<br>2100<br>3  | 175.40<br>1300<br>5  | 175.38<br>0300<br>2  | 175.35<br>1600<br>14 |
| Min.<br>Hr.<br>Day | 175.28<br>1300<br>27 | 175.24<br>1700<br>13 | 175.15<br>1500<br>1  | 175.27<br>0300<br>7  | 175.38<br>2100<br>17 | 175.42<br>0200<br>29 | 175.42<br>2100<br>30 | 175.38<br>1300<br>31 | 175.21<br>1300<br>30 | 175.13<br>1900<br>10 | 175.11<br>1800<br>28 | 175.12<br>1800<br>23 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 175.36

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 901-4080 St. Clair S.P., St. Clair, Michigan on St. Clair River

HIGHEST

Monthly mean elevation: 175.91 Jun  
Daily mean elevation: 175.99 14 Jan  
Instant/hourly elevation: 176.06 2200/28 May

LOWEST

Monthly mean elevation: 175.58 Nov  
Daily mean elevation: 175.51 18 Nov  
Instant/hourly elevation: 175.44 1800/12 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 175.99 | 175.93 | 175.75 | 175.88 | 175.92 | 175.93 | 175.93 | 175.90 | 175.81 | 175.69 | 175.63 | 175.68 |
| Day | 14     | 17     | 29     | 20     | 31     | 23     | 8      | 4      | 4      | 4      | 3      | 15     |
| Min | 175.70 | 175.62 | 175.60 | 175.67 | 175.82 | 175.86 | 175.87 | 175.80 | 175.63 | 175.53 | 175.51 | 175.54 |
| Day | 19     | 28     | 1      | 4      | 11     | 14     | 29     | 29     | 30     | 23     | 18     | 12     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 175.95         | 1   |     |     |     |     |     |     |     |     |     |     |     | 175.95         | 1                          |
| 175.90         | 3   | 2   |     |     | 2   | 20  | 7   |     |     |     |     |     | 175.90         | 35                         |
| 175.85         | 4   |     |     | 4   | 7   | 10  | 24  | 19  |     |     |     |     | 175.85         | 103                        |
| 175.80         | 4   | 4   |     | 8   | 22  |     |     | 11  | 1   |     |     |     | 175.80         | 153                        |
| 175.75         | 8   | 1   |     | 5   |     |     |     | 1   | 14  |     |     |     | 175.75         | 182                        |
| 175.70         | 8   | 1   | 7   | 6   |     |     |     |     | 11  |     |     |     | 175.70         | 215                        |
| 175.65         | 3   | 7   | 13  | 7   |     |     |     |     | 3   | 6   |     | 1   | 175.65         | 255                        |
| 175.60         |     | 13  | 10  |     |     |     |     |     | 1   | 16  | 8   | 17  | 175.60         | 320                        |
| 175.55         |     |     | 1   |     |     |     |     |     |     | 6   | 18  | 12  | 175.55         | 357                        |
| 175.50         |     |     |     |     |     |     |     |     |     | 3   | 4   | 1   | 175.50         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 901-4080 St. Clair S.P., St. Clair, Michigan on St. Clair River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                 | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 175.77               | 175.91               | 175.60               | 175.72               | 175.85               | 175.93               | 175.88              | 175.88              | 175.78               | 175.66               | 175.58               | 175.61               |
| 2                  | 175.82               | 175.83               | 175.68               | 175.72               | 175.84               | 175.92               | 175.88              | 175.87              | 175.79               | 175.65               | 175.61               | 175.63               |
| 3                  | 175.78               | 175.76               | 175.72               | 175.68               | 175.84               | 175.93               | 175.88              | 175.87              | 175.77               | 175.66               | 175.63               | 175.61               |
| 4                  | 175.79               | 175.66               | 175.74               | 175.67               | 175.82               | 175.92               | 175.88              | 175.90              | 175.81               | 175.69               | 175.61               | 175.63               |
| 5                  | 175.77               | 175.63               | 175.70               | 175.69               | 175.82               | 175.92               | 175.90              | 175.89              | 175.79               | 175.65               | 175.57               | 175.64               |
| 6                  | 175.75               | 175.62               | 175.68               | 175.69               | 175.85               | 175.91               | 175.88              | 175.87              | 175.79               | 175.68               | 175.60               | 175.58               |
| 7                  | 175.76               | 175.63               | 175.74               | 175.68               | 175.86               | 175.91               | 175.90              | 175.86              | 175.77               | 175.68               | 175.61               | 175.59               |
| 8                  | 175.70               | 175.63               | 175.69               | 175.70               | 175.84               | 175.91               | 175.93              | 175.86              | 175.78               | 175.64               | 175.60               | 175.58               |
| 9                  | 175.72               | 175.64               | 175.67               | 175.71               | 175.82               | 175.90               | 175.92              | 175.89              | 175.73               | 175.64               | 175.58               | 175.62               |
| 10                 | 175.74               | 175.66               | 175.68               | 175.76               | 175.83               | 175.90               | 175.91              | 175.89              | 175.79               | 175.64               | 175.59               | 175.58               |
| 11                 | 175.70               | 175.67               | 175.68               | 175.75               | 175.82               | 175.91               | 175.91              | 175.89              | 175.79               | 175.64               | 175.59               | 175.62               |
| 12                 | 175.78               | 175.62               | 175.66               | 175.73               | 175.84               | 175.91               | 175.90              | 175.87              | 175.76               | 175.66               | 175.58               | 175.54               |
| 13                 | 175.86               | 175.63               | 175.66               | 175.73               | 175.83               | 175.89               | 175.91              | 175.86              | 175.76               | 175.65               | 175.59               | 175.61               |
| 14                 | 175.99               | 175.67               | 175.68               | 175.70               | 175.84               | 175.86               | 175.91              | 175.86              | 175.74               | 175.61               | 175.56               | 175.62               |
| 15                 | 175.95               | 175.81               | 175.68               | 175.76               | 175.84               | 175.90               | 175.90              | 175.85              | 175.75               | 175.62               | 175.56               | 175.68               |
| 16                 | 175.82               | 175.82               | 175.65               | 175.80               | 175.83               | 175.91               | 175.89              | 175.83              | 175.75               | 175.61               | 175.62               | 175.61               |
| 17                 | 175.75               | 175.93               | 175.63               | 175.78               | 175.88               | 175.92               | 175.89              | 175.84              | 175.79               | 175.60               | 175.57               | 175.60               |
| 18                 | 175.74               | 175.82               | 175.65               | 175.78               | 175.85               | 175.91               | 175.89              | 175.85              | 175.75               | 175.64               | 175.51               | 175.64               |
| 19                 | 175.70               | 175.72               | 175.66               | 175.81               | 175.85               | 175.91               | 175.88              | 175.84              | 175.79               | 175.63               | 175.54               | 175.60               |
| 20                 | 175.75               | 175.68               | 175.64               | 175.88               | 175.86               | 175.91               | 175.89              | 175.86              | 175.77               | 175.62               | 175.61               | 175.59               |
| 21                 | 175.73               | 175.64               | 175.62               | 175.86               | 175.84               | 175.92               | 175.89              | 175.86              | 175.73               | 175.59               | 175.60               | 175.63               |
| 22                 | 175.73               | 175.68               | 175.64               | 175.87               | 175.84               | 175.91               | 175.88              | 175.86              | 175.71               | 175.58               | 175.59               | 175.63               |
| 23                 | 175.78               | 175.65               | 175.65               | 175.85               | 175.83               | 175.93               | 175.91              | 175.86              | 175.75               | 175.53               | 175.58               | 175.64               |
| 24                 | 175.89               | 175.63               | 175.66               | 175.86               | 175.83               | 175.91               | 175.90              | 175.83              | 175.72               | 175.54               | 175.62               | 175.61               |
| 25                 | 175.91               | 175.66               | 175.65               | 175.84               | 175.85               | 175.91               | 175.90              | 175.81              | 175.69               | 175.58               | 175.62               | 175.62               |
| 26                 | 175.85               | 175.65               | 175.61               | 175.83               | 175.86               | 175.90               | 175.90              | 175.81              | 175.74               | 175.63               | 175.58               | 175.59               |
| 27                 | 175.76               | 175.64               | 175.63               | 175.82               | 175.90               | 175.89               | 175.89              | 175.82              | 175.75               | 175.64               | 175.52               | 175.59               |
| 28                 | 175.83               | 175.62               | 175.74               | 175.82               | 175.91               | 175.90               | 175.88              | 175.81              | 175.69               | 175.59               | 175.58               | 175.58               |
| 29                 | 175.88               |                      | 175.75               | 175.81               | 175.90               | 175.89               | 175.87              | 175.80              | 175.69               | 175.54               | 175.56               | 175.64               |
| 30                 | 175.88               |                      | 175.71               | 175.84               | 175.90               | 175.89               | 175.88              | 175.82              | 175.63               | 175.59               | 175.55               | 175.60               |
| 31                 | 175.95               |                      | 175.71               |                      | 175.92               |                      | 175.89              | 175.86              |                      | 175.62               |                      | 175.58               |
| Mean               | 175.80               | 175.70               | 175.67               | 175.77               | 175.85               | 175.91               | 175.89              | 175.85              | 175.75               | 175.62               | 175.58               | 175.61               |
| Max.<br>Hr.<br>Day | 176.04<br>1400<br>31 | 176.01<br>0700<br>17 | 175.86<br>0300<br>28 | 175.94<br>1600<br>30 | 176.06<br>2200<br>28 | 175.99<br>1400<br>3  | 176.00<br>2400<br>7 | 175.94<br>0500<br>3 | 175.91<br>0100<br>4  | 175.75<br>1200<br>4  | 175.76<br>1500<br>30 | 175.75<br>0300<br>15 |
| Min.<br>Hr.<br>Day | 175.57<br>2400<br>22 | 175.57<br>0300<br>24 | 175.56<br>1700<br>26 | 175.63<br>0600<br>7  | 175.72<br>2300<br>19 | 175.80<br>2400<br>12 | 175.76<br>1400<br>6 | 175.75<br>1100<br>6 | 175.51<br>1300<br>30 | 175.49<br>0600<br>23 | 175.44<br>0800<br>30 | 175.44<br>1800<br>12 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 175.75

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 901-4087 Dry Dock, Port Huron, Michigan on St. Clair River

## HIGHEST

Monthly mean elevation: 176.27 Jun  
Daily mean elevation: 176.31 8 Jul  
Instant/hourly elevation: 176.40 1000/8 Jul

## LOWEST

Monthly mean elevation: 175.95 Nov  
Daily mean elevation: 175.82 27 Nov  
Instant/hourly elevation: 175.69 2400/6 Dec

## ~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.15 | 176.16 | 176.12 | 176.28 | 176.28 | 176.30 | 176.31 | 176.28 | 176.18 | 176.06 | 176.03 | 176.11 |
| Day | 24     | 15     | 29     | 20     | 31     | 3      | 8      | 4      | 4      | 7      | 25     | 15     |
| Min | 175.96 | 175.93 | 175.88 | 175.98 | 176.14 | 176.21 | 176.22 | 176.16 | 175.94 | 175.85 | 175.82 | 175.89 |
| Day | 11     | 28     | 23     | 4      | 6      | 14     | 4      | 29     | 30     | 29     | 27     | 12     |

## ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.30         |     |     |     |     |     |     | 1   |     |     |     |     |     | 176.30         | 1                          |
| 176.25         |     |     |     | 1   | 2   | 23  | 12  | 6   |     |     |     |     | 176.25         | 45                         |
| 176.20         |     |     |     | 2   | 7   | 7   | 18  | 14  |     |     |     |     | 176.20         | 93                         |
| 176.15         |     | 1   |     | 7   | 21  |     |     | 11  | 5   |     |     |     | 176.15         | 138                        |
| 176.10         | 9   | 2   | 1   | 6   | 1   |     |     |     | 15  |     |     | 1   | 176.10         | 173                        |
| 176.05         | 11  |     | 4   | 5   |     |     |     |     | 6   | 2   |     | 3   | 176.05         | 204                        |
| 176.00         | 6   | 6   | 3   | 6   |     |     |     |     | 3   | 9   | 3   | 7   | 176.00         | 247                        |
| 175.95         | 5   | 13  | 15  | 3   |     |     |     |     |     | 11  | 12  | 14  | 175.95         | 320                        |
| 175.90         |     | 6   | 5   |     |     |     |     |     | 1   | 6   | 10  | 5   | 175.90         | 353                        |
| 175.85         |     |     | 3   |     |     |     |     |     |     | 2   | 3   | 1   | 175.85         | 362                        |
| 175.80         |     |     |     |     |     |     |     |     |     | 1   | 2   |     | 175.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 901-4087 Dry Dock, Port Huron, Michigan on St. Clair River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 176.03               | 176.11               | 175.89               | 176.06               | 176.18               | 176.29               | 176.24               | 176.24               | 176.14               | 176.02              | 175.91               | 176.01               |
| 2                  | 176.13               | 176.05               | 176.00               | 176.06               | 176.20               | 176.27               | 176.23               | 176.26               | 176.13               | 175.99              | 175.89               | 176.06               |
| 3                  | 176.07               | 176.00               | 176.09               | 176.00               | 176.20               | 176.30               | 176.23               | 176.25               | 176.12               | 176.01              | 176.00               | 175.98               |
| 4                  | 176.08               | 175.96               | 176.09               | 175.98               | 176.17               | 176.29               | 176.22               | 176.28               | 176.18               | 176.06              | 175.99               | 176.02               |
| 5                  | 176.07               | 175.96               | 175.99               | 176.02               | 176.17               | 176.29               | 176.24               | 176.27               | 176.14               | 175.93              | 175.92               | 176.01               |
| 6                  | 176.06               | 175.96               | 175.93               | 175.99               | 176.14               | 176.28               | 176.25               | 176.25               | 176.14               | 176.04              | 175.95               | 175.94               |
| 7                  | 176.07               | 175.98               | 176.08               | 176.01               | 176.20               | 176.27               | 176.25               | 176.24               | 176.12               | 176.06              | 176.02               | 175.94               |
| 8                  | 175.97               | 175.94               | 176.00               | 176.03               | 176.19               | 176.27               | 176.31               | 176.23               | 176.13               | 175.98              | 175.99               | 175.95               |
| 9                  | 176.02               | 175.97               | 175.95               | 176.03               | 176.17               | 176.26               | 176.29               | 176.26               | 176.06               | 175.99              | 175.96               | 176.02               |
| 10                 | 176.06               | 176.00               | 175.99               | 176.08               | 176.18               | 176.25               | 176.26               | 176.26               | 176.16               | 176.01              | 175.98               | 175.92               |
| 11                 | 175.96               | 176.02               | 176.00               | 176.13               | 176.17               | 176.26               | 176.27               | 176.26               | 176.16               | 176.00              | 175.98               | 176.00               |
| 12                 | 176.06               | 175.95               | 175.98               | 176.08               | 176.19               | 176.28               | 176.25               | 176.23               | 176.11               | 176.04              | 175.96               | 175.89               |
| 13                 | 176.07               | 175.96               | 176.00               | 176.07               | 176.18               | 176.24               | 176.28               | 176.22               | 176.11               | 176.01              | 175.95               | 175.99               |
| 14                 | 176.15               | 176.02               | 176.01               | 176.02               | 176.19               | 176.21               | 176.28               | 176.22               | 176.10               | 175.92              | 175.93               | 175.98               |
| 15                 | 176.15               | 176.16               | 176.00               | 176.05               | 176.19               | 176.25               | 176.26               | 176.20               | 176.09               | 175.98              | 175.94               | 176.11               |
| 16                 | 176.08               | 176.05               | 175.97               | 176.14               | 176.18               | 176.28               | 176.24               | 176.19               | 176.11               | 175.96              | 176.03               | 176.00               |
| 17                 | 176.05               | 176.15               | 175.96               | 176.14               | 176.24               | 176.28               | 176.24               | 176.19               | 176.16               | 175.96              | 175.94               | 175.98               |
| 18                 | 176.05               | 176.04               | 175.99               | 176.14               | 176.21               | 176.26               | 176.24               | 176.22               | 176.11               | 176.02              | 175.85               | 176.07               |
| 19                 | 176.00               | 175.96               | 175.99               | 176.18               | 176.21               | 176.28               | 176.24               | 176.22               | 176.17               | 176.03              | 175.90               | 175.98               |
| 20                 | 176.11               | 175.97               | 175.97               | 176.28               | 176.20               | 176.27               | 176.24               | 176.22               | 176.15               | 175.98              | 175.99               | 175.95               |
| 21                 | 176.05               | 175.94               | 175.92               | 176.22               | 176.19               | 176.29               | 176.25               | 176.21               | 176.10               | 175.93              | 175.98               | 176.03               |
| 22                 | 175.98               | 176.04               | 175.92               | 176.21               | 176.19               | 176.29               | 176.23               | 176.20               | 176.04               | 175.93              | 175.97               | 176.00               |
| 23                 | 176.01               | 175.98               | 175.88               | 176.17               | 176.18               | 176.29               | 176.29               | 176.22               | 176.12               | 175.88              | 175.93               | 176.06               |
| 24                 | 176.15               | 175.93               | 175.97               | 176.19               | 176.18               | 176.26               | 176.28               | 176.19               | 176.10               | 175.89              | 175.92               | 176.00               |
| 25                 | 176.12               | 175.98               | 175.99               | 176.17               | 176.21               | 176.26               | 176.28               | 176.16               | 176.04               | 175.93              | 176.03               | 176.02               |
| 26                 | 176.06               | 175.97               | 175.91               | 176.16               | 176.19               | 176.23               | 176.28               | 176.16               | 176.12               | 176.00              | 175.96               | 175.96               |
| 27                 | 175.98               | 175.94               | 175.89               | 176.16               | 176.24               | 176.22               | 176.26               | 176.16               | 176.14               | 176.04              | 175.82               | 175.98               |
| 28                 | 176.06               | 175.93               | 176.05               | 176.16               | 176.24               | 176.26               | 176.26               | 176.16               | 176.05               | 175.96              | 175.98               | 175.98               |
| 29                 | 176.12               |                      | 176.12               | 176.14               | 176.23               | 176.25               | 176.23               | 176.16               | 176.07               | 175.85              | 175.93               | 176.05               |
| 30                 | 176.12               |                      | 176.06               | 176.15               | 176.26               | 176.26               | 176.25               | 176.17               | 175.94               | 175.95              | 175.87               | 175.98               |
| 31                 | 176.13               |                      | 176.01               |                      | 176.28               |                      | 176.25               | 176.25               |                      | 176.00              |                      | 175.96               |
| Mean               | 176.06               | 176.00               | 175.99               | 176.11               | 176.20               | 176.27               | 176.26               | 176.22               | 176.11               | 175.98              | 175.95               | 175.99               |
| Max.<br>Hr.<br>Day | 176.24<br>1300<br>31 | 176.23<br>1200<br>17 | 176.23<br>0300<br>29 | 176.36<br>0200<br>20 | 176.39<br>1100<br>29 | 176.38<br>2100<br>15 | 176.40<br>1000<br>8  | 176.35<br>1500<br>10 | 176.28<br>0100<br>4  | 176.14<br>0700<br>4 | 176.18<br>1000<br>20 | 176.15<br>0300<br>15 |
| Min.<br>Hr.<br>Day | 175.76<br>2300<br>22 | 175.86<br>0500<br>24 | 175.80<br>1500<br>23 | 175.92<br>1600<br>6  | 175.96<br>2300<br>28 | 176.15<br>2000<br>26 | 176.14<br>2300<br>20 | 176.10<br>2300<br>30 | 175.78<br>1300<br>30 | 175.75<br>0900<br>5 | 175.69<br>0800<br>30 | 175.69<br>2400<br>6  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.09



# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 901-4090 Mouth of the Black River, Port Huron, MI on St. Clair River

## HIGHEST

Monthly mean elevation: 176.37 Jun  
Daily mean elevation: 176.42 8 Jul  
Instant/hourly elevation: 176.54 1700/29 May

## LOWEST

Monthly mean elevation: 176.06 Nov  
Daily mean elevation: 175.90 27 Nov  
Instant/hourly elevation: 175.78 0100/7 Dec

## ~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.23 | 176.27 | 176.25 | 176.40 | 176.39 | 176.42 | 176.42 | 176.39 | 176.29 | 176.17 | 176.16 | 176.23 |
| Day | 24     | 15     | 29     | 20     | 31     | 3      | 8      | 4      | 19     | 7      | 16     | 15     |
| Min | 176.05 | 176.02 | 175.95 | 176.08 | 176.23 | 176.31 | 176.32 | 176.26 | 176.05 | 175.95 | 175.90 | 175.98 |
| Day | 27     | 28     | 23     | 6      | 6      | 27     | 2      | 29     | 30     | 29     | 27     | 12     |

## ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.40         |     |     |     |     |     | 1   | 1   |     |     |     |     |     | 176.40         | 2                          |
| 176.35         |     |     |     | 1   | 4   | 23  | 17  | 9   |     |     |     |     | 176.35         | 56                         |
| 176.30         |     |     |     | 3   | 10  | 6   | 13  | 11  |     |     |     |     | 176.30         | 99                         |
| 176.25         |     | 1   |     | 8   | 16  |     |     | 11  | 7   |     |     |     | 176.25         | 142                        |
| 176.20         | 3   | 1   | 3   | 4   | 1   |     |     |     | 15  |     |     | 1   | 176.20         | 170                        |
| 176.15         | 14  | 2   | 3   | 5   |     |     |     |     | 5   | 3   | 1   | 4   | 176.15         | 207                        |
| 176.10         | 8   | 6   | 2   | 6   |     |     |     |     | 2   | 11  | 5   | 10  | 176.10         | 257                        |
| 176.05         | 4   | 10  | 15  | 3   |     |     |     |     |     | 9   | 11  | 11  | 176.05         | 320                        |
| 176.00         | 2   | 8   | 4   |     |     |     |     |     | 1   | 5   | 8   | 4   | 176.00         | 352                        |
| 175.95         |     |     | 3   |     |     |     |     |     |     | 2   | 3   | 1   | 175.95         | 361                        |
| 175.90         |     |     | 1   |     |     |     |     |     |     | 1   | 1   |     | 175.90         | 364                        |
| 175.85         |     |     |     |     |     |     |     |     |     |     | 1   |     | 175.85         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 901-4090 Mouth of the Black River, Port Huron, MI on St. Clair River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 176.11               | 176.17               | 175.98               | 176.16               | 176.30               | 176.40               | 176.35              | 176.35               | 176.25               | 176.13               | 176.02               | 176.13              |
| 2                  | 176.23               | 176.11               | 176.11               | 176.16               | 176.31               | 176.39               | 176.32              | 176.37               | 176.23               | 176.10               | 175.98               | 176.18              |
| 3                  | 176.16               | 176.07               | 176.21               | 176.10               | 176.31               | 176.42               | 176.34              | 176.36               | 176.22               | 176.13               | 176.11               | 176.10              |
| 4                  | 176.17               | 176.05               | 176.21               | 176.08               | 176.28               | 176.40               | 176.33              | 176.39               | 176.29               | 176.17               | 176.11               | 176.14              |
| 5                  | 176.17               | 176.07               | 176.08               | 176.12               | 176.28               | 176.39               | 176.35              | 176.38               | 176.24               | 176.02               | 176.02               | 176.12              |
| 6                  | 176.15               | 176.06               | 176.01               | 176.08               | 176.23               | 176.38               | 176.35              | 176.36               | 176.24               | 176.15               | 176.07               | 176.05              |
| 7                  | 176.17               | 176.08               | 176.18               | 176.11               | 176.31               | 176.37               | 176.37              | 176.34               | 176.22               | 176.17               | 176.14               | 176.05              |
| 8                  | 176.06               | 176.05               | 176.10               | 176.14               | 176.30               | 176.38               | 176.42              | 176.33               | 176.23               | 176.07               | 176.11               | 176.06              |
| 9                  | 176.11               | 176.07               | 176.04               | 176.15               | 176.28               | 176.36               | 176.40              | 176.37               | 176.16               | 176.10               | 176.06               | 176.13              |
| 10                 | 176.16               | 176.11               | 176.10               | 176.20               | 176.29               | 176.35               | 176.37              | 176.37               | 176.27               | 176.13               | 176.10               | 176.02              |
| 11                 | 176.05               | 176.13               | 176.10               | 176.26               | 176.28               | 176.37               | 176.38              | 176.36               | 176.28               | 176.11               | 176.09               | 176.11              |
| 12                 | 176.16               | 176.04               | 176.08               | 176.19               | 176.31               | 176.38               | 176.36              | 176.34               | 176.22               | 176.15               | 176.06               | 175.98              |
| 13                 | 176.14               | 176.07               | 176.10               | 176.17               | 176.30               | 176.35               | 176.39              | 176.32               | 176.22               | 176.12               | 176.06               | 176.11              |
| 14                 | 176.19               | 176.12               | 176.11               | 176.12               | 176.30               | 176.31               | 176.38              | 176.32               | 176.21               | 176.01               | 176.04               | 176.08              |
| 15                 | 176.20               | 176.27               | 176.10               | 176.14               | 176.30               | 176.36               | 176.36              | 176.30               | 176.19               | 176.09               | 176.04               | 176.23              |
| 16                 | 176.17               | 176.11               | 176.07               | 176.25               | 176.30               | 176.39               | 176.35              | 176.30               | 176.22               | 176.07               | 176.16               | 176.11              |
| 17                 | 176.14               | 176.21               | 176.06               | 176.26               | 176.37               | 176.39               | 176.35              | 176.30               | 176.27               | 176.07               | 176.04               | 176.09              |
| 18                 | 176.14               | 176.11               | 176.09               | 176.25               | 176.32               | 176.37               | 176.35              | 176.33               | 176.21               | 176.14               | 175.95               | 176.19              |
| 19                 | 176.09               | 176.02               | 176.10               | 176.31               | 176.32               | 176.38               | 176.34              | 176.33               | 176.29               | 176.15               | 176.01               | 176.09              |
| 20                 | 176.22               | 176.06               | 176.08               | 176.40               | 176.31               | 176.38               | 176.36              | 176.33               | 176.26               | 176.08               | 176.10               | 176.05              |
| 21                 | 176.16               | 176.04               | 176.02               | 176.34               | 176.30               | 176.40               | 176.35              | 176.32               | 176.20               | 176.03               | 176.10               | 176.14              |
| 22                 | 176.06               | 176.16               | 176.00               | 176.32               | 176.30               | 176.40               | 176.33              | 176.30               | 176.14               | 176.04               | 176.08               | 176.10              |
| 23                 | 176.08               | 176.08               | 175.95               | 176.27               | 176.29               | 176.40               | 176.40              | 176.32               | 176.23               | 175.98               | 176.03               | 176.18              |
| 24                 | 176.23               | 176.02               | 176.07               | 176.29               | 176.29               | 176.37               | 176.38              | 176.29               | 176.21               | 176.00               | 176.00               | 176.11              |
| 25                 | 176.19               | 176.08               | 176.10               | 176.27               | 176.32               | 176.36               | 176.39              | 176.26               | 176.14               | 176.03               | 176.15               | 176.13              |
| 26                 | 176.12               | 176.07               | 176.01               | 176.27               | 176.30               | 176.34               | 176.39              | 176.26               | 176.23               | 176.11               | 176.08               | 176.06              |
| 27                 | 176.05               | 176.04               | 175.98               | 176.26               | 176.36               | 176.31               | 176.37              | 176.27               | 176.26               | 176.16               | 175.90               | 176.10              |
| 28                 | 176.14               | 176.02               | 176.16               | 176.26               | 176.35               | 176.36               | 176.36              | 176.27               | 176.16               | 176.07               | 176.10               | 176.09              |
| 29                 | 176.19               |                      | 176.25               | 176.24               | 176.35               | 176.35               | 176.34              | 176.26               | 176.18               | 175.95               | 176.04               | 176.17              |
| 30                 | 176.19               |                      | 176.17               | 176.24               | 176.37               | 176.37               | 176.36              | 176.27               | 176.05               | 176.06               | 175.97               | 176.09              |
| 31                 | 176.18               |                      | 176.10               |                      | 176.39               |                      | 176.36              | 176.36               |                      | 176.11               |                      | 176.06              |
| Mean               | 176.15               | 176.09               | 176.09               | 176.21               | 176.31               | 176.37               | 176.36              | 176.32               | 176.22               | 176.09               | 176.06               | 176.10              |
| Max.<br>Hr.<br>Day | 176.34<br>1700<br>23 | 176.39<br>1400<br>22 | 176.38<br>0300<br>29 | 176.50<br>0200<br>20 | 176.54<br>1700<br>29 | 176.48<br>1900<br>3  | 176.51<br>1000<br>8 | 176.46<br>1500<br>10 | 176.41<br>0100<br>4  | 176.27<br>2400<br>18 | 176.26<br>1000<br>20 | 176.29<br>0200<br>9 |
| Min.<br>Hr.<br>Day | 175.78<br>2300<br>22 | 175.90<br>1900<br>16 | 175.81<br>0300<br>28 | 176.01<br>1600<br>6  | 175.82<br>2300<br>28 | 176.23<br>0100<br>27 | 176.19<br>1100<br>6 | 176.22<br>0900<br>26 | 175.86<br>1200<br>30 | 175.86<br>0900<br>5  | 175.78<br>1000<br>27 | 175.78<br>0100<br>7 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.20

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 901-4096 Dunn Paper Company, Port Huron, MI on St. Clair River

HIGHEST

Monthly mean elevation: 176.50 Jul  
Daily mean elevation: 176.56 8 Jul  
Instant/hourly elevation: 176.70 2100/28 May

LOWEST

Monthly mean elevation: 176.18 Nov  
Daily mean elevation: 175.99 27 Nov  
Instant/hourly elevation: 175.83 2300/22 Jan

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.35 | 176.39 | 176.37 | 176.54 | 176.50 | 176.55 | 176.56 | 176.54 | 176.43 | 176.31 | 176.29 | 176.37 |
| Day | 20     | 15     | 29     | 20     | 31     | 3      | 8      | 4      | 19     | 27     | 16     | 15     |
| Min | 176.14 | 176.10 | 176.04 | 176.20 | 176.35 | 176.44 | 176.45 | 176.38 | 176.16 | 176.07 | 175.99 | 176.10 |
| Day | 27     | 19     | 23     | 4      | 6      | 27     | 4      | 26     | 30     | 29     | 27     | 12     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.55         |     |     |     |     |     |     | 1   |     |     |     |     |     | 176.55         | 1                          |
| 176.50         |     |     |     | 1   |     | 16  | 9   | 4   |     |     |     |     | 176.50         | 31                         |
| 176.45         |     |     |     | 1   | 7   | 12  | 19  | 14  |     |     |     |     | 176.45         | 84                         |
| 176.40         |     |     |     | 3   | 21  | 2   | 2   | 8   | 4   |     |     |     | 176.40         | 124                        |
| 176.35         |     | 1   | 1   | 10  | 2   |     |     | 5   | 9   |     |     | 1   | 176.35         | 153                        |
| 176.30         | 3   |     |     | 3   | 1   |     |     |     | 12  | 2   |     | 4   | 176.30         | 180                        |
| 176.25         | 15  | 3   | 3   | 5   |     |     |     |     | 4   | 9   | 3   | 5   | 176.25         | 227                        |
| 176.20         | 5   | 3   | 10  | 6   |     |     |     |     |     | 7   | 10  | 12  | 176.20         | 280                        |
| 176.15         | 5   | 16  | 7   | 1   |     |     |     |     | 1   | 8   | 9   | 7   | 176.15         | 334                        |
| 176.10         | 3   | 4   | 4   |     |     |     |     |     |     | 4   | 3   | 1   | 176.10         | 353                        |
| 176.05         |     | 1   | 3   |     |     |     |     |     |     | 1   | 4   | 1   | 176.05         | 363                        |
| 176.00         |     |     | 1   |     |     |     |     |     |     |     |     |     | 176.00         | 364                        |
| 175.95         |     |     |     |     |     |     |     |     |     |     | 1   |     | 175.95         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 901-4096 Dunn Paper Company, Port Huron, MI on St. Clair River

International  
Great Lakes  
Datum (1985)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 176.20 | 176.24 | 176.09 | 176.28 | 176.42 | 176.52 | 176.48 | 176.48 | 176.38 | 176.26 | 176.13 | 176.26 |
| 2    | 176.35 | 176.18 | 176.24 | 176.29 | 176.43 | 176.50 | 176.45 | 176.50 | 176.35 | 176.23 | 176.08 | 176.33 |
| 3    | 176.26 | 176.16 | 176.34 | 176.22 | 176.43 | 176.55 | 176.47 | 176.49 | 176.34 | 176.26 | 176.24 | 176.23 |
| 4    | 176.28 | 176.16 | 176.33 | 176.20 | 176.41 | 176.54 | 176.45 | 176.54 | 176.42 | 176.30 | 176.23 | 176.27 |
| 5    | 176.28 | 176.18 | 176.18 | 176.24 | 176.40 | 176.53 | 176.48 | 176.51 | 176.37 | 176.13 | 176.13 | 176.24 |
| 6    | 176.26 | 176.18 | 176.12 | 176.21 | 176.35 | 176.52 | 176.48 | 176.49 | 176.37 | 176.27 | 176.20 | 176.17 |
| 7    | 176.28 | 176.20 | 176.29 | 176.23 | 176.42 | 176.51 | 176.50 | 176.48 | 176.34 | 176.31 | 176.28 | 176.18 |
| 8    | 176.16 | 176.16 | 176.21 | 176.27 | 176.44 | 176.51 | 176.56 | 176.47 | 176.36 | 176.19 | 176.24 | 176.18 |
| 9    | 176.21 | 176.19 | 176.14 | 176.28 | 176.41 | 176.50 | 176.53 | 176.51 | 176.28 | 176.23 | 176.19 | 176.26 |
| 10   | 176.28 | 176.23 | 176.21 | 176.31 | 176.42 | 176.48 | 176.51 | 176.51 | 176.41 | 176.27 | 176.23 | 176.14 |
| 11   | 176.15 | 176.27 | 176.22 | 176.39 | 176.40 | 176.50 | 176.51 | 176.50 | 176.41 | 176.25 | 176.22 | 176.24 |
| 12   | 176.27 | 176.16 | 176.20 | 176.32 | 176.43 | 176.52 | 176.50 | 176.48 | 176.35 | 176.30 | 176.19 | 176.10 |
| 13   | 176.22 | 176.19 | 176.22 | 176.30 | 176.42 | 176.48 | 176.52 | 176.46 | 176.34 | 176.26 | 176.18 | 176.24 |
| 14   | 176.25 | 176.25 | 176.24 | 176.24 | 176.43 | 176.44 | 176.52 | 176.46 | 176.33 | 176.13 | 176.17 | 176.20 |
| 15   | 176.28 | 176.39 | 176.21 | 176.24 | 176.42 | 176.48 | 176.49 | 176.43 | 176.32 | 176.21 | 176.17 | 176.37 |
| 16   | 176.27 | 176.19 | 176.18 | 176.38 | 176.42 | 176.52 | 176.48 | 176.43 | 176.34 | 176.20 | 176.29 | 176.24 |
| 17   | 176.25 | 176.29 | 176.17 | 176.39 | 176.50 | 176.52 | 176.48 | 176.42 | 176.40 | 176.19 | 176.17 | 176.23 |
| 18   | 176.26 | 176.19 | 176.21 | 176.38 | 176.45 | 176.50 | 176.47 | 176.47 | 176.33 | 176.29 | 176.07 | 176.34 |
| 19   | 176.20 | 176.10 | 176.21 | 176.44 | 176.46 | 176.51 | 176.47 | 176.46 | 176.43 | 176.29 | 176.14 | 176.22 |
| 20   | 176.35 | 176.16 | 176.19 | 176.54 | 176.44 | 176.51 | 176.49 | 176.46 | 176.40 | 176.22 | 176.23 | 176.16 |
| 21   | 176.28 | 176.15 | 176.13 | 176.47 | 176.43 | 176.53 | 176.49 | 176.45 | 176.33 | 176.16 | 176.22 | 176.28 |
| 22   | 176.14 | 176.28 | 176.10 | 176.44 | 176.43 | 176.53 | 176.46 | 176.43 | 176.27 | 176.18 | 176.21 | 176.23 |
| 23   | 176.16 | 176.20 | 176.04 | 176.39 | 176.42 | 176.53 | 176.53 | 176.45 | 176.36 | 176.11 | 176.16 | 176.32 |
| 24   | 176.33 | 176.13 | 176.17 | 176.42 | 176.42 | 176.50 | 176.52 | 176.42 | 176.34 | 176.13 | 176.10 | 176.25 |
| 25   | 176.27 | 176.20 | 176.22 | 176.39 | 176.44 | 176.49 | 176.52 | 176.39 | 176.26 | 176.16 | 176.28 | 176.27 |
| 26   | 176.20 | 176.19 | 176.12 | 176.39 | 176.42 | 176.46 | 176.53 | 176.38 | 176.36 | 176.25 | 176.21 | 176.19 |
| 27   | 176.14 | 176.15 | 176.08 | 176.37 | 176.47 | 176.44 | 176.50 | 176.40 | 176.39 | 176.31 | 175.99 | 176.23 |
| 28   | 176.22 | 176.14 | 176.26 | 176.37 | 176.47 | 176.49 | 176.49 | 176.40 | 176.28 | 176.20 | 176.23 | 176.23 |
| 29   | 176.28 |        | 176.37 | 176.36 | 176.49 | 176.47 | 176.48 | 176.39 | 176.31 | 176.07 | 176.17 | 176.32 |
| 30   | 176.28 |        | 176.29 | 176.34 | 176.48 | 176.51 | 176.49 | 176.41 | 176.16 | 176.20 | 176.08 | 176.22 |
| 31   | 176.26 |        | 176.20 |        | 176.50 |        | 176.49 | 176.50 |        | 176.25 |        | 176.20 |
| Mean | 176.25 | 176.20 | 176.20 | 176.34 | 176.44 | 176.50 | 176.50 | 176.46 | 176.34 | 176.22 | 176.18 | 176.24 |
| Max. | 176.44 | 176.58 | 176.51 | 176.67 | 176.70 | 176.62 | 176.65 | 176.63 | 176.52 | 176.41 | 176.38 | 176.43 |
| Hr.  | 1700   | 1400   | 2000   | 0200   | 2100   | 2000   | 1000   | 1900   | 0200   | 1100   | 1000   | 0500   |
| Day  | 23     | 22     | 28     | 20     | 28     | 21     | 8      | 2      | 11     | 18     | 20     | 2      |
| Min. | 175.83 | 175.96 | 175.92 | 176.12 | 176.19 | 176.29 | 176.27 | 176.33 | 175.95 | 175.98 | 175.86 | 175.91 |
| Hr.  | 2300   | 1900   | 1500   | 1300   | 2300   | 1900   | 1300   | 1000   | 1300   | 1500   | 0500   | 2400   |
| Day  | 22     | 16     | 23     | 15     | 28     | 26     | 6      | 17     | 30     | 5      | 30     | 6      |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.32

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 901-4098 Fort Gratiot, Port Huron, Michigan on St. Clair River

HIGHEST

Monthly mean elevation: 176.60 Jun  
Daily mean elevation: 176.68 20 Apr  
Instant/hourly elevation: 176.86 2100/28 May

LOWEST

Monthly mean elevation: 176.26 Feb  
Daily mean elevation: 176.06 27 Nov  
Instant/hourly elevation: 175.83 2300/22 Jan

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.45 | 176.47 | 176.47 | 176.68 | 176.62 | 176.66 | 176.66 | 176.64 | 176.53 | 176.42 | 176.41 | 176.48 |
| Day | 20     | 15     | 29     | 20     | 17     | 4      | 8      | 4      | 19     | 27     | 16     | 15     |
| Min | 176.17 | 176.15 | 176.09 | 176.28 | 176.42 | 176.52 | 176.54 | 176.46 | 176.25 | 176.15 | 176.06 | 176.18 |
| Day | 27     | 19     | 23     | 6      | 6      | 27     | 4      | 26     | 30     | 29     | 27     | 12     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.65         |     |     |     | 1   |     | 2   | 1   |     |     |     |     |     | 176.65         | 4                          |
| 176.60         |     |     |     |     | 1   | 14  | 9   | 5   |     |     |     |     | 176.60         | 33                         |
| 176.55         |     |     |     | 1   | 6   | 11  | 18  | 11  |     |     |     |     | 176.55         | 80                         |
| 176.50         |     |     |     | 3   | 17  | 3   | 3   | 9   | 3   |     |     |     | 176.50         | 118                        |
| 176.45         |     | 1   | 1   | 8   | 6   |     |     | 6   | 8   |     |     | 2   | 176.45         | 150                        |
| 176.40         | 2   |     | 2   | 4   | 1   |     |     |     | 13  | 3   | 1   | 3   | 176.40         | 179                        |
| 176.35         | 4   | 2   | 2   | 6   |     |     |     |     | 3   | 7   | 2   | 5   | 176.35         | 210                        |
| 176.30         | 12  | 3   | 4   | 5   |     |     |     |     | 2   | 8   | 10  | 12  | 176.30         | 266                        |
| 176.25         | 6   | 9   | 10  | 2   |     |     |     |     |     | 6   | 8   | 7   | 176.25         | 314                        |
| 176.20         | 4   | 11  | 4   |     |     |     |     |     | 1   | 4   | 4   | 1   | 176.20         | 343                        |
| 176.15         | 3   | 1   | 6   |     |     |     |     |     |     | 2   | 3   | 1   | 176.15         | 359                        |
| 176.10         |     | 1   | 1   |     |     |     |     |     |     | 1   | 1   |     | 176.10         | 363                        |
| 176.05         |     |     | 1   |     |     |     |     |     |     |     | 1   |     | 176.05         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 901-4098 Fort Gratiot, Port Huron, Michigan on St. Clair River

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 176.25               | 176.28               | 176.16               | 176.36               | 176.51               | 176.62               | 176.57              | 176.58               | 176.48               | 176.35               | 176.22               | 176.37               |
| 2                  | 176.43               | 176.22               | 176.32               | 176.38               | 176.52               | 176.60               | 176.54              | 176.60               | 176.44               | 176.31               | 176.14               | 176.45               |
| 3                  | 176.33               | 176.21               | 176.45               | 176.31               | 176.53               | 176.66               | 176.56              | 176.59               | 176.42               | 176.35               | 176.35               | 176.33               |
| 4                  | 176.34               | 176.22               | 176.42               | 176.28               | 176.51               | 176.66               | 176.54              | 176.64               | 176.52               | 176.40               | 176.34               | 176.38               |
| 5                  | 176.35               | 176.26               | 176.24               | 176.32               | 176.50               | 176.63               | 176.57              | 176.62               | 176.46               | 176.20               | 176.22               | 176.34               |
| 6                  | 176.33               | 176.26               | 176.18               | 176.28               | 176.42               | 176.62               | 176.56              | 176.59               | 176.46               | 176.36               | 176.29               | 176.27               |
| 7                  | 176.36               | 176.28               | 176.37               | 176.31               | 176.51               | 176.61               | 176.60              | 176.57               | 176.43               | 176.42               | 176.40               | 176.28               |
| 8                  | 176.23               | 176.23               | 176.28               | 176.36               | 176.53               | 176.61               | 176.66              | 176.56               | 176.45               | 176.27               | 176.35               | 176.27               |
| 9                  | 176.27               | 176.27               | 176.20               | 176.37               | 176.50               | 176.58               | 176.63              | 176.61               | 176.36               | 176.32               | 176.30               | 176.37               |
| 10                 | 176.36               | 176.31               | 176.28               | 176.39               | 176.51               | 176.56               | 176.60              | 176.61               | 176.50               | 176.36               | 176.34               | 176.22               |
| 11                 | 176.22               | 176.36               | 176.30               | 176.49               | 176.49               | 176.59               | 176.61              | 176.60               | 176.51               | 176.35               | 176.34               | 176.34               |
| 12                 | 176.34               | 176.23               | 176.27               | 176.41               | 176.53               | 176.63               | 176.60              | 176.57               | 176.44               | 176.41               | 176.29               | 176.18               |
| 13                 | 176.27               | 176.27               | 176.30               | 176.38               | 176.52               | 176.59               | 176.63              | 176.55               | 176.44               | 176.36               | 176.27               | 176.34               |
| 14                 | 176.27               | 176.33               | 176.32               | 176.31               | 176.52               | 176.53               | 176.61              | 176.55               | 176.43               | 176.21               | 176.27               | 176.29               |
| 15                 | 176.31               | 176.47               | 176.28               | 176.31               | 176.51               | 176.58               | 176.59              | 176.51               | 176.40               | 176.31               | 176.27               | 176.48               |
| 16                 | 176.34               | 176.22               | 176.25               | 176.46               | 176.50               | 176.61               | 176.56              | 176.52               | 176.42               | 176.29               | 176.41               | 176.34               |
| 17                 | 176.32               | 176.33               | 176.24               | 176.48               | 176.62               | 176.62               | 176.57              | 176.51               | 176.50               | 176.28               | 176.28               | 176.32               |
| 18                 | 176.32               | 176.24               | 176.29               | 176.48               | 176.56               | 176.60               | 176.56              | 176.57               | 176.42               | 176.40               | 176.16               | 176.46               |
| 19                 | 176.27               | 176.15               | 176.28               | 176.54               | 176.56               | 176.61               | 176.56              | 176.57               | 176.53               | 176.40               | 176.23               | 176.32               |
| 20                 | 176.45               | 176.22               | 176.26               | 176.68               | 176.53               | 176.61               | 176.58              | 176.57               | 176.50               | 176.31               | 176.33               | 176.26               |
| 21                 | 176.36               | 176.21               | 176.20               | 176.57               | 176.52               | 176.63               | 176.58              | 176.54               | 176.42               | 176.24               | 176.32               | 176.38               |
| 22                 | 176.19               | 176.36               | 176.16               | 176.53               | 176.52               | 176.64               | 176.55              | 176.52               | 176.35               | 176.28               | 176.31               | 176.32               |
| 23                 | 176.20               | 176.28               | 176.09               | 176.47               | 176.50               | 176.64               | 176.64              | 176.55               | 176.45               | 176.20               | 176.25               | 176.44               |
| 24                 | 176.39               | 176.20               | 176.25               | 176.51               | 176.51               | 176.59               | 176.62              | 176.51               | 176.44               | 176.22               | 176.18               | 176.35               |
| 25                 | 176.31               | 176.28               | 176.31               | 176.48               | 176.54               | 176.58               | 176.62              | 176.47               | 176.35               | 176.25               | 176.40               | 176.38               |
| 26                 | 176.24               | 176.26               | 176.20               | 176.48               | 176.50               | 176.55               | 176.63              | 176.46               | 176.46               | 176.36               | 176.31               | 176.28               |
| 27                 | 176.17               | 176.22               | 176.15               | 176.45               | 176.55               | 176.52               | 176.61              | 176.48               | 176.50               | 176.42               | 176.06               | 176.33               |
| 28                 | 176.27               | 176.21               | 176.33               | 176.47               | 176.56               | 176.59               | 176.60              | 176.49               | 176.38               | 176.30               | 176.34               | 176.33               |
| 29                 | 176.34               |                      | 176.47               | 176.44               | 176.58               | 176.56               | 176.58              | 176.48               | 176.41               | 176.15               | 176.28               | 176.44               |
| 30                 | 176.32               |                      | 176.38               | 176.41               | 176.56               | 176.61               | 176.59              | 176.50               | 176.25               | 176.28               | 176.16               | 176.33               |
| 31                 | 176.28               |                      | 176.28               |                      | 176.60               |                      | 176.60              | 176.62               |                      | 176.35               |                      | 176.29               |
| Mean               | 176.30               | 176.26               | 176.28               | 176.42               | 176.53               | 176.60               | 176.59              | 176.55               | 176.44               | 176.31               | 176.28               | 176.34               |
| Max.<br>Hr.<br>Day | 176.55<br>1200<br>20 | 176.72<br>1400<br>22 | 176.62<br>2000<br>28 | 176.81<br>0200<br>20 | 176.86<br>2100<br>28 | 176.75<br>1700<br>3  | 176.76<br>1000<br>8 | 176.76<br>1900<br>2  | 176.64<br>0200<br>11 | 176.56<br>2400<br>18 | 176.49<br>0100<br>16 | 176.56<br>1800<br>29 |
| Min.<br>Hr.<br>Day | 175.83<br>2300<br>22 | 175.96<br>1900<br>16 | 175.95<br>1500<br>23 | 176.14<br>1300<br>15 | 176.10<br>2300<br>28 | 176.42<br>0100<br>27 | 176.34<br>1300<br>6 | 176.40<br>1000<br>17 | 175.98<br>1200<br>30 | 176.01<br>1500<br>5  | 175.91<br>1200<br>27 | 175.95<br>0100<br>7  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.41

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 907-5002 Lakeport, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 176.67 Jun  
Daily mean elevation: 176.72 8 Jul  
Instant/hourly elevation: 176.80 1500/8 Jul

LOWEST

Monthly mean elevation: 176.32 Feb  
Daily mean elevation: 176.14 23 Mar  
Instant/hourly elevation: 175.94 2300/22 Jan

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.50 | 176.51 | 176.52 | 176.69 | 176.67 | 176.71 | 176.72 | 176.70 | 176.60 | 176.47 | 176.47 | 176.55 |
| Day | 20 | 15 | 29 | 20 | 17 | 4 | 8 | 4 | 19 | 7 | 25 | 15 |
| Min | 176.23 | 176.21 | 176.14 | 176.34 | 176.51 | 176.60 | 176.61 | 176.58 | 176.37 | 176.22 | 176.15 | 176.27 |
| Day | 27 | 19 | 23 | 6 | 6 | 14 | 4 | 17 | 30 | 29 | 27 | 12 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.70         |     |     |     |     |     | 2   | 1   |     |     |     |     |     | 176.70         | 3                          |
| 176.65         |     |     |     | 1   | 2   | 18  | 13  | 8   |     |     |     |     | 176.65         | 45                         |
| 176.60         |     |     |     | 2   | 10  | 9   | 17  | 11  |     |     |     |     | 176.60         | 94                         |
| 176.55         |     |     |     | 2   | 17  | 1   |     | 6   |     |     |     |     | 176.55         | 127                        |
| 176.50         |     | 1   | 1   | 10  | 2   |     |     |     | 7   |     |     |     | 176.50         | 153                        |
| 176.45         | 2   |     | 2   | 2   |     |     |     |     | 9   |     |     | 3   | 176.45         | 178                        |
| 176.40         | 5   | 2   | 2   | 6   |     |     |     |     | 10  | 3   | 3   | 3   | 176.40         | 220                        |
| 176.35         | 10  | 3   | 5   | 5   |     |     |     |     | 3   | 9   | 5   | 10  | 176.35         | 264                        |
| 176.30         | 9   | 10  | 12  | 2   |     |     |     |     | 1   | 5   | 7   | 8   | 176.30         | 317                        |
| 176.25         | 4   | 11  | 4   |     |     |     |     |     |     | 6   | 8   | 6   | 176.25         | 342                        |
| 176.20         | 1   | 1   | 4   |     |     |     |     |     |     | 3   | 2   | 1   | 176.20         | 353                        |
| 176.15         |     |     |     |     |     |     |     |     |     | 1   | 4   |     | 176.15         | 353                        |
| 176.10         |     |     | 1   |     |     |     |     |     |     |     | 1   |     | 176.10         | 355                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-5002 Lakeport, Michigan on Lake Huron

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                 | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------|---------------------|
| 1                  | 176.32               | 176.34               | 176.22               | 176.42               | 176.58               | 176.68               | 176.65              | 176.64               | 176.54               | 176.40*             | 176.29               | 176.44              |
| 2                  | 176.48               | 176.27               | 176.37               | 176.44               | 176.59               | 176.65               | 176.61              | 176.66               | 176.51               | /                   | 176.21               | 176.52              |
| 3                  | 176.38               | 176.27               | 176.47               | 176.36               | 176.61               | 176.71               | 176.63              | 176.66               | 176.49               | /                   | 176.42               | 176.38              |
| 4                  | 176.41               | 176.29               | 176.46               | 176.34               | 176.56               | 176.71               | 176.61              | 176.70               | 176.58               | 176.45*             | 176.41               | 176.43              |
| 5                  | 176.42               | 176.32               | 176.30               | 176.38               | 176.55               | 176.70               | 176.63              | 176.68               | 176.52               | 176.26              | 176.29               | 176.41              |
| 6                  | 176.40               | 176.33               | 176.24               | 176.34               | 176.51               | 176.69               | 176.64              | 176.65               | 176.52               | 176.43              | 176.35               | 176.33              |
| 7                  | 176.42               | 176.34               | 176.43               | 176.37               | 176.58               | 176.67               | 176.64              | 176.64               | 176.50               | 176.47              | 176.47               | 176.34              |
| 8                  | 176.31               | 176.30               | 176.34               | 176.41               | 176.60               | 176.67               | 176.72              | 176.64               | 176.51               | 176.35              | 176.41               | 176.34              |
| 9                  | 176.34               | 176.34               | 176.27               | 176.42               | 176.56               | 176.66               | 176.69              | 176.67               | 176.43               | 176.39              | 176.37               | 176.43              |
| 10                 | 176.43               | 176.37               | 176.34               | 176.45               | 176.58               | 176.65               | 176.67              | 176.68               | 176.56               | 176.43              | 176.40               | 176.31              |
| 11                 | 176.29               | 176.41               | 176.36               | 176.55               | 176.56               | 176.67               | 176.68              | 176.67               | 176.57               | 176.41              | 176.40               | 176.42              |
| 12                 | 176.37               | 176.31               | 176.34               | 176.48               | 176.60               | 176.70               | 176.66              | 176.64               | 176.51               | 176.46              | 176.36               | 176.27              |
| 13                 | 176.32               | 176.34               | 176.36               | 176.45               | 176.57               | 176.64               | 176.70              | 176.62               | 176.50               | 176.44*             | 176.34               | 176.41              |
| 14                 | 176.32               | 176.38               | 176.38               | 176.39               | 176.61               | 176.60               | 176.69              | 176.61               | 176.48               | /                   | 176.33               | 176.35              |
| 15                 | 176.35               | 176.51               | 176.35               | 176.38               | 176.59               | 176.65               | 176.66              | 176.59               | 176.46               | /                   | 176.34               | 176.55              |
| 16                 | 176.38               | 176.27               | 176.32               | 176.52               | 176.57               | 176.68               | 176.63              | 176.59               | 176.50               | 176.34*             | 176.47               | 176.41              |
| 17                 | 176.38               | 176.36               | 176.31               | 176.54               | 176.67               | 176.69               | 176.64              | 176.58               | 176.57               | 176.36              | 176.35               | 176.39              |
| 18                 | 176.40               | 176.27               | 176.35               | 176.53               | 176.62               | 176.66               | 176.64              | 176.62               | 176.50               | 176.45              | 176.23               | 176.52              |
| 19                 | 176.34               | 176.21               | 176.35               | 176.62               | 176.63               | 176.68               | 176.63              | 176.63               | 176.60               | 176.45              | 176.31               | 176.39              |
| 20                 | 176.50               | 176.28               | 176.33               | 176.69               | 176.61               | 176.67               | 176.65              | 176.63               | 176.56               | 176.39              | 176.42               | 176.35              |
| 21                 | 176.40               | 176.29               | 176.28               | 176.62               | 176.60               | 176.68               | 176.65              | 176.60               | 176.49               | 176.31              | 176.40               | 176.46              |
| 22                 | 176.26               | 176.41               | 176.22               | 176.59               | 176.60               | 176.69               | 176.63              | 176.60               | 176.42               | 176.34              | 176.37               | 176.40              |
| 23                 | 176.26               | 176.34               | 176.14               | 176.54               | 176.58               | 176.70               | 176.70              | 176.63               | 176.52               | 176.26              | 176.31               | 176.50              |
| 24                 | 176.43               | 176.26               | 176.31               | 176.57               | 176.59               | 176.66               | 176.68              | 176.60*              | 176.51               | 176.28              | 176.25               | 176.42              |
| 25                 | 176.36               | 176.34               | 176.37               | 176.55               | 176.62               | 176.65               | 176.70              | /                    | 176.48               | 176.32              | 176.47               | 176.45              |
| 26                 | 176.29               | 176.33               | 176.27               | 176.54               | 176.57               | 176.62               | 176.70              | /                    | 176.53               | 176.42              | 176.38               | 176.36              |
| 27                 | 176.23               | 176.28               | 176.23               | 176.53               | 176.63               | 176.61               | 176.67              | /                    | 176.57               | 176.46              | 176.15               | 176.41              |
| 28                 | 176.31               | 176.27               | 176.35               | 176.54               | 176.64               | 176.65               | 176.66              | /                    | 176.45               | 176.36              | 176.41               | 176.40              |
| 29                 | 176.39               |                      | 176.52               | 176.51               | 176.62               | 176.64               | 176.65              | /                    | 176.48               | 176.22              | 176.34               | 176.49              |
| 30                 | 176.36               |                      | 176.43               | 176.48               | 176.64               | 176.67               | 176.65              | /                    | 176.37               | 176.35              | 176.22               | 176.40              |
| 31                 | 176.34               |                      | 176.35               |                      | 176.66               |                      | 176.64              | 176.66*              |                      | 176.42              |                      | 176.36              |
| Mean               | 176.36               | 176.32               | 176.33               | 176.49               | 176.60               | 176.67               | 176.66              | 176.64               | 176.51               | 176.38              | 176.35               | 176.41              |
| Max.<br>Hr.<br>Day | 176.59<br>1400<br>2  | 176.72<br>1400<br>22 | 176.65<br>2000<br>28 | 176.79<br>0200<br>20 | 176.80<br>1500<br>29 | 176.80<br>1300<br>3  | 176.80<br>1500<br>8 | 176.79<br>1900<br>2  | 176.69<br>0100<br>19 | 176.60<br>1000<br>4 | 176.54<br>1000<br>20 | 176.62<br>0500<br>2 |
| Min.<br>Hr.<br>Day | 175.94<br>2300<br>22 | 176.05<br>1900<br>16 | 175.97<br>0300<br>28 | 176.22<br>1600<br>15 | 176.41<br>1700<br>13 | 176.49<br>1900<br>26 | 176.35<br>1300<br>6 | 176.52<br>0600<br>22 | 176.34<br>0900<br>18 | 176.12<br>0900<br>5 | 175.97<br>0700<br>30 | 176.02<br>0100<br>7 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.48



International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 907-5014 Harbor Beach, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 176.66 Jun  
Daily mean elevation: 176.70 24 Jul  
Instant/hourly elevation: 176.80 2300/7 Jul

LOWEST

Monthly mean elevation: 176.32 Mar  
Daily mean elevation: 176.16 23 Mar  
Instant/hourly elevation: 176.08 1500/23 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.45 | 176.42 | 176.49 | 176.60 | 176.65 | 176.68 | 176.70 | 176.67 | 176.59 | 176.48 | 176.47 | 176.54 |
| Day | 2      | 15     | 29     | 20     | 31     | 17     | 24     | 4      | 19     | 7      | 25     | 15     |
| Min | 176.28 | 176.22 | 176.16 | 176.35 | 176.51 | 176.60 | 176.59 | 176.51 | 176.33 | 176.25 | 176.24 | 176.32 |
| Day | 27     | 19     | 23     | 4      | 6      | 14     | 2      | 25     | 30     | 29     | 27     | 12     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.65         |     |     |     |     |     | 18  | 10  | 3   |     |     |     |     | 176.65         | 31                         |
| 176.60         |     |     |     |     | 7   | 11  | 20  | 12  |     |     |     |     | 176.60         | 81                         |
| 176.55         |     |     |     | 4   | 20  | 1   | 1   | 10  | 5   |     |     |     | 176.55         | 122                        |
| 176.50         |     |     |     | 12  | 4   |     |     | 6   | 8   |     |     | 1   | 176.50         | 153                        |
| 176.45         |     |     | 1   | 1   |     |     |     |     | 11  | 1   | 1   | 4   | 176.45         | 172                        |
| 176.40         | 6   | 1   | 1   | 6   |     |     |     |     | 5   | 10  | 4   | 11  | 176.40         | 216                        |
| 176.35         | 11  | 2   | 6   | 6   |     |     |     |     |     | 10  | 13  | 11  | 176.35         | 275                        |
| 176.30         | 10  | 15  | 14  | 1   |     |     |     |     | 1   | 7   | 7   | 4   | 176.30         | 334                        |
| 176.25         | 4   | 9   | 4   |     |     |     |     |     |     | 2   | 3   |     | 176.25         | 356                        |
| 176.20         |     | 1   | 3   |     |     |     |     |     |     | 1   | 2   |     | 176.20         | 363                        |
| 176.15         |     |     | 2   |     |     |     |     |     |     |     |     |     | 176.15         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-5014 Harbor Beach, Michigan on Lake Huron

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 176.37               | 176.34               | 176.24               | 176.40               | 176.59               | 176.66               | 176.62              | 176.64               | 176.50               | 176.42              | 176.32               | 176.45               |
| 2                  | 176.45               | 176.29               | 176.33               | 176.44               | 176.59               | 176.64               | 176.59              | 176.66               | 176.48               | 176.39              | 176.27               | 176.50               |
| 3                  | 176.39               | 176.29               | 176.38               | 176.37               | 176.59               | 176.67               | 176.61              | 176.64               | 176.48               | 176.39              | 176.45               | 176.38               |
| 4                  | 176.43               | 176.30               | 176.37               | 176.35               | 176.54               | 176.66               | 176.61              | 176.67               | 176.56               | 176.44              | 176.43               | 176.42               |
| 5                  | 176.42               | 176.32               | 176.31               | 176.38               | 176.53               | 176.67               | 176.63              | 176.66               | 176.52               | 176.29              | 176.35               | 176.43               |
| 6                  | 176.38               | 176.32               | 176.25               | 176.37               | 176.51               | 176.67               | 176.63              | 176.63               | 176.51               | 176.44              | 176.38               | 176.35               |
| 7                  | 176.39               | 176.33               | 176.40               | 176.38               | 176.60               | 176.66               | 176.63              | 176.62               | 176.50               | 176.48              | 176.45               | 176.37               |
| 8                  | 176.30               | 176.31               | 176.33               | 176.42               | 176.60               | 176.66               | 176.69              | 176.62               | 176.50               | 176.40              | 176.40               | 176.37               |
| 9                  | 176.34               | 176.34               | 176.29               | 176.43               | 176.55               | 176.65               | 176.69              | 176.64               | 176.44               | 176.39              | 176.38               | 176.42               |
| 10                 | 176.40               | 176.35               | 176.32               | 176.46               | 176.57               | 176.66               | 176.65              | 176.65               | 176.54               | 176.42              | 176.39               | 176.35               |
| 11                 | 176.28               | 176.38               | 176.33               | 176.51               | 176.56               | 176.67               | 176.66              | 176.64               | 176.56               | 176.41              | 176.36               | 176.42               |
| 12                 | 176.34               | 176.31               | 176.31               | 176.45               | 176.60               | 176.68               | 176.64              | 176.62               | 176.49               | 176.43              | 176.36               | 176.32               |
| 13                 | 176.34               | 176.32               | 176.32               | 176.43               | 176.58               | 176.64               | 176.66              | 176.60               | 176.49               | 176.40              | 176.37               | 176.41               |
| 14                 | 176.33               | 176.34               | 176.33               | 176.39               | 176.59               | 176.60               | 176.66              | 176.61               | 176.48               | 176.31              | 176.34               | 176.37               |
| 15                 | 176.34               | 176.42               | 176.33               | 176.42               | 176.58               | 176.66               | 176.64              | 176.60               | 176.47               | 176.37              | 176.34               | 176.54               |
| 16                 | 176.36               | 176.31               | 176.31               | 176.54               | 176.57               | 176.68               | 176.64              | 176.59               | 176.52               | 176.38              | 176.44               | 176.42               |
| 17                 | 176.38               | 176.35               | 176.30               | 176.54               | 176.62               | 176.68               | 176.65              | 176.60               | 176.58               | 176.38              | 176.35               | 176.40               |
| 18                 | 176.41               | 176.28               | 176.32               | 176.51               | 176.59               | 176.65               | 176.65              | 176.62               | 176.52               | 176.42              | 176.24               | 176.49               |
| 19                 | 176.37               | 176.22               | 176.34               | 176.57               | 176.60               | 176.67               | 176.63              | 176.60               | 176.59               | 176.42              | 176.32               | 176.39               |
| 20                 | 176.44               | 176.30               | 176.32               | 176.60               | 176.59               | 176.66               | 176.65              | 176.59               | 176.54               | 176.38              | 176.40               | 176.38               |
| 21                 | 176.36               | 176.30               | 176.26               | 176.57               | 176.58               | 176.67               | 176.64              | 176.59               | 176.48               | 176.34              | 176.39               | 176.46               |
| 22                 | 176.30               | 176.38               | 176.20               | 176.57               | 176.59               | 176.65               | 176.63              | 176.59               | 176.43               | 176.33              | 176.36               | 176.43               |
| 23                 | 176.31               | 176.34               | 176.16               | 176.54               | 176.58               | 176.66               | 176.70              | 176.60               | 176.52               | 176.28              | 176.32               | 176.48               |
| 24                 | 176.42               | 176.26               | 176.31               | 176.55               | 176.60               | 176.64               | 176.70              | 176.54               | 176.50               | 176.31              | 176.30               | 176.43               |
| 25                 | 176.36               | 176.33               | 176.36               | 176.54               | 176.61               | 176.64               | 176.68              | 176.51               | 176.42               | 176.35              | 176.47               | 176.44               |
| 26                 | 176.31               | 176.32               | 176.27               | 176.53               | 176.58               | 176.62               | 176.67              | 176.53               | 176.52               | 176.41              | 176.39               | 176.38               |
| 27                 | 176.28               | 176.28               | 176.25               | 176.52               | 176.63               | 176.62               | 176.65              | 176.55               | 176.56               | 176.42              | 176.24               | 176.40               |
| 28                 | 176.33               | 176.26               | 176.38               | 176.52               | 176.62               | 176.67               | 176.64              | 176.55               | 176.44               | 176.34              | 176.40               | 176.39               |
| 29                 | 176.37               |                      | 176.49               | 176.51               | 176.62               | 176.65               | 176.62              | 176.54               | 176.44               | 176.25              | 176.36               | 176.44               |
| 30                 | 176.35               |                      | 176.42               | 176.51               | 176.64               | 176.64               | 176.64              | 176.56               | 176.33               | 176.35              | 176.28               | 176.38               |
| 31                 | 176.34               |                      | 176.36               |                      | 176.65               |                      | 176.66              | 176.61               |                      | 176.40              |                      | 176.35               |
| Mean               | 176.36               | 176.32               | 176.32               | 176.48               | 176.59               | 176.66               | 176.65              | 176.60               | 176.50               | 176.38              | 176.36               | 176.41               |
| Max.<br>Hr.<br>Day | 176.52<br>0700<br>2  | 176.46<br>1500<br>22 | 176.55<br>0100<br>29 | 176.68<br>0200<br>20 | 176.74<br>0100<br>29 | 176.78<br>2100<br>15 | 176.80<br>2300<br>7 | 176.74<br>1800<br>17 | 176.66<br>0100<br>19 | 176.55<br>1800<br>6 | 176.51<br>1900<br>25 | 176.58<br>0300<br>18 |
| Min.<br>Hr.<br>Day | 176.17<br>2200<br>22 | 176.18<br>0600<br>19 | 176.08<br>1500<br>23 | 176.29<br>2400<br>6  | 176.45<br>0900<br>6  | 176.51<br>0100<br>15 | 176.50<br>2100<br>3 | 176.48<br>0600<br>25 | 176.21<br>1100<br>30 | 176.16<br>0900<br>5 | 176.11<br>0700<br>30 | 176.19<br>2400<br>6  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.47

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 907-5035    Essexville, Michigan    on Lake Huron (Saginaw Bay)

HIGHEST

Monthly mean elevation: 176.68 Jun  
Daily mean elevation: 176.94 20 Apr  
Instant/hourly elevation: 177.25 1200/17 May

LOWEST

Monthly mean elevation: 176.28 Nov  
Daily mean elevation: 175.64 2 Nov  
Instant/hourly elevation: 175.53 0400/2 Nov

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.46 | 176.37 | 176.53 | 176.94 | 176.88 | 176.85 | 176.75 | 176.80 | 176.61 | 176.66 | 176.46 | 176.66 |
| Day | 20 | 17 | 13 | 20 | 17 | 21 | 13 | 19 | 11 | 4 | 16 | 2 |
| Min | 176.20 | 176.19 | 176.10 | 176.32 | 176.31 | 176.53 | 176.56 | 176.51 | 176.29 | 176.08 | 175.64 | 176.16 |
| Day | 27 | 16 | 23 | 6 | 6 | 27 | 17 | 26 | 30 | 5 | 2 | 14 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.90         |     |     |     | 1   |     |     |     |     |     |     |     |     | 176.90         | 1                          |
| 176.85         |     |     |     | 1   | 1   |     |     |     |     |     |     |     | 176.85         | 3                          |
| 176.80         |     |     |     |     |     | 2   |     |     |     |     |     |     | 176.80         | 5                          |
| 176.75         |     |     |     |     | 1   | 3   |     | 2   |     |     |     |     | 176.75         | 11                         |
| 176.70         |     |     |     | 1   |     | 4   | 2   | 1   |     |     |     |     | 176.70         | 19                         |
| 176.65         |     |     |     |     | 4   | 12  | 11  | 5   |     | 1   |     | 1   | 176.65         | 53                         |
| 176.60         |     |     |     | 1   | 9   | 5   | 12  | 10  | 2   |     |     |     | 176.60         | 92                         |
| 176.55         |     |     |     | 4   | 11  | 2   | 6   | 5   | 2   |     |     |     | 176.55         | 122                        |
| 176.50         |     |     | 3   | 9   | 2   | 2   |     | 8   | 9   | 1   |     | 1   | 176.50         | 157                        |
| 176.45         | 1   |     |     | 2   | 2   |     |     |     | 7   | 4   | 1   | 4   | 176.45         | 178                        |
| 176.40         | 3   |     | 2   | 3   |     |     |     |     | 5   | 8   | 3   | 7   | 176.40         | 209                        |
| 176.35         | 9   | 2   | 9   | 5   |     |     |     |     | 1   | 2   | 10  | 8   | 176.35         | 255                        |
| 176.30         | 10  | 13  | 7   | 3   | 1   |     |     |     | 2   | 5   | 5   | 4   | 176.30         | 305                        |
| 176.25         | 4   | 10  | 5   |     |     |     |     |     | 2   | 8   | 3   | 5   | 176.25         | 342                        |
| 176.20         | 2   | 2   | 3   |     |     |     |     |     |     | 1   | 2   |     | 176.20         | 352                        |
| 176.15         | 2   | 1   |     |     |     |     |     |     |     |     | 1   | 1   | 176.15         | 357                        |
| 176.10         |     |     | 1   |     |     |     |     |     |     |     |     |     | 176.10         | 358                        |
| 176.05         |     |     | 1   |     |     |     |     |     |     |     |     |     | 176.05         | 363                        |
| 176.00         |     |     |     |     |     |     |     |     |     | 1   | 3   |     | 176.00         | 364                        |
| 175.95         |     |     |     |     |     |     |     |     |     |     | 1   |     | 175.95         | 364                        |
| 175.90         |     |     |     |     |     |     |     |     |     |     |     |     | 175.90         | 364                        |
| 175.85         |     |     |     |     |     |     |     |     |     |     |     |     | 175.85         | 364                        |
| 175.80         |     |     |     |     |     |     |     |     |     |     |     |     | 175.80         | 364                        |
| 175.75         |     |     |     |     |     |     |     |     |     |     |     |     | 175.75         | 364                        |
| 175.70         |     |     |     |     |     |     |     |     |     |     |     |     | 175.70         | 364                        |
| 175.65         |     |     |     |     |     |     |     |     |     |     |     |     | 175.65         | 364                        |
| 175.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 175.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-5035 Essexville, Michigan on Lake Huron (Saginaw Bay)

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 176.22               | 176.34               | 176.26               | 176.40               | 176.46               | 176.73               | 176.69               | 176.61               | 176.61               | 176.40              | 176.32               | 176.32               |
| 2                  | 176.45               | 176.26               | 176.44               | 176.42               | 176.55               | 176.67               | 176.61               | 176.67               | 176.51               | 176.35              | 175.64               | 176.66               |
| 3                  | 176.35               | 176.24               | 176.51               | 176.36               | 176.61               | 176.76               | 176.64               | 176.67               | 176.46               | 176.43              | 176.08               | 176.54               |
| 4                  | 176.36               | 176.28               | 176.39               | 176.35               | 176.66               | 176.80               | 176.58               | 176.72               | 176.57               | 176.66              | 176.33               | 176.40               |
| 5                  | 176.39               | 176.32               | 176.33               | 176.36               | 176.63               | 176.72               | 176.61               | 176.68               | 176.51               | 176.08              | 176.22               | 176.41               |
| 6                  | 176.36               | 176.31               | 176.23               | 176.32               | 176.31               | 176.68               | 176.61               | 176.65               | 176.52               | 176.29              | 176.18               | 176.34               |
| 7                  | 176.41               | 176.31               | 176.38               | 176.33               | 176.48               | 176.66               | 176.64               | 176.64               | 176.50               | 176.41              | 176.44               | 176.30               |
| 8                  | 176.31               | 176.27               | 176.31               | 176.48               | 176.62               | 176.69               | 176.71               | 176.63               | 176.53               | 176.34              | 176.38               | 176.36               |
| 9                  | 176.31               | 176.32               | 176.28               | 176.60               | 176.59               | 176.64               | 176.68               | 176.68               | 176.41               | 176.34              | 176.30               | 176.42               |
| 10                 | 176.42               | 176.32               | 176.38               | 176.42               | 176.59               | 176.59               | 176.66               | 176.65               | 176.52               | 176.43              | 176.37               | 176.27               |
| 11                 | 176.35               | 176.35               | 176.39               | 176.55               | 176.55               | 176.65               | 176.68               | 176.65               | 176.61               | 176.42              | 176.40               | 176.40               |
| 12                 | 176.33               | 176.26               | 176.37               | 176.57               | 176.60               | 176.74               | 176.64               | 176.63               | 176.52               | 176.50              | 176.36               | 176.30               |
| 13                 | 176.34               | 176.34               | 176.53               | 176.55               | 176.58               | 176.67               | 176.75               | 176.60               | 176.50               | 176.42              | 176.24               | 176.40               |
| 14                 | 176.30               | 176.32               | 176.44               | 176.44               | 176.62               | 176.55               | 176.69               | 176.60               | 176.50               | 176.22              | 176.37               | 176.16               |
| 15                 | 176.35               | 176.36               | 176.33               | 176.37               | 176.58               | 176.61               | 176.64               | 176.56               | 176.45               | 176.28              | 176.32               | 176.43               |
| 16                 | 176.36               | 176.19               | 176.30               | 176.49               | 176.57               | 176.67               | 176.60               | 176.54               | 176.39               | 176.28              | 176.46               | 176.37               |
| 17                 | 176.36               | 176.37               | 176.32               | 176.55               | 176.88               | 176.70               | 176.56               | 176.53               | 176.52               | 176.30              | 176.37               | 176.33               |
| 18                 | 176.36               | 176.31               | 176.33               | 176.55               | 176.80               | 176.66               | 176.62               | 176.63               | 176.34               | 176.43              | 176.27               | 176.50               |
| 19                 | 176.32               | 176.21               | 176.32               | 176.89               | 176.68               | 176.66               | 176.58               | 176.80               | 176.56               | 176.42              | 176.33               | 176.37               |
| 20                 | 176.46               | 176.26               | 176.36               | 176.94               | 176.62               | 176.69               | 176.64               | 176.68               | 176.53               | 176.28              | 176.41               | 176.28               |
| 21                 | 176.37               | 176.27               | 176.40               | 176.72               | 176.58               | 176.85               | 176.63               | 176.58               | 176.48               | 176.26              | 176.40               | 176.42               |
| 22                 | 176.26               | 176.34               | 176.34               | 176.58               | 176.59               | 176.84               | 176.59               | 176.58               | 176.34               | 176.37              | 176.36               | 176.26               |
| 23                 | 176.20               | 176.35               | 176.10               | 176.53               | 176.57               | 176.74               | 176.68               | 176.64               | 176.43               | 176.26              | 176.30               | 176.48               |
| 24                 | 176.39               | 176.26               | 176.26               | 176.62               | 176.57               | 176.66               | 176.64               | 176.64               | 176.49               | 176.31              | 176.06               | 176.38               |
| 25                 | 176.31               | 176.31               | 176.37               | 176.54               | 176.66               | 176.63               | 176.70               | 176.53               | 176.29               | 176.35              | 176.38               | 176.45               |
| 26                 | 176.22               | 176.30               | 176.27               | 176.55               | 176.56               | 176.60               | 176.70               | 176.51               | 176.42               | 176.48              | 176.35               | 176.31               |
| 27                 | 176.20               | 176.26               | 176.24               | 176.56               | 176.61               | 176.53               | 176.67               | 176.53               | 176.53               | 176.52              | 176.02               | 176.41               |
| 28                 | 176.28               | 176.27               | 176.14               | 176.55               | 176.65               | 176.61               | 176.67               | 176.54               | 176.41               | 176.48              | 176.38               | 176.42               |
| 29                 | 176.37               |                      | 176.51               | 176.55               | 176.62               | 176.66               | 176.68               | 176.54               | 176.50               | 176.29              | 176.42               | 176.48               |
| 30                 | 176.33               |                      | 176.40               | 176.36               | 176.62               | 176.76               | 176.64               | 176.54               | 176.29               | 176.43              | 176.08               | 176.47               |
| 31                 | 176.27               |                      | 176.25               |                      | 176.66               |                      | 176.60               | 176.79               |                      | 176.49              |                      | 176.36               |
| Mean               | 176.33               | 176.30               | 176.34               | 176.52               | 176.60               | 176.68               | 176.65               | 176.62               | 176.47               | 176.37              | 176.28               | 176.39               |
| Max.<br>Hr.<br>Day | 176.63<br>1200<br>20 | 176.49<br>0800<br>17 | 176.74<br>1900<br>2  | 177.22<br>2400<br>19 | 177.25<br>1200<br>17 | 177.10<br>1300<br>3  | 176.88<br>1800<br>13 | 177.06<br>1000<br>31 | 176.75<br>1100<br>29 | 176.80<br>1300<br>4 | 176.56<br>2400<br>16 | 177.05<br>0300<br>3  |
| Min.<br>Hr.<br>Day | 175.99<br>1400<br>28 | 175.96<br>2100<br>16 | 175.73<br>0600<br>28 | 176.10<br>1900<br>15 | 176.08<br>1200<br>6  | 176.39<br>0900<br>27 | 176.37<br>1100<br>17 | 176.43<br>0500<br>17 | 176.10<br>1900<br>25 | 175.67<br>1400<br>5 | 175.53<br>0400<br>2  | 175.72<br>1700<br>14 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.46

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 907-5059 Harrisville, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 176.65 Jun  
Daily mean elevation: 176.69 24 Jul  
Instant/hourly elevation: 176.80 1000/17 Jul

LOWEST

Monthly mean elevation: 176.30 Feb  
Daily mean elevation: 176.19 23 Mar  
Instant/hourly elevation: 176.07 1200/23 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.43 | 176.34 | 176.44 | 176.56 | 176.65 | 176.67 | 176.69 | 176.65 | 176.56 | 176.46 | 176.46 | 176.49 |
| Day | 2      | 17     | 29     | 22     | 31     | 17     | 24     | 1      | 17     | 7      | 3      | 15     |
| Min | 176.30 | 176.24 | 176.19 | 176.36 | 176.52 | 176.60 | 176.59 | 176.52 | 176.37 | 176.29 | 176.30 | 176.36 |
| Day | 11     | 19     | 23     | 4      | 5      | 30     | 2      | 25     | 30     | 29     | 27     | 31     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.65         |     |     |     |     |     | 14  | 8   |     |     |     |     |     | 176.65         | 22                         |
| 176.60         |     |     |     |     | 5   | 15  | 22  | 11  |     |     |     |     | 176.60         | 75                         |
| 176.55         |     |     |     | 1   | 22  | 1   | 1   | 13  | 1   |     |     |     | 176.55         | 114                        |
| 176.50         |     |     |     | 11  | 4   |     |     | 7   | 8   |     |     |     | 176.50         | 144                        |
| 176.45         |     |     |     | 2   |     |     |     |     | 17  | 1   | 1   | 3   | 176.45         | 168                        |
| 176.40         | 3   |     | 1   | 8   |     |     |     |     | 3   | 6   | 3   | 11  | 176.40         | 203                        |
| 176.35         | 11  |     | 4   | 6   |     |     |     |     | 1   | 17  | 15  | 17  | 176.35         | 274                        |
| 176.30         | 15  | 15  | 10  |     |     |     |     |     |     | 5   | 9   |     | 176.30         | 328                        |
| 176.25         | 2   | 12  | 12  |     |     |     |     |     |     | 2   | 2   |     | 176.25         | 358                        |
| 176.20         |     | 1   | 3   |     |     |     |     |     |     |     |     |     | 176.20         | 362                        |
| 176.15         |     |     | 1   |     |     |     |     |     |     |     |     |     | 176.15         | 363                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-5059 Harrisville, Michigan on Lake Huron

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                 | Nov                  | Dec                  |
|--------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| 1                  | 176.39              | 176.34               | 176.25               | 176.39               | 176.60               | 176.64               | 176.62               | 176.65               | 176.50               | 176.42              | 176.34               | 176.44               |
| 2                  | 176.43              | 176.29               | 176.29               | 176.42               | 176.58               | 176.64               | 176.59               | 176.64               | 176.49               | 176.40              | 176.32               | 176.49               |
| 3                  | 176.38              | 176.31               | 176.31               | 176.37               | 176.58               | 176.66               | 176.62               | 176.63               | 176.48               | 176.41              | 176.46               | 176.39               |
| 4                  | 176.41              | 176.33               | 176.32               | 176.36               | 176.52               | 176.65               | 176.62               | 176.64               | 176.54               | 176.45              | 176.43               | 176.38               |
| 5                  | 176.40              | 176.32               | 176.32               | 176.39               | 176.52               | 176.66               | 176.63               | 176.64               | 176.51               | 176.33              | 176.37               | 176.43               |
| 6                  | 176.34              | 176.30               | 176.28               | 176.41               | 176.54               | 176.66               | 176.63               | 176.62               | 176.50               | 176.42              | 176.39               | 176.37               |
| 7                  | 176.37              | 176.31               | 176.33               | 176.41               | 176.60               | 176.66               | 176.65               | 176.60               | 176.50               | 176.46              | 176.43               | 176.41               |
| 8                  | 176.30              | 176.33               | 176.33               | 176.42               | 176.58               | 176.66               | 176.69               | 176.60               | 176.49               | 176.41              | 176.39               | 176.38               |
| 9                  | 176.31              | 176.32               | 176.30               | 176.42               | 176.54               | 176.65               | 176.68               | 176.60               | 176.46               | 176.40              | 176.38               | 176.41               |
| 10                 | 176.38              | 176.31               | 176.31               | 176.42               | 176.56               | 176.66               | 176.65               | 176.62               | 176.51               | 176.41              | 176.39               | 176.39               |
| 11                 | 176.30              | 176.33               | 176.31               | 176.49               | 176.56               | 176.66               | 176.65               | 176.62               | 176.53               | 176.40              | 176.35               | 176.43               |
| 12                 | 176.31              | 176.31               | 176.29               | 176.43               | 176.58               | 176.67               | 176.64               | 176.61               | 176.49               | 176.39              | 176.36               | 176.37               |
| 13                 | 176.36              | 176.32               | 176.28               | 176.40               | 176.57               | 176.63               | 176.64               | 176.60               | 176.48               | 176.39              | 176.40               | 176.40               |
| 14                 | 176.36              | 176.28               | 176.29               | 176.40               | 176.59               | 176.61               | 176.65               | 176.61               | 176.48               | 176.36              | 176.37               | 176.37               |
| 15                 | 176.35              | 176.29               | 176.30               | 176.43               | 176.57               | 176.66               | 176.64               | 176.60               | 176.50               | 176.38              | 176.35               | 176.49               |
| 16                 | 176.34              | 176.32               | 176.30               | 176.54               | 176.58               | 176.67               | 176.64               | 176.59               | 176.51               | 176.39              | 176.40               | 176.41               |
| 17                 | 176.38              | 176.34               | 176.29               | 176.53               | 176.60               | 176.67               | 176.66               | 176.59               | 176.56               | 176.40              | 176.35               | 176.39               |
| 18                 | 176.41              | 176.27               | 176.29               | 176.51               | 176.57               | 176.65               | 176.64               | 176.61               | 176.50               | 176.38              | 176.30               | 176.44               |
| 19                 | 176.39              | 176.24               | 176.33               | 176.52               | 176.58               | 176.66               | 176.64               | 176.59               | 176.54               | 176.38              | 176.34               | 176.40               |
| 20                 | 176.40              | 176.30               | 176.31               | 176.53               | 176.58               | 176.66               | 176.64               | 176.58               | 176.51               | 176.38              | 176.38               | 176.40               |
| 21                 | 176.32              | 176.29               | 176.25               | 176.53               | 176.58               | 176.63               | 176.64               | 176.58               | 176.48               | 176.37              | 176.38               | 176.45               |
| 22                 | 176.32              | 176.31               | 176.21               | 176.56               | 176.58               | 176.63               | 176.65               | 176.58               | 176.46               | 176.34              | 176.36               | 176.47               |
| 23                 | 176.34              | 176.33               | 176.19               | 176.54               | 176.58               | 176.65               | 176.68               | 176.58               | 176.49               | 176.30              | 176.34               | 176.44               |
| 24                 | 176.40              | 176.26               | 176.30               | 176.54               | 176.60               | 176.63               | 176.69               | 176.54               | 176.46               | 176.34              | 176.33               | 176.41               |
| 25                 | 176.35              | 176.30               | 176.36               | 176.54               | 176.59               | 176.63               | 176.66               | 176.52               | 176.42               | 176.36              | 176.43               | 176.42               |
| 26                 | 176.33              | 176.30               | 176.29               | 176.51               | 176.59               | 176.63               | 176.66               | 176.54               | 176.48               | 176.40              | 176.39               | 176.38               |
| 27                 | 176.32              | 176.28               | 176.31               | 176.50*              | 176.63               | 176.63               | 176.65               | 176.55               | 176.51               | 176.39              | 176.30               | 176.39               |
| 28                 | 176.34              | 176.27               | 176.39               | /                    | 176.62               | 176.66               | 176.62               | 176.55               | 176.44               | 176.35              | 176.40               | 176.39               |
| 29                 | 176.35              |                      | 176.44               | /                    | 176.62               | 176.62               | 176.63               | 176.54               | 176.43               | 176.29              | 176.37               | 176.40               |
| 30                 | 176.32              |                      | 176.40               | 176.54*              | 176.64               | 176.60               | 176.63               | 176.54               | 176.37               | 176.35              | 176.31               | 176.37               |
| 31                 | 176.31              |                      | 176.38               |                      | 176.65               |                      | 176.67               | 176.57               |                      | 176.40              |                      | 176.36               |
| Mean               | 176.36              | 176.30               | 176.31               | 176.47               | 176.58               | 176.65               | 176.64               | 176.59               | 176.49               | 176.38              | 176.37               | 176.41               |
| Max.<br>Hr.<br>Day | 176.47<br>0300<br>2 | 176.41<br>0700<br>1  | 176.55<br>1900<br>28 | 176.62<br>0200<br>20 | 176.74<br>2300<br>28 | 176.73<br>1000<br>3  | 176.80<br>1000<br>17 | 176.70<br>1600<br>2  | 176.60<br>0300<br>11 | 176.51<br>0800<br>4 | 176.50<br>1900<br>3  | 176.56<br>1000<br>15 |
| Min.<br>Hr.<br>Day | 176.23<br>2300<br>8 | 176.17<br>1100<br>19 | 176.07<br>1200<br>23 | 176.32<br>0300<br>15 | 176.46<br>1300<br>6  | 176.52<br>1800<br>29 | 176.52<br>2400<br>1  | 176.49<br>0700<br>25 | 176.32<br>1000<br>30 | 176.24<br>1500<br>5 | 176.19<br>1500<br>27 | 176.24<br>2200<br>12 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.46

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 907-5080 Mackinaw City, Michigan on Straits of Mackinac

## HIGHEST

Monthly mean elevation: 176.65 Jun  
Daily mean elevation: 176.70 27 Jun  
Instant/hourly elevation: 176.81 1100/15 Jun

## LOWEST

Monthly mean elevation: 176.28 Feb  
Daily mean elevation: 176.15 15 Feb  
Instant/hourly elevation: 176.08 2100/22 Feb

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.43 | 176.34 | 176.42 | 176.61 | 176.65 | 176.70 | 176.67 | 176.63 | 176.56 | 176.48 | 176.57 | 176.46 |
| Day | 22     | 3      | 31     | 30     | 30     | 27     | 22     | 1      | 16     | 5      | 2      | 22     |
| Min | 176.27 | 176.15 | 176.21 | 176.35 | 176.53 | 176.62 | 176.60 | 176.50 | 176.37 | 176.34 | 176.33 | 176.34 |
| Day | 31     | 15     | 2      | 1      | 4      | 30     | 29     | 31     | 29     | 18     | 16     | 23     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.65         |     |     |     |     |     | 9   | 10  |     |     |     |     |     | 176.65         | 19                         |
| 176.60         |     |     |     | 1   | 8   | 21  | 19  | 1   |     |     |     |     | 176.60         | 69                         |
| 176.55         |     |     |     |     | 18  |     | 2   | 22  | 1   |     | 1   |     | 176.55         | 113                        |
| 176.50         |     |     |     | 9   | 5   |     |     | 7   | 10  |     |     |     | 176.50         | 144                        |
| 176.45         |     |     |     | 7   |     |     |     | 1   | 11  | 3   | 2   | 1   | 176.45         | 169                        |
| 176.40         | 3   |     | 1   | 6   |     |     |     |     | 5   | 8   | 4   | 7   | 176.40         | 203                        |
| 176.35         | 7   |     | 3   | 6   |     |     |     |     | 3   | 18  | 17  | 20  | 176.35         | 277                        |
| 176.30         | 18  | 8   | 9   | 1   |     |     |     |     |     | 2   | 6   | 3   | 176.30         | 324                        |
| 176.25         | 3   | 15  | 13  |     |     |     |     |     |     |     |     |     | 176.25         | 355                        |
| 176.20         |     | 2   | 5   |     |     |     |     |     |     |     |     |     | 176.20         | 362                        |
| 176.15         |     | 2   |     |     |     |     |     |     |     |     |     |     | 176.15         | 364                        |
| 176.10         |     | 1   |     |     |     |     |     |     |     |     |     |     | 176.10         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-5080 Mackinaw City, Michigan on Straits of Mackinac

International  
Great Lakes  
Datum (1985)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 176.42 | 176.34 | 176.28 | 176.35 | 176.59 | 176.64 | 176.63 | 176.63 | 176.54 | 176.41 | 176.48 | 176.41 |
| 2    | 176.34 | 176.31 | 176.21 | 176.38 | 176.55 | 176.65 | 176.65 | 176.60 | 176.53 | 176.40 | 176.57 | 176.37 |
| 3    | 176.35 | 176.34 | 176.24 | 176.39 | 176.54 | 176.64 | 176.66 | 176.60 | 176.52 | 176.38 | 176.48 | 176.37 |
| 4    | 176.39 | 176.33 | 176.26 | 176.40 | 176.53 | 176.63 | 176.67 | 176.60 | 176.52 | 176.35 | 176.40 | 176.35 |
| 5    | 176.35 | 176.30 | 176.33 | 176.42 | 176.54 | 176.64 | 176.67 | 176.59 | 176.51 | 176.48 | 176.45 | 176.38 |
| 6    | 176.31 | 176.30 | 176.30 | 176.42 | 176.62 | 176.64 | 176.67 | 176.58 | 176.50 | 176.42 | 176.39 | 176.43 |
| 7    | 176.33 | 176.29 | 176.24 | 176.43 | 176.58 | 176.65 | 176.67 | 176.57 | 176.50 | 176.42 | 176.38 | 176.40 |
| 8    | 176.36 | 176.32 | 176.33 | 176.39 | 176.55 | 176.65 | 176.65 | 176.57 | 176.48 | 176.43 | 176.39 | 176.38 |
| 9    | 176.32 | 176.28 | 176.31 | 176.38 | 176.57 | 176.66 | 176.66 | 176.57 | 176.52 | 176.41 | 176.45 | 176.37 |
| 10   | 176.33 | 176.25 | 176.31 | 176.38 | 176.57 | 176.67 | 176.65 | 176.57 | 176.48 | 176.39 | 176.36 | 176.44 |
| 11   | 176.33 | 176.26 | 176.28 | 176.42 | 176.58 | 176.66 | 176.64 | 176.56 | 176.48 | 176.38 | 176.34 | 176.40 |
| 12   | 176.31 | 176.30 | 176.27 | 176.42 | 176.57 | 176.64 | 176.64 | 176.57 | 176.49 | 176.36 | 176.37 | 176.42 |
| 13   | 176.40 | 176.28 | 176.24 | 176.42 | 176.57 | 176.65 | 176.62 | 176.58 | 176.49 | 176.38 | 176.40 | 176.38 |
| 14   | 176.38 | 176.20 | 176.26 | 176.49 | 176.58 | 176.67 | 176.62 | 176.58 | 176.50 | 176.44 | 176.36 | 176.40 |
| 15   | 176.34 | 176.15 | 176.29 | 176.48 | 176.58 | 176.68 | 176.64 | 176.59 | 176.52 | 176.39 | 176.34 | 176.38 |
| 16   | 176.32 | 176.32 | 176.29 | 176.53 | 176.58 | 176.65 | 176.67 | 176.60 | 176.56 | 176.46 | 176.33 | 176.41 |
| 17   | 176.35 | 176.27 | 176.29 | 176.50 | 176.56 | 176.65 | 176.66 | 176.60 | 176.51 | 176.46 | 176.36 | 176.40 |
| 18   | 176.36 | 176.28 | 176.28 | 176.50 | 176.57 | 176.66 | 176.64 | 176.58 | 176.54 | 176.34 | 176.39 | 176.37 |
| 19   | 176.41 | 176.29 | 176.30 | 176.47 | 176.57 | 176.65 | 176.65 | 176.55 | 176.46 | 176.36 | 176.37 | 176.42 |
| 20   | 176.28 | 176.31 | 176.29 | 176.49 | 176.58 | 176.65 | 176.64 | 176.56 | 176.45 | 176.39 | 176.35 | 176.45 |
| 21   | 176.31 | 176.31 | 176.29 | 176.50 | 176.59 | 176.62 | 176.64 | 176.58 | 176.48 | 176.41 | 176.40 | 176.40 |
| 22   | 176.43 | 176.20 | 176.25 | 176.52 | 176.59 | 176.63 | 176.67 | 176.55 | 176.51 | 176.36 | 176.38 | 176.46 |
| 23   | 176.34 | 176.29 | 176.33 | 176.52 | 176.60 | 176.64 | 176.65 | 176.55 | 176.45 | 176.39 | 176.40 | 176.34 |
| 24   | 176.34 | 176.27 | 176.33 | 176.52 | 176.61 | 176.64 | 176.66 | 176.55 | 176.42 | 176.39 | 176.36 | 176.38 |
| 25   | 176.33 | 176.25 | 176.33 | 176.54 | 176.58 | 176.64 | 176.63 | 176.56 | 176.50 | 176.38 | 176.35 | 176.39 |
| 26   | 176.36 | 176.28 | 176.35 | 176.52 | 176.64 | 176.66 | 176.63 | 176.58 | 176.38 | 176.36 | 176.38 | 176.39 |
| 27   | 176.37 | 176.28 | 176.40 | 176.53 | 176.64 | 176.70 | 176.62 | 176.57 | 176.39 | 176.36 | 176.43 | 176.37 |
| 28   | 176.31 | 176.28 | 176.36 | 176.54 | 176.64 | 176.66 | 176.60 | 176.55 | 176.43 | 176.40 | 176.35 | 176.38 |
| 29   | 176.30 |        | 176.33 | 176.55 | 176.65 | 176.64 | 176.60 | 176.55 | 176.37 | 176.45 | 176.37 | 176.35 |
| 30   | 176.31 |        | 176.38 | 176.61 | 176.65 | 176.62 | 176.62 | 176.55 | 176.42 | 176.38 | 176.42 | 176.37 |
| 31   | 176.27 |        | 176.42 |        | 176.64 |        | 176.65 | 176.50 |        | 176.39 |        | 176.37 |
| Mean | 176.34 | 176.28 | 176.30 | 176.47 | 176.59 | 176.65 | 176.64 | 176.57 | 176.48 | 176.40 | 176.39 | 176.39 |
| Max. | 176.59 | 176.43 | 176.53 | 176.66 | 176.79 | 176.81 | 176.74 | 176.71 | 176.64 | 176.57 | 176.67 | 176.60 |
| Hr.  | 2200   | 1700   | 2400   | 2100   | 1100   | 1100   | 0800   | 0500   | 0200   | 0900   | 2200   | 2400   |
| Day  | 22     | 16     | 27     | 30     | 29     | 15     | 22     | 17     | 18     | 5      | 1      | 6      |
| Min. | 176.10 | 176.08 | 176.12 | 176.27 | 176.48 | 176.55 | 176.56 | 176.46 | 176.33 | 176.26 | 176.25 | 176.24 |
| Hr.  | 1500   | 2100   | 0400   | 1500   | 1800   | 1900   | 0200   | 2000   | 1800   | 0200   | 1200   | 0100   |
| Day  | 28     | 22     | 7      | 9      | 4      | 21     | 29     | 31     | 30     | 22     | 30     | 9      |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.46



International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 907-5099 De Tour Village, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 176.64 Jun  
Daily mean elevation: 176.68 27 Jun  
Instant/hourly elevation: 176.74 2000/29 May

LOWEST

Monthly mean elevation: 176.29 Feb  
Daily mean elevation: 176.15 15 Feb  
Instant/hourly elevation: 176.09 0500/7 Mar

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.45 | 176.36 | 176.43 | 176.56 | 176.65 | 176.68 | 176.67 | 176.63 | 176.55 | 176.48 | 176.53 | 176.48 |
| Day | 1 | 3 | 31 | 30 | 31 | 27 | 6 | 1 | 17 | 17 | 3 | 22 |
| Min | 176.24 | 176.15 | 176.21 | 176.33 | 176.50 | 176.59 | 176.57 | 176.51 | 176.38 | 176.34 | 176.32 | 176.32 |
| Day | 12 | 15 | 22 | 10 | 4 | 30 | 29 | 31 | 29 | 30 | 15 | 4 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.65         |     |     |     |     |     | 6   | 5   |     |     |     |     |     | 176.65         | 11                         |
| 176.60         |     |     |     |     | 8   | 21  | 20  | 2   |     |     |     |     | 176.60         | 62                         |
| 176.55         |     |     |     | 1   | 18  | 3   | 6   | 19  |     |     |     |     | 176.55         | 109                        |
| 176.50         |     |     |     | 9   | 4   |     |     | 10  |     |     | 1   |     | 176.50         | 140                        |
| 176.45         |     |     |     | 5   | 1   |     |     |     | 7   |     | 1   |     | 176.45         | 165                        |
| 176.40         | 5   |     | 1   | 9   |     |     |     |     | 5   | 6   | 8   | 11  | 176.40         | 210                        |
| 176.35         | 13  | 2   | 5   | 5   |     |     |     |     | 3   | 19  | 14  | 15  | 176.35         | 286                        |
| 176.30         | 7   | 9   | 5   | 1   |     |     |     |     |     | 5   | 6   | 3   | 176.30         | 322                        |
| 176.25         | 5   | 13  | 12  |     |     |     |     |     |     |     |     |     | 176.25         | 352                        |
| 176.20         | 1   | 2   | 8   |     |     |     |     |     |     |     |     |     | 176.20         | 363                        |
| 176.15         |     | 1   |     |     |     |     |     |     |     |     |     |     | 176.15         | 364                        |
| 176.10         |     | 1   |     |     |     |     |     |     |     |     |     |     | 176.10         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-5099 De Tour Village, Michigan on Lake Huron

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 176.45               | 176.36               | 176.27               | 176.36               | 176.61               | 176.63               | 176.62               | 176.63               | 176.50               | 176.41               | 176.41               | 176.40              |
| 2                  | 176.38               | 176.32               | 176.21               | 176.42               | 176.56               | 176.63               | 176.60               | 176.61               | 176.51               | 176.39               | 176.42               | 176.43              |
| 3                  | 176.36               | 176.36               | 176.22               | 176.40               | 176.55               | 176.64               | 176.64               | 176.58               | 176.51               | 176.37               | 176.53               | 176.32              |
| 4                  | 176.43               | 176.35               | 176.25               | 176.38               | 176.50               | 176.62               | 176.64               | 176.58               | 176.52               | 176.36               | 176.45               | 176.32              |
| 5                  | 176.40               | 176.30               | 176.35               | 176.41               | 176.52               | 176.63               | 176.65               | 176.58               | 176.52               | 176.38               | 176.46               | 176.42              |
| 6                  | 176.32               | 176.30               | 176.30               | 176.43               | 176.56               | 176.64               | 176.67               | 176.58               | 176.49               | 176.41               | 176.38               | 176.39              |
| 7                  | 176.34               | 176.30               | 176.24               | 176.42               | 176.60               | 176.65               | 176.65               | 176.56               | 176.49               | 176.44               | 176.42               | 176.41              |
| 8                  | 176.36               | 176.34               | 176.34               | 176.41               | 176.58               | 176.65               | 176.62               | 176.56               | 176.48               | 176.44               | 176.39               | 176.40              |
| 9                  | 176.30               | 176.30               | 176.30               | 176.36               | 176.54               | 176.66               | 176.66               | 176.55               | 176.50               | 176.40               | 176.43               | 176.38              |
| 10                 | 176.36               | 176.27               | 176.29               | 176.33               | 176.56               | 176.67               | 176.64               | 176.56               | 176.46               | 176.40               | 176.40               | 176.43              |
| 11                 | 176.29               | 176.28               | 176.28               | 176.45               | 176.57               | 176.66               | 176.63               | 176.56               | 176.49               | 176.38               | 176.32               | 176.43              |
| 12                 | 176.24               | 176.32               | 176.26               | 176.41               | 176.58               | 176.64               | 176.62               | 176.56               | 176.47               | 176.35               | 176.36               | 176.43              |
| 13                 | 176.40               | 176.29               | 176.22               | 176.38               | 176.57               | 176.63               | 176.60               | 176.57               | 176.47               | 176.38               | 176.40               | 176.37              |
| 14                 | 176.39               | 176.19               | 176.24               | 176.43               | 176.58               | 176.65               | 176.61               | 176.58               | 176.50               | 176.43               | 176.39               | 176.37              |
| 15                 | 176.35               | 176.15               | 176.29               | 176.42               | 176.58               | 176.66               | 176.63               | 176.58               | 176.51               | 176.38               | 176.32               | 176.44              |
| 16                 | 176.30               | 176.33               | 176.30               | 176.54               | 176.57               | 176.65               | 176.64               | 176.59               | 176.52               | 176.44               | 176.35               | 176.43              |
| 17                 | 176.36               | 176.31               | 176.29               | 176.52               | 176.56               | 176.65               | 176.66               | 176.59               | 176.55               | 176.48               | 176.37               | 176.40              |
| 18                 | 176.38               | 176.27               | 176.26               | 176.50               | 176.53               | 176.64               | 176.63               | 176.58               | 176.49               | 176.34               | 176.36               | 176.40              |
| 19                 | 176.43               | 176.26               | 176.32               | 176.46               | 176.56               | 176.64               | 176.64               | 176.52               | 176.50               | 176.36               | 176.36               | 176.41              |
| 20                 | 176.32               | 176.32               | 176.31               | 176.46               | 176.58               | 176.64               | 176.63               | 176.55               | 176.45               | 176.40               | 176.35               | 176.46              |
| 21                 | 176.28               | 176.31               | 176.27               | 176.49               | 176.59               | 176.60               | 176.62               | 176.57               | 176.46               | 176.40               | 176.41               | 176.42              |
| 22                 | 176.41               | 176.21               | 176.21               | 176.52               | 176.59               | 176.59               | 176.65               | 176.55               | 176.50               | 176.37               | 176.38               | 176.48              |
| 23                 | 176.39               | 176.32               | 176.24               | 176.54               | 176.60               | 176.62               | 176.64               | 176.54               | 176.45               | 176.35               | 176.37               | 176.39              |
| 24                 | 176.38               | 176.26               | 176.28               | 176.51               | 176.61               | 176.63               | 176.66               | 176.53               | 176.45               | 176.39               | 176.35               | 176.38              |
| 25                 | 176.36               | 176.25               | 176.36               | 176.55               | 176.58               | 176.63               | 176.61               | 176.55               | 176.46               | 176.36               | 176.37               | 176.41              |
| 26                 | 176.39               | 176.29               | 176.34               | 176.51               | 176.62               | 176.64               | 176.61               | 176.57               | 176.39               | 176.37               | 176.41               | 176.40              |
| 27                 | 176.41               | 176.28               | 176.36               | 176.50               | 176.64               | 176.68               | 176.60               | 176.58               | 176.44               | 176.35               | 176.41               | 176.38              |
| 28                 | 176.34               | 176.30               | 176.36               | 176.51               | 176.64               | 176.67               | 176.59               | 176.56               | 176.41               | 176.37               | 176.38               | 176.38              |
| 29                 | 176.33               |                      | 176.39               | 176.52               | 176.62               | 176.63               | 176.57               | 176.55               | 176.38               | 176.38               | 176.38               | 176.34              |
| 30                 | 176.31               |                      | 176.39               | 176.56               | 176.65               | 176.59               | 176.59               | 176.54               | 176.40               | 176.34               | 176.34               | 176.36              |
| 31                 | 176.28               |                      | 176.43               |                      | 176.65               |                      | 176.66               | 176.51               |                      | 176.38               |                      | 176.37              |
| Mean               | 176.36               | 176.29               | 176.30               | 176.46               | 176.58               | 176.64               | 176.63               | 176.56               | 176.48               | 176.39               | 176.39               | 176.40              |
| Max.<br>Hr.<br>Day | 176.55<br>2300<br>22 | 176.42<br>1900<br>1  | 176.54<br>1700<br>28 | 176.63<br>1900<br>30 | 176.74<br>2000<br>29 | 176.72<br>2200<br>27 | 176.73<br>1300<br>6  | 176.65<br>1100<br>1  | 176.58<br>0100<br>18 | 176.53<br>1100<br>17 | 176.56<br>1700<br>3  | 176.56<br>2300<br>6 |
| Min.<br>Hr.<br>Day | 176.17<br>1700<br>28 | 176.10<br>2200<br>14 | 176.09<br>0500<br>7  | 176.25<br>1000<br>10 | 176.46<br>1800<br>4  | 176.56<br>0200<br>30 | 176.55<br>0800<br>30 | 176.48<br>1700<br>31 | 176.30<br>1700<br>30 | 176.28<br>0200<br>27 | 176.18<br>1400<br>30 | 176.18<br>0100<br>9 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.46

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 907-6060 US Slip, Sault St Marie, Michigan below locks on St Marys R

## HIGHEST

Monthly mean elevation: 176.96 Aug  
Daily mean elevation: 177.23 22 Aug  
Instant/hourly elevation: 177.31 0900/21 Aug

## LOWEST

Monthly mean elevation: 176.68 Mar  
Daily mean elevation: 176.47 24 Mar  
Instant/hourly elevation: 176.37 1500/16 Nov

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.96 | 176.84 | 176.87 | 176.85 | 176.98 | 177.00 | 177.00 | 177.23 | 176.88 | 176.89 | 176.86 | 176.88 |
| Day | 5      | 4      | 6      | 23     | 26     | 29     | 22     | 22     | 3      | 29     | 1      | 20     |
| Min | 176.70 | 176.59 | 176.47 | 176.53 | 176.72 | 176.90 | 176.85 | 176.66 | 176.56 | 176.58 | 176.52 | 176.63 |
| Day | 20     | 24     | 24     | 10     | 2      | 22     | 30     | 31     | 29     | 12     | 16     | 1      |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 177.20         |     |     |     |     |     |     |     | 3   |     |     |     |     | 177.20         | 3                          |
| 177.15         |     |     |     |     |     |     |     | 1   |     |     |     |     | 177.15         | 4                          |
| 177.10         |     |     |     |     |     |     |     | 1   |     |     |     |     | 177.10         | 5                          |
| 177.05         |     |     |     |     |     |     |     | 2   |     |     |     |     | 177.05         | 7                          |
| 177.00         |     |     |     |     |     |     |     | 3   |     |     |     |     | 177.00         | 10                         |
| 176.95         | 1   |     |     |     | 2   | 8   | 16  | 1   |     |     |     |     | 176.95         | 38                         |
| 176.90         | 8   |     |     |     | 13  | 18  | 12  | 6   |     |     |     |     | 176.90         | 95                         |
| 176.85         | 9   |     | 1   |     | 9   | 4   | 2   | 11  | 4   | 1   | 1   | 3   | 176.85         | 140                        |
| 176.80         | 6   | 6   | 1   | 11  | 3   |     | 1   | 2   | 9   | 1   | 4   | 11  | 176.80         | 195                        |
| 176.75         | 1   | 7   | 3   | 10  | 3   |     |     |     | 7   | 8   | 8   | 12  | 176.75         | 254                        |
| 176.70         | 5   | 3   | 10  | 7   | 1   |     |     |     | 4   | 10  | 6   | 4   | 176.70         | 304                        |
| 176.65         | 1   | 7   | 6   | 1   |     |     |     | 1   | 3   | 5   | 7   |     | 176.65         | 335                        |
| 176.60         |     | 4   | 5   |     |     |     |     |     | 1   | 2   | 1   | 1   | 176.60         | 349                        |
| 176.55         |     | 1   | 2   |     |     |     |     |     | 2   | 4   | 2   |     | 176.55         | 360                        |
| 176.50         |     |     | 1   | 1   |     |     |     |     |     |     | 1   |     | 176.50         | 363                        |
| 176.45         |     |     | 2   |     |     |     |     |     |     |     |     |     | 176.45         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-6060 US Slip, Sault St Marie, Michigan below locks on St Marys R

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 176.79               | 176.81               | 176.76               | 176.75               | 176.84               | 176.93               | 176.97               | 176.90               | 176.85               | 176.73               | 176.86               | 176.63              |
| 2                  | 176.90               | 176.67               | 176.61               | 176.76               | 176.72               | 176.94               | 176.95               | 176.92               | 176.88               | 176.72               | 176.83               | 176.75              |
| 3                  | 176.93               | 176.67               | 176.56               | 176.78               | 176.76               | 176.92               | 176.97               | 176.92               | 176.88               | 176.67               | 176.82               | 176.73              |
| 4                  | 176.87               | 176.84               | 176.72               | 176.80               | 176.77               | 176.90               | 176.98               | 176.88               | 176.85               | 176.68               | 176.80               | 176.71              |
| 5                  | 176.96               | 176.79               | 176.81               | 176.80               | 176.80               | 176.91               | 176.96               | 176.90               | 176.87               | 176.65               | 176.83               | 176.80              |
| 6                  | 176.72               | 176.80               | 176.87               | 176.82               | 176.85               | 176.92               | 177.00               | 176.92               | 176.84               | 176.59               | 176.78               | 176.82              |
| 7                  | 176.86               | 176.81               | 176.78               | 176.84               | 176.83               | 176.93               | 176.96               | 176.89               | 176.85               | 176.71               | 176.77               | 176.87              |
| 8                  | 176.84               | 176.83               | 176.80               | 176.74               | 176.89               | 176.93               | 176.88               | 176.90               | 176.84               | 176.78               | 176.75               | 176.84              |
| 9                  | 176.90               | 176.66               | 176.64               | 176.67               | 176.90               | 176.95               | 176.96               | 176.87               | 176.85               | 176.71               | 176.78               | 176.76              |
| 10                 | 176.91               | 176.61               | 176.59               | 176.53               | 176.91               | 176.96               | 176.94               | 176.85               | 176.72               | 176.71               | 176.70               | 176.85              |
| 11                 | 176.85               | 176.77               | 176.75               | 176.72               | 176.92               | 176.95               | 176.94               | 176.87               | 176.78               | 176.71               | 176.67               | 176.84              |
| 12                 | 176.71               | 176.80               | 176.73               | 176.74               | 176.91               | 176.90               | 176.96               | 176.90               | 176.79               | 176.58               | 176.70               | 176.88              |
| 13                 | 176.82               | 176.81               | 176.70               | 176.72               | 176.88               | 176.96               | 176.92               | 176.89               | 176.79               | 176.60               | 176.76               | 176.78              |
| 14                 | 176.95               | 176.77               | 176.69               | 176.84               | 176.91               | 176.97               | 176.92               | 176.92               | 176.76               | 176.78               | 176.76               | 176.82              |
| 15                 | 176.95               | 176.69               | 176.72               | 176.77               | 176.91               | 176.95               | 176.95               | 176.95               | 176.76               | 176.71               | 176.66               | 176.80              |
| 16                 | 176.92               | 176.64               | 176.62               | 176.83               | 176.91               | 176.90               | 176.98               | 176.99               | 176.86               | 176.79               | 176.52               | 176.84              |
| 17                 | 176.90               | 176.63               | 176.51               | 176.83               | 176.90               | 176.95               | 176.96               | 177.03               | 176.83               | 176.84               | 176.69               | 176.82              |
| 18                 | 176.93               | 176.73               | 176.65               | 176.83               | 176.90               | 176.96               | 176.96               | 177.02               | 176.83               | 176.66               | 176.79               | 176.82              |
| 19                 | 176.81               | 176.75               | 176.72               | 176.77               | 176.90               | 176.93               | 176.97               | 177.08               | 176.79               | 176.60               | 176.71               | 176.81              |
| 20                 | 176.70               | 176.77               | 176.71               | 176.73               | 176.92               | 176.94               | 176.96               | 177.19               | 176.74               | 176.69               | 176.67               | 176.88              |
| 21                 | 176.82               | 176.83               | 176.68               | 176.78               | 176.90               | 176.92               | 176.95               | 177.23               | 176.69               | 176.79               | 176.76               | 176.80              |
| 22                 | 176.89               | 176.80               | 176.64               | 176.77               | 176.90               | 176.90               | 177.00               | 177.23               | 176.74               | 176.78               | 176.74               | 176.85              |
| 23                 | 176.93               | 176.64               | 176.49               | 176.85               | 176.90               | 176.93               | 176.90               | 177.21               | 176.70               | 176.77               | 176.64               | 176.77              |
| 24                 | 176.89               | 176.59               | 176.47               | 176.81               | 176.93               | 176.96               | 176.97               | 177.12               | 176.75               | 176.78               | 176.58               | 176.79              |
| 25                 | 176.86               | 176.67               | 176.68               | 176.84               | 176.91               | 176.96               | 176.92               | 177.06               | 176.82               | 176.74               | 176.58               | 176.79              |
| 26                 | 176.73               | 176.75               | 176.72               | 176.75               | 176.98               | 176.95               | 176.93               | 177.01               | 176.60               | 176.71               | 176.74               | 176.81              |
| 27                 | 176.74               | 176.69               | 176.71               | 176.76               | 176.95               | 176.98               | 176.94               | 176.93               | 176.68               | 176.61               | 176.83               | 176.78              |
| 28                 | 176.88               | 176.68               | 176.75               | 176.83               | 176.97               | 176.95               | 176.94               | 176.87               | 176.62               | 176.80               | 176.66               | 176.77              |
| 29                 | 176.93               |                      | 176.70               | 176.84               | 176.94               | 177.00               | 176.92               | 176.87               | 176.56               | 176.89               | 176.74               | 176.73              |
| 30                 | 176.83               |                      | 176.69               | 176.79               | 176.95               | 176.93               | 176.85               | 176.84               | 176.76               | 176.71               | 176.74               | 176.76              |
| 31                 | 176.73               |                      | 176.71               |                      | 176.91               |                      | 176.96               | 176.66               |                      | 176.66               |                      | 176.76              |
| Mean               | 176.85               | 176.73               | 176.68               | 176.78               | 176.89               | 176.94               | 176.95               | 176.96               | 176.78               | 176.71               | 176.73               | 176.79              |
| Max.<br>Hr.<br>Day | 177.09<br>1400<br>28 | 176.97<br>1400<br>1  | 176.99<br>1500<br>6  | 176.93<br>1300<br>23 | 177.09<br>1400<br>26 | 177.07<br>1300<br>29 | 177.08<br>1600<br>22 | 177.31<br>0900<br>21 | 177.00<br>1700<br>16 | 176.97<br>1500<br>29 | 177.00<br>2200<br>1  | 177.01<br>0200<br>7 |
| Min.<br>Hr.<br>Day | 176.63<br>1500<br>6  | 176.54<br>0600<br>15 | 176.42<br>2000<br>23 | 176.42<br>1600<br>10 | 176.59<br>1700<br>2  | 176.82<br>1800<br>16 | 176.81<br>1600<br>23 | 176.60<br>0900<br>31 | 176.48<br>1700<br>26 | 176.52<br>0200<br>7  | 176.37<br>1500<br>16 | 176.47<br>0200<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.82

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 907-6070 SW Pier, Sault St Marie, Michigan above locks, St Marys R

## HIGHEST

Monthly mean elevation: 183.31 Nov  
Daily mean elevation: 183.62 26 Sep  
Instant/hourly elevation: 184.18 1100/30 Nov

## LOWEST

Monthly mean elevation: 182.97 Mar  
Daily mean elevation: 182.87 5 Mar  
Instant/hourly elevation: 182.41 0853/29 May

## ~~~~~ Extreme Daily Means by Month ~~~~~

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 183.17 | 183.11 | 183.18 | 183.19 | 183.24 | 183.26 | 183.41 | 183.40 | 183.62 | 183.46 | 183.53 | 183.49 |
| Day | 6      | 10     | 28     | 10     | 7      | 16     | 23     | 4      | 26     | 6      | 6      | 1      |
| Min | 182.95 | 182.93 | 182.87 | 182.90 | 183.09 | 183.13 | 183.18 | 183.17 | 183.19 | 183.05 | 183.13 | 183.19 |
| Day | 8      | 18     | 5      | 14     | 5      | 26     | 1      | 24     | 2      | 29     | 1      | 31     |

## ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.60         |     |     |     |     |     |     |     |     | 1   |     |     |     | 183.60         | 1                          |
| 183.55         |     |     |     |     |     |     |     |     |     |     |     |     | 183.55         | 1                          |
| 183.50         |     |     |     |     |     |     |     |     |     |     | 1   |     | 183.50         | 2                          |
| 183.45         |     |     |     |     |     |     |     |     |     | 1   | 1   | 1   | 183.45         | 5                          |
| 183.40         |     |     |     |     |     |     | 1   |     | 2   |     | 4   |     | 183.40         | 12                         |
| 183.35         |     |     |     |     |     |     | 3   | 5   | 3   | 2   | 2   | 4   | 183.35         | 31                         |
| 183.30         |     |     |     |     |     |     | 12  | 13  | 4   | 8   | 6   | 9   | 183.30         | 83                         |
| 183.25         |     |     |     |     |     | 1   | 11  | 7   | 12  | 10  | 8   | 9   | 183.25         | 141                        |
| 183.20         |     |     |     |     | 3   | 18  | 3   | 4   | 7   | 6   | 6   | 5   | 183.20         | 193                        |
| 183.15         | 2   |     | 1   | 1   | 11  | 8   | 1   | 2   | 1   | 1   |     | 3   | 183.15         | 224                        |
| 183.10         | 6   | 1   |     | 5   | 15  | 3   |     |     |     | 1   | 2   |     | 183.10         | 257                        |
| 183.05         | 12  | 3   | 1   | 9   | 2   |     |     |     |     | 1   |     |     | 183.05         | 285                        |
| 183.00         | 7   | 11  | 5   | 7   |     |     |     |     |     | 1   |     |     | 183.00         | 316                        |
| 182.95         | 3   | 10  | 11  | 5   |     |     |     |     |     |     |     |     | 182.95         | 345                        |
| 182.90         | 1   | 3   | 7   | 2   |     |     |     |     |     |     |     |     | 182.90         | 358                        |
| 182.85         |     |     | 6   | 1   |     |     |     |     |     |     |     |     | 182.85         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 907-6070 SW Pier, Sault St Marie, Michigan above locks, St Marys R

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 183.15              | 182.96               | 182.92               | 183.06               | 183.16               | 183.20               | 183.18               | 183.36               | 183.21               | 183.26               | 183.13               | 183.49              |
| 2                  | 183.13              | 183.01               | 183.05               | 182.96               | 183.21               | 183.21               | 183.21               | 183.34               | 183.19               | 183.27               | 183.31               | 183.30              |
| 3                  | 183.15              | 183.01               | 182.99               | 182.91               | 183.18               | 183.22               | 183.23               | 183.37               | 183.27               | 183.30               | 183.42               | 183.30              |
| 4                  | 183.13              | 183.01               | 182.97               | 182.92               | 183.10               | 183.22               | 183.25               | 183.40               | 183.29               | 183.24               | 183.38               | 183.39              |
| 5                  | 183.07              | 183.04               | 182.87               | 182.97               | 183.09               | 183.24               | 183.28               | 183.34               | 183.27               | 183.37               | 183.25               | 183.25              |
| 6                  | 183.17              | 182.98               | 183.01               | 182.97               | 183.11               | 183.23               | 183.26               | 183.33               | 183.27               | 183.46               | 183.53               | 183.20              |
| 7                  | 183.03              | 183.00               | 182.98               | 183.01               | 183.24               | 183.21               | 183.28               | 183.33               | 183.26               | 183.35               | 183.41               | 183.34              |
| 8                  | 182.95              | 183.01               | 182.92               | 183.05               | 183.15               | 183.21               | 183.34               | 183.36               | 183.22               | 183.26               | 183.31               | 183.31              |
| 9                  | 183.14              | 183.08               | 182.99               | 183.06               | 183.12               | 183.17               | 183.30               | 183.36               | 183.23               | 183.34               | 183.27               | 183.31              |
| 10                 | 183.01              | 183.11               | 182.99               | 183.19               | 183.12               | 183.20               | 183.32               | 183.35               | 183.39               | 183.32               | 183.32               | 183.28              |
| 11                 | 182.97              | 183.04               | 182.90               | 183.03               | 183.12               | 183.23               | 183.30               | 183.35               | 183.28               | 183.26               | 183.30               | 183.31              |
| 12                 | 183.08              | 183.01               | 182.93               | 182.98               | 183.16               | 183.24               | 183.29               | 183.33               | 183.24               | 183.31               | 183.26               | 183.24              |
| 13                 | 183.00              | 182.98               | 182.95               | 183.01               | 183.14               | 183.15               | 183.34               | 183.33               | 183.30               | 183.24               | 183.29               | 183.32              |
| 14                 | 183.04              | 183.06               | 182.96               | 182.90               | 183.17               | 183.15               | 183.32               | 183.32               | 183.21               | 183.21               | 183.23               | 183.39              |
| 15                 | 183.04              | 183.06               | 182.94               | 183.07               | 183.13               | 183.22               | 183.27               | 183.30               | 183.29               | 183.34               | 183.35               | 183.34              |
| 16                 | 183.05              | 183.03               | 182.96               | 183.13               | 183.15               | 183.26               | 183.26               | 183.26               | 183.33               | 183.20               | 183.35               | 183.27              |
| 17                 | 183.09              | 182.99               | 182.97               | 183.12               | 183.18               | 183.23               | 183.29               | 183.34               | 183.32               | 183.24               | 183.21               | 183.37              |
| 18                 | 183.07              | 182.93               | 182.96               | 183.08               | 183.14               | 183.19               | 183.28               | 183.33               | 183.45               | 183.36               | 183.15               | 183.33              |
| 19                 | 183.08              | 182.98               | 182.96               | 183.10               | 183.16               | 183.24               | 183.32               | 183.29               | 183.40               | 183.31               | 183.30               | 183.27              |
| 20                 | 183.10              | 182.95               | 182.90               | 183.11               | 183.13               | 183.22               | 183.30               | 183.23               | 183.34               | 183.26               | 183.31               | 183.26              |
| 21                 | 183.04              | 182.97               | 182.89               | 183.12               | 183.13               | 183.24               | 183.33               | 183.21               | 183.28               | 183.27               | 183.24               | 183.34              |
| 22                 | 182.97              | 183.04               | 182.88               | 183.12               | 183.12               | 183.24               | 183.31               | 183.29               | 183.24               | 183.12               | 183.29               | 183.30              |
| 23                 | 183.16              | 182.96               | 182.92               | 183.09               | 183.12               | 183.23               | 183.41               | 183.22               | 183.44               | 183.23               | 183.27               | 183.37              |
| 24                 | 183.10              | 183.03               | 183.05               | 183.08               | 183.16               | 183.19               | 183.38               | 183.17               | 183.30               | 183.22               | 183.45               | 183.33              |
| 25                 | 183.09              | 183.01               | 182.95               | 183.05               | 183.17               | 183.19               | 183.36               | 183.20               | 183.29               | 183.32               | 183.43               | 183.22              |
| 26                 | 183.09              | 182.96               | 182.90               | 183.06               | 183.12               | 183.13               | 183.34               | 183.24               | 183.62               | 183.26               | 183.25               | 183.29              |
| 27                 | 183.08              | 182.98               | 183.01               | 183.01               | 183.18               | 183.20               | 183.33               | 183.28               | 183.40               | 183.26               | 183.29               | 183.25              |
| 28                 | 183.09              | 182.94               | 183.18               | 183.04               | 183.16               | 183.25               | 183.32               | 183.29               | 183.33               | 183.10               | 183.38               | 183.25              |
| 29                 | 183.06              |                      | 183.10               | 183.00               | 183.12               | 183.18               | 183.34               | 183.28               | 183.27               | 183.05               | 183.23               | 183.27              |
| 30                 | 183.01              |                      | 183.02               | 183.07               | 183.20               | 183.24               | 183.36               | 183.33               | 183.21               | 183.35               | 183.46               | 183.20              |
| 31                 | 183.11              |                      | 183.00               |                      | 183.22               |                      | 183.32               | 183.33               |                      | 183.29               |                      | 183.19              |
| Mean               | 183.07              | 183.00               | 182.97               | 183.04               | 183.15               | 183.21               | 183.30               | 183.30               | 183.30               | 183.27               | 183.31               | 183.30              |
| Max.<br>Hr.<br>Day | 183.49<br>2300<br>1 | 183.19<br>2400<br>14 | 183.52<br>0400<br>28 | 183.31<br>1200<br>10 | 183.92<br>1048<br>29 | 183.64<br>1300<br>27 | 183.55<br>1500<br>17 | 183.47<br>1600<br>3  | 183.82<br>1600<br>26 | 183.60<br>1900<br>6  | 184.18<br>1100<br>30 | 183.86<br>1900<br>1 |
| Min.<br>Hr.<br>Day | 182.78<br>1000<br>8 | 182.81<br>1700<br>1  | 182.58<br>0100<br>6  | 182.69<br>1500<br>14 | 182.41<br>0853<br>29 | 182.76<br>1500<br>27 | 182.87<br>1100<br>1  | 183.03<br>1200<br>16 | 182.87<br>0700<br>30 | 182.87<br>0100<br>29 | 182.99<br>0700<br>1  | 183.01<br>1900<br>6 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 183.19

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 908-7023      Ludington, Michigan on Lake Michigan

| HIGHEST                                     | LOWEST                                      |
|---------------------------------------------|---------------------------------------------|
| Monthly mean elevation: 176.67 Jun          | Monthly mean elevation: 176.31 Feb          |
| Daily mean elevation: 176.73 14 Jun         | Daily mean elevation: 176.25 15 Feb         |
| Instant/hourly elevation: 176.84 2100/7 Jul | Instant/hourly elevation: 176.18 1600/4 Jan |

| ----- Extreme Daily Means by Month ----- |        |        |        |        |        |        |        |        |        |        |        |        |
|------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                                          | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
| Max                                      | 176.46 | 176.37 | 176.54 | 176.65 | 176.69 | 176.73 | 176.72 | 176.62 | 176.57 | 176.55 | 176.53 | 176.45 |
| Day                                      | 11     | 19     | 23     | 29     | 31     | 14     | 4      | 19     | 9      | 5      | 1      | 12     |
| Min                                      | 176.26 | 176.25 | 176.30 | 176.37 | 176.53 | 176.62 | 176.58 | 176.54 | 176.30 | 176.34 | 176.31 | 176.30 |
| Day                                      | 4      | 15     | 29     | 2      | 1      | 28     | 31     | 31     | 27     | 19     | 7      | 15     |

| ----- Frequency Distribution of Daily Mean Levels ----- |     |     |     |     |     |     |     |     |     |     |     |     | Elev.<br>(ft.) | No. of days<br>above elev. |
|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| Elev.<br>(ft.)                                          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |                |                            |
| 176.70                                                  |     |     |     |     |     | 3   | 3   |     |     |     |     |     | 176.70         | 6                          |
| 176.65                                                  |     |     |     |     | 7   | 18  | 10  |     |     |     |     |     | 176.65         | 41                         |
| 176.60                                                  |     |     |     | 4   | 16  | 9   | 16  | 6   |     |     |     |     | 176.60         | 92                         |
| 176.55                                                  |     |     |     | 8   | 6   |     | 2   | 23  |     |     |     |     | 176.55         | 133                        |
| 176.50                                                  |     |     | 1   | 6   | 2   |     |     | 2   | 11  | 2   | 2   |     | 176.50         | 159                        |
| 176.45                                                  | 1   |     | 3   | 3   |     |     |     | 6   | 6   | 2   | 1   |     | 176.45         | 175                        |
| 176.40                                                  | 1   |     | 2   | 7   |     |     |     | 6   | 12  | 9   | 12  |     | 176.40         | 224                        |
| 176.35                                                  | 10  | 1   | 10  | 2   |     |     |     | 3   | 11  | 9   | 13  |     | 176.35         | 283                        |
| 176.30                                                  | 14  | 13  | 12  |     |     |     |     | 1   | 4   | 9   | 5   |     | 176.30         | 341                        |
| 176.25                                                  | 5   | 13  | 3   |     |     |     |     | 1   |     |     | 1   |     | 176.25         | 364                        |
| 176.20                                                  |     | 1   |     |     |     |     |     |     |     |     |     |     | 176.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7023 Ludington, Michigan on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 176.33 | 176.30 | 176.36 | 176.38 | 176.53 | 176.69 | 176.70 | 176.59 | 176.56 | 176.40 | 176.53 | 176.34 |
| 2    | 176.29 | 176.33 | 176.36 | 176.37 | 176.56 | 176.71 | 176.72 | 176.61 | 176.53 | 176.40 | 176.52 | 176.32 |
| 3    | 176.33 | 176.30 | 176.37 | 176.43 | 176.54 | 176.68 | 176.71 | 176.62 | 176.54 | 176.42 | 176.32 | 176.44 |
| 4    | 176.26 | 176.32 | 176.33 | 176.44 | 176.62 | 176.69 | 176.72 | 176.60 | 176.51 | 176.43 | 176.36 | 176.40 |
| 5    | 176.32 | 176.32 | 176.33 | 176.42 | 176.63 | 176.66 | 176.70 | 176.58 | 176.51 | 176.55 | 176.41 | 176.37 |
| 6    | 176.37 | 176.34 | 176.37 | 176.43 | 176.63 | 176.67 | 176.69 | 176.61 | 176.52 | 176.39 | 176.35 | 176.45 |
| 7    | 176.36 | 176.33 | 176.31 | 176.41 | 176.57 | 176.66 | 176.67 | 176.61 | 176.53 | 176.34 | 176.31 | 176.38 |
| 8    | 176.38 | 176.30 | 176.30 | 176.45 | 176.57 | 176.65 | 176.66 | 176.58 | 176.52 | 176.42 | 176.38 | 176.42 |
| 9    | 176.38 | 176.32 | 176.38 | 176.54 | 176.63 | 176.65 | 176.64 | 176.61 | 176.57 | 176.43 | 176.35 | 176.37 |
| 10   | 176.32 | 176.30 | 176.35 | 176.49 | 176.62 | 176.64 | 176.65 | 176.58 | 176.48 | 176.40 | 176.35 | 176.38 |
| 11   | 176.46 | 176.26 | 176.34 | 176.45 | 176.60 | 176.66 | 176.64 | 176.57 | 176.50 | 176.42 | 176.41 | 176.34 |
| 12   | 176.41 | 176.29 | 176.35 | 176.48 | 176.58 | 176.66 | 176.66 | 176.59 | 176.52 | 176.42 | 176.37 | 176.45 |
| 13   | 176.38 | 176.28 | 176.36 | 176.54 | 176.61 | 176.67 | 176.66 | 176.57 | 176.51 | 176.40 | 176.34 | 176.42 |
| 14   | 176.38 | 176.32 | 176.36 | 176.56 | 176.60 | 176.73 | 176.64 | 176.56 | 176.50 | 176.45 | 176.39 | 176.44 |
| 15   | 176.36 | 176.25 | 176.33 | 176.60 | 176.61 | 176.67 | 176.62 | 176.57 | 176.52 | 176.39 | 176.41 | 176.30 |
| 16   | 176.40 | 176.27 | 176.33 | 176.50 | 176.61 | 176.66 | 176.62 | 176.57 | 176.51 | 176.36 | 176.35 | 176.40 |
| 17   | 176.34 | 176.28 | 176.32 | 176.52 | 176.64 | 176.65 | 176.61 | 176.60 | 176.43 | 176.34 | 176.38 | 176.42 |
| 18   | 176.31 | 176.35 | 176.37 | 176.55 | 176.66 | 176.66 | 176.63 | 176.59 | 176.48 | 176.35 | 176.44 | 176.37 |
| 19   | 176.31 | 176.37 | 176.30 | 176.58 | 176.64 | 176.65 | 176.63 | 176.62 | 176.41 | 176.34 | 176.44 | 176.40 |
| 20   | 176.33 | 176.30 | 176.33 | 176.59 | 176.64 | 176.65 | 176.66 | 176.59 | 176.42 | 176.36 | 176.38 | 176.36 |
| 21   | 176.40 | 176.31 | 176.46 | 176.55 | 176.63 | 176.70 | 176.69 | 176.56 | 176.43 | 176.36 | 176.38 | 176.35 |
| 22   | 176.36 | 176.28 | 176.47 | 176.54 | 176.62 | 176.70 | 176.68 | 176.56 | 176.46 | 176.40 | 176.38 | 176.34 |
| 23   | 176.34 | 176.28 | 176.54 | 176.58 | 176.64 | 176.66 | 176.64 | 176.57 | 176.39 | 176.43 | 176.44 | 176.36 |
| 24   | 176.30 | 176.35 | 176.42 | 176.57 | 176.64 | 176.66 | 176.62 | 176.60 | 176.41 | 176.40 | 176.45 | 176.41 |
| 25   | 176.30 | 176.31 | 176.34 | 176.56 | 176.65 | 176.65 | 176.62 | 176.60 | 176.46 | 176.42 | 176.32 | 176.36 |
| 26   | 176.32 | 176.29 | 176.43 | 176.59 | 176.68 | 176.66 | 176.61 | 176.56 | 176.34 | 176.42 | 176.36 | 176.41 |
| 27   | 176.30 | 176.31 | 176.49 | 176.64 | 176.66 | 176.64 | 176.61 | 176.56 | 176.30 | 176.43 | 176.44 | 176.39 |
| 28   | 176.31 | 176.32 | 176.34 | 176.62 | 176.68 | 176.62 | 176.60 | 176.56 | 176.36 | 176.48 | 176.34 | 176.38 |
| 29   | 176.31 |        | 176.30 | 176.65 | 176.69 | 176.70 | 176.64 | 176.57 | 176.40 | 176.54 | 176.41 | 176.42 |
| 30   | 176.34 |        | 176.37 | 176.62 | 176.68 | 176.71 | 176.62 | 176.55 | 176.44 | 176.48 | 176.46 | 176.42 |
| 31   | 176.32 |        | 176.40 |        | 176.69 |        | 176.58 | 176.54 |        | 176.42 |        | 176.42 |
| Mean | 176.34 | 176.31 | 176.37 | 176.52 | 176.62 | 176.67 | 176.65 | 176.58 | 176.47 | 176.41 | 176.39 | 176.39 |
| Max. | 176.63 | 176.44 | 176.65 | 176.75 | 176.79 | 176.82 | 176.84 | 176.70 | 176.63 | 176.64 | 176.70 | 176.62 |
| Hr.  | 1700   | 0800   | 2100   | 0400   | 2000   | 0500   | 2100   | 1800   | 1200   | 0700   | 1900   | 2400   |
| Day  | 11     | 19     | 27     | 15     | 31     | 15     | 7      | 3      | 9      | 5      | 1      | 12     |
| Min. | 176.18 | 176.20 | 176.20 | 176.31 | 176.43 | 176.55 | 176.37 | 176.46 | 176.25 | 176.22 | 176.26 | 176.22 |
| Hr.  | 1600   | 1100   | 0300   | 1800   | 1400   | 2000   | 1800   | 1300   | 0500   | 1400   | 1900   | 1000   |
| Day  | 4      | 22     | 29     | 1      | 3      | 15     | 7      | 8      | 27     | 18     | 28     | 2      |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.48



International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 908-7031 Holland, Michigan on Lake Michigan

| HIGHEST                   |        |            |  | LOWEST                    |        |             |  |
|---------------------------|--------|------------|--|---------------------------|--------|-------------|--|
| Monthly mean elevation:   | 176.68 | Jun        |  | Monthly mean elevation:   | 176.32 | Feb         |  |
| Daily mean elevation:     | 176.74 | 30 Jun     |  | Daily mean elevation:     | 176.27 | 23 Feb      |  |
| Instant/hourly elevation: | 176.81 | 0500/2 Jul |  | Instant/hourly elevation: | 176.19 | 2000/22 Jan |  |

| ~~~~~ Extreme Daily Means by Month ~~~~~ |        |        |        |        |        |        |        |        |        |        |        |        |
|------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                                          | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
| Max                                      | 176.49 | 176.44 | 176.52 | 176.63 | 176.68 | 176.74 | 176.72 | 176.66 | 176.57 | 176.57 | 176.47 | 176.52 |
| Day                                      | 11     | 14     | 23     | 15     | 31     | 30     | 4      | 19     | 1      | 5      | 1      | 14     |
| Min                                      | 176.28 | 176.27 | 176.30 | 176.36 | 176.51 | 176.59 | 176.58 | 176.53 | 176.32 | 176.28 | 176.28 | 176.30 |
| Day                                      | 4      | 23     | 8      | 2      | 1      | 27     | 31     | 30     | 27     | 17     | 9      | 22     |

| ~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~ |     |     |     |     |     |     |     |     |     |     |     |     |                |                            |
|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| Elev.<br>(ft.)                                          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
| 176.70                                                  |     |     |     |     |     | 7   | 3   |     |     |     |     |     | 176.70         | 10                         |
| 176.65                                                  |     |     |     |     | 8   | 17  | 14  | 2   |     |     |     |     | 176.65         | 51                         |
| 176.60                                                  |     |     |     | 6   | 12  | 4   | 12  | 11  |     |     |     |     | 176.60         | 96                         |
| 176.55                                                  |     |     |     | 8   | 6   | 2   | 2   | 15  | 1   | 1   |     |     | 176.55         | 131                        |
| 176.50                                                  |     |     | 1   | 6   | 3   |     |     | 3   | 11  | 2   |     | 1   | 176.50         | 158                        |
| 176.45                                                  | 2   |     | 2   | 2   |     |     |     | 5   | 5   | 4   | 2   | 2   | 176.45         | 177                        |
| 176.40                                                  | 5   | 1   | 7   | 4   |     |     |     | 8   | 8   | 9   | 8   | 10  | 176.40         | 229                        |
| 176.35                                                  | 8   | 3   | 12  | 4   |     |     |     | 4   | 4   | 10  | 8   | 13  | 176.35         | 291                        |
| 176.30                                                  | 11  | 15  | 8   |     |     |     |     | 1   | 1   | 3   | 10  | 4   | 176.30         | 343                        |
| 176.25                                                  | 5   | 9   | 1   |     |     |     |     |     |     | 2   | 2   | 1   | 176.25         | 363                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7031 Holland, Michigan on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                 | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                  |
|--------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| 1                  | 176.30               | 176.31               | 176.34              | 176.41               | 176.51               | 176.71               | 176.70               | 176.62               | 176.57               | 176.37               | 176.47              | 176.33               |
| 2                  | 176.36               | 176.32               | 176.50              | 176.36               | 176.55               | 176.72               | 176.72               | 176.63               | 176.53               | 176.42               | 176.43              | 176.34               |
| 3                  | 176.34               | 176.27               | 176.44              | 176.41               | 176.55*              | 176.71               | 176.70               | 176.66               | 176.54               | 176.45               | 176.30              | 176.48               |
| 4                  | 176.28               | 176.29               | 176.36              | 176.44               | /                    | 176.71               | 176.72               | 176.63               | 176.50               | 176.46               | 176.35              | 176.45               |
| 5                  | 176.35               | 176.34               | 176.31              | 176.39               | /                    | 176.69               | 176.70               | 176.61               | 176.51               | 176.57               | 176.33              | 176.41               |
| 6                  | 176.42               | 176.34               | 176.42              | 176.38               | 176.61*              | 176.69               | 176.68               | 176.61               | 176.53               | 176.44               | 176.37              | 176.41               |
| 7                  | 176.37               | 176.33               | 176.33              | 176.39               | 176.56               | 176.68               | 176.71               | 176.62               | 176.53               | 176.37               | 176.32              | 176.37               |
| 8                  | 176.40               | 176.29               | 176.30              | 176.45               | 176.60               | 176.67               | 176.68               | 176.62               | 176.53               | 176.39               | 176.34              | 176.42               |
| 9                  | 176.41               | 176.33               | 176.42              | 176.57               | 176.64               | 176.65               | 176.63               | 176.62               | 176.53               | 176.42               | 176.28              | 176.39               |
| 10                 | 176.35               | 176.33               | 176.36              | 176.52               | 176.62               | 176.62               | 176.66               | 176.60               | 176.52               | 176.40               | 176.34              | 176.37               |
| 11                 | 176.49               | 176.30               | 176.35              | 176.46               | 176.60               | 176.66               | 176.66               | 176.60               | 176.50               | 176.42               | 176.41              | 176.36               |
| 12                 | 176.47               | 176.28               | 176.36              | 176.52               | 176.58               | 176.69               | 176.68               | 176.62               | 176.52               | 176.44               | 176.36              | 176.41               |
| 13                 | 176.34               | 176.34               | 176.40              | 176.55               | 176.60               | 176.69               | 176.70               | 176.60               | 176.52               | 176.38               | 176.31              | 176.43               |
| 14                 | 176.38               | 176.44               | 176.39              | 176.58               | 176.59               | 176.69               | 176.66               | 176.58               | 176.50               | 176.42               | 176.36              | 176.52               |
| 15                 | 176.40               | 176.40               | 176.34              | 176.63               | 176.61               | 176.66               | 176.65               | 176.59               | 176.51               | 176.40               | 176.43              | 176.37               |
| 16                 | 176.44               | 176.27               | 176.34              | 176.48               | 176.61               | 176.66               | 176.62               | 176.58               | 176.49               | 176.31               | 176.36              | 176.40               |
| 17                 | 176.36               | 176.31               | 176.36              | 176.52               | 176.67               | 176.66               | 176.60               | 176.58               | 176.42               | 176.28               | 176.37              | 176.46               |
| 18                 | 176.31               | 176.33               | 176.37              | 176.56               | 176.67               | 176.68               | 176.64               | 176.62               | 176.48               | 176.37               | 176.42              | 176.41               |
| 19                 | 176.30               | 176.36               | 176.31              | 176.61               | 176.66               | 176.66               | 176.64               | 176.66               | 176.43               | 176.34               | 176.41              | 176.38               |
| 20                 | 176.44               | 176.29               | 176.35              | 176.62               | 176.65               | 176.65               | 176.64               | 176.60               | 176.45               | 176.30               | 176.39              | 176.34               |
| 21                 | 176.44               | 176.31               | 176.43              | 176.58               | 176.63               | 176.72               | 176.69               | 176.56               | 176.44               | 176.32               | 176.34              | 176.34               |
| 22                 | 176.31               | 176.32               | 176.50              | 176.54               | 176.63               | 176.73               | 176.68               | 176.60               | 176.43               | 176.37               | 176.39              | 176.30               |
| 23                 | 176.35               | 176.27               | 176.52              | 176.56               | 176.62               | 176.67               | 176.64               | 176.60               | 176.39               | 176.37               | 176.40              | 176.39               |
| 24                 | 176.34               | 176.37               | 176.44              | 176.57               | 176.61               | 176.68               | 176.61               | 176.62               | 176.42               | 176.36               | 176.46              | 176.40               |
| 25                 | 176.33               | 176.33               | 176.36              | 176.55               | 176.65               | 176.67               | 176.66               | 176.60               | 176.44               | 176.43               | 176.33              | 176.38               |
| 26                 | 176.32               | 176.30               | 176.41              | 176.60               | 176.68               | 176.64               | 176.64               | 176.56               | 176.37               | 176.43               | 176.33              | 176.40               |
| 27                 | 176.29               | 176.32               | 176.45              | 176.61               | 176.65               | 176.59               | 176.63               | 176.54               | 176.32               | 176.46               | 176.41              | 176.40               |
| 28                 | 176.29               | 176.31               | 176.40              | 176.62               | 176.67               | 176.60               | 176.62               | 176.55               | 176.39               | 176.46               | 176.34              | 176.40               |
| 29                 | 176.34               |                      | 176.36              | 176.62               | 176.68               | 176.68               | 176.67               | 176.56               | 176.40               | 176.52               | 176.41              | 176.44               |
| 30                 | 176.36               |                      | 176.38              | 176.58               | 176.68               | 176.74               | 176.62               | 176.53               | 176.41               | 176.53               | 176.45              | 176.44               |
| 31                 | 176.36               |                      | 176.40              |                      | 176.68               |                      | 176.58               | 176.59               |                      | 176.46               |                     | 176.42               |
| Mean               | 176.36               | 176.32               | 176.39              | 176.52               | 176.62               | 176.68               | 176.66               | 176.60               | 176.47               | 176.41               | 176.37              | 176.40               |
| Max.<br>Hr.<br>Day | 176.58<br>0100<br>12 | 176.48<br>0400<br>15 | 176.63<br>1100<br>2 | 176.75<br>1000<br>15 | 176.76<br>1700<br>18 | 176.79<br>1900<br>21 | 176.81<br>0500<br>2  | 176.69<br>1700<br>19 | 176.61<br>1700<br>1  | 176.66<br>1000<br>5  | 176.58<br>1600<br>1 | 176.64<br>1900<br>14 |
| Min.<br>Hr.<br>Day | 176.19<br>2000<br>22 | 176.20<br>1600<br>16 | 176.26<br>2300<br>7 | 176.32<br>1000<br>2  | 176.49<br>1600<br>1  | 176.54<br>2200<br>27 | 176.52<br>1000<br>31 | 176.51<br>1100<br>30 | 176.27<br>0200<br>27 | 176.20<br>1600<br>17 | 176.23<br>1900<br>9 | 176.22<br>0600<br>2  |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.48

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 908-7044 Calumet Harbor, Illinois on Lake Michigan

HIGHEST

Monthly mean elevation: 176.69 Jun  
Daily mean elevation: 176.84 22 Jun  
Instant/hourly elevation: 177.03 0300/8 Jul

LOWEST

Monthly mean elevation: 176.31 Feb  
Daily mean elevation: 176.13 3 Nov  
Instant/hourly elevation: 175.86 1900/22 Jan

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.52 | 176.49 | 176.60 | 176.71 | 176.77 | 176.84 | 176.77 | 176.79 | 176.64 | 176.63 | 176.42 | 176.46 |
| Day | 12 | 14 | 2 | 19 | 18 | 22 | 13 | 19 | 1 | 30 | 29 | 18 |
| Min | 176.13 | 176.16 | 176.27 | 176.34 | 176.48 | 176.58 | 176.57 | 176.52 | 176.33 | 176.22 | 176.13 | 176.22 |
| Day | 27 | 16 | 5 | 6 | 1 | 27 | 31 | 30 | 22 | 17 | 3 | 22 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.80         |     |     |     |     |     | 1   |     |     |     |     |     |     | 176.80         | 1                          |
| 176.75         |     |     |     |     | 1   | 4   | 1   | 1   |     |     |     |     | 176.75         | 8                          |
| 176.70         |     |     |     | 1   | 2   | 6   | 4   | 2   |     |     |     |     | 176.70         | 23                         |
| 176.65         |     |     |     | 1   | 7   | 13  | 14  | 8   |     |     |     |     | 176.65         | 66                         |
| 176.60         |     |     |     | 7   | 13  | 4   | 8   | 8   | 1   | 1   |     |     | 176.60         | 108                        |
| 176.55         |     |     | 3   | 6   | 4   | 2   | 4   | 5   | 1   | 1   |     |     | 176.55         | 134                        |
| 176.50         | 2   |     | 1   | 5   | 3   |     |     | 7   | 9   | 4   |     |     | 176.50         | 165                        |
| 176.45         | 3   | 2   | 2   | 2   | 1   |     |     |     | 5   | 3   |     | 1   | 176.45         | 184                        |
| 176.40         | 3   |     | 1   | 4   |     |     |     |     | 5   | 2   | 4   | 10  | 176.40         | 213                        |
| 176.35         | 5   | 4   | 12  | 3   |     |     |     |     | 7   | 10  | 6   | 8   | 176.35         | 268                        |
| 176.30         | 4   | 8   | 8   | 1   |     |     |     |     | 2   | 5   | 11  | 6   | 176.30         | 313                        |
| 176.25         | 4   | 7   | 4   |     |     |     |     |     |     | 3   | 4   | 4   | 176.25         | 339                        |
| 176.20         | 2   | 6   |     |     |     |     |     |     |     | 2   | 2   | 2   | 176.20         | 353                        |
| 176.15         | 7   | 1   |     |     |     |     |     |     |     |     | 2   |     | 176.15         | 363                        |
| 176.10         | 1   |     |     |     |     |     |     |     |     |     | 1   |     | 176.10         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7044 Calumet Harbor, Illinois on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 176.20 | 176.25 | 176.31 | 176.41 | 176.48 | 176.68 | 176.71 | 176.61 | 176.64 | 176.36 | 176.34 | 176.28 |
| 2    | 176.39 | 176.31 | 176.60 | 176.38 | 176.55 | 176.72 | 176.72 | 176.64 | 176.56 | 176.36 | 176.16 | 176.42 |
| 3    | 176.32 | 176.24 | 176.57 | 176.42 | 176.62 | 176.75 | 176.66 | 176.73 | 176.51 | 176.43 | 176.13 | 176.45 |
| 4    | 176.22 | 176.25 | 176.39 | 176.43 | 176.68 | 176.77 | 176.68 | 176.70 | 176.52 | 176.54 | 176.28 | 176.38 |
| 5    | 176.29 | 176.34 | 176.27 | 176.36 | 176.67 | 176.75 | 176.67 | 176.67 | 176.53 | 176.47 | 176.20 | 176.30 |
| 6    | 176.44 | 176.36 | 176.37 | 176.34 | 176.53 | 176.71 | 176.64 | 176.66 | 176.52 | 176.36 | 176.34 | 176.31 |
| 7    | 176.43 | 176.34 | 176.35 | 176.36 | 176.53 | 176.70 | 176.70 | 176.66 | 176.51 | 176.33 | 176.34 | 176.28 |
| 8    | 176.39 | 176.21 | 176.29 | 176.43 | 176.64 | 176.68 | 176.73 | 176.69 | 176.52 | 176.28 | 176.35 | 176.37 |
| 9    | 176.39 | 176.30 | 176.35 | 176.59 | 176.65 | 176.67 | 176.64 | 176.72 | 176.47 | 176.40 | 176.22 | 176.38 |
| 10   | 176.41 | 176.33 | 176.38 | 176.54 | 176.63 | 176.61 | 176.67 | 176.66 | 176.52 | 176.40 | 176.33 | 176.32 |
| 11   | 176.51 | 176.33 | 176.39 | 176.51 | 176.61 | 176.64 | 176.67 | 176.64 | 176.52 | 176.40 | 176.41 | 176.34 |
| 12   | 176.52 | 176.27 | 176.46 | 176.58 | 176.58 | 176.68 | 176.68 | 176.65 | 176.50 | 176.48 | 176.33 | 176.36 |
| 13   | 176.23 | 176.36 | 176.58 | 176.61 | 176.60 | 176.71 | 176.77 | 176.65 | 176.52 | 176.40 | 176.24 | 176.41 |
| 14   | 176.28 | 176.49 | 176.48 | 176.64 | 176.60 | 176.67 | 176.72 | 176.59 | 176.48 | 176.33 | 176.31 | 176.31 |
| 15   | 176.40 | 176.47 | 176.37 | 176.59 | 176.62 | 176.66 | 176.68 | 176.57 | 176.46 | 176.37 | 176.41 | 176.32 |
| 16   | 176.47 | 176.16 | 176.36 | 176.48 | 176.61 | 176.66 | 176.62 | 176.55 | 176.42 | 176.25 | 176.42 | 176.36 |
| 17   | 176.31 | 176.27 | 176.40 | 176.53 | 176.72 | 176.68 | 176.60 | 176.54 | 176.39 | 176.22 | 176.39 | 176.41 |
| 18   | 176.20 | 176.37 | 176.35 | 176.62 | 176.77 | 176.69 | 176.64 | 176.63 | 176.42 | 176.43 | 176.38 | 176.46 |
| 19   | 176.20 | 176.33 | 176.29 | 176.71 | 176.72 | 176.68 | 176.60 | 176.79 | 176.44 | 176.39 | 176.39 | 176.35 |
| 20   | 176.48 | 176.21 | 176.35 | 176.70 | 176.67 | 176.68 | 176.59 | 176.69 | 176.47 | 176.28 | 176.40 | 176.25 |
| 21   | 176.49 | 176.25 | 176.40 | 176.62 | 176.65 | 176.76 | 176.63 | 176.59 | 176.40 | 176.26 | 176.35 | 176.28 |
| 22   | 176.16 | 176.32 | 176.51 | 176.53 | 176.64 | 176.84 | 176.64 | 176.60 | 176.33 | 176.34 | 176.39 | 176.22 |
| 23   | 176.20 | 176.29 | 176.39 | 176.55 | 176.61 | 176.76 | 176.63 | 176.64 | 176.37 | 176.34 | 176.26 | 176.42 |
| 24   | 176.31 | 176.36 | 176.40 | 176.57 | 176.60 | 176.72 | 176.62 | 176.65 | 176.42 | 176.31 | 176.35 | 176.38 |
| 25   | 176.30 | 176.35 | 176.35 | 176.58 | 176.66 | 176.70 | 176.69 | 176.57 | 176.36 | 176.39 | 176.32 | 176.39 |
| 26   | 176.19 | 176.29 | 176.39 | 176.61 | 176.66 | 176.64 | 176.68 | 176.53 | 176.40 | 176.46 | 176.28 | 176.36 |
| 27   | 176.13 | 176.28 | 176.31 | 176.60 | 176.63 | 176.58 | 176.66 | 176.52 | 176.35 | 176.52 | 176.26 | 176.43 |
| 28   | 176.20 | 176.29 | 176.30 | 176.62 | 176.65 | 176.60 | 176.66 | 176.54 | 176.39 | 176.52 | 176.36 | 176.44 |
| 29   | 176.39 |        | 176.43 | 176.63 | 176.65 | 176.65 | 176.70 | 176.55 | 176.42 | 176.51 | 176.42 | 176.45 |
| 30   | 176.34 |        | 176.40 | 176.50 | 176.66 | 176.76 | 176.67 | 176.52 | 176.39 | 176.63 | 176.33 | 176.45 |
| 31   | 176.28 |        | 176.35 |        | 176.69 |        | 176.57 | 176.66 |        | 176.56 |        | 176.41 |
| Mean | 176.32 | 176.31 | 176.39 | 176.53 | 176.63 | 176.69 | 176.66 | 176.63 | 176.46 | 176.40 | 176.32 | 176.36 |
| Max. | 176.64 | 176.66 | 176.82 | 176.85 | 176.89 | 176.98 | 177.03 | 176.91 | 176.70 | 176.74 | 176.58 | 176.68 |
| Hr.  | 2300   | 0300   | 1200   | 0200   | 2000   | 0600   | 0300   | 2000   | 1500   | 1700   | 0900   | 2400   |
| Day  | 11     | 15     | 2      | 15     | 31     | 15     | 8      | 8      | 1      | 30     | 1      | 2      |
| Min. | 175.86 | 175.98 | 176.01 | 176.28 | 176.38 | 176.46 | 176.26 | 176.42 | 176.22 | 176.11 | 175.93 | 176.08 |
| Hr.  | 1900   | 1400   | 2100   | 2400   | 1100   | 2100   | 1900   | 0400   | 1100   | 1500   | 1800   | 0500   |
| Day  | 22     | 16     | 27     | 5      | 1      | 27     | 7      | 17     | 25     | 16     | 1      | 22     |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.48

International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 908-7057 Milwaukee, Wisconsin on Lake Michigan

| HIGHEST                   |        |            |  | LOWEST                    |        |             |  |
|---------------------------|--------|------------|--|---------------------------|--------|-------------|--|
| Monthly mean elevation:   | 176.69 | Jun        |  | Monthly mean elevation:   | 176.30 | Feb         |  |
| Daily mean elevation:     | 176.79 | 22 Jun     |  | Daily mean elevation:     | 176.20 | 27 Jan      |  |
| Instant/hourly elevation: | 176.92 | 1100/8 Aug |  | Instant/hourly elevation: | 176.11 | 0800/27 Jan |  |

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.51 | 176.39 | 176.52 | 176.64 | 176.70 | 176.79 | 176.72 | 176.72 | 176.64 | 176.55 | 176.51 | 176.47 |
| Day | 11 | 18 | 22 | 29 | 18 | 22 | 2 | 8 | 1 | 29 | 1 | 3 |
| Min | 176.20 | 176.23 | 176.28 | 176.37 | 176.50 | 176.60 | 176.60 | 176.52 | 176.33 | 176.30 | 176.21 | 176.28 |
| Day | 27 | 16 | 28 | 2 | 1 | 28 | 31 | 27 | 27 | 20 | 3 | 22 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.75         |     |     |     |     |     | 2   |     |     |     |     |     |     | 176.75         | 2                          |
| 176.70         |     |     |     |     |     | 8   | 3   | 1   |     |     |     |     | 176.70         | 14                         |
| 176.65         |     |     |     |     | 8   | 15  | 15  | 9   |     |     |     |     | 176.65         | 61                         |
| 176.60         |     |     |     | 6   | 14  | 4   | 10  | 10  | 1   |     |     |     | 176.60         | 106                        |
| 176.55         |     |     |     | 8   | 6   | 1   | 3   | 6   | 1   |     |     |     | 176.55         | 131                        |
| 176.50         | 1   |     | 1   | 5   | 2   |     |     | 5   | 10  | 5   | 1   |     | 176.50         | 161                        |
| 176.45         |     |     | 3   | 3   | 1   |     |     |     | 3   | 2   | 1   | 1   | 176.45         | 175                        |
| 176.40         | 3   |     | 6   | 3   |     |     |     |     | 8   | 6   | 5   | 10  | 176.40         | 216                        |
| 176.35         | 7   |     | 8   | 5   |     |     |     |     | 4   | 12  | 9   | 11  | 176.35         | 274                        |
| 176.30         | 6   | 10  | 10  |     |     |     |     |     | 3   | 4   | 9   | 6   | 176.30         | 322                        |
| 176.25         | 9   | 14  | 3   |     |     |     |     |     |     | 2   | 4   | 3   | 176.25         | 357                        |
| 176.20         | 4   | 2   |     |     |     |     |     |     |     |     | 1   |     | 176.20         | 364                        |
| 176.15         | 1   |     |     |     |     |     |     |     |     |     |     |     | 176.15         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7057 Milwaukee, Wisconsin on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                 | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                 | Dec                 |
|--------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|
| 1                  | 176.27               | 176.31               | 176.35               | 176.39              | 176.50               | 176.70               | 176.71               | 176.61               | 176.64               | 176.38               | 176.51              | 176.29              |
| 2                  | 176.31               | 176.31               | 176.50               | 176.37              | 176.54               | 176.72               | 176.72               | 176.67               | 176.58               | 176.39               | 176.30              | 176.38              |
| 3                  | 176.28               | 176.26               | 176.44               | 176.42              | 176.57               | 176.72               | 176.70               | 176.68               | 176.53               | 176.43               | 176.21              | 176.47              |
| 4                  | 176.22               | 176.28               | 176.35               | 176.44              | 176.65               | 176.73               | 176.70               | 176.66               | 176.51               | 176.52               | 176.31              | 176.38              |
| 5                  | 176.32               | 176.32               | 176.32               | 176.39              | 176.65               | 176.71               | 176.67               | 176.66               | 176.51               | 176.48               | 176.33              | 176.38              |
| 6                  | 176.38               | 176.33               | 176.36               | 176.39              | 176.60               | 176.70               | 176.66               | 176.68               | 176.53               | 176.36               | 176.31              | 176.41              |
| 7                  | 176.40               | 176.32               | 176.31               | 176.39              | 176.54               | 176.69               | 176.70               | 176.67               | 176.53               | 176.34               | 176.30              | 176.35              |
| 8                  | 176.41               | 176.27               | 176.30               | 176.44              | 176.61               | 176.68               | 176.66               | 176.72               | 176.53               | 176.40               | 176.34              | 176.41              |
| 9                  | 176.37               | 176.30               | 176.36               | 176.55              | 176.64               | 176.67               | 176.64               | 176.66               | 176.52               | 176.39               | 176.27              | 176.37              |
| 10                 | 176.39               | 176.28               | 176.35               | 176.50              | 176.62               | 176.62               | 176.66               | 176.63               | 176.49               | 176.38               | 176.34              | 176.35              |
| 11                 | 176.51               | 176.28               | 176.39               | 176.47              | 176.60               | 176.65               | 176.66               | 176.63               | 176.50               | 176.41               | 176.40              | 176.35              |
| 12                 | 176.45               | 176.28               | 176.44               | 176.56              | 176.59               | 176.67               | 176.70               | 176.64               | 176.52               | 176.43               | 176.35              | 176.44              |
| 13                 | 176.32               | 176.33               | 176.50               | 176.58              | 176.60               | 176.71               | 176.70               | 176.62               | 176.52               | 176.41               | 176.31              | 176.41              |
| 14                 | 176.34               | 176.38               | 176.42               | 176.62              | 176.60               | 176.69               | 176.68               | 176.60               | 176.51               | 176.40               | 176.37              | 176.34              |
| 15                 | 176.39               | 176.33               | 176.35               | 176.57              | 176.62               | 176.68               | 176.67               | 176.58               | 176.50               | 176.37               | 176.41              | 176.31              |
| 16                 | 176.39               | 176.23               | 176.35               | 176.48              | 176.62               | 176.65               | 176.64               | 176.57               | 176.43               | 176.31               | 176.37              | 176.40              |
| 17                 | 176.30               | 176.30               | 176.37               | 176.51              | 176.68               | 176.67               | 176.62               | 176.56               | 176.41               | 176.30               | 176.42              | 176.39              |
| 18                 | 176.24               | 176.39               | 176.34               | 176.57              | 176.70               | 176.69               | 176.64               | 176.61               | 176.41               | 176.36               | 176.47              | 176.41              |
| 19                 | 176.26               | 176.31               | 176.29               | 176.64              | 176.67               | 176.66               | 176.62               | 176.70               | 176.39               | 176.33               | 176.40              | 176.38              |
| 20                 | 176.40               | 176.25               | 176.36               | 176.63              | 176.65               | 176.67               | 176.63               | 176.66               | 176.44               | 176.30               | 176.38              | 176.33              |
| 21                 | 176.41               | 176.28               | 176.44               | 176.58              | 176.64               | 176.76               | 176.66               | 176.61               | 176.42               | 176.32               | 176.37              | 176.29              |
| 22                 | 176.27               | 176.28               | 176.52               | 176.54              | 176.63               | 176.79               | 176.64               | 176.60               | 176.40               | 176.39               | 176.41              | 176.28              |
| 23                 | 176.26               | 176.29               | 176.49               | 176.55              | 176.63               | 176.72               | 176.60               | 176.62               | 176.35               | 176.40               | 176.43              | 176.36              |
| 24                 | 176.27               | 176.32               | 176.39               | 176.56              | 176.61               | 176.71               | 176.60               | 176.63               | 176.42               | 176.38               | 176.39              | 176.36              |
| 25                 | 176.27               | 176.30               | 176.35               | 176.56              | 176.65               | 176.69               | 176.65               | 176.59               | 176.38               | 176.42               | 176.30              | 176.38              |
| 26                 | 176.22               | 176.28               | 176.43               | 176.60              | 176.68               | 176.68               | 176.65               | 176.54               | 176.33               | 176.44               | 176.34              | 176.39              |
| 27                 | 176.20               | 176.29               | 176.41               | 176.62              | 176.64               | 176.62               | 176.65               | 176.52               | 176.33               | 176.48               | 176.37              | 176.42              |
| 28                 | 176.24               | 176.31               | 176.28               | 176.62              | 176.68               | 176.60               | 176.68               | 176.54               | 176.38               | 176.54               | 176.35              | 176.41              |
| 29                 | 176.31               |                      | 176.35               | 176.64              | 176.68               | 176.68               | 176.71               | 176.55               | 176.42               | 176.55               | 176.44              | 176.43              |
| 30                 | 176.31               |                      | 176.38               | 176.54              | 176.67               | 176.72               | 176.66               | 176.53               | 176.43               | 176.52               | 176.38              | 176.45              |
| 31                 | 176.27               |                      | 176.38               |                     | 176.68               |                      | 176.60               | 176.63               |                      | 176.51               |                     | 176.43              |
| Mean               | 176.32               | 176.30               | 176.38               | 176.52              | 176.63               | 176.69               | 176.66               | 176.62               | 176.46               | 176.41               | 176.36              | 176.38              |
| Max.<br>Hr.<br>Day | 176.58<br>2400<br>11 | 176.48<br>1700<br>18 | 176.66<br>0900<br>27 | 176.76<br>0900<br>9 | 176.81<br>1800<br>31 | 176.86<br>0500<br>15 | 176.89<br>2100<br>7  | 176.92<br>1100<br>8  | 176.67<br>0500<br>1  | 176.75<br>2200<br>4  | 176.63<br>0900<br>1 | 176.59<br>0100<br>3 |
| Min.<br>Hr.<br>Day | 176.11<br>0800<br>27 | 176.15<br>1500<br>16 | 176.19<br>0500<br>28 | 176.33<br>0800<br>2 | 176.47<br>1800<br>1  | 176.54<br>0500<br>28 | 176.47<br>1000<br>17 | 176.49<br>1700<br>30 | 176.26<br>2300<br>26 | 176.20<br>1900<br>18 | 176.17<br>0700<br>3 | 176.18<br>0300<br>2 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.48

International  
Great Lakes  
Datum (1985)

# Annual Summary of Levels, in Meters, 1991

Station: 908-7068 Kewaunee, Wisconsin on Lake Michigan

## HIGHEST

Monthly mean elevation: 176.68 Jun  
Daily mean elevation: 176.73 2 Jul  
Instant/hourly elevation: 176.92 1700/14 Jun

## LOWEST

Monthly mean elevation: 176.30 Feb  
Daily mean elevation: 176.21 3 Nov  
Instant/hourly elevation: 176.18 0900/2 Dec

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.48 | 176.36 | 176.57 | 176.64 | 176.70 | 176.73 | 176.73 | 176.65 | 176.61 | 176.56 | 176.58 | 176.46 |
| Day | 11     | 19     | 23     | 29     | 26     | 22     | 2      | 7      | 1      | 29     | 1      | 3      |
| Min | 176.23 | 176.26 | 176.30 | 176.38 | 176.52 | 176.60 | 176.60 | 176.52 | 176.30 | 176.30 | 176.21 | 176.28 |
| Day | 4      | 22     | 19     | 2      | 1      | 28     | 17     | 30     | 26     | 18     | 3      | 15     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.70         |     |     |     |     |     | 2   | 1   |     |     |     |     |     | 176.70         | 3                          |
| 176.65         |     |     |     |     | 6   | 22  | 16  |     |     |     |     |     | 176.65         | 47                         |
| 176.60         |     |     |     | 4   | 19  | 5   | 13  | 16  | 1   |     |     |     | 176.60         | 105                        |
| 176.55         |     |     | 1   | 6   | 4   | 1   | 1   | 9   | 1   | 1   | 1   |     | 176.55         | 130                        |
| 176.50         |     |     |     | 9   | 2   |     |     | 6   | 11  | 1   |     |     | 176.50         | 159                        |
| 176.45         | 1   |     | 1   | 2   |     |     |     |     | 3   | 3   | 2   | 1   | 176.45         | 172                        |
| 176.40         | 2   |     | 4   | 7   |     |     |     |     | 7   | 12  | 3   | 6   | 176.40         | 213                        |
| 176.35         | 9   | 1   | 8   | 2   |     |     |     |     | 4   | 7   | 14  | 17  | 176.35         | 275                        |
| 176.30         | 4   | 10  | 15  |     |     |     |     |     | 2   | 6   | 6   | 5   | 176.30         | 323                        |
| 176.25         | 12  | 17  | 2   |     |     |     |     |     | 1   | 1   | 3   | 2   | 176.25         | 361                        |
| 176.20         | 3   |     |     |     |     |     |     |     |     |     | 1   |     | 176.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7068 Kewaunee, Wisconsin on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 176.30 | 176.31 | 176.35 | 176.38 | 176.52 | 176.69 | 176.70 | 176.61 | 176.61 | 176.38 | 176.58 | 176.29 |
| 2    | 176.28 | 176.33 | 176.33 | 176.38 | 176.53 | 176.70 | 176.73 | 176.61 | 176.56 | 176.43 | 176.38 | 176.32 |
| 3    | 176.30 | 176.31 | 176.38 | 176.42 | 176.57 | 176.68 | 176.69 | 176.65 | 176.53 | 176.41 | 176.21 | 176.46 |
| 4    | 176.23 | 176.30 | 176.34 | 176.44 | 176.64 | 176.70 | 176.70 | 176.64 | 176.49 | 176.41 | 176.30 | 176.39 |
| 5    | 176.29 | 176.31 | 176.34 | 176.42 | 176.64 | 176.68 | 176.67 | 176.64 | 176.51 | 176.49 | 176.39 | 176.40 |
| 6    | 176.37 | 176.33 | 176.34 | 176.44 | 176.64 | 176.68 | 176.66 | 176.65 | 176.52 | 176.36 | 176.28 | 176.44 |
| 7    | 176.37 | 176.31 | 176.30 | 176.42 | 176.56 | 176.68 | 176.66 | 176.65 | 176.52 | 176.35 | 176.30 | 176.36 |
| 8    | 176.42 | 176.31 | 176.33 | 176.42 | 176.59 | 176.68 | 176.62 | 176.63 | 176.53 | 176.41 | 176.36 | 176.40 |
| 9    | 176.37 | 176.30 | 176.37 | 176.52 | 176.63 | 176.67 | 176.66 | 176.63 | 176.54 | 176.38 | 176.33 | 176.38 |
| 10   | 176.37 | 176.27 | 176.35 | 176.48 | 176.62 | 176.65 | 176.66 | 176.62 | 176.47 | 176.39 | 176.32 | 176.39 |
| 11   | 176.48 | 176.26 | 176.38 | 176.44 | 176.61 | 176.65 | 176.66 | 176.61 | 176.51 | 176.41 | 176.38 | 176.34 |
| 12   | 176.44 | 176.28 | 176.40 | 176.52 | 176.59 | 176.64 | 176.68 | 176.62 | 176.54 | 176.40 | 176.36 | 176.44 |
| 13   | 176.38 | 176.29 | 176.39 | 176.54 | 176.61 | 176.70 | 176.68 | 176.61 | 176.52 | 176.42 | 176.33 | 176.40 |
| 14   | 176.34 | 176.30 | 176.36 | 176.60 | 176.61 | 176.73 | 176.68 | 176.59 | 176.53 | 176.41 | 176.38 | 176.36 |
| 15   | 176.36 | 176.26 | 176.33 | 176.59 | 176.62 | 176.66 | 176.67 | 176.58 | 176.52 | 176.36 | 176.39 | 176.28 |
| 16   | 176.38 | 176.26 | 176.32 | 176.48 | 176.62 | 176.65 | 176.64 | 176.58 | 176.46 | 176.34 | 176.35 | 176.40 |
| 17   | 176.33 | 176.26 | 176.34 | 176.52 | 176.63 | 176.66 | 176.60 | 176.56 | 176.41 | 176.32 | 176.41 | 176.38 |
| 18   | 176.28 | 176.35 | 176.34 | 176.55 | 176.67 | 176.69 | 176.62 | 176.56 | 176.39 | 176.30 | 176.47 | 176.37 |
| 19   | 176.30 | 176.36 | 176.30 | 176.55 | 176.64 | 176.67 | 176.62 | 176.64 | 176.37 | 176.33 | 176.39 | 176.41 |
| 20   | 176.32 | 176.30 | 176.35 | 176.57 | 176.63 | 176.66 | 176.64 | 176.62 | 176.42 | 176.33 | 176.36 | 176.37 |
| 21   | 176.39 | 176.31 | 176.44 | 176.55 | 176.62 | 176.70 | 176.64 | 176.60 | 176.44 | 176.35 | 176.37 | 176.31 |
| 22   | 176.36 | 176.26 | 176.50 | 176.54 | 176.64 | 176.73 | 176.66 | 176.57 | 176.42 | 176.41 | 176.40 | 176.32 |
| 23   | 176.25 | 176.30 | 176.57 | 176.55 | 176.64 | 176.69 | 176.61 | 176.58 | 176.34 | 176.41 | 176.47 | 176.34 |
| 24   | 176.25 | 176.33 | 176.39 | 176.56 | 176.62 | 176.69 | 176.62 | 176.62 | 176.41 | 176.41 | 176.38 | 176.38 |
| 25   | 176.29 | 176.29 | 176.34 | 176.56 | 176.62 | 176.68 | 176.65 | 176.58 | 176.42 | 176.39 | 176.31 | 176.39 |
| 26   | 176.27 | 176.28 | 176.44 | 176.58 | 176.70 | 176.68 | 176.64 | 176.54 | 176.30 | 176.41 | 176.39 | 176.39 |
| 27   | 176.26 | 176.30 | 176.45 | 176.63 | 176.65 | 176.63 | 176.64 | 176.52 | 176.31 | 176.43 | 176.39 | 176.39 |
| 28   | 176.26 | 176.30 | 176.31 | 176.61 | 176.67 | 176.60 | 176.66 | 176.53 | 176.39 | 176.51 | 176.31 | 176.39 |
| 29   | 176.28 |        | 176.32 | 176.64 | 176.67 | 176.69 | 176.67 | 176.54 | 176.39 | 176.56 | 176.43 | 176.41 |
| 30   | 176.33 |        | 176.40 | 176.61 | 176.68 | 176.69 | 176.65 | 176.52 | 176.43 | 176.46 | 176.42 | 176.44 |
| 31   | 176.28 |        | 176.41 |        | 176.67 |        | 176.61 | 176.54 |        | 176.47 |        | 176.43 |
| Mean | 176.33 | 176.30 | 176.37 | 176.52 | 176.62 | 176.68 | 176.65 | 176.60 | 176.46 | 176.40 | 176.37 | 176.38 |
| Max. | 176.55 | 176.51 | 176.67 | 176.74 | 176.82 | 176.92 | 176.85 | 176.77 | 176.63 | 176.61 | 176.70 | 176.58 |
| Hr.  | 2100   | 1600   | 1300   | 2300   | 2300   | 1700   | 2400   | 1700   | 0200   | 1000   | 2100   | 2400   |
| Day  | 11     | 18     | 23     | 29     | 31     | 14     | 1      | 8      | 2      | 29     | 1      | 6      |
| Min. | 176.18 | 176.20 | 176.21 | 176.32 | 176.44 | 176.54 | 176.43 | 176.47 | 176.23 | 176.20 | 176.18 | 176.18 |
| Hr.  | 0700   | 0300   | 2300   | 2000   | 0100   | 2100   | 0700   | 0200   | 2100   | 1800   | 1100   | 0900   |
| Day  | 24     | 17     | 28     | 8      | 1      | 15     | 8      | 31     | 26     | 18     | 3      | 2      |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.47



International  
Great Lakes  
Datum (1985)

Annual Summary of Levels, in Meters, 1991

Station: 908-7072 Sturgeon Bay Canal, Wisconsin on Lake Michigan

HIGHEST

Monthly mean elevation: 176.67 Jun  
Daily mean elevation: 176.73 22 Jun  
Instant/hourly elevation: 176.90 2300/7 Jul

LOWEST

Monthly mean elevation: 176.30 Feb  
Daily mean elevation: 176.21 3 Nov  
Instant/hourly elevation: 176.18 0100/2 Dec

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.48 | 176.35 | 176.58 | 176.66 | 176.70 | 176.73 | 176.72 | 176.66 | 176.60 | 176.54 | 176.57 | 176.46 |
| Day | 11     | 19     | 23     | 29     | 26     | 22     | 2      | 3      | 1      | 29     | 1      | 6      |
| Min | 176.23 | 176.25 | 176.29 | 176.36 | 176.51 | 176.62 | 176.59 | 176.52 | 176.30 | 176.30 | 176.21 | 176.26 |
| Day | 4      | 22     | 7      | 2      | 1      | 28     | 17     | 30     | 26     | 18     | 3      | 1      |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.70         |     |     |     |     |     | 2   | 2   |     |     |     |     |     | 176.70         | 4                          |
| 176.65         |     |     |     | 1   | 6   | 22  | 12  | 1   |     |     |     |     | 176.65         | 46                         |
| 176.60         |     |     |     | 2   | 18  | 6   | 15  | 10  |     |     |     |     | 176.60         | 97                         |
| 176.55         |     |     | 1   | 6   | 3   |     | 2   | 12  | 1   |     | 1   |     | 176.55         | 123                        |
| 176.50         |     |     | 1   | 9   | 4   |     |     | 8   | 11  | 3   |     |     | 176.50         | 159                        |
| 176.45         | 1   |     |     | 3   |     |     |     |     | 3   | 1   | 1   | 1   | 176.45         | 169                        |
| 176.40         | 2   |     | 3   | 7   |     |     |     |     | 6   | 10  | 3   | 4   | 176.40         | 204                        |
| 176.35         | 9   |     | 7   | 2   |     |     |     |     | 6   | 9   | 13  | 16  | 176.35         | 266                        |
| 176.30         | 5   | 12  | 15  |     |     |     |     |     | 2   | 7   | 6   | 7   | 176.30         | 320                        |
| 176.25         | 10  | 13  | 4   |     |     |     |     |     | 1   | 1   | 5   | 3   | 176.25         | 357                        |
| 176.20         | 4   | 3   |     |     |     |     |     |     |     |     | 1   |     | 176.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7072 Sturgeon Bay Canal, Wisconsin on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day  | Jan    | Feb     | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 176.30 | 176.32  | 176.34 | 176.37 | 176.51 | 176.68 | 176.71 | 176.60 | 176.60 | 176.38 | 176.57 | 176.26 |
| 2    | 176.28 | 176.32  | 176.30 | 176.36 | 176.55 | 176.68 | 176.72 | 176.62 | 176.55 | 176.42 | 176.33 | 176.31 |
| 3    | 176.30 | 176.31  | 176.35 | 176.41 | 176.55 | 176.66 | 176.70 | 176.66 | 176.53 | 176.40 | 176.21 | 176.44 |
| 4    | 176.23 | 176.31  | 176.32 | 176.44 | 176.62 | 176.69 | 176.70 | 176.64 | 176.49 | 176.42 | 176.31 | 176.38 |
| 5    | 176.29 | 176.31  | 176.33 | 176.42 | 176.64 | 176.68 | 176.67 | 176.62 | 176.50 | 176.51 | 176.38 | 176.39 |
| 6    | 176.36 | 176.33  | 176.32 | 176.43 | 176.65 | 176.67 | 176.67 | 176.62 | 176.51 | 176.36 | 176.29 | 176.46 |
| 7    | 176.37 | 176.32  | 176.29 | 176.42 | 176.55 | 176.67 | 176.70 | 176.62 | 176.51 | 176.34 | 176.30 | 176.35 |
| 8    | 176.44 | 176.31  | 176.33 | 176.42 | 176.58 | 176.66 | 176.66 | 176.63 | 176.53 | 176.41 | 176.34 | 176.39 |
| 9    | 176.36 | 176.30  | 176.36 | 176.51 | 176.63 | 176.66 | 176.66 | 176.62 | 176.54 | 176.39 | 176.30 | 176.38 |
| 10   | 176.37 | 176.27  | 176.35 | 176.47 | 176.61 | 176.64 | 176.65 | 176.60 | 176.48 | 176.38 | 176.32 | 176.38 |
| 11   | 176.48 | 176.26  | 176.37 | 176.43 | 176.61 | 176.66 | 176.65 | 176.60 | 176.51 | 176.41 | 176.38 | 176.34 |
| 12   | 176.43 | 176.27  | 176.38 | 176.50 | 176.58 | 176.65 | 176.67 | 176.61 | 176.52 | 176.41 | 176.37 | 176.44 |
| 13   | 176.37 | 176.29  | 176.37 | 176.53 | 176.61 | 176.69 | 176.68 | 176.60 | 176.51 | 176.41 | 176.32 | 176.39 |
| 14   | 176.35 | 176.28  | 176.34 | 176.59 | 176.60 | 176.70 | 176.66 | 176.59 | 176.54 | 176.42 | 176.38 | 176.34 |
| 15   | 176.36 | 176.25  | 176.32 | 176.58 | 176.61 | 176.66 | 176.65 | 176.58 | 176.52 | 176.35 | 176.39 | 176.28 |
| 16   | 176.37 | 176.26  | 176.32 | 176.48 | 176.61 | 176.64 | 176.62 | 176.58 | 176.45 | 176.34 | 176.35 | 176.39 |
| 17   | 176.32 | 176.25  | 176.34 | 176.51 | 176.62 | 176.65 | 176.59 | 176.55 | 176.40 | 176.32 | 176.40 | 176.35 |
| 18   | 176.28 | 176.34  | 176.32 | 176.54 | 176.66 | 176.68 | 176.62 | 176.55 | 176.40 | 176.30 | 176.44 | 176.36 |
| 19   | 176.31 | 176.35  | 176.30 | 176.54 | 176.63 | 176.67 | 176.62 | 176.64 | 176.37 | 176.34 | 176.38 | 176.39 |
| 20   | 176.32 | 176.28  | 176.33 | 176.57 | 176.63 | 176.67 | 176.64 | 176.61 | 176.43 | 176.32 | 176.36 | 176.37 |
| 21   | 176.39 | 176.32  | 176.44 | 176.54 | 176.62 | 176.71 | 176.66 | 176.58 | 176.43 | 176.34 | 176.37 | 176.30 |
| 22   | 176.37 | 176.25  | 176.52 | 176.52 | 176.62 | 176.73 | 176.65 | 176.56 | 176.42 | 176.40 | 176.39 | 176.31 |
| 23   | 176.24 | 176.30* | 176.58 | 176.54 | 176.63 | 176.68 | 176.61 | 176.58 | 176.34 | 176.40 | 176.46 | 176.31 |
| 24   | 176.25 | 176.31  | 176.39 | 176.55 | 176.61 | 176.68 | 176.61 | 176.60 | 176.40 | 176.39 | 176.38 | 176.37 |
| 25   | 176.30 | 176.29  | 176.35 | 176.56 | 176.63 | 176.66 | 176.65 | 176.58 | 176.41 | 176.41 | 176.30 | 176.38 |
| 26   | 176.28 | 176.28  | 176.44 | 176.58 | 176.70 | 176.66 | 176.64 | 176.53 | 176.30 | 176.40 | 176.37 | 176.38 |
| 27   | 176.27 | 176.29  | 176.42 | 176.60 | 176.64 | 176.62 | 176.62 | 176.52 | 176.32 | 176.44 | 176.38 | 176.39 |
| 28   | 176.25 | 176.30  | 176.30 | 176.63 | 176.67 | 176.62 | 176.64 | 176.53 | 176.38 | 176.51 | 176.30 | 176.38 |
| 29   | 176.26 |         | 176.31 | 176.66 | 176.67 | 176.69 | 176.66 | 176.55 | 176.39 | 176.54 | 176.43 | 176.40 |
| 30   | 176.31 |         | 176.39 | 176.62 | 176.67 | 176.69 | 176.65 | 176.52 | 176.45 | 176.44 | 176.41 | 176.44 |
| 31   | 176.28 |         | 176.39 |        | 176.66 |        | 176.60 | 176.54 |        | 176.46 |        | 176.42 |
| Mean | 176.33 | 176.30  | 176.36 | 176.51 | 176.62 | 176.67 | 176.65 | 176.59 | 176.46 | 176.40 | 176.36 | 176.37 |
| Max. | 176.54 | 176.46  | 176.68 | 176.76 | 176.77 | 176.81 | 176.90 | 176.71 | 176.64 | 176.63 | 176.68 | 176.53 |
| Hr.  | 1600   | 1100    | 0100   | 1700   | 0100   | 0700   | 2300   | 1400   | 0300   | 0300   | 1900   | 1500   |
| Day  | 11     | 19      | 23     | 29     | 6      | 14     | 7      | 2      | 1      | 5      | 1      | 6      |
| Min. | 176.18 | 176.18  | 176.18 | 176.32 | 176.46 | 176.58 | 176.51 | 176.47 | 176.24 | 176.26 | 176.18 | 176.18 |
| Hr.  | 1300   | 0100    | 2200   | 0300   | 0200   | 0400   | 0600   | 0200   | 0200   | 0800   | 1100   | 0100   |
| Day  | 28     | 23      | 28     | 2      | 1      | 28     | 17     | 31     | 27     | 18     | 3      | 2      |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.47

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 908-7079 Green Bay, Wisconsin on Lake Michigan

## HIGHEST

Monthly mean elevation: 176.69 Jun  
Daily mean elevation: 176.93 21 Jun  
Instant/hourly elevation: 177.08 0300/5 Oct

## LOWEST

Monthly mean elevation: 176.29 Feb  
Daily mean elevation: 175.81 2 Nov  
Instant/hourly elevation: 175.65 1600/2 Nov

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.49 | 176.38 | 176.59 | 176.75 | 176.86 | 176.93 | 176.76 | 176.78 | 176.63 | 176.63 | 176.58 | 176.50 |
| Day | 11     | 18     | 23     | 9      | 17     | 21     | 13     | 19     | 1      | 4      | 23     | 3      |
| Min | 176.20 | 176.21 | 176.23 | 176.35 | 176.40 | 176.57 | 176.56 | 176.50 | 176.23 | 176.22 | 175.81 | 176.15 |
| Day | 4      | 15     | 28     | 2      | 1      | 27     | 31     | 26     | 18     | 16     | 2      | 1      |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.90         |     |     |     |     |     | 1   |     |     |     |     |     |     | 176.90         | 1                          |
| 176.85         |     |     |     |     | 1   |     |     |     |     |     |     |     | 176.85         | 2                          |
| 176.80         |     |     |     |     |     | 1   |     |     |     |     |     |     | 176.80         | 3                          |
| 176.75         |     |     |     |     | 1   | 4   | 1   | 1   |     |     |     |     | 176.75         | 10                         |
| 176.70         |     |     |     | 2   | 1   | 5   | 4   | 1   |     |     |     |     | 176.70         | 23                         |
| 176.65         |     |     |     | 3   | 9   | 12  | 13  | 4   |     |     |     |     | 176.65         | 64                         |
| 176.60         |     |     |     | 3   | 10  | 5   | 7   | 8   | 1   | 1   |     |     | 176.60         | 99                         |
| 176.55         |     |     | 2   | 6   | 5   | 2   | 6   | 8   | 1   | 2   | 1   |     | 176.55         | 131                        |
| 176.50         |     |     |     | 4   | 2   |     |     | 8   | 11  | 3   | 1   |     | 176.50         | 160                        |
| 176.45         | 1   |     | 2   | 4   | 1   |     |     | 1   | 4   | 2   | 1   | 1   | 176.45         | 177                        |
| 176.40         | 2   |     | 2   | 2   |     |     |     |     | 2   | 7   | 5   | 6   | 176.40         | 203                        |
| 176.35         | 7   | 2   | 8   | 5   | 1   |     |     |     | 2   | 6   | 3   | 11  | 176.35         | 248                        |
| 176.30         | 7   | 8   | 13  | 1   |     |     |     |     | 5   | 3   | 7   | 8   | 176.30         | 300                        |
| 176.25         | 10  | 13  | 3   |     |     |     |     |     | 4   | 5   | 8   | 2   | 176.25         | 345                        |
| 176.20         | 3   | 5   | 1   |     |     |     |     |     | 1   | 2   |     | 1   | 176.20         | 358                        |
| 176.15         | 1   |     |     |     |     |     |     |     |     |     | 2   | 1   | 176.15         | 362                        |
| 176.10         |     |     |     |     |     |     |     |     |     |     |     | 1   | 176.10         | 363                        |
| 176.05         |     |     |     |     |     |     |     |     |     |     |     |     | 176.05         | 363                        |
| 176.00         |     |     |     |     |     |     |     |     |     |     | 1   |     | 176.00         | 364                        |
| 175.95         |     |     |     |     |     |     |     |     |     |     |     |     | 175.95         | 364                        |
| 175.90         |     |     |     |     |     |     |     |     |     |     |     |     | 175.90         | 364                        |
| 175.85         |     |     |     |     |     |     |     |     |     |     |     |     | 175.85         | 364                        |
| 175.80         |     |     |     |     |     |     |     |     |     |     | 1   |     | 175.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7079 Green Bay, Wisconsin on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 176.26               | 176.32               | 176.36               | 176.38               | 176.40               | 176.72               | 176.75               | 176.57               | 176.63               | 176.36               | 176.52               | 176.15              |
| 2                  | 176.26               | 176.34               | 176.29               | 176.35               | 176.52               | 176.72               | 176.74               | 176.64               | 176.53               | 176.42               | 175.81               | 176.38              |
| 3                  | 176.28               | 176.31               | 176.34               | 176.41               | 176.64               | 176.78               | 176.70               | 176.70               | 176.52               | 176.43               | 176.04               | 176.50              |
| 4                  | 176.20               | 176.32               | 176.31               | 176.43               | 176.69               | 176.77               | 176.69               | 176.66               | 176.48               | 176.63               | 176.27               | 176.35              |
| 5                  | 176.30               | 176.31               | 176.35               | 176.40               | 176.74               | 176.72               | 176.67               | 176.62               | 176.48               | 176.45               | 176.29               | 176.41              |
| 6                  | 176.34               | 176.32               | 176.33               | 176.40               | 176.49               | 176.68               | 176.65               | 176.65               | 176.53               | 176.30               | 176.20               | 176.43              |
| 7                  | 176.35               | 176.32               | 176.26               | 176.38               | 176.53               | 176.66               | 176.68               | 176.65               | 176.52               | 176.29               | 176.26               | 176.36              |
| 8                  | 176.45               | 176.30               | 176.33               | 176.51               | 176.60               | 176.66               | 176.67               | 176.66               | 176.54               | 176.39               | 176.26               | 176.40              |
| 9                  | 176.36               | 176.28               | 176.37               | 176.75               | 176.65               | 176.63               | 176.62               | 176.66               | 176.49               | 176.37               | 176.17               | 176.35              |
| 10                 | 176.35               | 176.26               | 176.35               | 176.49               | 176.62               | 176.60               | 176.67               | 176.61               | 176.52               | 176.38               | 176.34               | 176.32              |
| 11                 | 176.49               | 176.24               | 176.39               | 176.48               | 176.60               | 176.66               | 176.66               | 176.60               | 176.52               | 176.41               | 176.41               | 176.32              |
| 12                 | 176.41               | 176.27               | 176.41               | 176.59               | 176.59               | 176.71               | 176.72               | 176.61               | 176.53               | 176.48               | 176.31               | 176.44              |
| 13                 | 176.38               | 176.29               | 176.39               | 176.63               | 176.61               | 176.68               | 176.76               | 176.58               | 176.51               | 176.40               | 176.26               | 176.39              |
| 14                 | 176.36               | 176.23               | 176.34               | 176.67               | 176.60               | 176.68               | 176.67               | 176.57               | 176.51               | 176.34               | 176.39               | 176.17              |
| 15                 | 176.37               | 176.21               | 176.32               | 176.56               | 176.60               | 176.64               | 176.62               | 176.54               | 176.51               | 176.31               | 176.40               | 176.26              |
| 16                 | 176.37               | 176.23               | 176.34               | 176.47               | 176.63               | 176.64               | 176.56               | 176.52               | 176.31               | 176.22               | 176.34               | 176.39              |
| 17                 | 176.32               | 176.26               | 176.34               | 176.50               | 176.86               | 176.66               | 176.59               | 176.52               | 176.34               | 176.27               | 176.41               | 176.33              |
| 18                 | 176.27               | 176.38               | 176.33               | 176.57               | 176.78               | 176.66               | 176.61               | 176.64               | 176.23               | 176.34               | 176.43               | 176.37              |
| 19                 | 176.30               | 176.36               | 176.30               | 176.73               | 176.67               | 176.66               | 176.60               | 176.78               | 176.35               | 176.30               | 176.39               | 176.37              |
| 20                 | 176.33               | 176.30               | 176.37               | 176.67               | 176.64               | 176.70               | 176.66               | 176.60               | 176.42               | 176.24               | 176.35               | 176.32              |
| 21                 | 176.38               | 176.30               | 176.49               | 176.57               | 176.63               | 176.93               | 176.70               | 176.55               | 176.38               | 176.30               | 176.33               | 176.27              |
| 22                 | 176.38               | 176.24               | 176.58               | 176.51               | 176.63               | 176.84               | 176.66               | 176.58               | 176.30               | 176.43               | 176.41               | 176.24              |
| 23                 | 176.22               | 176.29               | 176.59               | 176.55               | 176.62               | 176.72               | 176.59               | 176.59               | 176.30               | 176.41               | 176.58               | 176.33              |
| 24                 | 176.25               | 176.30               | 176.38               | 176.56               | 176.63               | 176.68               | 176.59               | 176.61               | 176.42               | 176.39               | 176.41               | 176.36              |
| 25                 | 176.28               | 176.29               | 176.34               | 176.55               | 176.70               | 176.66               | 176.66               | 176.56               | 176.30               | 176.44               | 176.28               | 176.37              |
| 26                 | 176.29               | 176.28               | 176.46               | 176.60               | 176.69               | 176.63               | 176.63               | 176.50               | 176.29               | 176.50               | 176.32               | 176.35              |
| 27                 | 176.31               | 176.29               | 176.44               | 176.63               | 176.66               | 176.57               | 176.62               | 176.51               | 176.32               | 176.51               | 176.29               | 176.39              |
| 28                 | 176.28               | 176.32               | 176.23               | 176.64               | 176.68               | 176.61               | 176.67               | 176.53               | 176.34               | 176.57               | 176.30               | 176.38              |
| 29                 | 176.24               |                      | 176.34               | 176.66               | 176.70               | 176.76               | 176.72               | 176.54               | 176.46               | 176.51               | 176.46               | 176.41              |
| 30                 | 176.34               |                      | 176.36               | 176.37               | 176.69               | 176.78               | 176.64               | 176.54               | 176.39               | 176.52               | 176.31               | 176.44              |
| 31                 | 176.28               |                      | 176.40               |                      | 176.70               |                      | 176.56               | 176.73               |                      | 176.57               |                      | 176.43              |
| Mean               | 176.32               | 176.29               | 176.37               | 176.53               | 176.64               | 176.69               | 176.66               | 176.60               | 176.43               | 176.40               | 176.32               | 176.35              |
| Max.<br>Hr.<br>Day | 176.74<br>0800<br>29 | 176.61<br>0600<br>23 | 176.81<br>0400<br>23 | 176.98<br>1000<br>14 | 177.00<br>1300<br>17 | 177.06<br>1400<br>21 | 177.03<br>1100<br>1  | 177.01<br>2000<br>3  | 176.80<br>0100<br>1  | 177.08<br>0300<br>5  | 176.78<br>0600<br>23 | 176.80<br>1700<br>5 |
| Min.<br>Hr.<br>Day | 175.77<br>0400<br>29 | 175.90<br>0100<br>23 | 175.94<br>1400<br>2  | 176.12<br>0300<br>1  | 176.27<br>1400<br>1  | 176.38<br>0400<br>27 | 175.84<br>0900<br>17 | 176.26<br>0200<br>17 | 175.99<br>0900<br>18 | 175.92<br>0100<br>20 | 175.65<br>1600<br>2  | 175.76<br>1200<br>1 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.47

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 908-7096 Port Inland, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 176.66 Jun  
Daily mean elevation: 176.72 2 Jul  
Instant/hourly elevation: 176.95 2000/1 Nov

LOWEST

Monthly mean elevation: 176.29 Feb  
Daily mean elevation: 176.17 15 Feb  
Instant/hourly elevation: 175.99 1200/2 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 176.43 | 176.38 | 176.53 | 176.68 | 176.71 | 176.71 | 176.72 | 176.62 | 176.59 | 176.56 | 176.67 | 176.48 |
| Day | 8      | 19     | 23     | 30     | 29     | 14     | 2      | 1      | 14     | 29     | 2      | 6      |
| Min | 176.22 | 176.17 | 176.19 | 176.35 | 176.52 | 176.61 | 176.60 | 176.48 | 176.27 | 176.32 | 176.28 | 176.28 |
| Day | 20     | 15     | 2      | 1      | 3      | 12     | 27     | 31     | 26     | 18     | 25     | 2      |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.70         |     |     |     |     | 2   | 1   | 1   |     |     |     |     |     | 176.70         | 4                          |
| 176.65         |     |     |     | 1   | 1   | 14  | 9   |     |     |     | 1   |     | 176.65         | 30                         |
| 176.60         |     |     |     |     | 5   | 15  | 16  | 1   |     |     |     |     | 176.60         | 67                         |
| 176.55         |     |     |     | 3   | 17  |     | 5   | 22  | 4   | 1   | 1   |     | 176.55         | 120                        |
| 176.50         |     |     | 1   | 9   | 4   |     |     | 7   | 10  | 2   |     |     | 176.50         | 153                        |
| 176.45         |     |     |     | 6   |     |     |     | 1   | 6   | 2   | 5   | 2   | 176.45         | 175                        |
| 176.40         | 3   |     | 4   | 6   |     |     |     |     | 5   | 6   | 1   | 6   | 176.40         | 206                        |
| 176.35         | 6   | 2   | 3   | 4   |     |     |     |     | 3   | 15  | 13  | 15  | 176.35         | 267                        |
| 176.30         | 13  | 7   | 11  | 1   |     |     |     |     |     | 5   | 6   | 6   | 176.30         | 316                        |
| 176.25         | 7   | 13  | 11  |     |     |     |     |     | 2   |     | 3   | 2   | 176.25         | 354                        |
| 176.20         | 2   | 4   |     |     |     |     |     |     |     |     |     |     | 176.20         | 360                        |
| 176.15         |     | 2   | 1   |     |     |     |     |     |     |     |     |     | 176.15         | 363                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 908-7096 Port Inland, Michigan on Lake Michigan

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                 | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 176.34               | 176.31               | 176.31               | 176.35               | 176.56               | 176.66               | 176.68              | 176.62               | 176.58               | 176.40               | 176.59               | 176.33              |
| 2                  | 176.28               | 176.34               | 176.19               | 176.36               | 176.54               | 176.68               | 176.72              | 176.59               | 176.56               | 176.40               | 176.67               | 176.28              |
| 3                  | 176.32               | 176.36               | 176.27               | 176.41               | 176.52               | 176.64               | 176.66              | 176.60               | 176.53               | 176.38               | 176.32               | 176.40              |
| 4                  | 176.28               | 176.34               | 176.28               | 176.42               | 176.58               | 176.65               | 176.69              | 176.56               | 176.49               | 176.35               | 176.35               | 176.34              |
| 5                  | 176.29               | 176.30               | 176.32               | 176.42               | 176.58               | 176.64               | 176.68              | 176.58               | 176.52               | 176.52               | 176.49               | 176.34              |
| 6                  | 176.33               | 176.31               | 176.32               | 176.44               | 176.70               | 176.64               | 176.66              | 176.59               | 176.51               | 176.34               | 176.31               | 176.48              |
| 7                  | 176.33               | 176.30               | 176.27               | 176.43               | 176.53               | 176.66               | 176.67              | 176.60               | 176.52               | 176.36               | 176.30               | 176.36              |
| 8                  | 176.43               | 176.33               | 176.33               | 176.40               | 176.54               | 176.65               | 176.60              | 176.59               | 176.51               | 176.44               | 176.39               | 176.40              |
| 9                  | 176.34               | 176.28               | 176.34               | 176.42               | 176.59               | 176.67               | 176.64              | 176.58               | 176.58               | 176.41               | 176.45               | 176.38              |
| 10                 | 176.32               | 176.26               | 176.33               | 176.39               | 176.58               | 176.66               | 176.64              | 176.56               | 176.43               | 176.38               | 176.33               | 176.45              |
| 11                 | 176.42               | 176.25               | 176.31               | 176.37               | 176.59               | 176.65               | 176.64              | 176.55               | 176.47               | 176.41               | 176.37               | 176.36              |
| 12                 | 176.39               | 176.30               | 176.30               | 176.46               | 176.56               | 176.61*              | 176.65              | 176.57               | 176.51               | 176.36               | 176.38               | 176.46              |
| 13                 | 176.40               | 176.23               | 176.27               | 176.48               | 176.59               | 176.67*              | 176.62              | 176.58               | 176.51               | 176.40               | 176.37               | 176.40              |
| 14                 | 176.37               | 176.21               | 176.29               | 176.55               | 176.59               | 176.71               | 176.62              | 176.56               | 176.59*              | 176.47               | 176.38               | 176.43              |
| 15                 | 176.36               | 176.17               | 176.30               | 176.55               | 176.59               | 176.65*              | 176.64              | 176.57               | 176.55               | 176.36               | 176.39               | 176.29              |
| 16                 | 176.36               | 176.31               | 176.30               | 176.48               | 176.60               | 176.63               | 176.66              | 176.60               | 176.54               | 176.47               | 176.32               | 176.42              |
| 17                 | 176.33               | 176.22               | 176.30               | 176.51               | 176.57               | 176.64               | 176.64              | 176.57               | 176.45               | 176.43               | 176.38               | 176.38              |
| 18                 | 176.31               | 176.30               | 176.32               | 176.53               | 176.61               | 176.67               | 176.65              | 176.52               | 176.48               | 176.32               | 176.48               | 176.34              |
| 19                 | 176.36               | 176.38               | 176.29               | 176.49               | 176.58               | 176.64               | 176.64              | 176.56               | 176.38               | 176.34               | 176.37               | 176.43              |
| 20                 | 176.22               | 176.29               | 176.31               | 176.50               | 176.59               | 176.63               | 176.65              | 176.57               | 176.44               | 176.36               | 176.35               | 176.44              |
| 21                 | 176.34               | 176.31               | 176.39               | 176.50               | 176.60               | 176.63               | 176.66              | 176.57               | 176.49               | 176.38               | 176.40               | 176.35              |
| 22                 | 176.42*              | 176.19               | 176.43               | 176.51               | 176.62*              | 176.66               | 176.68              | 176.53               | 176.51               | 176.40               | 176.40               | 176.39              |
| 23                 | 176.27               | 176.28               | 176.53               | 176.54               | 176.64               | 176.63               | 176.61              | 176.54               | 176.36               | 176.42               | 176.46               | 176.31              |
| 24                 | 176.24               | 176.30               | 176.36               | 176.54               | 176.60               | 176.66               | 176.60              | 176.60               | 176.43               | 176.42               | 176.36               | 176.37              |
| 25                 | 176.31               | 176.26               | 176.32               | 176.55               | 176.60*              | 176.66*              | 176.60              | 176.60               | 176.50               | 176.37               | 176.28               | 176.38              |
| 26                 | 176.34               | 176.28               | 176.43               | 176.55               | /                    | 176.69*              | 176.60              | 176.58               | 176.27               | 176.35               | 176.40               | 176.38              |
| 27                 | 176.34               | 176.30               | 176.44               | 176.58               | /                    | 176.69               | 176.60              | 176.55               | 176.30               | 176.39               | 176.48               | 176.38              |
| 28                 | 176.28               | 176.29               | 176.31               | 176.59               | 176.71*              | 176.63               | 176.61              | 176.55               | 176.43               | 176.51               | 176.30               | 176.36              |
| 29                 | 176.27               |                      | 176.28               | 176.59               | 176.71               | 176.69               | 176.61              | 176.57               | 176.37               | 176.56               | 176.40               | 176.36              |
| 30                 | 176.31               |                      | 176.39               | 176.68               | 176.65               | 176.66               | 176.61              | 176.54               | 176.49               | 176.38               | 176.50               | 176.40              |
| 31                 | 176.30               |                      | 176.43               |                      | 176.63               |                      | 176.61              | 176.48               |                      | 176.38               |                      | 176.41              |
| Mean               | 176.33               | 176.29               | 176.33               | 176.49               | 176.60               | 176.66               | 176.64              | 176.57               | 176.48               | 176.40               | 176.40               | 176.38              |
| Max.<br>Hr.<br>Day | 176.62<br>2000<br>22 | 176.47<br>2200<br>1  | 176.61<br>1100<br>23 | 176.74<br>1300<br>30 | 176.89<br>2200<br>28 | 176.84<br>1200<br>29 | 176.84<br>2400<br>1 | 176.73<br>0300<br>17 | 176.75<br>2100<br>9  | 176.63<br>2400<br>28 | 176.95<br>2000<br>1  | 176.62<br>1800<br>6 |
| Min.<br>Hr.<br>Day | 176.06<br>1600<br>28 | 176.08<br>0200<br>15 | 175.99<br>1200<br>2  | 176.25<br>0900<br>10 | 176.45<br>0800<br>3  | 176.56<br>0300<br>28 | 176.50<br>1100<br>8 | 176.41<br>0400<br>31 | 176.18<br>2100<br>26 | 176.22<br>0200<br>22 | 176.16<br>2300<br>30 | 176.12<br>2400<br>1 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 176.46

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 909-9004 Point Iroquois, Michigan on Lake Superior (Whitefish Bay)

## HIGHEST

Monthly mean elevation: 183.47 Dec  
Daily mean elevation: 183.67 26 Sep  
Instant/hourly elevation: 183.91 1000/30 Nov

## LOWEST

Monthly mean elevation: 183.14 Mar  
Daily mean elevation: 183.06 22 Mar  
Instant/hourly elevation: 182.87 0800/29 May

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 183.35 | 183.26 | 183.32 | 183.30 | 183.36 | 183.40 | 183.53 | 183.53 | 183.67 | 183.56 | 183.63 | 183.58 |
| Day | 3      | 10     | 28     | 10     | 31     | 30     | 24     | 4      | 26     | 6      | 6      | 1      |
| Min | 183.16 | 183.12 | 183.06 | 183.12 | 183.26 | 183.31 | 183.37 | 183.38 | 183.37 | 183.30 | 183.35 | 183.38 |
| Day | 8      | 28     | 22     | 3      | 4      | 26     | 1      | 24     | 14     | 29     | 18     | 31     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.65         |     |     |     |     |     |     |     |     | 1   |     |     |     | 183.65         | 1                          |
| 183.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 183.60         | 2                          |
| 183.55         |     |     |     |     |     |     |     |     | 2   | 1   | 3   | 1   | 183.55         | 9                          |
| 183.50         |     |     |     |     |     |     | 4   | 5   | 3   |     | 4   | 5   | 183.50         | 30                         |
| 183.45         |     |     |     |     |     |     | 12  | 15  | 4   | 9   | 8   | 13  | 183.45         | 91                         |
| 183.40         |     |     |     |     |     |     | 12  | 9   | 14  | 14  | 11  | 9   | 183.40         | 160                        |
| 183.35         |     |     |     |     | 3   | 21  | 3   | 2   | 6   | 4   | 1   | 3   | 183.35         | 203                        |
| 183.30         | 7   |     | 1   |     | 12  | 9   |     |     |     | 1   | 2   |     | 183.30         | 235                        |
| 183.25         | 8   | 1   |     | 7   | 16  |     |     |     |     | 2   |     |     | 183.25         | 269                        |
| 183.20         | 11  | 6   | 3   | 12  |     |     |     |     |     |     |     |     | 183.20         | 301                        |
| 183.15         | 5   | 15  | 7   | 6   |     |     |     |     |     |     |     |     | 183.15         | 334                        |
| 183.10         |     | 6   | 13  | 5   |     |     |     |     |     |     |     |     | 183.10         | 358                        |
| 183.05         |     |     | 7   |     |     |     |     |     |     |     |     |     | 183.05         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 909-9004 Point Iroquois, Michigan on Lake Superior (Whitefish Bay)

International  
Great Lakes  
Datum (1985)

| Day                | Jan                 | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 183.33              | 183.14               | 183.13               | 183.24               | 183.30               | 183.35               | 183.37               | 183.51               | 183.39               | 183.42               | 183.35               | 183.58              |
| 2                  | 183.34              | 183.18               | 183.22               | 183.16               | 183.33               | 183.36               | 183.39               | 183.51               | 183.37               | 183.44               | 183.44               | 183.48              |
| 3                  | 183.35              | 183.17               | 183.15               | 183.12               | 183.30               | 183.38               | 183.40               | 183.52               | 183.44               | 183.45               | 183.54               | 183.49              |
| 4                  | 183.32              | 183.19               | 183.16               | 183.13               | 183.26               | 183.38               | 183.41               | 183.53               | 183.45               | 183.43               | 183.52               | 183.54              |
| 5                  | 183.28              | 183.21               | 183.07               | 183.15               | 183.27               | 183.38               | 183.42               | 183.50               | 183.44               | 183.50               | 183.42               | 183.45              |
| 6                  | 183.33              | 183.17               | 183.23               | 183.15               | 183.27               | 183.37               | 183.42               | 183.47               | 183.43               | 183.56               | 183.63               | 183.40              |
| 7                  | 183.24              | 183.18               | 183.17               | 183.19               | 183.36               | 183.36               | 183.44               | 183.47               | 183.42               | 183.48               | 183.54               | 183.50              |
| 8                  | 183.16              | 183.20               | 183.11               | 183.22               | 183.30               | 183.35               | 183.47               | 183.48               | 183.39               | 183.42               | 183.46               | 183.49              |
| 9                  | 183.33              | 183.23               | 183.15               | 183.22               | 183.29               | 183.33               | 183.45               | 183.49               | 183.39               | 183.48               | 183.43               | 183.48              |
| 10                 | 183.21              | 183.26               | 183.16               | 183.30               | 183.29               | 183.36               | 183.46               | 183.49               | 183.52               | 183.46               | 183.48               | 183.46              |
| 11                 | 183.18              | 183.22               | 183.10               | 183.22               | 183.30               | 183.37               | 183.44               | 183.48               | 183.45               | 183.43               | 183.47               | 183.46              |
| 12                 | 183.25              | 183.20               | 183.12               | 183.18               | 183.32               | 183.39               | 183.45               | 183.48               | 183.41               | 183.46               | 183.44               | 183.42              |
| 13                 | 183.19              | 183.17               | 183.14               | 183.19               | 183.30               | 183.32               | 183.49               | 183.47               | 183.43               | 183.39               | 183.45               | 183.48              |
| 14                 | 183.24              | 183.25               | 183.14               | 183.13               | 183.32               | 183.33               | 183.46               | 183.46               | 183.37               | 183.38               | 183.42               | 183.54              |
| 15                 | 183.24              | 183.24               | 183.13               | 183.25               | 183.30               | 183.38               | 183.43               | 183.45               | 183.43               | 183.48               | 183.50               | 183.53              |
| 16                 | 183.25              | 183.19               | 183.12               | 183.28               | 183.33               | 183.40               | 183.42               | 183.44               | 183.47               | 183.38               | 183.48               | 183.45              |
| 17                 | 183.28              | 183.15               | 183.12               | 183.26               | 183.35               | 183.36               | 183.45               | 183.50               | 183.47               | 183.41               | 183.38               | 183.55              |
| 18                 | 183.27              | 183.12               | 183.13               | 183.24               | 183.32               | 183.36               | 183.44               | 183.51               | 183.56               | 183.50               | 183.35               | 183.50              |
| 19                 | 183.25              | 183.17               | 183.14               | 183.27               | 183.32               | 183.39               | 183.46               | 183.48               | 183.55               | 183.45               | 183.46               | 183.44              |
| 20                 | 183.26              | 183.14               | 183.08               | 183.26               | 183.30               | 183.38               | 183.45               | 183.44               | 183.49               | 183.42               | 183.47               | 183.45              |
| 21                 | 183.23              | 183.17               | 183.07               | 183.27               | 183.30               | 183.40               | 183.48               | 183.42               | 183.42               | 183.42               | 183.41               | 183.48              |
| 22                 | 183.17              | 183.23               | 183.06               | 183.26               | 183.28               | 183.40               | 183.47               | 183.49               | 183.41               | 183.32               | 183.45               | 183.46              |
| 23                 | 183.34              | 183.12               | 183.09               | 183.25               | 183.28               | 183.38               | 183.53               | 183.44               | 183.56               | 183.40               | 183.45               | 183.52              |
| 24                 | 183.28              | 183.19               | 183.19               | 183.25               | 183.32               | 183.35               | 183.53               | 183.38               | 183.45               | 183.41               | 183.57               | 183.49              |
| 25                 | 183.27              | 183.18               | 183.13               | 183.21               | 183.33               | 183.34               | 183.52               | 183.39               | 183.45               | 183.47               | 183.56               | 183.41              |
| 26                 | 183.25              | 183.16               | 183.09               | 183.22               | 183.30               | 183.31               | 183.50               | 183.41               | 183.67               | 183.44               | 183.42               | 183.46              |
| 27                 | 183.24              | 183.16               | 183.19               | 183.18               | 183.34               | 183.35               | 183.48               | 183.44               | 183.52               | 183.43               | 183.46               | 183.42              |
| 28                 | 183.28              | 183.12               | 183.32               | 183.22               | 183.34               | 183.40               | 183.48               | 183.45               | 183.46               | 183.30               | 183.51               | 183.42              |
| 29                 | 183.25              |                      | 183.25               | 183.19               | 183.31               | 183.38               | 183.50               | 183.43               | 183.41               | 183.30               | 183.41               | 183.43              |
| 30                 | 183.20              |                      | 183.17               | 183.21               | 183.36               | 183.40               | 183.51               | 183.48               | 183.38               | 183.50               | 183.56               | 183.38              |
| 31                 | 183.28              |                      | 183.17               |                      | 183.36               |                      | 183.48               | 183.47               |                      | 183.45               |                      | 183.38              |
| Mean               | 183.26              | 183.18               | 183.14               | 183.21               | 183.31               | 183.37               | 183.46               | 183.47               | 183.45               | 183.43               | 183.47               | 183.47              |
| Max.<br>Hr.<br>Day | 183.59<br>2300<br>1 | 183.33<br>1100<br>10 | 183.49<br>0300<br>28 | 183.41<br>1000<br>16 | 183.74<br>1100<br>29 | 183.60<br>1300<br>27 | 183.61<br>0700<br>24 | 183.57<br>0200<br>1  | 183.78<br>1800<br>18 | 183.62<br>2200<br>17 | 183.91<br>1000<br>30 | 183.86<br>1800<br>1 |
| Min.<br>Hr.<br>Day | 183.02<br>1000<br>8 | 183.05<br>1800<br>17 | 182.93<br>2000<br>5  | 182.99<br>1500<br>14 | 182.87<br>0800<br>29 | 183.10<br>1100<br>27 | 183.23<br>1000<br>1  | 183.31<br>0400<br>25 | 183.21<br>0200<br>30 | 183.16<br>0100<br>29 | 183.26<br>0200<br>18 | 183.23<br>1900<br>6 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 183.35



Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 909-9018 Marquette Coast Guard, Michigan on Lake Superior

HIGHEST

Monthly mean elevation: 183.47 Nov  
Daily mean elevation: 183.55 24 Nov  
Instant/hourly elevation: 183.61 2100/20 Jul

LOWEST

Monthly mean elevation: 183.15 Mar  
Daily mean elevation: 183.12 22 Mar  
Instant/hourly elevation: 183.05 2100/22 Mar

----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 183.29 | 183.26 | 183.23 | 183.26 | 183.36 | 183.42 | 183.50 | 183.51 | 183.51 | 183.49 | 183.55 | 183.52 |
| Day | 6      | 15     | 2      | 30     | 31     | 29     | 25     | 18     | 26     | 6      | 24     | 15     |
| Min | 183.17 | 183.14 | 183.12 | 183.16 | 183.28 | 183.34 | 183.42 | 183.42 | 183.40 | 183.40 | 183.42 | 183.41 |
| Day | 22     | 28     | 22     | 4      | 1      | 26     | 1      | 26     | 2      | 28     | 2      | 31     |

----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.50         |     |     |     |     |     |     |     | 1   | 1   |     | 4   | 3   | 183.50         | 9                          |
| 183.45         |     |     |     |     |     |     | 20  | 20  | 8   | 4   | 15  | 14  | 183.45         | 90                         |
| 183.40         |     |     |     |     |     | 1   | 11  | 10  | 20  | 26  | 11  | 14  | 183.40         | 183                        |
| 183.35         |     |     |     |     |     | 25  |     |     | 1   | 1   |     |     | 183.35         | 212                        |
| 183.30         |     |     |     |     | 2   | 4   |     |     |     |     |     |     | 183.30         | 240                        |
| 183.25         | 8   | 2   |     | 3   | 5   |     |     |     |     |     |     |     | 183.25         | 258                        |
| 183.20         | 19  | 2   | 4   | 17  |     |     |     |     |     |     |     |     | 183.20         | 300                        |
| 183.15         | 4   | 19  | 7   | 10  |     |     |     |     |     |     |     |     | 183.15         | 340                        |
| 183.10         |     | 5   | 20  |     |     |     |     |     |     |     |     |     | 183.10         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 909-9018 Marquette Coast Guard, Michigan on Lake Superior

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 183.28               | 183.19               | 183.15               | 183.20               | 183.28               | 183.36               | 183.42               | 183.49               | 183.43               | 183.42               | 183.47               | 183.48               |
| 2                  | 183.28               | 183.18               | 183.23               | 183.17               | 183.29               | 183.37               | 183.43               | 183.50               | 183.40               | 183.44               | 183.42               | 183.49               |
| 3                  | 183.27               | 183.18               | 183.17               | 183.16               | 183.30               | 183.37               | 183.44               | 183.50               | 183.42               | 183.44               | 183.47               | 183.50               |
| 4                  | 183.25               | 183.19               | 183.14               | 183.16               | 183.30               | 183.36               | 183.45               | 183.49               | 183.45               | 183.44               | 183.50               | 183.51               |
| 5                  | 183.27               | 183.19               | 183.13               | 183.18               | 183.30               | 183.36               | 183.44               | 183.47               | 183.45               | 183.49               | 183.46               | 183.48               |
| 6                  | 183.29               | 183.19               | 183.21               | 183.19               | 183.32               | 183.36               | 183.44               | 183.46               | 183.44               | 183.49               | 183.49               | 183.45               |
| 7                  | 183.27               | 183.19               | 183.17               | 183.19               | 183.33               | 183.36               | 183.44               | 183.47               | 183.43               | 183.44               | 183.49               | 183.47               |
| 8                  | 183.23               | 183.19               | 183.13               | 183.21               | 183.31               | 183.36               | 183.45               | 183.47               | 183.42               | 183.43               | 183.46               | 183.49               |
| 9                  | 183.27               | 183.20               | 183.15               | 183.24               | 183.32               | 183.35               | 183.45               | 183.48               | 183.43               | 183.44               | 183.44               | 183.48               |
| 10                 | 183.25               | 183.22               | 183.14               | 183.23               | 183.31               | 183.35               | 183.46               | 183.48               | 183.46               | 183.45               | 183.49               | 183.45               |
| 11                 | 183.23               | 183.21               | 183.13               | 183.20               | 183.31               | 183.36               | 183.46               | 183.47               | 183.45               | 183.45               | 183.48               | 183.44               |
| 12                 | 183.25               | 183.17               | 183.13               | 183.20               | 183.32               | 183.36               | 183.46               | 183.46               | 183.43               | 183.45               | 183.45               | 183.46               |
| 13                 | 183.21               | 183.18               | 183.14               | 183.20               | 183.32               | 183.35               | 183.47               | 183.46               | 183.44               | 183.42               | 183.45               | 183.46               |
| 14                 | 183.24               | 183.26               | 183.13               | 183.21               | 183.32               | 183.38               | 183.46               | 183.46               | 183.44               | 183.42               | 183.45               | 183.48               |
| 15                 | 183.24               | 183.26               | 183.12               | 183.22               | 183.32               | 183.38               | 183.45               | 183.46               | 183.45               | 183.44               | 183.47               | 183.52               |
| 16                 | 183.23               | 183.17               | 183.12               | 183.24               | 183.33               | 183.38               | 183.44               | 183.46               | 183.45               | 183.41               | 183.46               | 183.47               |
| 17                 | 183.24               | 183.16               | 183.12               | 183.24               | 183.34               | 183.38               | 183.46               | 183.48               | 183.48               | 183.43               | 183.43               | 183.51               |
| 18                 | 183.24               | 183.15               | 183.12               | 183.24               | 183.33               | 183.37               | 183.46               | 183.51               | 183.48               | 183.45               | 183.43               | 183.50               |
| 19                 | 183.23               | 183.16               | 183.12               | 183.26               | 183.31               | 183.37               | 183.48               | 183.48               | 183.50               | 183.43               | 183.45               | 183.44               |
| 20                 | 183.28               | 183.15               | 183.12               | 183.26               | 183.32               | 183.38               | 183.48               | 183.45               | 183.48               | 183.42               | 183.45               | 183.44               |
| 21                 | 183.25               | 183.16               | 183.13               | 183.24               | 183.31               | 183.38               | 183.48               | 183.44               | 183.44               | 183.43               | 183.44               | 183.43               |
| 22                 | 183.17               | 183.20               | 183.12               | 183.24               | 183.32               | 183.38               | 183.48               | 183.46               | 183.43               | 183.42               | 183.46               | 183.45               |
| 23                 | 183.24               | 183.16               | 183.15               | 183.25               | 183.31               | 183.38               | 183.49               | 183.45               | 183.47               | 183.42               | 183.52               | 183.47               |
| 24                 | 183.25               | 183.18               | 183.16               | 183.24               | 183.32               | 183.37               | 183.50               | 183.42               | 183.46               | 183.44               | 183.55               | 183.46               |
| 25                 | 183.22               | 183.17               | 183.15               | 183.23               | 183.33               | 183.37               | 183.50               | 183.42               | 183.44               | 183.44               | 183.51               | 183.42               |
| 26                 | 183.18               | 183.15               | 183.16               | 183.24               | 183.35               | 183.34               | 183.48               | 183.42               | 183.51               | 183.44               | 183.44               | 183.44               |
| 27                 | 183.19               | 183.14               | 183.19               | 183.24               | 183.34               | 183.37               | 183.48               | 183.44               | 183.46               | 183.43               | 183.46               | 183.43               |
| 28                 | 183.24               | 183.14               | 183.22               | 183.25               | 183.35               | 183.40               | 183.49               | 183.44               | 183.43               | 183.40               | 183.47               | 183.42               |
| 29                 | 183.22               |                      | 183.22               | 183.25               | 183.35               | 183.42               | 183.49               | 183.43               | 183.42               | 183.41               | 183.46               | 183.43               |
| 30                 | 183.20               |                      | 183.17               | 183.26               | 183.36               | 183.40               | 183.48               | 183.45               | 183.42               | 183.46               | 183.51               | 183.41               |
| 31                 | 183.22               |                      | 183.18               |                      | 183.36               |                      | 183.48               | 183.47               |                      | 183.48               |                      | 183.41               |
| Mean               | 183.24               | 183.18               | 183.15               | 183.22               | 183.32               | 183.37               | 183.46               | 183.46               | 183.45               | 183.44               | 183.47               | 183.46               |
| Max.<br>Hr.<br>Day | 183.36<br>1900<br>1  | 183.34<br>0600<br>15 | 183.30<br>1400<br>6  | 183.32<br>0200<br>10 | 183.54<br>0400<br>30 | 183.60<br>1400<br>27 | 183.61<br>2100<br>20 | 183.53<br>0900<br>2  | 183.55<br>1700<br>18 | 183.57<br>0700<br>5  | 183.60<br>0700<br>30 | 183.56<br>2100<br>17 |
| Min.<br>Hr.<br>Day | 183.11<br>1600<br>22 | 183.10<br>1500<br>21 | 183.05<br>2100<br>22 | 183.11<br>1400<br>15 | 183.17<br>1500<br>29 | 183.16<br>2200<br>27 | 183.31<br>0100<br>17 | 183.34<br>1800<br>26 | 183.34<br>1000<br>9  | 183.33<br>1700<br>25 | 183.36<br>2200<br>2  | 183.31<br>1900<br>21 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 183.35

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 909-9044 Ontonagon, Michigan on Lake Superior

## HIGHEST

Monthly mean elevation: 183.46 Nov  
Daily mean elevation: 183.53 1 Nov  
Instant/hourly elevation: 183.67 1500/29 May

## LOWEST

Monthly mean elevation: 183.16 Mar  
Daily mean elevation: 183.13 24 Mar  
Instant/hourly elevation: 183.08 0500/27 Mar

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 183.29 | 183.23 | 183.22 | 183.31 | 183.39 | 183.43 | 183.49 | 183.48 | 183.49 | 183.47 | 183.53 | 183.49 |
| Day | 1      | 1      | 23     | 29     | 30     | 29     | 20     | 2      | 17     | 29     | 1      | 17     |
| Min | 183.21 | 183.13 | 183.13 | 183.17 | 183.27 | 183.35 | 183.44 | 183.42 | 183.41 | 183.41 | 183.43 | 183.41 |
| Day | 31     | 15     | 24     | 10     | 1      | 10     | 14     | 31     | 3      | 23     | 25     | 31     |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.50         |     |     |     |     |     |     |     |     |     |     | 2   |     | 183.50         | 2                          |
| 183.45         |     |     |     |     |     |     | 17  | 11  | 6   | 2   | 17  | 15  | 183.45         | 70                         |
| 183.40         |     |     |     |     |     | 2   | 14  | 20  | 24  | 29  | 11  | 16  | 183.40         | 186                        |
| 183.35         |     |     |     |     | 5   | 27  |     |     |     |     |     |     | 183.35         | 218                        |
| 183.30         |     |     |     | 1   | 24  | 1   |     |     |     |     |     |     | 183.30         | 244                        |
| 183.25         | 15  |     |     | 8   | 2   |     |     |     |     |     |     |     | 183.25         | 269                        |
| 183.20         | 16  | 1   | 2   | 12  |     |     |     |     |     |     |     |     | 183.20         | 300                        |
| 183.15         |     | 20  | 17  | 9   |     |     |     |     |     |     |     |     | 183.15         | 346                        |
| 183.10         |     | 7   | 12  |     |     |     |     |     |     |     |     |     | 183.10         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 909-9044 Ontonagon, Michigan on Lake Superior

International  
Great Lakes  
Datum (1985)

| Day                | Jan                  | Feb                  | Mar                  | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                 |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1                  | 183.29               | 183.23               | 183.19               | 183.17               | 183.27               | 183.39               | 183.45               | 183.47               | 183.42               | 183.43               | 183.53               | 183.44              |
| 2                  | 183.28               | 183.20               | 183.16               | 183.18               | 183.28               | 183.36               | 183.45               | 183.48               | 183.41               | 183.43               | 183.49               | 183.49              |
| 3                  | 183.28               | 183.20               | 183.16               | 183.19               | 183.31               | 183.37               | 183.45               | 183.47               | 183.41               | 183.42               | 183.51               | 183.48              |
| 4                  | 183.26               | 183.20               | 183.16               | 183.19               | 183.32               | 183.37               | 183.44               | 183.46               | 183.42               | 183.44               | 183.49               | 183.46              |
| 5                  | 183.28               | 183.20               | 183.19               | 183.19               | 183.33               | 183.37               | 183.45               | 183.46               | 183.45               | 183.42               | 183.49               | 183.47              |
| 6                  | 183.27               | 183.19               | 183.14               | 183.21               | 183.34               | 183.37               | 183.44               | 183.46               | 183.44               | 183.43               | 183.45               | 183.47              |
| 7                  | 183.28               | 183.17               | 183.13               | 183.19               | 183.32               | 183.36               | 183.44               | 183.46               | 183.44               | 183.43               | 183.47               | 183.47              |
| 8                  | 183.28               | 183.16               | 183.16               | 183.20               | 183.34               | 183.36               | 183.44               | 183.45               | 183.44               | 183.45               | 183.45               | 183.47              |
| 9                  | 183.27               | 183.17               | 183.15               | 183.21               | 183.35               | 183.37               | 183.45               | 183.43               | 183.44               | 183.42               | 183.45               | 183.47              |
| 10                 | 183.27               | 183.17               | 183.15               | 183.17               | 183.35               | 183.35               | 183.45               | 183.44               | 183.44               | 183.43               | 183.47               | 183.45              |
| 11                 | 183.28               | 183.17               | 183.18               | 183.20               | 183.33               | 183.36               | 183.46               | 183.44               | 183.45               | 183.44               | 183.46               | 183.44              |
| 12                 | 183.25               | 183.17               | 183.17               | 183.22               | 183.34               | 183.37               | 183.46               | 183.44               | 183.45               | 183.43               | 183.45               | 183.47              |
| 13                 | 183.25               | 183.18               | 183.15               | 183.23               | 183.34               | 183.39               | 183.44               | 183.44               | 183.43               | 183.44               | 183.44               | 183.47              |
| 14                 | 183.25               | 183.16               | 183.13               | 183.26               | 183.33               | 183.38               | 183.44               | 183.44               | 183.47               | 183.44               | 183.46               | 183.47              |
| 15                 | 183.26               | 183.13               | 183.13               | 183.23               | 183.33               | 183.37               | 183.45               | 183.45               | 183.45               | 183.43               | 183.44               | 183.49              |
| 16                 | 183.25               | 183.14               | 183.14               | 183.24               | 183.33               | 183.36               | 183.46               | 183.47               | 183.45               | 183.45               | 183.44               | 183.49              |
| 17                 | 183.25               | 183.18               | 183.14               | 183.25               | 183.32               | 183.38               | 183.46               | 183.46               | 183.49               | 183.45               | 183.48               | 183.49              |
| 18                 | 183.26               | 183.19               | 183.13               | 183.26               | 183.34               | 183.38               | 183.48               | 183.45               | 183.47               | 183.42               | 183.48               | 183.47              |
| 19                 | 183.26               | 183.16               | 183.13               | 183.26               | 183.34               | 183.37               | 183.47               | 183.43               | 183.47               | 183.42               | 183.44               | 183.45              |
| 20                 | 183.27               | 183.17               | 183.17               | 183.25               | 183.34               | 183.38               | 183.49               | 183.43               | 183.46               | 183.43               | 183.44               | 183.44              |
| 21                 | 183.23               | 183.16               | 183.19               | 183.25               | 183.34               | 183.37               | 183.48               | 183.42               | 183.46               | 183.43               | 183.46               | 183.43              |
| 22                 | 183.22               | 183.14               | 183.21               | 183.25               | 183.35               | 183.36               | 183.47               | 183.42               | 183.44               | 183.44               | 183.46               | 183.42              |
| 23                 | 183.24               | 183.17               | 183.22               | 183.25               | 183.34               | 183.37               | 183.46               | 183.45               | 183.42               | 183.41               | 183.49               | 183.44              |
| 24                 | 183.24               | 183.15               | 183.13               | 183.25               | 183.33               | 183.37               | 183.48               | 183.45               | 183.44               | 183.44               | 183.45               | 183.43              |
| 25                 | 183.22               | 183.14               | 183.17               | 183.26               | 183.34               | 183.38               | 183.48               | 183.46               | 183.44               | 183.42               | 183.43               | 183.44              |
| 26                 | 183.21               | 183.15               | 183.20               | 183.27               | 183.38               | 183.39               | 183.48               | 183.45               | 183.42               | 183.43               | 183.46               | 183.42              |
| 27                 | 183.23               | 183.15               | 183.18               | 183.30               | 183.36               | 183.37               | 183.48               | 183.46               | 183.42               | 183.44               | 183.46               | 183.41              |
| 28                 | 183.24               | 183.16               | 183.20               | 183.28               | 183.37               | 183.39               | 183.48               | 183.45               | 183.43               | 183.47               | 183.46               | 183.41              |
| 29                 | 183.23               |                      | 183.18               | 183.31               | 183.35               | 183.43               | 183.47               | 183.44               | 183.43               | 183.47               | 183.48               | 183.42              |
| 30                 | 183.23               |                      | 183.18               | 183.29               | 183.39               | 183.42               | 183.46               | 183.44               | 183.42               | 183.44               | 183.46               | 183.42              |
| 31                 | 183.21               |                      | 183.18               |                      | 183.38               |                      | 183.45               | 183.42               |                      | 183.45               |                      | 183.41              |
| Mean               | 183.25               | 183.17               | 183.16               | 183.23               | 183.34               | 183.38               | 183.46               | 183.45               | 183.44               | 183.44               | 183.46               | 183.45              |
| Max.<br>Hr.<br>Day | 183.31<br>0700<br>1  | 183.25<br>1900<br>1  | 183.28<br>1400<br>23 | 183.34<br>2000<br>29 | 183.67<br>1500<br>29 | 183.61<br>1100<br>29 | 183.54<br>1200<br>20 | 183.52<br>1600<br>26 | 183.54<br>2300<br>18 | 183.50<br>1000<br>17 | 183.58<br>2300<br>1  | 183.53<br>1400<br>2 |
| Min.<br>Hr.<br>Day | 183.19<br>1500<br>31 | 183.11<br>1500<br>15 | 183.08<br>0500<br>27 | 183.14<br>1500<br>1  | 183.18<br>2000<br>29 | 183.14<br>1400<br>27 | 183.34<br>0400<br>1  | 183.38<br>2100<br>31 | 183.36<br>0900<br>23 | 183.39<br>0800<br>23 | 183.39<br>1700<br>30 | 183.37<br>1800<br>1 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 183.35

# Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 909-9064 Duluth, Minnesota on Lake Superior

## HIGHEST

Monthly mean elevation: 183.47 Aug  
Daily mean elevation: 183.55 28 Oct  
Instant/hourly elevation: 183.70 1700/28 Oct

## LOWEST

Monthly mean elevation: 183.15 Feb  
Daily mean elevation: 183.07 6 Mar  
Instant/hourly elevation: 182.99 0500/6 Mar

## ----- Extreme Daily Means by Month -----

|     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 183.29 | 183.22 | 183.29 | 183.36 | 183.40 | 183.48 | 183.52 | 183.51 | 183.54 | 183.55 | 183.52 | 183.52 |
| Day | 10     | 13     | 22     | 29     | 29     | 30     | 28     | 24     | 14     | 28     | 1      | 2      |
| Min | 183.11 | 183.07 | 183.07 | 183.18 | 183.21 | 183.34 | 183.42 | 183.44 | 183.35 | 183.35 | 183.35 | 183.36 |
| Day | 25     | 15     | 6      | 1      | 1      | 10     | 23     | 30     | 26     | 6      | 6      | 1      |

## ----- Frequency Distribution of Daily Mean Levels -----

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.50         |     |     |     |     |     |     | 2   | 2   | 2   | 2   | 3   | 1   | 183.50         | 12                         |
| 183.45         |     |     |     |     |     | 1   | 20  | 19  | 11  | 4   | 8   | 8   | 183.45         | 83                         |
| 183.40         |     |     |     |     |     | 7   | 9   | 10  | 9   | 17  | 15  | 12  | 183.40         | 162                        |
| 183.35         |     |     |     | 2   | 13  | 21  |     |     | 6   | 6   | 2   | 10  | 183.35         | 222                        |
| 183.30         |     |     |     | 1   | 14  | 1   |     |     | 2   | 2   | 2   |     | 183.30         | 244                        |
| 183.25         | 3   |     | 3   | 10  | 3   |     |     |     |     |     |     |     | 183.25         | 263                        |
| 183.20         | 11  | 3   | 3   | 9   | 1   |     |     |     |     |     |     |     | 183.20         | 290                        |
| 183.15         | 12  | 9   | 12  | 8   |     |     |     |     |     |     |     |     | 183.15         | 331                        |
| 183.10         | 5   | 13  | 11  |     |     |     |     |     |     |     |     |     | 183.10         | 360                        |
| 183.05         |     | 3   | 2   |     |     |     |     |     |     |     |     |     | 183.05         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

Station: 909-9064 Duluth, Minnesota on Lake Superior

International  
Great Lakes  
Datum (1985)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 183.23 | 183.22 | 183.18 | 183.18 | 183.21 | 183.39 | 183.52 | 183.44 | 183.49 | 183.43 | 183.52 | 183.36 |
| 2    | 183.19 | 183.16 | 183.14 | 183.21 | 183.26 | 183.38 | 183.47 | 183.49 | 183.48 | 183.41 | 183.35 | 183.52 |
| 3    | 183.16 | 183.16 | 183.16 | 183.21 | 183.37 | 183.40 | 183.47 | 183.47 | 183.40 | 183.42 | 183.39 | 183.47 |
| 4    | 183.16 | 183.16 | 183.16 | 183.20 | 183.38 | 183.40 | 183.46 | 183.47 | 183.42 | 183.43 | 183.45 | 183.42 |
| 5    | 183.25 | 183.20 | 183.19 | 183.20 | 183.36 | 183.38 | 183.46 | 183.48 | 183.44 | 183.35 | 183.44 | 183.48 |
| 6    | 183.21 | 183.18 | 183.07 | 183.20 | 183.29 | 183.38 | 183.44 | 183.50 | 183.45 | 183.35 | 183.35 | 183.48 |
| 7    | 183.27 | 183.15 | 183.12 | 183.20 | 183.30 | 183.37 | 183.44 | 183.51 | 183.46 | 183.42 | 183.41 | 183.46 |
| 8    | 183.25 | 183.13 | 183.18 | 183.23 | 183.36 | 183.38 | 183.44 | 183.50 | 183.53 | 183.44 | 183.43 | 183.44 |
| 9    | 183.21 | 183.13 | 183.13 | 183.22 | 183.36 | 183.38 | 183.45 | 183.47 | 183.47 | 183.39 | 183.43 | 183.46 |
| 10   | 183.29 | 183.09 | 183.19 | 183.19 | 183.34 | 183.34 | 183.46 | 183.46 | 183.45 | 183.43 | 183.48 | 183.41 |
| 11   | 183.26 | 183.13 | 183.26 | 183.24 | 183.32 | 183.37 | 183.47 | 183.46 | 183.49 | 183.41 | 183.46 | 183.42 |
| 12   | 183.21 | 183.15 | 183.22 | 183.26 | 183.34 | 183.41 | 183.48 | 183.45 | 183.48 | 183.42 | 183.45 | 183.45 |
| 13   | 183.24 | 183.22 | 183.16 | 183.27 | 183.33 | 183.42 | 183.45 | 183.44 | 183.46 | 183.48 | 183.43 | 183.47 |
| 14   | 183.22 | 183.12 | 183.13 | 183.29 | 183.34 | 183.41 | 183.46 | 183.44 | 183.54 | 183.37 | 183.47 | 183.38 |
| 15   | 183.24 | 183.07 | 183.14 | 183.20 | 183.34 | 183.37 | 183.48 | 183.44 | 183.50 | 183.39 | 183.42 | 183.42 |
| 16   | 183.20 | 183.11 | 183.15 | 183.19 | 183.35 | 183.36 | 183.47 | 183.47 | 183.40 | 183.45 | 183.44 | 183.47 |
| 17   | 183.17 | 183.18 | 183.14 | 183.24 | 183.36 | 183.40 | 183.47 | 183.44 | 183.48 | 183.38 | 183.51 | 183.40 |
| 18   | 183.22 | 183.21 | 183.10 | 183.26 | 183.37 | 183.39 | 183.48 | 183.47 | 183.39 | 183.36 | 183.50 | 183.44 |
| 19   | 183.18 | 183.13 | 183.12 | 183.28 | 183.34 | 183.37 | 183.45 | 183.46 | 183.41 | 183.40 | 183.43 | 183.46 |
| 20   | 183.24 | 183.16 | 183.20 | 183.26 | 183.34 | 183.40 | 183.49 | 183.47 | 183.45 | 183.42 | 183.43 | 183.38 |
| 21   | 183.18 | 183.13 | 183.25 | 183.25 | 183.35 | 183.41 | 183.50 | 183.45 | 183.47 | 183.44 | 183.47 | 183.39 |
| 22   | 183.16 | 183.10 | 183.29 | 183.25 | 183.35 | 183.39 | 183.46 | 183.44 | 183.37 | 183.51 | 183.44 | 183.38 |
| 23   | 183.13 | 183.18 | 183.26 | 183.23 | 183.35 | 183.39 | 183.42 | 183.49 | 183.38 | 183.42 | 183.50 | 183.41 |
| 24   | 183.15 | 183.12 | 183.14 | 183.26 | 183.32 | 183.39 | 183.45 | 183.51 | 183.43 | 183.42 | 183.41 | 183.38 |
| 25   | 183.11 | 183.13 | 183.20 | 183.27 | 183.36 | 183.40 | 183.47 | 183.50 | 183.35 | 183.41 | 183.42 | 183.43 |
| 26   | 183.14 | 183.14 | 183.23 | 183.31 | 183.35 | 183.42 | 183.47 | 183.49 | 183.35 | 183.46 | 183.49 | 183.40 |
| 27   | 183.15 | 183.13 | 183.13 | 183.36 | 183.36 | 183.40 | 183.49 | 183.47 | 183.41 | 183.49 | 183.42 | 183.39 |
| 28   | 183.16 | 183.18 | 183.11 | 183.30 | 183.37 | 183.41 | 183.52 | 183.48 | 183.42 | 183.55 | 183.46 | 183.40 |
| 29   | 183.16 |        | 183.16 | 183.36 | 183.40 | 183.44 | 183.49 | 183.45 | 183.49 | 183.44 | 183.51 | 183.43 |
| 30   | 183.19 |        | 183.19 | 183.27 | 183.38 | 183.48 | 183.49 | 183.44 | 183.40 | 183.42 | 183.38 | 183.43 |
| 31   | 183.16 |        | 183.16 |        | 183.39 |        | 183.45 | 183.50 |        | 183.49 |        | 183.43 |
| Mean | 183.20 | 183.15 | 183.17 | 183.25 | 183.34 | 183.40 | 183.47 | 183.47 | 183.44 | 183.43 | 183.44 | 183.43 |
| Max. | 183.38 | 183.33 | 183.47 | 183.47 | 183.59 | 183.65 | 183.65 | 183.59 | 183.64 | 183.70 | 183.61 | 183.63 |
| Hr.  | 2400   | 1700   | 0200   | 0400   | 1400   | 0300   | 1700   | 2400   | 0900   | 1700   | 0200   | 1200   |
| Day  | 10     | 18     | 23     | 30     | 29     | 29     | 1      | 24     | 14     | 28     | 18     | 2      |
| Min. | 183.03 | 183.01 | 182.99 | 183.06 | 183.11 | 183.23 | 183.33 | 183.36 | 183.19 | 183.21 | 183.20 | 183.22 |
| Hr.  | 1700   | 1800   | 0500   | 0900   | 1300   | 0800   | 0300   | 0800   | 2200   | 2000   | 1800   | 2200   |
| Day  | 25     | 10     | 6      | 16     | 1      | 27     | 8      | 22     | 25     | 17     | 2      | 21     |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 183.35

Annual Summary of Levels, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 909-9090 Grand Marais, Minnesota on Lake Superior

HIGHEST

Monthly mean elevation: 183.47 Jul  
Daily mean elevation: 183.50 6 Dec  
Instant/hourly elevation: 183.68 1400/29 May

LOWEST

Monthly mean elevation: 183.16 Mar  
Daily mean elevation: 183.11 6 Mar  
Instant/hourly elevation: 183.04 1300/6 Mar

~~~~~ Extreme Daily Means by Month ~~~~~

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max | 183.27 | 183.22 | 183.20 | 183.31 | 183.40 | 183.42 | 183.49 | 183.48 | 183.50 | 183.48 | 183.50 | 183.50 |
| Day | 10 | 1 | 30 | 30 | 29 | 30 | 20 | 24 | 14 | 31 | 26 | 6 |
| Min | 183.17 | 183.11 | 183.11 | 183.18 | 183.27 | 183.36 | 183.45 | 183.42 | 183.37 | 183.38 | 183.41 | 183.42 |
| Day | 23 | 15 | 6 | 10 | 1 | 27 | 13 | 30 | 26 | 5 | 30 | 29 |

~~~~~ Frequency Distribution of Daily Mean Levels ~~~~~

| Elev.<br>(ft.) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Elev.<br>(ft.) | No. of days<br>above elev. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.45         |     |     |     |     |     |     | 26  | 14  | 8   | 4   | 18  | 15  | 183.45         | 85                         |
| 183.40         |     |     |     |     |     | 2   | 5   | 17  | 21  | 24  | 12  | 16  | 183.40         | 182                        |
| 183.35         |     |     |     |     | 6   | 28  |     |     | 1   | 3   |     |     | 183.35         | 220                        |
| 183.30         |     |     |     | 1   | 21  |     |     |     |     |     |     |     | 183.30         | 242                        |
| 183.25         |     |     |     | 5   | 4   |     |     |     |     |     |     |     | 183.25         | 256                        |
| 183.20         | 5   |     |     | 15  |     |     |     |     |     |     |     |     | 183.20         | 290                        |
| 183.15         | 18  | 1   |     | 9   |     |     |     |     |     |     |     |     | 183.15         | 340                        |
| 183.10         | 8   | 16  | 17  |     |     |     |     |     |     |     |     |     | 183.10         | 365                        |
|                |     | 11  | 14  |     |     |     |     |     |     |     |     |     |                |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1991

International  
Great Lakes  
Datum (1985)

Station: 909-9090 Grand Marais, Minnesota on Lake Superior

| Day                | Jan                  | Feb                  | Mar                 | Apr                  | May                  | Jun                  | Jul                  | Aug                  | Sep                  | Oct                  | Nov                  | Dec                  |
|--------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1                  | 183.26               | 183.22               | 183.16              | 183.18               | 183.27               | 183.38               | 183.46               | 183.46               | 183.45               | 183.44               | 183.50               | 183.43               |
| 2                  | 183.24               | 183.19               | 183.13              | 183.20               | 183.28               | 183.38               | 183.45               | 183.47               | 183.45               | 183.42               | 183.49               | 183.50               |
| 3                  | 183.22               | 183.19               | 183.16              | 183.21               | 183.31               | 183.37               | 183.46               | 183.46               | 183.43               | 183.43               | 183.45               | 183.48               |
| 4                  | 183.22               | 183.18               | 183.15              | 183.20               | 183.32               | 183.37               | 183.45               | 183.46               | 183.43               | 183.43               | 183.48               | 183.44               |
| 5                  | 183.25               | 183.19               | 183.18              | 183.20               | 183.32               | 183.37               | 183.46               | 183.47               | 183.44               | 183.38               | 183.49               | 183.48               |
| 6                  | 183.23               | 183.19               | 183.11              | 183.20               | 183.30               | 183.37               | 183.45               | 183.47               | 183.44               | 183.40               | 183.41               | 183.50               |
| 7                  | 183.26               | 183.18               | 183.14              | 183.19               | 183.30               | 183.37               | 183.45               | 183.46               | 183.45               | 183.43               | 183.46               | 183.47               |
| 8                  | 183.27               | 183.17               | 183.17              | 183.19               | 183.33               | 183.38               | 183.46               | 183.45               | 183.48               | 183.44               | 183.48               | 183.47               |
| 9                  | 183.23               | 183.16               | 183.15              | 183.20               | 183.34               | 183.39               | 183.46               | 183.45               | 183.47               | 183.42               | 183.45               | 183.48               |
| 10                 | 183.27               | 183.13               | 183.16              | 183.18               | 183.33               | 183.37               | 183.46               | 183.44               | 183.44               | 183.44               | 183.48               | 183.46               |
| 11                 | 183.26               | 183.15               | 183.19              | 183.21               | 183.33               | 183.37               | 183.47               | 183.45               | 183.46               | 183.43               | 183.47               | 183.47               |
| 12                 | 183.24               | 183.16               | 183.16              | 183.22               | 183.33               | 183.37               | 183.46               | 183.44               | 183.46               | 183.43               | 183.48               | 183.47               |
| 13                 | 183.25               | 183.18               | 183.14              | 183.23               | 183.34               | 183.37               | 183.45               | 183.44               | 183.45               | 183.45               | 183.47               | 183.48               |
| 14                 | 183.24               | 183.13               | 183.13              | 183.25               | 183.33               | 183.38               | 183.46               | 183.45               | 183.50               | 183.43               | 183.47               | 183.44               |
| 15                 | 183.25               | 183.11               | 183.14              | 183.21               | 183.34               | 183.38               | 183.47               | 183.44               | 183.48               | 183.42               | 183.44               | 183.46               |
| 16                 | 183.23               | 183.14               | 183.14              | 183.22               | 183.33               | 183.38               | 183.46*              | 183.45               | 183.44               | 183.45               | 183.45               | 183.49               |
| 17                 | 183.21               | 183.17               | 183.14              | 183.24               | 183.33               | 183.39               | 183.48               | 183.44               | 183.48               | 183.44               | 183.48               | 183.42               |
| 18                 | 183.23               | 183.18               | 183.13              | 183.25               | 183.34               | 183.39               | 183.48               | 183.45               | 183.42               | 183.40               | 183.49               | 183.46               |
| 19                 | 183.23               | 183.15               | 183.13              | 183.25               | 183.33               | 183.39               | 183.47               | 183.45               | 183.44               | 183.42               | 183.45               | 183.47               |
| 20                 | 183.22               | 183.17               | 183.16              | 183.24               | 183.33               | 183.38               | 183.49               | 183.46               | 183.45               | 183.42               | 183.45               | 183.43               |
| 21                 | 183.21               | 183.15               | 183.17              | 183.24               | 183.34               | 183.37               | 183.48               | 183.46               | 183.47               | 183.43               | 183.48               | 183.43               |
| 22                 | 183.23               | 183.12               | 183.19              | 183.25               | 183.34               | 183.37               | 183.48               | 183.44               | 183.44               | 183.46               | 183.45               | 183.43               |
| 23                 | 183.17               | 183.17               | 183.19              | 183.25               | 183.34               | 183.38               | 183.46               | 183.47               | 183.41               | 183.42               | 183.48               | 183.42               |
| 24                 | 183.18               | 183.13               | 183.15              | 183.25               | 183.32               | 183.38               | 183.47               | 183.48               | 183.44               | 183.42               | 183.42               | 183.42               |
| 25                 | 183.18               | 183.15               | 183.18              | 183.27               | 183.34               | 183.39               | 183.47               | 183.47               | 183.42               | 183.43               | 183.44               | 183.45               |
| 26                 | 183.19               | 183.16               | 183.20              | 183.28               | 183.36               | 183.39               | 183.47               | 183.46               | 183.37               | 183.45               | 183.50               | 183.42               |
| 27                 | 183.18               | 183.15               | 183.16              | 183.30               | 183.36               | 183.36               | 183.48               | 183.46               | 183.42               | 183.44               | 183.45               | 183.42               |
| 28                 | 183.18               | 183.16               | 183.13              | 183.28               | 183.36               | 183.39               | 183.48               | 183.45               | 183.42               | 183.48               | 183.48               | 183.42               |
| 29                 | 183.18               |                      | 183.16              | 183.30               | 183.40               | 183.42               | 183.47               | 183.45               | 183.44               | 183.48               | 183.48               | 183.42               |
| 30                 | 183.21               |                      | 183.20              | 183.31               | 183.38               | 183.42               | 183.48               | 183.42               | 183.42               | 183.44               | 183.41               | 183.43               |
| 31                 | 183.18               |                      | 183.17              |                      | 183.38               |                      | 183.48               | 183.44               |                      | 183.48               |                      | 183.43               |
| Mean               | 183.22               | 183.16               | 183.16              | 183.23               | 183.33               | 183.38               | 183.47               | 183.45               | 183.44               | 183.43               | 183.46               | 183.45               |
| Max.<br>Hr.<br>Day | 183.35<br>0800<br>8  | 183.28<br>1700<br>1  | 183.32<br>1600<br>5 | 183.38<br>0900<br>30 | 183.68<br>1400<br>29 | 183.51<br>1100<br>29 | 183.58<br>0100<br>22 | 183.54<br>1600<br>25 | 183.59<br>0500<br>9  | 183.61<br>0800<br>29 | 183.60<br>0800<br>18 | 183.59<br>1800<br>6  |
| Min.<br>Hr.<br>Day | 183.10<br>1700<br>27 | 183.07<br>2100<br>15 | 183.04<br>1300<br>6 | 183.12<br>0800<br>16 | 183.19<br>1800<br>29 | 183.21<br>0400<br>27 | 183.36<br>2200<br>16 | 183.37<br>2400<br>1  | 183.29<br>2300<br>25 | 183.32<br>1700<br>17 | 183.30<br>0600<br>30 | 183.28<br>2200<br>21 |

\* Indicates Less than 90% of the Hourly Data Available.  
/ Indicates No Data.

Annual Mean 183.35



# Monthly Water Level Stages, in Meters, 1900 thru Dec 1991

## L a k e O n t a r i o a t O s w e g o

International Great  
Lakes Datum (1985)

Chart Datum  
74.2

|      | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | 1946  | 1952  | 1952  | 1973  | 1952  | 1952  | 1947  | 1947  | 1947  | 1945  | 1945  | 1945  |
| High | 75.17 | 75.28 | 75.37 | 75.65 | 75.73 | 75.77 | 75.67 | 75.58 | 75.42 | 75.24 | 75.19 | 75.20 |
| Mean | 74.56 | 74.58 | 74.66 | 74.87 | 74.99 | 75.03 | 74.99 | 74.89 | 74.75 | 74.64 | 74.56 | 74.54 |
|      | 1935  | 1936  | 1935  | 1935  | 1935  | 1935  | 1934  | 1934  | 1934  | 1934  | 1934  | 1934  |
| Low  | 73.82 | 73.80 | 73.94 | 74.04 | 74.12 | 74.20 | 74.15 | 74.00 | 73.90 | 73.83 | 73.75 | 73.76 |

## M o n t h l y C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1991    | 1932    | 1976    | 1936    | 1929    | 1947    | 1917    | 1915    | 1915    | 1945    | 1926    | 1927    |
| Max<br>Rise | +0.29   | +0.21   | +0.35   | +0.47   | +0.30   | +0.34   | +0.15   | +0.09   | +0.01   | +0.11   | +0.09   | +0.24   |
| Mean        | +0.02   | +0.03   | +0.08   | +0.21   | +0.12   | +0.04   | -0.03   | -0.11   | -0.13   | -0.12   | -0.08   | -0.02   |
|             | 1918    | 1963    | 1978    | 1915    | 1987    | 1987    | 1978    | 1973    | 1974    | 1974    | 1964    | 1904    |
| Max<br>Fall | -0.18   | -0.16   | -0.14   | -0.07   | -0.07   | -0.11   | -0.18   | -0.26   | -0.28   | -0.28   | -0.20   | -0.17   |

1900 thru 1991 mean 74.75

# Monthly Water Level Stages, in Meters, 1900 thru Dec 1991

## L a k e   E r i e   a t   F a i r p o r t

Chart Datum  
173.5

International Great  
Lakes Datum (1985)

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1987   | 1987   | 1986   | 1985   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   |
| High | 174.87 | 174.78 | 174.88 | 174.98 | 174.97 | 175.05 | 175.04 | 174.95 | 174.83 | 174.94 | 174.85 | 174.89 |
| Mean | 173.92 | 173.92 | 174.00 | 174.16 | 174.25 | 174.29 | 174.27 | 174.21 | 174.12 | 174.03 | 173.95 | 173.93 |
|      | 1935   | 1936   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   |
| Low  | 173.19 | 173.15 | 173.20 | 173.37 | 173.44 | 173.45 | 173.45 | 173.42 | 173.38 | 173.29 | 173.19 | 173.16 |

## M o n t h l y   C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1950    | 1952    | 1976    | 1913    | 1947    | 1989    | 1902    | 1915    | 1926    | 1986    | 1985    | 1927    |
| Max<br>Rise | +0.24   | +0.20   | +0.34   | +0.48   | +0.29   | +0.20   | +0.19   | +0.08   | +0.04   | +0.11   | +0.17   | +0.16   |
| Mean        | +0.00   | -0.01   | +0.08   | +0.16   | +0.09   | +0.04   | -0.01   | -0.06   | -0.09   | -0.10   | -0.08   | -0.02   |
|             | 1918    | 1956    | 1931    | 1918    | 1985    | 1977    | 1919    | 1930    | 1937    | 1966    | 1980    | 1917    |
| Max<br>Fall | -0.20   | -0.17   | -0.10   | +0.01   | -0.06   | -0.07   | -0.10   | -0.14   | -0.17   | -0.20   | -0.20   | -0.13   |

1900 thru 1991   mean   174.09

# Monthly Water Level Stages, in Meters, 1900 thru Dec 1991

## L a k e   S t .   C l a i r   a t   S t .   C l a i r   S h o r e s

International Great  
Lakes Datum (1985)

Chart Datum  
174.4

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   |
| High | 175.80 | 175.81 | 175.81 | 175.82 | 175.83 | 175.91 | 175.93 | 175.89 | 175.85 | 175.97 | 175.82 | 175.80 |
| Mean | 174.79 | 174.72 | 174.85 | 175.01 | 175.09 | 175.14 | 175.16 | 175.13 | 175.06 | 174.98 | 174.89 | 174.89 |
|      | 1936   | 1926   | 1934   | 1901   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1925   |
| Low  | 173.88 | 173.89 | 174.05 | 174.26 | 174.42 | 174.45 | 174.50 | 174.41 | 174.34 | 174.27 | 174.18 | 174.24 |

## M o n t h l y   C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1916    | 1981    | 1956    | 1913    | 1984    | 1901    | 1902    | 1915    | 1912    | 1986    | 1985    | 1914    |
| Max<br>Rise | +0.17   | +0.30   | +0.54   | +0.47   | +0.43   | +0.25   | +0.19   | +0.07   | +0.02   | +0.12   | +0.13   | +0.19   |
| Mean        | -0.10   | -0.07   | +0.12   | +0.16   | +0.09   | +0.05   | +0.02   | -0.03   | -0.07   | -0.09   | -0.09   | +0.00   |
|             | 1956    | 1939    | 1932    | 1984    | 1987    | 1977    | 1919    | 1921    | 1913    | 1948    | 1924    | 1919    |
| Max<br>Fall | -0.57   | -0.51   | -0.25   | -0.47   | -0.04   | -0.05   | -0.06   | -0.10   | -0.15   | -0.17   | -0.20   | -0.15   |

1900 thru 1991   mean   174.98

# Monthly Water Level Stages, in Meters, 1900 thru Dec 1991

## L a k e   H u r o n - M i c h i g a n   a t   H a r b o r   B e a c h

Chart Datum  
176.0

International Great  
Lakes Datum (1985)

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1987   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   |
| High | 177.20 | 177.11 | 177.12 | 177.23 | 177.27 | 177.32 | 177.39 | 177.41 | 177.38 | 177.49 | 177.39 | 177.26 |
| Mean | 176.36 | 176.35 | 176.36 | 176.45 | 176.54 | 176.61 | 176.65 | 176.63 | 176.58 | 176.52 | 176.45 | 176.40 |
|      | 1965   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   |
| Low  | 175.59 | 175.61 | 175.58 | 175.58 | 175.72 | 175.75 | 175.77 | 175.77 | 175.76 | 175.71 | 175.65 | 175.60 |

## M o n t h l y   C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1960    | 1938    | 1976    | 1929    | 1960    | 1943    | 1917    | 1972    | 1912    | 1986    | 1928    | 1934    |
| Max<br>Rise | +0.04   | +0.11   | +0.11   | +0.21   | +0.25   | +0.21   | +0.13   | +0.06   | +0.04   | +0.11   | +0.05   | +0.07   |
| Mean        | -0.04   | -0.01   | +0.01   | +0.08   | +0.09   | +0.07   | +0.04   | -0.02   | -0.05   | -0.06   | -0.06   | -0.05   |
|             | 1944    | 1987    | 1968    | 1915    | 1987    | 1988    | 1988    | 1931    | 1955    | 1948    | 1930    | 1929    |
| Max<br>Fall | -0.12   | -0.09   | -0.08   | -0.04   | -0.02   | -0.02   | -0.06   | -0.08   | -0.17   | -0.17   | -0.16   | -0.16   |

1900 thru 1991   mean   176.49

# Monthly Water Level Stages, in Meters, 1900 thru Dec 1991

## L a k e   S u p e r i o r   a t   M a r q u e t t e

International Great  
Lakes Datum (1985)

Chart Datum  
183.2

|      | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|      | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1986   | 1985   | 1985   | 1985   | 1985   |
| High | 183.72 | 183.64 | 183.62 | 183.68 | 183.75 | 183.76 | 183.81 | 183.85 | 183.85 | 183.91 | 183.91 | 183.83 |
| Mean | 183.34 | 183.28 | 183.24 | 183.25 | 183.35 | 183.44 | 183.50 | 183.54 | 183.54 | 183.52 | 183.48 | 183.42 |
|      | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1925   | 1925   | 1925   |
| Low  | 182.79 | 182.73 | 182.71 | 182.69 | 182.71 | 182.81 | 182.92 | 182.97 | 183.06 | 183.07 | 182.97 | 182.90 |

## M o n t h l y   C h a n g e s

|             | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|             | 1939    | 1937    | 1979    | 1945    | 1960    | 1950    | 1952    | 1911    | 1900    | 1941    | 1970    | 1909    |
| Max<br>Rise | -0.02   | -0.02   | +0.03   | +0.14   | +0.23   | +0.19   | +0.15   | +0.14   | +0.16   | +0.11   | +0.07   | +0.00   |
| Mean        | -0.08   | -0.06   | -0.04   | +0.02   | +0.10   | +0.09   | +0.07   | +0.03   | +0.01   | -0.02   | -0.04   | -0.07   |
|             | 1908    | 1978    | 1956    | 1975    | 1929    | 1986    | 1910    | 1954    | 1954    | 1952    | 1952    | 1904    |
| Max<br>Fall | -0.13   | -0.12   | -0.09   | -0.06   | -0.01   | +0.02   | -0.01   | -0.03   | -0.07   | -0.14   | -0.15   | -0.12   |

1900 thru 1991   mean   183.41