

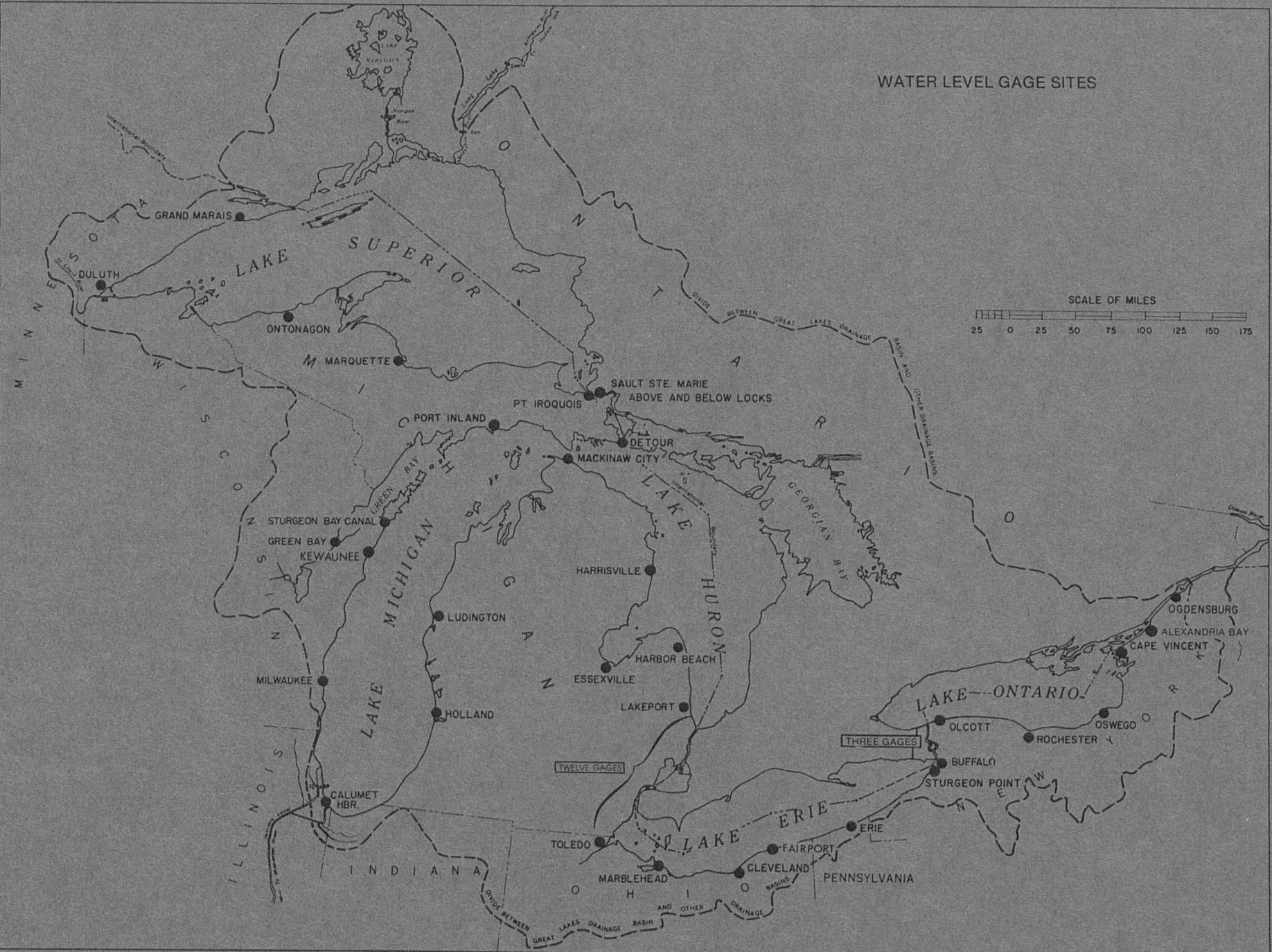


# Great Lakes Water Levels, 1990

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



WATER LEVEL GAGE SITES





# **Great Lakes Water Levels**

**1990**

**Daily and Monthly Average Water Surface Elevations**

## INTRODUCTION

The Office of Oceanography and Marine Assessments (OMA), 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 of 1955 (IGLD 1955). 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)), OMA'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, OMA has provided real-time data for emergency water planning situations by using water-level gauges with electronic telemetry units. Presently, 28 water level measurement units are operating in the field; OMA 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.

OMA gauges record water levels, in either analog or digital form, on strip charts retained by OMA. 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 data are less precise than the English unit data (0.01 meter vs. 0.01 foot). Reconvertng the metric data to English units will often disagree with the original data (recorded in feet) by a small amount.

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 Oceanography and Marine Assessment, N/OMA12, Rockville, Maryland, 20852.

**DATUM OF REFERENCE:** All tabulated elevations are referred to the International Great Lakes Datum (1955). 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
<b>ST. LAWRENCE RIVER</b>									
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
<b>LAKE ONTARIO (CHART DATUM 242.8)</b>									
2000	Cape Vincent, New York	44	07	45	76	20	15	5	109
2030	<b>OSWEGO, New York</b>	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
<b>NIAGARA RIVER</b>									
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
<b>LAKE ERIE (CHART DATUM 568.6)</b>									
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	41	45	00	81	17	00	25	129
3063	<b>CLEVELAND, Ohio</b>	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

NOTE: Locations shown in **CAPITAL** letters are master gages.

## TABLE OF CONTENTS

	Station Number and Location	Latitude			Longitude			Page	
		North			West			Feet	Meters
<b>DETROIT RIVER</b>									
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
<b>LAKE ST. CLAIR (CHART DATUM 571.7)</b>									
4052	<b>ST. CLAIR SHORES, Michigan</b>	42	28	24	82	52	45	43	147
<b>ST. CLAIR RIVER</b>									
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
<b>LAKE HURON (CHART DATUM 576.8)</b>									
5002	Lakeport, Michigan	43	08	30	82	29	35	57	161
5014	<b>HARBOR BEACH, Michigan</b>	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

NOTE: Locations shown in **CAPITAL** letters are master gages.

## TABLE OF CONTENTS

Station Number and Location	Latitude North	Longitude West	Page	
			Feet	Meters
<b>ST. MARY'S RIVER</b>				
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
<b>LAKE MICHIGAN (CHART DATUM 576.8)</b>				
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
<b>LAKE SUPERIOR (CHART DATUM 600.0)</b>				
9004 <b>POINT IROQUOIS, Michigan</b>	46 29 06	84 37 52	89	193
9018 Marquette C.G., Michigan	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 <b>OSWEGO</b> , New York			98	202
Lake Erie Stages at <b>CLEVELAND</b> , Ohio			99	203
Lake St. Clair Stages at <b>ST. CLAIR SHORES</b> , Michigan			100	204
Lakes Huron-Michigan Stages at <b>HARBOR BEACH</b> , Michigan			101	205
Lake Superior Stages at <b>Marquette</b> , Michigan			102	206

NOTE: Locations shown in **CAPITAL** letters are master gages.

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 245.01 Jun  
Daily mean elevation: 245.38 11 May  
Instant/hourly elevation: 246.06 1100/11 May

LOWEST

Monthly mean elevation: 243.12 Jan  
Daily mean elevation: 242.78 3 Dec  
Instant/hourly elevation: 242.22 1800/3 Dec

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

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Day	243.44 28	243.61 27	244.46 23	245.01 17	245.38 11	245.28 4	245.06 4	244.41 15	244.03 1	243.97 19	243.82 11	244.43 26
Min Day	242.91 17	242.84 3	243.33 6	243.98 2	244.42 5	244.74 29	244.37 31	243.68 19	243.28 29	242.89 10	242.88 5	242.78 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.
245.20					5	4							245.20	9
245.00				1	6	10	1						245.00	27
244.80			6	8	13	4							244.80	58
244.60			16	11	3	11							244.60	99
244.40		2	3	1		11	1				1		244.40	118
244.20		8	1			4	15				2		244.20	148
244.00		3	1			8	1				2		244.00	163
243.80		3	2			6	2	1	1		3		243.80	181
243.60		1	5			1	15	10	8	5			243.60	226
243.40	2	4	5				11	11	11	10			243.40	280
243.20	5	12	5				1	6	9	5			243.20	323
243.00	17	6						2		2			243.00	350
242.80	7	5						1	1				242.80	364
242.60										1			242.60	365

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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	243.28	243.16	243.68	244.00	244.82	245.24	244.80	244.33	244.03	243.53	243.32	243.65
2	243.31	242.92	243.67	243.98	244.89	245.15	244.84	244.39	243.88	243.64	243.49	243.42
3	243.13	242.84	243.54	244.02	244.76	245.26	244.96	244.40	243.64	243.47	243.47	242.78
4	243.15	242.93	243.48	244.26	244.61	245.28	245.06	244.34	243.79	243.72	243.47	243.67
5	243.08	243.00	243.40	244.67	244.42	245.23	244.82	244.37	243.75	243.75	242.88	243.74
6	243.17	243.10	243.33	244.80	244.66	245.17	244.70	244.31	243.73	243.78	243.78	243.76
7	243.24	243.10	243.34	244.66	244.77	245.19	244.69	244.33	243.65	243.55	243.51	243.58
8	243.11	243.15	243.34	244.67	244.65	245.03	244.70	244.33	243.56	243.18	243.45	243.49
9	243.01	243.21	243.35	244.48	244.78	245.08	244.86	244.30	243.71	243.04	243.41	243.53
10	242.96	243.36	243.47	244.42	244.80	245.16	244.77	244.21	243.74	242.89	243.51	243.50
11	243.17	243.28	243.44	244.50	245.38	244.91	244.64	244.21	243.52	243.36	243.82	243.30
12	243.35	243.21	243.49	244.78	244.89	245.02	244.46	244.15	243.65	243.40	243.66	243.16
13	243.23	243.26	243.71	244.76	244.72	244.98	244.44	244.11	243.58	243.40	243.63	243.58
14	242.99	243.18	243.71	244.64	244.84	244.98	244.43	244.28	243.70	243.47	243.55	243.26
15	243.02	242.87	243.77	244.84	244.84	244.94	244.53	244.41	243.90	243.72	243.73	243.21
16	242.91	243.09	243.85	244.77	244.63	244.90	244.73	244.31	243.61	243.61	243.65	243.17
17	242.91	243.35	244.02	245.01	244.98	244.87	244.67	244.33	243.60	243.60	243.32	243.30
18	243.14	243.26	244.29	244.90	245.36	245.04	244.71	244.28	243.60	243.78	243.22	243.55
19	243.09	243.56	244.14	244.78	245.21	244.96	244.62	243.68	243.57	243.97	243.24	243.47
20	243.13	243.39	244.23	244.82	244.75	244.85	244.64	243.85	243.56	243.52	243.34	243.21
21	242.92	243.51	244.27	244.75	244.73	244.78	244.60	243.91	243.44	243.63	243.23	243.47
22	243.12	243.38	244.25	244.84	245.02	244.84	244.52	243.94	243.65	243.62	243.33	243.56
23	243.08	243.40	244.46	244.74	244.98	244.87	244.41	243.95	243.73	243.26	243.41	243.76
24	243.10	243.29	244.34	244.67	245.15	245.14	244.53	243.93	243.79	243.44	243.63	244.00
25	242.96	243.39	244.42	244.79	245.22	245.05	244.55	243.98	243.76	243.41	243.79	244.22
26	243.41	243.42	244.29	244.81	245.09	245.00	244.49	244.01	243.61	243.31	243.31	244.43
27	243.18	243.61	244.22	244.83	245.12	244.98	244.44	244.04	243.56	243.42	243.40	243.94
28	243.44	243.55	244.25	244.66	245.12	244.83	244.39	244.10	243.52	243.66	243.60	243.82
29	242.93		243.89	244.62	244.85	244.74	244.38	244.10	243.28	243.45	243.65	244.16
30	243.06		243.94	244.66	245.04	244.78	244.40	244.01	243.45	243.48	243.50	244.21
31	243.08		244.03		245.27		244.37	244.05		243.35		244.15
Mean	243.12	243.24	243.86	244.64	244.91	245.01	244.62	244.16	243.65	243.50	243.48	243.61
Max.	243.72	243.78	244.75	245.33	246.06	245.59	245.14	244.53	244.32	244.32	244.59	244.93
Hr.	0700	1600	1200	1100	1100	1500	0800	1600	0900	2400	2000	0300
Day	28	19	23	17	11	3	4	15	15	18	11	26
Min.	242.56	242.68	243.24	243.74	244.28	244.64	244.24	243.53	243.05	242.76	242.47	242.22
Hr.	1000	1400	0400	1900	0500	0100	0800	1800	0100	0900	2100	1800
Day	21	15	9	2	5	23	31	19	30	10	5	3

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

Annual Mean 243.98

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 245.53 Jun  
Daily mean elevation: 245.77 4 Jun  
Instant/hourly elevation: 246.12 1200/11 May

LOWEST

Monthly mean elevation: 243.68 Jan  
Daily mean elevation: 243.43 3 Dec  
Instant/hourly elevation: 242.99 1600/3 Dec

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

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Day	243.89 26	244.26 27	244.79 23	245.36 17	245.74 31	245.77 4	245.48 4	244.87 5	244.49 1	244.32 19	244.25 6	244.60 26
Min Day	243.49 21	243.53 2	243.99 9	244.52 2	245.07 5	245.32 29	244.89 31	244.34 19	243.82 29	243.56 10	243.51 5	243.43 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.
245.60					10	9							245.60	19
245.40					5	16	2						245.40	42
245.20			9	12	5	8							245.20	76
245.00			13	4		13							245.00	106
244.80			4			8	8						244.80	126
244.60		9	1			10							244.60	146
244.40		6	3			12	1				5	244.40	173	
244.20	1	7				1	9	1	2	4	244.20	198		
244.00	7	7				15	11	8	5	244.00	251			
243.80	2	8	2			5	16	15	10	243.80	309			
243.60	22	9				2	4	6	243.60	352				
243.40	7	3				1	1	1	243.40	365				

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	243.79	243.75	244.28	244.52	245.28	245.71	245.37	244.86	244.49	243.97	243.84	244.01
2	243.80	243.53	244.24	244.52	245.32	245.63	245.36	244.87	244.40	244.04	243.96	243.86
3	243.65	243.54	244.22	244.59	245.22	245.68	245.41	244.87	244.23	243.92	243.92	243.43
4	243.67	243.65	244.14	244.77	245.12	245.77	245.48	244.83	244.29	244.12	243.91	244.21
5	243.64	243.72	244.08	245.00	245.07	245.71	245.36	244.87	244.27	244.12	243.51	244.12
6	243.69	243.76	244.02	245.05	245.17	245.65	245.28	244.83	244.26	244.07	244.25	244.14
7	243.71	243.75	244.03	244.99	245.22	245.70	245.24	244.81	244.21	243.96	243.95	244.00
8	243.62	243.75	244.01	245.01	245.17	245.56	245.23	244.79	244.12	243.75	243.91	243.96
9	243.58	243.79	243.99	244.89	245.23	245.62	245.34	244.76	244.21	243.66	243.89	244.00
10	243.58	243.89	244.03	244.91	245.25	245.67	245.30	244.71	244.22	243.56	243.94	243.99
11	243.66	243.81	244.00	245.03	245.66	245.53	245.17	244.70	244.08	243.89	244.21	243.81
12	243.78	243.80	244.05	245.17	245.29	245.56	245.06	244.66	244.14	243.88	244.03	243.75
13	243.72	243.82	244.21	245.11	245.23	245.53	245.03	244.67	244.10	243.92	244.01	244.05
14	243.52	243.76	244.21	245.07	245.32	245.52	244.98	244.78	244.18	243.93	243.95	243.79
15	243.63	243.55	244.28	245.20	245.33	245.51	245.06	244.83	244.32	244.12	244.04	243.79
16	243.56	243.85	244.32	245.16	245.22	245.47	245.15	244.77	244.10	244.01	244.02	243.78
17	243.56	244.05	244.42	245.36	245.46	245.43	245.11	244.77	244.11	244.03	243.82	243.79
18	243.73	243.96	244.59	245.28	245.71	245.54	245.12	244.73	244.09	244.20	243.78	244.00
19	243.68	244.17	244.50	245.19	245.63	245.51	245.08	244.34	244.08	244.32	243.80	243.92
20	243.68	243.96	244.62	245.22	245.33	245.44	245.09	244.45	244.06	243.98	243.85	243.76
21	243.49	244.04	244.66	245.22	245.44	245.39	245.10	244.47	243.95	244.10	243.76	243.96
22	243.76	243.98	244.62	245.27	245.60	245.38	245.04	244.47	244.12	244.06	243.85	244.00
23	243.70	244.03	244.79	245.22	245.56	245.43	245.00	244.48	244.16	243.85	243.90	244.16
24	243.76	243.94	244.69	245.18	245.66	245.58	245.03	244.44	244.18	243.96	244.05	244.34
25	243.63	244.06	244.74	245.28	245.68	245.50	245.04	244.48	244.13	243.93	244.15	244.48
26	243.89	244.07	244.71	245.28	245.61	245.46	245.00	244.48	244.05	243.85	243.77	244.60
27	243.74	244.26	244.66	245.28	245.64	245.49	244.96	244.52	244.00	243.93	243.93	244.26
28	243.87	244.18	244.67	245.17	245.63	245.38	244.92	244.56	243.97	244.12	244.02	244.23
29	243.60		244.41	245.17	245.47	245.32	244.90	244.60	243.82	243.94	244.05	244.47
30	243.76		244.49	245.17	245.62	245.35	244.90	244.51	243.97	243.96	243.94	244.53
31	243.75		244.54		245.74		244.89	244.51		243.86		244.53
Mean	243.68	243.87	244.36	245.08	245.42	245.53	245.13	244.66	244.14	243.97	243.93	244.06
Max.	244.09	244.40	245.00	245.58	246.12	245.88	245.55	244.94	244.59	244.68	244.85	245.09
Hr.	0700	2300	1200	1400	1200	1000	0800	0100	0800	2300	2000	0100
Day	28	27	23	17	11	4	4	6	15	18	11	26
Min.	243.17	243.35	243.85	244.43	244.88	245.25	244.80	244.26	243.70	243.45	243.20	242.99
Hr.	0900	1000	0500	1700	0300	1100	0800	2200	1500	0700	1900	1600
Day	21	2	12	2	5	29	31	19	29	10	5	3

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

Annual Mean 244.49

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

**HIGHEST**

Monthly mean elevation: 245.92 Jun  
 Daily mean elevation: 246.14 4 Jun  
 Instant/hourly elevation: 246.34 2100/3 Jun

**LOWEST**

Monthly mean elevation: 243.94 Jan  
 Daily mean elevation: 243.70 14 Jan  
 Instant/hourly elevation: 243.23 0700/21 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov         | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Max Day | 244.18<br>26 | 244.56<br>27 | 245.05<br>23 | 245.66<br>26 | 246.08<br>31 | 246.14<br>4  | 245.79<br>4  | 245.25<br>5  | 244.85<br>1  | 244.56<br>19 | 244.58<br>6 | 244.80<br>31 |
| Min Day | 243.70<br>14 | 243.84<br>3  | 244.28<br>11 | 244.91<br>1  | 245.54<br>4  | 245.74<br>29 | 245.27<br>29 | 244.82<br>19 | 244.18<br>29 | 244.04<br>10 | 243.99<br>5 | 243.92<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.00         |     |     |     |     | 10  | 8   |     |     |     |     |     |     | 246.00         | 18                         |
| 245.80         |     |     |     |     | 6   | 19  |     |     |     |     |     |     | 245.80         | 43                         |
| 245.60         |     |     |     | 6   | 10  | 3   | 10  |     |     |     |     |     | 245.60         | 72                         |
| 245.40         |     |     |     | 14  | 5   |     | 10  |     |     |     |     |     | 245.40         | 101                        |
| 245.20         |     |     |     | 6   |     | 11  | 4   |     |     |     |     |     | 245.20         | 122                        |
| 245.00         |     |     | 2   | 1   |     |     | 14  |     |     |     |     |     | 245.00         | 139                        |
| 244.80         |     |     | 11  | 3   |     |     | 13  | 1   |     |     |     |     | 244.80         | 167                        |
| 244.60         |     |     | 2   |     |     |     | 6   |     |     |     | 5   |     | 244.60         | 180                        |
| 244.40         |     | 3   | 7   |     |     |     | 15  | 6   | 2   | 4   |     |     | 244.40         | 217                        |
| 244.20         |     | 9   | 9   |     |     |     | 7   | 22  | 19  | 12  |     |     | 244.20         | 295                        |
| 244.00         | 9   | 12  |     |     |     |     | 1   | 3   | 8   | 9   |     |     | 244.00         | 337                        |
| 243.80         | 19  | 4   |     |     |     |     |     |     | 1   | 1   |     |     | 243.80         | 362                        |
| 243.60         |     | 3   |     |     |     |     |     |     |     |     |     |     | 243.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 244.02 | 244.09 | 244.52 | 244.91 | 245.68 | 246.01 | 245.77 | 245.23 | 244.85 | 244.29 | 244.23 | 244.24 |
| 2    | 244.03 | 243.85 | 244.48 | 244.92 | 245.67 | 245.99 | 245.75 | 245.23 | 244.75 | 244.34 | 244.29 | 244.12 |
| 3    | 243.90 | 243.84 | 244.48 | 244.98 | 245.61 | 246.03 | 245.76 | 245.22 | 244.64 | 244.25 | 244.26 | 243.92 |
| 4    | 243.92 | 243.93 | 244.40 | 245.17 | 245.54 | 246.14 | 245.79 | 245.20 | 244.66 | 244.41 | 244.24 | 244.53 |
| 5    | 243.89 | 244.03 | 244.35 | 245.25 | 245.56 | 246.06 | 245.72 | 245.25 | 244.64 | 244.38 | 243.99 | 244.34 |
| 6    | 243.92 | 244.05 | 244.29 | 245.26 | 245.60 | 246.03 | 245.69 | 245.20 | 244.62 | 244.33 | 244.58 | 244.38 |
| 7    | 243.90 | 244.05 | 244.31 | 245.26 | 245.60 | 246.07 | 245.64 | 245.16 | 244.58 | 244.25 | 244.28 | 244.27 |
| 8    | 243.81 | 244.04 | 244.28 | 245.27 | 245.59 | 245.96 | 245.63 | 245.14 | 244.53 | 244.14 | 244.26 | 244.28 |
| 9    | 243.82 | 244.09 | 244.30 | 245.22 | 245.61 | 246.03 | 245.69 | 245.11 | 244.58 | 244.08 | 244.26 | 244.30 |
| 10   | 243.86 | 244.17 | 244.32 | 245.24 | 245.66 | 246.04 | 245.66 | 245.07 | 244.56 | 244.04 | 244.27 | 244.28 |
| 11   | 243.94 | 244.07 | 244.28 | 245.43 | 245.90 | 245.97 | 245.57 | 245.05 | 244.45 | 244.28 | 244.48 | 244.16 |
| 12   | 244.01 | 244.07 | 244.36 | 245.45 | 245.65 | 245.96 | 245.48 | 245.01 | 244.50 | 244.23 | 244.31 | 244.14 |
| 13   | 243.91 | 244.10 | 244.47 | 245.42 | 245.66 | 245.93 | 245.44 | 245.04 | 244.46 | 244.29 | 244.28 | 244.35 |
| 14   | 243.70 | 244.03 | 244.47 | 245.42 | 245.72 | 245.94 | 245.39 | 245.14 | 244.52 | 244.27 | 244.23 | 244.15 |
| 15   | 243.84 | 243.88 | 244.51 | 245.50 | 245.73 | 245.91 | 245.44 | 245.13 | 244.61 | 244.41 | 244.25 | 244.14 |
| 16   | 243.79 | 244.21 | 244.56 | 245.48 | 245.69 | 245.86 | 245.45 | 245.10 | 244.47 | 244.31 | 244.26 | 244.18 |
| 17   | 243.83 | 244.34 | 244.70 | 245.66 | 245.88 | 245.84 | 245.42 | 245.10 | 244.48 | 244.34 | 244.15 | 244.10 |
| 18   | 243.99 | 244.27 | 244.88 | 245.59 | 246.02 | 245.90 | 245.45 | 245.06 | 244.45 | 244.49 | 244.13 | 244.29 |
| 19   | 243.93 | 244.47 | 244.80 | 245.53 | 245.97 | 245.91 | 245.42 | 244.82 | 244.44 | 244.56 | 244.16 | 244.20 |
| 20   | 243.91 | 244.22 | 244.93 | 245.55 | 245.83 | 245.84 | 245.45 | 244.88 | 244.40 | 244.32 | 244.16 | 244.12 |
| 21   | 243.71 | 244.31 | 244.98 | 245.60 | 245.99 | 245.82 | 245.45 | 244.87 | 244.32 | 244.44 | 244.08 | 244.26 |
| 22   | 244.00 | 244.27 | 244.94 | 245.63 | 246.05 | 245.81 | 245.39 | 244.86 | 244.45 | 244.37 | 244.20 | 244.27 |
| 23   | 243.93 | 244.30 | 245.05 | 245.60 | 246.02 | 245.84 | 245.40 | 244.85 | 244.46 | 244.24 | 244.19 | 244.39 |
| 24   | 244.03 | 244.20 | 244.95 | 245.58 | 246.08 | 245.91 | 245.40 | 244.83 | 244.44 | 244.34 | 244.30 | 244.57 |
| 25   | 243.95 | 244.34 | 245.02 | 245.66 | 246.05 | 245.85 | 245.40 | 244.84 | 244.39 | 244.29 | 244.38 | 244.68 |
| 26   | 244.18 | 244.34 | 245.00 | 245.66 | 246.02 | 245.81 | 245.37 | 244.83 | 244.37 | 244.24 | 244.06 | 244.67 |
| 27   | 244.08 | 244.56 | 244.97 | 245.65 | 246.04 | 245.85 | 245.34 | 244.86 | 244.32 | 244.29 | 244.23 | 244.47 |
| 28   | 244.17 | 244.45 | 244.96 | 245.58 | 246.01 | 245.77 | 245.30 | 244.92 | 244.29 | 244.45 | 244.28 | 244.51 |
| 29   | 243.94 |        | 244.81 | 245.61 | 245.96 | 245.74 | 245.27 | 244.93 | 244.18 | 244.29 | 244.27 | 244.66 |
| 30   | 244.11 |        | 244.90 | 245.60 | 246.07 | 245.75 | 245.28 | 244.88 | 244.34 | 244.30 | 244.22 | 244.72 |
| 31   | 244.08 |        | 244.92 |        | 246.08 |        | 245.28 | 244.86 |        | 244.24 |        | 244.80 |
| Mean | 243.94 | 244.16 | 244.65 | 245.42 | 245.82 | 245.92 | 245.50 | 245.02 | 244.49 | 244.31 | 244.24 | 244.34 |
| Max. | 244.41 | 244.75 | 245.36 | 245.94 | 246.27 | 246.34 | 245.88 | 245.32 | 245.01 | 244.89 | 245.21 | 245.13 |
| Hr.  | 0600   | 0400   | 0900   | 0600   | 1600   | 2100   | 2300   | 2400   | 0600   | 1500   | 0800   | 2400   |
| Day  | 28     | 17     | 23     | 17     | 17     | 3      | 4      | 5      | 15     | 18     | 6      | 25     |
| Min. | 243.23 | 243.69 | 244.16 | 244.70 | 245.19 | 245.62 | 245.20 | 244.61 | 244.09 | 243.88 | 243.78 | 243.51 |
| Hr.  | 0700   | 0700   | 0400   | 1600   | 2200   | 1000   | 0600   | 0400   | 2300   | 1900   | 1700   | 1400   |
| Day  | 21     | 15     | 12     | 2      | 4      | 29     | 31     | 28     | 29     | 9      | 5      | 3      |

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

Annual Mean 244.82

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 246.01 Jun  
Daily mean elevation: 246.21 4 Jun  
Instant/hourly elevation: 246.34 2200/3 Jun

LOWEST

Monthly mean elevation: 244.05 Jan  
Daily mean elevation: 243.92 9 Jan  
Instant/hourly elevation: 243.67 1500/3 Dec

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 244.28<br>26 | 244.70<br>25 | 245.15<br>23 | 245.71<br>27 | 246.19<br>30 | 246.21<br>4  | 245.90<br>5  | 245.38<br>2  | 244.88<br>1  | 244.69<br>19 | 244.65<br>11 | 244.97<br>31 |
| Min Day | 243.92<br>9  | 244.08<br>8  | 244.46<br>8  | 245.04<br>2  | 245.63<br>4  | 245.86<br>30 | 245.31<br>30 | 244.87<br>26 | 244.34<br>29 | 244.21<br>10 | 244.14<br>27 | 244.03<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.20         |     |     |     |     |     | 1   |     |     |     |     |     |     | 246.20         | 1                          |
| 246.00         |     |     |     |     | 11  | 15  |     |     |     |     |     |     | 246.00         | 27                         |
| 245.80         |     |     |     |     | 5   | 14  | 6   |     |     |     |     |     | 245.80         | 52                         |
| 245.60         |     |     |     | 12  | 15  |     | 6   |     |     |     |     |     | 245.60         | 85                         |
| 245.40         |     |     |     | 8   |     | 15  |     |     |     |     |     |     | 245.40         | 108                        |
| 245.20         |     |     |     | 7   |     | 4   | 12  |     |     |     |     |     | 245.20         | 131                        |
| 245.00         |     |     | 9   | 3   |     |     | 8   |     |     |     |     |     | 245.00         | 151                        |
| 244.80         |     |     |     | 5   |     | 11  | 2   |     | 2   |     |     |     | 244.80         | 171                        |
| 244.60         |     | 3   | 8   |     |     |     | 8   | 1   | 2   | 2   |     |     | 244.60         | 195                        |
| 244.40         |     | 6   | 9   |     |     |     | 14  | 12  | 3   | 9   |     |     | 244.40         | 248                        |
| 244.20         | 2   | 7   |     |     |     |     | 6   | 18  | 21  | 14  |     |     | 244.20         | 316                        |
| 244.00         | 19  | 12  |     |     |     |     |     | 6   | 4   | 4   |     |     | 244.00         | 355                        |
| 243.80         | 10  |     |     |     |     |     |     |     |     |     |     |     | 243.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 244.21 | 244.10 | 244.63 | 245.05 | 245.70 | 246.12 | 245.88 | 245.38 | 244.88 | 244.39 | 244.36 | 244.19 |
| 2    | 244.07 | 244.18 | 244.58 | 245.04 | 245.70 | 246.07 | 245.85 | 245.38 | 244.87 | 244.48 | 244.31 | 244.27 |
| 3    | 243.94 | 244.08 | 244.66 | 245.12 | 245.68 | 246.08 | 245.82 | 245.34 | 244.78 | 244.30 | 244.33 | 244.03 |
| 4    | 243.99 | 244.16 | 244.62 | 245.24 | 245.63 | 246.21 | 245.84 | 245.27 | 244.69 | 244.31 | 244.33 | 244.43 |
| 5    | 244.05 | 244.12 | 244.56 | 245.28 | 245.71 | 246.15 | 245.90 | 245.25 | 244.72 | 244.40 | 244.20 | 244.54 |
| 6    | 244.06 | 244.16 | 244.53 | 245.29 | 245.67 | 246.09 | 245.82 | 245.28 | 244.70 | 244.34 | 244.64 | 244.36 |
| 7    | 243.99 | 244.14 | 244.49 | 245.33 | 245.68 | 246.12 | 245.76 | 245.26 | 244.75 | 244.36 | 244.41 | 244.28 |
| 8    | 243.95 | 244.08 | 244.46 | 245.33 | 245.66 | 246.07 | 245.67 | 245.24 | 244.60 | 244.36 | 244.40 | 244.33 |
| 9    | 243.92 | 244.11 | 244.48 | 245.26 | 245.65 | 246.11 | 245.72 | 245.18 | 244.53 | 244.32 | 244.26 | 244.32 |
| 10   | 244.01 | 244.28 | 244.48 | 245.36 | 245.66 | 246.13 | 245.73 | 245.14 | 244.59 | 244.21 | 244.38 | 244.47 |
| 11   | 243.98 | 244.22 | 244.48 | 245.53 | 245.80 | 246.12 | 245.65 | 245.14 | 244.57 | 244.32 | 244.65 | 244.27 |
| 12   | 244.17 | 244.19 | 244.57 | 245.55 | 245.69 | 246.07 | 245.64 | 245.12 | 244.54 | 244.32 | 244.59 | 244.22 |
| 13   | 244.16 | 244.16 | 244.63 | 245.47 | 245.77 | 246.01 | 245.53 | 245.21 | 244.55 | 244.38 | 244.52 | 244.44 |
| 14   | 243.95 | 244.24 | 244.65 | 245.46 | 245.78 | 246.02 | 245.43 | 245.21 | 244.51 | 244.35 | 244.30 | 244.26 |
| 15   | 243.95 | 244.14 | 244.69 | 245.55 | 245.78 | 246.01 | 245.46 | 245.21 | 244.75 | 244.44 | 244.27 | 244.19 |
| 16   | 243.97 | 244.36 | 244.73 | 245.55 | 245.81 | 245.97 | 245.47 | 245.20 | 244.66 | 244.42 | 244.31 | 244.32 |
| 17   | 243.95 | 244.51 | 244.77 | 245.68 | 245.89 | 245.95 | 245.46 | 245.21 | 244.67 | 244.34 | 244.40 | 244.19 |
| 18   | 244.12 | 244.31 | 244.86 | 245.65 | 245.97 | 245.93 | 245.49 | 245.20 | 244.58 | 244.44 | 244.31 | 244.26 |
| 19   | 244.12 | 244.62 | 244.89 | 245.59 | 246.00 | 246.02 | 245.47 | 245.03 | 244.50 | 244.69 | 244.29 | 244.35 |
| 20   | 244.04 | 244.47 | 245.07 | 245.59 | 245.99 | 245.98 | 245.54 | 244.94 | 244.54 | 244.43 | 244.31 | 244.23 |
| 21   | 244.02 | 244.35 | 245.06 | 245.70 | 246.12 | 245.94 | 245.53 | 244.90 | 244.40 | 244.38 | 244.20 | 244.22 |
| 22   | 244.11 | 244.35 | 244.95 | 245.68 | 246.10 | 245.90 | 245.51 | 244.88 | 244.42 | 244.44 | 244.19 | 244.32 |
| 23   | 244.06 | 244.52 | 245.15 | 245.69 | 246.12 | 245.91 | 245.54 | 244.89 | 244.54 | 244.46 | 244.24 | 244.50 |
| 24   | 244.06 | 244.53 | 245.07 | 245.68 | 246.13 | 245.95 | 245.50 | 244.87 | 244.50 | 244.44 | 244.36 | 244.69 |
| 25   | 244.03 | 244.70 | 245.03 | 245.70 | 246.11 | 245.90 | 245.47 | 244.88 | 244.40 | 244.49 | 244.37 | 244.56 |
| 26   | 244.28 | 244.51 | 245.13 | 245.71 | 246.11 | 245.88 | 245.46 | 244.87 | 244.40 | 244.47 | 244.22 | 244.72 |
| 27   | 244.01 | 244.60 | 245.09 | 245.71 | 246.12 | 245.89 | 245.42 | 244.94 | 244.40 | 244.33 | 244.14 | 244.55 |
| 28   | 244.15 | 244.66 | 245.03 | 245.68 | 246.11 | 245.87 | 245.39 | 244.99 | 244.36 | 244.52 | 244.26 | 244.49 |
| 29   | 244.04 |        | 244.98 | 245.66 | 246.16 | 245.86 | 245.35 | 245.05 | 244.34 | 244.45 | 244.38 | 244.58 |
| 30   | 244.18 |        | 244.95 | 245.67 | 246.19 | 245.86 | 245.31 | 244.98 | 244.44 | 244.38 | 244.25 | 244.89 |
| 31   | 244.14 |        | 245.02 |        | 246.13 |        | 245.38 | 244.91 |        | 244.35 |        | 244.97 |
| Mean | 244.05 | 244.32 | 244.78 | 245.49 | 245.89 | 246.01 | 245.58 | 245.11 | 244.57 | 244.40 | 244.34 | 244.40 |
| Max. | 244.43 | 245.05 | 245.44 | 245.81 | 246.25 | 246.34 | 246.17 | 245.45 | 244.96 | 244.93 | 244.99 | 245.18 |
| Hr.  | 1400   | 1800   | 1300   | 0600   | 0600   | 2200   | 0900   | 0400   | 1900   | 0600   | 1000   | 1900   |
| Day  | 26     | 16     | 23     | 17     | 30     | 3      | 5      | 1      | 1      | 19     | 6      | 30     |
| Min. | 243.72 | 243.79 | 244.32 | 244.96 | 245.41 | 245.54 | 245.24 | 244.67 | 244.24 | 244.04 | 243.90 | 243.67 |
| Hr.  | 0700   | 1900   | 1400   | 0300   | 2100   | 0900   | 0900   | 1900   | 1900   | 0500   | 0200   | 1500   |
| Day  | 11     | 16     | 10     | 3      | 4      | 18     | 30     | 28     | 29     | 10     | 27     | 3      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 244.91

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990  
Station: 905-2058 Rochester, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 246.04 Jun  
Daily mean elevation: 246.21 4 Jun  
Instant/hourly elevation: 246.44 1300/5 Jun

LOWEST

Monthly mean elevation: 244.07 Jan  
Daily mean elevation: 243.97 11 Jan  
Instant/hourly elevation: 243.75 2200/20 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 244.17<br>30 | 244.67<br>25 | 245.12<br>26 | 245.78<br>28 | 246.18<br>30 | 246.21<br>4  | 245.91<br>5  | 245.41<br>1  | 244.90<br>2  | 244.50<br>19 | 244.46<br>12 | 244.96<br>31 |
| Min Day | 243.97<br>11 | 244.13<br>1  | 244.51<br>10 | 245.09<br>2  | 245.71<br>7  | 245.87<br>29 | 245.31<br>30 | 244.91<br>31 | 244.35<br>30 | 244.28<br>10 | 244.20<br>28 | 244.20<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.20         |     |     |     |     |     |     |     |     |     |     |     |     | 246.20         | 1                          |
| 246.00         |     |     |     |     | 14  | 1   |     |     |     |     |     |     | 246.00         | 30                         |
| 245.80         |     |     |     |     | 5   | 14  |     |     |     |     |     |     | 245.80         | 55                         |
| 245.60         |     |     |     | 15  | 12  |     | 6   |     |     |     |     |     | 245.60         | 88                         |
| 245.40         |     |     |     | 6   |     |     | 17  | 1   |     |     |     |     | 245.40         | 112                        |
| 245.20         |     |     |     | 6   |     | 2   | 10  |     |     |     |     |     | 245.20         | 130                        |
| 245.00         |     |     | 12  | 3   |     |     | 11  |     |     |     |     |     | 245.00         | 156                        |
| 244.80         |     |     | 4   |     |     |     | 9   | 4   |     |     |     |     | 244.80         | 175                        |
| 244.60         |     | 3   | 8   |     |     |     | 12  |     |     | 2   |     |     | 244.60         | 200                        |
| 244.40         |     | 7   | 7   |     |     |     | 9   | 10  | 2   | 2   |     |     | 244.40         | 240                        |
| 244.20         |     | 10  |     |     |     |     | 5   | 21  | 27  | 21  |     |     | 244.20         | 324                        |
| 244.00         | 28  | 8   |     |     |     |     |     |     | 1   | 1   |     |     | 244.00         | 362                        |
| 243.80         | 3   |     |     |     |     |     |     |     |     |     |     |     | 243.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 244.06 | 244.13 | 244.60 | 245.09 | 245.75 | 246.16 | 245.85 | 245.41 | 244.86 | 244.32 | 244.37 | 244.22 |
| 2    | 244.02 | 244.20 | 244.61 | 245.09 | 245.74 | 246.14 | 245.86 | 245.36 | 244.90 | 244.40 | 244.33 | 244.24 |
| 3    | 244.02 | 244.16 | 244.66 | 245.14 | 245.74 | 246.11 | 245.84 | 245.33 | 244.82 | 244.35 | 244.36 | 244.20 |
| 4    | 244.00 | 244.23 | 244.64 | 245.22 | 245.74 | 246.21 | 245.82 | 245.29 | 244.74 | 244.28 | 244.37 | 244.27 |
| 5    | 244.05 | 244.17 | 244.62 | 245.27 | 245.75 | 246.19 | 245.91 | 245.27 | 244.73 | 244.36 | 244.34 | 244.37 |
| 6    | 244.02 | 244.17 | 244.59 | 245.33 | 245.73 | 246.14 | 245.82 | 245.30 | 244.73 | 244.36 | 244.34 | 244.33 |
| 7    | 244.02 | 244.19 | 244.54 | 245.35 | 245.71 | 246.15 | 245.76 | 245.29 | 244.84 | 244.36 | 244.36 | 244.33 |
| 8    | 244.02 | 244.16 | 244.53 | 245.35 | 245.74 | 246.16 | 245.68 | 245.23 | 244.73 | 244.36 | 244.40 | 244.35 |
| 9    | 244.02 | 244.18 | 244.51 | 245.36 | 245.73 | 246.14 | 245.66 | 245.19 | 244.63 | 244.31 | 244.32 | 244.31 |
| 10   | 244.04 | 244.24 | 244.51 | 245.43 | 245.72 | 246.16 | 245.71 | 245.17 | 244.62 | 244.28 | 244.36 | 244.40 |
| 11   | 243.97 | 244.26 | 244.53 | 245.52 | 245.76 | 246.16 | 245.70 | 245.11 | 244.61 | 244.32 | 244.39 | 244.36 |
| 12   | 244.05 | 244.24 | 244.61 | 245.55 | 245.79 | 246.10 | 245.66 | 245.08 | 244.61 | 244.35 | 244.46 | 244.30 |
| 13   | 244.10 | 244.22 | 244.66 | 245.53 | 245.84 | 246.06 | 245.57 | 245.20 | 244.65 | 244.38 | 244.42 | 244.34 |
| 14   | 244.05 | 244.33 | 244.72 | 245.56 | 245.83 | 246.07 | 245.51 | 245.21 | 244.60 | 244.38 | 244.34 | 244.32 |
| 15   | 244.00 | 244.34 | 244.79 | 245.59 | 245.83 | 246.07 | 245.50 | 245.19 | 244.75 | 244.38 | 244.30 | 244.28 |
| 16   | 244.02 | 244.34 | 244.81 | 245.62 | 245.88 | 246.03 | 245.50 | 245.24 | 244.70 | 244.39 | 244.30 | 244.29 |
| 17   | 244.01 | 244.43 | 244.83 | 245.66 | 245.90 | 246.00 | 245.50 | 245.22 | 244.62 | 244.36 | 244.39 | 244.28 |
| 18   | 244.09 | 244.38 | 244.89 | 245.67 | 246.02 | 245.97 | 245.52 | 245.18 | 244.54 | 244.39 | 244.32 | 244.31 |
| 19   | 244.15 | 244.44 | 244.97 | 245.66 | 246.05 | 246.00 | 245.52 | 245.14 | 244.46 | 244.50 | 244.28 | 244.36 |
| 20   | 244.05 | 244.45 | 245.04 | 245.66 | 246.10 | 245.99 | 245.52 | 244.98 | 244.51 | 244.48 | 244.27 | 244.33 |
| 21   | 244.15 | 244.38 | 245.05 | 245.73 | 246.15 | 245.93 | 245.54 | 244.96 | 244.47 | 244.38 | 244.28 | 244.33 |
| 22   | 244.11 | 244.46 | 245.04 | 245.73 | 246.14 | 245.92 | 245.53 | 244.94 | 244.39 | 244.43 | 244.23 | 244.38 |
| 23   | 244.10 | 244.56 | 245.11 | 245.73 | 246.16 | 245.90 | 245.52 | 244.94 | 244.45 | 244.45 | 244.29 | 244.54 |
| 24   | 244.10 | 244.62 | 245.11 | 245.74 | 246.16 | 245.95 | 245.47 | 245.01 | 244.47 | 244.43 | 244.26 | 244.57 |
| 25   | 244.12 | 244.67 | 245.06 | 245.75 | 246.15 | 245.95 | 245.46 | 245.04 | 244.42 | 244.46 | 244.28 | 244.55 |
| 26   | 244.12 | 244.60 | 245.12 | 245.77 | 246.15 | 245.92 | 245.44 | 244.99 | 244.42 | 244.45 | 244.31 | 244.58 |
| 27   | 244.12 | 244.59 | 245.10 | 245.78 | 246.15 | 245.90 | 245.44 | 244.98 | 244.40 | 244.39 | 244.21 | 244.62 |
| 28   | 244.16 | 244.65 | 245.07 | 245.78 | 246.15 | 245.90 | 245.41 | 244.98 | 244.37 | 244.44 | 244.20 | 244.59 |
| 29   | 244.17 |        | 245.06 | 245.75 | 246.18 | 245.87 | 245.37 | 245.05 | 244.36 | 244.46 | 244.30 | 244.69 |
| 30   | 244.17 |        | 245.05 | 245.76 | 246.18 | 245.89 | 245.31 | 244.99 | 244.35 | 244.41 | 244.26 | 244.86 |
| 31   | 244.15 |        | 245.10 |        | 246.17 |        | 245.42 | 244.91 |        | 244.38 |        | 244.96 |
| Mean | 244.07 | 244.35 | 244.82 | 245.54 | 245.94 | 246.04 | 245.59 | 245.13 | 244.59 | 244.39 | 244.32 | 244.41 |
| Max. | 244.45 | 244.83 | 245.23 | 245.92 | 246.33 | 246.44 | 246.16 | 245.49 | 244.96 | 244.73 | 244.60 | 245.05 |
| Hr.  | 0300   | 1600   | 1800   | 0200   | 1900   | 1300   | 0900   | 0700   | 2000   | 0100   | 2400   | 2400   |
| Day  | 21     | 23     | 23     | 25     | 20     | 5      | 5      | 1      | 2      | 10     | 11     | 31     |
| Min. | 243.75 | 243.80 | 244.31 | 244.93 | 245.50 | 245.58 | 245.27 | 244.50 | 244.17 | 244.00 | 243.90 | 244.01 |
| Hr.  | 2200   | 1900   | 1400   | 2000   | 1300   | 0900   | 0500   | 0400   | 0100   | 2300   | 1200   | 1600   |
| Day  | 20     | 16     | 12     | 2      | 10     | 18     | 30     | 28     | 30     | 1      | 28     | 18     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 244.93

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990  
Station: 905-2076 Olcott, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 246.09 Jun  
Daily mean elevation: 246.27 3 Jun  
Instant/hourly elevation: 246.49 1900/3 Jun

LOWEST

Monthly mean elevation: 244.09 Jan  
Daily mean elevation: 243.97 2 Jan  
Instant/hourly elevation: 243.81 2000/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov         | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Max Day | 244.26<br>29 | 244.67<br>24 | 245.18<br>30 | 245.85<br>30 | 246.23<br>26 | 246.27<br>3  | 245.92<br>1  | 245.40<br>1  | 244.96<br>2  | 244.56<br>20 | 244.50<br>5 | 245.02<br>31 |
| Min Day | 243.97<br>2  | 244.19<br>1  | 244.55<br>1  | 245.14<br>1  | 245.73<br>11 | 245.91<br>28 | 245.42<br>31 | 244.99<br>31 | 244.36<br>30 | 244.34<br>4  | 244.21<br>6 | 244.27<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 246.20         |     |     |     |     | 6   | 4   |     |     |     |     |     |     | 246.20         | 10                         |
| 246.00         |     |     |     |     | 8   | 19  |     |     |     |     |     |     | 246.00         | 37                         |
| 245.80         |     |     |     | 3   | 10  | 7   | 6   |     |     |     |     |     | 245.80         | 63                         |
| 245.60         |     |     |     | 13  | 7   |     | 9   |     |     |     |     |     | 245.60         | 92                         |
| 245.40         |     |     |     | 6   |     |     | 16  |     |     |     |     |     | 245.40         | 114                        |
| 245.20         |     |     |     | 4   |     |     |     | 16  |     |     |     |     | 245.20         | 134                        |
| 245.00         |     |     | 11  | 4   |     |     |     | 14  |     |     | 1   |     | 245.00         | 164                        |
| 244.80         |     |     |     | 6   |     |     |     | 1   | 7   |     | 1   |     | 244.80         | 179                        |
| 244.60         |     | 5   | 7   |     |     |     |     |     | 9   |     | 3   |     | 244.60         | 203                        |
| 244.40         |     | 5   | 7   |     |     |     |     |     | 11  | 20  | 5   | 9   | 244.40         | 260                        |
| 244.20         | 3   | 15  |     |     |     |     |     |     | 3   | 11  | 25  | 17  | 244.20         | 334                        |
| 244.00         | 25  | 3   |     |     |     |     |     |     |     |     |     |     | 244.00         | 362                        |
| 243.80         | 3   |     |     |     |     |     |     |     |     |     |     |     | 243.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 243.98 | 244.19 | 244.55 | 245.14 | 245.80 | 246.20 | 245.92 | 245.40 | 244.94 | 244.37 | 244.42 | 244.28 |
| 2    | 243.97 | 244.25 | 244.59 | 245.18 | 245.77 | 246.21 | 245.90 | 245.38 | 244.96 | 244.37 | 244.38 | 244.27 |
| 3    | 244.05 | 244.30 | 244.60 | 245.17 | 245.76 | 246.27 | 245.88 | 245.36 | 244.85 | 244.39 | 244.42 | 244.47 |
| 4    | 244.03 | 244.21 | 244.64 | 245.19 | 245.80 | 246.15 | 245.86 | 245.31 | 244.80 | 244.34 | 244.39 | 244.29 |
| 5    | 244.05 | 244.20 | 244.65 | 245.27 | 245.78 | 246.21 | 245.85 | 245.34 | 244.88 | 244.36 | 244.50 | 244.33 |
| 6    | 244.01 | 244.20 | 244.64 | 245.33 | 245.79 | 246.19 | 245.84 | 245.32 | 244.86 | 244.36 | 244.21 | 244.35 |
| 7    | 244.01 | 244.22 | 244.61 | 245.34 | 245.81 | 246.18 | 245.80 | 245.29 | 244.90 | 244.40 | 244.38 | 244.40 |
| 8    | 244.06 | 244.24 | 244.60 | 245.35 | 245.81 | 246.22 | 245.70 | 245.28 | 244.82 | 244.39 | 244.41 | 244.38 |
| 9    | 244.04 | 244.24 | 244.59 | 245.42 | 245.82 | 246.20 | 245.74 | 245.27 | 244.75 | 244.39 | 244.44 | 244.35 |
| 10   | 244.06 | 244.21 | 244.60 | 245.46 | 245.82 | 246.14 | 245.73 | 245.21 | 244.79 | 244.44 | 244.40 | 244.32 |
| 11   | 244.01 | 244.28 | 244.60 | 245.48 | 245.73 | 246.16 | 245.71 | 245.15 | 244.79 | 244.37 | 244.28 | 244.41 |
| 12   | 243.99 | 244.27 | 244.69 | 245.52 | 245.83 | 246.14 | 245.67 | 245.15 | 244.73 | 244.39 | 244.35 | 244.40 |
| 13   | 244.02 | 244.31 | 244.72 | 245.59 | 245.86 | 246.18 | 245.61 | 245.25 | 244.78 | 244.47 | 244.34 | 244.29 |
| 14   | 244.16 | 244.30 | 244.78 | 245.65 | 245.88 | 246.11 | 245.62 | 245.25 | 244.73 | 244.53 | 244.39 | 244.40 |
| 15   | 244.07 | 244.48 | 244.82 | 245.62 | 245.86 | 246.09 | 245.59 | 245.29 | 244.74 | 244.44 | 244.34 | 244.39 |
| 16   | 244.06 | 244.38 | 244.85 | 245.66 | 245.94 | 246.08 | 245.57 | 245.28 | 244.71 | 244.48 | 244.34 | 244.32 |
| 17   | 244.06 | 244.34 | 244.89 | 245.59 | 245.99 | 246.07 | 245.62 | 245.25 | 244.57 | 244.49 | 244.38 | 244.38 |
| 18   | 244.05 | 244.48 | 244.90 | 245.64 | 245.01 | 246.05 | 245.60 | 245.24 | 244.55 | 244.46 | 244.37 | 244.33 |
| 19   | 244.10 | 244.32 | 245.00 | 245.71 | 246.04 | 246.05 | 245.59 | 245.20 | 244.57 | 244.45 | 244.34 | 244.40 |
| 20   | 244.12 | 244.42 | 244.97 | 245.72 | 246.20 | 246.04 | 245.58 | 245.13 | 244.51 | 244.56 | 244.32 | 244.49 |
| 21   | 244.19 | 244.40 | 245.02 | 245.75 | 246.16 | 246.02 | 245.56 | 245.11 | 244.51 | 244.48 | 244.39 | 244.42 |
| 22   | 244.11 | 244.47 | 245.10 | 245.75 | 246.17 | 246.05 | 245.54 | 245.15 | 244.47 | 244.50 | 244.36 | 244.46 |
| 23   | 244.19 | 244.61 | 245.07 | 245.77 | 246.22 | 246.02 | 245.50 | 245.18 | 244.48 | 244.52 | 244.34 | 244.54 |
| 24   | 244.16 | 244.67 | 245.12 | 245.79 | 246.20 | 246.00 | 245.50 | 245.15 | 244.48 | 244.49 | 244.29 | 244.55 |
| 25   | 244.22 | 244.59 | 245.08 | 245.75 | 246.23 | 245.97 | 245.52 | 245.09 | 244.50 | 244.51 | 244.28 | 244.56 |
| 26   | 244.05 | 244.65 | 245.08 | 245.73 | 246.23 | 245.95 | 245.48 | 245.05 | 244.46 | 244.49 | 244.36 | 244.69 |
| 27   | 244.22 | 244.61 | 245.09 | 245.76 | 246.21 | 245.94 | 245.49 | 245.02 | 244.41 | 244.49 | 244.31 | 244.73 |
| 28   | 244.12 | 244.62 | 245.10 | 245.81 | 246.22 | 245.91 | 245.46 | 245.10 | 244.38 | 244.44 | 244.27 | 244.79 |
| 29   | 244.26 |        | 245.17 | 245.84 | 246.22 | 245.94 | 245.45 | 245.05 | 244.39 | 244.47 | 244.27 | 244.91 |
| 30   | 244.20 |        | 245.18 | 245.85 | 246.17 | 245.96 | 245.44 | 245.03 | 244.36 | 244.45 | 244.30 | 245.02 |
| 31   | 244.20 |        | 245.15 |        | 246.17 |        | 245.42 | 244.99 |        | 244.48 |        |        |
| Mean | 244.09 | 244.37 | 244.85 | 245.56 | 245.98 | 246.09 | 245.64 | 245.20 | 244.66 | 244.44 | 244.36 | 244.47 |
| Max. | 244.40 | 244.80 | 245.28 | 245.94 | 246.40 | 246.49 | 246.07 | 245.53 | 245.06 | 244.72 | 244.65 | 245.15 |
| Hr.  | 0200   | 0300   | 2000   | 0400   | 0900   | 1900   | 1800   | 0100   | 2400   | 1000   | 1800   | 1300   |
| Day  | 24     | 23     | 30     | 30     | 20     | 3      | 3      | 1      | 2      | 18     | 5      | 31     |
| Min. | 243.81 | 243.95 | 244.40 | 245.03 | 245.59 | 245.72 | 245.34 | 244.89 | 244.23 | 244.13 | 243.93 | 244.09 |
| Hr.  | 2000   | 1700   | 1600   | 1600   | 0600   | 2000   | 1800   | 0200   | 1700   | 2400   | 0700   | 1700   |
| Day  | 11     | 1      | 1      | 3      | 11     | 30     | 31     | 28     | 30     | 1      | 6      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 244.98

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 322.22 May  
 Daily mean elevation: 324.58 5 Apr  
 Instant/hourly elevation: 337.09 0600/6 Nov

LOWEST

Monthly mean elevation: 315.87 Jan  
 Daily mean elevation: 314.40 31 Jan  
 Instant/hourly elevation: 313.65 1600/16 Feb

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov         | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Max Day | 322.08<br>26 | 320.56<br>25 | 319.15<br>13 | 324.58<br>5 | 324.49<br>11 | 323.96<br>4  | 322.57<br>18 | 322.40<br>28 | 322.55<br>10 | 323.72<br>19 | 322.67<br>6 | 322.08<br>4  |
| Min Day | 314.40<br>31 | 314.73<br>3  | 315.32<br>10 | 321.54<br>2 | 321.20<br>15 | 321.41<br>29 | 321.36<br>6  | 321.45<br>20 | 320.96<br>27 | 320.56<br>10 | 314.62<br>5 | 314.56<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 324.50         |     |     |     | 1   |     |     |     |     |     |     |     |     | 324.50         | 1                          |
| 324.00         |     |     |     |     | 2   |     |     |     |     |     |     |     | 324.00         | 3                          |
| 323.50         |     |     |     | 1   |     | 1   |     |     |     |     |     |     | 323.50         | 7                          |
| 323.00         |     |     |     |     | 1   | 1   |     |     |     |     |     |     | 323.00         | 9                          |
| 322.50         |     |     |     | 2   | 2   |     | 1   |     |     | 1   | 1   |     | 322.50         | 17                         |
| 322.00         | 1   |     |     | 12  | 9   | 6   | 1   | 3   | 8   | 1   |     | 1   | 322.00         | 58                         |
| 321.50         |     |     |     | 14  | 16  | 20  | 19  | 27  | 11  | 6   |     |     | 321.50         | 171                        |
| 321.00         |     |     |     |     | 1   | 2   | 10  | 1   | 8   | 8   |     |     | 321.00         | 201                        |
| 320.50         |     | 1   |     |     |     |     |     |     | 2   | 14  |     | 2   | 320.50         | 220                        |
| 320.00         |     |     |     |     |     |     |     |     | 2   |     |     | 3   | 320.00         | 223                        |
| 319.50         |     | 1   |     |     |     |     |     |     |     |     |     | 1   | 319.50         | 225                        |
| 319.00         |     | 2   | 2   |     |     |     |     |     |     |     |     | 1   | 319.00         | 231                        |
| 318.50         |     | 1   | 4   |     |     |     |     |     |     |     |     | 1   | 318.50         | 237                        |
| 318.00         | 1   | 2   | 1   |     |     |     |     |     |     |     |     | 2   | 318.00         | 247                        |
| 317.50         | 1   | 3   | 4   |     |     |     |     |     |     |     |     | 1   | 317.50         | 258                        |
| 317.00         |     | 1   | 7   |     |     |     |     |     |     |     |     | 3   | 317.00         | 276                        |
| 316.50         | 3   | 3   | 5   |     |     |     |     |     |     |     |     | 8   | 316.50         | 298                        |
| 316.00         | 4   | 4   | 3   |     |     |     |     |     |     |     |     | 7   | 316.00         | 319                        |
| 315.50         | 5   | 6   | 3   |     |     |     |     |     |     |     |     | 3   | 315.50         | 338                        |
| 315.00         | 9   | 2   | 2   |     |     |     |     |     |     |     |     | 1   | 315.00         | 353                        |
| 314.50         | 6   | 2   |     |     |     |     |     |     |     |     |     | 2   | 314.50         | 364                        |
| 314.00         | 1   |     |     |     |     |     |     |     |     |     |     |     | 314.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 316.95 | 314.97 | 318.71 | 321.84 | 321.90 | 322.41 | 321.48 | 321.77 | 322.19 | 321.67 | 315.72 | 318.31 |
| 2    | 316.63 | 315.74 | 318.82 | 321.54 | 322.03 | 322.08 | 321.94 | 321.57 | 322.25 | 321.87 | 316.95 | 315.67 |
| 3    | 314.82 | 314.73 | 317.06 | 322.01 | 321.96 | 323.05 | 321.45 | 321.86 | 321.94 | 321.13 | 317.00 | 315.01 |
| 4    | 315.45 | 316.79 | 317.11 | 323.73 | 321.93 | 323.96 | 321.48 | 321.83 | 321.84 | 321.82 | 316.04 | 322.08 |
| 5    | 315.25 | 316.24 | 317.04 | 324.58 | 322.04 | 321.90 | 321.43 | 321.91 | 321.90 | 322.77 | 314.62 | 320.38 |
| 6    | 314.79 | 316.39 | 316.08 | 322.81 | 322.10 | 322.33 | 321.36 | 321.82 | 321.87 | 321.87 | 322.67 | 319.72 |
| 7    | 315.56 | 315.55 | 315.69 | 322.44 | 322.46 | 322.02 | 321.50 | 321.75 | 322.34 | 320.95 | 316.84 | 318.27 |
| 8    | 315.04 | 315.75 | 316.23 | 322.80 | 321.94 | 321.80 | 321.45 | 321.98 | 321.89 | 320.81 | 316.44 | 317.30 |
| 9    | 315.01 | 316.53 | 315.47 | 321.83 | 321.91 | 321.74 | 321.82 | 321.89 | 322.02 | 320.76 | 316.51 | 315.90 |
| 10   | 315.81 | 317.09 | 315.32 | 321.95 | 322.91 | 321.75 | 321.53 | 321.78 | 322.55 | 320.56 | 316.48 | 318.38 |
| 11   | 316.10 | 315.76 | 315.58 | 322.13 | 324.49 | 321.79 | 321.55 | 321.78 | 321.96 | 321.42 | 319.22 | 317.16 |
| 12   | 318.26 | 315.77 | 318.61 | 322.19 | 322.05 | 321.59 | 321.44 | 321.86 | 321.92 | 320.99 | 318.47 | 316.44 |
| 13   | 316.65 | 315.17 | 319.15 | 322.04 | 321.93 | 321.55 | 321.38 | 322.18 | 321.83 | 321.02 | 317.45 | 317.90 |
| 14   | 316.02 | 315.12 | 317.83 | 322.01 | 322.13 | 321.88 | 321.44 | 321.87 | 322.17 | 321.04 | 316.88 | 317.34 |
| 15   | 315.50 | 316.40 | 316.72 | 322.19 | 321.20 | 321.69 | 321.72 | 321.82 | 322.44 | 321.96 | 316.78 | 314.56 |
| 16   | 314.88 | 316.43 | 317.49 | 321.75 | 322.06 | 321.62 | 321.61 | 321.80 | 320.97 | 321.41 | 316.95 | 317.34 |
| 17   | 315.30 | 319.81 | 317.74 | 322.28 | 323.29 | 321.58 | 321.69 | 321.84 | 321.14 | 320.97 | 316.37 | 316.41 |
| 18   | 315.45 | 317.51 | 319.02 | 322.15 | 324.48 | 321.90 | 322.57 | 321.83 | 321.11 | 323.53 | 314.80 | 317.39 |
| 19   | 316.12 | 318.95 | 316.63 | 322.19 | 322.85 | 321.87 | 322.26 | 321.74 | 321.36 | 323.72 | 315.26 | 319.01 |
| 20   | 315.19 | 317.76 | 317.33 | 322.07 | 321.81 | 321.60 | 321.53 | 321.45 | 321.57 | 320.85 | 316.22 | 317.12 |
| 21   | 316.16 | 316.52 | 317.69 | 322.05 | 321.70 | 321.57 | 321.59 | 321.75 | 321.18 | 320.82 | 316.61 | 317.13 |
| 22   | 317.51 | 315.75 | 317.14 | 321.95 | 321.82 | 321.64 | 321.57 | 321.72 | 321.88 | 321.23 | 315.93 | 316.47 |
| 23   | 316.00 | 318.07 | 318.26 | 321.99 | 322.06 | 322.49 | 321.51 | 321.72 | 321.89 | 320.79 | 316.27 | 316.53 |
| 24   | 315.16 | 317.64 | 318.80 | 321.88 | 321.93 | 322.20 | 321.58 | 321.70 | 322.29 | 321.01 | 317.44 | 320.16 |
| 25   | 314.91 | 320.56 | 317.33 | 321.84 | 321.86 | 321.67 | 321.70 | 321.93 | 322.06 | 320.94 | 317.26 | 320.64 |
| 26   | 322.08 | 319.19 | 317.93 | 321.80 | 321.91 | 321.56 | 321.62 | 321.92 | 321.13 | 320.87 | 315.68 | 320.78 |
| 27   | 315.64 | 319.12 | 316.80 | 321.80 | 321.91 | 321.58 | 321.57 | 321.97 | 320.96 | 321.09 | 316.33 | 316.72 |
| 28   | 314.69 | 318.04 | 316.59 | 321.83 | 321.94 | 321.46 | 321.67 | 322.40 | 321.04 | 321.77 | 317.87 | 316.71 |
| 29   | 314.99 |        | 316.47 | 321.82 | 322.33 | 321.41 | 321.68 | 322.03 | 321.12 | 320.86 | 318.48 | 317.60 |
| 30   | 315.51 |        | 316.58 | 321.79 | 321.98 | 321.54 | 321.69 | 321.65 | 321.37 | 320.92 | 318.63 | 318.49 |
| 31   | 314.40 |        | 315.70 |        | 322.00 |        | 321.64 | 321.83 |        | 320.63 |        | 320.49 |
| Mean | 315.87 | 316.91 | 317.19 | 322.18 | 322.22 | 321.91 | 321.63 | 321.84 | 321.74 | 321.36 | 316.94 | 317.85 |
| Max. | 323.15 | 322.96 | 322.61 | 328.80 | 329.38 | 327.51 | 326.60 | 327.17 | 327.17 | 330.55 | 337.09 | 327.03 |
| Hr.  | 1900   | 0500   | 0300   | 1100   | 1400   | 1400   | 1800   | 2000   | 1900   | 1700   | 0600   | 1400   |
| Day  | 26     | 25     | 24     | 5      | 17     | 3      | 18     | 9      | 22     | 18     | 6      | 4      |
| Min. | 313.81 | 313.65 | 314.28 | 313.98 | 315.06 | 314.23 | 314.18 | 314.26 | 314.55 | 314.31 | 314.22 | 314.16 |
| Hr.  | 0500   | 1600   | 0400   | 0100   | 2400   | 2400   | 0100   | 2400   | 2200   | 2300   | 2100   | 2300   |
| Day  | 6      | 16     | 7      | 3      | 21     | 21     | 6      | 19     | 16     | 20     | 5      | 15     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 319.80

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 558.88 Dec  
Daily mean elevation: 559.54 26 Jan  
Instant/hourly elevation: 560.10 0400/6 Nov

LOWEST

Monthly mean elevation: 558.45 Feb  
Daily mean elevation: 557.72 3 Feb  
Instant/hourly elevation: 557.11 2100/1 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov         | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Max Day | 559.54<br>26 | 558.75<br>19 | 558.86<br>18 | 558.79<br>22 | 559.22<br>11 | 558.99<br>4  | 558.75<br>30 | 558.87<br>28 | 558.98<br>22 | 559.11<br>18 | 559.38<br>6 | 559.48<br>25 |
| Min Day | 558.13<br>30 | 557.72<br>3  | 557.98<br>27 | 558.14<br>3  | 558.45<br>29 | 558.37<br>28 | 558.45<br>6  | 558.53<br>19 | 558.65<br>27 | 558.40<br>31 | 558.46<br>5 | 558.26<br>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. |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|-----|
| 559.40         | 1   |     |     |     |     |     |     |     |     |     |     |     | 559.40         | 5                          |     |
| 559.20         |     |     |     |     | 1   |     |     |     |     |     | 1   | 3   | 559.20         | 10                         |     |
| 559.00         |     |     |     |     |     |     |     |     |     |     | 3   | 4   | 559.00         | 21                         |     |
| 558.80         |     |     |     |     |     |     |     |     |     | 6   | 6   | 5   | 558.80         | 58                         |     |
| 558.60         | 6   | 7   | 3   | 4   | 15  | 20  | 1   | 18  | 25  | 22  | 16  | 15  | 10             | 558.60                     | 223 |
| 558.40         | 19  | 14  | 14  | 12  | 6   | 21  | 13  | 2   |     |     | 5   | 4   | 2              | 558.40                     | 335 |
| 558.20         | 4   | 1   | 3   | 1   |     | 1   |     |     |     |     | 1   |     | 3              | 558.20                     | 349 |
| 558.00         | 1   | 4   | 6   | 2   |     |     |     |     |     |     |     |     | 558.00         | 362                        |     |
| 557.80         | 1   |     | 1   |     |     |     |     |     |     |     |     |     | 557.80         | 364                        |     |
| 557.60         |     | 1   |     |     |     |     |     |     |     |     |     |     | 557.60         | 365                        |     |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 558.51 | 558.46 | 558.71 | 558.39 | 558.70 | 558.46 | 558.54 | 558.71 | 558.73 | 558.80 | 558.68 | 559.05 |
| 2    | 558.53 | 558.16 | 558.83 | 558.15 | 558.72 | 558.41 | 558.49 | 558.82 | 558.79 | 558.80 | 558.82 | 558.65 |
| 3    | 558.29 | 557.72 | 558.46 | 558.14 | 558.67 | 558.61 | 558.53 | 558.76 | 558.67 | 558.74 | 558.82 | 558.39 |
| 4    | 558.59 | 558.02 | 558.54 | 558.64 | 558.61 | 558.99 | 558.62 | 558.77 | 558.72 | 558.84 | 558.66 | 559.42 |
| 5    | 558.56 | 558.16 | 558.38 | 558.63 | 558.75 | 558.59 | 558.53 | 558.80 | 558.78 | 559.03 | 558.46 | 559.41 |
| 6    | 558.61 | 558.57 | 558.12 | 558.64 | 558.81 | 558.67 | 558.45 | 558.66 | 558.74 | 558.82 | 559.38 | 559.26 |
| 7    | 558.65 | 558.57 | 558.08 | 558.63 | 558.85 | 558.57 | 558.51 | 558.71 | 558.95 | 558.53 | 558.72 | 558.98 |
| 8    | 558.55 | 558.62 | 558.16 | 558.57 | 558.63 | 558.49 | 558.56 | 558.80 | 558.78 | 558.56 | 558.70 | 558.80 |
| 9    | 558.52 | 558.67 | 558.50 | 558.57 | 558.67 | 558.56 | 558.67 | 558.70 | 558.72 | 558.50 | 558.65 | 558.64 |
| 10   | 558.67 | 558.73 | 558.52 | 558.59 | 558.88 | 558.60 | 558.72 | 558.69 | 558.81 | 558.49 | 558.68 | 559.08 |
| 11   | 558.61 | 558.60 | 558.57 | 558.78 | 559.22 | 558.58 | 558.53 | 558.74 | 558.70 | 558.93 | 559.02 | 558.80 |
| 12   | 558.64 | 558.52 | 558.82 | 558.60 | 558.69 | 558.56 | 558.52 | 558.73 | 558.72 | 558.68 | 559.05 | 558.26 |
| 13   | 558.32 | 558.53 | 558.76 | 558.56 | 558.67 | 558.54 | 558.58 | 558.79 | 558.69 | 558.76 | 558.86 | 558.87 |
| 14   | 558.45 | 558.52 | 558.57 | 558.51 | 558.71 | 558.66 | 558.66 | 558.71 | 558.70 | 558.81 | 558.73 | 558.43 |
| 15   | 558.56 | 557.87 | 558.39 | 558.52 | 558.71 | 558.63 | 558.66 | 558.70 | 558.84 | 559.00 | 558.72 | 558.39 |
| 16   | 558.50 | 558.07 | 558.54 | 558.49 | 558.62 | 558.48 | 558.68 | 558.70 | 558.67 | 558.72 | 558.73 | 558.92 |
| 17   | 558.57 | 558.67 | 558.59 | 558.55 | 558.80 | 558.62 | 558.73 | 558.76 | 558.73 | 558.69 | 558.62 | 558.67 |
| 18   | 558.60 | 558.49 | 558.86 | 558.77 | 558.95 | 558.62 | 558.68 | 558.77 | 558.76 | 559.11 | 558.56 | 558.91 |
| 19   | 558.58 | 558.75 | 558.53 | 558.76 | 558.80 | 558.50 | 558.60 | 558.53 | 558.72 | 559.00 | 558.67 | 559.17 |
| 20   | 558.56 | 558.53 | 558.64 | 558.72 | 558.58 | 558.50 | 558.66 | 558.56 | 558.76 | 558.63 | 558.77 | 558.74 |
| 21   | 558.66 | 558.51 | 558.61 | 558.75 | 558.57 | 558.56 | 558.58 | 558.72 | 558.67 | 558.71 | 558.71 | 558.78 |
| 22   | 558.55 | 558.57 | 558.56 | 558.79 | 558.61 | 558.41 | 558.58 | 558.65 | 558.98 | 558.73 | 558.53 | 558.61 |
| 23   | 558.58 | 558.55 | 558.57 | 558.66 | 558.68 | 558.65 | 558.61 | 558.67 | 558.85 | 558.63 | 558.61 | 558.62 |
| 24   | 558.45 | 558.40 | 558.55 | 558.59 | 558.60 | 558.59 | 558.70 | 558.73 | 558.89 | 558.67 | 558.85 | 559.23 |
| 25   | 558.52 | 558.73 | 558.46 | 558.67 | 558.64 | 558.59 | 558.72 | 558.80 | 558.83 | 558.74 | 558.85 | 559.48 |
| 26   | 559.54 | 558.48 | 558.53 | 558.62 | 558.62 | 558.52 | 558.68 | 558.83 | 558.69 | 558.65 | 558.54 | 559.38 |
| 27   | 558.48 | 558.70 | 557.98 | 558.58 | 558.68 | 558.50 | 558.67 | 558.87 | 558.65 | 558.79 | 558.70 | 558.55 |
| 28   | 558.44 | 558.56 | 558.18 | 558.64 | 558.57 | 558.37 | 558.73 | 558.87 | 558.67 | 559.02 | 558.97 | 558.61 |
| 29   | 558.25 |        | 558.30 | 558.62 | 558.45 | 558.50 | 558.75 | 558.74 | 558.67 | 558.58 | 559.10 | 558.83 |
| 30   | 558.13 |        | 558.15 | 558.59 | 558.60 | 558.51 | 558.75 | 558.63 | 558.82 | 558.63 | 559.07 | 559.01 |
| 31   | 558.34 |        | 558.16 |        | 558.64 |        | 558.74 | 558.80 |        | 558.40 |        | 559.42 |
| Mean | 558.54 | 558.45 | 558.47 | 558.59 | 558.70 | 558.56 | 558.63 | 558.73 | 558.76 | 558.74 | 558.77 | 558.88 |
| Max. | 559.71 | 559.11 | 559.13 | 559.29 | 559.75 | 559.63 | 559.29 | 559.28 | 559.34 | 559.83 | 560.10 | 559.71 |
| Hr.  | 1800   | 0500   | 0900   | 0700   | 0700   | 0600   | 0700   | 0700   | 0900   | 2400   | 0400   | 1100   |
| Day  | 26     | 17     | 2      | 18     | 11     | 4      | 28     | 4      | 22     | 18     | 6      | 4      |
| Min. | 557.95 | 557.44 | 557.69 | 557.11 | 557.59 | 557.47 | 557.50 | 557.53 | 557.64 | 557.36 | 558.31 | 557.99 |
| Hr.  | 2200   | 1200   | 1500   | 2100   | 2100   | 2100   | 2100   | 2100   | 1900   | 2000   | 1700   | 1300   |
| Day  | 29     | 3      | 31     | 1      | 28     | 26     | 2      | 20     | 21     | 30     | 5      | 14     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 558.65

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 561.61 Dec  
Daily mean elevation: 562.59 26 Jan  
Instant/hourly elevation: 563.58 0500/6 Nov

LOWEST

Monthly mean elevation: 561.08 Feb  
Daily mean elevation: 560.30 15 Feb  
Instant/hourly elevation: 560.01 1400/15 Feb

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun         | Jul          | Aug          | Sep          | Oct          | Nov         | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Max Day | 562.59<br>26 | 561.56<br>25 | 561.60<br>24 | 561.93<br>4 | 562.23<br>11 | 561.98<br>4 | 561.64<br>4  | 561.74<br>28 | 561.83<br>22 | 562.09<br>18 | 562.44<br>6 | 562.47<br>4  |
| Min Day | 560.64<br>30 | 560.30<br>15 | 560.54<br>7  | 561.19<br>2 | 561.25<br>29 | 561.26<br>2 | 561.30<br>12 | 561.30<br>19 | 561.42<br>27 | 561.14<br>31 | 560.99<br>5 | 560.88<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 562.40         | 1   |     |     |     |     |     |     |     |     |     | 1   | 1   | 562.40         | 3                          |
| 562.20         |     |     |     |     | 1   |     |     |     |     |     | 1   | 1   | 562.20         | 5                          |
| 562.00         |     |     |     |     |     |     |     |     |     |     | 2   | 2   | 562.00         | 8                          |
| 561.80         |     |     |     | 1   | 2   | 1   |     |     | 1   | 4   | 4   | 2   | 561.80         | 23                         |
| 561.60         |     |     |     |     | 3   | 4   | 3   |     |     | 5   | 3   | 4   | 561.60         | 66                         |
| 561.40         | 3   | 7   | 11  | 17  | 21  | 23  | 18  | 11  | 10  | 13  | 7   | 4   | 561.40         | 209                        |
| 561.20         | 6   | 4   | 6   | 17  | 8   | 4   | 5   | 2   |     | 6   | 11  | 4   | 561.20         | 282                        |
| 561.00         | 16  | 14  | 9   | 1   | 8   |     |     |     |     | 2   | 3   | 1   | 561.00         | 328                        |
| 560.80         | 6   | 3   | 6   |     |     |     |     |     |     |     | 1   | 3   | 560.80         | 347                        |
| 560.60         | 2   | 1   | 2   |     |     |     |     |     |     |     |     |     | 560.60         | 352                        |
| 560.40         | 1   |     | 1   |     |     |     |     |     |     |     |     |     | 560.40         | 354                        |
| 560.20         |     | 2   |     |     |     |     |     |     |     |     |     |     | 560.20         | 356                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

| 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  | 561.20 | 561.00 | 561.43 | 561.28  | 561.46 | 561.34 | 561.52 | 561.54 | 561.58 | 561.65 | 561.28 | 561.91                                 |
| 2  | 561.36 | 560.72 | 561.52 | 561.19  | 561.49 | 561.26 | 561.47 | 561.65 | 561.63 | 561.64 | 561.49 | 561.33                                 |
| 3  | 560.95 | 560.35 | 561.06 | 561.45  | 561.42 | 561.59 | 561.51 | 561.60 | 561.47 | 561.53 | 561.48 | 560.99                                 |
| 4  | 561.18 | 560.85 | 561.16 | 561.93* | 561.34 | 561.98 | 561.64 | 561.60 | 561.53 | 561.72 | 561.26 | 562.47                                 |
| 5  | 561.10 | 561.10 | 560.94 | 561.44* | 561.53 | 561.48 | 561.52 | 561.67 | 561.62 | 561.94 | 560.99 | 562.39                                 |
| 6  | 561.22 | 561.29 | 560.61 | 561.40  | 561.60 | 561.60 | 561.42 | 561.50 | 561.57 | 561.67 | 562.44 | 562.19                                 |
| 7  | 561.28 | 561.14 | 560.54 | 561.43  | 561.65 | 561.48 | 561.46 | 561.56 | 561.80 | 561.31 | 561.38 | 561.80                                 |
| 8  | 561.07 | 561.20 | 560.66 | 561.37  | 561.42 | 561.39 | 561.50 | 561.67 | 561.61 | 561.30 | 561.35 | 561.54                                 |
| 9  | 561.04 | 561.27 | 561.05 | 561.37  | 561.45 | 561.49 | 561.63 | 561.58 | 561.56 | 561.23 | 561.29 | 561.36                                 |
| 10   | 561.24 | 561.37 | 561.07 | 561.39  | 561.83 | 561.53 | 561.63 | 561.54 | 561.67 | 561.20 | 561.31 | 561.94                                 |
| 11   | 561.20 | 561.19 | 561.13 | 561.60  | 562.23 | 561.47 | 561.38 | 561.60 | 561.53 | 561.75 | 561.89 | 561.54                                 |
| 12   | 561.31 | 561.06 | 561.54 | 561.39  | 561.47 | 561.46 | 561.30 | 561.58 | 561.56 | 561.43 | 561.88 | 560.88                                 |
| 13   | 560.94 | 561.08 | 561.45 | 561.33  | 561.45 | 561.45 | 561.37 | 561.66 | 561.52 | 561.55 | 561.61 | 561.71                                 |
| 14   | 561.12 | 561.06 | 561.17 | 561.28  | 561.51 | 561.60 | 561.48 | 561.56 | 561.54 | 561.58 | 561.42 | 561.11                                 |
| 15   | 561.12 | 560.30 | 560.96 | 561.29  | 561.47 | 561.55 | 561.48 | 561.55 | 561.71 | 561.87 | 561.43 | 560.99                                 |
| 16   | 561.00 | 560.58 | 561.14 | 561.24  | 561.39 | 561.42 | 561.50 | 561.55 | 561.45 | 561.50 | 561.45 | 561.71                                 |
| 17   | 561.10 | 561.42 | 561.25 | 561.38  | 561.68 | 561.58 | 561.56 | 561.61 | 561.54 | 561.46 | 561.27 | 561.38                                 |
| 18   | 561.15 | 561.12 | 561.59 | 561.59  | 561.87 | 561.62 | 561.58 | 561.62 | 561.54 | 562.09 | 561.16 | 561.72                                 |
| 19   | 561.16 | 561.45 | 561.23 | 561.55  | 561.62 | 561.50 | 561.43 | 561.30 | 561.50 | 561.91 | 561.32 | 562.05                                 |
| 20   | 561.07 | 561.15 | 561.27 | 561.50  | 561.34 | 561.50 | 561.46 | 561.32 | 561.57 | 561.38 | 561.46 | 561.46                                 |
| 21   | 561.22 | 561.09 | 561.23 | 561.52  | 561.34 | 561.59 | 561.39 | 561.53 | 561.46 | 561.46 | 561.39 | 561.52                                 |
| 22   | 561.15 | 561.12 | 561.18 | 561.58  | 561.38 | 561.43 | 561.39 | 561.46 | 561.83 | 561.50 | 561.15 | 561.34*                                |
| 23   | 561.12 | 561.15 | 561.47 | 561.44  | 561.48 | 561.75 | 561.45 | 561.47 | 561.69 | 561.39 | 561.29 | /                                      |
| 24   | 561.00 | 560.95 | 561.60 | 561.33  | 561.38 | 561.64 | 561.51 | 561.54 | 561.78 | 561.44 | 561.60 | /                                      |
| 25   | 561.06 | 561.56 | 561.25 | 561.42  | 561.43 | 561.62 | 561.55 | 561.61 | 561.66 | 561.52 | 561.62 | /                                      |
| 26   | 562.59 | 561.17 | 561.38 | 561.37  | 561.43 | 561.50 | 561.50 | 561.63 | 561.46 | 561.42 | 561.17 | /                                      |
| 27   | 561.19 | 561.39 | 560.87 | 561.32  | 561.48 | 561.48 | 561.49 | 561.70 | 561.42 | 561.59 | 561.40 | /                                      |
| 28   | 560.99 | 561.20 | 561.08 | 561.39  | 561.37 | 561.30 | 561.55 | 561.74 | 561.44 | 561.90 | 561.80 | /                                      |
| 29   | 560.76 |        | 560.93 | 561.34  | 561.25 | 561.46 | 561.57 | 561.57 | 561.45 | 561.36 | 561.96 | /                                      |
| 30   | 560.64 |        | 560.99 | 561.32  | 561.44 | 561.48 | 561.57 | 561.43 | 561.63 | 561.42 | 561.92 | /                                      |
| 31   | 560.87 |        | 560.98 |         | 561.48 |        | 561.54 | 561.62 |        | 561.14 |        | /                                      |
| Mean   | 561.14 | 561.08 | 561.15 | 561.41  | 561.51 | 561.52 | 561.50 | 561.57 | 561.58 | 561.54 | 561.48 | 561.61                                 |
| Max.   | 562.92 | 561.98 | 562.52 | 562.44  | 562.92 | 562.67 | 562.39 | 562.36 | 562.55 | 562.99 | 563.58 | 562.93                                 |
| Hr.  | 1700   | 0400   | 2300   | 1100    | 0800   | 0600   | 0700   | 0700   | 0700   | 0200   | 0500   | 1200                                   |
| Day  | 26     | 17     | 23     | 4       | 11     | 4      | 4      | 26     | 7      | 19     | 6      | 4                                      |
| Min.   | 560.45 | 560.01 | 560.33 | 560.09  | 560.11 | 560.26 | 560.33 | 560.12 | 560.24 | 560.16 | 560.75 | 560.51                                 |
| Hr.  | 2200   | 1400   | 2100   | 2100    | 2100   | 2100   | 2100   | 2100   | 1900   | 2000   | 1700   | 1100                                   |
| Day  | 29     | 15     | 6      | 24      | 4      | 11     | 21     | 20     | 29     | 30     | 5      | 3                                      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 561.42

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 571.70 Jun  
Daily mean elevation: 572.95 4 Dec  
Instant/hourly elevation: 577.37 0400/6 Nov

LOWEST

Monthly mean elevation: 570.27 Jan  
Daily mean elevation: 569.41 15 Feb  
Instant/hourly elevation: 567.42 1000/3 Dec

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 571.08<br>26 | 571.35<br>25 | 571.62<br>18 | 571.84<br>17 | 572.43<br>11 | 572.38<br>23 | 572.02<br>4  | 571.85<br>28 | 572.33<br>24 | 572.92<br>18 | 572.64<br>6  | 572.95<br>4 |
| Min Day | 569.86<br>20 | 569.41<br>15 | 570.17<br>6  | 571.12<br>1  | 570.78<br>4  | 571.28<br>28 | 570.77<br>12 | 570.55<br>19 | 570.99<br>3  | 570.47<br>9  | 570.43<br>26 | 569.96<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.80         |     |     |     |     |     |     |     |     |     | 1   |     | 1   | 572.80         | 2                          |
| 572.60         |     |     |     |     |     |     |     |     |     |     | 1   |     | 572.60         | 3                          |
| 572.40         |     |     |     |     | 1   |     |     |     |     |     | 1   |     | 572.40         | 5                          |
| 572.20         |     |     |     |     | 3   | 1   |     |     |     |     | 1   |     | 572.20         | 12                         |
| 572.00         |     |     |     |     |     | 1   | 1   |     | 2   |     | 2   |     | 572.00         | 16                         |
| 571.80         |     |     |     |     |     | 4   |     | 1   | 1   | 3   |     | 2   | 571.80         | 28                         |
| 571.60         |     |     |     | 1   | 3   | 5   | 15  | 5   | 1   | 3   |     | 2   | 571.60         | 67                         |
| 571.40         |     |     | 1   | 6   | 11  | 8   | 16  | 12  | 8   | 2   | 3   | 4   | 571.40         | 137                        |
| 571.20         |     | 3   | 9   | 17  | 8   | 1   | 6   | 14  | 10  | 5   | 5   | 3   | 571.20         | 218                        |
| 571.00         | 1   | 4   | 11  | 3   | 2   |     | 1   | 2   | 4   | 8   | 6   | 7   | 571.00         | 267                        |
| 570.80         | 1   | 3   | 5   |     |     |     | 1   |     | 1   | 5   | 6   | 3   | 570.80         | 292                        |
| 570.60         | 3   | 6   | 2   |     | 1   |     | 1   |     |     | 3   | 4   | 6   | 570.60         | 318                        |
| 570.40         | 6   | 6   | 1   |     |     |     |     | 1   |     | 1   | 3   |     | 570.40         | 336                        |
| 570.20         | 5   | 2   | 1   |     |     |     |     |     |     |     |     |     | 570.20         | 344                        |
| 570.00         | 7   | 1   | 1   |     |     |     |     |     |     |     |     |     | 570.00         | 353                        |
| 569.80         | 8   | 2   |     |     |     |     |     |     |     |     | 1   |     | 569.80         | 364                        |
| 569.60         |     |     |     |     |     |     |     |     |     |     |     |     | 569.60         | 364                        |
| 569.40         |     |     | 1   |     |     |     |     |     |     |     |     |     | 569.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 570.57 | 570.27 | 571.30 | 571.12 | 571.53 | 571.51 | 571.57 | 571.40 | 571.42 | 571.66 | 570.95 | 571.64 |
| 2    | 570.42 | 569.85 | 571.34 | 571.19 | 571.24 | 571.62 | 571.56 | 571.42 | 571.43 | 571.42 | 571.08 | 570.63 |
| 3    | 569.91 | 569.89 | 570.95 | 571.37 | 571.11 | 572.20 | 571.56 | 571.40 | 570.99 | 571.10 | 571.09 | 569.96 |
| 4    | 570.11 | 570.26 | 571.04 | 571.61 | 570.78 | 571.96 | 572.02 | 571.36 | 571.33 | 572.00 | 570.84 | 572.95 |
| 5    | 569.99 | 570.58 | 570.46 | 571.70 | 571.44 | 571.72 | 571.51 | 571.53 | 571.42 | 571.77 | 570.43 | 571.83 |
| 6    | 570.07 | 570.62 | 570.17 | 571.22 | 571.56 | 571.74 | 571.30 | 571.37 | 571.40 | 571.50 | 572.64 | 571.52 |
| 7    | 570.18 | 570.44 | 570.34 | 571.60 | 571.72 | 571.62 | 571.29 | 571.46 | 571.57 | 571.18 | 571.24 | 571.05 |
| 8    | 569.91 | 570.44 | 570.71 | 571.39 | 571.54 | 571.55 | 571.42 | 571.40 | 571.17 | 570.72 | 570.90 | 571.18 |
| 9    | 569.93 | 570.44 | 570.56 | 570.98 | 571.31 | 571.35 | 571.78 | 571.52 | 571.32 | 571.37 | 570.47 | 570.96 |
| 10   | 570.39 | 570.78 | 571.00 | 571.18 | 572.36 | 571.74 | 571.49 | 571.34 | 571.64 | 570.73 | 571.14 | 571.13 |
| 11   | 570.70 | 570.45 | 570.90 | 571.49 | 572.43 | 571.62 | 571.28 | 571.35 | 571.41 | 571.23 | 572.46 | 570.63 |
| 12   | 570.87 | 570.45 | 571.11 | 571.60 | 571.18 | 571.59 | 570.77 | 571.34 | 571.47 | 570.95 | 571.50 | 570.98 |
| 13   | 570.43 | 570.62 | 571.18 | 571.35 | 571.25 | 571.61 | 570.84 | 571.44 | 571.39 | 571.12 | 571.06 | 571.56 |
| 14   | 569.92 | 570.08 | 571.04 | 571.44 | 571.35 | 571.67 | 571.24 | 571.53 | 571.75 | 571.25 | 570.98 | 570.69 |
| 15   | 570.09 | 569.41 | 571.04 | 571.57 | 571.40 | 571.64 | 571.54 | 571.64 | 571.99 | 571.96 | 571.10 | 570.78 |
| 16   | 569.97 | 571.16 | 571.12 | 571.29 | 571.52 | 571.58 | 571.67 | 571.60 | 571.28 | 571.19 | 571.34 | 571.60 |
| 17   | 570.08 | 571.19 | 571.34 | 571.84 | 572.27 | 571.57 | 571.66 | 571.46 | 571.37 | 571.26 | 570.69 | 570.77 |
| 18   | 570.35 | 570.75 | 571.62 | 571.61 | 572.23 | 571.91 | 571.62 | 571.47 | 571.39 | 572.92 | 570.56 | 571.32 |
| 19   | 570.06 | 571.29 | 571.14 | 571.30 | 571.64 | 571.80 | 571.52 | 570.55 | 571.51 | 571.80 | 570.76 | 571.09 |
| 20   | 569.86 | 570.84 | 571.28 | 571.36 | 571.40 | 571.59 | 571.63 | 571.16 | 571.50 | 570.98 | 570.80 | 570.67 |
| 21   | 570.44 | 570.74 | 571.22 | 571.34 | 571.34 | 571.86 | 571.52 | 571.17 | 571.33 | 571.24 | 570.70 | 570.93 |
| 22   | 570.74 | 570.75 | 571.29 | 571.39 | 571.49 | 571.55 | 571.09 | 571.21 | 572.04 | 571.03 | 570.97 | 571.08 |
| 23   | 570.06 | 570.81 | 571.37 | 571.32 | 571.64 | 572.38 | 571.63 | 571.24 | 572.10 | 570.87 | 571.48 | 571.04 |
| 24   | 570.52 | 570.86 | 571.06 | 571.30 | 571.57 | 571.93 | 571.53 | 571.32 | 572.33 | 571.10 | 571.50 | 572.36 |
| 25   | 570.63 | 571.35 | 571.37 | 571.45 | 571.49 | 571.70 | 571.48 | 571.39 | 571.80 | 571.02 | 571.37 | 572.35 |
| 26   | 571.08 | 571.04 | 571.30 | 571.40 | 571.48 | 571.61 | 571.47 | 571.48 | 571.33 | 570.94 | 570.43 | 571.79 |
| 27   | 570.29 | 571.26 | 571.02 | 571.29 | 571.58 | 571.61 | 571.37 | 571.54 | 571.19 | 571.31 | 571.01 | 570.88 |
| 28   | 570.44 | 571.15 | 571.08 | 571.26 | 571.48 | 571.28 | 571.38 | 571.85 | 571.19 | 571.86 | 571.76 | 571.14 |
| 29   | 569.93 | 570.73 | 571.30 | 571.30 | 571.30 | 571.62 | 571.42 | 571.51 | 571.05 | 570.99 | 571.35 | 571.39 |
| 30   | 570.28 |        | 570.99 | 571.23 | 571.65 | 571.50 | 571.48 | 571.41 | 571.39 | 571.14 | 571.28 | 571.37 |
| 31   | 570.26 |        | 571.07 |        | 571.68 |        | 571.48 | 571.29 |        | 570.74 |        | 571.86 |
| Mean | 570.27 | 570.64 | 571.05 | 571.39 | 571.55 | 571.70 | 571.45 | 571.39 | 571.48 | 571.27 | 571.15 | 571.28 |
| Max. | 573.88 | 573.69 | 572.95 | 572.70 | 574.07 | 573.42 | 572.36 | 572.80 | 573.67 | 576.86 | 577.37 | 574.18 |
| Hr.  | 2400   | 2400   | 1000   | 1400   | 1200   | 1700   | 1300   | 2100   | 1600   | 1500   | 0400   | 0600   |
| Day  | 25     | 24     | 18     | 2      | 17     | 23     | 4      | 28     | 24     | 18     | 6      | 4      |
| Min. | 569.20 | 568.32 | 569.83 | 570.63 | 569.94 | 571.00 | 570.11 | 570.01 | 570.26 | 569.77 | 569.43 | 567.42 |
| Hr.  | 0100   | 0600   | 1300   | 0600   | 1700   | 2400   | 1300   | 1700   | 1300   | 0300   | 1100   | 1000   |
| Day  | 21     | 15     | 6      | 10     | 4      | 28     | 12     | 19     | 16     | 10     | 5      | 3      |

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

Annual Mean 571.22

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 571.66 Jun  
Daily mean elevation: 572.67 18 Oct  
Instant/hourly elevation: 576.25 0400/6 Nov

LOWEST

Monthly mean elevation: 570.29 Jan  
Daily mean elevation: 569.52 15 Feb  
Instant/hourly elevation: 567.97 0900/3 Dec

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 571.07<br>26 | 571.35<br>25 | 571.62<br>18 | 571.78<br>17 | 572.21<br>10 | 572.22<br>23 | 571.87<br>4  | 571.69<br>28 | 572.08<br>24 | 572.67<br>18 | 572.21<br>6  | 572.56<br>4 |
| Min Day | 569.88<br>20 | 569.52<br>15 | 570.23<br>6  | 571.11<br>1  | 570.88<br>4  | 571.29<br>28 | 570.82<br>12 | 570.63<br>19 | 571.01<br>3  | 570.51<br>9  | 570.45<br>26 | 569.95<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.60         |     |     |     |     |     |     |     |     |     | 1   |     |     | 572.60         | 1                          |
| 572.40         |     |     |     |     |     |     |     |     |     |     | 1   |     | 572.40         | 2                          |
| 572.20         |     |     |     |     | 1   | 1   |     |     |     |     | 1   | 1   | 572.20         | 6                          |
| 572.00         |     |     |     |     | 3   | 1   |     |     | 1   |     | 1   | 1   | 572.00         | 13                         |
| 571.80         |     |     |     |     |     | 3   | 1   |     | 3   | 2   |     | 1   | 571.80         | 23                         |
| 571.60         |     |     |     | 1   | 2   | 4   | 9   |     | 2   | 2   |     | 2   | 571.60         | 46                         |
| 571.40         |     |     | 2   | 8   | 12  | 15  | 20  | 12  | 5   | 2   | 1   | 3   | 571.40         | 126                        |
| 571.20         | 3   | 8   | 16  | 8   | 1   | 7   | 14  | 14  | 14  | 6   | 7   | 5   | 571.20         | 215                        |
| 571.00         | 1   | 4   | 13  | 4   | 2   |     | 1   | 3   | 5   | 9   | 5   | 6   | 571.00         | 268                        |
| 570.80         | 1   | 4   | 2   |     | 1   |     | 2   |     |     | 5   | 8   | 5   | 570.80         | 296                        |
| 570.60         | 3   | 6   | 2   |     |     |     |     | 1   |     | 3   | 4   | 4   | 570.60         | 319                        |
| 570.40         | 7   | 5   | 2   |     |     |     |     |     |     | 1   | 3   | 1   | 570.40         | 338                        |
| 570.20         | 4   | 2   | 1   |     |     |     |     |     |     |     |     |     | 570.20         | 345                        |
| 570.00         | 7   | 1   |     |     |     |     |     |     |     |     |     |     | 570.00         | 353                        |
| 569.80         | 8   | 2   |     |     |     |     |     |     |     |     | 1   |     | 569.80         | 364                        |
| 569.60         |     |     |     |     |     |     |     |     |     |     |     |     | 569.60         | 364                        |
| 569.40         |     | 1   |     |     |     |     |     |     |     |     |     |     | 569.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 570.57 | 570.30 | 571.33 | 571.11 | 571.49 | 571.50 | 571.55 | 571.39 | 571.38 | 571.59 | 570.92 | 571.45 |
| 2    | 570.44 | 569.91 | 571.37 | 571.19 | 571.24 | 571.59 | 571.52 | 571.39 | 571.39 | 571.32 | 571.03 | 570.60 |
| 3    | 569.91 | 569.96 | 570.96 | 571.36 | 571.13 | 572.09 | 571.52 | 571.39 | 571.01 | 571.04 | 571.04 | 569.95 |
| 4    | 570.12 | 570.32 | 571.07 | 571.58 | 570.88 | 571.92 | 571.87 | 571.34 | 571.27 | 571.81 | 570.81 | 572.56 |
| 5    | 570.00 | 570.61 | 570.49 | 571.62 | 571.45 | 571.67 | 571.50 | 571.50 | 571.38 | 571.56 | 570.56 | 571.66 |
| 6    | 570.08 | 570.65 | 570.23 | 571.19 | 571.54 | 571.69 | 571.30 | 571.36 | 571.36 | 571.36 | 572.21 | 571.35 |
| 7    | 570.19 | 570.47 | 570.41 | 571.55 | 571.67 | 571.59 | 571.30 | 571.45 | 571.52 | 571.13 | 571.22 | 571.00 |
| 8    | 569.93 | 570.46 | 570.75 | 571.34 | 571.52 | 571.55 | 571.40 | 571.41 | 571.17 | 570.77 | 570.86 | 571.09 |
| 9    | 569.93 | 570.59 | 571.01 | 571.27 | 571.32 | 571.74 | 571.49 | 571.31 | 571.35 | 570.51 | 570.92 | 571.30 |
| 10   | 570.41 | 570.79 | 571.01 | 571.18 | 572.21 | 571.71 | 571.46 | 571.31 | 571.57 | 570.80 | 571.14 | 571.05 |
| 11   | 570.70 | 570.48 | 570.93 | 571.48 | 572.18 | 571.63 | 571.26 | 571.31 | 571.40 | 571.22 | 572.20 | 570.64 |
| 12   | 570.86 | 570.48 | 571.14 | 571.54 | 571.15 | 571.57 | 570.82 | 571.29 | 571.43 | 570.96 | 571.39 | 570.94 |
| 13   | 570.44 | 570.66 | 571.21 | 571.33 | 571.31 | 571.60 | 570.84 | 571.41 | 571.35 | 571.13 | 571.00 | 571.42 |
| 14   | 569.93 | 570.11 | 571.06 | 571.43 | 571.33 | 571.65 | 571.21 | 571.46 | 571.69 | 571.22 | 570.93 | 570.68 |
| 15   | 570.10 | 569.52 | 571.07 | 571.53 | 571.38 | 571.60 | 571.48 | 571.54 | 571.87 | 571.82 | 571.02 | 570.81 |
| 16   | 569.98 | 571.20 | 571.14 | 571.29 | 571.51 | 571.56 | 571.58 | 571.53 | 571.30 | 571.16 | 571.25 | 571.43 |
| 17   | 570.08 | 571.17 | 571.37 | 571.78 | 572.08 | 571.55 | 571.59 | 571.41 | 571.35 | 571.21 | 570.70 | 570.73 |
| 18   | 570.34 | 570.77 | 571.62 | 571.52 | 572.08 | 571.83 | 571.54 | 571.41 | 571.36 | 572.67 | 570.58 | 571.21 |
| 19   | 570.06 | 571.29 | 571.17 | 571.30 | 571.57 | 571.77 | 571.48 | 570.63 | 571.48 | 571.62 | 570.73 | 571.05 |
| 20   | 569.88 | 570.86 | 571.30 | 571.34 | 571.39 | 571.57 | 571.55 | 571.13 | 571.48 | 570.98 | 570.77 | 570.67 |
| 21   | 570.49 | 570.77 | 571.24 | 571.34 | 571.39 | 571.75 | 571.48 | 571.13 | 571.32 | 571.20 | 570.69 | 570.90 |
| 22   | 570.75 | 570.82 | 571.32 | 571.38 | 571.49 | 571.55 | 571.12 | 571.17 | 571.92 | 571.03 | 570.91 | 571.04 |
| 23   | 570.08 | 570.86 | 571.41 | 571.33 | 571.62 | 572.22 | 571.59 | 571.21 | 572.00 | 570.91 | 571.37 | 571.03 |
| 24   | 570.53 | 570.94 | 571.12 | 571.31 | 571.57 | 571.85 | 571.50 | 571.27 | 572.08 | 571.08 | 571.36 | 572.26 |
| 25   | 570.63 | 571.35 | 571.41 | 571.44 | 571.50 | 571.65 | 571.47 | 571.35 | 571.68 | 571.04 | 571.23 | 572.11 |
| 26   | 571.07 | 571.08 | 571.33 | 571.39 | 571.49 | 571.56 | 571.46 | 571.41 | 571.29 | 570.96 | 570.45 | 571.62 |
| 27   | 570.32 | 571.26 | 571.06 | 571.30 | 571.56 | 571.57 | 571.36 | 571.48 | 571.17 | 571.26 | 570.91 | 570.88 |
| 28   | 570.48 | 571.17 | 571.10 | 571.28 | 571.48 | 571.29 | 571.37 | 571.69 | 571.17 | 571.73 | 571.57 | 571.10 |
| 29   | 569.99 |        | 570.77 | 571.29 | 571.35 | 571.57 | 571.41 | 571.45 | 571.05 | 570.95 | 571.27 | 571.30 |
| 30   | 570.31 |        | 571.01 | 571.25 | 571.64 | 571.49 | 571.44 | 571.36 | 571.37 | 571.08 | 571.15 | 571.39 |
| 31   | 570.29 |        | 571.08 |        | 571.64 |        | 571.47 | 571.27 |        | 570.75 |        | 571.84 |
| Mean | 570.29 | 570.67 | 571.08 | 571.37 | 571.52 | 571.66 | 571.42 | 571.35 | 571.44 | 571.22 | 571.07 | 571.20 |
| Max. | 573.53 | 573.52 | 572.79 | 572.41 | 573.77 | 573.04 | 572.16 | 572.37 | 573.25 | 575.69 | 576.25 | 573.80 |
| Hr.  | 2300   | 2400   | 1000   | 1400   | 1300   | 2400   | 1200   | 1300   | 1600   | 1500   | 0400   | 0500   |
| Day  | 25     | 24     | 18     | 2      | 10     | 3      | 4      | 28     | 24     | 18     | 6      | 4      |
| Min. | 569.26 | 568.46 | 569.92 | 570.64 | 570.04 | 570.98 | 570.28 | 570.01 | 570.34 | 569.82 | 569.58 | 567.97 |
| Hr.  | 0100   | 0600   | 0400   | 0900   | 1900   | 0800   | 1300   | 1700   | 1400   | 0300   | 0800   | 0900   |
| Day  | 21     | 15     | 7      | 2      | 4      | 28     | 12     | 19     | 16     | 10     | 5      | 3      |

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

Annual Mean 571.19

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 906-3038 Erie, Pennsylvania on Lake Erie

HIGHEST

LOWEST

Monthly mean elevation: 571.75 Jun  
Daily mean elevation: 572.15 18 Oct  
Instant/hourly elevation: 574.22 0300/6 Nov

Monthly mean elevation: 570.30 Jan  
Daily mean elevation: 569.99 3 Jan  
Instant/hourly elevation: 569.11 0800/3 Dec

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 570.77<br>26 | 571.50<br>25 | 571.46<br>18 | 571.69<br>17 | 572.10<br>10 | 572.07<br>23 | 571.77<br>4  | 571.60<br>28 | 571.98<br>23 | 572.15<br>18 | 571.84<br>11 | 572.03<br>4 |
| Min Day | 569.99<br>3  | 570.12<br>15 | 570.65<br>6  | 571.24<br>1  | 571.15<br>4  | 571.52<br>28 | 571.16<br>13 | 571.17<br>19 | 571.24<br>29 | 570.96<br>31 | 570.68<br>26 | 570.20<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.00         |     |     |     |     | 1   | 2   |     |     | 1   |     | 1   |     | 572.00         | 5                          |
| 571.80         |     |     |     |     | 3   | 4   |     |     | 4   |     | 1   | 2   | 571.80         | 19                         |
| 571.60         |     |     |     | 1   | 14  | 23  | 11  |     | 3   | 3   | 1   | 1   | 571.60         | 76                         |
| 571.40         | 1   | 2   | 21  | 9   | 1   | 17  | 30  | 18  | 3   |     | 3   |     | 571.40         | 181                        |
| 571.20         | 5   | 16  | 8   | 3   |     | 1   |     |     | 5   | 13  | 7   | 6   | 571.20         | 245                        |
| 571.00         | 3   | 8   |     | 1   |     | 2   | 1   |     | 9   | 8   | 10  |     | 571.00         | 287                        |
| 570.80         | 4   | 2   |     |     |     |     |     |     | 2   | 12  | 6   |     | 570.80         | 313                        |
| 570.60         | 4   | 6   | 3   |     |     |     |     |     |     | 1   | 1   |     | 570.60         | 328                        |
| 570.40         | 6   | 5   |     |     |     |     |     |     |     |     |     |     | 570.40         | 339                        |
| 570.20         | 7   | 3   |     |     |     |     |     |     |     |     |     |     | 570.20         | 349                        |
| 570.00         | 13  | 1   |     |     |     |     |     |     |     |     | 1   |     | 570.00         | 364                        |
| 569.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 569.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 570.41 | 570.35 | 571.34 | 571.24 | 571.56 | 571.66 | 571.68 | 571.54 | 571.51 | 571.57 | 571.06 | 571.20 |
| 2    | 570.24 | 570.28 | 571.38 | 571.31 | 571.38 | 571.70 | 571.64 | 571.50 | 571.51 | 571.36 | 571.08 | 570.75 |
| 3    | 569.99 | 570.29 | 571.14 | 571.48 | 571.33 | 572.03 | 571.61 | 571.50 | 571.32 | 571.10 | 571.08 | 570.20 |
| 4    | 570.12 | 570.53 | 571.19 | 571.55 | 571.15 | 571.89 | 571.77 | 571.46 | 571.43 | 571.55 | 570.95 | 572.03 |
| 5    | 570.07 | 570.63 | 570.80 | 571.58 | 571.58 | 571.76 | 571.60 | 571.56 | 571.50 | 571.44 | 570.90 | 571.47 |
| 6    | 570.12 | 570.64 | 570.65 | 571.29 | 571.57 | 571.76 | 571.51 | 571.53 | 571.43 | 571.26 | 571.74 | 571.21 |
| 7    | 570.15 | 570.57 | 570.70 | 571.54 | 571.64 | 571.71 | 571.48 | 571.53 | 571.62 | 571.17 | 571.30 | 571.03 |
| 8    | 570.05 | 570.56 | 570.95 | 571.36 | 571.57 | 571.71 | 571.52 | 571.49 | 571.46 | 571.03 | 571.07 | 571.09 |
| 9    | 570.04 | 570.61 | 571.17 | 571.31 | 571.43 | 571.83 | 571.59 | 571.42 | 571.56 | 570.97 | 571.00 | 571.15 |
| 10   | 570.39 | 570.78 | 571.16 | 571.32 | 572.10 | 571.80 | 571.59 | 571.44 | 571.68 | 571.16 | 571.21 | 571.08 |
| 11   | 570.46 | 570.61 | 571.11 | 571.54 | 571.92 | 571.78 | 571.45 | 571.45 | 571.56 | 571.36 | 571.84 | 570.85 |
| 12   | 570.77 | 570.59 | 571.24 | 571.58 | 571.31 | 571.73 | 571.16 | 571.43 | 571.57 | 571.21 | 571.34 | 570.99 |
| 13   | 570.47 | 570.67 | 571.27 | 571.43 | 571.49 | 571.71 | 571.16 | 571.59 | 571.52 | 571.31 | 571.13 | 571.33 |
| 14   | 570.06 | 570.41 | 571.20 | 571.46 | 571.50 | 571.74 | 571.47 | 571.59 | 571.64 | 571.35 | 570.99 | 570.86 |
| 15   | 570.14 | 570.12 | 571.22 | 571.54 | 571.54 | 571.74 | 571.63 | 571.60 | 571.88 | 571.71 | 571.00 | 570.94 |
| 16   | 570.12 | 571.16 | 571.27 | 571.42 | 571.59 | 571.71 | 571.65 | 571.58 | 571.55 | 571.29 | 571.19 | 571.32 |
| 17   | 570.13 | 571.09 | 571.38 | 571.69 | 571.93 | 571.70 | 571.64 | 571.51 | 571.55 | 571.24 | 570.95 | 570.87 |
| 18   | 570.35 | 570.86 | 571.46 | 571.55 | 571.97 | 571.82 | 571.60 | 571.52 | 571.53 | 572.15 | 570.83 | 571.17 |
| 19   | 570.20 | 571.21 | 571.30 | 571.40 | 571.64 | 571.80 | 571.59 | 571.17 | 571.59 | 571.62 | 570.93 | 571.14 |
| 20   | 570.10 | 570.97 | 571.38 | 571.44 | 571.66 | 571.69 | 571.63 | 571.46 | 571.58 | 571.15 | 570.92 | 570.84 |
| 21   | 570.46 | 570.88 | 571.30 | 571.48 | 571.64 | 571.75 | 571.59 | 571.45 | 571.44 | 571.23 | 570.83 | 571.03 |
| 22   | 570.61 | 570.91 | 571.32 | 571.50 | 571.66 | 571.67 | 571.40 | 571.44 | 571.89 | 571.20 | 570.98 | 571.16 |
| 23   | 570.18 | 571.06 | 571.41 | 571.47 | 571.73 | 572.07 | 571.68 | 571.46 | 571.98 | 571.19 | 571.28 | 571.24 |
| 24   | 570.48 | 571.25 | 571.26 | 571.46 | 571.70 | 571.83 | 571.63 | 571.50 | 571.89 | 571.25 | 571.25 | 572.00 |
| 25   | 570.64 | 571.50 | 571.39 | 571.51 | 571.66 | 571.70 | 571.59 | 571.52 | 571.54 | 571.27 | 571.12 | 571.74 |
| 26   | 570.77 | 571.21 | 571.39 | 571.49 | 571.66 | 571.66 | 571.60 | 571.52 | 571.33 | 571.21 | 570.68 | 571.55 |
| 27   | 570.35 | 571.28 | 571.17 | 571.45 | 571.72 | 571.66 | 571.54 | 571.53 | 571.29 | 571.27 | 570.92 | 571.09 |
| 28   | 570.45 | 571.28 | 571.20 | 571.43 | 571.65 | 571.52 | 571.55 | 571.60 | 571.29 | 571.68 | 571.34 | 571.21 |
| 29   | 570.24 |        | 570.99 | 571.45 | 571.62 | 571.66 | 571.57 | 571.51 | 571.24 | 571.11 | 571.26 | 571.27 |
| 30   | 570.39 |        | 571.21 | 571.40 | 571.77 | 571.64 | 571.56 | 571.49 | 571.46 | 571.11 | 571.06 | 571.52 |
| 31   | 570.40 |        | 571.24 |        | 571.75 |        | 571.62 | 571.45 |        | 570.96 |        | 571.88 |
| Mean | 570.30 | 570.80 | 571.20 | 571.46 | 571.63 | 571.75 | 571.56 | 571.49 | 571.54 | 571.31 | 571.11 | 571.20 |
| Max. | 572.64 | 572.84 | 572.01 | 572.01 | 573.18 | 572.96 | 571.94 | 571.94 | 572.50 | 573.40 | 574.22 | 572.79 |
| Hr.  | 2400   | 0100   | 0900   | 0700   | 0400   | 2300   | 1000   | 2300   | 0200   | 1400   | 0300   | 0600   |
| Day  | 25     | 25     | 18     | 17     | 11     | 3      | 4      | 28     | 15     | 18     | 6      | 4      |
| Min. | 569.70 | 569.47 | 570.27 | 570.94 | 570.62 | 571.32 | 570.73 | 570.73 | 570.96 | 570.50 | 570.15 | 569.11 |
| Hr.  | 0100   | 0600   | 0400   | 0700   | 1700   | 0800   | 1500   | 1600   | 1400   | 2400   | 0900   | 0800   |
| Day  | 5      | 15     | 7      | 10     | 4      | 28     | 12     | 19     | 16     | 9      | 5      | 3      |

\* 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, 1990

Station: 906-3053 Fairport, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 571.77 Jun  
Daily mean elevation: 571.91 20 May  
Instant/hourly elevation: 573.01 1900/24 Feb

LOWEST

Monthly mean elevation: 570.21 Jan  
Daily mean elevation: 569.96 2 Jan  
Instant/hourly elevation: 569.67 0300/26 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul         | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 570.50<br>29 | 571.56<br>24 | 571.43<br>19 | 571.60<br>21 | 571.91<br>20 | 571.86<br>4  | 571.74<br>1 | 571.85<br>19 | 571.82<br>16 | 571.48<br>10 | 571.27<br>5  | 571.71<br>31 |
| Min Day | 569.96<br>2  | 570.41<br>1  | 571.14<br>2  | 571.30<br>1  | 571.49<br>11 | 571.68<br>29 | 571.58<br>4 | 571.51<br>28 | 571.23<br>25 | 571.06<br>30 | 570.86<br>30 | 570.75<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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 571.80         |     |     |     |     | 7   | 7   |     | 1   | 1   |     |     |     | 571.80         | 16                         |
| 571.60         |     |     |     |     | 12  | 23  | 27  | 11  | 14  |     |     | 2   | 571.60         | 105                        |
| 571.40         | 2   | 2   | 26  | 12  |     |     | 4   | 19  | 10  | 5   |     | 1   | 571.40         | 186                        |
| 571.20         | 4   | 27  | 4   |     |     |     |     |     |     | 19  | 3   | 6   | 571.20         | 254                        |
| 571.00         | 2   | 2   |     |     |     |     |     |     | 5   | 7   | 13  | 15  | 571.00         | 293                        |
| 570.80         |     | 6   |     |     |     |     |     |     |     |     | 14  | 6   | 570.80         | 319                        |
| 570.60         |     | 9   |     |     |     |     |     |     |     |     |     | 1   | 570.60         | 329                        |
| 570.40         | 3   | 5   |     |     |     |     |     |     |     |     |     |     | 570.40         | 337                        |
| 570.20         | 11  |     |     |     |     |     |     |     |     |     |     |     | 570.20         | 348                        |
| 570.00         | 15  |     |     |     |     |     |     |     |     |     |     |     | 570.00         | 363                        |
| 569.80         | 2   |     |     |     |     |     |     |     |     |     |     |     | 569.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 570.10 | 570.41 | 571.18 | 571.30 | 571.53 | 571.77 | 571.74 | 571.62 | 571.56 | 571.37 | 571.11 | 570.75 |
| 2    | 569.96 | 570.59 | 571.14 | 571.39 | 571.49 | 571.75 | 571.70 | 571.58 | 571.58 | 571.27 | 571.07 | 570.88 |
| 3    | 570.00 | 570.60 | 571.29 | 571.55 | 571.50 | 571.83 | 571.67 | 571.57 | 571.60 | 571.19 | 571.03 | 571.02 |
| 4    | 570.04 | 570.68 | 571.24 | 571.44 | 571.58 | 571.86 | 571.58 | 571.54 | 571.49 | 571.16 | 571.08 | 571.00 |
| 5    | 570.12 | 570.53 | 571.26 | 571.43 | 571.59 | 571.78 | 571.70 | 571.58 | 571.48 | 571.21 | 571.27 | 571.03 |
| 6    | 570.12 | 570.54 | 571.36 | 571.41 | 571.58 | 571.77 | 571.71 | 571.62 | 571.47 | 571.12 | 570.98 | 570.98 |
| 7    | 570.07 | 570.61 | 571.22 | 571.43 | 571.50 | 571.76 | 571.62 | 571.59 | 571.68 | 571.22 | 571.25 | 571.04 |
| 8    | 570.12 | 570.62 | 571.22 | 571.38 | 571.53 | 571.80 | 571.60 | 571.55 | 571.74 | 571.30 | 571.15 | 570.99 |
| 9    | 570.10 | 570.63 | 571.25 | 571.33 | 571.53 | 571.82 | 571.63 | 571.55 | 571.73 | 571.43 | 571.08 | 570.97 |
| 10   | 570.16 | 570.65 | 571.25 | 571.46 | 571.53 | 571.84 | 571.65 | 571.54 | 571.64 | 571.48 | 571.22 | 571.02 |
| 11   | 570.09 | 570.68 | 571.28 | 571.55 | 571.49 | 571.85 | 571.60 | 571.52 | 571.68 | 571.36 | 571.07 | 571.06 |
| 12   | 570.25 | 570.68 | 571.26 | 571.51 | 571.50 | 571.80 | 571.70 | 571.52 | 571.67 | 571.41 | 571.15 | 570.99 |
| 13   | 570.15 | 570.61 | 571.28 | 571.50 | 571.67 | 571.78 | 571.60 | 571.68 | 571.65 | 571.46 | 571.09 | 571.02 |
| 14   | 570.16 | 570.78 | 571.31 | 571.51 | 571.63 | 571.78 | 571.67 | 571.64 | 571.65 | 571.37 | 570.98 | 571.04 |
| 15   | 570.14 | 571.01 | 571.34 | 571.50 | 571.63 | 571.80 | 571.70 | 571.59 | 571.64 | 571.38 | 570.92 | 571.11 |
| 16   | 570.17 | 570.93 | 571.33 | 571.54 | 571.69 | 571.81 | 571.64 | 571.59 | 571.82 | 571.35 | 571.00 | 571.01 |
| 17   | 570.16 | 570.87 | 571.34 | 571.59 | 571.73 | 571.77 | 571.64 | 571.60 | 571.73 | 571.26 | 571.12 | 571.01 |
| 18   | 570.26 | 570.93 | 571.33 | 571.48 | 571.77 | 571.76 | 571.63 | 571.60 | 571.62 | 571.30 | 571.03 | 571.08 |
| 19   | 570.29 | 570.93 | 571.43 | 571.49 | 571.75 | 571.81 | 571.64 | 571.85 | 571.65 | 571.34 | 571.03 | 571.15 |
| 20   | 570.32 | 570.94 | 571.37 | 571.50 | 571.91 | 571.76 | 571.64 | 571.74 | 571.59 | 571.30 | 571.00 | 571.11 |
| 21   | 570.30 | 570.92 | 571.34 | 571.60 | 571.87 | 571.72 | 571.66 | 571.66 | 571.56 | 571.23 | 570.95 | 571.16 |
| 22   | 570.26 | 571.02 | 571.31 | 571.57 | 571.81 | 571.77 | 571.73 | 571.66 | 571.62 | 571.36 | 570.99 | 571.22 |
| 23   | 570.31 | 571.22 | 571.41 | 571.57 | 571.79 | 571.72 | 571.66 | 571.65 | 571.71 | 571.37 | 570.99 | 571.43 |
| 24   | 570.30 | 571.56 | 571.36 | 571.58 | 571.79 | 571.77 | 571.68 | 571.63 | 571.38 | 571.31 | 570.87 | 571.39 |
| 25   | 570.41 | 571.41 | 571.30 | 571.54 | 571.82 | 571.73 | 571.69 | 571.58 | 571.23 | 571.41 | 570.93 | 571.18 |
| 26   | 570.20 | 571.24 | 571.33 | 571.54 | 571.81 | 571.71 | 571.68 | 571.56 | 571.38 | 571.33 | 570.99 | 571.31 |
| 27   | 570.32 | 571.22 | 571.31 | 571.56 | 571.79 | 571.70 | 571.69 | 571.56 | 571.37 | 571.13 | 570.93 | 571.32 |
| 28   | 570.36 | 571.28 | 571.27 | 571.56 | 571.79 | 571.73 | 571.66 | 571.51 | 571.36 | 571.24 | 570.95 | 571.34 |
| 29   | 570.50 |        | 571.33 | 571.52 | 571.85 | 571.68 | 571.65 | 571.66 | 571.41 | 571.17 | 571.02 | 571.30 |
| 30   | 570.40 |        | 571.37 | 571.51 | 571.81 | 571.73 | 571.65 | 571.63 | 571.47 | 571.06 | 570.86 | 571.64 |
| 31   | 570.42 |        | 571.38 |        | 571.79 |        | 571.66 | 571.57 |        | 571.19 |        | 571.71 |
| Mean | 570.21 | 570.86 | 571.30 | 571.49 | 571.68 | 571.77 | 571.66 | 571.60 | 571.57 | 571.29 | 571.04 | 571.14 |
| Max. | 571.03 | 573.01 | 571.69 | 571.93 | 572.19 | 572.43 | 572.02 | 572.17 | 572.27 | 572.02 | 571.73 | 572.03 |
| Hr.  | 1800   | 1900   | 1100   | 0700   | 0900   | 1900   | 2300   | 1500   | 1700   | 1100   | 2400   | 2400   |
| Day  | 25     | 24     | 23     | 17     | 17     | 3      | 22     | 19     | 14     | 18     | 11     | 30     |
| Min. | 569.67 | 570.27 | 570.98 | 571.06 | 571.20 | 571.47 | 571.42 | 570.99 | 570.97 | 570.54 | 570.43 | 570.50 |
| Hr.  | 0300   | 0500   | 1300   | 1200   | 2000   | 2300   | 1500   | 0200   | 2400   | 1600   | 0400   | 0600   |
| Day  | 26     | 2      | 2      | 9      | 10     | 3      | 11     | 28     | 6      | 18     | 6      | 4      |

\* 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, 1990

Station: 906-3063 Cleveland, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 571.69 Jun  
Daily mean elevation: 571.86 19 Aug  
Instant/hourly elevation: 573.58 1800/24 Feb

LOWEST

Monthly mean elevation: 570.10 Jan  
Daily mean elevation: 569.75 2 Jan  
Instant/hourly elevation: 568.61 2400/25 Jan

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

|         | Jan          | Feb          | Mar         | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 570.51<br>29 | 571.54<br>24 | 571.46<br>6 | 571.52<br>21 | 571.86<br>20 | 571.79<br>10 | 571.74<br>12 | 571.86<br>19 | 571.81<br>16 | 571.45<br>9  | 571.21<br>5  | 571.56<br>30 |
| Min Day | 569.75<br>2  | 570.29<br>1  | 570.98<br>2 | 571.28<br>9  | 571.33<br>10 | 571.48<br>23 | 571.45<br>4  | 571.38<br>28 | 570.94<br>25 | 570.93<br>18 | 570.60<br>30 | 570.42<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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 571.80         |     |     |     |     | 3   |     |     | 1   | 1   |     |     |     | 571.80         | 5                          |
| 571.60         |     |     |     |     | 15  | 28  | 15  | 5   | 6   |     |     |     | 571.60         | 74                         |
| 571.40         | 1   | 1   | 20  | 11  | 2   | 16  | 24  | 15  | 1   |     | 2   |     | 571.40         | 167                        |
| 571.20         | 2   | 21  | 10  | 2   |     |     | 1   | 6   | 15  | 1   | 3   |     | 571.20         | 228                        |
| 571.00         | 4   | 8   |     |     |     |     |     | 1   | 10  | 7   | 8   |     | 571.00         | 266                        |
| 570.80         | 8   | 1   |     |     |     |     |     | 1   | 5   | 14  | 11  |     | 570.80         | 306                        |
| 570.60         | 4   |     |     |     |     |     |     |     | 7   | 6   |     |     | 570.60         | 323                        |
| 570.40         | 1   | 7   |     |     |     |     |     |     |     | 1   | 1   |     | 570.40         | 333                        |
| 570.20         | 7   | 2   |     |     |     |     |     |     |     |     |     |     | 570.20         | 342                        |
| 570.00         | 16  |     |     |     |     |     |     |     |     |     |     |     | 570.00         | 358                        |
| 569.80         | 6   |     |     |     |     |     |     |     |     |     |     |     | 569.80         | 364                        |
| 569.60         | 1   |     |     |     |     |     |     |     |     |     |     |     | 569.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 569.96 | 570.29 | 571.05 | 571.30 | 571.41 | 571.72 | 571.66 | 571.57 | 571.46 | 571.21 | 571.03 | 570.42 |
| 2    | 569.75 | 570.63 | 570.98 | 571.30 | 571.44 | 571.66 | 571.63 | 571.52 | 571.49 | 571.17 | 570.93 | 570.80 |
| 3    | 569.90 | 570.61 | 571.25 | 571.50 | 571.46 | 571.67 | 571.60 | 571.50 | 571.59 | 571.06 | 570.92 | 571.09 |
| 4    | 569.93 | 570.63 | 571.19 | 571.37 | 571.62 | 571.75 | 571.45 | 571.46 | 571.43 | 571.02 | 571.03 | 570.62 |
| 5    | 570.04 | 570.38 | 571.33 | 571.33 | 571.57 | 571.70 | 571.61 | 571.50 | 571.40 | 570.94 | 571.21 | 570.79 |
| 6    | 570.01 | 570.42 | 571.46 | 571.38 | 571.50 | 571.66 | 571.68 | 571.59 | 571.44 | 570.94 | 570.83 | 570.77 |
| 7    | 569.88 | 570.54 | 571.37 | 571.36 | 571.39 | 571.70 | 571.59 | 571.54 | 571.72 | 571.09 | 571.12 | 570.86 |
| 8    | 570.02 | 570.52 | 571.26 | 571.30 | 571.42 | 571.72 | 571.49 | 571.48 | 571.71 | 571.27 | 571.10 | 570.83 |
| 9    | 570.01 | 570.53 | 571.17 | 571.28 | 571.46 | 571.74 | 571.56 | 571.50 | 571.67 | 571.45 | 570.97 | 570.74 |
| 10   | 570.04 | 570.56 | 571.19 | 571.43 | 571.33 | 571.79 | 571.58 | 571.45 | 571.56 | 571.38 | 571.13 | 570.89 |
| 11   | 569.86 | 570.64 | 571.25 | 571.49 | 571.42 | 571.78 | 571.58 | 571.44 | 571.64 | 571.27 | 570.76 | 570.95 |
| 12   | 570.24 | 570.60 | 571.18 | 571.42 | 571.45 | 571.72 | 571.74 | 571.45 | 571.58 | 571.39 | 571.09 | 570.83 |
| 13   | 570.05 | 570.51 | 571.19 | 571.42 | 571.63 | 571.69 | 571.64 | 571.62 | 571.59 | 571.39 | 570.99 | 570.88 |
| 14   | 570.07 | 570.82 | 571.26 | 571.41 | 571.58 | 571.69 | 571.61 | 571.57 | 571.47 | 571.27 | 570.84 | 570.95 |
| 15   | 570.03 | 571.14 | 571.27 | 571.40 | 571.55 | 571.73 | 571.61 | 571.49 | 571.61 | 571.19 | 570.77 | 570.95 |
| 16   | 570.08 | 570.82 | 571.25 | 571.47 | 571.63 | 571.73 | 571.54 | 571.49 | 571.81 | 571.26 | 570.83 | 570.85 |
| 17   | 570.06 | 570.83 | 571.24 | 571.49 | 571.63 | 571.71 | 571.53 | 571.53 | 571.68 | 571.11 | 571.09 | 570.93 |
| 18   | 570.17 | 570.85 | 571.20 | 571.39 | 571.68 | 571.67 | 571.54 | 571.51 | 571.53 | 570.93 | 570.98 | 570.90 |
| 19   | 570.24 | 570.82 | 571.37 | 571.42 | 571.72 | 571.75 | 571.56 | 571.86 | 571.54 | 571.21 | 570.93 | 571.02 |
| 20   | 570.32 | 570.87 | 571.29 | 571.42 | 571.86 | 571.68 | 571.55 | 571.69 | 571.52 | 571.22 | 570.93 | 571.04 |
| 21   | 570.20 | 570.83 | 571.26 | 571.52 | 571.82 | 571.64 | 571.61 | 571.65 | 571.46 | 571.10 | 570.86 | 571.05 |
| 22   | 570.09 | 570.99 | 571.22 | 571.50 | 571.77 | 571.63 | 571.73 | 571.64 | 571.43 | 571.28 | 570.85 | 571.12 |
| 23   | 570.26 | 571.19 | 571.31 | 571.51 | 571.72 | 571.48 | 571.57 | 571.62 | 571.52 | 571.33 | 570.73 | 571.39 |
| 24   | 570.18 | 571.54 | 571.30 | 571.50 | 571.73 | 571.70 | 571.60 | 571.57 | 571.10 | 571.23 | 570.74 | 571.06 |
| 25   | 570.10 | 571.38 | 571.18 | 571.46 | 571.76 | 571.65 | 571.62 | 571.51 | 570.94 | 571.40 | 570.77 | 570.79 |
| 26   | 570.00 | 571.14 | 571.22 | 571.47 | 571.76 | 571.65 | 571.62 | 571.47 | 571.30 | 571.29 | 570.99 | 571.14 |
| 27   | 570.17 | 571.12 | 571.25 | 571.48 | 571.73 | 571.64 | 571.64 | 571.44 | 571.30 | 570.96 | 570.80 | 571.26 |
| 28   | 570.27 | 571.22 | 571.21 | 571.47 | 571.75 | 571.72 | 571.62 | 571.38 | 571.28 | 571.12 | 570.72 | 571.22 |
| 29   | 570.51 |        | 571.35 | 571.47 | 571.85 | 571.60 | 571.58 | 571.58 | 571.37 | 571.10 | 570.84 | 571.12 |
| 30   | 570.31 |        | 571.30 | 571.47 | 571.75 | 571.64 | 571.60 | 571.55 | 571.37 | 570.94 | 570.60 | 571.56 |
| 31   | 570.35 |        | 571.34 |        | 571.71 |        | 571.62 | 571.52 |        | 571.12 |        | 571.51 |
| Mean | 570.10 | 570.80 | 571.25 | 571.42 | 571.62 | 571.69 | 571.60 | 571.54 | 571.48 | 571.18 | 570.91 | 570.98 |
| Max. | 570.74 | 573.58 | 571.69 | 571.92 | 572.36 | 572.39 | 572.04 | 572.21 | 572.45 | 571.92 | 571.75 | 571.94 |
| Hr.  | 1700   | 1800   | 0800   | 2100   | 2400   | 1900   | 2200   | 1400   | 1900   | 0700   | 0100   | 0500   |
| Day  | 25     | 24     | 23     | 10     | 19     | 3      | 22     | 19     | 6      | 4      | 12     | 31     |
| Min. | 568.61 | 570.06 | 570.65 | 570.99 | 570.84 | 571.11 | 571.26 | 570.80 | 570.71 | 569.83 | 569.86 | 569.76 |
| Hr.  | 2400   | 1400   | 1000   | 1400   | 1200   | 0400   | 0100   | 0600   | 1500   | 1500   | 0300   | 0800   |
| Day  | 25     | 1      | 2      | 2      | 10     | 23     | 9      | 28     | 24     | 18     | 6      | 4      |

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

Annual Mean 571.21

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 906-3079 Marblehead, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 571.68 Jul  
Daily mean elevation: 572.23 12 Jul  
Instant/hourly elevation: 572.75 1800/19 Aug

LOWEST

Monthly mean elevation: 569.97 Jan  
Daily mean elevation: 569.39 11 Jan  
Instant/hourly elevation: 567.05 2300/25 Jan

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

|         | Jan          | Feb          | Mar         | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 570.58<br>29 | 571.64<br>15 | 571.91<br>6 | 571.56<br>24 | 572.05<br>29 | 571.81<br>28 | 572.23<br>12 | 572.12<br>19 | 571.91<br>8  | 571.68<br>9  | 571.20<br>26 | 571.51<br>27 |
| Min Day | 569.39<br>11 | 570.28<br>5  | 570.84<br>2 | 571.11<br>7  | 570.41<br>10 | 570.90<br>23 | 571.34<br>4  | 571.28<br>28 | 570.74<br>25 | 569.82<br>18 | 570.09<br>11 | 569.54<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.20         |     |     |     |     |     |     | 1   |     |     |     |     |     | 572.20         | 1                          |
| 572.00         |     |     |     |     |     |     | 2   | 1   |     |     |     |     | 572.00         | 5                          |
| 571.80         |     |     | 1   |     | 1   |     | 3   | 2   |     |     |     |     | 571.80         | 22                         |
| 571.60         | 1   | 3   |     | 7   | 9   | 2   | 17  | 8   | 7   | 1   |     |     | 571.60         | 86                         |
| 571.40         |     | 2   |     | 17  | 7   | 6   | 10  | 18  | 11  | 3   |     | 3   | 571.40         | 163                        |
| 571.20         | 3   | 17  | 8   | 5   | 5   | 1   | 1   | 1   | 6   | 9   |     | 3   | 571.20         | 216                        |
| 571.00         | 5   | 5   | 4   |     |     | 1   |     |     | 2   | 8   | 7   | 6   | 571.00         | 254                        |
| 570.80         | 3   | 3   |     |     | 1   | 1   |     |     |     | 4   | 12  | 5   | 570.80         | 283                        |
| 570.60         | 6   |     |     |     |     |     |     |     | 2   | 5   | 3   | 5   | 570.60         | 304                        |
| 570.40         | 2   | 6   |     |     | 1   |     |     |     |     | 4   | 5   |     | 570.40         | 322                        |
| 570.20         | 4   | 4   |     |     |     |     |     |     |     | 3   | 2   |     | 570.20         | 335                        |
| 570.00         | 10  |     |     |     |     |     |     |     |     | 1   | 1   |     | 570.00         | 347                        |
| 569.80         | 7   |     |     |     |     |     |     |     | 1   |     |     |     | 569.80         | 355                        |
| 569.60         | 4   |     |     |     |     |     |     |     |     |     |     |     | 569.60         | 359                        |
| 569.40         | 2   |     |     |     |     |     |     |     |     |     | 1   |     | 569.40         | 362                        |
| 569.20         | 2   |     |     |     |     |     |     |     |     |     |     |     | 569.20         | 364                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 569.62 | 570.31 | 570.92  | /       | 571.36 | 571.78 | 571.70 | 571.63 | 571.46 | 570.99 | 571.04 | 570.04  |
| 2    | 569.51 | 570.80 | 570.84  | 571.14* | 571.51 | 571.65 | 571.69 | 571.59 | 571.53 | 571.14 | 570.90 | 570.97  |
| 3    | 569.92 | 570.78 | 571.33  | 571.23  | 571.56 | 571.20 | 571.60 | 571.53 | 571.75 | 571.17 | 570.89 | 570.72* |
| 4    | 569.82 | 570.71 | 571.23  | 571.18  | 571.90 | 571.62 | 571.34 | 571.50 | 571.46 | 570.71 | 571.14 | 569.54  |
| 5    | 570.00 | 570.28 | 571.76  | 571.15  | 571.55 | 571.68 | 571.65 | 571.52 | 571.35 | 570.69 | 571.11 | 570.41  |
| 6    | 569.96 | 570.36 | 571.91  | 571.41  | 571.53 | 571.60 | 571.77 | 571.61 | 571.50 | 570.80 | 570.30 | 570.53  |
| 7    | 569.80 | 570.58 | 571.80  | 571.11  | 571.33 | 571.73 | 571.72 | 571.54 | 571.68 | 571.06 | 570.91 | 570.78  |
| 8    | 570.03 | 570.53 | 571.46  | 571.28  | 571.35 | 571.74 | 571.53 | 571.51 | 571.91 | 571.44 | 571.12 | 570.67  |
| 9    | 570.02 | 570.49 | 571.21  | 571.24  | 571.48 | 571.63 | 571.56 | 571.53 | 571.73 | 571.68 | 571.00 | 570.60  |
| 10   | 569.75 | 570.43 | 571.24  | 571.41  | 570.41 | 571.77 | 571.63 | 571.47 | 571.50 | 571.38 | 570.95 | 570.81  |
| 11   | 569.39 | 570.69 | 571.33  | 571.42  | 570.90 | 571.81 | 571.80 | 571.46 | 571.71 | 571.18 | 570.09 | 571.04  |
| 12   | 569.40 | 570.61 | 571.17  | 571.34  | 571.59 | 571.76 | 572.23 | 571.49 | 571.63 | 571.49 | 570.82 | 570.78  |
| 13   | 569.83 | 570.50 | 571.21  | 571.45  | 571.67 | 571.70 | 572.12 | 571.70 | 571.65 | 571.42 | 570.89 | 570.58  |
| 14   | 570.15 | 571.20 | 571.32  | 571.37  | 571.67 | 571.71 | 571.77 | 571.60 | 571.33 | 571.23 | 570.83 | 571.04  |
| 15   | 570.02 | 571.64 | 571.30  | 571.33  | 571.59 | 571.77 | 571.58 | 571.45 | 571.42 | 570.82 | 570.72 | 570.87  |
| 16   | 570.12 | 570.38 | 571.29  | 571.51  | 571.62 | 571.79 | 571.49 | 571.46 | 571.86 | 571.32 | 570.54 | 570.58  |
| 17   | 570.07 | 570.65 | 571.02  | 571.30  | 571.27 | 571.74 | 571.49 | 571.55 | 571.73 | 571.13 | 571.07 | 571.04  |
| 18   | 570.04 | 570.83 | 570.97  | 571.35  | 571.40 | 571.57 | 571.55 | 571.50 | 571.57 | 569.82 | 571.06 | 570.74  |
| 19   | 570.28 | 570.54 | 571.40  | 571.46  | 571.87 | 571.70 | 571.59 | 572.12 | 571.45 | 570.99 | 570.96 | 570.98  |
| 20   | 570.51 | 570.84 | 571.29  | 571.43  | 571.86 | 571.73 | 571.55 | 571.82 | 571.52 | 571.31 | 570.97 | 571.29  |
| 21   | 570.01 | 570.84 | 571.24  | 571.56  | 572.00 | 571.59 | 571.67 | 571.88 | 571.50 | 571.08 | 570.96 | 571.15  |
| 22   | 569.86 | 571.05 | 571.14  | 571.53  | 571.91 | 571.58 | 572.03 | 571.83 | 571.02 | 571.34 | 570.83 | 571.11  |
| 23   | 570.36 | 571.23 | 571.21  | 571.56  | 571.75 | 570.90 | 571.55 | 571.75 | 571.13 | 571.35 | 570.36 | 571.38  |
| 24   | 569.95 | 571.14 | 571.36  | 571.56  | 571.80 | 571.58 | 571.63 | 571.62 | 570.75 | 571.24 | 570.51 | 570.32  |
| 25   | 569.64 | 571.07 | 571.04  | 571.48  | 571.84 | 571.68 | 571.67 | 571.55 | 570.74 | 571.37 | 570.62 | 570.31  |
| 26   | 569.57 | 571.36 | 571.17  | 571.51  | 571.87 | 571.62 | 571.67 | 571.48 | 571.27 | 571.23 | 571.20 | 570.91  |
| 27   | 570.12 | 571.22 | 571.33  | 571.55  | 571.77 | 571.66 | 571.74 | 571.42 | 571.36 | 570.77 | 570.76 | 571.51  |
| 28   | 570.13 | 571.18 | 571.25  | 571.53  | 571.90 | 571.81 | 571.69 | 571.28 | 571.30 | 570.70 | 570.24 | 571.47  |
| 29   | 570.58 |        | 571.62  | 571.51  | 572.05 | 571.59 | 571.64 | 571.67 | 571.42 | 571.10 | 570.53 | 571.10  |
| 30   | 570.28 |        | 571.40  | 571.54  | 571.82 | 571.64 | 571.66 | 571.66 | 571.25 | 570.88 | 570.41 | 571.48  |
| 31   | 570.33 |        | 571.42* |         | 571.73 |        | 571.69 | 571.65 |        | 571.16 |        | 571.29  |
| Mean | 569.97 | 570.79 | 571.30  | 571.39  | 571.61 | 571.64 | 571.68 | 571.59 | 571.45 | 571.10 | 570.79 | 570.84  |
| Max. | 571.11 | 572.31 | 572.20  | 571.88  | 572.54 | 572.17 | 572.75 | 572.75 | 572.64 | 572.32 | 572.03 | 571.92  |
| Hr.  | 0900   | 0900   | 0400    | 1900    | 1800   | 1100   | 1700   | 1800   | 1500   | 0300   | 0800   | 1300    |
| Day  | 25     | 15     | 7       | 10      | 4      | 28     | 12     | 19     | 16     | 10     | 5      | 3       |
| Min. | 567.05 | 568.90 | 570.28  | 570.58  | 569.50 | 570.51 | 571.08 | 570.80 | 570.04 | 568.03 | 568.04 | 567.78  |
| Hr.  | 2300   | 2100   | 0800    | 1700    | 1600   | 0400   | 0300   | 0400   | 1700   | 1600   | 0200   | 0800    |
| Day  | 25     | 16     | 2       | 2       | 10     | 23     | 9      | 28     | 24     | 18     | 6      | 4       |

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

Annual Mean 571.18

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 906-3085 Toledo, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 571.75 Jul  
Daily mean elevation: 572.78 13 Jul  
Instant/hourly elevation: 575.78 0800/3 Dec

LOWEST

Monthly mean elevation: 569.92 Jan  
Daily mean elevation: 568.59 4 Dec  
Instant/hourly elevation: 565.35 2400/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 570.82<br>20 | 572.41<br>15 | 572.44<br>6  | 571.66<br>23 | 572.49<br>4  | 571.96<br>28 | 572.78<br>13 | 572.33<br>19 | 572.15<br>8  | 571.96<br>9  | 571.51<br>26 | 572.35<br>3 |
| Min Day | 568.87<br>12 | 569.95<br>16 | 570.63<br>17 | 570.84<br>7  | 569.02<br>10 | 570.09<br>23 | 571.14<br>4  | 571.18<br>28 | 570.44<br>24 | 568.73<br>18 | 569.48<br>11 | 568.59<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.60         |     |     |     |     |     |     | 2   |     |     |     |     |     | 572.60         | 2                          |
| 572.40         | 1   | 1   |     |     | 1   |     |     |     |     |     |     |     | 572.40         | 5                          |
| 572.20         |     | 2   |     |     | 1   | 1   | 2   |     |     |     |     |     | 572.20         | 12                         |
| 572.00         | 1   |     | 5   |     | 1   | 1   | 1   |     |     |     |     |     | 572.00         | 21                         |
| 571.80         |     |     | 7   | 5   | 4   | 4   | 3   | 1   |     |     |     |     | 571.80         | 45                         |
| 571.60         | 1   | 1   | 5   | 7   | 12  | 12  | 6   | 6   | 2   |     |     |     | 571.60         | 99                         |
| 571.40         |     | 7   | 11  | 3   | 10  | 10  | 15  | 9   | 5   | 1   | 1   |     | 571.40         | 171                        |
| 571.20         | 2   | 10  | 7   | 1   | 1   |     | 2   | 4   | 6   | 1   | 6   |     | 571.20         | 211                        |
| 571.00         | 4   | 3   | 3   | 2   |     | 1   | 1   | 3   | 7   | 9   | 5   |     | 571.00         | 249                        |
| 570.80         | 1   | 6   | 1   | 4   | 1   |     |     |     | 2   | 5   | 2   |     | 570.80         | 271                        |
| 570.60         | 1   | 4   | 5   |     | 1   |     |     |     | 1   | 3   | 4   |     | 570.60         | 295                        |
| 570.40         | 2   | 4   |     |     |     | 1   |     |     | 3   | 2   | 4   |     | 570.40         | 313                        |
| 570.20         | 3   | 4   |     |     | 1   |     |     |     | 2   | 3   | 1   |     | 570.20         | 327                        |
| 570.00         | 9   | 1   |     |     |     | 1   |     |     |     | 2   | 1   |     | 570.00         | 339                        |
| 569.80         | 5   | 1   |     |     |     |     |     |     |     | 1   | 1   |     | 569.80         | 347                        |
| 569.60         | 5   |     |     |     |     |     |     |     |     | 2   | 1   |     | 569.60         | 355                        |
| 569.40         | 1   |     |     |     |     |     |     |     |     | 1   | 1   |     | 569.40         | 358                        |
| 569.20         |     |     |     |     |     |     |     |     |     |     |     |     | 569.20         | 358                        |
| 569.00         | 3   |     |     |     | 1   |     |     |     |     |     |     |     | 569.00         | 362                        |
| 568.80         | 1   |     |     |     |     |     |     |     |     |     |     | 1   | 568.80         | 363                        |
| 568.60         |     |     |     |     |     |     |     |     |     |     |     | 1   | 568.60         | 364                        |
| 568.40         |     |     |     |     |     |     |     |     |     |     |     | 1   | 568.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 569.65 | 570.32 | 570.78 | 571.38 | 571.14 | 571.84 | 571.74 | 571.67 | 571.43 | 570.77 | 571.10 | 569.79 |
| 2    | 569.58 | 571.09 | 570.72 | 571.09 | 571.62 | 571.64 | 571.75 | 571.65 | 571.59 | 571.14 | 570.89 | 571.24 |
| 3    | 570.03 | 571.00 | 571.41 | 570.96 | 571.73 | 570.44 | 571.55 | 571.57 | 571.91 | 571.30 | 570.91 | 572.35 |
| 4    | 569.83 | 570.76 | 571.34 | 571.01 | 572.49 | 571.41 | 571.14 | 571.53 | 571.44 | 570.45 | 571.32 | 568.59 |
| 5    | 570.05 | 570.17 | 572.40 | 570.86 | 571.59 | 571.66 | 571.70 | 571.45 | 571.33 | 570.34 | 571.17 | 570.14 |
| 6    | 570.04 | 570.35 | 572.44 | 571.41 | 571.51 | 571.52 | 571.86 | 571.54 | 571.50 | 570.66 | 569.80 | 570.41 |
| 7    | 569.81 | 570.61 | 572.34 | 570.84 | 571.18 | 571.80 | 571.85 | 571.51 | 571.72 | 571.06 | 570.71 | 570.71 |
| 8    | 570.09 | 570.56 | 571.70 | 571.26 | 571.21 | 571.75 | 571.47 | 571.54 | 572.15 | 571.63 | 571.17 | 570.58 |
| 9    | 570.07 | 570.49 | 571.23 | 571.17 | 571.43 | 571.45 | 571.57 | 571.59 | 571.76 | 571.96 | 571.06 | 570.53 |
| 10   | 569.66 | 570.23 | 571.33 | 571.42 | 569.02 | 571.74 | 571.70 | 571.48 | 571.45 | 571.43 | 570.74 | 570.87 |
| 11   | 569.02 | 570.76 | 571.47 | 571.26 | 570.37 | 571.84 | 572.08 | 571.49 | 571.81 | 571.16 | 569.48 | 571.20 |
| 12   | 568.87 | 570.63 | 571.17 | 571.27 | 571.79 | 571.78 | 572.66 | 571.50 | 571.69 | 571.64 | 570.65 | 570.76 |
| 13   | 569.76 | 570.55 | 571.25 | 571.50 | 571.78 | 571.68 | 572.78 | 571.66 | 571.71 | 571.48 | 570.87 | 570.25 |
| 14   | 570.27 | 571.77 | 571.38 | 571.28 | 571.81 | 571.70 | 571.94 | 571.65 | 571.14 | 571.27 | 570.89 | 571.17 |
| 15   | 570.06 | 572.41 | 571.33 | 571.27 | 571.66 | 571.84 | 571.51 | 571.39 | 571.20 | 570.52 | 570.71 | 570.84 |
| 16   | 570.19 | 569.95 | 571.32 | 571.53 | 571.64 | 571.88 | 571.41 | 571.42 | 571.86 | 571.45 | 570.31 | 570.44 |
| 17   | 570.12 | 570.56 | 570.63 | 571.00 | 570.71 | 571.70 | 571.43 | 571.56 | 571.78 | 571.16 | 571.09 | 571.20 |
| 18   | 569.90 | 570.85 | 570.66 | 571.33 | 570.87 | 571.28 | 571.54 | 571.50 | 571.61 | 568.73 | 571.20 | 570.63 |
| 19   | 570.42 | 570.25 | 571.41 | 571.53 | 572.10 | 571.60 | 571.56 | 572.33 | 571.38 | 570.81 | 571.01 | 571.01 |
| 20   | 570.82 | 570.86 | 571.25 | 571.47 | 571.95 | 571.79 | 571.53 | 571.99 | 571.53 | 571.47 | 571.05 | 571.62 |
| 21   | 569.83 | 570.86 | 571.24 | 571.65 | 572.32 | 571.45 | 571.75 | 572.27 | 571.54 | 571.08 | 571.11 | 571.28 |
| 22   | 569.68 | 571.18 | 571.05 | 571.61 | 572.14 | 571.48 | 572.39 | 572.08 | 570.58 | 571.35 | 570.84 | 571.11 |
| 23   | 570.53 | 571.40 | 570.99 | 571.66 | 571.82 | 570.09 | 571.51 | 571.92 | 570.63 | 571.41 | 569.96 | 571.32 |
| 24   | 569.73 | 570.89 | 571.42 | 571.61 | 571.86 | 571.46 | 571.66 | 571.68 | 570.44 | 571.21 | 570.46 | 569.57 |
| 25   | 569.05 | 570.88 | 570.80 | 571.49 | 571.98 | 571.69 | 571.73 | 571.59 | 570.58 | 571.30 | 570.56 | 569.89 |
| 26   | 569.17 | 571.23 | 571.11 | 571.52 | 572.02 | 571.53 | 571.72 | 571.48 | 571.29 | 571.20 | 571.51 | 570.78 |
| 27   | 569.90 | 571.04 | 571.44 | 571.64 | 571.83 | 571.68 | 571.89 | 571.39 | 571.44 | 570.65 | 570.78 | 571.75 |
| 28   | 570.06 | 571.15 | 571.35 | 571.58 | 572.10 | 571.96 | 571.77 | 571.18 | 571.36 | 570.31 | 569.65 | 571.37 |
| 29   | 570.68 |        | 572.17 | 571.58 | 572.12 | 571.56 | 571.67 | 571.68 | 571.49 | 571.14 | 570.25 | 571.21 |
| 30   | 570.30 |        | 571.53 | 571.58 | 571.84 | 571.58 | 571.65 | 571.81 | 571.08 | 570.88 | 570.31 | 571.53 |
| 31   | 570.35 |        | 571.49 |        | 571.75 |        | 571.70 | 571.84 |        | 571.23 |        | 571.30 |
| Mean | 569.92 | 570.81 | 571.36 | 571.36 | 571.59 | 571.56 | 571.75 | 571.64 | 571.41 | 571.04 | 570.72 | 570.82 |
| Max. | 571.65 | 573.57 | 573.22 | 572.29 | 573.49 | 572.50 | 573.82 | 573.43 | 572.91 | 573.18 | 573.06 | 575.78 |
| Hr.  | 1000   | 0100   | 0500   | 1900   | 1500   | 1000   | 1100   | 2000   | 1400   | 0200   | 0900   | 0800   |
| Day  | 25     | 15     | 7      | 6      | 4      | 28     | 13     | 19     | 16     | 10     | 5      | 3      |
| Min. | 565.35 | 567.20 | 569.84 | 570.21 | 567.12 | 569.56 | 570.70 | 570.22 | 569.26 | 566.13 | 566.33 | 566.48 |
| Hr.  | 2400   | 2400   | 0800   | 0600   | 0200   | 1100   | 0400   | 2000   | 1700   | 1800   | 0400   | 1100   |
| Day  | 25     | 16     | 2      | 5      | 11     | 3      | 9      | 28     | 24     | 18     | 6      | 4      |

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

Annual Mean 571.16

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 571.65 Jul  
Daily mean elevation: 572.24 13 Jul  
Instant/hourly elevation: 574.72 0800/3 Dec

LOWEST

Monthly mean elevation: 569.97 Jan  
Daily mean elevation: 568.95 12 Jan  
Instant/hourly elevation: 566.49 2400/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 570.56<br>20 | 571.84<br>15 | 572.04<br>7  | 571.59<br>27 | 572.10<br>4  | 571.86<br>28 | 572.24<br>13 | 572.13<br>19 | 571.97<br>8  | 571.58<br>9  | 571.42<br>26 | 572.09<br>3 |
| Min Day | 568.95<br>12 | 570.06<br>16 | 570.80<br>18 | 570.81<br>3  | 569.84<br>10 | 570.50<br>23 | 571.28<br>4  | 571.26<br>28 | 570.64<br>24 | 569.28<br>18 | 569.67<br>11 | 568.97<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.20         |     |     |     |     |     |     | 1   |     |     |     |     |     | 572.20         | 1                          |
| 572.00         |     |     | 1   |     | 2   |     | 2   | 1   |     |     |     | 1   | 572.00         | 8                          |
| 571.80         | 1   | 3   |     |     | 8   | 3   | 2   | 2   | 1   |     |     |     | 571.80         | 28                         |
| 571.60         |     |     |     |     | 9   | 15  | 10  | 5   | 8   |     |     | 1   | 571.60         | 76                         |
| 571.40         |     | 2   | 14  | 5   | 9   | 15  | 20  | 8   | 7   | 1   | 1   | 1   | 571.40         | 158                        |
| 571.20         | 1   | 15  | 9   | 2   | 1   | 1   | 3   | 7   | 5   | 1   | 4   | 1   | 571.20         | 207                        |
| 571.00         | 5   | 4   | 2   | 1   |     |     |     | 2   | 9   | 6   | 6   | 1   | 571.00         | 242                        |
| 570.80         | 3   | 5   | 5   | 2   | 1   |     |     | 1   | 4   | 9   | 7   | 1   | 570.80         | 279                        |
| 570.60         | 6   | 1   |     |     | 2   | 1   |     |     | 3   | 2   | 3   | 3   | 570.60         | 297                        |
| 570.40         | 3   | 6   |     |     | 1   | 1   |     |     | 2   | 4   | 2   | 2   | 570.40         | 316                        |
| 570.20         | 5   | 5   |     |     |     |     |     |     | 1   | 2   | 3   | 1   | 570.20         | 332                        |
| 570.00         | 8   | 1   |     |     |     |     |     |     |     | 1   | 1   | 1   | 570.00         | 343                        |
| 569.80         | 6   |     |     |     | 1   |     |     |     |     | 2   | 1   | 1   | 569.80         | 353                        |
| 569.60         | 5   |     |     |     |     |     |     |     |     |     | 1   | 1   | 569.60         | 359                        |
| 569.40         | 3   |     |     |     |     |     |     |     |     |     |     | 1   | 569.40         | 362                        |
| 569.20         |     |     |     |     |     |     |     |     | 1   |     |     | 1   | 569.20         | 363                        |
| 569.00         |     |     |     |     |     |     |     |     |     |     |     | 1   | 569.00         | 363                        |
| 568.80         | 1   |     |     |     |     |     |     |     |     |     | 1   | 1   | 568.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 569.63 | 570.36 | 570.90 | 571.34 | 571.15 | 571.84 | 571.58 | 571.60 | 571.44 | 570.85 | 571.08 | 570.05 |
| 2    | 569.57 | 570.68 | 570.81 | 571.15 | 571.56 | 571.76 | 571.67 | 571.60 | 571.47 | 571.14 | 570.97 | 570.98 |
| 3    | 569.99 | 570.84 | 571.27 | 570.81 | 571.67 | 570.99 | 571.61 | 571.56 | 571.73 | 571.43 | 570.93 | 572.09 |
| 4    | 569.86 | 570.56 | 571.22 | 570.98 | 572.10 | 571.43 | 571.28 | 571.56 | 571.46 | 570.57 | 571.12 | 568.97 |
| 5    | 570.02 | 570.38 | 571.99 | 570.88 | 571.42 | 571.70 | 571.57 | 571.39 | 571.31 | 570.69 | 571.23 | 570.27 |
| 6    | 570.02 | 570.36 | 571.92 | 571.35 | 571.45 | 571.60 | 571.62 | 571.41 | 571.48 | 570.90 | 569.92 | 570.46 |
| 7    | 569.86 | 570.57 | 572.04 | 570.87 | 571.32 | 571.75 | 571.73 | 571.43 | 571.57 | 571.08 | 570.67 | 570.82 |
| 8    | 570.09 | 570.62 | 571.59 | 571.28 | 571.38 | 571.80 | 571.55 | 571.50 | 571.97 | 571.41 | 571.09 | 570.63 |
| 9    | 570.10 | 570.52 | 571.18 | 571.25 | 571.56 | 571.47 | 571.49 | 571.53 | 571.73 | 571.58 | 571.06 | 570.62 |
| 10   | 569.77 | 570.25 | 571.27 | 571.28 | 569.84 | 571.62 | 571.54 | 571.44 | 571.48 | 571.41 | 570.70 | 570.82 |
| 11   | 569.41 | 570.66 | 571.39 | 571.19 | 570.52 | 571.76 | 571.84 | 571.42 | 571.70 | 571.15 | 569.67 | 571.15 |
| 12   | 568.95 | 570.67 | 571.22 | 571.26 | 571.75 | 571.84 | 572.18 | 571.43 | 571.63 | 571.46 | 570.59 | 570.87 |
| 13   | 569.74 | 570.59 | 571.23 | 571.49 | 571.57 | 571.75 | 572.24 | 571.59 | 571.68 | 571.40 | 570.81 | 570.27 |
| 14   | 570.26 | 571.15 | 571.36 | 571.37 | 571.74 | 571.68 | 571.84 | 571.59 | 571.26 | 571.30 | 570.94 | 571.11 |
| 15   | 570.06 | 571.84 | 571.35 | 571.31 | 571.61 | 571.71 | 571.57 | 571.41 | 571.17 | 570.60 | 570.80 | 570.87 |
| 16   | 570.15 | 570.06 | 571.32 | 571.55 | 571.65 | 571.78 | 571.49 | 571.41 | 571.67 | 571.41 | 570.39 | 570.46 |
| 17   | 570.13 | 570.58 | 570.96 | 570.91 | 570.96 | 571.76 | 571.49 | 571.55 | 571.66 | 571.32 | 570.98 | 571.16 |
| 18   | 569.90 | 570.92 | 570.80 | 571.34 | 570.99 | 571.36 | 571.55 | 571.50 | 571.61 | 569.28 | 571.11 | 570.67 |
| 19   | 570.31 | 570.26 | 571.30 | 571.52 | 571.94 | 571.55 | 571.58 | 572.13 | 571.39 | 570.80 | 570.97 | 570.97 |
| 20   | 570.56 | 570.80 | 571.20 | 571.47 | 571.85 | 571.80 | 571.51 | 571.80 | 571.51 | 571.45 | 571.00 | 571.52 |
| 21   | 569.94 | 570.88 | 571.27 | 571.56 | 572.01 | 571.51 | 571.66 | 571.97 | 571.59 | 571.15 | 571.13 | 571.21 |
| 22   | 569.78 | 571.06 | 571.18 | 571.55 | 571.89 | 571.64 | 572.01 | 571.81 | 570.73 | 571.26 | 570.84 | 571.07 |
| 23   | 570.54 | 571.14 | 570.97 | 571.58 | 571.76 | 570.50 | 571.45 | 571.75 | 570.64 | 571.30 | 570.19 | 571.14 |
| 24   | 569.92 | 570.53 | 571.35 | 571.59 | 571.86 | 571.44 | 571.57 | 571.60 | 570.64 | 571.17 | 570.53 | 569.92 |
| 25   | 569.72 | 570.72 | 570.93 | 571.48 | 571.88 | 571.65 | 571.66 | 571.54 | 570.83 | 571.10 | 570.59 | 570.29 |
| 26   | 569.43 | 571.26 | 571.09 | 571.52 | 571.87 | 571.57 | 571.65 | 571.46 | 571.24 | 571.14 | 571.42 | 570.81 |
| 27   | 570.24 | 571.05 | 571.41 | 571.59 | 571.75 | 571.62 | 571.78 | 571.39 | 571.39 | 570.82 | 570.92 | 571.65 |
| 28   | 570.06 | 571.08 | 571.28 | 571.58 | 571.88 | 571.86 | 571.70 | 571.26 | 571.32 | 570.30 | 569.99 | 571.32 |
| 29   | 570.50 |        | 571.84 | 571.56 | 571.84 | 571.56 | 571.67 | 571.65 | 571.35 | 571.11 | 570.36 | 571.25 |
| 30   | 570.35 |        | 571.40 | 571.54 | 571.74 | 571.55 | 571.59 | 571.73 | 571.06 | 570.93 | 570.57 | 571.33 |
| 31   | 570.31 |        | 571.36 |        | 571.74 |        | 571.55 | 571.76 |        | 571.17 |        | 571.18 |
| Mean | 569.97 | 570.73 | 571.30 | 571.34 | 571.56 | 571.60 | 571.65 | 571.57 | 571.39 | 571.05 | 570.75 | 570.84 |
| Max. | 571.58 | 572.58 | 572.66 | 572.14 | 572.86 | 572.34 | 573.01 | 572.92 | 572.67 | 572.53 | 572.74 | 574.72 |
| Hr.  | 0900   | 0200   | 0500   | 0800   | 1700   | 2200   | 1700   | 1900   | 1600   | 0100   | 0400   | 0800   |
| Day  | 25     | 15     | 7      | 10     | 4      | 8      | 12     | 19     | 16     | 10     | 12     | 3      |
| Min. | 566.49 | 567.66 | 570.11 | 570.28 | 567.94 | 569.99 | 570.84 | 570.62 | 569.62 | 566.69 | 566.60 | 566.77 |
| Hr.  | 2400   | 2300   | 0700   | 2000   | 0200   | 0100   | 0300   | 1900   | 1700   | 1800   | 0300   | 1000   |
| Day  | 25     | 16     | 18     | 5      | 11     | 4      | 9      | 28     | 24     | 18     | 6      | 4      |

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

Annual Mean 571.15

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 904-4020

Gibraltar, Michigan on Detroit River

HIGHEST

LOWEST

Monthly mean elevation: 571.90 Jul  
Daily mean elevation: 572.39 19 Aug  
Instant/hourly elevation: 574.43 0900/3 Dec

Monthly mean elevation: 570.31 Jan  
Daily mean elevation: 569.35 12 Jan  
Instant/hourly elevation: 567.51 0100/26 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 570.79<br>23 | 571.87<br>15 | 572.09<br>7  | 571.73<br>29 | 572.14<br>4  | 572.06<br>28 | 572.37<br>13 | 572.39<br>19 | 572.26<br>8  | 571.80<br>3  | 571.62<br>5  | 572.27<br>3 |
| Min Day | 569.35<br>12 | 570.44<br>16 | 571.01<br>18 | 570.91<br>3  | 570.38<br>10 | 570.92<br>23 | 571.57<br>4  | 571.64<br>28 | 571.02<br>23 | 570.05<br>18 | 570.09<br>11 | 569.57<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 572.20         |     |     |     |     |     |     |     |     |     |     |     |     | 572.20         | 6                          |
| 572.00         |     |     |     |     |     |     |     |     |     |     |     |     | 572.00         | 28                         |
| 571.80         |     |     | 1   |     | 6   | 4   | 2   | 2   | 1   |     |     |     | 571.80         | 95                         |
| 571.60         | 1   | 3   |     | 14  | 4   | 14  | 14  | 12  | 11  |     |     |     | 571.60         | 167                        |
| 571.40         |     |     | 1   | 8   | 4   | 9   | 10  | 12  | 9   | 10  | 1   | 2   | 571.40         | 204                        |
| 571.20         | 1   | 11  |     |     | 2   | 1   |     |     | 2   | 5   | 1   | 3   | 571.20         | 248                        |
| 571.00         | 4   | 9   | 3   |     | 2   | 1   |     |     | 2   | 9   | 7   | 7   | 571.00         | 282                        |
| 570.80         | 3   | 6   |     | 4   | 1   |     |     |     | 3   | 3   | 9   | 5   | 570.80         | 303                        |
| 570.60         | 6   |     |     | 1   |     | 1   |     |     |     | 2   | 6   | 5   | 570.60         | 323                        |
| 570.40         | 5   | 9   |     |     | 1   |     |     |     |     | 2   | 3   |     | 570.40         | 340                        |
| 570.20         | 8   | 4   |     |     |     |     |     |     |     | 1   | 1   | 3   | 570.20         | 353                        |
| 570.00         | 1   |     |     |     | 1   |     |     |     |     | 1   | 1   | 1   | 570.00         | 360                        |
| 569.80         | 2   |     |     |     |     |     |     |     |     |     |     |     | 569.80         | 362                        |
| 569.60         | 1   |     |     |     |     |     |     |     |     |     |     |     | 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, 1990

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    | 570.15 | 570.61 | 571.13 | 571.48 | 571.29 | 572.01 | 571.77 | 571.87 | 571.79 | 571.24 | 571.32 | 570.45 |
| 2    | 570.16 | 570.77 | 571.02 | 571.30 | 571.73 | 571.97 | 571.89 | 571.88 | 571.80 | 571.45 | 571.23 | 571.10 |
| 3    | 570.44 | 570.99 | 571.38 | 570.91 | 571.83 | 571.34 | 571.86 | 571.85 | 572.01 | 571.80 | 571.18 | 572.27 |
| 4    | 570.33 | 570.69 | 571.35 | 571.11 | 572.14 | 571.62 | 571.57 | 571.89 | 571.80 | 570.97 | 571.30 | 569.57 |
| 5    | 570.46 | 570.71 | 572.00 | 571.07 | 571.53 | 571.91 | 571.80 | 571.66 | 571.67 | 571.13 | 571.62 | 570.60 |
| 6    | 570.43 | 570.58 | 571.91 | 571.50 | 571.57 | 571.80 | 571.86 | 571.68 | 571.81 | 571.27 | 570.30 | 570.73 |
| 7    | 570.27 | 570.75 | 572.09 | 571.05 | 571.50 | 571.90 | 571.99 | 571.73 | 571.90 | 571.38 | 570.94 | 571.10 |
| 8    | 570.46 | 570.85 | 571.71 | 571.45 | 571.58 | 571.99 | 571.81 | 571.80 | 572.26 | 571.62 | 571.29 | 570.87 |
| 9    | 570.42 | 570.73 | 571.34 | 571.43 | 571.75 | 571.68 | 571.79 | 571.82 | 572.04 | 571.76 | 571.31 | 570.89 |
| 10   | 570.10 | 570.48 | 571.43 | 571.39 | 570.38 | 571.76 | 571.79 | 571.76 | 571.83 | 571.77 | 570.93 | 570.99 |
| 11   | 569.84 | 570.84 | 571.51 | 571.31 | 570.72 | 571.92 | 572.05 | 571.73 | 572.00 | 571.46 | 570.09 | 571.35 |
| 12   | 569.35 | 570.89 | 571.40 | 571.43 | 571.91 | 572.06 | 572.33 | 571.76 | 571.96 | 571.69 | 570.86 | 571.13 |
| 13   | 569.99 | 570.79 | 571.39 | 571.68 | 571.68 | 571.96 | 572.37 | 571.89 | 572.00 | 571.66 | 571.03 | 570.47 |
| 14   | 570.52 | 571.17 | 571.50 | 571.60 | 571.87 | 571.86 | 572.05 | 571.90 | 571.68 | 571.62 | 571.19 | 571.29 |
| 15   | 570.28 | 571.87 | 571.51 | 571.50 | 571.76 | 571.87 | 571.85 | 571.76 | 571.53 | 570.97 | 571.05 | 571.12 |
| 16   | 570.36 | 570.44 | 571.48 | 571.72 | 571.84 | 571.96 | 571.78 | 571.74 | 571.96 | 571.68 | 570.66 | 570.70 |
| 17   | 570.37 | 570.76 | 571.18 | 571.02 | 571.23 | 571.97 | 571.76 | 571.88 | 571.96 | 571.63 | 571.13 | 571.39 |
| 18   | 570.14 | 571.17 | 571.01 | 571.50 | 571.17 | 571.56 | 571.79 | 571.81 | 571.94 | 570.05 | 571.31 | 570.90 |
| 19   | 570.51 | 570.47 | 571.40 | 571.67 | 572.05 | 571.73 | 571.84 | 572.39 | 571.73 | 571.07 | 571.16 | 571.17 |
| 20   | 570.72 | 570.96 | 571.34 | 571.61 | 571.99 | 572.03 | 571.77 | 572.07 | 571.82 | 571.72 | 571.18 | 571.69 |
| 21   | 570.23 | 571.07 | 571.43 | 571.68 | 572.10 | 571.73 | 571.91 | 572.22 | 571.94 | 571.45 | 571.34 | 571.37 |
| 22   | 570.10 | 571.22 | 571.37 | 571.69 | 572.01 | 571.94 | 572.18 | 572.08 | 571.13 | 571.46 | 571.06 | 571.23 |
| 23   | 570.79 | 571.29 | 571.08 | 571.72 | 571.90 | 570.92 | 571.73 | 572.03 | 571.02 | 571.52 | 570.58 | 571.29 |
| 24   | 570.26 | 570.77 | 571.48 | 571.72 | 571.97 | 571.65 | 571.83 | 571.91 | 571.09 | 571.38 | 570.82 | 570.31 |
| 25   | 570.37 | 570.93 | 571.13 | 571.62 | 572.03 | 571.86 | 571.91 | 571.88 | 571.30 | 571.28 | 570.85 | 570.80 |
| 26   | 569.76 | 571.53 | 571.25 | 571.65 | 572.01 | 571.80 | 571.91 | 571.80 | 571.55 | 571.37 | 571.53 | 570.99 |
| 27   | 570.62 | 571.26 | 571.56 | 571.72 | 571.89 | 571.84 | 572.02 | 571.75 | 571.68 | 571.20 | 571.15 | 571.79 |
| 28   | 570.29 | 571.24 | 571.42 | 571.72 | 572.00 | 572.06 | 571.96 | 571.64 | 571.61 | 570.56 | 570.37 | 571.52 |
| 29   | 570.66 |        | 571.93 | 571.73 | 571.93 | 571.81 | 571.95 | 571.93 | 571.62 | 571.36 | 570.62 | 571.46 |
| 30   | 570.63 |        | 571.54 | 571.67 | 571.88 | 571.80 | 571.86 | 572.04 | 571.37 | 571.21 | 570.95 | 571.47 |
| 31   | 570.53 |        | 571.48 |        | 571.92 |        | 571.79 | 572.09 |        | 571.38 |        | 571.39 |
| Mean | 570.31 | 570.92 | 571.44 | 571.49 | 571.71 | 571.81 | 571.90 | 571.88 | 571.73 | 571.36 | 571.01 | 571.08 |
| Max. | 571.79 | 572.56 | 572.61 | 572.37 | 572.96 | 572.74 | 573.08 | 573.10 | 572.72 | 572.64 | 572.88 | 574.43 |
| Hr.  | 1000   | 0100   | 0400   | 0900   | 1700   | 1600   | 1600   | 1900   | 1500   | 0100   | 0800   | 0900   |
| Day  | 25     | 15     | 7      | 14     | 4      | 22     | 12     | 19     | 16     | 10     | 5      | 3      |
| Min. | 567.51 | 568.30 | 570.37 | 570.34 | 568.45 | 570.21 | 571.17 | 571.09 | 570.29 | 568.02 | 567.74 | 567.73 |
| Hr.  | 0100   | 2300   | 0800   | 0500   | 0100   | 0200   | 0400   | 1900   | 1700   | 1800   | 0300   | 1000   |
| Day  | 26     | 16     | 18     | 3      | 11     | 4      | 9      | 28     | 24     | 18     | 6      | 4      |

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

Annual Mean 571.39

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 904-4030 Wyandotte, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 573.05 Jul  
Daily mean elevation: 573.42 13 Jul  
Instant/hourly elevation: 574.87 0900/3 Dec

LOWEST

Monthly mean elevation: 571.71 Jan  
Daily mean elevation: 571.13 12 Jan  
Instant/hourly elevation: 570.12 2300/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 572.14<br>6  | 572.79<br>15 | 572.89<br>7  | 572.75<br>21 | 573.15<br>21 | 573.13<br>28 | 573.42<br>13 | 573.36<br>19 | 573.35<br>8  | 572.98<br>9  | 572.79<br>5  | 573.26<br>3 |
| Min Day | 571.13<br>12 | 571.75<br>19 | 572.24<br>18 | 572.29<br>3  | 571.70<br>10 | 572.40<br>23 | 572.79<br>4  | 572.82<br>28 | 572.41<br>24 | 571.75<br>18 | 571.85<br>28 | 571.54<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 573.40         |     |     |     |     |     |     | 1   |     |     |     |     |     | 573.40         | 1                          |
| 573.20         |     |     |     |     |     |     | 3   | 2   | 1   |     |     | 1   | 573.20         | 8                          |
| 573.00         |     |     |     |     | 11  | 7   | 13  | 11  | 10  |     |     |     | 573.00         | 60                         |
| 572.80         |     |     | 2   |     | 5   | 19  | 13  | 18  | 9   | 6   |     | 2   | 572.80         | 134                        |
| 572.60         | 3   | 6   |     | 16  | 8   | 2   | 1   |     | 6   | 9   | 1   | 4   | 572.60         | 190                        |
| 572.40         | 3   |     | 18  | 9   | 5   | 1   |     |     | 4   | 9   | 9   | 6   | 572.40         | 254                        |
| 572.20         | 3   | 5   | 5   |     |     | 1   |     |     |     | 5   | 11  | 9   | 572.20         | 293                        |
| 572.00         | 3   | 7   |     |     | 1   |     |     |     | 1   | 4   | 5   | 5   | 572.00         | 314                        |
| 571.80         | 8   | 8   |     |     |     |     |     |     |     |     | 5   | 3   | 571.80         | 338                        |
| 571.60         | 10  | 4   |     |     | 1   |     |     |     |     | 1   |     |     | 571.60         | 354                        |
| 571.40         | 7   |     |     |     |     |     |     |     |     |     |     | 1   | 571.40         | 362                        |
| 571.20         | 2   |     |     |     |     |     |     |     |     |     |     |     | 571.20         | 364                        |
| 571.00         | 1   |     |     |     |     |     |     |     |     |     |     |     | 571.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 571.83 | 571.77 | 572.41 | 572.55 | 572.43 | 573.01 | 573.00 | 573.03 | 572.93 | 572.47 | 572.48 | 571.87 |
| 2    | 571.82 | 571.87 | 572.25 | 572.44 | 572.70 | 572.96 | 573.04 | 573.01 | 572.96 | 572.59 | 572.38 | 572.31 |
| 3    | 571.99 | 572.03 | 572.48 | 572.29 | 572.79 | 572.48 | 572.98 | 572.98 | 573.07 | 572.78 | 572.38 | 573.26 |
| 4    | 572.07 | 571.87 | 572.41 | 572.36 | 573.08 | 572.78 | 572.79 | 572.99 | 572.91 | 572.25 | 572.46 | 571.54 |
| 5    | 572.14 | 571.81 | 572.78 | 572.35 | 572.74 | 572.94 | 573.00 | 572.88 | 572.84 | 572.32 | 572.79 | 572.02 |
| 6    | 572.14 | 571.75 | 572.79 | 572.59 | 572.67 | 572.88 | 573.04 | 572.90 | 572.91 | 572.38 | 572.00 | 572.15 |
| 7    | 571.97 | 571.87 | 572.89 | 572.34 | 572.56 | 572.97 | 573.08 | 572.90 | 573.17 | 572.57 | 572.40 | 572.30 |
| 8    | 571.94 | 571.87 | 572.65 | 572.52 | 572.58 | 573.04 | 572.93 | 572.92 | 573.35 | 572.77 | 572.54 | 572.21 |
| 9    | 571.76 | 571.94 | 572.44 | 572.47 | 572.70 | 572.85 | 572.97 | 572.95 | 573.18 | 572.98 | 572.59 | 572.20 |
| 10   | 571.58 | 571.80 | 572.49 | 572.58 | 571.70 | 572.91 | 572.99 | 572.91 | 573.00 | 572.97 | 572.41 | 572.29 |
| 11   | 571.35 | 572.08 | 572.55 | 572.55 | 572.03 | 573.00 | 573.12 | 572.90 | 573.12 | 572.71 | 571.89 | 572.51 |
| 12   | 571.13 | 572.08 | 572.50 | 572.60 | 572.77 | 573.04 | 573.37 | 572.90 | 573.06 | 572.90 | 572.31 | 572.33 |
| 13   | 571.43 | 572.02 | 572.55 | 572.72 | 572.76 | 572.99 | 573.42 | 573.05 | 573.06 | 572.87 | 572.39 | 571.93 |
| 14   | 571.69 | 572.32 | 572.62 | 572.68 | 572.85 | 572.97 | 573.24 | 573.01 | 572.83 | 572.82 | 572.46 | 572.46 |
| 15   | 571.51 | 572.79 | 572.61 | 572.61 | 572.79 | 572.98 | 573.04 | 572.89 | 572.79 | 572.40 | 572.29 | 572.38 |
| 16   | 571.55 | 571.86 | 572.60 | 572.71 | 572.91 | 573.04 | 572.96 | 572.92 | 573.15 | 572.81 | 572.10 | 572.13 |
| 17   | 571.58 | 571.93 | 572.32 | 572.33 | 572.49 | 573.00 | 572.94 | 573.00 | 573.09 | 572.71 | 572.38 | 572.47 |
| 18   | 571.50 | 572.16 | 572.24 | 572.57 | 572.43 | 572.73 | 572.94 | 572.96 | 573.06 | 571.75 | 572.48 | 572.23 |
| 19   | 571.75 | 571.75 | 572.58 | 572.69 | 573.06 | 572.90 | 573.00 | 573.36 | 572.94 | 572.39 | 572.38 | 572.38 |
| 20   | 571.92 | 572.04 | 572.50 | 572.66 | 573.08 | 573.07 | 572.98 | 573.17 | 572.99 | 572.79 | 572.37 | 572.70 |
| 21   | 571.62 | 572.14 | 572.51 | 572.75 | 573.15 | 572.83 | 573.07 | 573.25 | 573.02 | 572.60 | 572.43 | 572.52 |
| 22   | 571.56 | 572.39 | 572.46 | 572.73 | 573.10 | 573.02 | 573.24 | 573.17 | 572.52 | 572.67 | 572.27 | 572.45 |
| 23   | 571.93 | 572.64 | 572.31 | 572.74 | 573.02 | 572.40 | 572.98 | 573.13 | 572.41 | 572.72 | 571.96 | 572.53 |
| 24   | 571.62 | 572.44 | 572.55 | 572.72 | 573.05 | 572.82 | 573.02 | 573.04 | 572.41 | 572.62 | 572.07 | 571.94 |
| 25   | 571.61 | 572.38 | 572.28 | 572.67 | 573.07 | 572.96 | 573.05 | 573.00 | 572.47 | 572.58 | 572.16 | 572.08 |
| 26   | 571.29 | 572.67 | 572.44 | 572.68 | 573.06 | 572.93 | 573.05 | 572.93 | 572.70 | 572.61 | 572.59 | 572.26 |
| 27   | 571.75 | 572.48 | 572.59 | 572.72 | 572.99 | 573.00 | 573.12 | 572.90 | 572.77 | 572.41 | 572.34 | 572.75 |
| 28   | 571.61 | 572.55 | 572.51 | 572.70 | 573.05 | 573.13 | 573.07 | 572.82 | 572.74 | 572.09 | 571.85 | 572.63 |
| 29   | 571.91 | 572.85 | 572.71 | 572.71 | 573.04 | 572.98 | 573.04 | 573.04 | 572.75 | 572.54 | 572.00 | 572.67 |
| 30   | 571.79 | 572.85 | 572.63 | 572.68 | 572.99 | 572.96 | 573.02 | 573.11 | 572.61 | 572.43 | 572.13 | 572.88 |
| 31   | 571.76 |        | 572.55 |        | 572.97 |        | 573.00 | 573.12 |        | 572.55 |        | 572.84 |
| Mean | 571.71 | 572.12 | 572.53 | 572.59 | 572.79 | 572.92 | 573.05 | 573.00 | 572.89 | 572.58 | 572.31 | 572.36 |
| Max. | 572.45 | 573.21 | 573.20 | 573.08 | 573.65 | 573.44 | 573.81 | 573.77 | 573.56 | 573.47 | 573.53 | 574.87 |
| Hr.  | 1000   | 0800   | 0500   | 0900   | 1700   | 1500   | 1100   | 2000   | 1700   | 0600   | 0900   | 0900   |
| Day  | 25     | 24     | 7      | 14     | 4      | 22     | 13     | 19     | 16     | 10     | 5      | 3      |
| Min. | 570.12 | 570.70 | 571.87 | 572.02 | 570.75 | 572.04 | 572.64 | 572.39 | 571.97 | 570.81 | 570.93 | 570.81 |
| Hr.  | 2300   | 2400   | 0600   | 0600   | 1900   | 1100   | 0400   | 2000   | 1700   | 1900   | 0400   | 1000   |
| Day  | 25     | 16     | 18     | 3      | 10     | 3      | 9      | 28     | 24     | 18     | 6      | 4      |

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

Annual Mean 572.57

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

LOWEST

Monthly mean elevation: 573.42 Jul  
Daily mean elevation: 573.74 13 Jul  
Instant/hourly elevation: 574.93 0900/3 Dec

Monthly mean elevation: 572.18 Jan  
Daily mean elevation: 571.64 12 Jan  
Instant/hourly elevation: 571.35 0400/26 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 572.68<br>1  | 573.10<br>26 | 573.18<br>7  | 573.10<br>21 | 573.48<br>21 | 573.48<br>28 | 573.74<br>13 | 573.73<br>19 | 573.71<br>8  | 573.39<br>9  | 573.14<br>5  | 573.56<br>3 |
| Min Day | 571.64<br>12 | 572.18<br>19 | 572.66<br>18 | 572.72<br>3  | 572.14<br>10 | 572.85<br>23 | 573.20<br>4  | 573.20<br>28 | 572.88<br>24 | 572.33<br>18 | 572.37<br>28 | 572.13<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|----------------|----------------------------|
| 573.60         |     |     |     |     |     |     | 3   | 1   | 1   |     |     |        | 573.60         | 5                          |
| 573.40         |     |     |     |     | 3   | 2   | 13  | 9   | 11  |     |     | 1      | 573.40         | 44                         |
| 573.20         |     |     |     |     | 12  | 22  | 14  | 20  | 9   |     | 5   | 2      | 573.20         | 128                        |
| 573.00         | 3   | 4   | 13  | 9   | 4   | 1   | 1   | 6   | 12  | 2   | 4   | 573.00 | 187            |                            |
| 572.80         | 4   | 21  | 11  | 4   | 2   |     |     | 3   | 9   | 12  | 6   | 572.80 | 259            |                            |
| 572.60         | 2   | 2   | 6   | 6   | 1   |     |     |     | 3   | 7   | 11  | 572.60 | 297            |                            |
| 572.40         | 4   | 11  |     |     | 1   |     |     |     | 1   | 8   | 5   | 572.40 | 327            |                            |
| 572.20         | 5   | 7   |     |     |     |     |     |     | 1   | 1   | 1   | 572.20 | 342            |                            |
| 572.00         | 12  | 1   |     |     | 1   |     |     |     |     |     | 1   | 572.00 | 357            |                            |
| 571.80         | 7   |     |     |     |     |     |     |     |     |     |     | 571.80 | 364            |                            |
| 571.60         | 1   |     |     |     |     |     |     |     |     |     |     | 571.60 | 365            |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 572.68 | 572.24 | 572.82 | 572.90 | 572.80 | 573.34 | 573.39 | 573.41 | 573.32 | 572.92 | 572.89 | 572.37 |
| 2    | 572.58 | 572.36 | 572.68 | 572.80 | 573.02 | 573.29 | 573.40 | 573.40 | 573.35 | 573.00 | 572.80 | 572.74 |
| 3    | 572.63 | 572.51 | 572.86 | 572.72 | 573.10 | 572.88 | 573.34 | 573.36 | 573.43 | 573.15 | 572.80 | 573.56 |
| 4    | 572.54 | 572.41 | 572.80 | 572.75 | 573.34 | 573.16 | 573.20 | 573.36 | 573.28 | 572.72 | 572.89 | 572.13 |
| 5    | 572.52 | 572.38 | 573.06 | 572.76 | 573.08 | 573.28 | 573.38 | 573.30 | 573.24 | 572.76 | 573.14 | 572.51 |
| 6    | 572.50 | 572.36 | 573.09 | 572.94 | 573.02 | 573.23 | 573.41 | 573.31 | 573.31 | 572.80 | 572.57 | 572.64 |
| 7    | 572.36 | 572.45 | 573.18 | 572.74 | 572.91 | 573.31 | 573.44 | 573.31 | 573.58 | 572.99 | 572.88 | 572.74 |
| 8    | 572.31 | 572.53 | 573.00 | 572.87 | 572.94 | 573.38 | 573.30 | 573.31 | 573.71 | 573.17 | 573.00 | 572.68 |
| 9    | 572.16 | 572.48 | 572.82 | 572.82 | 573.01 | 573.23 | 573.34 | 573.34 | 573.56 | 573.39 | 573.04 | 572.66 |
| 10   | 572.02 | 572.23 | 572.84 | 572.94 | 572.14 | 573.26 | 573.38 | 573.31 | 573.41 | 573.38 | 572.89 | 572.73 |
| 11   | 571.83 | 572.48 | 572.89 | 572.93 | 572.43 | 573.35 | 573.47 | 573.30 | 573.50 | 573.15 | 572.47 | 572.91 |
| 12   | 571.64 | 572.46 | 572.88 | 572.98 | 573.04 | 573.39 | 573.69 | 573.30 | 573.45 | 573.32 | 572.78 | 572.74 |
| 13   | 571.87 | 572.42 | 572.93 | 573.07 | 573.09 | 573.32 | 573.74 | 573.43 | 573.44 | 573.31 | 572.87 | 572.42 |
| 14   | 572.05 | 572.67 | 572.98 | 573.04 | 573.16 | 573.31 | 573.61 | 573.40 | 573.24 | 573.26 | 572.89 | 572.86 |
| 15   | 571.89 | 573.06 | 572.97 | 572.98 | 573.14 | 573.35 | 573.44 | 573.29 | 573.22 | 572.90 | 572.75 | 572.80 |
| 16   | 571.93 | 572.29 | 572.97 | 573.06 | 573.25 | 573.37 | 573.36 | 573.31 | 573.56 | 573.20 | 572.60 | 572.60 |
| 17   | 571.99 | 572.34 | 572.72 | 572.74 | 572.89 | 573.34 | 573.35 | 573.37 | 573.49 | 573.11 | 572.81 | 572.87 |
| 18   | 571.96 | 572.54 | 572.66 | 572.93 | 572.84 | 573.10 | 573.33 | 573.35 | 573.46 | 572.33 | 572.88 | 572.67 |
| 19   | 572.17 | 572.18 | 572.95 | 573.02 | 573.39 | 573.27 | 573.39 | 573.73 | 573.38 | 572.84 | 572.81 | 572.80 |
| 20   | 572.32 | 572.42 | 572.88 | 573.00 | 573.42 | 573.41 | 573.38 | 573.54 | 573.40 | 573.17 | 572.79 | 573.07 |
| 21   | 572.10 | 572.51 | 572.87 | 573.10 | 573.48 | 573.20 | 573.46 | 573.59 | 573.42 | 573.02 | 572.83 | 572.92 |
| 22   | 572.05 | 572.75 | 572.81 | 573.08 | 573.45 | 573.36 | 573.58 | 573.53 | 573.01 | 573.09 | 572.69 | 572.88 |
| 23   | 572.32 | 573.05 | 572.69 | 573.08 | 573.38 | 572.85 | 573.38 | 573.49 | 572.91 | 573.13 | 572.44 | 572.95 |
| 24   | 572.08 | 572.92 | 572.90 | 573.07 | 573.40 | 573.19 | 573.41 | 573.42 | 572.88 | 573.04 | 572.52 | 572.48 |
| 25   | 572.16 | 572.89 | 572.67 | 573.02 | 573.40 | 573.32 | 573.42 | 573.38 | 572.91 | 573.01 | 572.60 | 572.54 |
| 26   | 571.86 | 573.10 | 572.82 | 573.02 | 573.40 | 573.29 | 573.42 | 573.32 | 573.12 | 573.03 | 572.97 | 572.71 |
| 27   | 572.20 | 572.93 | 572.93 | 573.03 | 573.36 | 573.38 | 573.48 | 573.29 | 573.16 | 572.84 | 572.74 | 573.16 |
| 28   | 572.08 | 572.96 | 572.87 | 573.04 | 573.39 | 573.48 | 573.44 | 573.20 | 573.15 | 572.58 | 572.37 | 573.07 |
| 29   | 572.32 |        | 573.14 | 573.02 | 573.38 | 573.36 | 573.41 | 573.39 | 573.16 | 572.94 | 572.46 | 573.10 |
| 30   | 572.19 |        | 572.96 | 573.00 | 573.33 | 573.34 | 573.42 | 573.46 | 573.05 | 572.85 | 572.56 | 573.38 |
| 31   | 572.19 |        | 572.90 |        | 573.32 |        | 573.40 | 573.47 |        | 572.95 |        | 573.38 |
| Mean | 572.18 | 572.57 | 572.89 | 572.95 | 573.14 | 573.28 | 573.42 | 573.39 | 573.30 | 573.01 | 572.76 | 572.81 |
| Max. | 572.71 | 573.50 | 573.38 | 573.37 | 573.87 | 573.85 | 574.05 | 574.69 | 573.88 | 573.77 | 573.74 | 574.93 |
| Hr.  | 1400   | 1000   | 1700   | 0900   | 1700   | 1700   | 1100   | 1500   | 0300   | 0300   | 0900   | 0900   |
| Day  | 1      | 24     | 29     | 14     | 4      | 22     | 13     | 19     | 8      | 10     | 5      | 3      |
| Min. | 571.35 | 571.38 | 572.34 | 572.46 | 571.36 | 572.48 | 573.09 | 572.78 | 572.56 | 571.60 | 571.75 | 571.60 |
| Hr.  | 0400   | 2300   | 0600   | 0600   | 1500   | 1200   | 0900   | 2000   | 1700   | 1900   | 0300   | 0900   |
| Day  | 26     | 16     | 18     | 3      | 10     | 3      | 4      | 28     | 24     | 18     | 6      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 572.98

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 574.17 Jul  
Daily mean elevation: 574.40 13 Jul  
Instant/hourly elevation: 574.88 0900/3 Dec

LOWEST

Monthly mean elevation: 572.94 Jan  
Daily mean elevation: 572.66 16 Jan  
Instant/hourly elevation: 571.92 2100/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 573.22<br>1  | 573.84<br>24 | 573.77<br>29 | 573.79<br>21 | 574.19<br>21 | 574.16<br>28 | 574.40<br>13 | 574.31<br>19 | 574.39<br>8  | 574.14<br>9  | 573.86<br>9  | 574.30<br>31 |
| Min Day | 572.66<br>16 | 572.90<br>6  | 573.43<br>25 | 573.51<br>9  | 572.95<br>10 | 573.61<br>3  | 573.99<br>4  | 573.96<br>28 | 573.67<br>25 | 573.28<br>18 | 573.26<br>23 | 573.19<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|----------------|----------------------------|
| 574.20         |     |     |     |     |     |     | 4   | 4   | 7   |     | 2   | 574.20 |                | 17                         |
| 574.00         |     |     |     |     | 13  | 18  | 26  | 26  | 10  | 5   | 1   | 574.00 |                | 116                        |
| 573.80         |     | 2   |     |     | 4   | 10  | 1   | 1   | 10  | 10  | 2   | 573.80 |                | 159                        |
| 573.60         |     | 5   | 17  | 21  | 10  | 2   |     |     | 3   | 10  | 11  | 573.60 |                | 245                        |
| 573.40         |     | 2   | 14  | 9   | 2   |     |     |     | 5   | 12  | 13  | 573.40 |                | 302                        |
| 573.20         | 1   | 6   |     |     | 1   |     |     |     | 1   | 5   | 4   | 573.20 |                | 320                        |
| 573.00         | 11  | 9   |     |     |     |     |     |     |     |     | 1   | 573.00 |                | 341                        |
| 572.80         | 9   | 4   |     |     | 1   |     |     |     |     |     |     | 572.80 |                | 355                        |
| 572.60         | 10  |     |     |     |     |     |     |     |     |     |     | 572.60 |                | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 573.22 | 572.96 | 573.52 | 573.60 | 573.55 | 574.02 | 574.16 | 574.15 | 574.06 | 573.69 | 573.64 | 573.24 |
| 2    | 573.14 | 573.03 | 573.45 | 573.54 | 573.69 | 573.94 | 574.13 | 574.14 | 574.12 | 573.75 | 573.55 | 573.57 |
| 3    | 573.14 | 573.08 | 573.59 | 573.59 | 573.74 | 573.61 | 574.05 | 574.10 | 574.13 | 573.77 | 573.56 | 574.06 |
| 4    | 573.11 | 573.04 | 573.54 | 573.57 | 573.96 | 573.95 | 573.99 | 574.07 | 573.99 | 573.52 | 573.68 | 573.19 |
| 5    | 573.14 | 572.90 | 573.62 | 573.60 | 573.85 | 573.95 | 574.14 | 574.09 | 573.99 | 573.54 | 573.77 | 573.36 |
| 6    | 573.16 | 572.90 | 573.64 | 573.66 | 573.74 | 573.95 | 574.17 | 574.10 | 574.00 | 573.55 | 573.59 | 573.52 |
| 7    | 573.10 | 572.99 | 573.69 | 573.57 | 573.63 | 574.02 | 574.14 | 574.08 | 574.31 | 573.76 | 573.75 | 573.50 |
| 8    | 573.08 | 573.03 | 573.64 | 573.59 | 573.60 | 574.07 | 574.02 | 574.04 | 574.39 | 573.92 | 573.86 | 573.55 |
| 9    | 572.98 | 573.16 | 573.55 | 573.51 | 573.66 | 574.00 | 574.10 | 574.06 | 574.28 | 574.14 | 573.86 | 573.49 |
| 10   | 572.91 | 573.06 | 573.56 | 573.70 | 572.95 | 574.02 | 574.13 | 574.05 | 574.17 | 574.05 | 573.79 | 573.59 |
| 11   | 572.74 | 573.25 | 573.63 | 573.73 | 573.30 | 574.05 | 574.17 | 574.06 | 574.23 | 573.96 | 573.52 | 573.66 |
| 12   | 572.67 | 573.21 | 573.65 | 573.75 | 573.64 | 574.02 | 574.37 | 574.04 | 574.16 | 574.10 | 573.67 | 573.51 |
| 13   | 572.80 | 573.19 | 573.69 | 573.77 | 573.80 | 573.99 | 574.40 | 574.15 | 574.12 | 574.10 | 573.77 | 573.37 |
| 14   | 572.79 | 573.44 | 573.72 | 573.75 | 573.80 | 574.02 | 574.34 | 574.12 | 573.96 | 574.02 | 573.69 | 573.62 |
| 15   | 572.77 | 573.67 | 573.70 | 573.72 | 573.82 | 574.08 | 574.20 | 574.04 | 574.05 | 573.80 | 573.56 | 573.59 |
| 16   | 572.66 | 573.18 | 573.71 | 573.75 | 573.93 | 574.06 | 574.12 | 574.07 | 574.33 | 573.94 | 573.49 | 573.52 |
| 17   | 572.71 | 573.25 | 573.47 | 573.59 | 573.67 | 574.00 | 574.12 | 574.08 | 574.24 | 573.81 | 573.62 | 573.59 |
| 18   | 572.76 | 573.22 | 573.46 | 573.67 | 573.71 | 573.88 | 574.10 | 574.08 | 574.21 | 573.28 | 573.65 | 573.52 |
| 19   | 572.95 | 573.11 | 573.74 | 573.71 | 574.08 | 574.02 | 574.15 | 574.31 | 574.15 | 573.70 | 573.60 | 573.61 |
| 20   | 573.09 | 573.22 | 573.65 | 573.70 | 574.14 | 574.06 | 574.16 | 574.24 | 574.15 | 573.85 | 573.57 | 573.74 |
| 21   | 573.01 | 573.22 | 573.59 | 573.79 | 574.19 | 573.93 | 574.20 | 574.28 | 574.11 | 573.76 | 573.53 | 573.68 |
| 22   | 572.97 | 573.45 | 573.52 | 573.78 | 574.16 | 574.01 | 574.29 | 574.24 | 573.87 | 573.87 | 573.48 | 573.68 |
| 23   | 573.07 | 573.84 | 573.50 | 573.78 | 574.11 | 573.75 | 574.16 | 574.20 | 573.79 | 573.89 | 573.26 | 573.77 |
| 24   | 572.94 | 573.84 | 573.62 | 573.76 | 574.12 | 573.96 | 574.17 | 574.14 | 573.73 | 573.85 | 573.34 | 573.47 |
| 25   | 572.78 | 573.79 | 573.43 | 573.71 | 574.09 | 574.04 | 574.17 | 574.10 | 573.67 | 573.85 | 573.43 | 573.33 |
| 26   | 572.77 | 573.77 | 573.59 | 573.71 | 574.09 | 574.01 | 574.17 | 574.05 | 573.87 | 573.84 | 573.68 | 573.57 |
| 27   | 572.85 | 573.65 | 573.63 | 573.71 | 574.08 | 574.11 | 574.19 | 574.03 | 573.87 | 573.60 | 573.52 | 573.83 |
| 28   | 572.90 | 573.66 | 573.60 | 573.71 | 574.10 | 574.16 | 574.16 | 573.96 | 573.87 | 573.55 | 573.27 | 573.82 |
| 29   | 573.07 |        | 573.77 | 573.68 | 574.12 | 574.10 | 574.12 | 574.12 | 573.90 | 573.71 | 573.36 | 573.88 |
| 30   | 572.95 |        | 573.65 | 573.68 | 574.07 | 574.10 | 574.16 | 574.15 | 573.85 | 573.65 | 573.29 | 574.22 |
| 31   | 572.99 |        | 573.62 |        | 574.02 |        | 574.19 | 574.15 |        | 573.72 |        | 574.30 |
| Mean | 572.94 | 573.29 | 573.60 | 573.68 | 573.85 | 574.00 | 574.17 | 574.11 | 574.05 | 573.79 | 573.58 | 573.62 |
| Max. | 573.23 | 574.14 | 573.95 | 573.88 | 574.39 | 574.33 | 574.53 | 574.48 | 574.51 | 574.39 | 574.15 | 574.88 |
| Hr.  | 2000   | 1100   | 1700   | 0600   | 1600   | 1700   | 1000   | 2100   | 0100   | 0500   | 0700   | 0900   |
| Day  | 1      | 24     | 29     | 14     | 4      | 22     | 13     | 19     | 8      | 10     | 5      | 3      |
| Min. | 571.92 | 572.59 | 573.19 | 573.29 | 572.38 | 573.20 | 573.87 | 573.69 | 573.43 | 572.79 | 572.68 | 572.86 |
| Hr.  | 2100   | 2000   | 0500   | 1900   | 1400   | 1200   | 1100   | 1900   | 1300   | 1100   | 2300   | 0800   |
| Day  | 25     | 16     | 18     | 9      | 10     | 3      | 3      | 28     | 25     | 18     | 5      | 4      |

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

Annual Mean 573.72

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 574.35 Jul  
Daily mean elevation: 574.58 8 Sep  
Instant/hourly elevation: 574.72 1200/3 Dec

LOWEST

Monthly mean elevation: 573.20 Jan  
Daily mean elevation: 572.86 16 Jan  
Instant/hourly elevation: 572.81 2200/27 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 573.40<br>1  | 574.07<br>26 | 573.91<br>29 | 573.97<br>14 | 574.32<br>22 | 574.34<br>28 | 574.53<br>14 | 574.48<br>19 | 574.58<br>8  | 574.30<br>13 | 574.10<br>9  | 574.57<br>31 |
| Min Day | 572.86<br>16 | 573.27<br>1  | 573.67<br>23 | 573.69<br>3  | 573.41<br>10 | 573.97<br>3  | 574.22<br>4  | 574.21<br>28 | 574.02<br>25 | 573.72<br>18 | 573.57<br>23 | 573.58<br>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. |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|----------------|----------------------------|-----|
| 574.40         |     |     |     |     |     |     | 5   | 4   | 8   |     | 1   | 574.40 |                | 18                         |     |
| 574.20         |     |     |     |     |     |     | 26  | 27  | 13  | 5   | 1   | 574.20 |                | 116                        |     |
| 574.00         |     | 2   |     |     | 12  | 14  |     |     | 9   | 12  | 2   | 574.00 |                | 163                        |     |
| 573.80         |     | 4   | 15  | 21  | 13  | 15  |     |     |     | 12  | 14  | 10     | 573.80         |                            | 253 |
| 573.60         |     | 2   | 16  | 9   | 1   |     |     |     |     | 2   | 12  | 12     | 573.60         |                            | 307 |
| 573.40         |     | 11  |     |     | 2   |     |     |     |     |     | 2   | 3      | 573.40         |                            | 325 |
| 573.20         | 17  | 9   |     |     |     |     |     |     |     |     |     |        | 573.20         |                            | 351 |
| 573.00         | 10  |     |     |     |     |     |     |     |     |     |     |        | 573.00         |                            | 361 |
| 572.80         | 4   |     |     |     |     |     |     |     |     |     |     |        | 572.80         |                            | 365 |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 573.40 | 573.27 | 573.79 | 573.78 | 573.74 | 574.21 | 574.32 | 574.34 | 574.30 | 573.97 | 573.87 | 573.59 |
| 2    | 573.35 | 573.45 | 573.71 | 573.72 | 573.85 | 574.17 | 574.32 | 574.35 | 574.30 | 574.00 | 573.81 | 573.73 |
| 3    | 573.31 | 573.56 | 573.76 | 573.69 | 573.92 | 573.97 | 574.29 | 574.33 | 574.32 | 574.06 | 573.80 | 574.17 |
| 4    | 573.30 | 573.55 | 573.75 | 573.75 | 574.01 | 574.13 | 574.22 | 574.30 | 574.23 | 573.83 | 573.84 | 573.58 |
| 5    | 573.34 | 573.40 | 573.86 | 573.79 | 573.96 | 574.19 | 574.29 | 574.27 | 574.22 | 573.84 | 574.00 | 573.69 |
| 6    | 573.35 | 573.34 | 573.87 | 573.84 | 573.91 | 574.17 | 574.31 | 574.27 | 574.24 | 573.85 | 573.86 | 573.77 |
| 7    | 573.34 | 573.34 | 573.88 | 573.78 | 573.83 | 574.19 | 574.33 | 574.28 | 574.47 | 573.97 | 573.97 | 573.78 |
| 8    | 573.30 | 573.35 | 573.84 | 573.79 | 573.83 | 574.25 | 574.26 | 574.28 | 574.58 | 574.07 | 574.07 | 573.79 |
| 9    | 573.22 | 573.37 | 573.78 | 573.76 | 573.87 | 574.19 | 574.28 | 574.27 | 574.49 | 574.23 | 574.10 | 573.76 |
| 10   | 573.18 | 573.29 | 573.76 | 573.81 | 573.41 | 574.18 | 574.31 | 574.27 | 574.42 | 574.26 | 574.00 | 573.78 |
| 11   | 573.11 | 573.45 | 573.81 | 573.89 | 573.52 | 574.22 | 574.34 | 574.27 | 574.43 | 574.20 | 573.84 | 573.87 |
| 12   | 573.05 | 573.44 | 573.85 | 573.94 | 573.82 | 574.22 | 574.44 | 574.27 | 574.38 | 574.29 | 573.89 | 573.78 |
| 13   | 573.06 | 573.38 | 573.88 | 573.96 | 573.91 | 574.20 | 574.50 | 574.35 | 574.35 | 574.30 | 573.99 | 573.59 |
| 14   | 573.00 | 573.51 | 573.91 | 573.97 | 573.96 | 574.19 | 574.53 | 574.35 | 574.23 | 574.27 | 573.95 | 573.82 |
| 15   | 572.90 | 573.72 | 573.89 | 573.92 | 573.98 | 574.22 | 574.44 | 574.30 | 574.28 | 574.08 | 573.82 | 573.82 |
| 16   | 572.86 | 573.50 | 573.90 | 573.94 | 574.10 | 574.21 | 574.37 | 574.32 | 574.45 | 574.17 | 573.72 | 573.73 |
| 17   | 572.93 | 573.50 | 573.74 | 573.74 | 573.95 | 574.20 | 574.34 | 574.31 | 574.42 | 574.11 | 573.79 | 573.81 |
| 18   | 573.04 | 573.52 | 573.71 | 573.87 | 573.95 | 574.09 | 574.31 | 574.32 | 574.44 | 573.72 | 573.87 | 573.75 |
| 19   | 573.17 | 573.33 | 573.87 | 573.90 | 574.24 | 574.18 | 574.36 | 574.48 | 574.39 | 573.92 | 573.80 | 573.82 |
| 20   | 573.27 | 573.45 | 573.82 | 573.89 | 574.29 | 574.26 | 574.36 | 574.45 | 574.37 | 574.10 | 573.78 | 573.97 |
| 21   | 573.34 | 573.44 | 573.79 | 573.95 | 574.32 | 574.15 | 574.38 | 574.45 | 574.35 | 574.02 | 573.78 | 573.87 |
| 22   | 573.30 | 573.61 | 573.74 | 573.94 | 574.32 | 574.24 | 574.42 | 574.42 | 574.15 | 574.07 | 573.71 | 573.88 |
| 23   | 573.33 | 573.98 | 573.67 | 573.94 | 574.28 | 574.06 | 574.38 | 574.40 | 574.02 | 574.09 | 573.57 | 573.92 |
| 24   | 573.24 | 573.98 | 573.79 | 573.92 | 574.30 | 574.14 | 574.37 | 574.36 | 574.05 | 574.04 | 573.63 | 573.79 |
| 25   | 573.19 | 574.07 | 573.69 | 573.89 | 574.27 | 574.23 | 574.36 | 574.34 | 574.02 | 573.97 | 573.67 | 573.73 |
| 26   | 573.10 | 574.07 | 573.76 | 573.87 | 574.25 | 574.23 | 574.36 | 574.29 | 574.09 | 574.02 | 573.87 | 573.81 |
| 27   | 573.18 | 573.90 | 573.81 | 573.88 | 574.24 | 574.29 | 574.37 | 574.27 | 574.10 | 573.91 | 573.78 | 574.01 |
| 28   | 573.14 | 573.89 | 573.78 | 573.88 | 574.25 | 574.34 | 574.36 | 574.21 | 574.10 | 573.76 | 573.60 | 574.07 |
| 29   | 573.23 |        | 573.91 | 573.88 | 574.22 | 574.30 | 574.36 | 574.32 | 574.08 | 573.94 | 573.62 | 574.11 |
| 30   | 573.25 |        | 573.82 | 573.86 | 574.22 | 574.28 | 574.35 | 574.36 | 574.06 | 573.89 | 573.66 | 574.37 |
| 31   | 573.28 |        | 573.77 |        | 574.20 |        | 574.35 | 574.37 |        | 573.91 |        | 574.57 |
| Mean | 573.20 | 573.56 | 573.80 | 573.86 | 574.03 | 574.20 | 574.35 | 574.33 | 574.28 | 574.03 | 573.82 | 573.86 |
| Max. | 573.41 | 574.28 | 574.04 | 574.11 | 574.44 | 574.47 | 574.67 | 574.56 | 574.64 | 574.42 | 574.41 | 574.72 |
| Hr.  | 0500   | 1000   | 1700   | 0800   | 2000   | 0500   | 1000   | 1200   | 0100   | 0900   | 1500   | 1200   |
| Day  | 1      | 24     | 29     | 14     | 19     | 8      | 14     | 19     | 8      | 10     | 5      | 3      |
| Min. | 572.81 | 573.15 | 573.45 | 573.55 | 572.93 | 573.76 | 574.16 | 573.98 | 573.92 | 573.25 | 573.17 | 573.21 |
| Hr.  | 2200   | 2100   | 0500   | 2300   | 1500   | 1200   | 2100   | 2000   | 0400   | 2200   | 2300   | 0800   |
| Day  | 27     | 16     | 18     | 2      | 10     | 3      | 8      | 28     | 23     | 18     | 5      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 573.94

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 574.80 Jul  
Daily mean elevation: 575.06 31 Dec  
Instant/hourly elevation: 575.30 1600/3 Jun

LOWEST

Monthly mean elevation: 573.93 Jan  
Daily mean elevation: 573.57 17 Jan  
Instant/hourly elevation: 573.42 0500/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 574.32<br>6  | 574.82<br>26 | 574.54<br>1  | 574.42<br>14 | 574.74<br>17 | 574.93<br>3  | 574.94<br>15 | 574.86<br>15 | 574.92<br>10 | 574.87<br>18 | 574.86<br>11 | 575.06<br>31 |
| Min Day | 573.57<br>17 | 573.78<br>1  | 574.14<br>30 | 574.16<br>1  | 574.18<br>11 | 574.61<br>15 | 574.70<br>6  | 574.74<br>11 | 574.55<br>27 | 574.35<br>31 | 574.19<br>21 | 574.16<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 575.00         |     |     |     |     |     |     |     |     |     |     |     |     | 575.00         | 1                          |
| 574.80         |     | 1   |     |     |     |     |     |     |     |     |     |     | 574.80         | 51                         |
| 574.60         |     | 3   |     |     | 13  | 28  | 14  | 19  | 10  | 9   | 3   | 2   | 574.60         | 152                        |
| 574.40         | 1   | 3   | 2   | 4   |     |     |     |     | 5   | 19  | 8   | 8   | 574.40         | 202                        |
| 574.20         | 3   | 4   | 17  | 26  | 13  |     |     |     |     | 1   | 17  | 18  | 574.20         | 301                        |
| 574.00         | 7   | 7   | 11  | 2   | 1   |     |     |     |     |     | 1   | 1   | 574.00         | 331                        |
| 573.80         | 10  | 11  |     |     |     |     |     |     |     |     |     |     | 573.80         | 352                        |
| 573.60         | 10  | 1   |     |     |     |     |     |     |     |     |     |     | 573.60         | 363                        |
| 573.40         | 1   |     |     |     |     |     |     |     |     |     |     |     | 573.40         | 364                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 574.19 | 573.78 | 574.54 | 574.16 | 574.26 | 574.61 | 574.73 | 574.82 | 574.80 | 574.65  | 574.33 | 574.38 |
| 2    | 574.13 | 573.87 | 574.33 | 574.21 | 574.24 | 574.64 | 574.75 | 574.80 | 574.75 | 574.56  | 574.36 | 574.16 |
| 3    | 574.11 | 574.05 | 574.19 | 574.20 | 574.26 | 574.93 | 574.77 | 574.78 | 574.72 | 574.55  | 574.33 | 574.30 |
| 4    | 574.28 | 574.25 | 574.16 | 574.27 | 574.24 | 574.65 | 574.78 | 574.80 | 574.73 | 574.64  | 574.32 | 574.57 |
| 5    | 574.32 | 574.30 | 574.15 | 574.30 | 574.30 | 574.69 | 574.72 | 574.77 | 574.70 | 574.59  | 574.53 | 574.44 |
| 6    | 574.32 | 574.24 | 574.37 | 574.30 | 574.34 | 574.65 | 574.70 | 574.76 | 574.73 | 574.57  | 574.53 | 574.38 |
| 7    | 574.14 | 573.97 | 574.43 | 574.27 | 574.38 | 574.61 | 574.75 | 574.76 | 574.89 | 574.51  | 574.55 | 574.45 |
| 8    | 574.10 | 573.91 | 574.34 | 574.26 | 574.36 | 574.67 | 574.78 | 574.76 | 574.92 | 574.47  | 574.56 | 574.35 |
| 9    | 573.95 | 573.89 | 574.19 | 574.28 | 574.34 | 574.70 | 574.73 | 574.76 | 574.92 | 574.54  | 574.68 | 574.36 |
| 10   | 573.89 | 573.95 | 574.15 | 574.22 | 574.70 | 574.65 | 574.74 | 574.74 | 574.92 | 574.75  | 574.74 | 574.32 |
| 11   | 573.77 | 573.91 | 574.20 | 574.33 | 574.18 | 574.63 | 574.75 | 574.74 | 574.84 | 574.68  | 574.86 | 574.32 |
| 12   | 573.88 | 573.90 | 574.27 | 574.41 | 574.22 | 574.66 | 574.76 | 574.76 | 574.82 | 574.70  | 574.79 | 574.32 |
| 13   | 573.95 | 573.89 | 574.30 | 574.40 | 574.24 | 574.65 | 574.84 | 574.80 | 574.79 | 574.72  | 574.56 | 574.34 |
| 14   | 574.14 | 573.85 | 574.29 | 574.42 | 574.35 | 574.64 | 574.91 | 574.84 | 574.87 | 574.74  | 574.43 | 574.27 |
| 15   | 574.09 | 573.97 | 574.28 | 574.39 | 574.38 | 574.61 | 574.94 | 574.86 | 574.84 | 574.76* | 574.40 | 574.32 |
| 16   | 573.83 | 574.17 | 574.30 | 574.39 | 574.48 | 574.63 | 574.91 | 574.82 | 574.81 | /       | 574.38 | 574.26 |
| 17   | 573.57 | 574.12 | 574.45 | 574.33 | 574.74 | 574.66 | 574.88 | 574.81 | 574.87 | 574.60* | 574.27 | 574.29 |
| 18   | 573.68 | 574.19 | 574.37 | 574.36 | 574.68 | 574.74 | 574.82 | 574.80 | 574.89 | 574.87  | 574.25 | 574.31 |
| 19   | 573.74 | 574.17 | 574.23 | 574.31 | 574.62 | 574.65 | 574.82 | 574.80 | 574.89 | 574.54  | 574.24 | 574.31 |
| 20   | 573.78 | 574.17 | 574.23 | 574.31 | 574.65 | 574.68 | 574.82 | 574.83 | 574.86 | 574.53  | 574.23 | 574.29 |
| 21   | 573.88 | 573.96 | 574.23 | 574.32 | 574.65 | 574.69 | 574.81 | 574.81 | 574.82 | 574.56  | 574.19 | 574.30 |
| 22   | 573.88 | 574.04 | 574.21 | 574.34 | 574.67 | 574.74 | 574.80 | 574.81 | 574.83 | 574.51  | 574.23 | 574.37 |
| 23   | 573.80 | 574.36 | 574.23 | 574.32 | 574.67 | 574.85 | 574.84 | 574.82 | 574.77 | 574.51  | 574.40 | 574.44 |
| 24   | 573.85 | 574.53 | 574.22 | 574.30 | 574.64 | 574.67 | 574.84 | 574.81 | 574.79 | 574.51  | 574.26 | 574.63 |
| 25   | 574.00 | 574.74 | 574.28 | 574.29 | 574.63 | 574.69 | 574.82 | 574.80 | 574.76 | 574.50  | 574.28 | 574.76 |
| 26   | 573.83 | 574.82 | 574.23 | 574.28 | 574.63 | 574.73 | 574.81 | 574.77 | 574.57 | 574.51  | 574.23 | 574.42 |
| 27   | 573.79 | 574.72 | 574.19 | 574.26 | 574.61 | 574.72 | 574.81 | 574.78 | 574.55 | 574.62  | 574.26 | 574.45 |
| 28   | 573.78 | 574.66 | 574.18 | 574.25 | 574.60 | 574.74 | 574.81 | 574.83 | 574.56 | 574.49  | 574.43 | 574.47 |
| 29   | 573.74 |        | 574.14 | 574.26 | 574.59 | 574.76 | 574.81 | 574.77 | 574.56 | 574.43  | 574.35 | 574.53 |
| 30   | 573.76 |        | 574.14 | 574.26 | 574.59 | 574.76 | 574.81 | 574.79 | 574.58 | 574.41  | 574.47 | 574.82 |
| 31   | 573.78 |        | 574.15 |        | 574.63 |        | 574.80 | 574.81 |        | 574.35  |        | 575.06 |
| Mean | 573.93 | 574.15 | 574.26 | 574.30 | 574.48 | 574.69 | 574.80 | 574.79 | 574.78 | 574.58  | 574.41 | 574.42 |
| Max. | 574.65 | 575.01 | 574.68 | 574.58 | 575.15 | 575.30 | 575.08 | 575.24 | 575.15 | 575.25  | 575.27 | 575.14 |
| Hr.  | 2100   | 0800   | 0300   | 2200   | 1000   | 1600   | 1900   | 0500   | 1400   | 1100    | 1500   | 1800   |
| Day  | 25     | 26     | 1      | 16     | 10     | 3      | 15     | 28     | 14     | 18      | 11     | 31     |
| Min. | 573.42 | 573.66 | 574.00 | 574.04 | 574.05 | 574.48 | 574.52 | 574.36 | 574.38 | 574.30  | 574.04 | 573.94 |
| Hr.  | 0500   | 0400   | 2200   | 2100   | 1200   | 1000   | 2300   | 0100   | 1900   | 0700    | 1300   | 0900   |
| Day  | 11     | 1      | 30     | 17     | 11     | 22     | 5      | 28     | 29     | 31      | 25     | 3      |

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

Annual Mean 574.47

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 576.11 Jul  
Daily mean elevation: 576.20 23 Sep  
Instant/hourly elevation: 577.13 0300/28 Aug

LOWEST

Monthly mean elevation: 575.19 Jan  
Daily mean elevation: 574.81 17 Jan  
Instant/hourly elevation: 574.41 0500/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 576.12<br>1  | 575.82<br>25 | 575.54<br>26 | 575.66<br>3 | 575.93<br>29 | 576.08<br>30 | 576.19<br>31 | 576.17<br>5  | 576.20<br>23 | 576.03<br>19 | 576.08<br>12 | 576.14<br>30 |
| Min Day | 574.81<br>17 | 575.00<br>1  | 575.19<br>9  | 575.34<br>1 | 575.44<br>8  | 575.75<br>2  | 575.97<br>8  | 576.02<br>26 | 575.81<br>27 | 575.64<br>31 | 575.36<br>21 | 575.46<br>20 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 576.00         | 1   |     |     |     |     | 5   | 30  | 31  | 19  | 3   | 2   | 2   | 576.00         | 93                         |
| 575.80         |     | 1   |     |     |     | 15  | 23  | 1   |     | 11  | 18  | 6   | 575.80         | 173                        |
| 575.60         | 2   | 4   |     | 4   | 1   | 2   |     |     |     | 10  | 14  | 17  | 575.60         | 227                        |
| 575.40         | 2   | 1   | 10  | 24  | 15  |     |     |     |     |     | 7   | 7   | 575.40         | 293                        |
| 575.20         | 3   | 8   | 19  | 2   |     |     |     |     |     |     | 1   |     | 575.20         | 326                        |
| 575.00         | 18  | 13  | 2   |     |     |     |     |     |     |     |     |     | 575.00         | 359                        |
| 574.80         | 5   | 1   |     |     |     |     |     |     |     |     |     |     | 574.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 576.12 | 575.00 | 575.44 | 575.34 | 575.49 | 575.81 | 576.11 | 576.13 | 576.01 | 575.90 | 575.59 | 575.68 |
| 2    | 575.69 | 575.22 | 575.41 | 575.46 | 575.49 | 575.75 | 576.07 | 576.10 | 576.11 | 575.86 | 575.63 | 575.70 |
| 3    | 575.59 | 575.19 | 575.38 | 575.66 | 575.45 | 576.00 | 576.04 | 576.06 | 576.00 | 575.67 | 575.64 | 575.56 |
| 4    | 575.64 | 575.37 | 575.28 | 575.54 | 575.49 | 575.95 | 576.10 | 576.04 | 575.96 | 575.80 | 575.76 | 575.76 |
| 5    | 575.49 | 575.26 | 575.20 | 575.60 | 575.55 | 575.89 | 576.12 | 576.17 | 576.02 | 575.89 | 575.79 | 575.75 |
| 6    | 575.40 | 575.34 | 575.30 | 575.55 | 575.57 | 575.84 | 576.07 | 576.16 | 575.97 | 575.79 | 575.95 | 575.80 |
| 7    | 575.20 | 575.14 | 575.35 | 575.49 | 575.55 | 575.85 | 576.05 | 576.13 | 576.20 | 575.90 | 575.93 | 575.68 |
| 8    | 575.17 | 575.02 | 575.26 | 575.46 | 575.44 | 575.87 | 575.97 | 576.08 | 576.12 | 575.86 | 575.92 | 575.73 |
| 9    | 575.11 | 575.11 | 575.19 | 575.40 | 575.53 | 575.90 | 576.08 | 576.06 | 576.10 | 575.94 | 575.77 | 575.64 |
| 10   | 575.15 | 575.20 | 575.23 | 575.51 | 575.59 | 575.95 | 576.07 | 576.06 | 576.16 | 575.89 | 575.93 | 575.81 |
| 11   | 574.96 | 575.17 | 575.28 | 575.63 | 575.55 | 575.87 | 576.09 | 576.07 | 576.08 | 575.84 | 576.06 | 575.62 |
| 12   | 575.34 | 575.04 | 575.32 | 575.61 | 575.49 | 575.80 | 576.15 | 576.03 | 576.01 | 575.92 | 576.08 | 575.52 |
| 13   | 575.26 | 575.14 | 575.40 | 575.53 | 575.54 | 575.84 | 576.16 | 576.13 | 575.98 | 575.96 | 575.92 | 575.82 |
| 14   | 575.20 | 575.20 | 575.36 | 575.53 | 575.58 | 575.90 | 576.18 | 576.12 | 576.07 | 575.89 | 575.61 | 575.64 |
| 15   | 575.17 | 575.21 | 575.36 | 575.56 | 575.59 | 575.89 | 576.16 | 576.12 | 576.20 | 575.98 | 575.69 | 575.60 |
| 16   | 575.06 | 575.17 | 575.37 | 575.52 | 575.62 | 575.88 | 576.13 | 576.05 | 576.17 | 575.85 | 575.77 | 575.61 |
| 17   | 574.81 | 575.36 | 575.48 | 575.61 | 575.86 | 575.84 | 576.09 | 576.05 | 576.18 | 575.73 | 575.70 | 575.60 |
| 18   | 575.01 | 575.16 | 575.52 | 575.58 | 575.91 | 576.00 | 576.11 | 576.10 | 576.09 | 576.02 | 575.57 | 575.61 |
| 19   | 575.08 | 575.36 | 575.47 | 575.47 | 575.91 | 575.99 | 576.08 | 576.03 | 576.10 | 576.03 | 575.54 | 575.72 |
| 20   | 575.05 | 575.20 | 575.42 | 575.48 | 575.88 | 575.90 | 576.12 | 576.04 | 576.11 | 575.77 | 575.59 | 575.46 |
| 21   | 575.09 | 575.05 | 575.38 | 575.51 | 575.90 | 575.92 | 576.13 | 576.05 | 575.91 | 575.75 | 575.36 | 575.58 |
| 22   | 575.08 | 575.24 | 575.30 | 575.49 | 575.88 | 575.98 | 576.11 | 576.08 | 576.09 | 575.88 | 575.55 | 575.66 |
| 23   | 575.01 | 575.50 | 575.54 | 575.50 | 575.88 | 576.08 | 576.14 | 576.08 | 576.20 | 575.83 | 575.66 | 575.86 |
| 24   | 574.95 | 575.68 | 575.45 | 575.43 | 575.86 | 576.06 | 576.15 | 576.05 | 576.02 | 575.87 | 575.67 | 575.89 |
| 25   | 575.07 | 575.82 | 575.42 | 575.48 | 575.84 | 575.99 | 576.11 | 576.03 | 575.97 | 575.97 | 575.71 | 575.86 |
| 26   | 575.07 | 575.65 | 575.54 | 575.47 | 575.85 | 575.98 | 576.12 | 576.02 | 575.88 | 575.84 | 575.58 | 575.80 |
| 27   | 574.92 | 575.73 | 575.37 | 575.42 | 575.87 | 576.03 | 576.10 | 576.05 | 575.81 | 575.78 | 575.45 | 575.73 |
| 28   | 575.03 | 575.67 | 575.39 | 575.41 | 575.86 | 576.01 | 576.08 | 576.12 | 575.87 | 576.02 | 575.71 | 575.58 |
| 29   | 575.05 |        | 575.29 | 575.44 | 575.93 | 575.99 | 576.06 | 576.11 | 575.92 | 575.75 | 575.83 | 575.73 |
| 30   | 574.92 |        | 575.33 | 575.44 | 575.84 | 576.08 | 576.18 | 576.07 | 575.92 | 575.70 | 575.63 | 576.14 |
| 31   | 575.06 |        | 575.36 |        | 575.86 |        | 576.19 | 576.06 |        | 575.64 |        | 576.12 |
| Mean | 575.19 | 575.29 | 575.37 | 575.50 | 575.70 | 575.93 | 576.11 | 576.08 | 576.04 | 575.86 | 575.72 | 575.72 |
| Max. | 576.52 | 576.32 | 576.10 | 575.84 | 576.19 | 576.38 | 576.39 | 577.13 | 576.57 | 576.83 | 576.79 | 576.44 |
| Hr.  | 1200   | 1800   | 0600   | 0700   | 1900   | 1600   | 1500   | 0300   | 2300   | 2400   | 1900   | 2000   |
| Day  | 1      | 24     | 26     | 3      | 17     | 3      | 30     | 28     | 14     | 18     | 11     | 30     |
| Min. | 574.41 | 574.68 | 575.08 | 575.21 | 575.24 | 575.49 | 575.62 | 575.64 | 575.58 | 575.20 | 575.15 | 575.33 |
| Hr.  | 0500   | 0500   | 0200   | 1300   | 1800   | 0200   | 1800   | 0700   | 1700   | 2100   | 2300   | 1800   |
| Day  | 11     | 13     | 6      | 30     | 8      | 29     | 8      | 28     | 21     | 3      | 21     | 20     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 575.71

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 577.23 Jul  
Daily mean elevation: 577.40 23 Sep  
Instant/hourly elevation: 578.56 2300/27 Aug

LOWEST

Monthly mean elevation: 576.16 Jan  
Daily mean elevation: 575.83 17 Jan  
Instant/hourly elevation: 574.97 0400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 576.72<br>1  | 576.75<br>25 | 576.67<br>26 | 576.89<br>3 | 577.10<br>29 | 577.23<br>24 | 577.37<br>31 | 577.35<br>6  | 577.40<br>23 | 577.26<br>28 | 577.31<br>12 | 577.23<br>30 |
| Min Day | 575.83<br>17 | 575.99<br>18 | 576.03<br>9  | 576.35<br>9 | 576.36<br>10 | 576.70<br>2  | 577.09<br>3  | 577.07<br>26 | 576.87<br>27 | 576.64<br>3  | 576.34<br>21 | 576.14<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 577.20         |     |     |     |     |     | 1   | 21  | 7   | 6   | 2   | 1   | 1   | 577.20         | 39                         |
| 577.00         |     |     |     |     | 2   | 13  | 10  | 24  | 18  | 6   | 7   | 3   | 577.00         | 122                        |
| 576.80         |     |     |     | 1   | 12  | 15  |     |     | 6   | 16  | 6   | 8   | 576.80         | 186                        |
| 576.60         | 2   | 2   | 2   | 8   | 7   | 1   |     |     | 7   | 12  | 15  |     | 576.60         | 242                        |
| 576.40         |     | 4   | 9   | 18  | 8   |     |     |     |     | 3   | 3   |     | 576.40         | 287                        |
| 576.20         | 8   | 11  | 13  | 3   | 2   |     |     |     |     | 1   |     |     | 576.20         | 325                        |
| 576.00         | 15  | 7   | 7   |     |     |     |     |     |     |     | 1   |     | 576.00         | 355                        |
| 575.80         | 6   | 4   |     |     |     |     |     |     |     |     |     |     | 575.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec     |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1    | 576.72 | 576.08 | 576.21 | 576.37 | 576.55 | 576.84 | 577.26 | 577.27 | 577.09 | 576.94 | 576.64 | 576.75  |
| 2    | 576.39 | 576.40 | 576.35 | 576.53 | 576.57 | 576.70 | 577.16 | 577.20 | 577.25 | 577.01 | 576.68 | 576.94  |
| 3    | 576.26 | 576.19 | 576.42 | 576.89 | 576.49 | 576.91 | 577.09 | 577.16 | 577.12 | 576.64 | 576.74 | 576.63  |
| 4    | 576.40 | 576.31 | 576.26 | 576.66 | 576.59 | 577.10 | 577.19 | 577.12 | 576.99 | 576.82 | 576.95 | 576.14* |
| 5    | 576.35 | 576.06 | 576.13 | 576.71 | 576.66 | 576.93 | 577.28 | 577.35 | 577.15 | 576.96 | 576.85 | 576.74* |
| 6    | 576.31 | 576.29 | 576.15 | 576.62 | 576.63 | 576.87 | 577.25 | 577.35 | 577.05 | 576.82 | 577.07 | 576.99  |
| 7    | 576.10 | 576.11 | 576.15 | 576.52 | 576.53 | 576.93 | 577.19 | 577.27 | 577.36 | 577.06 | 577.06 | 576.70  |
| 8    | 576.11 | 575.99 | 576.09 | 576.49 | 576.38 | 576.87 | 577.10 | 577.16 | 577.12 | 577.02 | 577.05 | 576.89  |
| 9    | 576.09 | 576.13 | 576.03 | 576.35 | 576.57 | 576.94 | 577.23 | 577.20 | 577.11 | 577.15 | 576.80 | 576.71  |
| 10   | 576.22 | 576.25 | 576.20 | 576.63 | 576.36 | 577.08 | 577.22 | 577.18 | 577.18 | 576.85 | 577.07 | 577.07  |
| 11   | 575.92 | 576.26 | 576.21 | 576.72 | 576.73 | 576.99 | 577.23 | 577.21 | 577.15 | 576.82 | 577.19 | 576.69  |
| 12   | 576.61 | 576.00 | 576.17 | 576.65 | 576.58 | 576.81 | 577.35 | 577.16 | 577.05 | 576.99 | 577.31 | 576.49  |
| 13   | 576.34 | 576.18 | 576.34 | 576.50 | 576.66 | 576.83 | 577.32 | 577.24 | 577.03 | 576.99 | 577.08 | 577.04  |
| 14   | 576.11 | 576.39 | 576.27 | 576.48 | 576.62 | 576.96 | 577.28 | 577.20 | 577.09 | 576.86 | 576.56 | 576.77  |
| 15   | 576.09 | 576.30 | 576.24 | 576.56 | 576.64 | 577.00 | 577.22 | 577.20 | 577.34 | 576.95 | 576.72 | 576.71  |
| 16   | 576.08 | 576.12 | 576.35 | 576.52 | 576.56 | 577.00 | 577.23 | 577.14 | 577.32 | 576.89 | 576.90 | 576.77  |
| 17   | 575.83 | 576.37 | 576.38 | 576.74 | 576.75 | 576.88 | 577.17 | 577.12 | 577.30 | 576.70 | 576.88 | 576.66  |
| 18   | 576.14 | 575.99 | 576.49 | 576.65 | 576.98 | 577.09 | 577.16 | 577.19 | 577.12 | 576.96 | 576.64 | 576.72  |
| 19   | 576.20 | 576.42 | 576.57 | 576.46 | 577.01 | 577.17 | 577.17 | 577.07 | 577.12 | 577.24 | 576.64 | 576.87  |
| 20   | 576.14 | 576.24 | 576.45 | 576.50 | 576.92 | 576.97 | 577.22 | 577.09 | 577.18 | 576.79 | 576.69 | 576.46  |
| 21   | 576.06 | 576.00 | 576.39 | 576.57 | 577.00 | 577.01 | 577.27 | 577.14 | 576.87 | 576.76 | 576.34 | 576.64  |
| 22   | 576.10 | 576.28 | 576.24 | 576.49 | 576.94 | 577.05 | 577.26 | 577.17 | 577.14 | 577.02 | 576.65 | 576.76  |
| 23   | 576.07 | 576.48 | 576.66 | 576.51 | 576.92 | 577.13 | 577.25 | 577.17 | 577.40 | 576.94 | 576.71 | 577.07  |
| 24   | 575.88 | 576.69 | 576.52 | 576.40 | 576.92 | 577.23 | 577.28 | 577.13 | 577.07 | 577.00 | 576.81 | 576.95  |
| 25   | 575.97 | 576.75 | 576.42 | 576.49 | 576.88 | 577.10 | 577.24 | 577.10 | 576.99 | 577.18 | 576.92 | 576.77  |
| 26   | 576.11 | 576.27 | 576.67 | 576.47 | 576.93 | 577.10 | 577.23 | 577.07 | 577.00 | 576.98 | 576.71 | 576.98  |
| 27   | 575.88 | 576.48 | 576.41 | 576.48 | 576.95 | 577.17 | 577.22 | 577.18 | 576.87 | 576.75 | 576.43 | 576.81  |
| 28   | 576.14 | 576.48 | 576.53 | 576.43 | 576.42 | 576.96 | 577.06 | 577.19 | 577.15 | 576.99 | 577.26 | 576.53  |
| 29   | 576.21 |        | 576.31 | 576.43 | 576.43 | 577.10 | 577.08 | 577.15 | 577.24 | 577.07 | 576.82 | 577.01  |
| 30   | 575.95 |        | 576.36 | 576.47 | 576.95 | 577.20 | 577.34 | 577.18 | 577.05 | 576.79 | 576.60 | 577.23  |
| 31   | 576.15 |        | 576.43 |        | 576.93 |        | 577.37 | 577.11 |        | 576.76 |        | 576.98  |
| Mean | 576.16 | 576.27 | 576.33 | 576.54 | 576.75 | 577.00 | 577.23 | 577.18 | 577.12 | 576.93 | 576.81 | 576.78  |
| Max. | 577.14 | 577.86 | 577.64 | 577.35 | 577.35 | 577.62 | 577.67 | 578.56 | 577.72 | 578.28 | 578.46 | 577.54  |
| Hr.  | 1200   | 1800   | 0600   | 1000   | 2000   | 0500   | 1500   | 2300   | 2300   | 2400   | 1900   | 2000    |
| Day  | 1      | 24     | 26     | 17     | 4      | 4      | 30     | 27     | 14     | 18     | 11     | 30      |
| Min. | 574.97 | 575.35 | 575.88 | 576.08 | 575.89 | 576.54 | 576.59 | 576.30 | 576.45 | 575.72 | 576.06 | 576.05  |
| Hr.  | 0400   | 2400   | 0400   | 2200   | 1800   | 1100   | 1500   | 0300   | 1800   | 1800   | 1600   | 2300    |
| Day  | 11     | 12     | 9      | 9      | 10     | 13     | 8      | 28     | 21     | 4      | 21     | 3       |

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

Annual Mean 576.76

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 577.61 Jul  
Daily mean elevation: 577.82 23 Sep  
Instant/hourly elevation: 579.09 2300/27 Aug

LOWEST

Monthly mean elevation: 576.37 Jan  
Daily mean elevation: 576.03 17 Jan  
Instant/hourly elevation: 575.26 0400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 576.88<br>1  | 577.09<br>25 | 577.04<br>26 | 577.27<br>3  | 577.49<br>29 | 577.64<br>24 | 577.77<br>31 | 577.77<br>6  | 577.82<br>23 | 577.71<br>28 | 577.75<br>12 | 577.62<br>30 |
| Min Day | 576.03<br>17 | 576.18<br>5  | 576.31<br>9  | 576.59<br>24 | 576.62<br>10 | 577.05<br>2  | 577.43<br>3  | 577.45<br>19 | 577.23<br>21 | 576.97<br>3  | 576.67<br>21 | 576.82<br>20 |

----- 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   | 16  | 7   | 5   | 3   | 1   | 1   | 577.60         | 35                         |
| 577.40         |     |     |     | 1   | 13  | 12  | 15  | 24  | 18  | 7   | 7   | 4   | 577.40         | 123                        |
| 577.20         |     |     | 1   | 13  | 13  |     |     | 6   | 10  | 5   | 7   | 7   | 577.20         | 178                        |
| 577.00         | 2   | 2   | 2   | 3   | 5   | 4   |     |     | 10  | 13  | 16  |     | 577.00         | 233                        |
| 576.80         | 2   | 2   | 4   | 15  | 10  |     |     |     | 1   | 2   | 3   |     | 576.80         | 272                        |
| 576.60         | 2   | 6   | 13  | 10  | 2   |     |     |     |     | 2   |     |     | 576.60         | 307                        |
| 576.40         | 7   | 11  | 10  | 1   |     |     |     |     |     |     |     |     | 576.40         | 336                        |
| 576.20         | 14  | 6   | 2   |     |     |     |     |     |     |     |     |     | 576.20         | 358                        |
| 576.00         | 6   | 1   |     |     |     |     |     |     |     |     |     |     | 576.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 576.88 | 576.25 | 576.49 | 576.68 | 576.93 | 577.20 | 577.66 | 577.66 | 577.46 | 577.29 | 577.02 | 577.12 |
| 2    | 576.57 | 576.62 | 576.67 | 576.85 | 576.95 | 577.05 | 577.55 | 577.60 | 577.67 | 577.41 | 577.06 | 577.38 |
| 3    | 576.46 | 576.37 | 576.77 | 577.27 | 576.86 | 577.26 | 577.43 | 577.54 | 577.49 | 576.97 | 577.12 | 577.03 |
| 4    | 576.65 | 576.47 | 576.60 | 577.00 | 576.94 | 577.48 | 577.57 | 577.50 | 577.36 | 577.20 | 577.39 | 577.06 |
| 5    | 576.62 | 576.47 | 576.44 | 577.07 | 577.03 | 577.30 | 577.68 | 577.75 | 577.55 | 577.34 | 577.21 | 577.24 |
| 6    | 576.57 | 576.50 | 576.44 | 576.97 | 577.00 | 577.22 | 577.64 | 577.77 | 577.42 | 577.18 | 577.46 | 577.42 |
| 7    | 576.35 | 576.45 | 576.42 | 576.86 | 576.85 | 577.29 | 577.58 | 577.68 | 577.75 | 577.45 | 577.49 | 577.08 |
| 8    | 576.36 | 576.32 | 576.38 | 576.83 | 576.71 | 577.24 | 577.47 | 577.55 | 577.49 | 577.46 | 577.46 | 577.30 |
| 9    | 576.36 | 576.46 | 576.31 | 576.66 | 576.94 | 577.30 | 577.60 | 577.59 | 577.46 | 577.57 | 577.18 | 577.09 |
| 10   | 576.49 | 576.57 | 576.52 | 577.00 | 576.62 | 577.46 | 577.62 | 577.56 | 577.55 | 577.19 | 577.49 | 577.50 |
| 11   | 576.13 | 576.57 | 576.55 | 577.09 | 577.13 | 577.38 | 577.62 | 577.61 | 577.54 | 577.21 | 577.60 | 577.08 |
| 12   | 576.84 | 576.28 | 576.49 | 577.00 | 576.95 | 577.17 | 577.75 | 577.55 | 577.42 | 577.41 | 577.75 | 576.86 |
| 13   | 576.53 | 576.47 | 576.68 | 576.84 | 577.03 | 577.19 | 577.69 | 577.65 | 577.39 | 577.37 | 577.50 | 577.45 |
| 14   | 576.25 | 576.74 | 576.61 | 576.80 | 576.97 | 577.33 | 577.63 | 577.59 | 577.44 | 577.20 | 576.91 | 577.17 |
| 15   | 576.23 | 576.59 | 576.56 | 576.86 | 577.01 | 577.40 | 577.53 | 577.58 | 577.75 | 577.36 | 577.09 | 577.11 |
| 16   | 576.25 | 576.44 | 576.68 | 576.82 | 576.90 | 577.38 | 577.58 | 577.52 | 577.74 | 577.27 | 577.30 | 577.18 |
| 17   | 576.03 | 576.75 | 576.70 | 577.07 | 577.08 | 577.27 | 577.54 | 577.51 | 577.69 | 577.04 | 577.30 | 577.04 |
| 18   | 576.39 | 576.28 | 576.83 | 576.93 | 577.36 | 577.47 | 577.53 | 577.57 | 577.50 | 577.31 | 577.02 | 577.12 |
| 19   | 576.45 | 576.80 | 576.95 | 576.75 | 577.40 | 577.56 | 577.56 | 577.45 | 577.49 | 577.69 | 577.02 | 577.27 |
| 20   | 576.35 | 576.60 | 576.81 | 576.76 | 577.28 | 577.33 | 577.59 | 577.47 | 577.56 | 577.17 | 577.08 | 576.82 |
| 21   | 576.26 | 576.34 | 576.73 | 576.83 | 577.38 | 577.38 | 577.64 | 577.51 | 577.23 | 577.14 | 576.67 | 577.02 |
| 22   | 576.29 | 576.63 | 576.57 | 576.72 | 577.31 | 577.42 | 577.65 | 577.56 | 577.53 | 577.43 | 577.03 | 577.16 |
| 23   | 576.27 | 576.84 | 577.04 | 576.74 | 577.28 | 577.50 | 577.63 | 577.54 | 577.82 | 577.33 | 577.04 | 577.47 |
| 24   | 576.05 | 577.06 | 576.87 | 576.59 | 577.28 | 577.64 | 577.67 | 577.52 | 577.46 | 577.41 | 577.19 | 577.33 |
| 25   | 576.13 | 577.09 | 576.75 | 576.77 | 577.25 | 577.48 | 577.61 | 577.48 | 577.36 | 577.61 | 577.33 | 577.10 |
| 26   | 576.31 | 576.52 | 577.04 | 576.90 | 577.31 | 577.47 | 577.61 | 577.47 | 577.42 | 577.40 | 577.11 | 577.39 |
| 27   | 576.07 | 576.79 | 576.75 | 576.86 | 577.32 | 577.55 | 577.60 | 577.57 | 577.25 | 577.10 | 576.78 | 577.20 |
| 28   | 576.33 | 576.83 | 576.77 | 576.78 | 577.35 | 577.45 | 577.56 | 577.57 | 577.37 | 577.71 | 577.11 | 576.88 |
| 29   | 576.45 |        | 576.65 | 576.78 | 577.49 | 577.44 | 577.52 | 577.64 | 577.48 | 577.21 | 577.44 | 577.06 |
| 30   | 576.16 |        | 576.70 | 576.84 | 577.34 | 577.58 | 577.74 | 577.57 | 577.44 | 577.18 | 576.98 | 577.62 |
| 31   | 576.39 |        | 576.77 |        | 577.30 |        | 577.77 | 577.49 |        | 577.17 |        | 577.31 |
| Mean | 576.37 | 576.56 | 576.66 | 576.86 | 577.11 | 577.37 | 577.61 | 577.57 | 577.50 | 577.32 | 577.20 | 577.19 |
| Max. | 577.33 | 578.31 | 578.02 | 577.55 | 577.68 | 578.07 | 578.07 | 579.09 | 578.21 | 578.73 | 578.92 | 577.90 |
| Hr.  | 1200   | 1800   | 0600   | 0800   | 1300   | 0500   | 1500   | 2300   | 2300   | 2400   | 2000   | 1600   |
| Day  | 1      | 24     | 26     | 3      | 29     | 4      | 30     | 27     | 14     | 18     | 10     | 13     |
| Min. | 575.26 | 575.59 | 576.12 | 576.39 | 576.11 | 576.80 | 577.06 | 576.79 | 576.81 | 576.24 | 576.38 | 576.27 |
| Hr.  | 0400   | 2400   | 2000   | 2200   | 1800   | 0800   | 1500   | 0300   | 1700   | 1800   | 1500   | 0500   |
| Day  | 11     | 12     | 1      | 9      | 10     | 3      | 8      | 28     | 21     | 4      | 21     | 4      |

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

Annual Mean 577.11

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 578.01 Jul  
Daily mean elevation: 578.24 23 Sep  
Instant/hourly elevation: 579.81 2000/10 Nov

LOWEST

Monthly mean elevation: 576.80 Jan  
Daily mean elevation: 576.49 27 Jan  
Instant/hourly elevation: 575.53 0400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.43<br>12 | 577.39<br>24 | 577.45<br>26 | 577.72<br>3 | 577.91<br>29 | 578.05<br>24 | 578.20<br>12 | 578.16<br>6  | 578.24<br>23 | 578.13<br>28 | 578.18<br>12 | 577.97<br>30 |
| Min Day | 576.49<br>27 | 576.51<br>18 | 576.65<br>9  | 577.01<br>9 | 576.87<br>10 | 577.40<br>2  | 577.83<br>8  | 577.82<br>19 | 577.53<br>21 | 577.31<br>3  | 577.01<br>21 | 577.18<br>20 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.20         |     |     |     |     |     |     |     |     | 1   |     |     |     | 578.20         | 1                          |
| 578.00         |     |     |     |     |     | 1   | 17  | 6   | 5   | 4   | 1   |     | 578.00         | 35                         |
| 577.80         |     |     |     | 1   | 13  | 11  | 14  | 25  | 14  | 3   | 8   | 7   | 577.80         | 118                        |
| 577.60         |     |     |     |     |     | 13  |     |     | 9   | 12  | 4   | 5   | 577.60         | 175                        |
| 577.40         | 1   |     | 2   | 5   | 5   | 4   |     |     | 1   | 10  | 12  | 15  | 577.40         | 230                        |
| 577.20         |     | 3   | 2   | 12  | 10  | 1   |     |     |     | 2   | 3   | 3   | 577.20         | 266                        |
| 577.00         | 2   | 8   | 12  | 12  | 1   |     |     |     |     |     | 2   | 1   | 577.00         | 304                        |
| 576.80         | 11  | 9   | 8   |     |     |     |     |     |     |     |     |     | 576.80         | 333                        |
| 576.60         | 12  | 6   | 7   |     |     |     |     |     |     |     |     |     | 576.60         | 358                        |
| 576.40         | 5   | 2   |     |     |     |     |     |     |     |     |     |     | 576.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

Station: 901-4096 Dunn Paper Company, 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    | 577.11  | 576.80 | 576.74 | 577.07 | 577.31 | 577.59 | 578.07 | 578.06 | 577.82 | 577.67 | 577.39 | 577.49 |
| 2    | 576.79  | 577.20 | 577.01 | 577.26 | 577.35 | 577.40 | 577.92 | 577.98 | 578.07 | 577.79 | 577.41 | 577.82 |
| 3    | 576.70  | 576.88 | 577.13 | 577.72 | 577.23 | 577.57 | 577.84 | 577.93 | 577.86 | 577.31 | 577.51 | 577.40 |
| 4    | 576.90  | 576.98 | 576.93 | 577.44 | 577.35 | 577.88 | 577.94 | 577.85 | 577.73 | 577.61 | 577.81 | 577.41 |
| 5    | 576.90  | 576.60 | 576.80 | 577.48 | 577.46 | 577.68 | 578.11 | 578.15 | 577.94 | 577.74 | 577.55 | 577.62 |
| 6    | 576.93  | 576.95 | 576.77 | 577.37 | 577.42 | 577.62 | 578.05 | 578.16 | 577.79 | 577.54 | 577.86 | 577.81 |
| 7    | 576.68  | 576.81 | 576.73 | 577.24 | 577.24 | 577.68 | 577.97 | 578.08 | 578.12 | 577.85 | 577.87 | 577.47 |
| 8    | 576.70  | 576.64 | 576.68 | 577.21 | 577.06 | 577.64 | 577.83 | 577.96 | 577.84 | 577.83 | 577.82 | 577.71 |
| 9    | 576.74  | 576.83 | 576.65 | 577.01 | 577.31 | 577.68 | 578.01 | 577.98 | 577.82 | 578.01 | 577.54 | 577.47 |
| 10   | 576.92  | 576.99 | 576.92 | 577.42 | 576.87 | 577.88 | 578.04 | 577.97 | 577.91 | 577.52 | 577.91 | 577.95 |
| 11   | 576.55  | 577.01 | 576.86 | 577.51 | 577.56 | 577.76 | 578.03 | 577.99 | 577.91 | 577.53 | 578.00 | 577.49 |
| 12   | 577.43  | 576.71 | 576.80 | 577.37 | 577.37 | 577.55 | 578.20 | 577.92 | 577.79 | 577.75 | 578.18 | 577.21 |
| 13   | 577.04  | 576.92 | 576.97 | 577.19 | 577.45 | 577.58 | 578.12 | 578.03 | 577.75 | 577.72 | 577.91 | 577.87 |
| 14   | 576.73  | 577.21 | 576.90 | 577.15 | 577.37 | 577.75 | 578.04 | 577.96 | 577.81 | 577.52 | 577.27 | 577.57 |
| 15   | 576.72  | 577.04 | 576.89 | 577.24 | 577.39 | 577.79 | 577.94 | 577.95 | 578.13 | 577.73 | 577.47 | 577.48 |
| 16   | 576.75  | 576.72 | 576.97 | 577.19 | 577.26 | 577.76 | 577.96 | 577.88 | 578.10 | 577.62 | 577.72 | 577.60 |
| 17   | 576.53  | 577.08 | 577.01 | 577.49 | 577.42 | 577.65 | 577.93 | 577.88 | 578.06 | 577.34 | 577.74 | 577.44 |
| 18   | 576.89  | 576.51 | 577.18 | 577.35 | 577.70 | 577.85 | 577.94 | 577.95 | 577.86 | 577.63 | 577.42 | 577.53 |
| 19   | 576.96  | 577.13 | 577.33 | 577.19 | 577.77 | 577.97 | 577.97 | 577.82 | 577.85 | 578.10 | 577.42 | 577.69 |
| 20   | 576.88  | 576.95 | 577.16 | 577.23 | 577.68 | 577.71 | 578.03 | 577.83 | 577.92 | 577.55 | 577.49 | 577.18 |
| 21   | 576.76  | 576.66 | 577.09 | 577.31 | 577.77 | 577.76 | 578.05 | 577.89 | 577.53 | 577.49 | 577.01 | 577.41 |
| 22   | 576.78  | 577.00 | 576.90 | 577.21 | 577.69 | 577.80 | 578.05 | 577.93 | 577.90 | 577.82 | 577.45 | 577.55 |
| 23   | 576.79  | 577.16 | 577.44 | 577.24 | 577.67 | 577.87 | 578.02 | 577.93 | 578.24 | 577.72 | 577.44 | 577.88 |
| 24   | 576.51  | 577.39 | 577.25 | 577.11 | 577.67 | 578.05 | 578.05 | 577.89 | 577.80 | 577.80 | 577.62 | 577.71 |
| 25   | 576.56  | 577.38 | 577.10 | 577.22 | 577.63 | 577.88 | 578.01 | 577.83 | 577.69 | 578.03 | 577.77 | 577.42 |
| 26   | 576.81  | 576.72 | 577.45 | 577.20 | 577.71 | 577.85 | 578.00 | 577.85 | 577.80 | 577.76 | 577.54 | 577.83 |
| 27   | 576.49  | 577.10 | 577.14 | 577.17 | 577.72 | 577.95 | 578.00 | 577.93 | 577.62 | 577.43 | 577.12 | 577.60 |
| 28   | 576.85  | 577.13 | 577.15 | 577.14 | 577.75 | 577.82 | 577.94 | 577.99 | 577.76 | 578.13 | 577.49 | 577.21 |
| 29   | 576.98  |        | 577.02 | 577.16 | 577.91 | 577.82 | 577.88 | 578.04 | 577.88 | 577.58 | 577.88 | 577.45 |
| 30   | 576.65* |        | 577.09 | 577.20 | 577.75 | 577.96 | 578.14 | 577.95 | 577.83 | 577.55 | 577.29 | 577.97 |
| 31   | 576.92  |        | 577.17 |        | 577.71 |        | 578.18 | 577.87 |        | 577.56 |        | 577.62 |
| Mean | 576.80  | 576.95 | 577.01 | 577.27 | 577.50 | 577.76 | 578.01 | 577.95 | 577.87 | 577.68 | 577.60 | 577.58 |
| Max. | 577.79  | 578.72 | 578.35 | 577.96 | 578.12 | 578.39 | 578.55 | 579.28 | 578.64 | 579.24 | 579.81 | 578.34 |
| Hr.  | 1100    | 1800   | 0600   | 0800   | 1300   | 0500   | 1500   | 2300   | 2200   | 2300   | 2000   | 0800   |
| Day  | 12      | 24     | 26     | 3      | 29     | 4      | 30     | 27     | 14     | 18     | 10     | 10     |
| Min. | 575.53  | 575.92 | 576.36 | 576.79 | 576.34 | 577.07 | 577.30 | 577.22 | 577.13 | 576.87 | 576.68 | 576.49 |
| Hr.  | 0400    | 2300   | 2000   | 1400   | 1800   | 0800   | 1700   | 2400   | 1800   | 2400   | 2200   | 0400   |
| Day  | 11      | 12     | 1      | 9      | 10     | 3      | 8      | 27     | 21     | 10     | 21     | 4      |

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

Annual Mean 577.50

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 578.33 Jul  
Daily mean elevation: 578.60 23 Sep  
Instant/hourly elevation: 580.42 2000/10 Nov

LOWEST

Monthly mean elevation: 577.08 Jan  
Daily mean elevation: 576.70 18 Feb  
Instant/hourly elevation: 575.41 0400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.83<br>12 | 577.68<br>24 | 577.75<br>26 | 578.08<br>3 | 578.26<br>29 | 578.38<br>24 | 578.55<br>31 | 578.53<br>6  | 578.60<br>23 | 578.53<br>28 | 578.54<br>12 | 578.27<br>10 |
| Min Day | 576.75<br>27 | 576.70<br>18 | 576.83<br>9  | 577.25<br>9 | 577.01<br>10 | 577.66<br>2  | 578.11<br>3  | 578.11<br>19 | 577.79<br>21 | 577.58<br>3  | 577.26<br>21 | 577.43<br>20 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.40         |     |     |     |     |     |     |     |     |     |     |     |     | 578.40         | 18                         |
| 578.20         |     |     |     |     | 1   | 5   | 6   | 2   | 6   | 3   | 1   | 3   | 578.20         | 78                         |
| 578.00         |     |     |     | 1   | 5   | 13  | 3   | 19  | 6   | 1   | 3   | 3   | 578.00         | 148                        |
| 577.80         | 1   |     |     | 1   | 9   | 9   | 10  |     | 15  | 11  | 8   | 4   | 577.80         | 194                        |
| 577.60         |     | 2   | 3   | 7   | 9   | 3   |     |     | 2   | 10  | 5   | 9   | 577.60         | 244                        |
| 577.40         |     | 3   | 7   | 16  | 5   |     |     |     | 1   | 4   | 9   | 12  | 577.40         | 282                        |
| 577.20         | 6   | 11  | 6   | 5   | 1   |     |     |     | 2   | 2   | 2   | 3   | 577.20         | 313                        |
| 577.00         | 12  | 5   | 9   |     | 1   |     |     |     |     |     |     | 2   | 577.00         | 340                        |
| 576.80         | 9   | 5   | 6   |     |     |     |     |     |     |     |     |     | 576.80         | 360                        |
| 576.60         | 3   | 2   |     |     |     |     |     |     |     |     |     |     | 576.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 577.30 | 577.08 | 576.92 | 577.33 | 577.58 | 577.89 | 578.43 | 578.40 | 578.12 | 577.96 | 577.69 | 577.74 |
| 2    | 576.98 | 577.54 | 577.25 | 577.55 | 577.64 | 577.66 | 578.25 | 578.29 | 578.41 | 578.13 | 577.70 | 578.16 |
| 3    | 576.88 | 577.17 | 577.43 | 578.08 | 577.51 | 577.80 | 578.11 | 578.24 | 578.19 | 577.58 | 577.82 | 577.68 |
| 4    | 577.12 | 577.24 | 577.20 | 577.75 | 577.65 | 578.21 | 578.25 | 578.16 | 578.02 | 577.88 | 578.17 | 577.64 |
| 5    | 577.16 | 576.78 | 577.01 | 577.78 | 577.76 | 577.93 | 578.47 | 578.51 | 578.26 | 578.05 | 577.84 | 577.89 |
| 6    | 577.18 | 577.16 | 576.96 | 577.65 | 577.69 | 577.88 | 578.39 | 578.53 | 578.08 | 577.81 | 578.17 | 578.14 |
| 7    | 576.97 | 577.05 | 576.89 | 577.51 | 577.48 | 577.99 | 578.28 | 578.40 | 578.46 | 578.18 | 578.18 | 577.72 |
| 8    | 576.97 | 576.87 | 576.84 | 577.47 | 577.27 | 577.91 | 578.12 | 578.27 | 578.15 | 578.20 | 578.14 | 578.00 |
| 9    | 577.02 | 577.11 | 576.83 | 577.25 | 577.58 | 577.95 | 578.35 | 578.29 | 578.11 | 578.38 | 577.81 | 577.73 |
| 10   | 577.23 | 577.27 | 577.06 | 577.72 | 577.01 | 578.18 | 578.37 | 578.27 | 578.21 | 577.80 | 578.24 | 578.27 |
| 11   | 576.88 | 577.30 | 577.08 | 577.83 | 577.87 | 578.05 | 578.34 | 578.31 | 578.22 | 577.81 | 578.32 | 577.74 |
| 12   | 577.83 | 576.97 | 576.99 | 577.64 | 577.65 | 577.80 | 578.55 | 578.23 | 578.09 | 578.06 | 578.54 | 577.44 |
| 13   | 577.37 | 577.21 | 577.20 | 577.44 | 577.75 | 577.82 | 578.46 | 578.36 | 578.04 | 578.02 | 578.25 | 578.21 |
| 14   | 577.00 | 577.56 | 577.12 | 577.39 | 577.65 | 578.02 | 578.34 | 578.26 | 578.09 | 577.80 | 577.52 | 577.84 |
| 15   | 576.99 | 577.34 | 577.12 | 577.50 | 577.67 | 578.08 | 578.22 | 578.24 | 578.48 | 578.05 | 577.74 | 577.76 |
| 16   | 577.06 | 576.95 | 577.20 | 577.44 | 577.53 | 578.03 | 578.25 | 578.19 | 578.48 | 577.91 | 578.01 | 577.87 |
| 17   | 576.81 | 577.36 | 577.22 | 577.79 | 577.68 | 577.91 | 578.21 | 578.17 | 578.41 | 577.60 | 578.08 | 577.70 |
| 18   | 577.20 | 576.70 | 577.42 | 577.62 | 577.98 | 578.13 | 578.24 | 578.26 | 578.17 | 577.89 | 577.75 | 577.78 |
| 19   | 577.26 | 577.40 | 577.63 | 577.43 | 578.09 | 578.28 | 578.26 | 578.11 | 578.16 | 578.46 | 577.73 | 577.99 |
| 20   | 577.20 | 577.22 | 577.43 | 577.49 | 577.98 | 577.99 | 578.33 | 578.12 | 578.23 | 577.84 | 577.80 | 577.43 |
| 21   | 577.04 | 576.90 | 577.35 | 577.60 | 578.11 | 578.03 | 578.36 | 578.20 | 577.79 | 577.76 | 577.26 | 577.69 |
| 22   | 577.05 | 577.28 | 577.13 | 577.46 | 578.00 | 578.08 | 578.37 | 578.26 | 578.21 | 578.16 | 577.71 | 577.82 |
| 23   | 577.08 | 577.44 | 577.75 | 577.50 | 577.97 | 578.15 | 578.33 | 578.24 | 578.60 | 578.04 | 577.69 | 578.20 |
| 24   | 576.75 | 577.68 | 577.52 | 577.36 | 577.96 | 578.38 | 578.37 | 578.19 | 578.10 | 578.14 | 577.91 | 577.98 |
| 25   | 576.80 | 577.61 | 577.34 | 577.47 | 577.93 | 578.17 | 578.34 | 578.12 | 577.96 | 578.41 | 578.09 | 577.63 |
| 26   | 577.07 | 576.85 | 577.75 | 577.45 | 578.00 | 578.13 | 578.33 | 578.14 | 578.13 | 578.10 | 577.83 | 578.13 |
| 27   | 576.75 | 577.30 | 577.41 | 577.44 | 578.02 | 578.27 | 578.32 | 578.25 | 577.92 | 577.69 | 577.36 | 577.88 |
| 28   | 577.14 | 577.35 | 577.43 | 577.40 | 578.05 | 578.12 | 578.26 | 578.31 | 578.09 | 578.53 | 577.73 | 577.45 |
| 29   | 577.32 |        | 577.29 | 577.43 | 578.26 | 578.11 | 578.18 | 578.36 | 578.23 | 577.90 | 578.18 | 577.67 |
| 30   | 576.91 |        | 577.36 | 577.49 | 578.08 | 578.25 | 578.50 | 578.27 | 578.16 | 577.84 | 577.52 | 578.25 |
| 31   | 577.21 |        | 577.46 |        | 578.00 |        | 578.55 | 578.17 |        | 577.88 |        | 577.81 |
| Mean | 577.08 | 577.20 | 577.24 | 577.54 | 577.79 | 578.04 | 578.33 | 578.26 | 578.19 | 578.00 | 577.89 | 577.85 |
| Max. | 578.24 | 579.16 | 578.79 | 578.36 | 578.48 | 578.78 | 578.93 | 580.02 | 579.09 | 579.75 | 580.42 | 578.71 |
| Hr.  | 1100   | 1800   | 0600   | 0800   | 1300   | 0500   | 1400   | 2300   | 2200   | 2300   | 2000   | 1600   |
| Day  | 12     | 24     | 26     | 3      | 29     | 4      | 30     | 27     | 14     | 18     | 10     | 13     |
| Min. | 575.41 | 576.09 | 576.50 | 577.01 | 576.43 | 577.25 | 577.53 | 577.21 | 577.35 | 577.02 | 576.86 | 576.59 |
| Hr.  | 0400   | 2300   | 2000   | 2000   | 1800   | 0800   | 1400   | 2400   | 1800   | 2400   | 2200   | 0400   |
| Day  | 11     | 12     | 1      | 9      | 10     | 3      | 8      | 27     | 21     | 10     | 21     | 4      |

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

Annual Mean 577.78

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 907-5002 Lakeport, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 578.45 Jul  
Daily mean elevation: 578.68 12 Nov  
Instant/hourly elevation: 580.35 1900/11 Nov

LOWEST

Monthly mean elevation: 577.21 Jan  
Daily mean elevation: 576.88 24 Jan  
Instant/hourly elevation: 575.92 2200/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.84<br>12 | 577.66<br>24 | 577.89<br>26 | 578.07<br>3 | 578.30<br>29 | 578.55<br>24 | 578.62<br>12 | 578.62<br>6  | 578.68<br>23 | 578.66<br>28 | 578.68<br>12 | 578.44<br>10 |
| Min Day | 576.88<br>24 | 576.89<br>18 | 577.02<br>1  | 577.40<br>9 | 577.18<br>10 | 577.80<br>2  | 578.26<br>8  | 578.23<br>20 | 577.92<br>21 | 577.73<br>3  | 577.47<br>21 | 577.61<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.60         |     |     |     |     |     |     |     | 2   | 1   | 1   | 1   |     | 578.60         | 6                          |
| 578.40         |     |     |     |     |     |     | 3   | 18  | 9   | 5   | 3   | 1   | 578.40         | 46                         |
| 578.20         |     |     |     |     | 1   | 11  | 11  | 21  | 17  | 6   | 8   | 6   | 578.20         | 127                        |
| 578.00         |     |     |     | 1   | 14  | 11  |     |     | 6   | 9   | 5   | 7   | 578.00         | 180                        |
| 577.80         | 1   |     | 2   | 4   | 3   | 4   |     |     | 1   | 10  | 11  | 12  | 577.80         | 228                        |
| 577.60         |     | 4   | 2   | 12  | 11  | 1   |     |     |     | 2   | 2   | 5   | 577.60         | 267                        |
| 577.40         | 2   | 6   | 10  | 12  | 1   |     |     |     |     |     | 2   |     | 577.40         | 300                        |
| 577.20         | 11  | 10  | 12  | 1   |     |     |     |     |     |     |     |     | 577.20         | 334                        |
| 577.00         | 12  | 5   | 5   |     |     | 1   |     |     |     |     |     |     | 577.00         | 357                        |
| 576.80         | 5   | 3   |     |     |     |     |     |     |     |     |     |     | 576.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

Station: 907-5002 Lakeport, Michigan on Lake Huron

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun     | Jul    | Aug    | Sep    | Oct     | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|---------|--------|--------|--------|---------|--------|--------|
| 1    | 577.39 | 577.20 | 577.02 | 577.46 | 577.71 | 577.99  | 578.53 | 578.52 | 578.21 | 578.09  | 577.85 | 577.96 |
| 2    | 577.11 | 577.63 | 577.35 | 577.65 | 577.77 | 577.80  | 578.39 | 578.41 | 578.49 | 578.28  | 577.86 | 578.32 |
| 3    | 577.06 | 577.28 | 577.51 | 578.07 | 577.64 | 577.92  | 578.30 | 578.36 | 578.29 | 577.73  | 577.96 | 577.93 |
| 4    | 577.28 | 577.39 | 577.30 | 577.84 | 577.80 | 578.31  | 578.40 | 578.30 | 578.17 | 577.98  | 578.28 | 577.76 |
| 5    | 577.28 | 576.95 | 577.21 | 577.90 | 577.83 | 578.08  | 578.57 | 578.60 | 578.39 | 578.16  | 578.06 | 578.11 |
| 6    | 577.30 | 577.30 | 577.22 | 577.77 | 577.80 | 578.01  | 578.51 | 578.62 | 578.19 | 577.98  | 578.33 | 578.29 |
| 7    | 577.07 | 577.22 | 577.18 | 577.64 | 577.65 | 578.12  | 578.42 | 578.52 | 578.53 | 578.31  | 578.30 | 577.90 |
| 8    | 577.08 | 577.09 | 577.09 | 577.62 | 577.41 | 578.03  | 578.26 | 578.41 | 578.27 | 578.32  | 578.27 | 578.17 |
| 9    | 577.15 | 577.23 | 577.07 | 577.40 | 577.70 | 578.08  | 578.53 | 578.41 | 578.22 | 578.44  | 577.96 | 577.95 |
| 10   | 577.33 | 577.38 | 577.23 | 577.78 | 577.18 | 578.33  | 578.50 | 578.40 | 578.30 | 577.93  | 578.31 | 578.44 |
| 11   | 577.00 | 577.41 | 577.23 | 577.94 | 578.01 | 578.15  | 578.45 | 578.46 | 578.32 | 577.90  | 578.47 | 577.97 |
| 12   | 577.84 | 577.07 | 577.09 | 577.77 | 577.81 | 577.92  | 578.62 | 578.37 | 578.20 | 578.14* | 578.68 | 577.63 |
| 13   | 577.48 | 577.32 | 577.31 | 577.56 | 577.89 | 578.00  | 578.57 | 578.44 | 578.15 | 578.13* | 578.37 | 578.37 |
| 14   | 577.13 | 577.62 | 577.26 | 577.52 | 577.80 | 578.19* | 578.48 | 578.39 | 578.24 | 577.90  | 577.70 | 578.07 |
| 15   | 577.10 | 577.47 | 577.24 | 577.62 | 577.80 | 578.24  | 578.37 | 578.36 | 578.58 | 578.14  | 577.95 | 577.94 |
| 16   | 577.19 | 577.03 | 577.30 | 577.61 | 577.62 | 578.17  | 578.37 | 578.30 | 578.55 | 578.05  | 578.14 | 578.02 |
| 17   | 576.96 | 577.44 | 577.31 | 577.91 | 577.80 | 578.01  | 578.32 | 578.29 | 578.48 | 577.74  | 578.19 | 577.97 |
| 18   | 577.32 | 576.89 | 577.55 | 577.76 | 578.10 | 578.28  | 578.35 | 578.38 | 578.26 | 578.02  | 577.88 | 577.91 |
| 19   | 577.39 | 577.51 | 577.71 | 577.57 | 578.17 | 578.41  | 578.37 | 578.27 | 578.24 | 578.56  | 577.88 | 578.17 |
| 20   | 577.31 | 577.31 | 577.55 | 577.60 | 578.10 | 578.20  | 578.44 | 578.23 | 578.33 | 577.96  | 577.94 | 577.63 |
| 21   | 577.15 | 577.08 | 577.46 | 577.72 | 578.18 | 578.17  | 578.51 | 578.33 | 577.92 | 577.90  | 577.47 | 577.85 |
| 22   | 577.16 | 577.39 | 577.25 | 577.60 | 578.10 | 578.27  | 578.48 | 578.37 | 578.30 | 578.27  | 577.85 | 577.99 |
| 23   | 577.25 | 577.49 | 577.85 | 577.63 | 578.09 | 578.28  | 578.46 | 578.36 | 578.68 | 578.15  | 577.90 | 578.36 |
| 24   | 576.88 | 577.66 | 577.66 | 577.48 | 578.07 | 578.55  | 578.50 | 578.30 | 578.21 | 578.25  | 578.09 | 578.14 |
| 25   | 576.95 | 577.66 | 577.66 | 577.48 | 578.04 | 578.33  | 578.44 | 578.25 | 578.11 | 578.48  | 578.25 | 577.80 |
| 26   | 577.18 | 576.61 | 577.47 | 577.62 | 578.10 | 578.29  | 578.44 | 578.26 | 578.21 | 578.22  | 578.02 | 578.30 |
| 27   | 576.92 | 577.35 | 577.53 | 577.57 | 578.13 | 578.40  | 578.41 | 578.28 | 578.03 | 577.87  | 577.52 | 578.09 |
| 28   | 577.29 | 577.41 | 577.55 | 577.52 | 578.16 | 578.28  | 578.38 | 578.39 | 578.22 | 578.66  | 577.93 | 577.61 |
| 29   | 577.43 |        | 577.42 | 577.58 | 578.30 | 578.30  | 578.31 | 578.49 | 578.37 | 578.08  | 578.37 | 577.86 |
| 30   | 577.04 |        | 577.47 | 577.60 | 578.17 | 578.45  | 578.55 | 578.39 | 578.30 | 577.99  | 577.73 | 578.37 |
| 31   | 577.37 |        |        | 577.58 | 578.11 |         | 578.61 | 578.29 |        | 577.98  |        | 577.95 |
| Mean | 577.21 | 577.31 | 577.38 | 577.66 | 577.90 | 578.19  | 578.45 | 578.38 | 578.29 | 578.12  | 578.05 | 578.03 |
| Max. | 578.21 | 578.83 | 579.08 | 578.30 | 578.42 | 578.82  | 578.93 | 578.88 | 579.27 | 579.96  | 580.35 | 578.80 |
| Hr.  | 1100   | 1700   | 0600   | 0700   | 0700   | 0400    | 1500   | 2400   | 2100   | 2300    | 1900   | 2000   |
| Day  | 12     | 24     | 26     | 3      | 29     | 4       | 30     | 5      | 14     | 18      | 11     | 13     |
| Min. | 575.92 | 576.35 | 576.75 | 577.25 | 576.54 | 577.50  | 577.65 | 577.13 | 577.44 | 577.18  | 577.04 | 576.69 |
| Hr.  | 2200   | 2300   | 2000   | 1400   | 1700   | 0200    | 1700   | 2400   | 1700   | 2400    | 2200   | 0400   |
| Day  | 25     | 12     | 1      | 9      | 10     | 6       | 8      | 27     | 21     | 10      | 21     | 4      |

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

Annual Mean 577.91

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 578.38 Jul  
Daily mean elevation: 578.55 23 Sep  
Instant/hourly elevation: 578.98 2300/18 Oct

LOWEST

Monthly mean elevation: 577.22 Jan  
Daily mean elevation: 576.93 24 Jan  
Instant/hourly elevation: 576.49 0900/24 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.69<br>12 | 577.47<br>14 | 577.72<br>26 | 577.82<br>17 | 578.09<br>18 | 578.48<br>24 | 578.47<br>21 | 578.50<br>6  | 578.55<br>23 | 578.46<br>28 | 578.54<br>12 | 578.30<br>10 |
| Min Day | 576.93<br>24 | 576.98<br>18 | 577.04<br>9  | 577.43<br>9  | 577.36<br>10 | 577.87<br>2  | 578.25<br>8  | 578.13<br>20 | 578.00<br>21 | 577.82<br>3  | 577.56<br>21 | 577.66<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.40         |     |     |     |     |     | 1   | 9   | 5   | 2   | 2   | 1   |     | 578.40         | 20                         |
| 578.20         |     |     |     |     |     | 12  | 22  | 23  | 12  | 4   | 3   | 5   | 578.20         | 101                        |
| 578.00         |     |     |     |     | 10  | 9   | 3   | 15  | 14  | 10  | 9   |     | 578.00         | 171                        |
| 577.80         |     |     | 2   | 5   | 8   |     | 1   | 11  | 12  | 12  |     |     | 577.80         | 222                        |
| 577.60         | 1   |     | 2   | 9   | 12  |     |     |     | 3   | 5   |     |     | 577.60         | 254                        |
| 577.40         |     | 5   | 9   | 19  | 3   |     |     |     |     | 1   |     |     | 577.40         | 291                        |
| 577.20         | 15  | 14  | 11  |     | 1   |     |     |     |     |     |     |     | 577.20         | 332                        |
| 577.00         | 14  | 8   | 9   |     |     |     |     |     |     |     |     |     | 577.00         | 363                        |
| 576.80         | 1   | 1   |     |     |     |     |     |     |     |     |     |     | 576.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 577.34 | 577.20 | 577.10 | 577.43 | 577.74 | 577.99 | 578.40 | 578.42 | 578.19 | 578.10 | 577.80 | 578.01 |
| 2    | 577.22 | 577.43 | 577.36 | 577.59 | 577.69 | 577.87 | 578.31 | 578.37 | 578.39 | 578.21 | 577.89 | 578.20 |
| 3    | 577.10 | 577.21 | 577.39 | 577.77 | 577.57 | 577.98 | 578.30 | 578.34 | 578.20 | 577.82 | 577.95 | 577.99 |
| 4    | 577.26 | 577.26 | 577.23 | 577.72 | 577.62 | 578.26 | 578.39 | 578.31 | 578.11 | 578.00 | 578.08 | 577.73 |
| 5    | 577.28 | 577.07 | 577.11 | 577.82 | 577.70 | 578.04 | 578.45 | 578.47 | 578.24 | 578.22 | 578.16 | 578.10 |
| 6    | 577.21 | 577.27 | 577.13 | 577.71 | 577.72 | 577.98 | 578.38 | 578.50 | 578.18 | 578.01 | 578.15 | 578.25 |
| 7    | 577.16 | 577.18 | 577.10 | 577.59 | 577.66 | 578.09 | 578.33 | 578.43 | 578.38 | 578.16 | 578.20 | 577.99 |
| 8    | 577.14 | 577.14 | 577.04 | 577.60 | 577.48 | 578.00 | 578.25 | 578.39 | 578.19 | 578.09 | 578.19 | 578.10 |
| 9    | 577.18 | 577.23 | 577.04 | 577.43 | 577.67 | 578.07 | 578.44 | 578.38 | 578.14 | 578.23 | 577.92 | 577.94 |
| 10   | 577.28 | 577.35 | 577.17 | 577.63 | 577.36 | 578.23 | 578.42 | 578.35 | 578.24 | 577.90 | 578.18 | 578.30 |
| 11   | 577.11 | 577.36 | 577.17 | 577.78 | 577.96 | 578.10 | 578.40 | 578.35 | 578.27 | 577.83 | 578.36 | 577.94 |
| 12   | 577.69 | 577.09 | 577.12 | 577.72 | 577.80 | 577.94 | 578.44 | 578.31 | 578.17 | 578.08 | 578.54 | 577.68 |
| 13   | 577.37 | 577.24 | 577.28 | 577.55 | 577.79 | 578.00 | 578.40 | 578.33 | 578.13 | 578.06 | 578.26 | 578.22 |
| 14   | 577.11 | 577.47 | 577.23 | 577.50 | 577.74 | 578.17 | 578.40 | 578.35 | 578.22 | 577.93 | 577.77 | 578.03 |
| 15   | 577.04 | 577.29 | 577.24 | 577.61 | 577.72 | 578.18 | 578.34 | 578.36 | 578.54 | 578.10 | 577.97 | 577.92 |
| 16   | 577.17 | 577.07 | 577.33 | 577.60 | 577.60 | 578.10 | 578.37 | 578.28 | 578.37 | 578.07 | 578.04 | 577.94 |
| 17   | 577.01 | 577.32 | 577.33 | 577.82 | 577.75 | 577.97 | 578.35 | 578.27 | 578.32 | 577.88 | 578.06 | 577.96 |
| 18   | 577.32 | 576.98 | 577.53 | 577.74 | 578.09 | 578.23 | 578.40 | 578.33 | 578.22 | 578.09 | 577.86 | 577.88 |
| 19   | 577.36 | 577.42 | 577.56 | 577.56 | 578.06 | 578.32 | 578.34 | 578.20 | 578.20 | 578.46 | 577.83 | 578.07 |
| 20   | 577.24 | 577.34 | 577.49 | 577.56 | 577.98 | 578.13 | 578.42 | 578.13 | 578.31 | 577.98 | 577.89 | 577.71 |
| 21   | 577.15 | 577.13 | 577.41 | 577.64 | 578.03 | 578.14 | 578.47 | 578.22 | 578.00 | 577.91 | 577.56 | 577.80 |
| 22   | 577.16 | 577.28 | 577.30 | 577.57 | 578.01 | 578.25 | 578.38 | 578.29 | 578.26 | 578.18 | 577.87 | 577.92 |
| 23   | 577.28 | 577.31 | 577.70 | 577.59 | 578.02 | 578.22 | 578.39 | 578.27 | 578.55 | 578.07 | 577.99 | 578.21 |
| 24   | 576.93 | 577.42 | 577.60 | 577.46 | 578.00 | 578.48 | 578.44 | 578.25 | 578.26 | 578.14 | 578.09 | 578.11 |
| 25   | 577.14 | 577.41 | 577.48 | 577.59 | 577.97 | 578.29 | 578.38 | 578.22 | 578.18 | 578.26 | 578.17 | 577.95 |
| 26   | 577.21 | 577.05 | 577.72 | 577.59 | 578.00 | 578.27 | 578.35 | 578.20 | 578.13 | 578.11 | 578.00 | 578.25 |
| 27   | 577.11 | 577.29 | 577.49 | 577.55 | 578.04 | 578.36 | 578.32 | 578.35 | 578.06 | 577.96 | 577.63 | 578.06 |
| 28   | 577.32 | 577.36 | 577.50 | 577.50 | 578.05 | 578.22 | 578.30 | 578.29 | 578.10 | 578.46 | 577.96 | 577.66 |
| 29   | 577.35 |        | 577.34 | 577.55 | 578.08 | 578.26 | 578.27 | 578.43 | 578.14 | 578.04 | 578.32 | 577.82 |
| 30   | 577.14 |        | 577.40 | 577.59 | 578.06 | 578.38 | 578.42 | 578.32 | 578.15 | 577.94 | 577.92 | 578.19 |
| 31   | 577.33 |        |        | 577.48 | 578.08 |        | 578.46 | 578.24 |        | 577.89 |        | 577.91 |
| Mean | 577.22 | 577.26 | 577.33 | 577.61 | 577.84 | 578.15 | 578.38 | 578.32 | 578.23 | 578.07 | 578.02 | 577.99 |
| Max. | 577.86 | 577.80 | 577.97 | 577.99 | 578.31 | 578.57 | 578.68 | 578.69 | 578.80 | 578.98 | 578.92 | 578.55 |
| Hr.  | 1000   | 0700   | 0600   | 1500   | 1700   | 1700   | 2000   | 0500   | 2200   | 2300   | 1800   | 2200   |
| Day  | 12     | 2      | 26     | 17     | 18     | 24     | 18     | 28     | 14     | 18     | 11     | 13     |
| Min. | 576.49 | 576.68 | 576.87 | 577.27 | 576.96 | 577.68 | 578.02 | 577.79 | 577.76 | 577.39 | 577.32 | 577.12 |
| Hr.  | 0900   | 1900   | 0400   | 0500   | 1600   | 0900   | 1000   | 0700   | 1600   | 0100   | 2100   | 0400   |
| Day  | 24     | 16     | 9      | 1      | 10     | 13     | 8      | 28     | 21     | 11     | 21     | 4      |

\* 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, 1990

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

HIGHEST

Monthly mean elevation: 578.43 Jul  
 Daily mean elevation: 579.43 5 Nov  
 Instant/hourly elevation: 580.72 1900/5 Nov

LOWEST

Monthly mean elevation: 577.14 Jan  
 Daily mean elevation: 576.33 10 May  
 Instant/hourly elevation: 575.15 1500/10 May

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.50<br>12 | 578.08<br>15 | 577.85<br>26 | 578.24<br>2 | 579.08<br>29 | 578.52<br>24 | 579.31<br>12 | 578.89<br>19 | 578.84<br>16 | 579.43<br>9  | 579.43<br>5  | 579.18<br>3  |
| Min Day | 576.75<br>24 | 576.68<br>18 | 576.72<br>1  | 577.27<br>9 | 576.33<br>10 | 577.04<br>3  | 578.06<br>18 | 578.15<br>15 | 577.60<br>21 | 577.34<br>18 | 577.18<br>28 | 576.96<br>25 |

----- 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         |     |     |     |     |     |     |     |     |     | 1   | 1   |     | 579.40         | 2                          |
| 579.20         |     |     |     |     |     |     |     |     |     |     |     |     | 579.20         | 3                          |
| 579.00         |     |     |     |     | 1   |     | 1   |     |     |     |     |     | 579.00         | 5                          |
| 578.80         |     |     |     |     | 1   |     | 1   | 1   | 1   |     |     |     | 578.80         | 10                         |
| 578.60         |     |     |     |     |     |     | 3   | 1   | 1   | 1   |     |     | 578.60         | 16                         |
| 578.40         |     |     |     |     |     | 3   | 9   | 9   | 5   | 3   |     |     | 578.40         | 45                         |
| 578.20         |     |     |     |     |     | 8   | 12  | 15  | 7   | 2   | 3   | 4   | 578.20         | 100                        |
| 578.00         | 2   |     |     | 1   | 3   | 9   | 9   | 5   | 11  | 7   | 7   | 6   | 578.00         | 163                        |
| 577.80         | 1   | 1   | 1   | 1   | 4   | 7   |     | 2   | 8   | 6   | 8   |     | 577.80         | 201                        |
| 577.60         | 1   | 3   | 6   | 8   | 2   | 2   |     | 2   | 4   | 7   | 7   |     | 577.60         | 241                        |
| 577.40         | 1   | 1   | 7   | 18  | 2   |     |     |     | 1   | 3   | 4   | 4   | 577.40         | 282                        |
| 577.20         | 10  | 9   | 9   | 2   | 2   |     |     |     |     | 1   |     |     | 577.20         | 315                        |
| 577.00         | 13  | 9   | 8   |     |     | 1   |     |     |     |     | 2   |     | 577.00         | 348                        |
| 576.80         | 5   | 4   | 2   |     |     |     |     |     |     |     |     | 1   | 576.80         | 360                        |
| 576.60         | 2   | 1   | 1   |     |     |     |     |     |     |     |     |     | 576.60         | 364                        |
| 576.40         |     |     |     |     |     |     |     |     |     |     |     |     | 576.40         | 364                        |
| 576.20         |     |     |     |     |     |     | 1   |     |     |     |     |     | 576.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 577.22 | 577.20 | 576.72 | 577.46 | 577.53 | 577.94 | 578.56 | 578.41 | 578.07 | 577.62 | 577.80 | 577.62 |
| 2    | 577.01 | 578.07 | 577.29 | 578.24 | 577.74 | 577.66 | 578.31 | 578.37 | 578.52 | 578.12 | 577.70 | 578.28 |
| 3    | 577.10 | 577.25 | 577.40 | 578.10 | 577.68 | 577.04 | 578.13 | 578.27 | 578.30 | 577.67 | 577.91 | 579.18 |
| 4    | 577.20 | 577.27 | 577.24 | 577.67 | 578.07 | 578.31 | 578.25 | 578.26 | 577.92 | 577.54 | 578.28 | 577.66 |
| 5    | 577.27 | 576.85 | 577.16 | 577.77 | 577.80 | 577.94 | 578.73 | 578.56 | 578.32 | 577.98 | 579.43 | 577.69 |
| 6    | 577.18 | 577.28 | 577.18 | 577.69 | 577.81 | 577.81 | 578.54 | 578.74 | 578.11 | 577.81 | 577.99 | 578.05 |
| 7    | 576.99 | 577.08 | 577.14 | 577.50 | 577.48 | 578.09 | 578.36 | 578.46 | 578.68 | 578.63 | 578.06 | 577.45 |
| 8    | 577.15 | 577.06 | 577.13 | 577.37 | 577.26 | 578.00 | 578.11 | 578.28 | 578.29 | 578.91 | 578.11 | 578.02 |
| 9    | 577.16 | 577.17 | 577.08 | 577.27 | 577.99 | 578.01 | 578.46 | 578.34 | 578.11 | 579.43 | 577.73 | 577.57 |
| 10   | 577.26 | 577.12 | 577.20 | 578.10 | 576.33 | 578.26 | 578.59 | 578.36 | 578.35 | 578.53 | 578.10 | 578.28 |
| 11   | 576.94 | 577.35 | 577.26 | 577.84 | 577.78 | 578.16 | 578.53 | 578.45 | 578.33 | 577.52 | 577.85 | 578.00 |
| 12   | 577.50 | 577.10 | 577.14 | 577.58 | 577.77 | 577.69 | 579.31 | 578.31 | 578.04 | 578.05 | 578.21 | 577.50 |
| 13   | 577.28 | 577.24 | 577.27 | 577.46 | 577.92 | 577.85 | 578.88 | 578.57 | 578.09 | 578.04 | 578.22 | 578.08 |
| 14   | 577.20 | 577.85 | 577.30 | 577.53 | 577.72 | 578.18 | 578.62 | 578.15 | 578.02 | 577.81 | 577.58 | 577.93 |
| 15   | 577.04 | 578.08 | 577.19 | 577.55 | 577.97 | 578.19 | 578.24 | 578.15 | 578.52 | 577.82 | 577.67 | 578.03 |
| 16   | 577.20 | 576.81 | 577.33 | 577.49 | 577.64 | 578.18 | 578.17 | 578.22 | 578.84 | 577.96 | 578.02 | 577.92 |
| 17   | 576.99 | 577.37 | 576.88 | 577.72 | 577.37 | 577.88 | 578.15 | 578.17 | 578.50 | 577.70 | 578.09 | 577.94 |
| 18   | 577.18 | 576.68 | 577.34 | 577.55 | 577.78 | 578.07 | 578.06 | 578.50 | 578.16 | 577.34 | 577.74 | 577.81 |
| 19   | 577.34 | 577.15 | 577.71 | 577.44 | 578.26 | 578.44 | 578.28 | 578.89 | 578.09 | 578.43 | 577.76 | 578.13 |
| 20   | 577.28 | 577.19 | 577.43 | 577.51 | 578.84 | 578.06 | 578.40 | 578.39 | 578.22 | 577.89 | 577.92 | 577.74 |
| 21   | 577.32 | 576.88 | 577.41 | 577.72 | 578.36 | 577.98 | 578.50 | 578.48 | 577.60 | 577.72 | 577.51 | 577.93 |
| 22   | 577.05 | 577.42 | 577.26 | 577.54 | 578.10 | 578.38 | 578.41 | 578.47 | 577.87 | 578.22 | 577.72 | 577.69 |
| 23   | 577.35 | 577.39 | 577.69 | 577.63 | 578.05 | 578.23 | 578.40 | 578.34 | 578.47 | 578.03 | 577.47 | 578.21 |
| 24   | 576.75 | 577.62 | 577.50 | 577.45 | 578.12 | 578.52 | 578.43 | 578.27 | 577.74 | 578.20 | 577.91 | 577.60 |
| 25   | 577.13 | 577.30 | 576.88 | 577.55 | 578.10 | 578.25 | 578.40 | 578.18 | 577.77 | 578.44 | 577.94 | 576.96 |
| 26   | 576.92 | 576.99 | 577.85 | 577.55 | 578.21 | 578.12 | 578.40 | 578.19 | 578.15 | 578.04 | 578.18 | 577.90 |
| 27   | 576.77 | 577.10 | 577.44 | 577.54 | 578.13 | 578.50 | 578.38 | 578.30 | 578.01 | 577.44 | 577.51 | 578.05 |
| 28   | 576.90 | 577.31 | 577.61 | 577.53 | 578.20 | 578.28 | 578.32 | 578.30 | 578.30 | 578.39 | 577.18 | 577.65 |
| 29   | 577.34 |        | 577.47 | 577.54 | 579.08 | 578.28 | 578.26 | 578.42 | 578.45 | 577.92 | 578.04 | 577.83 |
| 30   | 577.06 |        | 577.57 | 577.54 | 578.16 | 578.36 | 578.58 | 578.30 | 578.19 | 577.83 | 577.19 | 578.26 |
| 31   | 577.37 |        | 577.55 |        | 578.01 |        | 578.65 | 578.23 |        | 578.01 |        | 577.70 |
| Mean | 577.14 | 577.26 | 577.31 | 577.61 | 577.91 | 578.09 | 578.43 | 578.37 | 578.20 | 578.03 | 577.90 | 577.89 |
| Max. | 578.27 | 578.91 | 578.68 | 579.07 | 580.09 | 579.01 | 580.19 | 579.70 | 579.52 | 579.85 | 580.72 | 580.69 |
| Hr.  | 0500   | 1000   | 0600   | 1500   | 0400   | 0500   | 1300   | 0100   | 1100   | 0600   | 1900   | 1200   |
| Day  | 21     | 2      | 26     | 2      | 29     | 4      | 12     | 19     | 7      | 9      | 5      | 3      |
| Min. | 575.60 | 575.62 | 576.31 | 576.95 | 575.15 | 576.14 | 577.57 | 577.58 | 577.02 | 575.93 | 576.21 | 576.18 |
| Hr.  | 2200   | 2200   | 1800   | 2000   | 1500   | 1200   | 1100   | 0500   | 2000   | 0200   | 1400   | 1100   |
| Day  | 25     | 16     | 1      | 16     | 10     | 3      | 8      | 28     | 21     | 11     | 28     | 25     |

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

Annual Mean 577.84

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 907-5059 Harrisville, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 578.28 Jul  
Daily mean elevation: 578.36 21 Jul  
Instant/hourly elevation: 578.93 1300/3 Dec

LOWEST

Monthly mean elevation: 577.13 Feb  
Daily mean elevation: 576.92 24 Jan  
Instant/hourly elevation: 576.48 2100/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 577.33<br>12 | 577.23<br>28 | 577.48<br>26 | 577.67<br>18 | 578.00<br>31 | 578.32<br>24 | 578.36<br>21 | 578.32<br>29 | 578.33<br>15 | 578.23<br>19 | 578.19<br>12 | 578.27<br>3 |
| Min Day | 576.92<br>24 | 576.98<br>16 | 576.96<br>8  | 577.31<br>1  | 577.42<br>10 | 577.84<br>2  | 578.20<br>29 | 578.10<br>20 | 577.95<br>28 | 577.73<br>11 | 577.65<br>21 | 577.52<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.20         |     |     |     |     |     | 4   | 29  | 16  | 3   | 1   | 1   | 1   | 578.20         | 54                         |
| 578.00         |     |     |     |     |     | 13  | 2   | 15  | 22  | 5   | 7   | 7   | 578.00         | 125                        |
| 577.80         |     |     |     |     | 15  | 13  |     |     | 5   | 24  | 17  | 18  | 577.80         | 217                        |
| 577.60         |     |     |     | 3   | 7   |     |     |     | 5   | 1   | 6   | 4   | 577.60         | 238                        |
| 577.40         |     |     | 6   | 25  | 9   |     |     |     |     |     |     | 1   | 577.40         | 279                        |
| 577.20         | 5   | 4   | 12  | 2   |     |     |     |     |     |     |     |     | 577.20         | 302                        |
| 577.00         | 23  | 22  | 8   |     |     |     |     |     |     |     |     |     | 577.00         | 355                        |
| 576.80         | 3   | 2   | 5   |     |     |     |     |     |     |     |     |     | 576.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 577.17 | 577.07 | 577.11 | 577.31 | 577.62  | 577.91 | 578.29 | 578.32 | 578.16 | 577.95 | 577.77 | 578.02 |
| 2    | 577.24 | 577.23 | 577.28 | 577.43 | 577.59  | 577.84 | 578.28 | 578.27 | 578.26 | 578.07 | 577.88 | 578.03 |
| 3    | 577.11 | 577.13 | 577.17 | 577.47 | 577.45  | 577.96 | 578.24 | 578.23 | 578.11 | 577.83 | 577.88 | 578.27 |
| 4    | 577.10 | 577.13 | 577.09 | 577.52 | 577.44  | 578.07 | 578.34 | 578.22 | 578.11 | 577.92 | 577.92 | 577.52 |
| 5    | 577.17 | 577.11 | 576.99 | 577.63 | 577.57  | 577.99 | 578.31 | 578.30 | 578.13 | 578.09 | 578.13 | 577.96 |
| 6    | 577.11 | 577.16 | 577.00 | 577.56 | 577.62  | 577.97 | 578.26 | 578.32 | 578.11 | 577.93 | 577.82 | 578.10 |
| 7    | 577.14 | 577.09 | 576.99 | 577.48 | 577.58  | 577.96 | 578.23 | 578.30 | 578.20 | 577.93 | 578.00 | 578.01 |
| 8    | 577.10 | 577.11 | 576.96 | 577.52 | 577.42  | 577.90 | 578.21 | 578.31 | 578.11 | 577.93 | 578.02 | 578.00 |
| 9    | 577.09 | 577.13 | 576.98 | 577.40 | 577.57  | 577.98 | 578.31 | 578.26 | 578.07 | 577.96 | 577.84 | 577.99 |
| 10   | 577.13 | 577.19 | 577.06 | 577.43 | 577.42  | 578.08 | 578.31 | 578.22 | 578.13 | 577.87 | 577.99 | 578.08 |
| 11   | 577.11 | 577.20 | 577.04 | 577.57 | 577.80  | 577.95 | 578.27 | 578.23 | 578.13 | 577.73 | 578.09 | 577.90 |
| 12   | 577.33 | 577.09 | 577.07 | 577.61 | 577.84* | 577.90 | 578.24 | 578.20 | 578.07 | 577.94 | 578.19 | 577.69 |
| 13   | 577.20 | 577.05 | 577.22 | 577.51 | 577.64* | 577.97 | 578.26 | 578.20 | 578.04 | 577.89 | 578.05 | 577.99 |
| 14   | 577.09 | 577.21 | 577.17 | 577.43 | 577.67  | 578.03 | 578.27 | 578.24 | 578.10 | 577.89 | 577.81 | 577.94 |
| 15   | 576.98 | 577.15 | 577.18 | 577.53 | 577.63  | 578.07 | 578.24 | 578.21 | 578.33 | 578.00 | 577.95 | 577.89 |
| 16   | 577.06 | 576.98 | 577.27 | 577.53 | 577.59  | 578.00 | 578.32 | 578.14 | 578.18 | 577.97 | 577.89 | 577.83 |
| 17   | 576.98 | 577.11 | 577.28 | 577.55 | 577.68  | 578.00 | 578.26 | 578.17 | 578.15 | 577.89 | 577.92 | 577.89 |
| 18   | 577.14 | 577.00 | 577.42 | 577.67 | 577.98  | 578.14 | 578.32 | 578.23 | 578.11 | 577.96 | 577.79 | 577.84 |
| 19   | 577.22 | 577.17 | 577.40 | 577.50 | 577.98  | 578.16 | 578.30 | 578.13 | 578.05 | 578.23 | 577.79 | 577.94 |
| 20   | 577.17 | 577.22 | 577.38 | 577.49 | 577.82  | 578.03 | 578.28 | 578.10 | 578.16 | 577.95 | 577.78 | 577.70 |
| 21   | 577.09 | 577.12 | 577.36 | 577.51 | 577.88  | 578.09 | 578.36 | 578.11 | 577.99 | 577.88 | 577.65 | 577.79 |
| 22   | 577.09 | 577.12 | 577.29 | 577.52 | 577.88  | 578.13 | 578.31 | 578.13 | 578.11 | 578.06 | 577.88 | 577.88 |
| 23   | 577.21 | 577.15 | 577.45 | 577.52 | 577.89  | 578.12 | 578.31 | 578.13 | 578.23 | 577.96 | 577.94 | 578.04 |
| 24   | 576.92 | 577.15 | 577.47 | 577.41 | 577.86  | 578.32 | 578.32 | 578.12 | 578.20 | 577.96 | 578.02 | 577.95 |
| 25   | 577.11 | 577.18 | 577.46 | 577.53 | 577.82  | 578.22 | 578.28 | 578.11 | 578.14 | 578.01 | 577.94 | 577.93 |
| 26   | 577.15 | 577.05 | 577.48 | 577.52 | 577.88  | 578.19 | 578.25 | 578.13 | 578.01 | 577.94 | 577.95 | 578.11 |
| 27   | 577.14 | 577.09 | 577.41 | 577.48 | 577.94  | 578.22 | 578.20 | 578.17 | 578.00 | 577.94 | 577.69 | 577.93 |
| 28   | 577.19 | 577.23 | 577.39 | 577.42 | 577.93  | 578.11 | 578.21 | 578.18 | 577.95 | 578.12 | 577.89 | 577.67 |
| 29   | 577.21 |        | 577.25 | 577.48 | 577.86  | 578.15 | 578.20 | 578.32 | 577.96 | 577.94 | 578.17 | 577.83 |
| 30   | 577.13 |        | 577.27 | 577.48 | 577.96  | 578.26 | 578.31 | 578.23 | 577.96 | 577.83 | 577.98 | 577.89 |
| 31   | 577.18 |        | 577.35 |        | 578.00  |        | 578.33 | 578.19 |        | 577.81 |        | 577.83 |
| Mean | 577.13 | 577.13 | 577.23 | 577.50 | 577.74  | 578.06 | 578.28 | 578.21 | 578.11 | 577.95 | 577.92 | 577.92 |
| Max. | 577.52 | 577.56 | 577.68 | 577.77 | 578.18  | 578.42 | 578.62 | 578.58 | 578.48 | 578.38 | 578.69 | 578.93 |
| Hr.  | 0200   | 0700   | 1400   | 2400   | 2400    | 1700   | 0100   | 0400   | 1200   | 1100   | 1900   | 1300   |
| Day  | 21     | 2      | 23     | 17     | 18      | 24     | 9      | 28     | 7      | 19     | 5      | 3      |
| Min. | 576.48 | 576.83 | 576.86 | 577.15 | 577.21  | 577.68 | 577.89 | 577.84 | 577.74 | 577.18 | 577.49 | 577.23 |
| Hr.  | 2100   | 0600   | 0600   | 0200   | 1900    | 0400   | 1400   | 0900   | 1900   | 0200   | 0900   | 0400   |
| Day  | 25     | 16     | 9      | 17     | 10      | 3      | 8      | 28     | 21     | 11     | 25     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 577.76

Annual Summary of Levels, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

HIGHEST

Monthly mean elevation: 578.30 Jul  
 Daily mean elevation: 578.44 17 Jul  
 Instant/hourly elevation: 578.78 2400/17 Oct

LOWEST

Monthly mean elevation: 577.12 Feb  
 Daily mean elevation: 576.83 12 Jan  
 Instant/hourly elevation: 576.48 1100/24 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.42<br>27 | 577.39<br>26 | 577.49<br>25 | 577.64<br>18 | 577.99<br>31 | 578.28<br>29 | 578.44<br>17 | 578.34<br>14 | 578.28<br>4  | 578.16<br>17 | 578.29<br>30 | 578.10<br>7  |
| Min Day | 576.83<br>12 | 576.89<br>24 | 576.99<br>3  | 577.21<br>2  | 577.47<br>4  | 577.94<br>1  | 578.20<br>5  | 578.15<br>13 | 577.85<br>28 | 577.75<br>28 | 577.69<br>25 | 577.66<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.40         |     |     |     |     |     |     | 1   |     |     |     |     |     | 578.40         | 1                          |
| 578.20         |     |     |     |     |     | 6   | 29  | 18  | 4   |     | 1   |     | 578.20         | 59                         |
| 578.00         |     |     |     |     |     | 16  | 1   | 13  | 20  | 15  | 7   | 6   | 578.00         | 137                        |
| 577.80         |     |     |     | 13  | 8   |     |     |     | 6   | 12  | 16  | 21  | 577.80         | 213                        |
| 577.60         |     |     |     | 4   | 10  |     |     |     | 4   | 4   | 6   | 4   | 577.60         | 241                        |
| 577.40         | 1   |     | 4   | 18  | 8   |     |     |     |     |     |     |     | 577.40         | 272                        |
| 577.20         | 9   | 8   | 17  |     |     |     |     |     |     |     |     |     | 577.20         | 314                        |
| 577.00         | 19  | 14  | 7   |     |     |     |     |     |     |     |     |     | 577.00         | 354                        |
| 576.80         | 2   | 6   | 3   |     |     |     |     |     |     |     |     |     | 576.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 577.15 | 577.07 | 577.27 | 577.39 | 577.58 | 577.94 | 578.22 | 578.31 | 578.24 | 578.00 | 577.96 | 578.00 |
| 2    | 577.30 | 577.08 | 577.08 | 577.21 | 577.55 | 578.06 | 578.29 | 578.30 | 578.14 | 577.94 | 578.00 | 577.84 |
| 3    | 577.26 | 577.13 | 576.99 | 577.32 | 577.51 | 578.13 | 578.39 | 578.28 | 578.18 | 578.10 | 577.80 | 578.07 |
| 4    | 577.00 | 577.16 | 577.05 | 577.33 | 577.47 | 577.95 | 578.31 | 578.30 | 578.28 | 578.07 | 577.77 | 577.77 |
| 5    | 577.20 | 577.34 | 577.00 | 577.33 | 577.52 | 578.03 | 578.20 | 578.17 | 578.13 | 578.00 | 577.96 | 578.09 |
| 6    | 577.13 | 577.17 | 577.00 | 577.44 | 577.56 | 578.06 | 578.23 | 578.25 | 578.20 | 577.92 | 577.82 | 577.92 |
| 7    | 577.24 | 577.21 | 577.04 | 577.46 | 577.60 | 577.98 | 578.26 | 578.25 | 578.15 | 577.77 | 577.93 | 578.10 |
| 8    | 577.28 | 577.27 | 577.06 | 577.50 | 577.62 | 577.99 | 578.40 | 578.29 | 578.21 | 577.77 | 578.03 | 577.95 |
| 9    | 577.12 | 577.20 | 577.11 | 577.46 | 577.50 | 577.99 | 578.32 | 578.30 | 578.22 | 577.78 | 578.05 | 578.07 |
| 10   | 577.20 | 577.07 | 577.10 | 577.35 | 577.64 | 577.95 | 578.26 | 578.19 | 578.09 | 578.10 | 577.89 | 577.77 |
| 11   | 577.19 | 577.13 | 577.06 | 577.36 | 577.68 | 577.95 | 578.27 | 578.17 | 578.16 | 578.04 | 577.84 | 577.89 |
| 12   | 576.83 | 577.23 | 577.23 | 577.53 | 577.73 | 578.12 | 578.21 | 578.20 | 578.19 | 577.99 | 577.71 | 578.00 |
| 13   | 577.07 | 576.93 | 577.25 | 577.58 | 577.66 | 578.12 | 578.21 | 578.15 | 578.20 | 577.94 | 577.79 | 577.77 |
| 14   | 577.19 | 577.01 | 577.29 | 577.50 | 577.72 | 578.04 | 578.21 | 578.34 | 578.12 | 578.09 | 578.06 | 577.94 |
| 15   | 577.11 | 576.95 | 577.37 | 577.51 | 577.66 | 578.01 | 578.31 | 578.16 | 578.12 | 578.06 | 578.01 | 577.89 |
| 16   | 577.07 | 577.08 | 577.44 | 577.55 | 577.84 | 577.99 | 578.38 | 578.22 | 578.07 | 578.06 | 577.80 | 577.91 |
| 17   | 577.16 | 577.07 | 577.44 | 577.38 | 577.86 | 578.19 | 578.44 | 578.24 | 578.07 | 578.16 | 577.87 | 577.97 |
| 18   | 577.04 | 577.35 | 577.32 | 577.64 | 577.80 | 578.12 | 578.40 | 578.22 | 578.12 | 578.06 | 577.96 | 577.89 |
| 19   | 577.23 | 576.89 | 577.28 | 577.62 | 577.75 | 578.04 | 578.32 | 578.26 | 578.05 | 577.95 | 577.89 | 577.84 |
| 20   | 577.07 | 577.25 | 577.38 | 577.53 | 577.74 | 578.11 | 578.30 | 578.19 | 578.08 | 578.13 | 577.81 | 578.02 |
| 21   | 577.14 | 577.32 | 577.39 | 577.51 | 577.84 | 578.16 | 578.30 | 578.17 | 578.20 | 578.04 | 578.20 | 577.91 |
| 22   | 577.16 | 577.00 | 577.35 | 577.57 | 577.86 | 578.03 | 578.29 | 578.18 | 578.03 | 578.03 | 578.07 | 577.99 |
| 23   | 577.17 | 577.12 | 577.24 | 577.53 | 577.90 | 578.25 | 578.30 | 578.20 | 577.92 | 578.04 | 577.97 | 577.87 |
| 24   | 577.22 | 576.89 | 577.41 | 577.59 | 577.91 | 578.19 | 578.30 | 578.22 | 578.19 | 577.89 | 577.91 | 577.93 |
| 25   | 577.12 | 577.05 | 577.49 | 577.61 | 577.88 | 578.22 | 578.32 | 578.27 | 578.08 | 577.85 | 577.69 | 578.00 |
| 26   | 577.18 | 577.39 | 577.25 | 577.61 | 577.89 | 578.24 | 578.28 | 578.26 | 577.96 | 578.05 | 577.90 | 577.87 |
| 27   | 577.42 | 576.99 | 577.38 | 577.57 | 577.92 | 578.17 | 578.26 | 578.20 | 578.00 | 578.12 | 577.96 | 577.89 |
| 28   | 577.25 | 577.10 | 577.37 | 577.56 | 577.90 | 578.22 | 578.31 | 578.20 | 577.85 | 577.75 | 578.15 | 577.95 |
| 29   | 577.31 |        | 577.35 | 577.59 | 577.81 | 578.28 | 578.35 | 578.17 | 577.88 | 577.99 | 577.99 | 577.87 |
| 30   | 577.31 |        | 577.32 | 577.57 | 577.92 | 578.26 | 578.27 | 578.21 | 577.87 | 577.87 | 578.29 | 577.66 |
| 31   | 577.20 |        | 577.40 |        | 577.99 |        | 578.26 | 578.23 |        | 577.83 |        | 578.03 |
| Mean | 577.17 | 577.12 | 577.25 | 577.49 | 577.74 | 578.09 | 578.30 | 578.23 | 578.10 | 577.98 | 577.94 | 577.92 |
| Max. | 577.84 | 577.62 | 577.79 | 577.87 | 578.33 | 578.58 | 578.75 | 578.51 | 578.54 | 578.78 | 578.61 | 578.54 |
| Hr.  | 1900   | 2300   | 1800   | 1300   | 1400   | 1300   | 0800   | 0500   | 1000   | 2400   | 0600   | 0700   |
| Day  | 27     | 26     | 15     | 16     | 16     | 17     | 8      | 28     | 4      | 17     | 28     | 25     |
| Min. | 576.58 | 576.48 | 576.81 | 577.03 | 577.10 | 577.69 | 578.03 | 577.88 | 577.71 | 577.28 | 577.13 | 577.40 |
| Hr.  | 1700   | 1100   | 1800   | 1200   | 1500   | 0100   | 1500   | 1900   | 0900   | 2200   | 0700   | 1000   |
| Day  | 12     | 24     | 2      | 2      | 9      | 4      | 12     | 28     | 28     | 18     | 25     | 4      |

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

Annual Mean 577.78

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 578.22 Jul  
Daily mean elevation: 578.37 18 Jul  
Instant/hourly elevation: 578.49 1600/18 Jul

LOWEST

Monthly mean elevation: 577.06 Feb  
Daily mean elevation: 576.83 24 Feb  
Instant/hourly elevation: 576.39 1500/13 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 577.37<br>27 | 577.30<br>20 | 577.47<br>25 | 577.65<br>18 | 577.96<br>31 | 578.20<br>30 | 578.37<br>18 | 578.26<br>1  | 578.15<br>4  | 578.11<br>20 | 578.22<br>30 | 578.08<br>7 |
| Min Day | 576.87<br>12 | 576.83<br>24 | 576.90<br>6  | 577.06<br>2  | 577.36<br>4  | 577.88<br>8  | 578.05<br>12 | 577.95<br>19 | 577.75<br>30 | 577.65<br>9  | 577.56<br>6  | 577.15<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 578.20         |     |     |     |     |     |     | 18  | 6   |     |     | 1   |     | 578.20         | 25                         |
| 578.00         |     |     |     |     |     | 13  | 13  | 24  | 19  | 7   | 2   | 3   | 578.00         | 106                        |
| 577.80         |     |     |     |     | 7   | 17  |     | 1   | 8   | 15  | 17  | 19  | 577.80         | 190                        |
| 577.60         |     |     |     | 1   | 10  |     |     |     | 3   | 9   | 9   | 8   | 577.60         | 230                        |
| 577.40         |     |     | 2   | 18  | 13  |     |     |     |     |     | 1   |     | 577.40         | 264                        |
| 577.20         | 10  | 6   | 15  | 9   | 1   |     |     |     |     |     |     |     | 577.20         | 305                        |
| 577.00         | 16  | 10  | 7   | 2   |     |     |     |     |     |     | 1   |     | 577.00         | 341                        |
| 576.80         | 5   | 12  | 7   |     |     |     |     |     |     |     |     |     | 576.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 577.06 | 576.98 | 577.27 | 577.28 | 577.52 | 577.93 | 578.17 | 578.26 | 578.11 | 577.89 | 577.82 | 578.02 |
| 2    | 577.30 | 577.00 | 577.12 | 577.06 | 577.53 | 577.94 | 578.22 | 578.22 | 578.08 | 577.97 | 577.92 | 577.85 |
| 3    | 577.21 | 577.00 | 576.96 | 577.19 | 577.43 | 578.00 | 578.28 | 578.19 | 578.05 | 578.02 | 577.77 | 577.80 |
| 4    | 576.94 | 577.03 | 577.01 | 577.27 | 577.36 | 577.92 | 578.25 | 578.21 | 578.15 | 577.94 | 577.73 | 577.15 |
| 5    | 577.16 | 577.24 | 576.92 | 577.37 | 577.43 | 578.00 | 578.18 | 578.12 | 578.05 | 578.06 | 577.72 | 577.90 |
| 6    | 577.03 | 577.14 | 576.90 | 577.46 | 577.52 | 577.94 | 578.15 | 578.12 | 578.09 | 577.85 | 577.56 | 577.89 |
| 7    | 577.22 | 577.12 | 576.96 | 577.39 | 577.53 | 577.98 | 578.21 | 578.12 | 578.04 | 577.72 | 577.84 | 578.08 |
| 8    | 577.23 | 577.23 | 576.93 | 577.49 | 577.43 | 577.88 | 578.27 | 578.22 | 578.12 | 577.66 | 578.02 | 577.92 |
| 9    | 577.04 | 577.12 | 576.94 | 577.36 | 577.49 | 577.91 | 578.29 | 578.22 | 578.12 | 577.65 | 577.96 | 577.98 |
| 10   | 577.04 | 577.08 | 577.03 | 577.22 | 577.50 | 577.93 | 578.20 | 578.12 | 578.00 | 577.76 | 577.82 | 577.83 |
| 11   | 577.20 | 577.14 | 576.97 | 577.29 | 577.58 | 577.91 | 578.17 | 578.07 | 578.06 | 577.77 | 577.78 | 577.87 |
| 12   | 576.87 | 577.20 | 577.06 | 577.52 | 577.75 | 578.00 | 578.05 | 578.10 | 578.08 | 577.95 | 577.80 | 577.79 |
| 13   | 577.05 | 576.84 | 577.17 | 577.55 | 577.56 | 578.03 | 578.12 | 578.02 | 578.09 | 577.85 | 577.85 | 577.69 |
| 14   | 577.16 | 576.99 | 577.20 | 577.39 | 577.69 | 577.98 | 578.14 | 578.24 | 578.03 | 578.00 | 577.96 | 577.97 |
| 15   | 576.98 | 576.89 | 577.23 | 577.44 | 577.57 | 577.96 | 578.21 | 578.15 | 578.09 | 577.98 | 577.98 | 577.77 |
| 16   | 577.03 | 576.85 | 577.35 | 577.56 | 577.68 | 577.93 | 578.34 | 578.12 | 577.90 | 578.06 | 577.76 | 577.72 |
| 17   | 577.02 | 576.98 | 577.38 | 577.32 | 577.68 | 578.00 | 578.31 | 578.18 | 577.92 | 578.02 | 577.83 | 577.98 |
| 18   | 576.99 | 577.22 | 577.35 | 577.65 | 577.75 | 578.08 | 578.37 | 578.11 | 578.05 | 577.91 | 577.90 | 577.79 |
| 19   | 577.26 | 576.90 | 577.24 | 577.56 | 577.86 | 578.05 | 578.27 | 577.95 | 577.94 | 578.00 | 577.82 | 577.85 |
| 20   | 577.05 | 577.30 | 577.32 | 577.47 | 577.57 | 578.01 | 578.22 | 578.01 | 578.03 | 578.11 | 577.76 | 577.94 |
| 21   | 576.94 | 577.28 | 577.36 | 577.46 | 577.76 | 578.06 | 578.25 | 578.05 | 578.08 | 577.90 | 577.94 | 577.80 |
| 22   | 577.08 | 577.02 | 577.23 | 577.50 | 577.80 | 578.02 | 578.22 | 578.07 | 577.94 | 578.01 | 577.94 | 577.86 |
| 23   | 577.23 | 577.01 | 577.22 | 577.49 | 577.84 | 577.95 | 578.22 | 578.13 | 577.81 | 577.96 | 577.97 | 577.87 |
| 24   | 577.05 | 576.83 | 577.43 | 577.45 | 577.85 | 578.14 | 578.24 | 578.13 | 578.13 | 577.84 | 577.93 | 577.88 |
| 25   | 577.11 | 576.95 | 577.47 | 577.52 | 577.80 | 578.17 | 578.22 | 578.17 | 578.09 | 577.80 | 577.63 | 578.00 |
| 26   | 577.06 | 577.29 | 577.24 | 577.55 | 577.78 | 578.15 | 578.19 | 578.17 | 577.87 | 577.93 | 577.96 | 577.92 |
| 27   | 577.37 | 576.97 | 577.31 | 577.51 | 577.87 | 578.13 | 578.16 | 578.17 | 577.94 | 578.08 | 577.76 | 578.04 |
| 28   | 577.24 | 577.13 | 577.32 | 577.45 | 577.86 | 578.08 | 578.19 | 578.10 | 577.79 | 577.79 | 577.92 | 577.85 |
| 29   | 577.29 |        | 577.24 | 577.50 | 577.71 | 578.11 | 578.25 | 578.15 | 577.75 | 577.97 | 578.06 | 577.83 |
| 30   | 577.23 |        | 577.18 | 577.46 | 577.85 | 578.20 | 578.16 | 578.14 | 577.75 | 577.80 | 578.22 | 577.69 |
| 31   | 577.18 |        | 577.31 |        | 577.96 |        | 578.16 | 578.16 |        | 577.77 |        | 577.88 |
| Mean | 577.12 | 577.06 | 577.18 | 577.42 | 577.66 | 578.01 | 578.22 | 578.14 | 578.00 | 577.90 | 577.86 | 577.85 |
| Max. | 577.66 | 577.51 | 577.59 | 577.89 | 578.01 | 578.35 | 578.49 | 578.34 | 578.30 | 578.33 | 578.31 | 578.38 |
| Hr.  | 0700   | 2100   | 0600   | 0700   | 1100   | 0600   | 1600   | 0800   | 1700   | 1200   | 1600   | 0900   |
| Day  | 27     | 12     | 25     | 18     | 31     | 30     | 18     | 28     | 4      | 1      | 30     | 25     |
| Min. | 576.57 | 576.39 | 576.84 | 576.83 | 576.96 | 577.75 | 577.97 | 577.83 | 577.64 | 577.10 | 576.79 | 576.98 |
| Hr.  | 0200   | 1500   | 2300   | 1800   | 0400   | 0100   | 1500   | 1900   | 0800   | 2300   | 0700   | 1300   |
| Day  | 28     | 13     | 5      | 2      | 11     | 4      | 12     | 28     | 30     | 18     | 25     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 577.70

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 579.17 Jan  
Daily mean elevation: 579.68 13 Sep  
Instant/hourly elevation: 580.07 0900/14 Sep

LOWEST

Monthly mean elevation: 578.61 Apr  
Daily mean elevation: 577.71 23 Sep  
Instant/hourly elevation: 577.42 0600/28 Oct

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 579.58<br>2  | 579.40<br>28 | 579.37<br>2  | 579.04<br>6  | 579.11<br>16 | 579.09<br>3  | 579.31<br>8  | 579.20<br>30 | 579.68<br>13 | 579.02<br>3  | 579.33<br>21 | 579.64<br>28 |
| Min Day | 578.74<br>21 | 578.71<br>18 | 578.68<br>30 | 578.16<br>17 | 578.14<br>18 | 578.12<br>10 | 578.68<br>30 | 578.50<br>5  | 577.71<br>23 | 577.88<br>28 | 578.03<br>4  | 578.06<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 579.60         |     |     |     |     |     |     |     |     | 1   |     |     |     | 579.60         | 2                          |
| 579.40         | 3   |     |     |     |     |     |     |     | 3   |     |     | 1   | 579.40         | 10                         |
| 579.20         | 10  | 7   | 2   |     |     |     | 5   |     | 3   |     | 1   | 2   | 579.20         | 38                         |
| 579.00         | 11  | 11  | 17  | 2   | 1   | 1   | 12  | 16  | 3   | 1   | 9   | 2   | 579.00         | 124                        |
| 578.80         | 6   | 9   | 9   | 6   | 7   | 9   | 11  | 9   | 10  | 14  | 7   | 7   | 578.80         | 228                        |
| 578.60         | 1   | 1   | 3   | 2   | 8   | 10  | 3   | 5   | 4   | 7   | 3   | 9   | 578.60         | 284                        |
| 578.40         |     |     |     | 16  | 12  | 4   |     | 1   | 1   | 4   | 4   | 4   | 578.40         | 330                        |
| 578.20         |     |     |     | 2   | 2   | 2   |     |     | 1   | 3   | 4   | 5   | 578.20         | 349                        |
| 578.00         |     |     |     | 2   | 1   | 4   |     |     | 2   | 1   | 2   | 1   | 578.00         | 362                        |
| 577.80         |     |     |     |     |     |     |     |     | 1   | 1   |     |     | 577.80         | 364                        |
| 577.60         |     |     |     |     |     |     |     |     | 1   |     |     |     | 577.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 579.10 | 579.37 | 579.35 | 578.92 | 578.50 | 579.00 | 578.85 | 579.17 | 578.84 | 578.85 | 578.60 | 578.66 |
| 2    | 579.58 | 578.90 | 579.37 | 578.98 | 578.68 | 578.98 | 579.11 | 579.18 | 578.70 | 578.87 | 578.55 | 578.37 |
| 3    | 579.55 | 578.82 | 579.05 | 578.86 | 578.65 | 579.09 | 579.22 | 579.14 | 578.87 | 579.02 | 578.23 | 578.90 |
| 4    | 579.23 | 579.17 | 578.97 | 578.99 | 578.58 | 578.65 | 579.02 | 578.87 | 579.19 | 578.78 | 578.03 | 578.06 |
| 5    | 579.36 | 579.27 | 578.99 | 579.03 | 578.51 | 578.84 | 579.07 | 578.50 | 578.99 | 578.86 | 578.70 | 578.71 |
| 6    | 579.27 | 579.21 | 578.97 | 579.04 | 578.45 | 578.65 | 579.06 | 578.61 | 578.95 | 578.30 | 578.25 | 578.76 |
| 7    | 579.30 | 579.19 | 578.94 | 578.98 | 578.53 | 578.69 | 579.22 | 578.99 | 578.86 | 578.10 | 578.69 | 579.06 |
| 8    | 579.32 | 579.22 | 579.00 | 578.92 | 578.59 | 578.70 | 579.31 | 579.18 | 578.84 | 578.22 | 578.96 | 578.60 |
| 9    | 579.25 | 579.06 | 578.93 | 578.58 | 578.30 | 578.18 | 579.21 | 579.17 | 578.70 | 578.50 | 579.09 | 578.60 |
| 10   | 579.07 | 579.03 | 578.89 | 578.35 | 578.43 | 578.12 | 579.10 | 579.06 | 578.81 | 578.65 | 578.30 | 578.51 |
| 11   | 579.25 | 578.98 | 578.80 | 578.20 | 578.23 | 578.63 | 579.15 | 578.62 | 579.08 | 578.71 | 578.04 | 578.77 |
| 12   | 579.14 | 578.99 | 578.94 | 578.43 | 578.77 | 578.85 | 579.07 | 578.69 | 579.40 | 578.84 | 578.24 | 578.84 |
| 13   | 579.08 | 579.14 | 579.08 | 578.54 | 578.50 | 578.76 | 579.10 | 578.89 | 579.68 | 578.42 | 578.56 | 578.24 |
| 14   | 579.13 | 579.06 | 579.15 | 578.47 | 578.62 | 578.46 | 579.12 | 579.16 | 579.57 | 578.63 | 578.87 | 578.96 |
| 15   | 578.94 | 578.92 | 579.02 | 578.45 | 578.52 | 578.43 | 579.14 | 579.06 | 578.94 | 578.84 | 579.05 | 578.45 |
| 16   | 578.94 | 578.82 | 579.01 | 578.63 | 579.11 | 578.16 | 579.21 | 579.04 | 578.76 | 578.88 | 578.88 | 578.23 |
| 17   | 578.97 | 578.87 | 579.10 | 578.16 | 578.60 | 578.37 | 579.14 | 579.13 | 579.27 | 578.90 | 578.79 | 578.91 |
| 18   | 578.94 | 578.71 | 579.18 | 578.56 | 578.14 | 578.64 | 579.06 | 578.73 | 579.58 | 578.86 | 579.04 | 578.68 |
| 19   | 579.26 | 579.03 | 579.17 | 578.52 | 578.69 | 578.84 | 578.97 | 578.67 | 579.51 | 578.60 | 578.99 | 578.66 |
| 20   | 579.04 | 579.08 | 579.09 | 578.46 | 578.54 | 578.89 | 578.82 | 579.00 | 579.30 | 578.97 | 578.87 | 579.00 |
| 21   | 578.74 | 579.12 | 579.10 | 578.46 | 578.57 | 578.89 | 578.83 | 579.02 | 579.05 | 578.81 | 579.33 | 578.68 |
| 22   | 578.86 | 579.02 | 579.03 | 578.50 | 578.68 | 578.89 | 578.85 | 578.88 | 578.20 | 578.90 | 579.01 | 578.34 |
| 23   | 578.97 | 578.82 | 579.03 | 578.54 | 578.87 | 578.23 | 578.81 | 579.06 | 577.71 | 578.82 | 579.05 | 578.33 |
| 24   | 579.13 | 579.07 | 579.17 | 578.51 | 578.91 | 578.18 | 578.90 | 579.11 | 578.87 | 578.39 | 578.83 | 578.67 |
| 25   | 579.14 | 578.91 | 579.16 | 578.56 | 578.91 | 578.86 | 578.87 | 579.00 | 578.92 | 578.42 | 578.52 | 578.69 |
| 26   | 579.07 | 579.31 | 579.03 | 578.64 | 578.84 | 578.76 | 578.87 | 578.84 | 578.58 | 578.80 | 579.14 | 578.82 |
| 27   | 579.13 | 579.40 | 579.02 | 578.60 | 578.84 | 578.73 | 578.89 | 579.08 | 578.70 | 578.63 | 579.02 | 579.43 |
| 28   | 579.20 | 579.40 | 579.01 | 578.47 | 578.86 | 578.78 | 578.76 | 579.05 | 578.29 | 577.88 | 579.11 | 579.64 |
| 29   | 579.34 |        | 578.92 | 578.37 | 578.72 | 578.60 | 578.87 | 578.94 | 578.09 | 578.92 | 578.93 | 579.07 |
| 30   | 579.52 |        | 578.68 | 578.44 | 578.75 | 578.46 | 578.68 | 579.20 | 577.98 | 578.83 | 579.14 | 579.00 |
| 31   | 579.36 |        | 578.73 |        | 578.90 |        | 578.80 | 578.99 |        | 578.73 |        | 579.44 |
| Mean | 579.17 | 579.07 | 579.03 | 578.61 | 578.64 | 578.64 | 579.00 | 578.97 | 578.87 | 578.68 | 578.76 | 578.74 |
| Max. | 579.73 | 579.52 | 579.49 | 579.22 | 579.88 | 579.27 | 579.60 | 579.56 | 580.07 | 579.56 | 579.63 | 579.81 |
| Hr.  | 1500   | 2400   | 1300   | 1500   | 1500   | 1400   | 1300   | 1100   | 0900   | 1300   | 1200   | 2000   |
| Day  | 2      | 26     | 2      | 5      | 16     | 3      | 8      | 8      | 14     | 1      | 21     | 28     |
| Min. | 578.53 | 578.36 | 578.54 | 577.97 | 577.65 | 577.61 | 578.51 | 578.24 | 577.48 | 577.42 | 577.44 | 577.76 |
| Hr.  | 1000   | 0900   | 0800   | 1700   | 0800   | 1500   | 1900   | 1700   | 1600   | 0600   | 2200   | 0600   |
| Day  | 21     | 18     | 31     | 11     | 11     | 24     | 30     | 5      | 23     | 28     | 11     | 4      |

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

Annual Mean 578.85

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 600.30 Nov  
Daily mean elevation: 601.04 12 Nov  
Instant/hourly elevation: 602.48 0600/25 Nov

LOWEST

Monthly mean elevation: 598.87 Apr  
Daily mean elevation: 598.41 23 Apr  
Instant/hourly elevation: 598.00 0900/16 Apr

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

|         | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max Day | 600.02 | 599.72 | 599.48 | 599.43 | 600.13 | 600.25 | 600.46 | 600.56 | 600.80 | 600.86 | 601.04 | 600.56 |
| Min Day | 599.13 | 599.00 | 598.85 | 598.41 | 599.21 | 599.38 | 599.84 | 600.02 | 599.75 | 599.97 | 599.55 | 599.10 |

~~~~~ 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         |     |     |     |     |     |     |     |     |     |     | 2   |     | 601.00         | 2                          |
| 600.80         |     |     |     |     |     |     |     |     |     |     | 1   |     | 600.80         | 4                          |
| 600.60         |     |     |     |     |     |     |     |     |     |     | 2   |     | 600.60         | 9                          |
| 600.40         |     |     |     |     |     |     |     |     |     |     | 2   |     | 600.40         | 34                         |
| 600.20         |     |     |     |     |     |     |     |     |     |     | 6   |     | 600.20         | 93                         |
| 600.00         | 1   |     |     |     |     |     |     |     |     |     | 8   |     | 600.00         | 163                        |
| 599.80         | 2   |     |     |     |     |     |     |     |     |     | 5   |     | 599.80         | 201                        |
| 599.60         | 5   | 2   |     |     |     |     |     |     |     |     | 6   |     | 599.60         | 228                        |
| 599.40         | 14  | 4   | 1   | 1   | 10  | 4   |     |     |     |     | 9   |     | 599.40         | 265                        |
| 599.20         | 7   | 15  | 8   | 4   | 7   | 1   |     |     |     |     | 9   |     | 599.20         | 308                        |
| 599.00         | 2   | 6   | 10  | 5   |     |     |     |     |     |     | 6   |     | 599.00         | 332                        |
| 598.80         |     | 1   | 12  | 5   |     |     |     |     |     |     | 9   |     | 598.80         | 350                        |
| 598.60         |     |     | 9   |     |     |     |     |     |     |     | 6   |     | 598.60         | 359                        |
| 598.40         |     |     | 6   |     |     |     |     |     |     |     | 4   |     | 598.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 599.56 | 599.57 | 599.15 | 599.05 | 599.52 | 599.48 | 600.14 | 600.15 | 600.22 | 600.39 | 599.95 | 600.53 |
| 2    | 599.50 | 599.34 | 599.39 | 599.31 | 599.40 | 599.38 | 599.94 | 600.14 | 600.32 | 600.28 | 600.27 | 600.41 |
| 3    | 599.40 | 599.26 | 599.23 | 599.20 | 599.36 | 599.74 | 599.90 | 600.09 | 600.00 | 599.97 | 600.48 | 599.89 |
| 4    | 599.77 | 599.23 | 599.14 | 599.24 | 599.37 | 599.70 | 600.14 | 600.31 | 600.12 | 600.57 | 600.56 | 600.35 |
| 5    | 599.61 | 599.24 | 599.12 | 599.24 | 599.56 | 599.48 | 600.16 | 600.56 | 600.15 | 600.42 | 600.27 | 600.07 |
| 6    | 599.51 | 599.32 | 599.06 | 598.96 | 599.37 | 599.71 | 600.08 | 600.45 | 600.19 | 600.58 | 600.45 | 600.53 |
| 7    | 599.58 | 599.21 | 598.93 | 598.84 | 599.26 | 599.67 | 599.84 | 600.30 | 600.23 | 600.51 | 600.57 | 600.12 |
| 8    | 599.29 | 599.30 | 598.85 | 598.77 | 599.21 | 599.57 | 599.96 | 600.19 | 600.06 | 600.37 | 600.07 | 600.12 |
| 9    | 599.57 | 599.32 | 598.99 | 598.75 | 599.50 | 599.84 | 600.14 | 600.20 | 600.15 | 600.30 | 600.26 | 600.22 |
| 10   | 599.34 | 599.54 | 599.05 | 598.88 | 600.04 | 599.96 | 600.21 | 600.34 | 600.28 | 600.17 | 600.76 | 600.28 |
| 11   | 599.96 | 599.38 | 598.91 | 598.77 | 599.59 | 599.64 | 600.25 | 600.41 | 600.00 | 600.15 | 601.01 | 599.89 |
| 12   | 600.02 | 599.05 | 598.90 | 598.69 | 599.52 | 599.43 | 600.24 | 600.30 | 600.07 | 600.05 | 601.04 | 599.90 |
| 13   | 599.63 | 599.67 | 599.06 | 598.61 | 599.51 | 599.72 | 600.21 | 600.24 | 599.75 | 600.03 | 600.33 | 600.56 |
| 14   | 599.20 | 599.30 | 598.94 | 598.59 | 599.44 | 599.93 | 600.13 | 600.18 | 600.42 | 600.03 | 599.97 | 599.89 |
| 15   | 599.52 | 599.26 | 598.90 | 599.07 | 599.52 | 599.97 | 600.11 | 600.26 | 600.34 | 600.19 | 600.24 | 600.02 |
| 16   | 599.42 | 599.17 | 598.98 | 598.59 | 599.22 | 599.87 | 600.12 | 600.15 | 600.42 | 600.07 | 600.41 | 600.01 |
| 17   | 599.52 | 599.19 | 599.33 | 598.84 | 599.70 | 599.88 | 600.00 | 600.21 | 600.21 | 599.97 | 600.08 | 599.94 |
| 18   | 599.87 | 599.27 | 599.39 | 598.49 | 600.13 | 600.09 | 600.25 | 600.20 | 600.02 | 600.86 | 599.89 | 600.12 |
| 19   | 599.37 | 599.72 | 599.28 | 598.45 | 599.70 | 599.89 | 600.20 | 600.04 | 600.22 | 600.40 | 600.08 | 599.87 |
| 20   | 599.54 | 599.14 | 599.17 | 598.71 | 599.65 | 599.77 | 600.29 | 600.09 | 600.16 | 600.00 | 599.86 | 599.42 |
| 21   | 599.31 | 599.14 | 599.11 | 598.62 | 599.68 | 599.94 | 600.29 | 600.14 | 600.12 | 600.47 | 599.55 | 600.00 |
| 22   | 599.62 | 599.39 | 599.39 | 598.62 | 599.62 | 599.97 | 600.25 | 600.13 | 600.80 | 600.30 | 600.16 | 600.30 |
| 23   | 599.33 | 599.27 | 599.48 | 598.41 | 599.62 | 600.25 | 600.28 | 600.03 | 600.77 | 600.28 | 600.50 | 600.29 |
| 24   | 599.49 | 599.43 | 599.21 | 598.51 | 599.65 | 600.21 | 600.23 | 600.02 | 600.35 | 600.59 | 600.29 | 600.31 |
| 25   | 599.66 | 599.19 | 599.31 | 598.77 | 599.56 | 599.95 | 600.16 | 600.03 | 600.32 | 600.37 | 600.90 | 600.50 |
| 26   | 599.41 | 599.00 | 599.16 | 598.90 | 599.65 | 600.06 | 600.13 | 600.13 | 600.27 | 600.00 | 599.82 | 600.33 |
| 27   | 599.53 | 599.51 | 599.07 | 599.19 | 599.67 | 600.04 | 600.10 | 600.11 | 600.29 | 600.71 | 600.12 | 599.28 |
| 28   | 599.44 | 599.21 | 598.98 | 599.16 | 599.69 | 599.81 | 600.12 | 600.23 | 600.37 | 600.64 | 600.57 | 599.10 |
| 29   | 599.27 |        | 598.86 | 599.34 | 599.71 | 600.06 | 600.23 | 600.22 | 600.31 | 600.08 | 600.45 | 599.99 |
| 30   | 599.41 |        | 598.97 | 599.43 | 599.63 | 600.18 | 600.46 | 600.08 | 600.35 | 600.30 | 600.08 | 599.88 |
| 31   | 599.13 |        | 598.87 |        | 599.54 |        | 600.28 | 600.03 |        | 600.10 |        | 599.50 |
| Mean | 599.51 | 599.31 | 599.10 | 598.87 | 599.57 | 599.84 | 600.16 | 600.19 | 600.24 | 600.30 | 600.30 | 600.05 |
| Max. | 601.15 | 600.33 | 599.96 | 600.05 | 600.66 | 600.82 | 601.59 | 601.93 | 601.43 | 602.38 | 602.48 | 601.57 |
| Hr.  | 2300   | 0900   | 2000   | 1500   | 2200   | 0900   | 1300   | 1400   | 1000   | 2200   | 0600   | 2200   |
| Day  | 27     | 19     | 22     | 29     | 10     | 23     | 8      | 26     | 14     | 27     | 25     | 1      |
| Min. | 598.23 | 598.27 | 598.28 | 598.00 | 598.12 | 598.23 | 598.42 | 598.02 | 598.93 | 598.67 | 598.49 | 598.57 |
| Hr.  | 1500   | 1400   | 0100   | 0900   | 0100   | 0300   | 1100   | 1200   | 0700   | 1300   | 0600   | 0100   |
| Day  | 31     | 16     | 16     | 16     | 8      | 13     | 8      | 26     | 12     | 17     | 21     | 28     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 599.79

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 908-7023 Ludington, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 578.64 Jul  
Daily mean elevation: 578.93 19 Aug  
Instant/hourly elevation: 579.33 2000/10 Oct

LOWEST

Monthly mean elevation: 577.43 Jan  
Daily mean elevation: 577.07 12 Jan  
Instant/hourly elevation: 576.89 2400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.70<br>24 | 577.82<br>16 | 577.89<br>30 | 578.04<br>24 | 578.56<br>20 | 578.72<br>30 | 578.74<br>29 | 578.93<br>19 | 578.65<br>6  | 578.76<br>10 | 578.40<br>27 | 578.76<br>4  |
| Min Day | 577.07<br>12 | 577.22<br>20 | 577.29<br>2  | 577.58<br>5  | 577.81<br>2  | 578.14<br>4  | 578.53<br>31 | 578.39<br>14 | 578.09<br>24 | 577.84<br>28 | 577.82<br>12 | 577.69<br>26 |

----- 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         |     |     |     |     |     | 3   | 24  | 8   | 1   | 1   |     |     | 578.60         | 40                         |
| 578.40         |     |     |     |     | 1   | 15  | 7   | 20  | 17  | 5   |     |     | 578.40         | 111                        |
| 578.20         |     |     |     |     | 13  | 11  |     | 1   | 9   | 19  | 12  | 11  | 578.20         | 187                        |
| 578.00         |     |     |     | 2   | 8   | 1   |     |     | 3   | 5   | 13  | 10  | 578.00         | 229                        |
| 577.80         |     | 1   | 3   | 15  | 9   |     |     |     | 3   | 5   | 13  | 10  | 577.80         | 265                        |
| 577.60         | 3   | 1   | 12  | 11  |     |     |     |     | 1   | 5   | 2   |     | 577.60         | 293                        |
| 577.40         | 16  | 17  | 13  | 2   |     |     |     |     |     |     |     | 1   | 577.40         | 341                        |
| 577.20         | 11  | 9   | 3   |     |     |     |     |     |     |     |     |     | 577.20         | 364                        |
| 577.00         | 1   |     |     |     |     |     |     |     |     |     |     |     | 577.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

| Station: 908-7023 Ludington, Michigan on Lake Michigan |        |        |        |        |        |        |        |        |        |        |        | International Great Lakes Datum (1955) |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec                                    |
| 1  | 577.38 | 577.56 | 577.32 | 577.84 | 577.85 | 578.29 | 578.62 | 578.46 | 578.55 | 578.32 | 578.32 | 578.29                                 |
| 2  | 577.33 | 577.46 | 577.29 | 577.96 | 577.81 | 578.44 | 578.57 | 578.47 | 578.47 | 578.14 | 578.23 | 578.12                                 |
| 3  | 577.42 | 577.61 | 577.33 | 577.74 | 577.91 | 578.39 | 578.64 | 578.54 | 578.47 | 578.40 | 578.22 | 578.54                                 |
| 4  | 577.50 | 577.53 | 577.42 | 577.70 | 577.96 | 578.14 | 578.56 | 578.62 | 578.58 | 578.31 | 578.12 | 578.76                                 |
| 5  | 577.40 | 577.52 | 577.48 | 577.58 | 577.88 | 578.32 | 578.61 | 578.52 | 578.54 | 578.10 | 578.40 | 578.42                                 |
| 6  | 577.44 | 577.46 | 577.50 | 577.65 | 577.84 | 578.33 | 578.58 | 578.55 | 578.65 | 578.43 | 578.32 | 578.08                                 |
| 7  | 577.39 | 577.53 | 577.46 | 577.68 | 577.96 | 578.23 | 578.62 | 578.54 | 578.47 | 578.44 | 578.24 | 578.28                                 |
| 8  | 577.41 | 577.48 | 577.50 | 577.69 | 578.11 | 578.45 | 578.66 | 578.47 | 578.58 | 578.36 | 578.26 | 578.18                                 |
| 9  | 577.52 | 577.54 | 577.53 | 577.90 | 578.03 | 578.38 | 578.62 | 578.42 | 578.50 | 578.34 | 578.30 | 578.28                                 |
| 10   | 577.47 | 577.31 | 577.48 | 577.90 | 578.37 | 578.24 | 578.66 | 578.49 | 578.47 | 578.76 | 578.14 | 578.08                                 |
| 11   | 577.39 | 577.33 | 577.55 | 577.73 | 577.92 | 578.33 | 578.66 | 578.52 | 578.51 | 578.55 | 577.83 | 578.42                                 |
| 12   | 577.07 | 577.42 | 577.76 | 577.66 | 577.94 | 578.46 | 578.69 | 578.57 | 578.42 | 578.36 | 577.82 | 578.49                                 |
| 13   | 577.30 | 577.47 | 577.53 | 577.74 | 578.09 | 578.45 | 578.65 | 578.62 | 578.51 | 578.38 | 578.03 | 578.07                                 |
| 14   | 577.43 | 577.29 | 577.63 | 577.92 | 578.02 | 578.50 | 578.66 | 578.39 | 578.56 | 578.34 | 578.18 | 578.16                                 |
| 15   | 577.49 | 577.59 | 577.75 | 577.84 | 578.20 | 578.37 | 578.66 | 578.45 | 578.34 | 578.34 | 578.09 | 578.24                                 |
| 16   | 577.43 | 577.82 | 577.69 | 577.78 | 578.31 | 578.46 | 578.54 | 578.48 | 578.50 | 578.27 | 578.17 | 578.35                                 |
| 17   | 577.61 | 577.47 | 577.71 | 577.69 | 578.28 | 578.55 | 578.66 | 578.49 | 578.42 | 578.52 | 578.12 | 578.26                                 |
| 18   | 577.36 | 577.52 | 577.58 | 577.59 | 578.01 | 578.30 | 578.60 | 578.67 | 578.40 | 578.30 | 578.13 | 578.38                                 |
| 19   | 577.24 | 577.26 | 577.62 | 577.75 | 578.01 | 578.38 | 578.70 | 578.93 | 578.43 | 578.12 | 578.27 | 578.27                                 |
| 20   | 577.33 | 577.22 | 577.61 | 577.94 | 578.56 | 578.49 | 578.74 | 578.84 | 578.34 | 578.40 | 578.11 | 578.45                                 |
| 21   | 577.63 | 577.28 | 577.64 | 577.82 | 578.27 | 578.45 | 578.64 | 578.73 | 578.57 | 578.46 | 578.38 | 578.51                                 |
| 22   | 577.41 | 577.35 | 577.84 | 577.86 | 578.27 | 578.44 | 578.73 | 578.61 | 578.33 | 578.28 | 578.19 | 578.25                                 |
| 23   | 577.42 | 577.45 | 577.59 | 577.93 | 578.30 | 578.60 | 578.67 | 578.59 | 578.10 | 578.36 | 578.12 | 578.00                                 |
| 24   | 577.70 | 577.42 | 577.62 | 578.04 | 578.35 | 578.42 | 578.67 | 578.58 | 578.09 | 578.25 | 577.95 | 578.03                                 |
| 25   | 577.53 | 577.43 | 577.60 | 577.91 | 578.37 | 578.51 | 578.66 | 578.65 | 578.19 | 578.26 | 577.91 | 578.04                                 |
| 26   | 577.53 | 577.44 | 577.56 | 577.88 | 578.37 | 578.54 | 578.66 | 578.61 | 578.29 | 578.26 | 578.19 | 577.69                                 |
| 27   | 577.59 | 577.38 | 577.69 | 577.90 | 578.35 | 578.56 | 578.69 | 578.66 | 578.36 | 578.18 | 578.40 | 577.91                                 |
| 28   | 577.35 | 577.29 | 577.72 | 578.01 | 578.34 | 578.64 | 578.67 | 578.58 | 578.34 | 577.84 | 578.38 | 578.28                                 |
| 29   | 577.40 |        | 577.83 | 577.92 | 578.37 | 578.72 | 578.74 | 578.56 | 578.35 | 578.19 | 577.99 | 578.11                                 |
| 30   | 577.52 |        | 577.89 | 577.96 | 578.29 | 578.72 | 578.59 | 578.56 | 578.40 | 578.26 | 578.20 | 578.19                                 |
| 31   | 577.45 |        | 577.73 |        | 578.19 |        | 578.53 | 578.59 |        | 578.29 |        | 578.24                                 |
| Mean   | 577.43 | 577.44 | 577.60 | 577.82 | 578.15 | 578.44 | 578.64 | 578.57 | 578.42 | 578.32 | 578.17 | 578.24                                 |
| Max.   | 578.13 | 578.08 | 578.07 | 578.21 | 578.77 | 579.14 | 579.06 | 579.17 | 579.23 | 579.33 | 578.81 | 579.21                                 |
| Hr.  | 0500   | 1300   | 0100   | 0200   | 0500   | 0600   | 1200   | 0900   | 1300   | 2000   | 2200   | 1800                                   |
| Day  | 24     | 16     | 16     | 29     | 20     | 29     | 5      | 19     | 14     | 10     | 5      | 3                                      |
| Min.   | 576.89 | 577.07 | 577.18 | 577.42 | 577.63 | 577.82 | 578.27 | 578.23 | 578.00 | 577.57 | 577.60 | 577.53                                 |
| Hr.  | 2400   | 2400   | 2200   | 1100   | 1900   | 1500   | 0600   | 1600   | 1600   | 0200   | 2300   | 1300                                   |
| Day  | 11     | 19     | 1      | 5      | 2      | 5      | 5      | 14     | 24     | 28     | 11     | 26                                     |

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

Annual Mean 578.10

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 908-7031 Holland, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 578.52 Jul  
Daily mean elevation: 578.97 4 Dec  
Instant/hourly elevation: 580.06 0100/4 Dec

LOWEST

Monthly mean elevation: 577.31 Jan  
Daily mean elevation: 576.96 2 Jan  
Instant/hourly elevation: 576.70 2400/10 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.86<br>25 | 577.67<br>16 | 577.78<br>30 | 578.14<br>2  | 578.49<br>20 | 578.61<br>29 | 578.70<br>12 | 578.82<br>19 | 578.56<br>7  | 578.56<br>10 | 578.53<br>5  | 578.97<br>4  |
| Min Day | 576.96<br>2  | 577.03<br>20 | 577.02<br>1  | 577.43<br>18 | 577.67<br>1  | 578.05<br>4  | 578.36<br>3  | 578.24<br>14 | 577.97<br>24 | 577.85<br>28 | 577.63<br>30 | 577.62<br>26 |

----- 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         |     |     |     |     |     |     |     | 1   |     |     | 1   |     | 578.80         | 2                          |
| 578.60         |     |     |     |     |     | 1   | 4   | 1   |     |     |     |     | 578.60         | 8                          |
| 578.40         |     |     |     |     | 2   | 6   | 22  | 18  | 10  | 2   | 1   | 1   | 578.40         | 70                         |
| 578.20         |     |     |     | 7   |     | 11  | 5   | 11  | 16  | 8   | 1   | 4   | 578.20         | 133                        |
| 578.00         |     |     | 1   |     | 7   | 12  |     | 3   | 16  | 11  | 14  |     | 578.00         | 197                        |
| 577.80         | 1   |     |     | 4   | 9   |     |     | 1   | 5   | 13  | 9   |     | 577.80         | 239                        |
| 577.60         | 1   | 2   | 4   | 14  | 6   |     |     |     |     | 4   | 2   |     | 577.60         | 272                        |
| 577.40         | 3   | 9   | 17  | 11  |     |     |     |     |     |     |     |     | 577.40         | 312                        |
| 577.20         | 13  | 12  | 8   |     |     |     |     |     |     |     |     |     | 577.20         | 345                        |
| 577.00         | 8   | 5   | 2   |     |     |     |     |     |     |     |     |     | 577.00         | 360                        |
| 576.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 576.80         | 361                        |

**Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990**

**Station: 908-7031 Holland, Michigan on Lake Michigan**

**International  
Great Lakes  
Datum (1955)**

| <b>Day</b> | <b>Jan</b> | <b>Feb</b> | <b>Mar</b> | <b>Apr</b> | <b>May</b> | <b>Jun</b> | <b>Jul</b> | <b>Aug</b> | <b>Sep</b> | <b>Oct</b> | <b>Nov</b> | <b>Dec</b> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1          | 577.20     | 577.46     | 577.02     | 577.67     | 577.67     | 578.15     | 578.51     | 578.35     | 578.40     | 578.09     | 578.07     | 577.95     |
| 2          | 576.96     | 577.46     | 577.06     | 578.14     | 577.74     | 578.17     | 578.44     | 578.38     | 578.42     | 577.99     | 577.99     | 577.87     |
| 3          | 577.11     | 577.50     | 577.21     | 577.80     | 577.88     | 578.17     | 578.36     | 578.37     | 578.41     | 578.11     | 578.15     | 578.58     |
| 4          | 577.38     | 577.39     | 577.22     | 577.60     | 577.93*    | 578.05     | 578.39     | 578.49     | 578.34     | 578.11     | 578.11     | 578.97     |
| 5          | 577.15     | 577.23     | 577.38     | 577.57     | 577.77*    | 578.09     | 578.50     | 578.53     | 578.46     | 577.98     | 578.53     | 578.18     |
| 6          | 577.29     | 577.40     | 577.28     | 577.54     | 577.68     | 578.17     | 578.43     | 578.49     | 578.45     | 578.22     | 578.32     | 578.09     |
| 7          | 577.07     | 577.34     | 577.24     | 577.55     | 577.72     | 578.13     | 578.39     | 578.42     | 578.56     | 578.44     | 578.18     | 578.00     |
| 8          | 577.10     | 577.29     | 577.33     | 577.54     | 577.88     | 578.24     | 578.42     | 578.34     | 578.42     | 578.33     | 578.01     | 578.09     |
| 9          | 577.36     | 577.44     | 577.40     | 577.71     | 577.94     | 578.17     | 578.48     | 578.31     | 578.37     | 578.34     | 578.13     | 578.03     |
| 10         | 577.22     | 577.28     | 577.33     | 577.94     | 578.41     | 578.13     | 578.55     | 578.41     | 578.39     | 578.56     | 578.03     | 578.05     |
| 11         | 577.37     | 577.32     | 577.45     | 577.67     | 577.79     | 578.19     | 578.62     | 578.46     | 578.34     | 578.38     | 577.86     | 578.18     |
| 12         | 577.36     | 577.25     | 577.47     | 577.54     | 577.90     | 578.17     | 578.70     | 578.54     | 578.29     | 578.19     | 577.78     | 578.36     |
| 13         | 577.18     | 577.57     | 577.41     | 577.59     | 578.00     | 578.30     | 578.59     | 578.56     | 578.34     | 578.21     | 577.86     | 578.00     |
| 14         | 577.28     | 577.36     | 577.50     | 577.80     | 577.92     | 578.31     | 578.60     | 578.24     | 578.49     | 578.18     | 577.90     | 577.92     |
| 15         | 577.36     | 577.51     | 577.52     | 577.63     | 578.10     | 578.28     | 578.55     | 578.40     | 578.25     | 578.16     | 577.82     | 578.29     |
| 16         | 577.28     | 577.67     | 577.43     | 577.52*    | 578.13*    | 578.34     | 578.39     | 578.42     | 578.55     | 578.09     | 578.04     | 578.20     |
| 17         | 577.47     | 577.48     | 577.49     | 577.46*    | 578.04*    | 578.35     | 578.43     | 578.33     | 578.35     | 578.19*    | 577.90     | 578.03     |
| 18         | 577.36     | 577.23     | 577.45     | 577.43     | 577.84     | 578.24     | 578.39     | 578.54     | 578.25     | 578.31     | 577.90     | 578.30     |
| 19         | 577.13     | 577.19     | 577.56     | 577.58     | 578.00     | 578.20     | 578.57     | 578.82     | 578.42     | 577.88     | 578.02     | 578.11     |
| 20         | 577.38     | 577.03     | 577.47     | 577.72     | 578.49     | 578.34     | 578.64     | 578.68     | 578.23     | 578.11     | 577.93     | 578.20     |
| 21         | 577.59     | 577.06     | 577.55     | 577.74     | 578.24     | 578.29     | 578.58     | 578.60     | 578.41     | 578.35     | 577.99     | 578.26     |
| 22         | 577.38     | 577.41     | 577.73     | 577.70     | 578.20     | 578.42     | 578.59     | 578.51     | 578.31     | 578.13     | 577.90     | 578.16     |
| 23         | 577.32     | 577.33     | 577.52     | 577.74*    | 578.18     | 578.60     | 578.54     | 578.44     | 578.09     | 578.18     | 577.99     | 577.97     |
| 24         | 577.56     | 577.64     | 577.50     | 577.79     | 578.22     | 578.30     | 578.51     | 578.42     | 577.97     | 578.27     | 577.80     | 577.92     |
| 25         | 577.86     | 577.43     | 577.44     | 577.70     | 578.29     | 578.38     | 578.52     | 578.39     | 578.14     | 578.17     | 577.86     | 577.86     |
| 26         | 577.63*    | 577.20     | 577.58     | 577.72     | 578.31     | 578.44     | 578.55     | 578.41     | 578.22     | 578.02     | 577.89     | 577.62     |
| 27         | /          | 577.34     | 577.55     | 577.80     | 578.22     | 578.51     | 578.58     | 578.43     | 578.13     | 578.05     | 578.15*    | 577.67     |
| 28         | /          | 577.20     | 577.57     | 577.92     | 578.28     | 578.58     | 578.55     | 578.51     | 578.35     | 577.85     | 578.02*    | 577.92     |
| 29         | /          | 577.74     | 577.86     | 578.40     | 578.61     | 578.55     | 578.42     | 578.31     | 577.91     | 577.75     | 578.06     |            |
| 30         | /          | 577.78     | 577.84     | 578.19     | 578.55     | 578.62     | 578.40     | 578.24     | 578.19     | 577.63     | 578.19     |            |
| 31         | 577.15*    |            | 577.62     |            | 578.10     |            | 578.43     | 578.37     |            | 578.20     |            | 578.03     |
| Mean       | 577.31     | 577.36     | 577.45     | 577.69     | 578.05     | 578.30     | 578.52     | 578.45     | 578.33     | 578.17     | 577.98     | 578.10     |
| Max.       | 578.62     | 578.38     | 577.96     | 578.49     | 579.02     | 578.98     | 578.86     | 578.93     | 578.77     | 579.00     | 579.11     | 580.06     |
| Hr.        | 1800       | 1000       | 0300       | 1300       | 1100       | 0200       | 1700       | 2200       | 1600       | 1400       | 1700       | 0100       |
| Day        | 25         | 24         | 30         | 2          | 10         | 23         | 12         | 19         | 7          | 18         | 5          | 4          |
| Min.       | 576.70     | 576.91     | 576.82     | 577.26     | 577.56     | 577.93     | 578.14     | 578.13     | 577.87     | 577.73     | 577.54     | 577.45     |
| Hr.        | 2400       | 0500       | 2000       | 0400       | 2000       | 06         | 0700       | 1600       | 1700       | 1100       | 1500       | 1700       |
| Day        | 10         | 20         | 1          | 6          | 4          | 5          | 14         | 24         | 28         | 30         | 26         |            |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 577.98

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 578.63 Jul  
 Daily mean elevation: 579.20 4 Dec  
 Instant/hourly elevation: 580.19 0100/4 Dec

LOWEST

Monthly mean elevation: 577.26 Jan  
 Daily mean elevation: 576.75 2 Jan  
 Instant/hourly elevation: 576.27 0100/2 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct         | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| Max Day | 577.89<br>25 | 578.19<br>24 | 577.99<br>29 | 578.39<br>2  | 578.65<br>29 | 578.73<br>23 | 579.16<br>12 | 579.05<br>19 | 578.91<br>16 | 579.16<br>9 | 579.02<br>5  | 579.20<br>4  |
| Min Day | 576.75<br>2  | 576.92<br>26 | 576.94<br>1  | 577.48<br>18 | 577.68<br>1  | 578.00<br>3  | 578.32<br>4  | 578.31<br>17 | 577.77<br>24 | 577.70<br>5 | 577.34<br>30 | 577.56<br>25 |

----- 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   | 1   |     | 1   | 1   | 2   | 579.00         | 7                          |
| 578.80         |     |     |     |     |     |     | 3   | 6   | 1   | 1   |     |     | 578.80         | 18                         |
| 578.60         |     |     |     |     | 2   | 2   | 11  | 3   | 4   | 2   |     |     | 578.60         | 42                         |
| 578.40         |     |     |     |     | 4   | 6   | 10  | 18  | 9   | 2   | 2   | 1   | 578.40         | 94                         |
| 578.20         |     |     |     | 1   | 7   | 13  | 5   | 3   | 14  | 7   | 2   | 6   | 578.20         | 152                        |
| 578.00         | 1   | 1   |     |     | 2   | 7   | 8   |     |     | 8   | 11  | 10  | 578.00         | 199                        |
| 577.80         | 1   | 3   | 3   | 2   | 7   | 8   | 1   |     | 1   | 9   | 8   | 7   | 577.80         | 246                        |
| 577.60         | 4   | 4   | 9   | 6   | 8   | 1   |     |     | 1   | 1   | 5   | 4   | 577.60         | 291                        |
| 577.40         | 6   | 5   | 13  | 3   |     |     |     |     |     |     |     | 1   | 577.40         | 319                        |
| 577.20         | 12  | 9   | 4   |     |     |     |     |     |     |     |     | 1   | 577.20         | 345                        |
| 577.00         | 7   | 3   | 1   |     |     |     |     |     |     |     |     |     | 577.00         | 356                        |
| 576.80         | 4   | 3   | 1   |     |     |     |     |     |     |     |     |     | 576.80         | 364                        |
| 576.60         | 1   |     |     |     |     |     |     |     |     |     |     |     | 576.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 577.18 | 577.61 | 576.94 | 577.73 | 577.68 | 578.18 | 578.61 | 578.52 | 578.36 | 577.95 | 578.09 | 577.88 |
| 2    | 576.75 | 577.96 | 577.07 | 578.39 | 577.86 | 578.08 | 578.60 | 578.48 | 578.53 | 578.00 | 577.94 | 578.44 |
| 3    | 576.99 | 577.77 | 577.47 | 578.10 | 577.99 | 578.00 | 578.34 | 578.41 | 578.62 | 577.95 | 578.14 | 579.08 |
| 4    | 577.46 | 577.54 | 577.49 | 577.68 | 578.33 | 578.20 | 578.32 | 578.57 | 578.25 | 577.82 | 578.50 | 579.20 |
| 5    | 577.19 | 577.00 | 577.81 | 577.64 | 577.98 | 578.04 | 578.63 | 578.83 | 578.47 | 577.70 | 579.02 | 578.00 |
| 6    | 577.27 | 577.36 | 577.72 | 577.61 | 577.81 | 578.19 | 578.71 | 578.84 | 578.40 | 577.95 | 578.50 | 578.11 |
| 7    | 576.96 | 577.33 | 577.55 | 577.66 | 577.69 | 578.27 | 578.52 | 578.63 | 578.78 | 578.72 | 578.24 | 577.82 |
| 8    | 577.02 | 577.21 | 577.52 | 577.60 | 577.80 | 578.43 | 578.38 | 578.45 | 578.52 | 578.93 | 578.08 | 578.08 |
| 9    | 577.42 | 577.35 | 577.47 | 577.71 | 577.94 | 578.23 | 578.51 | 578.48 | 578.44 | 579.16 | 578.17 | 577.94 |
| 10   | 577.17 | 577.25 | 577.53 | 578.20 | 578.10 | 578.11 | 578.66 | 578.59 | 578.47 | 578.79 | 578.08 | 578.19 |
| 11   | 576.94 | 577.37 | 577.57 | 577.88 | 577.88 | 578.33 | 578.87 | 578.59 | 578.46 | 578.46 | 577.84 | 578.17 |
| 12   | 577.48 | 577.19 | 577.33 | 577.61 | 578.11 | 578.11 | 579.16 | 578.69 | 578.33 | 578.34 | 577.98 | 578.24 |
| 13   | 577.24 | 577.74 | 577.45 | 577.62 | 578.17 | 578.14 | 579.09 | 578.82 | 578.32 | 578.36 | 578.07 | 578.09 |
| 14   | 577.21 | 577.90 | 577.51 | 577.78 | 578.10 | 578.26 | 578.94 | 578.33 | 578.44 | 578.16 | 577.84 | 577.99 |
| 15   | 577.34 | 577.99 | 577.46 | 577.69 | 578.17 | 578.39 | 578.70 | 578.37 | 578.40 | 578.14 | 577.67 | 578.20 |
| 16   | 577.40 | 577.48 | 577.35 | 577.70 | 578.26 | 578.43 | 578.49 | 578.42 | 578.91 | 578.11 | 578.16 | 578.21 |
| 17   | 577.39 | 577.54 | 577.31 | 577.74 | 577.94 | 578.30 | 578.40 | 578.31 | 578.64 | 577.97 | 578.12 | 577.98 |
| 18   | 577.33 | 576.98 | 577.42 | 577.48 | 577.88 | 578.26 | 578.39 | 578.47 | 578.32 | 578.25 | 577.94 | 578.30 |
| 19   | 577.19 | 577.28 | 577.68 | 577.59 | 578.15 | 578.37 | 578.60 | 579.05 | 578.49 | 578.11 | 578.07 | 578.16 |
| 20   | 577.56 | 577.12 | 577.52 | 577.76 | 578.62 | 578.39 | 578.59 | 578.87 | 578.35 | 577.99 | 578.12 | 578.21 |
| 21   | 577.48 | 577.01 | 577.51 | 577.88 | 578.54 | 578.30 | 578.66 | 578.88 | 578.33 | 578.22 | 577.95 | 578.23 |
| 22   | 577.26 | 577.73 | 577.64 | 577.78 | 578.39 | 578.45 | 578.74 | 578.82 | 578.28 | 578.23 | 577.89 | 578.09 |
| 23   | 577.16 | 577.58 | 577.71 | 577.77 | 578.26 | 578.73 | 578.61 | 578.69 | 578.36 | 578.18 | 577.74 | 578.09 |
| 24   | 577.50 | 578.19 | 577.61 | 577.80 | 578.31 | 578.36 | 578.53 | 578.57 | 577.77 | 578.43 | 577.76 | 577.71 |
| 25   | 577.89 | 577.58 | 577.29 | 577.68 | 578.45 | 578.38 | 578.56 | 578.48 | 577.89 | 578.40 | 577.95 | 577.56 |
| 26   | 577.38 | 576.92 | 577.70 | 577.70 | 578.46 | 578.40 | 578.64 | 578.47 | 578.26 | 578.03 | 578.04 | 577.65 |
| 27   | 576.93 | 577.27 | 577.63 | 577.82 | 578.36 | 578.58 | 578.63 | 578.44 | 578.23 | 577.90 | 578.23 | 577.73 |
| 28   | 577.10 | 577.31 | 577.71 | 577.93 | 578.41 | 578.66 | 578.58 | 578.49 | 578.48 | 578.06 | 577.77 | 577.79 |
| 29   | 577.24 |        | 577.99 | 577.91 | 578.65 | 578.55 | 578.51 | 578.53 | 578.61 | 577.87 | 577.76 | 578.07 |
| 30   | 577.24 |        | 577.92 | 577.84 | 578.36 | 578.45 | 578.83 | 578.53 | 578.37 | 578.12 | 577.34 | 578.31 |
| 31   | 577.29 |        | 577.78 |        | 578.20 |        | 578.72 | 578.47 |        | 578.30 |        | 577.85 |
| Mean | 577.26 | 577.45 | 577.54 | 577.78 | 578.16 | 578.32 | 578.63 | 578.58 | 578.40 | 578.21 | 578.03 | 578.11 |
| Max. | 578.34 | 579.51 | 578.16 | 578.89 | 578.96 | 579.43 | 579.56 | 579.36 | 579.33 | 579.85 | 579.55 | 580.19 |
| Hr.  | 1400   | 0800   | 1400   | 1900   | 1100   | 0400   | 1700   | 1500   | 0900   | 0500   | 1400   | 0100   |
| Day  | 25     | 24     | 29     | 2      | 20     | 20     | 12     | 19     | 16     | 10     | 5      | 4      |
| Min. | 576.27 | 576.46 | 576.57 | 577.30 | 577.04 | 576.81 | 577.78 | 577.95 | 577.37 | 577.27 | 577.09 | 577.05 |
| Hr.  | 0100   | 2000   | 2000   | 0500   | 0100   | 1800   | 0900   | 0400   | 2400   | 1400   | 2000   | 0400   |
| Day  | 2      | 26     | 1      | 5      | 10     | 5      | 5      | 15     | 24     | 4      | 30     | 25     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 578.04

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990  
Station: 908-7057 Milwaukee, Wisconsin on Lake Michigan

HIGHEST

Monthly mean elevation: 578.63 Jul  
Daily mean elevation: 579.56 3 Dec  
Instant/hourly elevation: 579.95 0800/3 Dec

LOWEST

Monthly mean elevation: 577.35 Jan  
Daily mean elevation: 577.08 1 Mar  
Instant/hourly elevation: 576.66 0100/2 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.75<br>25 | 577.89<br>15 | 577.93<br>29 | 578.18<br>2  | 578.59<br>20 | 578.68<br>28 | 578.94<br>12 | 579.00<br>19 | 578.79<br>16 | 578.84<br>10 | 578.77<br>5  | 579.56<br>3  |
| Min Day | 577.08<br>2  | 577.14<br>20 | 577.08<br>1  | 577.59<br>18 | 577.74<br>1  | 578.12<br>4  | 578.44<br>4  | 578.44<br>14 | 577.97<br>24 | 577.94<br>28 | 577.83<br>12 | 577.63<br>26 |

----- 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         |     |     |     |     |     |     |     |     |     |     |     |     | 1              | 579.40                     | 1   |
| 579.20         |     |     |     |     |     |     |     |     |     |     |     |     |                | 579.20                     | 1   |
| 579.00         |     |     |     |     |     |     |     |     |     |     |     |     |                | 579.00                     | 1   |
| 578.80         |     |     |     |     |     |     | 3   | 3   |     | 1   |     | 1   |                | 578.80                     | 9   |
| 578.60         |     |     |     |     |     | 3   | 16  | 10  | 4   | 3   | 1   |     |                | 578.60                     | 46  |
| 578.40         |     |     |     | 2   |     | 11  | 12  | 18  | 15  | 1   |     |     |                | 578.40                     | 105 |
| 578.20         |     |     |     |     | 13  | 12  |     | 7   | 13  | 7   | 10  |     |                | 578.20                     | 167 |
| 578.00         |     |     |     |     | 8   | 4   |     | 3   | 10  | 12  | 11  |     |                | 578.00                     | 218 |
| 577.80         | 1   | 1   | 2   | 14  | 7   |     |     | 1   | 3   | 10  | 5   |     |                | 577.80                     | 261 |
| 577.60         | 5   | 5   | 14  | 12  | 1   |     |     |     |     |     | 3   |     |                | 577.60                     | 297 |
| 577.40         | 9   | 12  | 12  | 1   |     |     |     |     |     |     |     |     |                | 577.40                     | 331 |
| 577.20         | 16  | 7   | 1   |     |     |     |     |     |     |     |     |     |                | 577.20                     | 355 |
| 577.00         | 5   | 3   | 2   |     |     |     |     |     |     |     |     |     |                | 577.00                     | 365 |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 577.24 | 577.67 | 577.08 | 577.84 | 577.74 | 578.32 | 578.57 | 578.54 | 578.47 | 578.12 | 578.22 | 578.07 |
| 2    | 577.08 | 577.74 | 577.17 | 578.18 | 577.84 | 578.32 | 578.61 | 578.59 | 578.49 | 578.11 | 578.05 | 578.25 |
| 3    | 577.28 | 577.68 | 577.37 | 577.92 | 577.96 | 578.14 | 578.54 | 578.56 | 578.59 | 578.22 | 578.18 | 579.56 |
| 4    | 577.44 | 577.52 | 577.48 | 577.69 | 578.11 | 578.12 | 578.44 | 578.61 | 578.40 | 577.95 | 578.28 | 578.86 |
| 5    | 577.27 | 577.41 | 577.69 | 577.64 | 577.88 | 578.20 | 578.55 | 578.64 | 578.49 | 577.95 | 578.77 | 578.24 |
| 6    | 577.30 | 577.45 | 577.65 | 577.66 | 577.83 | 578.26 | 578.59 | 578.68 | 578.52 | 578.23 | 578.40 | 578.03 |
| 7    | 577.19 | 577.42 | 577.60 | 577.67 | 577.87 | 578.25 | 578.62 | 578.62 | 578.66 | 578.61 | 578.17 | 577.98 |
| 8    | 577.30 | 577.43 | 577.64 | 577.72 | 578.01 | 578.42 | 578.59 | 578.54 | 578.62 | 578.63 | 578.17 | 578.11 |
| 9    | 577.40 | 577.40 | 577.53 | 577.86 | 578.15 | 578.22 | 578.54 | 578.52 | 578.52 | 578.68 | 578.19 | 578.03 |
| 10   | 577.36 | 577.28 | 577.50 | 578.04 | 578.30 | 578.17 | 578.62 | 578.60 | 578.50 | 578.84 | 578.04 | 578.12 |
| 11   | 577.11 | 577.36 | 577.63 | 577.77 | 577.91 | 578.37 | 578.75 | 578.58 | 578.48 | 578.54 | 577.83 | 578.35 |
| 12   | 577.19 | 577.43 | 577.61 | 577.64 | 578.05 | 578.32 | 578.94 | 578.71 | 578.40 | 578.33 | 577.83 | 578.33 |
| 13   | 577.29 | 577.57 | 577.54 | 577.73 | 578.10 | 578.41 | 578.86 | 578.70 | 578.42 | 578.38 | 578.03 | 578.00 |
| 14   | 577.40 | 577.60 | 577.65 | 577.88 | 578.09 | 578.33 | 578.81 | 578.44 | 578.43 | 578.26 | 578.06 | 578.12 |
| 15   | 577.44 | 577.89 | 577.68 | 577.72 | 578.19 | 578.39 | 578.70 | 578.53 | 578.37 | 578.11 | 577.93 | 578.37 |
| 16   | 577.45 | 577.73 | 577.53 | 577.76 | 578.35 | 578.48 | 578.57 | 578.51 | 578.79 | 578.20 | 578.14 | 578.22 |
| 17   | 577.52 | 577.56 | 577.47 | 577.62 | 578.06 | 578.45 | 578.53 | 578.45 | 578.66 | 578.35 | 578.08 | 578.13 |
| 18   | 577.28 | 577.34 | 577.46 | 577.59 | 577.86 | 578.26 | 578.50 | 578.63 | 578.52 | 578.15 | 578.09 | 578.31 |
| 19   | 577.21 | 577.17 | 577.62 | 577.72 | 578.23 | 578.25 | 578.59 | 579.00 | 578.48 | 578.10 | 578.17 | 578.27 |
| 20   | 577.58 | 577.14 | 577.58 | 577.82 | 578.59 | 578.53 | 578.65 | 578.87 | 578.41 | 578.32 | 578.22 | 578.38 |
| 21   | 577.58 | 577.15 | 577.70 | 577.84 | 578.39 | 578.35 | 578.61 | 578.83 | 578.40 | 578.34 | 578.23 | 578.29 |
| 22   | 577.31 | 577.53 | 577.76 | 577.82 | 578.29 | 578.55 | 578.72 | 578.78 | 578.19 | 578.20 | 578.00 | 578.08 |
| 23   | 577.41 | 577.48 | 577.54 | 577.90 | 578.31 | 578.62 | 578.65 | 578.71 | 578.18 | 578.27 | 577.88 | 577.92 |
| 24   | 577.54 | 577.71 | 577.60 | 577.95 | 578.32 | 578.41 | 578.61 | 578.66 | 577.97 | 578.29 | 577.85 | 577.80 |
| 25   | 577.75 | 577.48 | 577.44 | 577.82 | 578.40 | 578.50 | 578.63 | 578.60 | 578.13 | 578.27 | 577.91 | 577.72 |
| 26   | 577.47 | 577.25 | 577.66 | 577.85 | 578.38 | 578.54 | 578.65 | 578.56 | 578.28 | 578.17 | 578.24 | 577.63 |
| 27   | 577.34 | 577.32 | 577.68 | 577.93 | 578.30 | 578.57 | 578.68 | 578.50 | 578.24 | 578.04 | 578.40 | 577.92 |
| 28   | 577.19 | 577.26 | 577.71 | 578.01 | 578.34 | 578.68 | 578.63 | 578.56 | 578.45 | 577.94 | 577.94 | 578.06 |
| 29   | 577.31 |        | 577.93 | 577.93 | 578.48 | 578.61 | 578.62 | 578.49 | 578.49 | 578.06 | 577.85 | 578.06 |
| 30   | 577.37 |        | 577.87 | 577.91 | 578.29 | 578.58 | 578.66 | 578.53 | 578.35 | 578.22 | 577.85 | 578.11 |
| 31   | 577.40 |        | 577.74 |        | 578.21 |        | 578.59 | 578.54 |        | 578.28 |        | 578.00 |
| Mean | 577.35 | 577.46 | 577.58 | 577.81 | 578.16 | 578.39 | 578.63 | 578.62 | 578.43 | 578.26 | 578.10 | 578.17 |
| Max. | 578.24 | 578.15 | 578.17 | 578.39 | 578.76 | 579.06 | 579.12 | 579.60 | 578.97 | 579.51 | 579.34 | 579.95 |
| Hr.  | 1300   | 0400   | 0300   | 1800   | 2200   | 0100   | 1800   | 1100   | 1200   | 0700   | 1400   | 0800   |
| Day  | 25     | 16     | 30     | 2      | 20     | 23     | 12     | 19     | 16     | 10     | 5      | 3      |
| Min. | 576.66 | 576.98 | 576.90 | 577.45 | 577.51 | 577.80 | 577.97 | 578.18 | 577.74 | 577.55 | 577.52 | 577.47 |
| Hr.  | 0100   | 1900   | 1900   | 2300   | 2000   | 1500   | 0500   | 0200   | 2300   | 1500   | 2300   | 1400   |
| Day  | 2      | 9      | 1      | 17     | 1      | 3      | 5      | 29     | 24     | 4      | 11     | 26     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 578.08

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

Station: 908-7068 Kewaunee, Wisconsin on Lake Michigan

HIGHEST

Monthly mean elevation: 578.52 Jul  
Daily mean elevation: 578.84 19 Aug  
Instant/hourly elevation: 580.88 0400/4 Sep

LOWEST

Monthly mean elevation: 577.25 Jan  
Daily mean elevation: 576.92 12 Jan  
Instant/hourly elevation: 576.58 1100/13 Mar

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.50<br>21 | 577.63<br>16 | 577.70<br>29 | 577.82<br>30 | 578.27<br>20 | 578.57<br>29 | 578.61<br>22 | 578.84<br>19 | 578.54<br>16 | 578.55<br>10 | 578.31<br>21 | 578.41<br>20 |
| Min Day | 576.92<br>12 | 576.95<br>19 | 577.04<br>2  | 577.40<br>5  | 577.59<br>1  | 577.99<br>4  | 578.35<br>4  | 578.36<br>17 | 578.04<br>23 | 577.81<br>28 | 577.69<br>12 | 577.50<br>26 |

----- 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         |     |     |     |     |     |     |     | 1   |     |     |     |     | 578.80         | 1                          |
| 578.60         |     |     |     |     |     |     | 2   | 2   |     |     |     |     | 578.60         | 5                          |
| 578.40         |     |     |     |     |     | 6   | 28  | 23  | 9   | 2   |     | 1   | 578.40         | 74                         |
| 578.20         |     |     |     | 3   |     | 11  | 1   | 5   | 15  | 9   | 5   | 6   | 578.20         | 129                        |
| 578.00         |     |     |     |     | 11  | 12  |     | 6   | 15  | 15  | 12  |     | 578.00         | 200                        |
| 577.80         |     |     |     | 1   | 9   | 1   |     |     | 5   | 6   | 8   |     | 577.80         | 230                        |
| 577.60         | 2   | 1   | 5   | 7   | 7   |     |     |     | 5   | 4   | 2   |     | 577.60         | 256                        |
| 577.40         |     | 5   | 14  | 10  | 1   |     |     |     |     |     | 1   |     | 577.40         | 289                        |
| 577.20         | 19  | 14  | 9   | 1   |     |     |     |     |     |     |     |     | 577.20         | 332                        |
| 577.00         | 9   | 7   | 3   |     |     |     |     |     |     |     |     |     | 577.00         | 351                        |
| 576.80         | 1   | 1   |     |     |     |     |     |     |     |     |     |     | 576.80         | 353                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

| 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  | 577.17 | 577.37 | 577.13 | 577.72  | 577.59 | 578.16 | 578.42 | 578.44 | 578.39 | 578.03 | 578.23 | 577.99                                 |
| 2  | 577.07 | 577.46 | 577.04 | 577.70  | 577.67 | 578.30 | 578.49 | 578.46 | 578.34 | 577.98 | 578.07 | 578.04                                 |
| 3  | 577.21 | 577.58 | 577.20 | 577.69  | 577.78 | 578.07 | 578.52 | 578.48 | 578.51 | 578.21 | 578.08 | 578.32*                                |
| 4  | 577.23 | 577.38 | 577.30 | 577.57  | 577.69 | 577.99 | 578.35 | 578.48 | 578.49 | 577.98 | 578.05 | 578.05                                 |
| 5  | 577.24 | 577.37 | 577.39 | 577.40  | 577.73 | 578.18 | 578.44 | 578.43 | 578.35 | 577.92 | 578.26 | /                                      |
| 6  | 577.26 | 577.34 | 577.38 | 577.52  | 577.73 | 578.19 | 578.47 | 578.54 | 578.46 | 578.13 | 578.31 | 577.86                                 |
| 7  | 577.10 | 577.34 | 577.36 | 577.56  | 577.84 | 578.08 | 578.54 | 578.54 | 578.44 | 578.12 | 578.09 | 578.03                                 |
| 8  | 577.24 | 577.31 | 577.44 | 577.56  | 577.95 | 578.27 | 578.52 | 578.44 | 578.51 | 578.23 | 578.12 | 578.08                                 |
| 9  | 577.26 | 577.27 | 577.38 | 577.78  | 577.92 | 578.13 | 578.45 | 578.39 | 578.42 | 578.24 | 578.09 | 578.06                                 |
| 10   | 577.33 | 577.11 | 577.36 | 577.70  | 578.08 | 578.02 | 578.49 | 578.44 | 578.38 | 578.55 | 577.93 | 578.00                                 |
| 11   | 577.03 | 577.19 | 577.46 | 577.59  | 577.76 | 578.20 | 578.55 | 578.45 | 578.48 | 578.41 | 577.78 | 578.32                                 |
| 12   | 576.92 | 577.41 | 577.57 | 577.55* | 577.81 | 578.31 | 578.59 | 578.52 | 578.36 | 578.20 | 577.69 | 578.38                                 |
| 13   | 577.16 | 577.26 | 577.46 | 577.61  | 577.91 | 578.26 | 578.59 | 578.57 | 578.40 | 578.25 | 577.95 | 577.85                                 |
| 14   | 577.34 | 577.26 | 577.60 | 577.72  | 577.88 | 578.18 | 578.60 | 578.40 | 578.36 | 578.22 | 578.14 | 578.08                                 |
| 15   | 577.30 | 577.54 | 577.66 | 577.59  | 577.98 | 578.16 | 578.61 | 578.38 | 578.31 | 578.09 | 577.96 | 578.27                                 |
| 16   | 577.28 | 577.63 | 577.52 | 577.58* | 578.22 | 578.30 | 578.48 | 578.42 | 578.54 | 578.19 | 578.02 | 578.23                                 |
| 17   | 577.45 | 577.41 | 577.41 | 577.48* | 578.00 | 578.40 | 578.56 | 578.36 | 578.50 | 578.39 | 578.05 | 578.09                                 |
| 18   | 577.12 | 577.32 | 577.30 | 577.49* | 577.74 | 578.16 | 578.41 | 578.51 | 578.39 | 578.05 | 578.10 | 578.20                                 |
| 19   | 577.12 | 576.95 | 577.46 | /       | 577.95 | 578.16 | 578.56 | 578.84 | 578.38 | 578.08 | 578.08 | 578.20                                 |
| 20   | 577.28 | 577.06 | 577.48 | /       | 578.27 | 578.36 | 578.53 | 578.75 | 578.32 | 578.39 | 578.16 | 578.41                                 |
| 21   | 577.50 | 577.09 | 577.56 | /       | 578.10 | 578.31 | 578.47 | 578.65 | 578.38 | 578.26 | 578.31 | 578.24                                 |
| 22   | 577.19 | 577.19 | 577.63 | /       | 578.12 | 578.32 | 578.61 | 578.60 | 578.07 | 578.12 | 578.02 | 578.07                                 |
| 23   | 577.33 | 577.31 | 577.36 | /       | 578.13 | 578.42 | 578.57 | 578.55 | 578.04 | 578.23 | 577.87 | 577.82                                 |
| 24   | 577.40 | 577.24 | 577.45 | /       | 578.16 | 578.29 | 578.55 | 578.55 | 578.07 | 578.14 | 577.86 | 577.79                                 |
| 25   | 577.33 | 577.32 | 577.40 | /       | 578.22 | 578.42 | 578.58 | 578.53 | 578.07 | 578.12 | 577.75 | 577.68                                 |
| 26   | 577.39 | 577.29 | 577.44 | /       | 578.19 | 578.42 | 578.53 | 578.53 | 578.15 | 578.19 | 578.13 | 577.50                                 |
| 27   | 577.33 | 577.11 | 577.54 | /       | 578.14 | 578.33 | 578.57 | 578.44 | 578.15 | 577.94 | 578.25 | 577.95                                 |
| 28   | 577.15 | 577.12 | 577.57 | /       | 578.13 | 578.56 | 578.58 | 578.45 | 578.22 | 577.81 | 577.98 | 578.12                                 |
| 29   | 577.22 |        | 577.70 | /       | 578.19 | 578.57 | 578.53 | 578.39 | 578.28 | 578.11 | 577.78 | 577.96                                 |
| 30   | 577.29 |        | 577.68 | 577.82* | 578.11 | 578.45 | 578.49 | 578.43 | 578.23 | 578.10 | 578.05 | 578.00                                 |
| 31   | 577.36 |        | 577.62 |         | 578.07 |        | 578.54 | 578.44 |        | 578.17 |        | 578.17                                 |
| Mean   | 577.25 | 577.29 | 577.45 | 577.61  | 577.97 | 578.27 | 578.52 | 578.50 | 578.33 | 578.16 | 578.04 | 578.06                                 |
| Max.   | 577.72 | 578.12 | 578.27 | 578.21  | 578.76 | 579.26 | 578.98 | 579.14 | 580.88 | 579.04 | 578.71 | 578.64                                 |
| Hr.  | 1300   | 0700   | 0700   | 1200    | 2400   | 1300   | 1900   | 2100   | 0400   | 0700   | 2100   | 1000                                   |
| Day  | 21     | 16     | 15     | 30      | 9      | 29     | 19     | 18     | 4      | 10     | 27     | 20                                     |
| Min.   | 576.73 | 576.80 | 576.58 | 577.27  | 577.34 | 577.70 | 578.02 | 578.09 | 577.72 | 577.62 | 577.42 | 577.36                                 |
| Hr.  | 2300   | 2400   | 1100   | 1200    | 1600   | 1600   | 2400   | 2400   | 0900   | 1300   | 1100   | 1300                                   |
| Day  | 18     | 19     | 13     | 5       | 4      | 13     | 4      | 17     | 14     | 4      | 12     | 26                                     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 577.95

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 578.50 Jul  
Daily mean elevation: 578.83 19 Aug  
Instant/hourly elevation: 579.29 1800/29 Jul

LOWEST

Monthly mean elevation: 577.29 Jan  
Daily mean elevation: 576.94 12 Jan  
Instant/hourly elevation: 576.81 2100/18 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.59<br>21 | 577.70<br>16 | 577.72<br>30 | 577.89<br>28 | 578.31<br>20 | 578.57<br>28 | 578.56<br>29 | 578.83<br>19 | 578.49<br>16 | 578.55<br>10 | 578.32<br>27 | 578.60<br>4  |
| Min Day | 576.94<br>12 | 577.02<br>19 | 577.06<br>2  | 577.39<br>5  | 577.63<br>2  | 578.05<br>3  | 578.39<br>18 | 578.33<br>17 | 578.01<br>24 | 577.81<br>28 | 577.62<br>12 | 577.47<br>26 |

----- 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         |     |     |     |     |     |     |     | 1   |     |     |     |     | 578.80         | 1                          |
| 578.60         |     |     |     |     |     |     |     | 1   |     |     |     |     | 578.60         | 2                          |
| 578.40         |     |     |     |     |     |     | 7   | 29  | 19  | 5   | 1   |     | 578.40         | 65                         |
| 578.20         |     |     |     |     | 3   | 12  | 2   | 10  | 17  | 7   | 5   | 3   | 578.20         | 124                        |
| 578.00         |     |     |     |     | 13  | 11  |     |     | 8   | 15  | 12  | 11  | 578.00         | 194                        |
| 577.80         |     |     |     | 5   | 7   |     |     |     | 8   | 9   | 12  |     | 577.80         | 235                        |
| 577.60         | 1   | 6   | 16  | 17  | 8   |     |     |     |     | 4   | 2   |     | 577.60         | 273                        |
| 577.40         | 4   | 8   | 11  | 7   | 1   |     |     |     |     |     | 1   |     | 577.40         | 309                        |
| 577.20         | 20  | 8   | 8   | 1   |     |     |     |     |     |     |     |     | 577.20         | 349                        |
| 577.00         | 6   | 8   | 1   |     |     |     |     |     |     |     |     |     | 577.00         | 364                        |
| 576.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 576.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

| Station: 908-7072 Sturgeon Bay Canal, Wisconsin on Lake Michigan |        |        |        |        |        |        |        |        |        |        |        | International Great Lakes Datum (1955) |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec                                    |
| 1  | 577.22 | 577.34 | 577.21 | 577.72 | 577.63 | 578.14 | 578.42 | 578.38 | 578.30 | 578.00 | 578.22 | 577.98                                 |
| 2  | 577.10 | 577.46 | 577.06 | 577.71 | 577.63 | 578.23 | 578.49 | 578.42 | 578.26 | 577.96 | 578.08 | 577.99                                 |
| 3  | 577.28 | 577.50 | 577.23 | 577.72 | 577.75 | 578.05 | 578.46 | 578.44 | 578.43 | 578.11 | 578.06 | 578.55                                 |
| 4  | 577.23 | 577.41 | 577.33 | 577.57 | 577.78 | 578.07 | 578.39 | 578.46 | 578.33 | 577.91 | 578.03 | 578.60                                 |
| 5  | 577.24 | 577.42 | 577.40 | 577.39 | 577.77 | 578.18 | 578.42 | 578.43 | 578.34 | 577.94 | 578.26 | 578.13                                 |
| 6  | 577.32 | 577.37 | 577.41 | 577.51 | 577.74 | 578.17 | 578.48 | 578.51 | 578.35 | 578.08 | 578.27 | 577.81                                 |
| 7  | 577.13 | 577.38 | 577.38 | 577.60 | 577.88 | 578.12 | 578.49 | 578.45 | 578.41 | 578.11 | 578.02 | 577.98                                 |
| 8  | 577.29 | 577.35 | 577.46 | 577.58 | 577.98 | 578.26 | 578.52 | 578.38 | 578.46 | 578.21 | 578.02 | 578.05                                 |
| 9  | 577.32 | 577.29 | 577.45 | 577.80 | 577.92 | 578.17 | 578.43 | 578.35 | 578.41 | 578.22 | 578.09 | 578.02                                 |
| 10   | 577.36 | 577.14 | 577.26 | 577.70 | 578.08 | 578.07 | 578.49 | 578.39 | 578.37 | 578.55 | 577.91 | 577.92                                 |
| 11   | 577.05 | 577.23 | 577.45 | 577.63 | 577.75 | 578.23 | 578.52 | 578.41 | 578.40 | 578.37 | 577.77 | 578.29                                 |
| 12   | 576.94 | 577.47 | 577.61 | 577.54 | 577.83 | 578.28 | 578.56 | 578.49 | 578.27 | 578.15 | 577.62 | 578.35                                 |
| 13   | 577.20 | 577.25 | 577.49 | 577.61 | 577.91 | 578.22 | 578.52 | 578.49 | 578.36 | 578.20 | 577.89 | 577.83                                 |
| 14   | 577.38 | 577.22 | 577.56 | 577.74 | 577.93 | 578.18 | 578.55 | 578.34 | 578.30 | 578.30 | 578.05 | 578.00                                 |
| 15   | 577.34 | 577.47 | 577.62 | 577.63 | 578.04 | 578.22 | 578.54 | 578.33 | 578.36 | 578.00 | 577.95 | 578.20                                 |
| 16   | 577.32 | 577.70 | 577.54 | 577.70 | 578.23 | 578.32 | 578.45 | 578.41 | 578.49 | 578.11 | 578.00 | 578.19                                 |
| 17   | 577.48 | 577.49 | 577.47 | 577.53 | 578.10 | 578.43 | 578.45 | 578.33 | 578.38 | 578.35 | 577.98 | 578.02                                 |
| 18   | 577.18 | 577.42 | 577.35 | 577.55 | 577.78 | 578.14 | 578.39 | 578.41 | 578.33 | 577.98 | 578.06 | 578.14                                 |
| 19   | 577.13 | 577.02 | 577.48 | 577.62 | 577.92 | 578.18 | 578.52 | 578.83 | 578.30 | 578.06 | 578.02 | 578.18                                 |
| 20   | 577.37 | 577.10 | 577.53 | 577.68 | 578.31 | 578.33 | 578.51 | 578.71 | 578.26 | 578.30 | 578.12 | 578.34                                 |
| 21   | 577.59 | 577.18 | 577.56 | 577.70 | 578.14 | 578.31 | 578.51 | 578.59 | 578.32 | 578.22 | 578.26 | 578.12                                 |
| 22   | 577.24 | 577.20 | 577.66 | 577.72 | 578.15 | 578.36 | 578.56 | 578.51 | 578.04 | 578.11 | 577.99 | 578.00                                 |
| 23   | 577.34 | 577.35 | 577.36 | 577.74 | 578.16 | 578.47 | 578.54 | 578.47 | 578.02 | 578.19 | 577.82 | 577.85                                 |
| 24   | 577.47 | 577.20 | 577.45 | 577.87 | 578.15 | 578.31 | 578.50 | 578.49 | 578.01 | 578.09 | 577.82 | 577.76                                 |
| 25   | 577.34 | 577.32 | 577.41 | 577.75 | 578.25 | 578.42 | 578.50 | 578.48 | 578.06 | 578.14 | 577.78 | 577.63                                 |
| 26   | 577.42 | 577.35 | 577.47 | 577.78 | 578.19 | 578.41 | 578.51 | 578.43 | 578.14 | 578.14 | 578.13 | 577.47                                 |
| 27   | 577.38 | 577.12 | 577.56 | 577.81 | 578.17 | 578.38 | 578.56 | 578.41 | 578.14 | 577.89 | 578.32 | 577.90                                 |
| 28   | 577.21 | 577.14 | 577.58 | 577.89 | 578.15 | 578.57 | 578.54 | 578.45 | 578.20 | 577.81 | 578.05 | 578.08                                 |
| 29   | 577.29 |        | 577.72 | 577.81 | 578.19 | 578.50 | 578.56 | 578.54 | 578.37 | 578.27 | 578.01 | 577.94                                 |
| 30   | 577.33 |        | 577.72 | 577.82 | 578.13 | 578.43 | 578.47 | 578.37 | 578.18 | 578.08 | 577.99 | 577.90                                 |
| 31   | 577.36 |        | 577.64 |        | 578.05 |        | 578.50 | 578.34 |        | 578.18 |        | 578.05                                 |
| Mean   | 577.29 | 577.32 | 577.47 | 577.68 | 577.99 | 578.27 | 578.50 | 578.45 | 578.28 | 578.12 | 578.01 | 578.04                                 |
| Max.   | 577.75 | 578.23 | 577.94 | 578.10 | 578.54 | 578.91 | 579.29 | 578.96 | 578.60 | 578.95 | 578.66 | 579.03                                 |
| Hr.  | 1500   | 0700   | 0700   | 2000   | 2400   | 0300   | 1800   | 1500   | 1200   | 1700   | 0200   | 1800                                   |
| Day  | 21     | 16     | 14     | 28     | 9      | 29     | 29     | 19     | 14     | 10     | 28     | 3                                      |
| Min.   | 576.81 | 576.85 | 576.96 | 577.21 | 577.52 | 577.71 | 578.06 | 578.11 | 577.81 | 577.62 | 577.32 | 577.32                                 |
| Hr.  | 2100   | 2300   | 0900   | 2400   | 0100   | 2000   | 0700   | 2000   | 1800   | 2000   | 1700   | 0900                                   |
| Day  | 18     | 19     | 2      | 5      | 2      | 3      | 5      | 26     | 22     | 27     | 11     | 26                                     |

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

Annual Mean 577.95

International  
Great Lakes  
Datum (1955)

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

Annual Summary of Levels, in Feet, 1990

HIGHEST

Monthly mean elevation: 578.53 Jul  
Daily mean elevation: 581.16 3 Dec  
Instant/hourly elevation: 583.42 1300/3 Dec

LOWEST

Monthly mean elevation: 577.26 Jan  
Daily mean elevation: 576.74 12 Jan  
Instant/hourly elevation: 575.81 2400/24 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.52<br>21 | 577.63<br>16 | 577.79<br>29 | 578.36<br>2  | 579.05<br>20 | 579.16<br>22 | 579.19<br>12 | 579.34<br>19 | 578.86<br>16 | 579.27<br>10 | 578.78<br>5  | 581.16<br>3  |
| Min Day | 576.74<br>12 | 576.91<br>19 | 576.99<br>2  | 577.29<br>18 | 577.39<br>1  | 577.65<br>3  | 578.32<br>4  | 578.05<br>14 | 577.50<br>24 | 577.47<br>4  | 577.36<br>28 | 577.30<br>26 |

----- 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. |     |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|-----|
| 581.00         |     |     |     |     |     |     |     |     |     |     |     |     | 1              | 581.00                     | 1   |
| 580.80         |     |     |     |     |     |     |     |     |     |     |     |     |                | 580.80                     | 1   |
| 580.60         |     |     |     |     |     |     |     |     |     |     |     |     |                | 580.60                     | 1   |
| 580.40         |     |     |     |     |     |     |     |     |     |     |     |     |                | 580.40                     | 1   |
| 580.20         |     |     |     |     |     |     |     |     |     |     |     |     |                | 580.20                     | 1   |
| 580.00         |     |     |     |     |     |     |     |     |     |     |     |     |                | 580.00                     | 1   |
| 579.80         |     |     |     |     |     |     |     |     |     |     |     |     |                | 579.80                     | 1   |
| 579.60         |     |     |     |     |     |     |     |     |     |     |     |     |                | 579.60                     | 1   |
| 579.40         |     |     |     |     |     |     |     |     |     |     |     |     |                | 579.40                     | 1   |
| 579.20         |     |     |     |     |     |     |     |     |     |     |     |     |                | 579.20                     | 3   |
| 579.00         |     |     |     |     |     |     |     |     |     |     |     |     |                | 579.00                     | 6   |
| 578.80         |     |     |     |     |     |     |     |     |     |     |     |     |                | 578.80                     | 11  |
| 578.60         |     |     |     |     |     |     |     |     |     |     |     |     |                | 578.60                     | 25  |
| 578.40         |     |     |     |     |     |     |     |     |     |     |     |     |                | 578.40                     | 68  |
| 578.20         |     |     |     |     |     |     |     |     |     |     |     |     |                | 578.20                     | 131 |
| 578.00         |     |     |     |     |     |     |     |     |     |     |     |     |                | 578.00                     | 176 |
| 577.80         |     |     |     |     |     |     |     |     |     |     |     |     |                | 577.80                     | 212 |
| 577.60         |     |     |     |     |     |     |     |     |     |     |     |     |                | 577.60                     | 256 |
| 577.40         | 4   | 1   | 7   | 16  | 5   | 1   |     |     |     |     |     |     |                | 577.40                     | 298 |
| 577.20         | 18  | 10  | 9   | 3   | 1   |     |     |     |     |     |     |     |                | 577.20                     | 342 |
| 577.00         | 7   | 9   | 3   |     |     |     |     |     |     |     |     |     |                | 577.00                     | 361 |
| 576.80         | 1   | 1   | 1   |     |     |     |     |     |     |     |     |     |                | 576.80                     | 364 |
| 576.60         | 1   |     |     |     |     |     |     |     |     |     |     |     |                | 576.60                     | 365 |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

| 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   | 577.14 | 577.41 | 577.11 | 577.76 | 577.39 | 578.12 | 578.52 | 578.26 | 578.33 | 577.77 | 578.13 | 577.90 |  |
| 2   | 577.09 | 577.37 | 576.99 | 578.36 | 577.58 | 578.03 | 578.40 | 578.28 | 578.38 | 577.80 | 578.06 | 578.19 |  |
| 3   | 577.35 | 577.44 | 577.15 | 577.75 | 577.81 | 577.65 | 578.32 | 578.41 | 578.39 | 577.83 | 578.13 | 581.16 |  |
| 4   | 577.22 | 577.42 | 577.31 | 577.55 | 577.84 | 578.02 | 578.32 | 578.56 | 578.33 | 577.47 | 578.45 | 578.69 |  |
| 5   | 577.22 | 577.41 | 577.34 | 577.44 | 577.84 | 577.94 | 578.57 | 578.73 | 578.37 | 577.87 | 578.78 | 577.85 |  |
| 6   | 577.26 | 577.32 | 577.35 | 577.55 | 577.69 | 578.10 | 578.54 | 578.63 | 578.42 | 578.40 | 578.23 | 577.58 |  |
| 7   | 577.17 | 577.41 | 577.35 | 577.48 | 577.62 | 578.13 | 578.37 | 578.37 | 578.68 | 578.58 | 577.90 | 577.69 |  |
| 8   | 577.30 | 577.35 | 577.47 | 577.52 | 577.86 | 578.26 | 578.41 | 578.29 | 578.42 | 578.55 | 577.76 | 577.90 |  |
| 9   | 577.27 | 577.30 | 577.43 | 577.99 | 578.94 | 578.14 | 578.42 | 578.19 | 578.32 | 578.75 | 577.71 | 577.76 |  |
| 10  | 577.38 | 577.11 | 577.31 | 577.97 | 578.39 | 578.07 | 578.63 | 578.49 | 578.43 | 579.27 | 577.79 | 578.02 |  |
| 11  | 576.98 | 577.18 | 577.48 | 577.69 | 577.60 | 578.15 | 578.84 | 578.48 | 578.29 | 578.13 | 577.50 | 578.32 |  |
| 12  | 576.74 | 577.47 | 577.66 | 577.40 | 577.77 | 578.30 | 579.19 | 578.67 | 578.26 | 578.06 | 577.56 | 578.18 |  |
| 13  | 577.13 | 577.25 | 577.45 | 577.43 | 577.93 | 578.20 | 578.63 | 578.46 | 578.25 | 578.18 | 577.82 | 577.73 |  |
| 14  | 577.41 | 577.19 | 577.61 | 577.64 | 577.94 | 578.23 | 578.66 | 578.05 | 578.48 | 578.09 | 577.81 | 577.85 |  |
| 15  | 577.35 | 577.50 | 577.59 | 577.61 | 578.20 | 578.26 | 578.54 | 578.36 | 578.45 | 577.79 | 577.83 | 578.47 |  |
| 16  | 577.31 | 577.63 | 577.45 | 577.63 | 578.28 | 578.41 | 578.35 | 578.38 | 578.86 | 578.01 | 578.10 | 577.98 |  |
| 17  | 577.45 | 577.34 | 577.32 | 577.44 | 577.76 | 578.27 | 578.36 | 578.29 | 578.41 | 578.33 | 577.87 | 577.99 |  |
| 18  | 577.07 | 577.39 | 577.31 | 577.29 | 577.66 | 578.15 | 578.34 | 578.92 | 578.18 | 578.10 | 577.87 | 578.19 |  |
| 19  | 577.17 | 576.91 | 577.47 | 577.40 | 578.21 | 578.25 | 578.60 | 579.34 | 578.30 | 577.92 | 578.02 | 578.27 |  |
| 20  | 577.21 | 577.06 | 577.45 | 577.71 | 579.05 | 578.33 | 578.57 | 578.92 | 578.23 | 578.14 | 578.04 | 578.26 |  |
| 21  | 577.52 | 577.15 | 577.56 | 577.69 | 578.28 | 578.21 | 578.49 | 578.77 | 578.08 | 578.24 | 578.02 | 578.22 |  |
| 22  | 577.27 | 577.17 | 577.67 | 577.63 | 578.14 | 579.16 | 578.66 | 578.60 | 577.92 | 577.98 | 577.61 | 577.60 |  |
| 23  | 577.40 | 577.33 | 577.26 | 577.72 | 578.20 | 578.80 | 578.54 | 578.48 | 577.92 | 578.09 | 577.48 | 577.55 |  |
| 24  | 577.40 | 577.04 | 577.32 | 577.81 | 578.25 | 578.29 | 578.46 | 578.42 | 577.50 | 578.21 | 577.71 | 577.43 |  |
| 25  | 577.25 | 577.28 | 577.20 | 577.68 | 578.34 | 578.32 | 578.47 | 578.44 | 577.96 | 578.16 | 577.69 | 577.30 |  |
| 26  | 577.45 | 577.33 | 577.53 | 577.70 | 578.29 | 578.40 | 578.50 | 578.37 | 578.11 | 577.86 | 578.20 | 577.30 |  |
| 27  | 577.31 | 577.08 | 577.53 | 577.77 | 578.19 | 578.56 | 578.55 | 578.47 | 578.18 | 577.61 | 578.38 | 577.87 |  |
| 28  | 577.15 | 577.08 | 577.63 | 577.80 | 578.35 | 578.54 | 578.49 | 578.43 | 578.34 | 577.81 | 577.36 | 578.06 |  |
| 29  | 577.31 |        | 577.79 | 577.77 | 578.56 | 578.55 | 578.55 | 578.30 | 578.33 | 577.80 | 577.47 | 577.99 |  |
| 30  | 577.31 |        | 577.73 | 577.71 | 578.08 | 578.54 | 578.78 | 578.30 | 578.18 | 578.13 | 577.45 | 577.95 |  |
| 31  | 577.37 |        | 577.64 |        | 577.94 |        | 578.38 | 578.26 |        | 578.24 |        | 577.87 |  |
| Mean  | 577.26 | 577.28 | 577.43 | 577.66 | 578.06 | 578.28 | 578.53 | 578.48 | 578.28 | 578.10 | 577.89 | 578.04 |  |
| Max.  | 578.34 | 578.56 | 578.43 | 578.83 | 580.08 | 580.74 | 580.16 | 580.22 | 579.93 | 580.25 | 579.75 | 583.42 |  |
| Hr.   | 2400   | 1800   | 0400   | 0600   | 0700   | 1900   | 1000   | 1800   | 0300   | 1200   | 1500   | 1300   |  |
| Day   | 23     | 24     | 16     | 2      | 20     | 22     | 12     | 18     | 14     | 10     | 5      | 3      |  |
| Min.  | 575.98 | 575.81 | 576.69 | 576.28 | 576.85 | 576.45 | 577.81 | 577.72 | 577.13 | 576.39 | 576.34 | 576.73 |  |
| Hr.   | 1900   | 2400   | 0100   | 2400   | 1000   | 1100   | 2400   | 0700   | 2400   | 1500   | 0700   | 2300   |  |
| Day   | 11     | 24     | 16     | 5      | 11     | 3      | 3      | 14     | 24     | 4      | 12     | 25     |  |

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

Annual Mean 577.94

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 578.34 Jul  
Daily mean elevation: 578.87 8 Jun  
Instant/hourly elevation: 579.27 0200/9 Jun

LOWEST

Monthly mean elevation: 577.22 Feb  
Daily mean elevation: 576.87 24 Feb  
Instant/hourly elevation: 576.19 1000/24 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun         | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 577.53<br>24 | 577.59<br>26 | 577.55<br>29 | 577.73<br>28 | 578.10<br>16 | 578.87<br>8 | 578.50<br>17 | 578.47<br>19 | 578.35<br>13 | 578.38<br>3  | 578.47<br>21 | 578.39<br>12 |
| Min Day | 577.10<br>20 | 576.87<br>24 | 577.04<br>3  | 577.28<br>17 | 577.52<br>9  | 577.88<br>4 | 578.21<br>5  | 578.11<br>5  | 577.56<br>23 | 577.58<br>28 | 577.43<br>12 | 577.47<br>26 |

----- 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         |     |     |     |     |     | 3   |     |     |     |     |     |     | 578.60         | 5                          |
| 578.40         |     |     |     |     |     | 6   | 1   |     |     |     |     |     | 578.40         | 13                         |
| 578.20         |     |     |     |     |     | 8   | 25  | 23  | 10  | 6   | 2   | 3   | 578.20         | 90                         |
| 578.00         |     |     |     |     | 2   | 14  | 7   | 12  | 12  | 9   | 10  |     | 578.00         | 156                        |
| 577.80         |     |     |     |     | 13  | 2   | 7   | 11  | 12  | 8   |     |     | 577.80         | 209                        |
| 577.60         |     |     |     | 11  | 9   |     |     |     |     | 1   | 3   | 9   | 577.60         | 242                        |
| 577.40         | 5   | 4   | 14  | 11  | 7   |     |     |     | 1   | 1   | 3   | 1   | 577.40         | 289                        |
| 577.20         | 13  | 9   | 8   | 5   |     |     |     |     |     |     |     |     | 577.20         | 324                        |
| 577.00         | 9   | 12  | 9   |     |     |     |     |     |     |     |     |     | 577.00         | 354                        |
| 576.80         |     | 2   |     |     |     |     |     |     |     |     |     |     | 576.80         | 356                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan     | Feb    | Mar     | Apr     | May    | Jun     | Jul    | Aug     | Sep     | Oct     | Nov    | Dec    |
|------|---------|--------|---------|---------|--------|---------|--------|---------|---------|---------|--------|--------|
| 1    | 577.23  | 577.19 | 577.48  | 577.53  | 577.56 | 578.00  | 578.24 | 578.29  | 578.28* | 577.75* | 578.14 | 577.94 |
| 2    | /       | 577.15 | 577.08* | 577.28  | 577.52 | 578.18  | 578.35 | 578.31  | 578.11  | 577.92  | 578.03 | 577.78 |
| 3    | /       | 577.32 | 577.04  | 577.36  | 577.60 | 578.16  | 578.47 | 578.33  | 578.30  | 578.38  | 577.91 | 577.67 |
| 4    | 577.19* | 577.30 | 577.12  | /       | 577.55 | 577.88  | 578.22 | 578.36  | 578.29  | 578.08  | 577.81 | 578.12 |
| 5    | 577.31  | 577.45 | 577.13  | /       | 577.54 | 578.07* | 578.21 | 578.11  | 578.17  | 577.91  | 577.82 | 578.12 |
| 6    | 577.17* | 577.22 | 577.13  | /       | 577.57 | 578.18* | 578.24 | 578.15  | 578.25  | 578.01  | 578.07 | 577.80 |
| 7    | 577.20* | 577.39 | 577.14  | 577.52* | 577.73 | 578.74* | 578.30 | 578.24  | 578.17  | 577.83  | 577.89 | 578.04 |
| 8    | 577.39  | 577.33 | 577.20  | 577.52  | 577.93 | 578.87  | 578.43 | 578.27  | 578.33  | 577.91  | 578.06 | 578.00 |
| 9    | 577.29  | 577.33 | 577.29  | 577.61  | 577.52 | 578.86  | 578.31 | 578.28  | 578.28  | 577.85  | 578.17 | 578.11 |
| 10   | 577.31* | 577.10 | 577.14  | 577.40  | 577.79 | 578.65  | 578.24 | 578.16  | 578.08  | 578.14  | 577.80 | 577.73 |
| 11   | /       | 577.15 | 577.23  | 577.36  | 577.64 | 578.77* | 578.30 | 578.18  | 578.22  | 578.34  | 577.59 | 578.12 |
| 12   | /       | 577.46 | 577.43  | 577.71  | /      | 578.23  | 578.18 | 578.28  | 578.06  | 577.43  | 578.39 |        |
| 13   | 577.26* | 577.07 | 577.32  | 577.58  | 577.78 | 578.11* | 578.25 | 578.24  | 578.35  | 578.07  | 577.75 | 577.67 |
| 14   | 577.39  | 577.04 | 577.45  | 577.62  | 577.77 | 578.07  | 578.27 | 578.30  | 578.11  | 578.24  | 578.20 | 578.06 |
| 15   | 577.33  | 577.09 | 577.54  | 577.50  | 577.79 | 578.05  | 578.37 | 578.20* | 578.00  | 578.09* | 577.97 | 577.97 |
| 16   | 577.12  | 577.36 | 577.54  | 577.57  | 578.10 | 578.09  | 578.35 | 578.33* | 578.10  | 578.09* | 577.85 | 578.11 |
| 17   | 577.42  | 577.19 | 577.50  | 577.28  | 577.98 | 578.32  | 578.50 | 578.22  | 578.10  | 578.36  | 577.94 | 577.96 |
| 18   | 577.10  | 577.55 | 577.27  | 577.54  | 577.64 | 578.08  | 578.36 | 578.21  | 578.08  | 577.99  | 578.13 | 577.97 |
| 19   | 577.18  | 576.96 | 577.33  | 577.65  | 577.65 | 578.04  | 578.38 | 578.47  | 578.10  | 577.85  | 577.97 | 577.94 |
| 20   | 577.10  | 577.26 | 577.46  | 577.56  | 577.95 | 578.24  | 578.36 | 578.37  | 578.00  | 578.35  | 577.95 | 578.37 |
| 21   | 577.42  | 577.47 | 577.45  | 577.55  | 577.88 | 578.24  | 578.32 | 578.28  | 578.31  | 578.20  | 578.47 | 578.05 |
| 22   | 577.26  | 577.01 | 577.52  | 577.62  | 577.95 | 578.08  | 578.38 | 578.27  | 577.82  | 578.04  | 578.17 | 578.06 |
| 23   | 577.16  | 577.22 | 577.20  | 577.59  | 577.93 | 578.17  | 578.37 | 578.29  | 577.56  | 578.19  | 577.94 | 577.76 |
| 24   | 577.53  | 576.87 | 577.39* | 577.73  | 577.94 | 578.12  | 578.32 | 578.33  | 577.92  | 577.93  | 577.81 | 577.79 |
| 25   | 577.13  | 577.16 | 577.38* | 577.64  | 577.98 | 578.30  | 578.39 | 578.38  | 578.00  | 577.88  | 577.60 | 577.75 |
| 26   | 577.37  | 577.59 | 577.25  | 577.67  | 578.01 | 578.32  | 578.37 | 578.31  | 578.03  | 578.21  | 577.92 | 577.47 |
| 27   | 577.52  | 577.01 | 577.45  | 577.67* | 577.98 | 578.18  | 578.42 | 578.22  | 578.04  | 578.01  | 578.27 | 577.88 |
| 28   | 577.32  | 577.13 | 577.42  | 577.73  | 577.94 | 578.36  | 578.45 | 578.25  | 577.96  | 577.58  | 578.18 | 578.22 |
| 29   | 577.37  |        | 577.55  | 577.65  | 577.92 | 578.38  | 578.46 | 578.15  | 578.01  | 578.10  | 577.77 | 577.90 |
| 30   | 577.44  |        | 577.52  | 577.68  | 577.93 | 578.25  | 578.22 | 578.27  | 578.00* | 577.98  | 578.32 | 577.68 |
| 31   | 577.28  |        | 577.46  |         | 577.96 |         | 578.31 | 578.26  |         | 577.99  |        | 578.12 |
| Mean | 577.29  | 577.22 | 577.34  | 577.55  | 577.80 | 578.27  | 578.34 | 578.26  | 578.11  | 578.04  | 577.96 | 577.95 |
| Max. | 578.01  | 577.89 | 578.11  | 577.93  | 578.54 | 579.27  | 578.79 | 578.64  | 578.68  | 578.90  | 578.73 | 578.75 |
| Hr.  | 0500    | 2100   | 1600    | 1900    | 1500   | 0200    | 1900   | 1600    | 0900    | 2400    | 0600   | 0500   |
| Day  | 24      | 26     | 15      | 28      | 16     | 9       | 3      | 19      | 4       | 10      | 28     | 4      |
| Min. | 576.59  | 576.19 | 576.83  | 577.08  | 576.95 | 577.30  | 577.81 | 577.90  | 577.39  | 577.21  | 577.01 | 577.12 |
| Hr.  | 1300    | 1000   | 0200    | 1300    | 1700   | 2400    | 2400   | 1400    | 0700    | 0600    | 1900   | 1300   |
| Day  | 25      | 24     | 3       | 2       | 9      | 3       | 4      | 5       | 23      | 28      | 11     | 3      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 577.84

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 600.46 Oct  
Daily mean elevation: 601.04 18 Oct  
Instant/hourly elevation: 601.81 2100/27 Oct

LOWEST

Monthly mean elevation: 599.43 Apr  
Daily mean elevation: 599.18 23 Apr  
Instant/hourly elevation: 598.77 0400/26 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 600.30<br>12 | 600.02<br>13 | 599.80<br>23 | 599.75<br>5  | 600.12<br>10 | 600.33<br>23 | 600.52<br>30 | 600.58<br>5  | 600.79<br>22 | 601.04<br>18 | 600.92<br>12 | 600.59<br>1  |
| Min Day | 599.52<br>14 | 599.33<br>26 | 599.19<br>8  | 599.18<br>23 | 599.49<br>7  | 599.58<br>2  | 600.03<br>7  | 600.16<br>25 | 600.08<br>13 | 600.08<br>3  | 599.90<br>21 | 599.73<br>20 |

----- 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         |     |     |     |     |     |     |     |     |     |     | 3   |     | 600.80         | 4                          |
| 600.60         |     |     |     |     |     |     |     |     |     |     | 3   |     | 600.60         | 16                         |
| 600.40         |     |     |     |     |     |     |     |     |     | 4   |     |     | 600.40         | 59                         |
| 600.20         | 2   |     |     |     |     |     |     |     |     | 12  |     |     | 600.20         | 157                        |
| 600.00         | 2   | 2   |     |     |     |     |     |     |     | 11  |     |     | 600.00         | 200                        |
| 599.80         | 11  | 3   |     |     |     |     |     |     |     | 14  |     |     | 599.80         | 235                        |
| 599.60         | 11  | 8   | 5   | 4   | 15  | 9   | 11  | 6   | 4   | 1   |     |     | 599.60         | 285                        |
| 599.40         | 5   | 13  | 12  | 13  | 7   | 6   |     |     |     |     | 1   |     | 599.40         | 336                        |
| 599.20         |     | 2   | 13  | 12  |     | 1   |     |     |     |     |     |     | 599.20         | 363                        |
| 599.00         |     |     | 1   | 1   |     |     |     |     |     |     |     |     | 599.00         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 599.92 | 599.91 | 599.50 | 599.34 | 599.67 | 599.65 | 600.23 | 600.31 | 600.33 | 600.45 | 600.28 | 600.59 |
| 2    | 599.88 | 599.64 | 599.68 | 599.61 | 599.56 | 599.58 | 600.11 | 600.25 | 600.41 | 600.33 | 600.52 | 600.46 |
| 3    | 599.79 | 599.54 | 599.52 | 599.53 | 599.55 | 599.93 | 600.11 | 600.24 | 600.15 | 600.08 | 600.64 | 600.26 |
| 4    | 600.06 | 599.55 | 599.41 | 599.62 | 599.57 | 599.85 | 600.28 | 600.38 | 600.25 | 600.52 | 600.67 | 600.54 |
| 5    | 599.94 | 599.59 | 599.42 | 599.75 | 599.71 | 599.66 | 600.28 | 600.58 | 600.31 | 600.43 | 600.52 | 600.22 |
| 6    | 599.83 | 599.63 | 599.35 | 599.60 | 599.53 | 599.85 | 600.21 | 600.51 | 600.32 | 600.56 | 600.58 | 600.57 |
| 7    | 599.90 | 599.54 | 599.24 | 599.49 | 599.49 | 599.79 | 600.03 | 600.39 | 600.38 | 600.47 | 600.69 | 600.30 |
| 8    | 599.64 | 599.61 | 599.19 | 599.41 | 599.52 | 599.74 | 600.16 | 600.30 | 600.20 | 600.40 | 600.29 | 600.22 |
| 9    | 599.88 | 599.63 | 599.29 | 599.41 | 599.67 | 599.93 | 600.30 | 600.33 | 600.28 | 600.39 | 600.42 | 600.35 |
| 10   | 599.66 | 599.83 | 599.34 | 599.53 | 600.12 | 599.95 | 600.35 | 600.46 | 600.38 | 600.29 | 600.75 | 600.34 |
| 11   | 600.24 | 599.67 | 599.21 | 599.51 | 599.68 | 599.77 | 600.36 | 600.45 | 600.19 | 600.32 | 600.89 | 600.07 |
| 12   | 600.30 | 599.39 | 599.25 | 599.43 | 599.67 | 599.69 | 600.40 | 600.40 | 600.28 | 600.33 | 600.92 | 600.17 |
| 13   | 599.92 | 600.02 | 599.39 | 599.30 | 599.62 | 599.84 | 600.32 | 600.36 | 600.08 | 600.27 | 600.47 | 600.58 |
| 14   | 599.52 | 599.62 | 599.32 | 599.27 | 599.62 | 600.00 | 600.28 | 600.29 | 600.64 | 600.29 | 600.20 | 600.11 |
| 15   | 599.78 | 599.56 | 599.21 | 599.58 | 599.70 | 600.03 | 600.27 | 600.36 | 600.50 | 600.40 | 600.36 | 600.18 |
| 16   | 599.70 | 599.52 | 599.30 | 599.42 | 599.59 | 599.93 | 600.22 | 600.26 | 600.54 | 600.30 | 600.55 | 600.12 |
| 17   | 599.79 | 599.50 | 599.58 | 599.66 | 599.82 | 599.92 | 600.16 | 600.30 | 600.42 | 600.33 | 600.28 | 600.13 |
| 18   | 600.11 | 599.52 | 599.65 | 599.36 | 600.09 | 600.18 | 600.32 | 600.33 | 600.27 | 601.04 | 600.11 | 600.30 |
| 19   | 599.71 | 600.01 | 599.57 | 599.22 | 599.83 | 600.04 | 600.31 | 600.24 | 600.45 | 600.56 | 600.30 | 600.08 |
| 20   | 599.81 | 599.46 | 599.47 | 599.40 | 599.86 | 599.96 | 600.35 | 600.26 | 600.38 | 600.25 | 600.09 | 599.73 |
| 21   | 599.59 | 599.47 | 599.42 | 599.34 | 599.84 | 600.06 | 600.35 | 600.28 | 600.32 | 600.65 | 599.90 | 600.18 |
| 22   | 599.87 | 599.67 | 599.70 | 599.31 | 599.78 | 600.12 | 600.35 | 600.25 | 600.79 | 600.48 | 600.35 | 600.40 |
| 23   | 599.60 | 599.55 | 599.80 | 599.18 | 599.79 | 600.33 | 600.35 | 600.17 | 600.76 | 600.48 | 600.58 | 600.30 |
| 24   | 599.80 | 599.71 | 599.59 | 599.26 | 599.80 | 600.20 | 600.30 | 600.16 | 600.46 | 600.75 | 600.40 | 600.34 |
| 25   | 599.95 | 599.48 | 599.69 | 599.30 | 599.77 | 600.06 | 600.28 | 600.16 | 600.49 | 600.60 | 600.84 | 600.52 |
| 26   | 599.69 | 599.33 | 599.59 | 599.31 | 599.82 | 600.21 | 600.25 | 600.29 | 600.43 | 600.27 | 600.12 | 600.48 |
| 27   | 599.83 | 599.83 | 599.48 | 599.41 | 599.80 | 600.14 | 600.22 | 600.26 | 600.45 | 600.80 | 600.37 | 599.94 |
| 28   | 599.77 | 599.55 | 599.41 | 599.36 | 599.86 | 599.98 | 600.20 | 600.35 | 600.47 | 600.75 | 600.67 | 599.91 |
| 29   | 599.60 |        | 599.29 | 599.51 | 599.84 | 600.16 | 600.32 | 600.34 | 600.41 | 600.39 | 600.51 | 600.29 |
| 30   | 599.80 |        | 599.35 | 599.60 | 599.78 | 600.24 | 600.52 | 600.25 | 600.41 | 600.57 | 600.29 | 600.25 |
| 31   | 599.53 |        | 599.25 |        | 599.72 |        | 600.38 | 600.18 |        | 600.42 |        | 600.03 |
| Mean | 599.82 | 599.62 | 599.43 | 599.43 | 599.73 | 599.96 | 600.28 | 600.31 | 600.39 | 600.46 | 600.45 | 600.26 |
| Max. | 601.27 | 600.47 | 600.20 | 599.99 | 600.43 | 600.57 | 600.80 | 600.94 | 601.18 | 601.81 | 601.77 | 601.26 |
| Hr.  | 2200   | 0800   | 1900   | 1300   | 2300   | 0900   | 1200   | 1300   | 2300   | 2100   | 1300   | 2100   |
| Day  | 27     | 19     | 22     | 15     | 10     | 23     | 8      | 26     | 22     | 27     | 11     | 1      |
| Min. | 599.10 | 598.93 | 598.92 | 598.77 | 599.03 | 599.11 | 599.43 | 599.37 | 599.64 | 599.64 | 599.36 | 599.22 |
| Hr.  | 1900   | 1800   | 0400   | 0400   | 1600   | 0200   | 1000   | 1100   | 0800   | 1500   | 0600   | 0700   |
| Day  | 31     | 12     | 12     | 26     | 7      | 13     | 8      | 26     | 13     | 3      | 21     | 20     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 600.01

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 600.57 Oct  
Daily mean elevation: 601.00 18 Oct  
Instant/hourly elevation: 601.37 1400/18 Oct

LOWEST

Monthly mean elevation: 599.55 Apr  
Daily mean elevation: 599.42 19 Apr  
Instant/hourly elevation: 599.24 2000/26 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 600.24<br>12 | 599.94<br>1  | 599.74<br>23 | 599.75<br>2  | 600.06<br>10 | 600.29<br>30 | 600.52<br>30 | 600.58<br>5  | 600.70<br>22 | 601.00<br>18 | 600.70<br>4  | 600.64<br>3  |
| Min Day | 599.79<br>29 | 599.49<br>26 | 599.46<br>8  | 599.42<br>19 | 599.68<br>1  | 599.84<br>1  | 600.28<br>7  | 600.37<br>31 | 600.36<br>11 | 600.38<br>11 | 600.36<br>21 | 600.14<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 600.80         |     |     |     |     |     |     |     |     |     | 1   |     |     | 600.80         | 1                          |
| 600.60         |     |     |     |     |     |     |     |     | 3   | 11  | 8   | 2   | 600.60         | 25                         |
| 600.40         |     |     |     |     |     |     |     |     | 22  | 18  | 17  | 4   | 600.40         | 132                        |
| 600.20         | 1   |     |     |     |     | 9   | 13  | 28  | 5   | 1   | 5   | 21  | 600.20         | 190                        |
| 600.00         | 5   |     |     |     |     | 11  |     |     |     |     |     | 4   | 600.00         | 211                        |
| 599.80         | 23  | 5   |     |     | 1   | 17  | 10  |     |     |     |     |     | 599.80         | 266                        |
| 599.60         | 2   | 20  | 12  | 7   | 13  |     |     |     |     |     |     |     | 599.60         | 320                        |
| 599.40         | 3   | 19  | 23  |     |     |     |     |     |     |     |     |     | 599.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 600.03 | 599.94 | 599.53 | 599.59 | 599.68 | 599.84 | 600.30 | 600.44 | 600.43 | 600.49 | 600.56 | 600.47 |
| 2    | 599.97 | 599.88 | 599.64 | 599.75 | 599.69 | 599.87 | 600.28 | 600.44 | 600.48 | 600.45 | 600.63 | 600.48 |
| 3    | 599.96 | 599.77 | 599.64 | 599.63 | 599.72 | 600.05 | 600.33 | 600.44 | 600.39 | 600.43 | 600.62 | 600.64 |
| 4    | 600.02 | 599.74 | 599.55 | 599.58 | 599.73 | 599.96 | 600.30 | 600.49 | 600.41 | 600.49 | 600.70 | 600.63 |
| 5    | 600.02 | 599.75 | 599.52 | 599.64 | 599.74 | 599.92 | 600.33 | 600.58 | 600.41 | 600.52 | 600.68 | 600.36 |
| 6    | 599.91 | 599.74 | 599.50 | 599.58 | 599.69 | 599.92 | 600.29 | 600.53 | 600.43 | 600.61 | 600.62 | 600.40 |
| 7    | 599.93 | 599.71 | 599.46 | 599.53 | 599.73 | 599.97 | 600.28 | 600.47 | 600.46 | 600.52 | 600.61 | 600.36 |
| 8    | 599.90 | 599.73 | 599.46 | 599.51 | 599.79 | 599.96 | 600.32 | 600.46 | 600.38 | 600.52 | 600.48 | 600.31 |
| 9    | 600.05 | 599.74 | 599.47 | 599.56 | 599.77 | 600.00 | 600.40 | 600.51 | 600.39 | 600.51 | 600.51 | 600.37 |
| 10   | 599.91 | 599.74 | 599.48 | 599.56 | 600.06 | 599.98 | 600.41 | 600.54 | 600.43 | 600.53 | 600.57 | 600.37 |
| 11   | 600.09 | 599.76 | 599.47 | 599.58 | 599.78 | 599.98 | 600.42 | 600.51 | 600.36 | 600.38 | 600.65 | 600.28 |
| 12   | 600.24 | 599.68 | 599.50 | 599.50 | 599.76 | 600.01 | 600.44 | 600.49 | 600.40 | 600.44 | 600.65 | 600.30 |
| 13   | 599.96 | 599.85 | 599.58 | 599.47 | 599.74 | 600.07 | 600.41 | 600.46 | 600.43 | 600.41 | 600.49 | 600.44 |
| 14   | 599.86 | 599.76 | 599.54 | 599.49 | 599.79 | 600.09 | 600.41 | 600.41 | 600.65 | 600.45 | 600.37 | 600.25 |
| 15   | 599.89 | 599.73 | 599.52 | 599.54 | 599.81 | 600.12 | 600.38 | 600.45 | 600.58 | 600.45 | 600.51 | 600.31 |
| 16   | 599.92 | 599.82 | 599.55 | 599.52 | 599.89 | 600.11 | 600.38 | 600.45 | 600.58 | 600.46 | 600.54 | 600.24 |
| 17   | 599.91 | 599.74 | 599.61 | 599.60 | 599.92 | 600.16 | 600.38 | 600.46 | 600.53 | 600.45 | 601.00 | 600.36 |
| 18   | 599.93 | 599.64 | 599.69 | 599.49 | 599.95 | 600.20 | 600.39 | 600.53 | 600.45 | 601.00 | 600.36 | 600.42 |
| 19   | 599.85 | 599.75 | 599.65 | 599.42 | 599.94 | 600.18 | 600.46 | 600.46 | 600.50 | 600.67 | 600.44 | 600.29 |
| 20   | 599.92 | 599.61 | 599.61 | 599.48 | 599.95 | 600.20 | 600.45 | 600.42 | 600.52 | 600.60 | 600.38 | 600.18 |
| 21   | 599.84 | 599.58 | 599.63 | 599.48 | 599.94 | 600.18 | 600.45 | 600.42 | 600.50 | 600.66 | 600.36 | 600.33 |
| 22   | 599.88 | 599.65 | 599.69 | 599.49 | 599.92 | 600.24 | 600.46 | 600.41 | 600.70 | 600.62 | 600.42 | 600.35 |
| 23   | 599.88 | 599.71 | 599.74 | 599.45 | 599.92 | 600.28 | 600.45 | 600.38 | 600.69 | 600.65 | 600.49 | 600.25 |
| 24   | 599.87 | 599.84 | 599.64 | 599.48 | 599.90 | 600.22 | 600.45 | 600.40 | 600.52 | 600.72 | 600.48 | 600.22 |
| 25   | 599.97 | 599.66 | 599.62 | 599.52 | 599.89 | 600.23 | 600.44 | 600.43 | 600.53 | 600.69 | 600.59 | 600.28 |
| 26   | 599.84 | 599.49 | 599.66 | 599.55 | 599.91 | 600.24 | 600.42 | 600.46 | 600.52 | 600.54 | 600.48 | 600.24 |
| 27   | 599.85 | 599.70 | 599.60 | 599.61 | 599.90 | 600.25 | 600.42 | 600.45 | 600.50 | 600.72 | 600.53 | 600.15 |
| 28   | 599.80 | 599.58 | 599.57 | 599.67 | 599.92 | 600.25 | 600.41 | 600.46 | 600.51 | 600.73 | 600.59 | 600.14 |
| 29   | 599.79 |        | 599.56 | 599.67 | 599.91 | 600.26 | 600.47 | 600.47 | 600.54 | 600.59 | 600.50 | 600.31 |
| 30   | 599.88 |        | 599.51 | 599.69 | 599.87 | 600.29 | 600.52 | 600.43 | 600.50 | 600.64 | 600.40 | 600.34 |
| 31   | 599.82 |        | 599.52 |        | 599.86 |        | 600.48 | 600.37 |        | 600.60 |        | 600.14 |
| Mean | 599.93 | 599.72 | 599.57 | 599.55 | 599.84 | 600.10 | 600.40 | 600.46 | 600.49 | 600.57 | 600.52 | 600.33 |
| Max. | 600.53 | 600.24 | 599.98 | 599.98 | 600.27 | 600.55 | 600.85 | 600.76 | 601.16 | 601.37 | 601.02 | 600.87 |
| Hr.  | 1100   | 1900   | 2200   | 2200   | 1200   | 2300   | 1900   | 2100   | 0300   | 1400   | 1200   | 0200   |
| Day  | 12     | 16     | 13     | 27     | 10     | 29     | 8      | 18     | 14     | 18     | 27     | 4      |
| Min. | 599.49 | 599.39 | 599.25 | 599.24 | 599.50 | 599.64 | 599.62 | 600.16 | 600.07 | 600.11 | 600.11 | 599.95 |
| Hr.  | 1900   | 0500   | 0800   | 2000   | 2400   | 0200   | 1200   | 1800   | 0700   | 1600   | 0500   | 0100   |
| Day  | 6      | 18     | 16     | 26     | 7      | 3      | 8      | 31     | 12     | 17     | 21     | 29     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 600.12

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990  
Station: 909-9044      Ontonagon, Michigan    on Lake Superior

HIGHEST

Monthly mean elevation: 600.62 Oct  
Daily mean elevation: 600.75 29 Oct  
Instant/hourly elevation: 601.54 1700/16 Aug

LOWEST

Monthly mean elevation: 599.59 Apr  
Daily mean elevation: 599.50 12 Apr  
Instant/hourly elevation: 599.19 2300/25 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 600.07<br>8  | 599.88<br>12 | 599.89<br>15 | 599.82<br>28 | 600.06<br>19 | 600.39<br>28 | 600.56<br>26 | 600.60<br>3  | 600.64<br>20 | 600.75<br>29 | 600.74<br>1  | 600.56<br>3  |
| Min Day | 599.87<br>30 | 599.59<br>27 | 599.56<br>31 | 599.50<br>12 | 599.71<br>1  | 599.96<br>4  | 600.36<br>4  | 600.44<br>21 | 600.39<br>10 | 600.46<br>11 | 600.47<br>16 | 600.27<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 600.60         |     |     |     |     |     |     |     |     | 5   | 17  | 11  |     | 600.60         | 33                         |
| 600.40         |     |     |     |     |     |     |     |     | 24  | 14  | 19  |     | 600.40         | 154                        |
| 600.20         |     |     |     |     |     |     | 26  | 31  | 1   |     |     |     | 600.20         | 200                        |
| 600.00         | 13  |     |     |     | 7   | 10  |     |     |     |     |     |     | 600.00         | 230                        |
| 599.80         | 18  | 11  | 3   | 1   | 19  | 4   |     |     |     |     |     |     | 599.80         | 286                        |
| 599.60         |     | 16  | 22  | 7   | 5   |     |     |     |     |     |     |     | 599.60         | 336                        |
| 599.40         |     | 1   | 6   | 22  |     |     |     |     |     |     |     |     | 599.40         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

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    | 600.01 | 599.86 | 599.57 | 599.70 | 599.71 | 599.98 | 600.38 | 600.54 | 600.49 | 600.54 | 600.74 | 600.47 |
| 2    | 600.01 | 599.86 | 599.61 | 599.63 | 599.78 | 600.09 | 600.40 | 600.56 | 600.48 | 600.60 | 600.69 | 600.50 |
| 3    | 600.05 | 599.85 | 599.62 | 599.55 | 599.83 | 599.99 | 600.41 | 600.60 | 600.51 | 600.64 | 600.69 | 600.56 |
| 4    | 600.03 | 599.84 | 599.64 | 599.53 | 599.84 | 599.96 | 600.36 | 600.56 | 600.48 | 600.55 | 600.69 | 600.33 |
| 5    | 600.06 | 599.82 | 599.62 | 599.55 | 599.76 | 600.08 | 600.38 | 600.50 | 600.51 | 600.61 | 600.72 | 600.38 |
| 6    | 600.01 | 599.82 | 599.61 | 599.54 | 599.82 | 599.99 | 600.38 | 600.49 | 600.56 | 600.56 | 600.64 | 600.33 |
| 7    | 600.00 | 599.82 | 599.62 | 599.54 | 599.92 | 600.04 | 600.44 | 600.53 | 600.45 | 600.56 | 600.62 | 600.38 |
| 8    | 600.07 | 599.82 | 599.66 | 599.56 | 599.85 | 600.07 | 600.46 | 600.54 | 600.44 | 600.52 | 600.64 | 600.43 |
| 9    | 600.03 | 599.82 | 599.58 | 599.58 | 599.82 | 600.04 | 600.47 | 600.59 | 600.42 | 600.48 | 600.62 | 600.37 |
| 10   | 600.04 | 599.80 | 599.56 | 599.51 | 599.73 | 600.08 | 600.46 | 600.58 | 600.39 | 600.49 | 600.57 | 600.40 |
| 11   | 600.01 | 599.80 | 599.71 | 599.53 | 599.77 | 600.16 | 600.47 | 600.56 | 600.48 | 600.46 | 600.53 | 600.45 |
| 12   | 600.01 | 599.88 | 599.80 | 599.50 | 599.82 | 600.17 | 600.48 | 600.50 | 600.54 | 600.48 | 600.53 | 600.37 |
| 13   | 600.01 | 599.72 | 599.75 | 599.55 | 599.87 | 600.21 | 600.44 | 600.49 | 600.61 | 600.55 | 600.57 | 600.37 |
| 14   | 600.06 | 599.74 | 599.85 | 599.58 | 599.91 | 600.16 | 600.51 | 600.52 | 600.49 | 600.54 | 600.59 | 600.33 |
| 15   | 599.95 | 599.80 | 599.89 | 599.51 | 599.91 | 600.17 | 600.51 | 600.53 | 600.62 | 600.52 | 600.55 | 600.37 |
| 16   | 599.98 | 599.84 | 599.84 | 599.59 | 599.99 | 600.23 | 600.49 | 600.58 | 600.54 | 600.61 | 600.47 | 600.32 |
| 17   | 599.95 | 599.74 | 599.75 | 599.51 | 599.98 | 600.22 | 600.51 | 600.56 | 600.52 | 600.70 | 600.50 | 600.33 |
| 18   | 599.91 | 599.73 | 599.73 | 599.54 | 599.92 | 600.23 | 600.48 | 600.54 | 600.56 | 600.58 | 600.54 | 600.36 |
| 19   | 599.94 | 599.66 | 599.70 | 599.53 | 600.06 | 600.32 | 600.50 | 600.50 | 600.54 | 600.68 | 600.52 | 600.37 |
| 20   | 599.96 | 599.69 | 599.68 | 599.52 | 600.04 | 600.34 | 600.50 | 600.48 | 600.64 | 600.74 | 600.60 | 600.44 |
| 21   | 599.94 | 599.68 | 599.74 | 599.55 | 600.02 | 600.30 | 600.52 | 600.44 | 600.62 | 600.70 | 600.66 | 600.43 |
| 22   | 599.88 | 599.72 | 599.64 | 599.56 | 600.02 | 600.31 | 600.55 | 600.47 | 600.62 | 600.74 | 600.51 | 600.33 |
| 23   | 599.99 | 599.76 | 599.66 | 599.62 | 600.04 | 600.26 | 600.52 | 600.50 | 600.53 | 600.74 | 600.51 | 600.33 |
| 24   | 599.90 | 599.66 | 599.59 | 599.60 | 600.03 | 600.31 | 600.53 | 600.51 | 600.60 | 600.69 | 600.58 | 600.36 |
| 25   | 599.91 | 599.64 | 599.63 | 599.60 | 600.03 | 600.33 | 600.54 | 600.53 | 600.57 | 600.69 | 600.49 | 600.36 |
| 26   | 599.92 | 599.66 | 599.62 | 599.64 | 599.99 | 600.29 | 600.56 | 600.51 | 600.57 | 600.75 | 600.64 | 600.33 |
| 27   | 599.87 | 599.59 | 599.61 | 599.71 | 599.96 | 600.35 | 600.55 | 600.51 | 600.56 | 600.70 | 600.57 | 600.38 |
| 28   | 599.92 | 599.61 | 599.67 | 599.82 | 599.97 | 600.39 | 600.55 | 600.47 | 600.55 | 600.68 | 600.50 | 600.33 |
| 29   | 599.94 |        | 599.63 | 599.74 | 599.96 | 600.36 | 600.53 | 600.48 | 600.58 | 600.75 | 600.49 | 600.33 |
| 30   | 599.87 |        | 599.59 | 599.73 | 599.93 | 600.35 | 600.46 | 600.49 | 600.51 | 600.68 | 600.51 | 600.32 |
| 31   | 599.92 |        | 599.56 |        | 599.93 |        | 600.52 | 600.54 |        | 600.74 |        | 600.27 |
| Mean | 599.97 | 599.76 | 599.67 | 599.59 | 599.91 | 600.19 | 600.48 | 600.52 | 600.53 | 600.62 | 600.58 | 600.38 |
| Max. | 600.21 | 600.02 | 600.09 | 600.11 | 600.21 | 600.59 | 600.76 | 601.54 | 601.04 | 600.97 | 600.88 | 600.72 |
| Hr.  | 0400   | 1500   | 0800   | 1100   | 0200   | 1900   | 1400   | 1700   | 2100   | 0500   | 0300   | 0200   |
| Day  | 8      | 12     | 16     | 28     | 8      | 28     | 18     | 16     | 13     | 21     | 4      | 1      |
| Min. | 599.48 | 599.51 | 599.35 | 599.19 | 599.49 | 599.80 | 600.07 | 600.35 | 600.12 | 600.24 | 600.15 | 600.13 |
| Hr.  | 2100   | 2300   | 1800   | 2300   | 1900   | 1400   | 0600   | 1600   | 0800   | 2100   | 0600   | 0700   |
| Day  | 27     | 27     | 24     | 25     | 8      | 3      | 4      | 28     | 14     | 6      | 28     | 14     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 600.18

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990  
STATION: 909-9064 Duluth, Minnesota on Lake Superior

HIGHEST

Monthly mean elevation: 600.76 Oct  
Daily mean elevation: 601.22 17 Oct  
Instant/hourly elevation: 601.63 1100/17 Oct

LOWEST

Monthly mean elevation: 599.73 Apr  
Daily mean elevation: 599.40 1 Mar  
Instant/hourly elevation: 598.79 2000/27 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 600.27<br>23 | 600.10<br>2  | 599.99<br>15 | 600.03<br>28 | 600.32<br>7  | 600.62<br>28 | 600.92<br>27 | 601.08<br>19 | 600.91<br>12 | 601.22<br>17 | 600.97<br>26 | 600.86<br>3  |
| Min Day | 599.65<br>11 | 599.51<br>27 | 599.40<br>1  | 599.53<br>17 | 599.77<br>10 | 600.07<br>6  | 600.48<br>4  | 600.59<br>4  | 600.55<br>23 | 600.46<br>4  | 600.30<br>23 | 600.07<br>25 |

----- 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   |     |     | 601.20         | 1                          |
| 601.00         |     |     |     |     |     |     |     |     | 2   |     |     |     | 601.00         | 3                          |
| 600.80         |     |     |     |     |     |     | 3   | 1   | 7   | 12  | 4   | 1   | 600.80         | 31                         |
| 600.60         |     |     |     |     |     | 1   | 20  | 26  | 20  | 12  | 14  | 4   | 600.60         | 128                        |
| 600.40         |     |     |     |     |     | 10  | 8   | 2   | 3   | 6   | 9   | 12  | 600.40         | 178                        |
| 600.20         | 3   |     |     |     | 4   | 15  |     |     |     | 3   | 10  |     | 600.20         | 213                        |
| 600.00         | 16  | 6   |     | 1   | 17  | 4   |     |     |     |     | 4   |     | 600.00         | 261                        |
| 599.80         | 9   | 10  | 11  | 7   | 8   |     |     |     |     |     |     |     | 599.80         | 306                        |
| 599.60         | 3   | 9   | 14  | 17  | 2   |     |     |     |     |     |     |     | 599.60         | 351                        |
| 599.40         | 3   | 5   | 5   |     |     |     |     |     |     |     |     |     | 599.40         | 364                        |
| 599.20         |     | 1   |     |     |     |     |     |     |     |     |     |     | 599.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

Station: 909-9064 Duluth, Minnesota on Lake Superior

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 599.99 | 599.94 | 599.40 | 599.88 | 599.78 | 600.22 | 600.56 | 600.74 | 600.56 | 600.58 | 600.96 | 600.40 |
| 2    | 600.13 | 600.10 | 599.49 | 599.74 | 599.93 | 600.37 | 600.57 | 600.78 | 600.69 | 600.82 | 600.74 | 600.69 |
| 3    | 600.13 | 600.02 | 599.67 | 599.77 | 600.02 | 600.10 | 600.64 | 600.72 | 600.78 | 600.77 | 600.68 | 600.86 |
| 4    | 600.06 | 600.02 | 599.82 | 599.64 | 599.99 | 600.14 | 600.48 | 600.59 | 600.69 | 600.46 | 600.78 | 600.49 |
| 5    | 600.17 | 599.92 | 599.78 | 599.61 | 599.92 | 600.32 | 600.51 | 600.64 | 600.74 | 600.70 | 600.86 | 600.48 |
| 6    | 600.04 | 599.94 | 599.80 | 599.57 | 599.94 | 600.07 | 600.59 | 600.70 | 600.78 | 600.60 | 600.65 | 600.34 |
| 7    | 600.06 | 599.96 | 599.80 | 599.65 | 600.32 | 600.23 | 600.73 | 600.68 | 600.85 | 600.67 | 600.65 | 600.44 |
| 8    | 600.17 | 599.92 | 599.87 | 599.72 | 600.02 | 600.26 | 600.60 | 600.62 | 600.74 | 600.69 | 600.76 | 600.58 |
| 9    | 600.10 | 599.81 | 599.67 | 599.85 | 600.09 | 600.12 | 600.59 | 600.65 | 600.68 | 600.66 | 600.53 | 600.33 |
| 10   | 600.15 | 599.77 | 599.67 | 599.63 | 599.77 | 600.25 | 600.70 | 600.74 | 600.64 | 600.68 | 600.46 | 600.62 |
| 11   | 599.65 | 599.90 | 599.93 | 599.60 | 599.96 | 600.38 | 600.68 | 600.75 | 600.74 | 600.61 | 600.43 | 600.72 |
| 12   | 599.92 | 600.05 | 599.88 | 599.61 | 600.00 | 600.41 | 600.65 | 600.71 | 600.91 | 600.63 | 600.46 | 600.34 |
| 13   | 600.11 | 599.62 | 599.80 | 599.72 | 600.12 | 600.30 | 600.72 | 600.64 | 600.90 | 600.79 | 600.70 | 600.37 |
| 14   | 600.21 | 599.86 | 599.92 | 599.69 | 600.16 | 600.38 | 600.68 | 600.67 | 600.82 | 600.54 | 600.68 | 600.50 |
| 15   | 600.03 | 600.04 | 599.99 | 599.60 | 600.16 | 600.52 | 600.63 | 600.65 | 600.84 | 600.71 | 600.51 | 600.44 |
| 16   | 600.17 | 600.08 | 599.82 | 599.53 | 600.19 | 600.52 | 600.63 | 600.65 | 600.84 | 601.22 | 600.65 | 600.44 |
| 17   | 599.96 | 599.96 | 599.63 | 599.53 | 599.93 | 600.40 | 600.71 | 600.74 | 600.84 | 600.59 | 600.70 | 600.53 |
| 18   | 599.85 | 599.64 | 599.67 | 599.64 | 599.94 | 600.31 | 600.59 | 601.06 | 600.79 | 600.59 | 600.70 | 600.53 |
| 19   | 600.00 | 599.60 | 599.70 | 599.72 | 600.30 | 600.55 | 600.66 | 601.08 | 600.66 | 600.97 | 600.66 | 600.67 |
| 20   | 600.22 | 599.75 | 599.82 | 599.72 | 600.22 | 600.47 | 600.62 | 600.84 | 600.90 | 600.93 | 600.89 | 600.57 |
| 21   | 600.00 | 599.67 | 599.95 | 599.72 | 600.18 | 600.35 | 600.64 | 600.69 | 600.68 | 600.73 | 600.75 | 600.52 |
| 22   | 599.83 | 599.75 | 599.49 | 599.76 | 600.19 | 600.38 | 600.67 | 600.71 | 600.60 | 600.98 | 600.40 | 600.08 |
| 23   | 600.27 | 599.92 | 599.56 | 599.83 | 600.19 | 600.36 | 600.67 | 600.77 | 600.55 | 600.83 | 600.30 | 600.19 |
| 24   | 599.89 | 599.60 | 599.49 | 599.78 | 600.20 | 600.45 | 600.72 | 600.75 | 600.62 | 600.81 | 600.60 | 600.30 |
| 25   | 599.91 | 599.74 | 599.54 | 599.82 | 600.25 | 600.45 | 600.77 | 600.74 | 600.64 | 600.88 | 600.42 | 600.07 |
| 26   | 600.05 | 599.73 | 599.72 | 599.85 | 600.11 | 600.48 | 600.87 | 600.67 | 600.70 | 600.95 | 600.97 | 600.23 |
| 27   | 599.70 | 599.51 | 599.79 | 599.96 | 600.11 | 600.57 | 600.92 | 600.74 | 600.65 | 600.58 | 600.72 | 600.50 |
| 28   | 600.12 | 599.67 | 599.90 | 600.03 | 600.18 | 600.62 | 600.83 | 600.60 | 600.68 | 600.82 | 600.37 | 600.38 |
| 29   | 600.15 |        | 599.82 | 599.94 | 600.14 | 600.50 | 600.71 | 600.63 | 600.78 | 600.89 | 600.54 | 600.17 |
| 30   | 599.78 |        | 599.78 | 599.80 | 600.09 | 600.50 | 600.70 | 600.66 | 600.75 | 600.84 | 600.56 | 600.26 |
| 31   | 600.11 |        | 599.76 |        | 600.11 |        | 600.70 | 600.73 |        | 600.95 |        | 600.23 |
| Mean | 600.03 | 599.84 | 599.74 | 599.73 | 600.08 | 600.36 | 600.67 | 600.72 | 600.73 | 600.76 | 600.64 | 600.43 |
| Max. | 600.71 | 600.54 | 600.28 | 600.47 | 600.86 | 600.91 | 601.10 | 601.37 | 601.38 | 601.63 | 601.45 | 601.25 |
| Hr.  | 0200   | 0800   | 0900   | 1900   | 2300   | 2000   | 1800   | 0200   | 2300   | 1100   | 0600   | 0700   |
| Day  | 8      | 16     | 15     | 27     | 7      | 27     | 26     | 19     | 12     | 17     | 21     | 3      |
| Min. | 598.79 | 599.18 | 598.95 | 599.29 | 599.28 | 599.78 | 600.10 | 600.21 | 600.17 | 600.21 | 599.87 | 599.71 |
| Hr.  | 2000   | 1600   | 1200   | 0200   | 1300   | 0900   | 0600   | 0900   | 1200   | 0800   | 2300   | 1100   |
| Day  | 27     | 18     | 1      | 17     | 1      | 6      | 4      | 4      | 14     | 4      | 21     | 22     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 600.31

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Feet, 1990

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

HIGHEST

Monthly mean elevation: 600.53 Oct  
Daily mean elevation: 600.74 26 Oct  
Instant/hourly elevation: 601.09 2000/13 Sep

LOWEST

Monthly mean elevation: 599.53 Apr  
Daily mean elevation: 599.39 2 Mar  
Instant/hourly elevation: 599.07 2100/27 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 600.02<br>10 | 599.83<br>2  | 599.76<br>15 | 599.78<br>28 | 599.94<br>23 | 600.33<br>28 | 600.52<br>17 | 600.51<br>2  | 600.61<br>15 | 600.74<br>26 | 600.72<br>1  | 600.44<br>3  |
| Min Day | 599.69<br>11 | 599.42<br>27 | 599.39<br>2  | 599.41<br>17 | 599.60<br>10 | 599.91<br>3  | 600.25<br>4  | 600.38<br>28 | 600.37<br>1  | 600.39<br>15 | 600.29<br>23 | 600.02<br>25 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 600.60         |     |     |     |     |     |     |     |     | 1   | 9   | 2   |     | 600.60         | 12                         |
| 600.40         |     |     |     |     |     |     |     |     | 25  | 18  | 20  |     | 600.40         | 123                        |
| 600.20         |     |     |     |     |     |     |     |     | 2   | 4   | 8   |     | 600.20         | 184                        |
| 600.00         | 2   |     |     |     |     | 8   | 14  | 2   | 4   | 4   | 8   |     | 600.00         | 209                        |
| 599.80         | 22  | 3   |     |     | 22  | 7   | 15  |     |     |     |     |     | 599.80         | 263                        |
| 599.60         | 7   | 15  | 5   | 6   | 8   |     |     |     |     |     |     |     | 599.60         | 304                        |
| 599.40         |     | 10  | 24  | 24  | 1   |     |     |     |     |     |     |     | 599.40         | 363                        |
| 599.20         |     |     | 2   |     |     |     |     |     |     |     |     |     | 599.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Feet, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 599.90 | 599.73 | 599.39 | 599.61 | 599.65 | 599.96 | 600.30 | 600.50 | 600.37 | 600.46 | 600.72 | 600.30 |
| 2    | 599.98 | 599.83 | 599.39 | 599.52 | 599.74 | 600.06 | 600.31 | 600.51 | 600.40 | 600.55 | 600.60 | 600.39 |
| 3    | 599.99 | 599.82 | 599.48 | 599.53 | 599.74 | 599.91 | 600.29 | 600.47 | 600.45 | 600.60 | 600.59 | 600.44 |
| 4    | 599.90 | 599.81 | 599.52 | 599.45 | 599.76 | 599.93 | 600.25 | 600.41 | 600.42 | 600.41 | 600.56 | 600.28 |
| 5    | 599.94 | 599.78 | 599.50 | 599.44 | 599.69 | 600.01 | 600.26 | 600.40 | 600.42 | 600.43 | 600.61 | 600.38 |
| 6    | 599.92 | 599.78 | 599.53 | 599.44 | 599.78 | 599.94 | 600.31 | 600.43 | 600.41 | 600.39 | 600.51 | 600.23 |
| 7    | 599.91 | 599.76 | 599.55 | 599.49 | 599.83 | 600.00 | 600.40 | 600.44 | 600.44 | 600.44 | 600.48 | 600.32 |
| 8    | 600.02 | 599.70 | 599.57 | 599.51 | 599.73 | 600.04 | 600.37 | 600.42 | 600.44 | 600.40 | 600.60 | 600.36 |
| 9    | 599.92 | 599.69 | 599.50 | 599.54 | 599.81 | 599.96 | 600.40 | 600.45 | 600.42 | 600.42 | 600.47 | 600.21 |
| 10   | 600.02 | 599.65 | 599.47 | 599.45 | 599.60 | 600.00 | 600.36 | 600.45 | 600.38 | 600.41 | 600.38 | 600.26 |
| 11   | 599.69 | 599.71 | 599.58 | 599.44 | 599.78 | 600.07 | 600.37 | 600.44 | 600.42 | 600.43 | 600.32 | 600.41 |
| 12   | 599.82 | 599.76 | 599.60 | 599.45 | 599.81 | 600.15 | 600.34 | 600.41 | 600.46 | 600.40 | 600.32 | 600.24 |
| 13   | 599.89 | 599.56 | 599.57 | 599.52 | 599.83 | 600.10 | 600.39 | 600.43 | 600.57 | 600.48 | 600.47 | 600.22 |
| 14   | 599.98 | 599.68 | 599.65 | 599.51 | 599.84 | 600.10 | 600.41 | 600.42 | 600.50 | 600.42 | 600.50 | 600.25 |
| 15   | 599.85 | 599.73 | 599.76 | 599.45 | 599.82 | 600.05 | 600.41 | 600.42 | 600.61 | 600.39 | 600.45 | 600.26 |
| 16   | 599.88 | 599.72 | 599.67 | 599.42 | 599.91 | 600.14 | 600.41 | 600.43 | 600.53 | 600.43 | 600.36 | 600.27 |
| 17   | 599.84 | 599.72 | 599.53 | 599.41 | 599.85 | 600.13 | 600.52 | 600.45 | 600.58 | 600.59 | 600.44 | 600.25 |
| 18   | 599.74 | 599.56 | 599.54 | 599.50 | 599.81 | 600.12 | 600.40 | 600.49 | 600.58 | 600.41 | 600.49 | 600.23 |
| 19   | 599.85 | 599.52 | 599.57 | 599.53 | 599.93 | 600.26 | 600.43 | 600.47 | 600.49 | 600.63 | 600.42 | 600.35 |
| 20   | 599.85 | 599.64 | 599.61 | 599.48 | 599.90 | 600.20 | 600.43 | 600.44 | 600.56 | 600.67 | 600.55 | 600.39 |
| 21   | 599.87 | 599.57 | 599.65 | 599.50 | 599.91 | 600.21 | 600.42 | 600.42 | 600.53 | 600.58 | 600.58 | 600.33 |
| 22   | 599.73 | 599.55 | 599.43 | 599.51 | 599.93 | 600.18 | 600.42 | 600.44 | 600.40 | 600.73 | 600.42 | 600.10 |
| 23   | 599.91 | 599.62 | 599.45 | 599.57 | 599.94 | 600.13 | 600.43 | 600.44 | 600.41 | 600.66 | 600.29 | 600.14 |
| 24   | 599.80 | 599.46 | 599.49 | 599.54 | 599.92 | 600.20 | 600.44 | 600.43 | 600.48 | 600.60 | 600.39 | 600.16 |
| 25   | 599.76 | 599.56 | 599.45 | 599.60 | 599.93 | 600.24 | 600.45 | 600.48 | 600.47 | 600.67 | 600.31 | 600.02 |
| 26   | 599.87 | 599.58 | 599.51 | 599.62 | 599.90 | 600.23 | 600.50 | 600.50 | 600.49 | 600.74 | 600.54 | 600.12 |
| 27   | 599.70 | 599.42 | 599.53 | 599.67 | 599.90 | 600.27 | 600.50 | 600.47 | 600.44 | 600.51 | 600.52 | 600.33 |
| 28   | 599.83 | 599.54 | 599.58 | 599.78 | 599.89 | 600.33 | 600.50 | 600.38 | 600.46 | 600.60 | 600.31 | 600.21 |
| 29   | 599.90 |        | 599.58 | 599.73 | 599.87 | 600.25 | 600.44 | 600.42 | 600.50 | 600.66 | 600.43 | 600.11 |
| 30   | 599.72 |        | 599.58 | 599.72 | 599.88 | 600.29 | 600.43 | 600.43 | 600.49 | 600.61 | 600.43 | 600.10 |
| 31   | 599.88 |        | 599.58 |        | 599.89 |        | 600.48 | 600.49 |        | 600.65 |        | 600.11 |
| Mean | 599.87 | 599.66 | 599.54 | 599.53 | 599.83 | 600.12 | 600.40 | 600.44 | 600.47 | 600.53 | 600.47 | 600.25 |
| Max. | 600.37 | 600.21 | 600.13 | 600.22 | 600.10 | 600.76 | 600.92 | 600.85 | 601.09 | 601.00 | 600.97 | 600.80 |
| Hr.  | 0400   | 1300   | 1600   | 0200   | 0100   | 1700   | 0500   | 1600   | 2000   | 1100   | 1300   | 1200   |
| Day  | 3      | 12     | 15     | 29     | 8      | 2      | 8      | 31     | 13     | 3      | 21     | 5      |
| Min. | 599.07 | 599.24 | 599.11 | 599.20 | 599.32 | 599.68 | 599.91 | 600.22 | 599.52 | 599.88 | 599.79 | 599.76 |
| Hr.  | 2100   | 0500   | 1300   | 0200   | 1000   | 0500   | 1100   | 0900   | 0100   | 1100   | 2300   | 1500   |
| Day  | 27     | 27     | 1      | 17     | 8      | 5      | 8      | 5      | 12     | 6      | 24     | 25     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 600.09

**Monthly Water Level Stages, in Feet, 1900 thru Dec 1990**

**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 | 244.07 | 244.16 | 244.42 | 245.10 | 245.50 | 245.63 | 245.52 | 245.17 | 244.74 | 244.35 | 244.11 | 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

|             |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|             | 1973  | 1932  | 1976  | 1936  | 1929  | 1947  | 1917  | 1915  | 1915  | 1945  | 1926  | 1927  |
| Max<br>Rise | +0.86 | +0.70 | +1.15 | +1.54 | +0.99 | +1.12 | +0.48 | +0.30 | +0.03 | +0.36 | +0.31 | +0.80 |
| Mean        | +0.04 | +0.09 | +0.26 | +0.68 | +0.40 | +0.13 | -0.11 | -0.35 | -0.44 | -0.38 | -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 1990 mean 244.74

**Monthly Water Level Stages, in Feet, 1900 thru Dec 1990**

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

|             |        |        |        |        |        |        |        |        |        |        |        | International Great Lakes Datum (1955) |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Chart Datum | 568.60 |        |        |        |        |        |        |        |        |        |        |  |
|             | 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        | 569.99 | 569.99 | 570.25 | 570.79 | 571.07 | 571.20 | 571.15 | 570.96 | 570.67 | 570.35 | 570.08 | 570.02                                 |
|             | 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 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 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 1990 mean 570.54

**Monthly Water Level Stages, in Feet, 1900 thru Dec 1990**

**Lake St. Clair at St. Clair Shores**

|  |                       |
|--|-----------------------|
| International Great Lakes Datum (1955) | Chart Datum<br>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 | 572.84 | 572.60 | 573.01 | 573.54 | 573.82 | 573.99 | 574.06 | 573.95 | 573.73 | 573.45 | 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 |

**Monthly Changes**

|         |         |         |         |         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|

|      |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max  | 1916  | 1981  | 1956  | 1913  | 1984  | 1901  | 1902  | 1915  | 1912  | 1986  | 1985  | 1914  |
| 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 | -0.33 | -0.24 | +0.41 | +0.53 | +0.28 | +0.17 | +0.07 | -0.11 | -0.21 | -0.28 | -0.29 | +0.01 |
| Max  | 1956  | 1939  | 1932  | 1984  | 1987  | 1977  | 1919  | 1921  | 1913  | 1948  | 1924  | 1919  |
| 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 1990 mean 573.44

**Monthly Water Level Stages, in Feet, 1900 thru Dec 1990**

**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**

|             |        |        |        |        |        |        |        |        |        |        |        | International Great Lakes Datum (1955) |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
|             |        |        |        |        |        |        |        |        |        |        |        |  |
|             | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec                                    |
| Chart Datum |        |        |        |        |        |        |        |        |        |        |        |  |
| 576.80      |        |        |        |        |        |        |        |        |        |        |        |  |
| 1987        | 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 | 577.88 | 577.92 | 578.19 | 578.49 | 578.71 | 578.84 | 578.79 | 578.63 | 578.42 | 578.22 | 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 |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Max Rise | 1960    | 1938    | 1976    | 1929    | 1960    | 1943    | 1917    | 1972    | 1972    | 1986    | 1928    | 1934    |
|          | +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   |
| Max Fall | 1944    | 1987    | 1968    | 1915    | 1987    | 1988    | 1988    | 1931    | 1955    | 1948    | 1930    | 1929    |
|          | -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 1990 mean 578.34

Monthly Water Level Stages, in Feet, 1900 thru Dec 1990

Lake Superior at Marquette

|  |                       |
|--|-----------------------|
| International Great Lakes Datum (1955) | Chart Datum<br>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 | 600.39 | 600.18 | 600.04 | 600.09 | 600.42 | 600.71 | 600.92 | 601.02 | 601.05 | 600.99 | 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 |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|

|      |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Max  | 1939  | 1937  | 1979  | 1945  | 1960  | 1950  | 1952  | 1911  | 1900  | 1941  | 1970  | 1909  |
| 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 | -0.14 | +0.05 | +0.33 | +0.29 | +0.21 | +0.11 | +0.03 | -0.06 | -0.13 | -0.22 |
|      | 1908  | 1978  | 1956  | 1975  | 1929  | 1986  | 1910  | 1954  | 1954  | 1952  | 1952  | 1904  |
| Max  | -0.44 | -0.37 | -0.31 | -0.20 | -0.02 | +0.05 | -0.02 | -0.09 | -0.23 | -0.47 | -0.48 | -0.40 |
| Fall |       |       |       |       |       |       |       |       |       |       |       |       |

1900 thru 1990 mean 600.61

W a t e r   L e v e l s

i n

M e t e r s

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 74.68 Jun  
Daily mean elevation: 74.79 18 May  
Instant/hourly elevation: 75.00 1100/11 May

LOWEST

Monthly mean elevation: 74.10 Jan  
Daily mean elevation: 74.00 3 Dec  
Instant/hourly elevation: 73.83 1800/3 Dec

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

|         | Jan         | Feb         | Mar         | Apr         | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov         | Dec         |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Max Day | 74.20<br>28 | 74.25<br>27 | 74.51<br>23 | 74.68<br>17 | 74.79<br>18 | 74.76<br>4  | 74.69<br>4  | 74.50<br>15 | 74.38<br>1  | 74.36<br>19 | 74.32<br>11 | 74.50<br>26 |
| Min Day | 74.04<br>21 | 74.02<br>3  | 74.17<br>9  | 74.37<br>2  | 74.50<br>5  | 74.60<br>29 | 74.48<br>31 | 74.27<br>19 | 74.15<br>29 | 74.03<br>10 | 74.03<br>5  | 74.00<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 74.75          |     |     |     |     | 3   | 2   |     |     |     |     |     |     | 74.75          | 5                          |
| 74.70          |     |     |     |     | 5   | 7   |     |     |     |     |     |     | 74.70          | 17                         |
| 74.65          |     |     |     | 1   | 5   | 11  | 2   |     |     |     |     |     | 74.65          | 36                         |
| 74.60          |     |     |     | 11  | 9   | 9   | 5   |     |     |     |     |     | 74.60          | 70                         |
| 74.55          |     |     |     | 11  | 8   | 1   | 9   |     |     |     |     |     | 74.55          | 99                         |
| 74.50          |     | 1   | 2   |     |     | 9   |     |     |     |     |     |     | 74.50          | 111                        |
| 74.45          |     | 4   | 1   | 1   |     | 6   | 14  |     |     |     | 1   |     | 74.45          | 138                        |
| 74.40          |     | 6   | 1   |     |     | 3   |     |     |     |     | 4   |     | 74.40          | 152                        |
| 74.35          |     | 2   | 3   |     |     | 9   | 1   | 1   |     |     | 1   |     | 74.35          | 169                        |
| 74.30          |     | 3   |     |     |     | 4   | 4   |     |     | 2   | 2   |     | 74.30          | 184                        |
| 74.25          |     | 5   |     |     |     | 1   | 11  | 9   | 7   | 5   |     |     | 74.25          | 222                        |
| 74.20          | 4   | 4   |     |     |     | 11  | 8   | 8   | 9   |     |     |     | 74.20          | 266                        |
| 74.15          | 4   | 7   | 6   |     |     | 2   | 9   | 9   | 3   |     |     |     | 74.15          | 306                        |
| 74.10          | 10  | 9   |     |     |     | 1   | 2   | 3   | 5   |     |     |     | 74.10          | 336                        |
| 74.05          | 11  | 4   |     |     |     |     |     |     | 1   |     |     |     | 74.05          | 352                        |
| 74.00          | 6   | 4   |     |     |     |     |     |     | 1   | 1   |     |     | 74.00          | 364                        |
| 73.95          |     |     |     |     |     |     |     |     |     |     | 1   |     | 73.95          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1    | 74.15 | 74.12 | 74.27 | 74.37 | 74.62 | 74.75 | 74.62 | 74.47 | 74.38 | 74.23 | 74.16 | 74.26 |
| 2    | 74.16 | 74.04 | 74.27 | 74.37 | 74.64 | 74.72 | 74.63 | 74.49 | 74.33 | 74.26 | 74.22 | 74.19 |
| 3    | 74.11 | 74.02 | 74.23 | 74.38 | 74.60 | 74.76 | 74.66 | 74.49 | 74.26 | 74.21 | 74.21 | 74.00 |
| 4    | 74.11 | 74.05 | 74.21 | 74.45 | 74.56 | 74.76 | 74.69 | 74.47 | 74.31 | 74.29 | 74.21 | 74.27 |
| 5    | 74.09 | 74.07 | 74.19 | 74.58 | 74.50 | 74.75 | 74.62 | 74.48 | 74.30 | 74.30 | 74.03 | 74.29 |
| 6    | 74.12 | 74.10 | 74.17 | 74.62 | 74.57 | 74.73 | 74.58 | 74.47 | 74.29 | 74.30 | 74.30 | 74.30 |
| 7    | 74.14 | 74.10 | 74.17 | 74.57 | 74.61 | 74.73 | 74.58 | 74.47 | 74.26 | 74.23 | 74.22 | 74.24 |
| 8    | 74.10 | 74.11 | 74.17 | 74.58 | 74.57 | 74.69 | 74.58 | 74.47 | 74.24 | 74.12 | 74.20 | 74.22 |
| 9    | 74.07 | 74.13 | 74.17 | 74.52 | 74.61 | 74.70 | 74.63 | 74.46 | 74.28 | 74.08 | 74.19 | 74.23 |
| 10   | 74.05 | 74.18 | 74.21 | 74.50 | 74.62 | 74.72 | 74.61 | 74.44 | 74.29 | 74.03 | 74.22 | 74.22 |
| 11   | 74.12 | 74.15 | 74.20 | 74.52 | 74.79 | 74.65 | 74.57 | 74.44 | 74.22 | 74.18 | 74.32 | 74.16 |
| 12   | 74.17 | 74.13 | 74.22 | 74.61 | 74.64 | 74.68 | 74.51 | 74.42 | 74.26 | 74.19 | 74.27 | 74.12 |
| 13   | 74.14 | 74.15 | 74.28 | 74.60 | 74.59 | 74.67 | 74.51 | 74.40 | 74.24 | 74.19 | 74.26 | 74.24 |
| 14   | 74.06 | 74.12 | 74.28 | 74.57 | 74.63 | 74.67 | 74.50 | 74.46 | 74.28 | 74.21 | 74.23 | 74.15 |
| 15   | 74.07 | 74.03 | 74.30 | 74.63 | 74.63 | 74.66 | 74.53 | 74.50 | 74.34 | 74.29 | 74.29 | 74.13 |
| 16   | 74.04 | 74.09 | 74.33 | 74.61 | 74.56 | 74.65 | 74.59 | 74.47 | 74.25 | 74.25 | 74.26 | 74.12 |
| 17   | 74.04 | 74.17 | 74.38 | 74.68 | 74.67 | 74.64 | 74.58 | 74.47 | 74.25 | 74.25 | 74.16 | 74.16 |
| 18   | 74.11 | 74.15 | 74.46 | 74.65 | 74.79 | 74.69 | 74.59 | 74.46 | 74.25 | 74.30 | 74.13 | 74.23 |
| 19   | 74.09 | 74.24 | 74.41 | 74.61 | 74.74 | 74.66 | 74.56 | 74.27 | 74.24 | 74.36 | 74.14 | 74.21 |
| 20   | 74.11 | 74.19 | 74.44 | 74.62 | 74.60 | 74.63 | 74.57 | 74.33 | 74.24 | 74.22 | 74.17 | 74.13 |
| 21   | 74.04 | 74.22 | 74.45 | 74.60 | 74.59 | 74.61 | 74.55 | 74.34 | 74.20 | 74.26 | 74.14 | 74.21 |
| 22   | 74.10 | 74.18 | 74.45 | 74.63 | 74.68 | 74.63 | 74.53 | 74.35 | 74.26 | 74.26 | 74.17 | 74.24 |
| 23   | 74.09 | 74.19 | 74.51 | 74.60 | 74.67 | 74.64 | 74.50 | 74.36 | 74.29 | 74.15 | 74.19 | 74.30 |
| 24   | 74.10 | 74.15 | 74.47 | 74.58 | 74.72 | 74.72 | 74.53 | 74.35 | 74.31 | 74.20 | 74.26 | 74.37 |
| 25   | 74.05 | 74.19 | 74.50 | 74.61 | 74.74 | 74.69 | 74.54 | 74.37 | 74.30 | 74.19 | 74.31 | 74.44 |
| 26   | 74.19 | 74.19 | 74.46 | 74.62 | 74.70 | 74.68 | 74.52 | 74.37 | 74.25 | 74.16 | 74.16 | 74.50 |
| 27   | 74.12 | 74.25 | 74.44 | 74.62 | 74.71 | 74.67 | 74.51 | 74.38 | 74.24 | 74.19 | 74.19 | 74.35 |
| 28   | 74.20 | 74.23 | 74.45 | 74.57 | 74.71 | 74.62 | 74.49 | 74.40 | 74.22 | 74.27 | 74.25 | 74.32 |
| 29   | 74.05 |       | 74.34 | 74.56 | 74.63 | 74.60 | 74.49 | 74.40 | 74.15 | 74.20 | 74.26 | 74.42 |
| 30   | 74.08 |       | 74.35 | 74.57 | 74.69 | 74.61 | 74.49 | 74.37 | 74.20 | 74.21 | 74.22 | 74.44 |
| 31   | 74.09 |       | 74.38 |       | 74.76 |       | 74.48 | 74.39 |       | 74.17 |       | 74.42 |
| Mean | 74.10 | 74.14 | 74.33 | 74.57 | 74.65 | 74.68 | 74.56 | 74.42 | 74.26 | 74.22 | 74.21 | 74.25 |
| Max. | 74.29 | 74.30 | 74.60 | 74.78 | 75.00 | 74.86 | 74.72 | 74.53 | 74.47 | 74.47 | 74.55 | 74.65 |
| Hr.  | 0700  | 1600  | 1200  | 1100  | 1100  | 1500  | 0800  | 1600  | 0900  | 2400  | 2000  | 0300  |
| Day  | 28    | 19    | 23    | 17    | 11    | 3     | 4     | 15    | 15    | 18    | 11    | 26    |
| Min. | 73.93 | 73.97 | 74.14 | 74.29 | 74.46 | 74.57 | 74.44 | 74.23 | 74.08 | 73.99 | 73.90 | 73.83 |
| Hr.  | 1000  | 1400  | 0400  | 1900  | 0500  | 0100  | 0800  | 1800  | 0100  | 0900  | 2100  | 1800  |
| Day  | 21    | 15    | 9     | 2     | 5     | 23    | 31    | 19    | 30    | 10    | 5     | 3     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 74.37

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 74.84 Jun  
Daily mean elevation: 74.91 4 Jun  
Instant/hourly elevation: 75.02 1200/11 May

LOWEST

Monthly mean elevation: 74.27 Jan  
Daily mean elevation: 74.20 3 Dec  
Instant/hourly elevation: 74.06 1600/3 Dec

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

|         | Jan         | Feb         | Mar         | Apr         | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov        | Dec         |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|
| Max Day | 74.34<br>26 | 74.45<br>27 | 74.61<br>23 | 74.79<br>17 | 74.90<br>31 | 74.91<br>4  | 74.82<br>4  | 74.64<br>5  | 74.52<br>1  | 74.47<br>19 | 74.45<br>6 | 74.55<br>26 |
| Min Day | 74.22<br>21 | 74.23<br>15 | 74.37<br>11 | 74.53<br>2  | 74.70<br>5  | 74.77<br>29 | 74.64<br>31 | 74.47<br>19 | 74.32<br>29 | 74.24<br>10 | 74.22<br>5 | 74.20<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|----------------|----------------------------|
| 74.90          |     |     |     |     |     | 1   |     |     |     |     |     |       | 74.90          | 1                          |
| 74.85          |     |     |     |     | 11  | 8   |     |     |     |     |     |       | 74.85          | 20                         |
| 74.80          |     |     |     |     | 4   | 16  | 1   |     |     |     |     |       | 74.80          | 41                         |
| 74.75          |     |     |     | 6   | 6   | 5   | 7   |     |     |     |     |       | 74.75          | 65                         |
| 74.70          |     |     |     | 12  | 9   |     | 7   |     |     |     |     |       | 74.70          | 93                         |
| 74.65          |     |     |     | 6   | 1   |     | 12  |     |     |     |     |       | 74.65          | 112                        |
| 74.60          |     | 1   | 3   |     |     | 4   | 12  |     |     |     |     |       | 74.60          | 132                        |
| 74.55          |     | 8   |     |     |     |     | 6   |     |     |     |     |       | 74.55          | 146                        |
| 74.50          |     | 4   | 3   |     |     |     | 12  | 1   |     |     | 5   | 74.50 | 171            |                            |
| 74.45          |     | 5   |     |     |     |     | 1   | 3   | 1   |     | 1   | 74.45 | 182            |                            |
| 74.40          | 3   | 5   |     |     |     |     |     | 13  | 5   | 3   | 6   | 74.40 | 217            |                            |
| 74.35          | 8   | 8   |     |     |     |     |     | 12  | 11  | 10  | 9   | 74.35 | 275            |                            |
| 74.30          | 4   | 7   |     |     |     |     |     | 1   | 11  | 13  | 6   | 74.30 | 317            |                            |
| 74.25          | 20  | 7   |     |     |     |     |     |     | 2   | 3   | 3   | 74.25 | 352            |                            |
| 74.20          | 7   | 3   |     |     |     |     |     |     | 1   | 1   |     | 74.20 | 364            |                            |
| 74.15          |     |     |     |     |     |     |     |     |     |     | 1   | 74.15 | 365            |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

| 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   | 74.31 | 74.30 | 74.46 | 74.53 | 74.76 | 74.89 | 74.79 | 74.63 | 74.52 | 74.36 | 74.32 | 74.37                                  |
| 2   | 74.31 | 74.23 | 74.44 | 74.53 | 74.77 | 74.87 | 74.79 | 74.64 | 74.49 | 74.38 | 74.36 | 74.33                                  |
| 3   | 74.26 | 74.23 | 74.44 | 74.55 | 74.74 | 74.88 | 74.80 | 74.64 | 74.44 | 74.35 | 74.35 | 74.20                                  |
| 4   | 74.27 | 74.26 | 74.41 | 74.61 | 74.71 | 74.91 | 74.82 | 74.62 | 74.46 | 74.41 | 74.34 | 74.44                                  |
| 5   | 74.26 | 74.29 | 74.40 | 74.68 | 74.70 | 74.89 | 74.79 | 74.64 | 74.45 | 74.41 | 74.22 | 74.41                                  |
| 6   | 74.28 | 74.30 | 74.38 | 74.69 | 74.73 | 74.87 | 74.76 | 74.62 | 74.45 | 74.39 | 74.45 | 74.41                                  |
| 7   | 74.28 | 74.30 | 74.38 | 74.67 | 74.74 | 74.89 | 74.75 | 74.62 | 74.44 | 74.36 | 74.36 | 74.37                                  |
| 8   | 74.26 | 74.30 | 74.37 | 74.68 | 74.73 | 74.85 | 74.75 | 74.61 | 74.41 | 74.30 | 74.34 | 74.36                                  |
| 9   | 74.24 | 74.31 | 74.37 | 74.64 | 74.75 | 74.86 | 74.78 | 74.60 | 74.44 | 74.27 | 74.34 | 74.37                                  |
| 10  | 74.24 | 74.34 | 74.38 | 74.65 | 74.75 | 74.88 | 74.77 | 74.59 | 74.44 | 74.24 | 74.35 | 74.37                                  |
| 11  | 74.27 | 74.31 | 74.37 | 74.69 | 74.88 | 74.84 | 74.73 | 74.58 | 74.40 | 74.34 | 74.44 | 74.31                                  |
| 12  | 74.30 | 74.31 | 74.39 | 74.73 | 74.76 | 74.85 | 74.69 | 74.57 | 74.41 | 74.33 | 74.38 | 74.30                                  |
| 13  | 74.29 | 74.32 | 74.44 | 74.71 | 74.75 | 74.84 | 74.69 | 74.58 | 74.40 | 74.35 | 74.37 | 74.39                                  |
| 14  | 74.22 | 74.30 | 74.44 | 74.70 | 74.77 | 74.83 | 74.67 | 74.61 | 74.43 | 74.35 | 74.36 | 74.31                                  |
| 15  | 74.26 | 74.23 | 74.46 | 74.74 | 74.78 | 74.83 | 74.69 | 74.62 | 74.47 | 74.41 | 74.38 | 74.31                                  |
| 16  | 74.24 | 74.33 | 74.47 | 74.72 | 74.74 | 74.82 | 74.72 | 74.61 | 74.40 | 74.37 | 74.38 | 74.30                                  |
| 17  | 74.24 | 74.39 | 74.50 | 74.79 | 74.82 | 74.81 | 74.71 | 74.61 | 74.40 | 74.38 | 74.32 | 74.31                                  |
| 18  | 74.29 | 74.36 | 74.55 | 74.76 | 74.89 | 74.84 | 74.71 | 74.59 | 74.40 | 74.43 | 74.30 | 74.37                                  |
| 19  | 74.27 | 74.42 | 74.52 | 74.73 | 74.87 | 74.83 | 74.70 | 74.47 | 74.40 | 74.47 | 74.31 | 74.35                                  |
| 20  | 74.27 | 74.36 | 74.56 | 74.74 | 74.78 | 74.81 | 74.70 | 74.51 | 74.39 | 74.37 | 74.33 | 74.30                                  |
| 21  | 74.22 | 74.38 | 74.57 | 74.74 | 74.81 | 74.79 | 74.71 | 74.51 | 74.36 | 74.40 | 74.30 | 74.36                                  |
| 22  | 74.30 | 74.37 | 74.56 | 74.76 | 74.86 | 74.79 | 74.69 | 74.51 | 74.41 | 74.39 | 74.33 | 74.37                                  |
| 23  | 74.28 | 74.38 | 74.61 | 74.74 | 74.85 | 74.81 | 74.68 | 74.52 | 74.42 | 74.33 | 74.34 | 74.42                                  |
| 24  | 74.30 | 74.35 | 74.58 | 74.73 | 74.88 | 74.85 | 74.69 | 74.51 | 74.43 | 74.36 | 74.39 | 74.47                                  |
| 25  | 74.26 | 74.39 | 74.60 | 74.76 | 74.88 | 74.83 | 74.69 | 74.52 | 74.41 | 74.35 | 74.42 | 74.52                                  |
| 26  | 74.34 | 74.39 | 74.59 | 74.76 | 74.86 | 74.82 | 74.68 | 74.52 | 74.39 | 74.33 | 74.30 | 74.55                                  |
| 27  | 74.29 | 74.45 | 74.57 | 74.76 | 74.87 | 74.83 | 74.66 | 74.53 | 74.37 | 74.35 | 74.35 | 74.45                                  |
| 28  | 74.33 | 74.43 | 74.58 | 74.73 | 74.87 | 74.79 | 74.65 | 74.54 | 74.36 | 74.41 | 74.38 | 74.44                                  |
| 29  | 74.25 |       | 74.50 | 74.73 | 74.82 | 74.77 | 74.65 | 74.55 | 74.32 | 74.35 | 74.39 | 74.51                                  |
| 30  | 74.30 |       | 74.52 | 74.73 | 74.86 | 74.78 | 74.65 | 74.53 | 74.36 | 74.36 | 74.35 | 74.53                                  |
| 31  | 74.30 |       | 74.54 |       | 74.90 |       | 74.64 | 74.53 |       | 74.33 |       | 74.53                                  |
| Mean  | 74.27 | 74.33 | 74.48 | 74.70 | 74.80 | 74.84 | 74.72 | 74.57 | 74.41 | 74.36 | 74.35 | 74.39                                  |
| Max.  | 74.40 | 74.49 | 74.68 | 74.85 | 75.02 | 74.94 | 74.84 | 74.66 | 74.55 | 74.58 | 74.63 | 74.70                                  |
| Hr.   | 0700  | 2300  | 1200  | 1400  | 1200  | 1000  | 0800  | 0100  | 0800  | 2300  | 2000  | 0100                                   |
| Day   | 28    | 27    | 23    | 17    | 11    | 4     | 4     | 6     | 15    | 18    | 11    | 26                                     |
| Min.  | 74.12 | 74.17 | 74.33 | 74.50 | 74.64 | 74.75 | 74.62 | 74.45 | 74.28 | 74.20 | 74.13 | 74.06                                  |
| Hr.   | 0900  | 1000  | 0500  | 1700  | 0300  | 1100  | 0800  | 2200  | 1500  | 0700  | 1900  | 1600                                   |
| Day   | 21    | 2     | 12    | 2     | 5     | 29    | 31    | 19    | 29    | 10    | 5     | 3                                      |

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

Annual Mean 74.52

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 74.96 Jun  
Daily mean elevation: 75.02 4 Jun  
Instant/hourly elevation: 75.08 2100/3 Jun

LOWEST

Monthly mean elevation: 74.35 Jan  
Daily mean elevation: 74.28 21 Jan  
Instant/hourly elevation: 74.14 0700/21 Jan

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

|         | Jan         | Feb         | Mar         | Apr         | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov        | Dec         |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|
| Max Day | 74.43<br>26 | 74.54<br>27 | 74.69<br>23 | 74.88<br>26 | 75.01<br>31 | 75.02<br>4  | 74.92<br>4  | 74.75<br>5  | 74.63<br>1  | 74.54<br>19 | 74.55<br>6 | 74.62<br>31 |
| Min Day | 74.28<br>21 | 74.32<br>3  | 74.46<br>11 | 74.65<br>2  | 74.84<br>4  | 74.90<br>30 | 74.76<br>31 | 74.62<br>26 | 74.43<br>29 | 74.38<br>10 | 74.37<br>5 | 74.35<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.00          |     |     |     |     | 2   | 1   |     |     |     |     |     |     | 75.00          | 3                          |
| 74.95          |     |     |     |     | 11  | 13  |     |     |     |     |     |     | 74.95          | 27                         |
| 74.90          |     |     |     |     | 3   | 14  | 3   |     |     |     |     |     | 74.90          | 47                         |
| 74.85          |     |     |     | 10  | 13  | 2   | 7   |     |     |     |     |     | 74.85          | 79                         |
| 74.80          |     |     |     | 8   | 2   |     | 8   |     |     |     |     |     | 74.80          | 97                         |
| 74.75          |     |     |     | 5   |     | 13  |     |     |     |     |     |     | 74.75          | 115                        |
| 74.70          |     |     |     | 4   |     |     | 13  |     |     |     |     |     | 74.70          | 132                        |
| 74.65          |     |     | 8   | 1   |     |     | 5   |     |     |     |     |     | 74.65          | 146                        |
| 74.60          |     |     | 6   | 2   |     |     | 13  | 1   |     |     | 1   |     | 74.60          | 169                        |
| 74.55          |     |     | 1   |     |     |     |     | 6   |     |     | 4   |     | 74.55          | 180                        |
| 74.50          | 3   |     | 7   |     |     |     |     | 15  | 4   | 2   | 4   |     | 74.50          | 215                        |
| 74.45          | 5   |     | 9   |     |     |     |     | 7   | 17  | 7   | 8   |     | 74.45          | 268                        |
| 74.40          | 2   | 6   |     |     |     |     |     | 1   | 8   | 18  | 12  |     | 74.40          | 315                        |
| 74.35          | 10  | 10  |     |     |     |     |     |     | 2   | 3   | 1   |     | 74.35          | 341                        |
| 74.30          | 17  | 4   |     |     |     |     |     |     |     |     | 1   |     | 74.30          | 363                        |
| 74.25          | 2   |     |     |     |     |     |     |     |     |     |     |     | 74.25          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day                | Jan                 | Feb                 | Mar                 | Apr                 | May                 | Jun                 | Jul                 | Aug                 | Sep                 | Oct                 | Nov                | Dec                 |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|
| 1                  | 74.38               | 74.40               | 74.53               | 74.65               | 74.88               | 74.98               | 74.91               | 74.75               | 74.63               | 74.46               | 74.44              | 74.44               |
| 2                  | 74.38               | 74.33               | 74.52               | 74.65               | 74.88               | 74.98               | 74.90               | 74.75               | 74.60               | 74.47               | 74.46              | 74.41               |
| 3                  | 74.34               | 74.32               | 74.52               | 74.67               | 74.86               | 74.99               | 74.91               | 74.74               | 74.57               | 74.45               | 74.45              | 74.35               |
| 4                  | 74.35               | 74.35               | 74.49               | 74.73               | 74.84               | 75.02               | 74.92               | 74.74               | 74.57               | 74.50               | 74.44              | 74.53               |
| 5                  | 74.34               | 74.38               | 74.48               | 74.75               | 74.85               | 75.00               | 74.90               | 74.75               | 74.57               | 74.49               | 74.37              | 74.47               |
| 6                  | 74.35               | 74.39               | 74.46               | 74.76               | 74.86               | 74.99               | 74.89               | 74.74               | 74.56               | 74.47               | 74.55              | 74.49               |
| 7                  | 74.34               | 74.39               | 74.47               | 74.76               | 74.86               | 75.00               | 74.87               | 74.72               | 74.55               | 74.45               | 74.46              | 74.45               |
| 8                  | 74.31               | 74.38               | 74.46               | 74.76               | 74.86               | 74.97               | 74.87               | 74.72               | 74.53               | 74.41               | 74.45              | 74.46               |
| 9                  | 74.32               | 74.40               | 74.46               | 74.74               | 74.86               | 74.99               | 74.89               | 74.71               | 74.55               | 74.40               | 74.45              | 74.46               |
| 10                 | 74.33               | 74.42               | 74.47               | 74.75               | 74.88               | 74.99               | 74.88               | 74.70               | 74.54               | 74.38               | 74.45              | 74.46               |
| 11                 | 74.35               | 74.39               | 74.46               | 74.81               | 74.95               | 74.97               | 74.85               | 74.69               | 74.51               | 74.46               | 74.52              | 74.42               |
| 12                 | 74.37               | 74.39               | 74.48               | 74.81               | 74.87               | 74.97               | 74.82               | 74.68               | 74.52               | 74.44               | 74.47              | 74.41               |
| 13                 | 74.34               | 74.40               | 74.51               | 74.80               | 74.88               | 74.96               | 74.81               | 74.69               | 74.51               | 74.46               | 74.46              | 74.48               |
| 14                 | 74.28               | 74.38               | 74.51               | 74.80               | 74.90               | 74.96               | 74.79               | 74.72               | 74.53               | 74.45               | 74.44              | 74.42               |
| 15                 | 74.32               | 74.33               | 74.53               | 74.83               | 74.90               | 74.95               | 74.81               | 74.72               | 74.56               | 74.50               | 74.45              | 74.41               |
| 16                 | 74.31               | 74.44               | 74.54               | 74.82               | 74.89               | 74.94               | 74.81               | 74.71               | 74.51               | 74.47               | 74.45              | 74.43               |
| 17                 | 74.32               | 74.47               | 74.58               | 74.88               | 74.94               | 74.93               | 74.80               | 74.71               | 74.52               | 74.47               | 74.42              | 74.40               |
| 18                 | 74.37               | 74.45               | 74.64               | 74.86               | 74.99               | 74.95               | 74.81               | 74.69               | 74.51               | 74.52               | 74.41              | 74.46               |
| 19                 | 74.35               | 74.51               | 74.62               | 74.84               | 74.97               | 74.95               | 74.80               | 74.62               | 74.51               | 74.54               | 74.42              | 74.43               |
| 20                 | 74.34               | 74.44               | 74.65               | 74.84               | 74.93               | 74.93               | 74.81               | 74.64               | 74.49               | 74.47               | 74.42              | 74.41               |
| 21                 | 74.28               | 74.47               | 74.67               | 74.86               | 74.98               | 74.93               | 74.81               | 74.64               | 74.47               | 74.51               | 74.40              | 74.45               |
| 22                 | 74.37               | 74.45               | 74.66               | 74.87               | 75.00               | 74.92               | 74.79               | 74.63               | 74.51               | 74.48               | 74.43              | 74.45               |
| 23                 | 74.35               | 74.46               | 74.69               | 74.86               | 74.99               | 74.93               | 74.80               | 74.63               | 74.51               | 74.44               | 74.43              | 74.49               |
| 24                 | 74.38               | 74.43               | 74.66               | 74.85               | 75.01               | 74.95               | 74.80               | 74.62               | 74.51               | 74.47               | 74.46              | 74.54               |
| 25                 | 74.36               | 74.47               | 74.68               | 74.88               | 75.00               | 74.94               | 74.80               | 74.63               | 74.49               | 74.46               | 74.49              | 74.58               |
| 26                 | 74.43               | 74.47               | 74.68               | 74.88               | 74.99               | 74.92               | 74.79               | 74.62               | 74.48               | 74.44               | 74.39              | 74.58               |
| 27                 | 74.40               | 74.54               | 74.67               | 74.87               | 74.99               | 74.94               | 74.78               | 74.63               | 74.47               | 74.46               | 74.44              | 74.51               |
| 28                 | 74.42               | 74.51               | 74.66               | 74.85               | 74.98               | 74.91               | 74.77               | 74.65               | 74.46               | 74.51               | 74.46              | 74.53               |
| 29                 | 74.35               |                     | 74.62               | 74.86               | 74.97               | 74.90               | 74.76               | 74.65               | 74.43               | 74.46               | 74.45              | 74.57               |
| 30                 | 74.40               |                     | 74.65               | 74.86               | 75.00               | 74.90               | 74.76               | 74.64               | 74.47               | 74.46               | 74.44              | 74.59               |
| 31                 | 74.40               |                     | 74.65               |                     | 75.01               |                     | 74.76               | 74.63               |                     | 74.44               |                    | 74.62               |
| Mean               | 74.35               | 74.42               | 74.57               | 74.80               | 74.93               | 74.96               | 74.83               | 74.68               | 74.52               | 74.47               | 74.44              | 74.47               |
| Max.<br>Hr.<br>Day | 74.50<br>0600<br>28 | 74.60<br>0400<br>17 | 74.79<br>0900<br>23 | 74.96<br>0600<br>17 | 75.06<br>1600<br>17 | 75.08<br>2100<br>3  | 74.94<br>2300<br>4  | 74.77<br>2400<br>5  | 74.68<br>0600<br>15 | 74.64<br>1500<br>18 | 74.74<br>0800<br>6 | 74.72<br>2400<br>25 |
| Min.<br>Hr.<br>Day | 74.14<br>0700<br>21 | 74.28<br>0700<br>15 | 74.42<br>0400<br>12 | 74.58<br>1600<br>2  | 74.73<br>2200<br>4  | 74.86<br>1000<br>29 | 74.74<br>0600<br>31 | 74.56<br>0400<br>28 | 74.40<br>2300<br>29 | 74.33<br>1900<br>9  | 74.30<br>1700<br>5 | 74.22<br>1400<br>3  |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 74.62

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 74.98 Jun  
Daily mean elevation: 75.04 4 Jun  
Instant/hourly elevation: 75.08 2200/3 Jun

LOWEST

Monthly mean elevation: 74.39 Jan  
Daily mean elevation: 74.35 9 Jan  
Instant/hourly elevation: 74.27 1500/3 Dec

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

|         | Jan         | Feb         | Mar         | Apr         | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov         | Dec         |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Max Day | 74.46<br>26 | 74.58<br>25 | 74.72<br>26 | 74.89<br>27 | 75.04<br>30 | 75.04<br>4  | 74.95<br>5  | 74.79<br>2  | 74.64<br>2  | 74.58<br>19 | 74.57<br>11 | 74.67<br>31 |
| Min Day | 74.35<br>9  | 74.40<br>9  | 74.51<br>8  | 74.69<br>2  | 74.87<br>9  | 74.94<br>30 | 74.77<br>30 | 74.64<br>26 | 74.47<br>29 | 74.44<br>10 | 74.41<br>27 | 74.38<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.00          |     |     |     |     | 11  | 9   |     |     |     |     |     |     | 75.00          | 20                         |
| 74.95          |     |     |     |     | 3   | 13  |     |     |     |     |     |     | 74.95          | 36                         |
| 74.90          |     |     |     |     | 6   | 8   | 7   |     |     |     |     |     | 74.90          | 57                         |
| 74.85          |     |     |     | 14  | 11  |     | 5   |     |     |     |     |     | 74.85          | 87                         |
| 74.80          |     |     |     | 6   |     |     | 14  |     |     |     |     |     | 74.80          | 107                        |
| 74.75          |     |     |     | 6   |     |     | 5   | 6   |     |     |     |     | 74.75          | 124                        |
| 74.70          |     |     | 2   | 2   |     |     |     | 12  |     |     |     |     | 74.70          | 140                        |
| 74.65          |     |     | 10  | 2   |     |     |     | 6   |     |     |     |     | 74.65          | 159                        |
| 74.60          |     |     | 3   |     |     |     |     | 7   | 3   |     | 1   |     | 74.60          | 173                        |
| 74.55          |     | 3   | 7   |     |     |     |     | 7   | 1   | 2   | 1   |     | 74.55          | 195                        |
| 74.50          |     | 6   | 9   |     |     |     |     | 13  | 10  | 2   | 2   |     | 74.50          | 243                        |
| 74.45          | 1   | 5   |     |     |     |     |     | 7   | 19  | 16  | 8   |     | 74.45          | 299                        |
| 74.40          | 8   | 10  |     |     |     |     |     |     | 1   | 10  | 10  |     | 74.40          | 338                        |
| 74.35          | 20  | 4   |     |     |     |     |     |     |     |     |     | 1   | 74.35          | 363                        |
| 74.30          | 2   |     |     |     |     |     |     |     |     |     |     |     | 74.30          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1    | 74.44 | 74.40 | 74.56 | 74.69 | 74.89 | 75.02 | 74.94 | 74.79 | 74.64 | 74.49 | 74.48 | 74.43 |
| 2    | 74.39 | 74.43 | 74.55 | 74.69 | 74.89 | 75.00 | 74.94 | 74.79 | 74.64 | 74.52 | 74.47 | 74.45 |
| 3    | 74.35 | 74.40 | 74.57 | 74.71 | 74.88 | 75.01 | 74.93 | 74.78 | 74.61 | 74.46 | 74.47 | 74.38 |
| 4    | 74.37 | 74.42 | 74.56 | 74.75 | 74.87 | 75.04 | 74.93 | 74.76 | 74.58 | 74.47 | 74.47 | 74.50 |
| 5    | 74.39 | 74.41 | 74.54 | 74.76 | 74.89 | 75.03 | 74.95 | 74.75 | 74.59 | 74.49 | 74.43 | 74.54 |
| 6    | 74.39 | 74.42 | 74.53 | 74.76 | 74.88 | 75.01 | 74.93 | 74.76 | 74.58 | 74.47 | 74.57 | 74.48 |
| 7    | 74.37 | 74.41 | 74.52 | 74.78 | 74.88 | 75.02 | 74.91 | 74.76 | 74.60 | 74.48 | 74.50 | 74.46 |
| 8    | 74.36 | 74.40 | 74.51 | 74.78 | 74.88 | 75.00 | 74.88 | 74.75 | 74.55 | 74.48 | 74.49 | 74.47 |
| 9    | 74.35 | 74.40 | 74.52 | 74.76 | 74.87 | 75.01 | 74.90 | 74.73 | 74.53 | 74.47 | 74.45 | 74.47 |
| 10   | 74.37 | 74.46 | 74.52 | 74.79 | 74.88 | 75.02 | 74.90 | 74.72 | 74.55 | 74.44 | 74.49 | 74.51 |
| 11   | 74.37 | 74.44 | 74.52 | 74.84 | 74.92 | 75.02 | 74.87 | 74.72 | 74.54 | 74.47 | 74.57 | 74.45 |
| 12   | 74.42 | 74.43 | 74.54 | 74.84 | 74.89 | 75.00 | 74.87 | 74.71 | 74.54 | 74.47 | 74.55 | 74.44 |
| 13   | 74.42 | 74.42 | 74.56 | 74.82 | 74.91 | 74.98 | 74.84 | 74.74 | 74.54 | 74.49 | 74.53 | 74.51 |
| 14   | 74.36 | 74.44 | 74.57 | 74.82 | 74.91 | 74.99 | 74.81 | 74.74 | 74.53 | 74.48 | 74.46 | 74.45 |
| 15   | 74.36 | 74.41 | 74.58 | 74.84 | 74.91 | 74.98 | 74.82 | 74.74 | 74.60 | 74.51 | 74.45 | 74.43 |
| 16   | 74.36 | 74.48 | 74.59 | 74.84 | 74.92 | 74.97 | 74.82 | 74.74 | 74.57 | 74.50 | 74.47 | 74.47 |
| 17   | 74.36 | 74.53 | 74.61 | 74.88 | 74.95 | 74.97 | 74.82 | 74.74 | 74.58 | 74.47 | 74.49 | 74.43 |
| 18   | 74.41 | 74.47 | 74.63 | 74.87 | 74.97 | 74.96 | 74.83 | 74.74 | 74.55 | 74.51 | 74.47 | 74.45 |
| 19   | 74.41 | 74.56 | 74.64 | 74.86 | 74.98 | 74.99 | 74.82 | 74.69 | 74.52 | 74.58 | 74.46 | 74.48 |
| 20   | 74.38 | 74.51 | 74.70 | 74.86 | 74.98 | 74.97 | 74.84 | 74.66 | 74.54 | 74.50 | 74.47 | 74.44 |
| 21   | 74.38 | 74.48 | 74.69 | 74.89 | 75.02 | 74.96 | 74.84 | 74.65 | 74.49 | 74.49 | 74.43 | 74.44 |
| 22   | 74.40 | 74.48 | 74.66 | 74.88 | 75.01 | 74.95 | 74.83 | 74.64 | 74.50 | 74.51 | 74.43 | 74.47 |
| 23   | 74.39 | 74.53 | 74.72 | 74.89 | 75.02 | 74.95 | 74.84 | 74.64 | 74.54 | 74.51 | 74.44 | 74.52 |
| 24   | 74.39 | 74.53 | 74.70 | 74.88 | 75.02 | 74.97 | 74.83 | 74.64 | 74.52 | 74.51 | 74.48 | 74.58 |
| 25   | 74.38 | 74.58 | 74.69 | 74.89 | 75.01 | 74.95 | 74.82 | 74.64 | 74.49 | 74.52 | 74.48 | 74.54 |
| 26   | 74.46 | 74.53 | 74.72 | 74.89 | 75.01 | 74.94 | 74.82 | 74.64 | 74.49 | 74.51 | 74.44 | 74.59 |
| 27   | 74.37 | 74.55 | 74.70 | 74.89 | 75.02 | 74.95 | 74.80 | 74.66 | 74.49 | 74.47 | 74.41 | 74.54 |
| 28   | 74.42 | 74.57 | 74.69 | 74.88 | 75.01 | 74.94 | 74.79 | 74.67 | 74.48 | 74.53 | 74.45 | 74.52 |
| 29   | 74.38 |       | 74.67 | 74.88 | 75.03 | 74.94 | 74.78 | 74.69 | 74.47 | 74.51 | 74.49 | 74.55 |
| 30   | 74.43 |       | 74.66 | 74.88 | 75.04 | 74.94 | 74.77 | 74.67 | 74.51 | 74.49 | 74.45 | 74.64 |
| 31   | 74.41 |       | 74.68 |       | 75.02 |       | 74.79 | 74.65 |       | 74.48 |       | 74.67 |
| Mean | 74.39 | 74.47 | 74.61 | 74.83 | 74.95 | 74.98 | 74.85 | 74.71 | 74.54 | 74.49 | 74.47 | 74.49 |
| Max. | 74.50 | 74.69 | 74.81 | 74.92 | 75.06 | 75.08 | 75.03 | 74.81 | 74.66 | 74.65 | 74.67 | 74.73 |
| Hr.  | 1400  | 1800  | 1300  | 0600  | 0600  | 2200  | 0900  | 0400  | 1900  | 0600  | 1000  | 1900  |
| Day  | 26    | 16    | 23    | 17    | 30    | 3     | 5     | 1     | 1     | 19    | 6     | 30    |
| Min. | 74.29 | 74.31 | 74.47 | 74.66 | 74.80 | 74.84 | 74.75 | 74.58 | 74.44 | 74.38 | 74.34 | 74.27 |
| Hr.  | 0700  | 1900  | 1400  | 0300  | 2100  | 0900  | 0900  | 1900  | 1900  | 0500  | 0200  | 1500  |
| Day  | 11    | 16    | 10    | 3     | 4     | 18    | 30    | 28    | 29    | 10    | 27    | 3     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 74.65

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 74.99 Jun  
Daily mean elevation: 75.04 5 Jun  
Instant/hourly elevation: 75.11 1300/5 Jun

LOWEST

Monthly mean elevation: 74.39 Jan  
Daily mean elevation: 74.36 11 Jan  
Instant/hourly elevation: 74.30 2200/20 Jan

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

|         | Jan         | Feb         | Mar         | Apr         | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov         | Dec         |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Max Day | 74.42<br>31 | 74.58<br>25 | 74.71<br>31 | 74.91<br>30 | 75.04<br>30 | 75.04<br>5  | 74.95<br>5  | 74.80<br>1  | 74.65<br>2  | 74.52<br>20 | 74.51<br>12 | 74.66<br>31 |
| Min Day | 74.36<br>11 | 74.41<br>1  | 74.53<br>11 | 74.70<br>2  | 74.89<br>7  | 74.94<br>29 | 74.77<br>30 | 74.65<br>31 | 74.48<br>30 | 74.46<br>10 | 74.43<br>28 | 74.43<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.00          |     |     |     |     | 12  | 12  |     |     |     |     |     |     | 75.00          | 24                         |
| 74.95          |     |     |     |     | 2   | 13  |     |     |     |     |     |     | 74.95          | 39                         |
| 74.90          |     |     |     | 4   | 7   | 5   | 7   |     |     |     |     |     | 74.90          | 62                         |
| 74.85          |     |     |     | 12  | 10  | 5   | 5   |     |     |     |     |     | 74.85          | 89                         |
| 74.80          |     |     |     | 5   |     |     | 15  |     |     |     |     |     | 74.80          | 109                        |
| 74.75          |     |     |     | 5   |     |     | 4   | 7   |     |     |     |     | 74.75          | 125                        |
| 74.70          |     |     | 5   | 2   |     |     | 11  |     |     |     |     |     | 74.70          | 143                        |
| 74.65          |     |     | 8   | 2   |     |     | 12  |     |     |     | 1   |     | 74.65          | 166                        |
| 74.60          |     |     | 4   |     |     | 1   | 4   |     |     |     | 1   |     | 74.60          | 176                        |
| 74.55          | 3   |     | 7   |     |     |     | 12  |     |     |     | 2   |     | 74.55          | 200                        |
| 74.50          | 6   |     | 7   |     |     |     | 7   | 7   | 1   | 5   | 5   |     | 74.50          | 233                        |
| 74.45          | 6   |     |     |     |     |     | 7   | 24  | 23  | 18  | 18  |     | 74.45          | 311                        |
| 74.40          | 9   | 13  |     |     |     |     |     | 7   | 24  | 23  | 18  | 6   | 74.40          | 343                        |
| 74.35          | 22  |     |     |     |     |     |     |     |     |     |     | 4   | 74.35          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 74.39 | 74.41 | 74.55 | 74.70 | 74.90 | 75.03 | 74.94 | 74.80 | 74.63 | 74.47 | 74.48 | 74.44 |
| 2    | 74.38 | 74.43 | 74.56 | 74.70 | 74.90 | 75.02 | 74.94 | 74.79 | 74.65 | 74.49 | 74.47 | 74.44 |
| 3    | 74.38 | 74.42 | 74.57 | 74.72 | 74.90 | 75.01 | 74.93 | 74.78 | 74.62 | 74.48 | 74.48 | 74.43 |
| 4    | 74.37 | 74.44 | 74.57 | 74.74 | 74.90 | 75.04 | 74.93 | 74.76 | 74.60 | 74.46 | 74.48 | 74.45 |
| 5    | 74.39 | 74.42 | 74.56 | 74.76 | 74.90 | 75.04 | 74.95 | 74.76 | 74.59 | 74.48 | 74.47 | 74.48 |
| 6    | 74.38 | 74.42 | 74.55 | 74.78 | 74.90 | 75.02 | 74.93 | 74.77 | 74.59 | 74.48 | 74.47 | 74.47 |
| 7    | 74.38 | 74.43 | 74.54 | 74.78 | 74.89 | 75.03 | 74.91 | 74.76 | 74.63 | 74.48 | 74.48 | 74.47 |
| 8    | 74.38 | 74.42 | 74.53 | 74.78 | 74.90 | 75.03 | 74.88 | 74.75 | 74.59 | 74.48 | 74.49 | 74.48 |
| 9    | 74.38 | 74.43 | 74.53 | 74.79 | 74.90 | 75.02 | 74.88 | 74.73 | 74.56 | 74.47 | 74.47 | 74.47 |
| 10   | 74.38 | 74.44 | 74.53 | 74.81 | 74.90 | 75.03 | 74.89 | 74.73 | 74.56 | 74.46 | 74.48 | 74.49 |
| 11   | 74.36 | 74.45 | 74.53 | 74.83 | 74.91 | 75.03 | 74.89 | 74.71 | 74.56 | 74.47 | 74.49 | 74.48 |
| 12   | 74.39 | 74.44 | 74.56 | 74.84 | 74.92 | 75.01 | 74.88 | 74.70 | 74.56 | 74.48 | 74.51 | 74.46 |
| 13   | 74.40 | 74.44 | 74.57 | 74.84 | 74.93 | 75.00 | 74.85 | 74.74 | 74.57 | 74.49 | 74.50 | 74.47 |
| 14   | 74.39 | 74.47 | 74.59 | 74.85 | 74.93 | 75.00 | 74.83 | 74.74 | 74.55 | 74.49 | 74.47 | 74.47 |
| 15   | 74.37 | 74.47 | 74.61 | 74.86 | 74.93 | 75.00 | 74.83 | 74.73 | 74.60 | 74.49 | 74.46 | 74.46 |
| 16   | 74.38 | 74.47 | 74.62 | 74.86 | 74.94 | 74.99 | 74.83 | 74.75 | 74.58 | 74.49 | 74.46 | 74.46 |
| 17   | 74.37 | 74.50 | 74.62 | 74.88 | 74.95 | 74.98 | 74.83 | 74.74 | 74.56 | 74.48 | 74.49 | 74.46 |
| 18   | 74.40 | 74.49 | 74.64 | 74.88 | 74.99 | 74.97 | 74.83 | 74.73 | 74.54 | 74.49 | 74.47 | 74.47 |
| 19   | 74.42 | 74.51 | 74.67 | 74.88 | 75.00 | 74.98 | 74.83 | 74.72 | 74.51 | 74.52 | 74.46 | 74.48 |
| 20   | 74.39 | 74.51 | 74.69 | 74.88 | 75.01 | 74.98 | 74.83 | 74.67 | 74.53 | 74.52 | 74.45 | 74.47 |
| 21   | 74.42 | 74.49 | 74.69 | 74.90 | 75.03 | 74.96 | 74.84 | 74.66 | 74.51 | 74.49 | 74.46 | 74.47 |
| 22   | 74.40 | 74.51 | 74.69 | 74.90 | 75.02 | 74.96 | 74.84 | 74.66 | 74.49 | 74.50 | 74.44 | 74.49 |
| 23   | 74.40 | 74.54 | 74.71 | 74.90 | 75.03 | 74.95 | 74.83 | 74.66 | 74.51 | 74.51 | 74.46 | 74.54 |
| 24   | 74.40 | 74.56 | 74.71 | 74.90 | 75.03 | 74.97 | 74.82 | 74.68 | 74.51 | 74.50 | 74.45 | 74.54 |
| 25   | 74.41 | 74.58 | 74.69 | 74.90 | 75.03 | 74.97 | 74.82 | 74.69 | 74.50 | 74.51 | 74.46 | 74.54 |
| 26   | 74.41 | 74.55 | 74.71 | 74.91 | 75.03 | 74.96 | 74.81 | 74.67 | 74.50 | 74.51 | 74.47 | 74.55 |
| 27   | 74.41 | 74.55 | 74.71 | 74.91 | 75.03 | 74.95 | 74.81 | 74.67 | 74.49 | 74.49 | 74.44 | 74.56 |
| 28   | 74.42 | 74.57 | 74.70 | 74.91 | 75.03 | 74.95 | 74.80 | 74.67 | 74.48 | 74.51 | 74.43 | 74.55 |
| 29   | 74.42 |       | 74.69 | 74.90 | 75.04 | 74.94 | 74.79 | 74.69 | 74.48 | 74.51 | 74.46 | 74.58 |
| 30   | 74.42 |       | 74.69 | 74.91 | 75.04 | 74.95 | 74.77 | 74.67 | 74.48 | 74.50 | 74.45 | 74.63 |
| 31   | 74.42 |       | 74.71 |       | 75.03 |       | 74.80 | 74.65 |       | 74.49 |       | 74.66 |
| Mean | 74.39 | 74.48 | 74.62 | 74.84 | 74.96 | 74.99 | 74.86 | 74.72 | 74.55 | 74.49 | 74.47 | 74.50 |
| Max. | 74.51 | 74.62 | 74.75 | 74.96 | 75.08 | 75.11 | 75.03 | 74.83 | 74.66 | 74.59 | 74.55 | 74.69 |
| Hr.  | 0300  | 1600  | 1800  | 0200  | 1900  | 1300  | 0900  | 0700  | 2000  | 0100  | 2400  | 2400  |
| Day  | 21    | 23    | 23    | 25    | 20    | 5     | 5     | 1     | 2     | 10    | 11    | 31    |
| Min. | 74.30 | 74.31 | 74.47 | 74.65 | 74.83 | 74.85 | 74.76 | 74.52 | 74.42 | 74.37 | 74.34 | 74.37 |
| Hr.  | 2200  | 1900  | 1400  | 2000  | 1300  | 0900  | 0500  | 0400  | 0100  | 2300  | 1200  | 1600  |
| Day  | 20    | 16    | 12    | 2     | 10    | 18    | 30    | 28    | 30    | 1     | 28    | 18    |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 74.66

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 905-2076 Olcott, New York on Lake Ontario

HIGHEST

Monthly mean elevation: 75.01 Jun  
Daily mean elevation: 75.06 3 Jun  
Instant/hourly elevation: 75.13 1900/3 Jun

LOWEST

Monthly mean elevation: 74.40 Jan  
Daily mean elevation: 74.36 2 Jan  
Instant/hourly elevation: 74.31 2000/11 Jan

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

|         | Jan         | Feb         | Mar         | Apr         | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov        | Dec         |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|
| Max Day | 74.45<br>29 | 74.58<br>24 | 74.73<br>30 | 74.94<br>30 | 75.05<br>29 | 75.06<br>3  | 74.96<br>1  | 74.80<br>1  | 74.66<br>2  | 74.54<br>20 | 74.52<br>5 | 74.68<br>31 |
| Min Day | 74.36<br>2  | 74.43<br>6  | 74.54<br>1  | 74.72<br>1  | 74.90<br>11 | 74.95<br>28 | 74.80<br>31 | 74.67<br>31 | 74.48<br>30 | 74.47<br>4  | 74.44<br>6 | 74.45<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 75.05          |     |     |     |     |     |     |     |     |     |     |     |     | 75.05          |                            |
| 75.00          |     |     |     |     |     |     |     |     |     |     |     |     | 75.00          | 1                          |
| 74.95          |     |     |     |     |     |     |     |     |     |     |     |     | 75.00          | 28                         |
| 74.90          |     |     |     |     |     |     |     |     |     |     |     |     | 74.95          | 46                         |
| 74.85          |     |     |     |     |     |     |     |     |     |     |     |     | 74.90          | 73                         |
| 74.80          |     |     |     |     |     |     |     |     |     |     |     |     | 74.85          | 97                         |
| 74.75          |     |     |     |     |     |     |     |     |     |     |     |     | 74.80          | 112                        |
| 74.70          |     |     |     |     |     |     |     |     |     |     |     |     | 74.75          | 129                        |
| 74.65          |     |     |     |     |     |     |     |     |     |     |     |     | 74.70          | 153                        |
| 74.60          |     |     |     |     |     |     |     |     |     |     |     |     | 74.65          | 169                        |
| 74.55          |     |     |     |     |     |     |     |     |     |     |     |     | 74.60          | 185                        |
| 74.50          |     |     |     |     |     |     |     |     |     |     |     |     | 74.55          | 203                        |
| 74.45          |     |     |     |     |     |     |     |     |     |     |     |     | 74.50          | 253                        |
| 74.40          | 11  | 10  |     |     |     |     |     |     |     |     |     |     | 74.45          | 321                        |
| 74.35          | 20  |     |     |     |     |     |     |     |     |     |     |     | 74.40          | 345                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     | 74.35          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1    | 74.37 | 74.43 | 74.54 | 74.72 | 74.92 | 75.04 | 74.96 | 74.80 | 74.66 | 74.48 | 74.50 | 74.46 |
| 2    | 74.36 | 74.45 | 74.55 | 74.73 | 74.91 | 75.04 | 74.95 | 74.79 | 74.66 | 74.48 | 74.49 | 74.45 |
| 3    | 74.39 | 74.46 | 74.55 | 74.73 | 74.91 | 75.06 | 74.94 | 74.79 | 74.63 | 74.49 | 74.50 | 74.51 |
| 4    | 74.38 | 74.44 | 74.57 | 74.73 | 74.92 | 75.03 | 74.94 | 74.77 | 74.62 | 74.47 | 74.49 | 74.46 |
| 5    | 74.39 | 74.43 | 74.57 | 74.76 | 74.91 | 75.04 | 74.94 | 74.78 | 74.64 | 74.48 | 74.44 | 74.48 |
| 6    | 74.37 | 74.43 | 74.57 | 74.78 | 74.92 | 75.04 | 74.92 | 74.76 | 74.65 | 74.49 | 74.49 | 74.49 |
| 7    | 74.37 | 74.44 | 74.56 | 74.78 | 74.92 | 75.05 | 74.89 | 74.76 | 74.62 | 74.49 | 74.50 | 74.49 |
| 8    | 74.39 | 74.44 | 74.55 | 74.78 | 74.92 | 75.04 | 74.90 | 74.76 | 74.60 | 74.49 | 74.51 | 74.48 |
| 9    | 74.38 | 74.44 | 74.55 | 74.80 | 74.93 | 75.04 | 74.90 | 74.74 | 74.61 | 74.51 | 74.49 | 74.47 |
| 10   | 74.39 | 74.44 | 74.55 | 74.82 | 74.93 | 75.02 | 74.90 | 74.74 | 74.61 | 74.51 | 74.49 | 74.47 |
| 11   | 74.37 | 74.46 | 74.55 | 74.82 | 74.90 | 75.03 | 74.89 | 74.72 | 74.61 | 74.48 | 74.46 | 74.50 |
| 12   | 74.37 | 74.45 | 74.58 | 74.83 | 74.93 | 75.02 | 74.88 | 74.72 | 74.59 | 74.49 | 74.48 | 74.49 |
| 13   | 74.38 | 74.47 | 74.59 | 74.86 | 74.94 | 75.04 | 74.86 | 74.75 | 74.61 | 74.51 | 74.47 | 74.46 |
| 14   | 74.42 | 74.46 | 74.61 | 74.87 | 74.94 | 75.01 | 74.86 | 74.76 | 74.60 | 74.51 | 74.47 | 74.49 |
| 15   | 74.39 | 74.52 | 74.62 | 74.86 | 74.94 | 75.01 | 74.85 | 74.76 | 74.59 | 74.52 | 74.47 | 74.47 |
| 16   | 74.39 | 74.49 | 74.63 | 74.88 | 74.96 | 75.01 | 74.86 | 74.75 | 74.54 | 74.52 | 74.49 | 74.49 |
| 17   | 74.39 | 74.47 | 74.64 | 74.86 | 74.98 | 75.00 | 74.86 | 74.75 | 74.54 | 74.51 | 74.48 | 74.47 |
| 18   | 74.39 | 74.52 | 74.65 | 74.87 | 74.98 | 75.00 | 74.86 | 74.74 | 74.54 | 74.51 | 74.47 | 74.49 |
| 19   | 74.40 | 74.47 | 74.68 | 74.89 | 74.99 | 75.00 | 74.86 | 74.72 | 74.53 | 74.54 | 74.47 | 74.52 |
| 20   | 74.41 | 74.50 | 74.67 | 74.90 | 75.04 | 74.99 | 74.85 | 74.72 | 74.53 | 74.54 | 74.47 | 74.50 |
| 21   | 74.43 | 74.49 | 74.68 | 74.90 | 75.03 | 74.99 | 74.85 | 74.71 | 74.53 | 74.52 | 74.49 | 74.50 |
| 22   | 74.40 | 74.51 | 74.71 | 74.90 | 75.03 | 75.00 | 74.84 | 74.72 | 74.51 | 74.52 | 74.48 | 74.51 |
| 23   | 74.43 | 74.56 | 74.70 | 74.91 | 75.05 | 74.99 | 74.83 | 74.73 | 74.52 | 74.53 | 74.47 | 74.54 |
| 24   | 74.42 | 74.58 | 74.71 | 74.92 | 75.04 | 74.98 | 74.83 | 74.72 | 74.52 | 74.52 | 74.46 | 74.54 |
| 25   | 74.44 | 74.55 | 74.70 | 74.90 | 75.05 | 74.97 | 74.83 | 74.70 | 74.52 | 74.53 | 74.46 | 74.54 |
| 26   | 74.39 | 74.57 | 74.70 | 74.90 | 75.05 | 74.97 | 74.82 | 74.69 | 74.51 | 74.52 | 74.49 | 74.54 |
| 27   | 74.44 | 74.56 | 74.70 | 74.91 | 75.04 | 74.96 | 74.83 | 74.68 | 74.50 | 74.52 | 74.48 | 74.58 |
| 28   | 74.41 | 74.56 | 74.71 | 74.92 | 75.05 | 74.96 | 74.81 | 74.71 | 74.49 | 74.51 | 74.47 | 74.59 |
| 29   | 74.45 |       | 74.73 | 74.93 | 75.05 | 74.97 | 74.81 | 74.69 | 74.49 | 74.51 | 74.45 | 74.61 |
| 30   | 74.43 |       | 74.73 | 74.94 | 75.03 |       | 74.80 | 74.67 |       | 74.51 | 74.46 | 74.65 |
| 31   | 74.43 |       | 74.72 |       | 75.03 |       |       |       |       | 74.52 |       | 74.68 |
| Mean | 74.40 | 74.48 | 74.63 | 74.85 | 74.97 | 75.01 | 74.87 | 74.74 | 74.57 | 74.51 | 74.48 | 74.51 |
| Max. | 74.49 | 74.62 | 74.76 | 74.96 | 75.10 | 75.13 | 75.00 | 74.84 | 74.69 | 74.59 | 74.57 | 74.72 |
| Hr.  | 0200  | 0300  | 2000  | 0400  | 0900  | 1900  | 1800  | 0100  | 2400  | 1000  | 1800  | 1300  |
| Day  | 24    | 23    | 30    | 30    | 20    | 3     | 3     | 1     | 2     | 18    | 5     | 31    |
| Min. | 74.31 | 74.36 | 74.49 | 74.69 | 74.86 | 74.90 | 74.78 | 74.64 | 74.44 | 74.41 | 74.35 | 74.40 |
| Hr.  | 2000  | 1700  | 1600  | 1600  | 0600  | 2000  | 1800  | 0200  | 1700  | 2400  | 0700  | 1700  |
| Day  | 11    | 1     | 1     | 3     | 11    | 30    | 31    | 28    | 30    | 1     | 6     | 4     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 74.67

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 98.21 May  
Daily mean elevation: 98.93 5 Apr  
Instant/hourly elevation: 102.75 0600/6 Nov

LOWEST

Monthly mean elevation: 96.28 Jan  
Daily mean elevation: 95.83 31 Jan  
Instant/hourly elevation: 95.60 1600/16 Feb

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

|         | Jan         | Feb         | Mar         | Apr        | May         | Jun         | Jul         | Aug         | Sep         | Oct         | Nov        | Dec         |
|---------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|
| Max Day | 98.17<br>26 | 97.71<br>25 | 97.28<br>13 | 98.93<br>5 | 98.90<br>18 | 98.74<br>4  | 98.32<br>18 | 98.27<br>28 | 98.31<br>10 | 98.67<br>19 | 98.35<br>6 | 98.17<br>4  |
| Min Day | 95.83<br>31 | 95.93<br>3  | 96.11<br>10 | 98.01<br>2 | 97.90<br>15 | 97.97<br>29 | 97.95<br>6  | 97.98<br>20 | 97.83<br>27 | 97.71<br>10 | 95.90<br>5 | 95.88<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 98.85          |     |     |     | 1   | 2   |     |     |     |     |     |     |     | 98.85          | 3                          |
| 98.70          |     |     |     |     |     | 1   |     |     |     |     |     |     | 98.70          | 4                          |
| 98.55          |     |     |     | 1   |     |     |     |     |     |     |     |     | 98.55          | 7                          |
| 98.40          |     |     |     |     | 2   |     |     |     |     |     |     |     | 98.40          | 10                         |
| 98.25          |     |     |     | 3   | 2   | 2   | 1   | 1   | 2   | 1   |     |     | 98.25          | 23                         |
| 98.10          | 1   |     |     | 15  | 20  | 8   | 2   | 9   | 15  | 3   |     | 1   | 98.10          | 97                         |
| 97.95          |     |     |     | 10  | 4   | 18  | 27  | 21  | 3   | 5   |     |     | 97.95          | 185                        |
| 97.80          |     |     |     |     | 1   |     | 1   |     | 10  | 11  |     |     | 97.80          | 208                        |
| 97.65          |     | 1   |     |     |     |     |     |     | 9   |     |     | 3   | 97.65          | 221                        |
| 97.50          |     |     |     |     |     |     |     |     |     |     | 2   |     | 97.50          | 223                        |
| 97.35          |     | 1   |     |     |     |     |     |     |     |     | 1   | 1   | 97.35          | 225                        |
| 97.20          |     | 3   | 2   |     |     |     |     |     |     |     | 3   | 1   | 97.20          | 232                        |
| 97.05          |     |     | 4   |     |     |     |     |     |     |     | 3   | 1   | 97.05          | 240                        |
| 96.90          | 1   | 2   | 2   |     |     |     |     |     |     |     | 3   | 2   | 96.90          | 248                        |
| 96.75          | 1   | 3   | 4   |     |     |     |     |     |     |     | 3   | 2   | 96.75          | 261                        |
| 96.60          | 1   | 1   | 6   |     |     |     |     |     |     |     | 4   | 7   | 96.60          | 280                        |
| 96.45          | 2   | 3   | 6   |     |     |     |     |     |     |     | 6   | 4   | 96.45          | 301                        |
| 96.30          | 5   | 4   | 2   |     |     |     |     |     |     |     | 6   | 2   | 96.30          | 320                        |
| 96.15          | 5   | 6   | 4   |     |     |     |     |     |     |     | 3   | 2   | 96.15          | 340                        |
| 96.00          | 9   | 2   | 1   |     |     |     |     |     |     |     | 1   | 1   | 96.00          | 354                        |
| 95.85          | 5   | 2   |     |     |     |     |     |     |     |     | 2   | 1   | 95.85          | 364                        |
| 95.70          | 1   |     |     |     |     |     |     |     |     |     |     |     | 95.70          | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan   | Feb   | Mar   | Apr    | May    | Jun   | Jul   | Aug   | Sep   | Oct    | Nov    | Dec   |
|------|-------|-------|-------|--------|--------|-------|-------|-------|-------|--------|--------|-------|
| 1    | 96.61 | 96.00 | 97.14 | 98.10  | 98.12  | 98.27 | 97.99 | 98.08 | 98.20 | 98.05  | 96.23  | 97.02 |
| 2    | 96.51 | 96.24 | 97.18 | 98.01  | 98.15  | 98.17 | 98.13 | 98.01 | 98.22 | 98.11  | 96.61  | 96.22 |
| 3    | 95.96 | 95.93 | 96.64 | 98.15  | 98.13  | 98.47 | 97.98 | 98.10 | 98.13 | 97.88  | 96.62  | 96.02 |
| 4    | 96.15 | 96.56 | 96.66 | 98.67  | 98.12  | 98.74 | 97.99 | 98.09 | 98.10 | 98.09  | 96.33  | 98.17 |
| 5    | 96.09 | 96.39 | 96.63 | 98.93  | 98.16  | 98.12 | 97.97 | 98.12 | 98.12 | 98.38  | 95.90  | 97.65 |
| 6    | 95.95 | 96.44 | 96.34 | 98.39  | 98.18  | 98.25 | 97.95 | 98.09 | 98.11 | 98.11  | 98.35  | 97.45 |
| 7    | 96.18 | 96.18 | 96.22 | 98.28  | 98.29  | 98.15 | 97.99 | 98.07 | 98.25 | 97.83  | 96.57  | 97.01 |
| 8    | 96.02 | 96.24 | 96.39 | 98.39  | 98.13  | 98.08 | 97.98 | 98.14 | 98.11 | 97.78  | 96.45  | 96.71 |
| 9    | 96.02 | 96.48 | 96.16 | 98.09  | 98.12  | 98.07 | 98.09 | 98.11 | 98.15 | 97.77  | 96.47  | 96.29 |
| 10   | 96.26 | 96.65 | 96.11 | 98.13  | 98.42  | 98.07 | 98.00 | 98.08 | 98.31 | 97.71  | 96.46  | 97.04 |
| 11   | 96.35 | 96.24 | 96.19 | 98.19  | 98.90  | 98.08 | 98.01 | 98.08 | 98.13 | 97.97  | 97.30  | 96.67 |
| 12   | 97.01 | 96.25 | 97.11 | 98.20  | 98.16  | 98.02 | 97.97 | 98.10 | 98.12 | 97.84  | 97.07  | 96.45 |
| 13   | 96.51 | 96.06 | 97.28 | 98.16  | 98.12  | 98.01 | 97.96 | 98.20 | 98.09 | 97.85  | 96.76  | 96.90 |
| 14   | 96.32 | 96.05 | 96.87 | 98.15  | 98.19  | 98.11 | 97.97 | 98.11 | 98.20 | 97.85  | 96.59  | 96.73 |
| 15   | 96.16 | 96.44 | 96.54 | 98.20  | 97.90  | 98.05 | 98.06 | 98.09 | 98.28 | 98.13  | 96.55  | 95.88 |
| 16   | 95.98 | 96.45 | 96.77 | 98.07  | 98.16  | 98.03 | 98.03 | 98.08 | 97.83 | 97.97  | 96.61  | 96.73 |
| 17   | 96.10 | 97.48 | 96.85 | 98.23  | 98.54  | 98.02 | 98.05 | 98.10 | 97.88 | 97.83  | 96.43  | 96.44 |
| 18   | 96.15 | 96.78 | 97.24 | 98.19  | 98.90  | 98.12 | 98.32 | 98.09 | 97.87 | 98.61  | 95.95  | 96.74 |
| 19   | 96.35 | 97.22 | 96.51 | 98.20  | 98.40  | 98.11 | 98.22 | 98.07 | 97.95 | 98.67  | 96.09  | 97.23 |
| 20   | 96.07 | 96.85 | 96.72 | 98.17  | 98.09  | 98.02 | 98.00 | 97.98 | 98.01 | 97.80  | 96.38  | 96.66 |
| 21   | 96.37 | 96.48 | 96.83 | 98.16  | 98.05  | 98.01 | 98.02 | 98.07 | 97.90 | 97.79  | 96.50  | 96.66 |
| 22   | 96.78 | 96.24 | 96.66 | 98.13  | 98.09  | 98.04 | 98.01 | 98.06 | 98.11 | 97.91  | 96.30  | 96.46 |
| 23   | 96.32 | 96.95 | 97.01 | 98.14  | 98.16  | 98.29 | 98.00 | 98.06 | 98.11 | 97.78  | 96.40  | 96.48 |
| 24   | 96.06 | 96.82 | 97.17 | 98.11  | 98.12  | 98.21 | 98.02 | 98.05 | 98.23 | 97.84  | 96.76  | 97.58 |
| 25   | 95.98 | 97.71 | 96.72 | 98.10  | 98.10  | 98.05 | 98.05 | 98.12 | 98.16 | 97.82  | 96.70  | 97.73 |
| 26   | 98.17 | 97.29 | 96.91 | 98.08  | 98.12  | 98.01 | 98.03 | 98.12 | 97.88 | 97.80  | 96.22  | 97.77 |
| 27   | 96.21 | 97.27 | 96.56 | 98.08  | 98.12  | 98.02 | 98.01 | 98.14 | 97.83 | 97.87  | 96.42  | 96.54 |
| 28   | 95.92 | 96.94 | 96.50 | 98.09  | 98.13  | 97.98 | 98.05 | 98.27 | 97.85 | 98.08  | 96.89  | 96.53 |
| 29   | 96.01 |       | 96.46 | 98.09  | 98.25  | 97.97 | 98.05 | 98.15 | 97.88 | 97.80  | 97.07  | 96.80 |
| 30   | 96.17 |       | 96.49 | 98.08  | 98.14  | 98.01 | 98.05 | 98.04 | 97.95 | 97.82  | 97.12  | 97.08 |
| 31   | 95.83 |       | 96.23 |        | 98.15  |       | 98.04 | 98.09 |       | 97.73  |        | 97.69 |
| Mean | 96.28 | 96.59 | 96.68 | 98.20  | 98.21  | 98.12 | 98.03 | 98.10 | 98.07 | 97.95  | 96.60  | 96.88 |
| Max. | 98.50 | 98.44 | 98.33 | 100.22 | 100.40 | 99.83 | 99.55 | 99.72 | 99.72 | 100.75 | 102.75 | 99.68 |
| Hr.  | 1900  | 0500  | 0300  | 1100   | 1400   | 1400  | 1800  | 2000  | 1900  | 1700   | 0600   | 1400  |
| Day  | 26    | 25    | 24    | 5      | 17     | 3     | 18    | 9     | 22    | 18     | 6      | 4     |
| Min. | 95.65 | 95.60 | 95.79 | 95.70  | 96.03  | 95.78 | 95.76 | 95.79 | 95.87 | 95.80  | 95.77  | 95.76 |
| Hr.  | 0500  | 1600  | 0400  | 0100   | 2400   | 2400  | 0100  | 2400  | 2200  | 2300   | 2100   | 2300  |
| Day  | 6     | 16    | 7     | 3      | 21     | 21    | 6     | 19    | 16    | 20     | 5      | 15    |

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

Annual Mean 97.48

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 170.35 Dec  
Daily mean elevation: 170.55 26 Jan  
Instant/hourly elevation: 170.72 0400/6 Nov

LOWEST

Monthly mean elevation: 170.22 Mar  
Daily mean elevation: 169.99 3 Feb  
Instant/hourly elevation: 169.81 2100/1 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov         | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Max Day | 170.55<br>26 | 170.31<br>19 | 170.34<br>18 | 170.32<br>22 | 170.45<br>11 | 170.38<br>4  | 170.31<br>30 | 170.34<br>28 | 170.38<br>22 | 170.42<br>18 | 170.50<br>6 | 170.53<br>25 |
| Min Day | 170.12<br>30 | 169.99<br>3  | 170.07<br>27 | 170.12<br>3  | 170.22<br>29 | 170.19<br>28 | 170.22<br>6  | 170.24<br>19 | 170.28<br>29 | 170.20<br>31 | 170.22<br>5 | 170.16<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 170.50         | 1   |     |     |     |     |     |     |     |     |     |     |     | 170.50         | 5                          |
| 170.45         |     |     |     |     |     |     |     |     |     |     |     |     | 170.45         | 8                          |
| 170.40         |     |     |     |     | 1   |     |     |     |     | 1   | 1   |     | 170.40         | 14                         |
| 170.35         |     |     |     |     |     | 1   |     |     |     | 5   | 4   | 5   | 170.35         | 32                         |
| 170.30         |     | 1   | 4   | 5   | 1   |     |     |     | 2   | 5   | 4   | 5   | 170.30         | 92                         |
| 170.25         | 10  | 7   | 4   | 15  | 6   | 20  | 12  | 20  | 13  | 11  | 7   | 6   | 170.30         | 247                        |
| 170.20         | 15  | 13  | 13  | 7   | 3   | 14  | 20  | 16  | 17  | 13  | 14  | 7   | 170.25         | 333                        |
| 170.15         | 3   | 1   | 3   | 1   |     | 3   | 9   | 2   |     | 4   | 4   | 2   | 170.20         | 348                        |
| 170.10         | 2   | 2   | 5   | 2   |     |     |     |     |     | 1   |     | 3   | 170.15         | 359                        |
| 170.05         |     |     |     |     |     |     |     |     |     |     |     |     | 170.10         | 363                        |
| 170.00         |     | 1   |     |     |     |     |     |     |     |     |     |     | 170.05         | 364                        |
| 169.95         |     | 1   |     |     |     |     |     |     |     |     |     |     | 170.00         | 365                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     | 169.95         |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 170.23 | 170.22 | 170.29 | 170.20 | 170.29 | 170.22 | 170.24 | 170.29 | 170.30 | 170.32 | 170.29 | 170.40 |
| 2    | 170.24 | 170.13 | 170.33 | 170.12 | 170.30 | 170.20 | 170.23 | 170.33 | 170.32 | 170.32 | 170.33 | 170.28 |
| 3    | 170.17 | 169.99 | 170.22 | 170.12 | 170.28 | 170.26 | 170.24 | 170.31 | 170.28 | 170.30 | 170.33 | 170.20 |
| 4    | 170.26 | 170.08 | 170.24 | 170.27 | 170.26 | 170.38 | 170.27 | 170.31 | 170.30 | 170.33 | 170.28 | 170.51 |
| 5    | 170.25 | 170.13 | 170.19 | 170.27 | 170.31 | 170.26 | 170.24 | 170.32 | 170.32 | 170.32 | 170.22 | 170.51 |
| 6    | 170.26 | 170.25 | 170.11 | 170.27 | 170.33 | 170.28 | 170.22 | 170.28 | 170.30 | 170.33 | 170.50 | 170.46 |
| 7    | 170.28 | 170.25 | 170.10 | 170.27 | 170.34 | 170.25 | 170.23 | 170.29 | 170.37 | 170.24 | 170.30 | 170.38 |
| 8    | 170.25 | 170.27 | 170.13 | 170.25 | 170.27 | 170.23 | 170.25 | 170.32 | 170.32 | 170.25 | 170.29 | 170.32 |
| 9    | 170.24 | 170.28 | 170.23 | 170.25 | 170.28 | 170.25 | 170.28 | 170.29 | 170.30 | 170.23 | 170.28 | 170.27 |
| 10   | 170.28 | 170.30 | 170.24 | 170.26 | 170.35 | 170.26 | 170.30 | 170.29 | 170.33 | 170.23 | 170.29 | 170.41 |
| 11   | 170.26 | 170.26 | 170.25 | 170.32 | 170.45 | 170.26 | 170.24 | 170.30 | 170.29 | 170.36 | 170.39 | 170.32 |
| 12   | 170.27 | 170.24 | 170.33 | 170.26 | 170.29 | 170.25 | 170.24 | 170.30 | 170.30 | 170.29 | 170.40 | 170.16 |
| 13   | 170.18 | 170.24 | 170.31 | 170.25 | 170.28 | 170.24 | 170.26 | 170.32 | 170.29 | 170.31 | 170.34 | 170.34 |
| 14   | 170.22 | 170.24 | 170.25 | 170.23 | 170.29 | 170.28 | 170.28 | 170.29 | 170.29 | 170.33 | 170.30 | 170.21 |
| 15   | 170.25 | 170.04 | 170.20 | 170.24 | 170.29 | 170.27 | 170.28 | 170.29 | 170.33 | 170.38 | 170.30 | 170.20 |
| 16   | 170.23 | 170.10 | 170.24 | 170.23 | 170.27 | 170.22 | 170.29 | 170.29 | 170.28 | 170.30 | 170.30 | 170.36 |
| 17   | 170.25 | 170.28 | 170.26 | 170.25 | 170.32 | 170.27 | 170.30 | 170.31 | 170.30 | 170.29 | 170.27 | 170.28 |
| 18   | 170.26 | 170.23 | 170.34 | 170.31 | 170.37 | 170.27 | 170.29 | 170.31 | 170.31 | 170.42 | 170.25 | 170.36 |
| 19   | 170.26 | 170.31 | 170.24 | 170.31 | 170.32 | 170.23 | 170.26 | 170.24 | 170.30 | 170.38 | 170.28 | 170.44 |
| 20   | 170.25 | 170.24 | 170.27 | 170.30 | 170.26 | 170.23 | 170.28 | 170.25 | 170.31 | 170.27 | 170.31 | 170.30 |
| 21   | 170.28 | 170.23 | 170.26 | 170.31 | 170.25 | 170.25 | 170.26 | 170.30 | 170.28 | 170.29 | 170.29 | 170.32 |
| 22   | 170.25 | 170.25 | 170.25 | 170.32 | 170.26 | 170.20 | 170.26 | 170.28 | 170.38 | 170.30 | 170.24 | 170.26 |
| 23   | 170.26 | 170.25 | 170.25 | 170.28 | 170.29 | 170.28 | 170.26 | 170.28 | 170.34 | 170.27 | 170.26 | 170.27 |
| 24   | 170.22 | 170.20 | 170.25 | 170.26 | 170.26 | 170.26 | 170.29 | 170.30 | 170.35 | 170.28 | 170.34 | 170.45 |
| 25   | 170.24 | 170.30 | 170.22 | 170.28 | 170.27 | 170.26 | 170.30 | 170.32 | 170.33 | 170.30 | 170.34 | 170.53 |
| 26   | 170.55 | 170.22 | 170.24 | 170.27 | 170.27 | 170.24 | 170.29 | 170.33 | 170.29 | 170.28 | 170.24 | 170.50 |
| 27   | 170.22 | 170.29 | 170.07 | 170.26 | 170.29 | 170.23 | 170.28 | 170.34 | 170.28 | 170.32 | 170.29 | 170.25 |
| 28   | 170.21 | 170.25 | 170.13 | 170.27 | 170.25 | 170.19 | 170.30 | 170.34 | 170.28 | 170.39 | 170.37 | 170.26 |
| 29   | 170.15 |        | 170.17 | 170.27 | 170.22 | 170.23 | 170.31 | 170.30 | 170.28 | 170.26 | 170.41 | 170.33 |
| 30   | 170.12 |        | 170.12 | 170.26 | 170.26 | 170.23 | 170.31 | 170.27 | 170.33 | 170.27 | 170.40 | 170.39 |
| 31   | 170.18 |        | 170.13 |        | 170.27 |        | 170.30 | 170.32 |        | 170.20 |        | 170.51 |
| Mean | 170.24 | 170.22 | 170.22 | 170.26 | 170.29 | 170.25 | 170.27 | 170.30 | 170.31 | 170.30 | 170.31 | 170.35 |
| Max. | 170.60 | 170.42 | 170.42 | 170.47 | 170.61 | 170.58 | 170.47 | 170.47 | 170.49 | 170.64 | 170.72 | 170.60 |
| Hr.  | 1800   | 0500   | 0900   | 0700   | 0700   | 0600   | 0700   | 0700   | 0900   | 2400   | 0400   | 1100   |
| Day  | 26     | 17     | 2      | 18     | 11     | 4      | 28     | 4      | 22     | 18     | 6      | 4      |
| Min. | 170.06 | 169.91 | 169.98 | 169.81 | 169.95 | 169.92 | 169.93 | 169.94 | 169.97 | 169.88 | 170.17 | 170.08 |
| Hr.  | 2200   | 1200   | 1500   | 2100   | 2100   | 2100   | 2100   | 2100   | 1900   | 2000   | 1700   | 1300   |
| Day  | 29     | 3      | 31     | 1      | 28     | 26     | 2      | 20     | 21     | 30     | 5      | 14     |

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

Annual Mean 170.28

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 171.18 Dec  
Daily mean elevation: 171.48 26 Jan  
Instant/hourly elevation: 171.78 0500/6 Nov

LOWEST

Monthly mean elevation: 171.02 Feb  
Daily mean elevation: 170.78 15 Feb  
Instant/hourly elevation: 170.69 1400/15 Feb

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun         | Jul          | Aug          | Sep          | Oct          | Nov         | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Max Day | 171.48<br>26 | 171.16<br>25 | 171.18<br>24 | 171.28<br>4 | 171.37<br>11 | 171.29<br>4 | 171.19<br>4  | 171.22<br>28 | 171.25<br>22 | 171.33<br>18 | 171.43<br>6 | 171.44<br>4  |
| Min Day | 170.88<br>30 | 170.78<br>15 | 170.85<br>7  | 171.05<br>2 | 171.07<br>29 | 171.07<br>2 | 171.08<br>12 | 171.08<br>19 | 171.12<br>27 | 171.04<br>31 | 170.99<br>5 | 170.96<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 171.45         | 1   |     |     |     |     |     |     |     |     |     |     |     | 171.45         | 1                          |
| 171.40         |     |     |     |     |     |     |     |     |     |     | 1   | 2   | 171.40         | 4                          |
| 171.35         |     |     |     |     | 1   |     |     |     |     |     | 1   |     | 171.35         | 6                          |
| 171.30         |     |     |     |     |     |     |     |     |     |     | 1   |     | 171.30         | 8                          |
| 171.25         |     |     |     | 1   | 1   | 1   |     |     |     | 1   |     |     | 171.25         | 21                         |
| 171.20         |     |     |     |     | 1   | 1   |     |     |     | 4   | 4   | 2   | 171.20         | 36                         |
| 171.15         |     | 1   | 3   | 4   | 4   | 9   | 10  | 22  | 4   | 2   | 1   | 4   | 171.15         | 115                        |
| 171.10         |     | 4   | 5   | 15  | 20  | 16  | 20  | 5   | 15  | 6   | 3   | 2   | 171.10         | 235                        |
| 171.05         | 6   | 2   | 5   | 9   | 4   | 3   | 1   | 2   |     | 12  | 9   | 3   | 171.05         | 282                        |
| 171.00         | 15  | 14  | 9   | 1   |     |     |     |     |     | 4   | 8   | 3   | 171.00         | 327                        |
| 170.95         | 6   | 2   | 5   |     |     |     |     |     |     | 2   | 3   | 1   | 170.95         | 344                        |
| 170.90         | 2   | 2   | 1   |     |     |     |     |     |     |     |     |     | 170.90         | 349                        |
| 170.85         | 1   | 1   | 2   |     |     |     |     |     |     |     |     |     | 170.85         | 353                        |
| 170.80         |     |     | 1   |     |     |     |     |     |     |     |     |     | 170.80         | 354                        |
| 170.75         |     | 2   |     |     |     |     |     |     |     |     |     |     | 170.75         | 356                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr     | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec     |
|------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1    | 171.05 | 170.99 | 171.12 | 171.08  | 171.13 | 171.10 | 171.15 | 171.16 | 171.17 | 171.19 | 171.08 | 171.27  |
| 2    | 171.10 | 170.91 | 171.15 | 171.05  | 171.14 | 171.07 | 171.14 | 171.19 | 171.18 | 171.19 | 171.14 | 171.09  |
| 3    | 170.98 | 170.79 | 171.01 | 171.13  | 171.12 | 171.17 | 171.15 | 171.18 | 171.14 | 171.15 | 171.14 | 170.99  |
| 4    | 171.05 | 170.95 | 171.04 | 171.28* | 171.10 | 171.29 | 171.19 | 171.18 | 171.15 | 171.21 | 171.07 | 171.44  |
| 5    | 171.02 | 171.02 | 170.97 | 171.13* | 171.15 | 171.14 | 171.15 | 171.20 | 171.18 | 171.28 | 170.99 | 171.42  |
| 6    | 171.06 | 171.08 | 170.87 | 171.11  | 171.18 | 171.18 | 171.12 | 171.15 | 171.17 | 171.20 | 171.43 | 171.36  |
| 7    | 171.08 | 171.04 | 170.85 | 171.12  | 171.19 | 171.14 | 171.13 | 171.16 | 171.24 | 171.09 | 171.11 | 171.24  |
| 8    | 171.01 | 171.05 | 170.89 | 171.11  | 171.12 | 171.11 | 171.15 | 171.20 | 171.18 | 171.08 | 171.10 | 171.16  |
| 9    | 171.00 | 171.08 | 171.01 | 171.11  | 171.13 | 171.14 | 171.18 | 171.17 | 171.16 | 171.06 | 171.08 | 171.10  |
| 10   | 171.07 | 171.11 | 171.01 | 171.11  | 171.25 | 171.15 | 171.18 | 171.16 | 171.20 | 171.05 | 171.09 | 171.28  |
| 11   | 171.05 | 171.05 | 171.03 | 171.18  | 171.37 | 171.14 | 171.11 | 171.18 | 171.15 | 171.22 | 171.26 | 171.16  |
| 12   | 171.09 | 171.01 | 171.16 | 171.11  | 171.14 | 171.13 | 171.08 | 171.17 | 171.16 | 171.12 | 171.26 | 170.96  |
| 13   | 170.97 | 171.02 | 171.13 | 171.09  | 171.13 | 171.13 | 171.11 | 171.19 | 171.15 | 171.16 | 171.18 | 171.21  |
| 14   | 171.03 | 171.01 | 171.04 | 171.08  | 171.15 | 171.18 | 171.14 | 171.16 | 171.16 | 171.17 | 171.12 | 171.03  |
| 15   | 171.03 | 170.78 | 170.98 | 171.08  | 171.14 | 171.16 | 171.14 | 171.16 | 171.21 | 171.26 | 171.12 | 170.99  |
| 16   | 170.99 | 170.86 | 171.04 | 171.07  | 171.11 | 171.12 | 171.15 | 171.16 | 171.13 | 171.15 | 171.13 | 171.21  |
| 17   | 171.02 | 171.12 | 171.07 | 171.11  | 171.20 | 171.17 | 171.16 | 171.18 | 171.16 | 171.13 | 171.08 | 171.11  |
| 18   | 171.04 | 171.03 | 171.17 | 171.17  | 171.26 | 171.18 | 171.17 | 171.18 | 171.16 | 171.33 | 171.04 | 171.21  |
| 19   | 171.04 | 171.13 | 171.06 | 171.16  | 171.18 | 171.15 | 171.12 | 171.08 | 171.15 | 171.27 | 171.09 | 171.31  |
| 20   | 171.01 | 171.04 | 171.08 | 171.15  | 171.10 | 171.15 | 171.13 | 171.09 | 171.17 | 171.11 | 171.13 | 171.13  |
| 21   | 171.06 | 171.02 | 171.06 | 171.15  | 171.10 | 171.17 | 171.11 | 171.15 | 171.13 | 171.13 | 171.11 | 171.15  |
| 22   | 171.04 | 171.03 | 171.05 | 171.17  | 171.11 | 171.12 | 171.11 | 171.13 | 171.25 | 171.15 | 171.04 | 171.10* |
| 23   | 171.03 | 171.04 | 171.14 | 171.13  | 171.14 | 171.22 | 171.13 | 171.14 | 171.20 | 171.11 | 171.08 | /       |
| 24   | 170.99 | 170.98 | 171.18 | 171.09  | 171.11 | 171.19 | 171.15 | 171.16 | 171.23 | 171.13 | 171.18 | /       |
| 25   | 171.01 | 171.16 | 171.07 | 171.12  | 171.12 | 171.18 | 171.16 | 171.18 | 171.19 | 171.15 | 171.18 | /       |
| 26   | 171.48 | 171.04 | 171.11 | 171.11  | 171.12 | 171.15 | 171.15 | 171.18 | 171.13 | 171.12 | 171.04 | /       |
| 27   | 171.05 | 171.11 | 170.95 | 171.09  | 171.14 | 171.14 | 171.14 | 171.21 | 171.12 | 171.17 | 171.11 | /       |
| 28   | 170.99 | 171.05 | 171.02 | 171.11  | 171.11 | 171.08 | 171.16 | 171.22 | 171.13 | 171.27 | 171.24 | /       |
| 29   | 170.92 |        | 170.97 | 171.10  | 171.07 | 171.13 | 171.17 | 171.17 | 171.13 | 171.10 | 171.29 | /       |
| 30   | 170.88 |        | 170.99 | 171.09  | 171.13 | 171.14 | 171.17 | 171.12 | 171.18 | 171.12 | 171.27 | /       |
| 31   | 170.95 |        | 170.99 |         | 171.14 |        | 171.16 | 171.18 |        | 171.04 |        | /       |
| Mean | 171.04 | 171.02 | 171.04 | 171.12  | 171.15 | 171.15 | 171.15 | 171.17 | 171.17 | 171.16 | 171.14 | 171.18  |
| Max. | 171.58 | 171.29 | 171.46 | 171.43  | 171.58 | 171.50 | 171.42 | 171.41 | 171.47 | 171.60 | 171.78 | 171.58  |
| Hr.  | 1700   | 0400   | 2300   | 1100    | 0800   | 0600   | 0700   | 0700   | 0700   | 0200   | 0500   | 1200    |
| Day  | 26     | 17     | 23     | 4       | 11     | 4      | 4      | 26     | 7      | 19     | 6      | 4       |
| Min. | 170.83 | 170.69 | 170.79 | 170.72  | 170.72 | 170.77 | 170.79 | 170.72 | 170.76 | 170.74 | 170.92 | 170.84  |
| Hr.  | 2200   | 1400   | 2100   | 2100    | 2100   | 2100   | 2100   | 2100   | 1900   | 2000   | 1700   | 1100    |
| Day  | 29     | 15     | 6      | 24      | 4      | 11     | 21     | 20     | 29     | 30     | 5      | 3       |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 171.12

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 174.25 Jun  
Daily mean elevation: 174.64 4 Dec  
Instant/hourly elevation: 175.98 0400/6 Nov

LOWEST

Monthly mean elevation: 173.82 Jan  
Daily mean elevation: 173.56 15 Feb  
Instant/hourly elevation: 172.95 1000/3 Dec

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 174.07<br>26 | 174.15<br>25 | 174.23<br>18 | 174.30<br>17 | 174.48<br>11 | 174.46<br>23 | 174.35<br>4  | 174.30<br>28 | 174.45<br>24 | 174.63<br>18 | 174.54<br>6  | 174.64<br>4 |
| Min Day | 173.69<br>20 | 173.56<br>15 | 173.79<br>6  | 174.08<br>1  | 173.97<br>4  | 174.13<br>28 | 173.97<br>12 | 173.90<br>19 | 174.04<br>3  | 173.88<br>9  | 173.87<br>26 | 173.72<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.60         |     |     |     |     |     |     |     |     |     | 1   |     |     | 174.60         | 2                          |
| 174.55         |     |     |     |     |     |     |     |     |     |     |     |     | 174.55         | 2                          |
| 174.50         |     |     |     |     |     |     |     |     |     |     |     |     | 174.50         | 3                          |
| 174.45         |     |     |     |     | 2   | 1   |     |     |     |     | 1   | 1   | 174.45         | 8                          |
| 174.40         |     |     |     |     | 2   | 1   |     |     |     |     | 1   | 1   | 174.40         | 13                         |
| 174.35         |     |     |     |     |     |     |     |     | 2   |     |     |     | 174.35         | 15                         |
| 174.30         |     |     |     |     |     |     |     |     | 2   |     |     |     | 174.30         | 22                         |
| 174.25         |     |     |     |     |     | 3   | 1   |     | 1   | 2   |     |     | 174.25         | 40                         |
| 174.20         |     |     |     |     | 1   | 6   | 8   | 16  | 9   | 2   | 3   | 1   | 174.20         | 89                         |
| 174.15         |     |     |     |     | 6   | 9   | 2   | 13  | 14  | 11  | 2   | 3   | 174.15         | 152                        |
| 174.10         |     | 3   | 9   | 14  | 6   | 6   | 1   | 5   | 9   | 6   | 5   | 5   | 174.10         | 217                        |
| 174.05         | 1   | 3   | 7   | 3   | 2   |     |     | 1   | 3   | 4   | 6   | 5   | 174.05         | 258                        |
| 174.00         |     | 1   | 9   |     |     |     |     |     |     |     | 6   | 6   | 174.00         | 284                        |
| 173.95         | 2   | 7   | 1   |     | 1   |     |     | 2   |     |     | 4   | 3   | 173.95         | 307                        |
| 173.90         | 3   | 4   | 1   |     |     |     |     |     |     |     |     | 3   | 173.90         | 322                        |
| 173.85         | 5   | 4   | 1   |     |     |     |     |     | 1   |     | 1   | 2   | 173.85         | 336                        |
| 173.80         | 5   | 2   | 1   |     |     |     |     |     |     |     |     |     | 173.80         | 344                        |
| 173.75         | 5   | 1   | 1   |     |     |     |     |     |     |     |     |     | 173.75         | 351                        |
| 173.70         | 9   |     |     |     |     |     |     |     |     |     |     | 1   | 173.70         | 361                        |
| 173.65         | 1   | 2   |     |     |     |     |     |     |     |     |     |     | 173.65         | 364                        |
| 173.60         |     |     |     |     |     |     |     |     |     |     |     |     | 173.60         | 364                        |
| 173.55         |     | 1   |     |     |     |     |     |     |     |     |     |     | 173.55         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 173.91 | 173.82 | 174.13 | 174.08 | 174.20 | 174.20 | 174.21 | 174.16 | 174.17 | 174.24 | 174.03 | 174.24 |
| 2    | 173.86 | 173.69 | 174.14 | 174.10 | 174.11 | 174.23 | 174.21 | 174.17 | 174.17 | 174.17 | 174.07 | 173.93 |
| 3    | 173.71 | 173.70 | 174.03 | 174.15 | 174.07 | 174.41 | 174.21 | 174.16 | 174.04 | 174.07 | 174.07 | 173.72 |
| 4    | 173.77 | 173.82 | 174.05 | 174.23 | 173.97 | 174.33 | 174.35 | 174.15 | 174.14 | 174.35 | 173.99 | 174.64 |
| 5    | 173.73 | 173.91 | 173.88 | 174.25 | 174.17 | 174.26 | 174.20 | 174.20 | 174.17 | 174.28 | 173.87 | 174.29 |
| 6    | 173.76 | 173.92 | 173.79 | 174.11 | 174.21 | 174.27 | 174.13 | 174.15 | 174.16 | 174.19 | 174.54 | 174.20 |
| 7    | 173.79 | 173.87 | 173.84 | 174.22 | 174.26 | 174.23 | 174.13 | 174.18 | 174.21 | 174.10 | 174.11 | 174.06 |
| 8    | 173.71 | 173.87 | 173.95 | 174.16 | 174.21 | 174.21 | 174.17 | 174.16 | 174.09 | 173.96 | 174.01 | 174.10 |
| 9    | 173.71 | 173.91 | 174.03 | 174.14 | 174.15 | 174.28 | 174.20 | 174.14 | 174.15 | 173.88 | 174.03 | 174.17 |
| 10   | 173.85 | 173.97 | 174.04 | 174.10 | 174.46 | 174.27 | 174.19 | 174.14 | 174.24 | 173.96 | 174.08 | 174.08 |
| 11   | 173.95 | 173.87 | 174.01 | 174.19 | 174.48 | 174.23 | 174.13 | 174.15 | 174.17 | 174.11 | 174.49 | 173.93 |
| 12   | 174.00 | 173.87 | 174.07 | 174.22 | 174.10 | 174.22 | 173.97 | 174.14 | 174.18 | 174.03 | 174.19 | 174.03 |
| 13   | 173.87 | 173.92 | 174.10 | 174.15 | 174.12 | 174.23 | 173.99 | 174.17 | 174.16 | 174.08 | 174.06 | 174.21 |
| 14   | 173.71 | 173.76 | 174.05 | 174.17 | 174.15 | 174.25 | 174.11 | 174.20 | 174.27 | 174.12 | 174.03 | 173.95 |
| 15   | 173.76 | 173.56 | 174.05 | 174.21 | 174.16 | 174.24 | 174.21 | 174.24 | 174.34 | 174.33 | 174.07 | 173.97 |
| 16   | 173.73 | 174.09 | 174.08 | 174.13 | 174.20 | 174.22 | 174.25 | 174.22 | 174.13 | 174.10 | 174.14 | 174.22 |
| 17   | 173.76 | 174.10 | 174.14 | 174.30 | 174.43 | 174.21 | 174.24 | 174.18 | 174.15 | 174.12 | 173.95 | 173.97 |
| 18   | 173.84 | 173.96 | 174.23 | 174.23 | 174.42 | 174.32 | 174.23 | 174.18 | 174.16 | 174.63 | 173.91 | 174.14 |
| 19   | 173.75 | 174.13 | 174.08 | 174.13 | 174.24 | 174.28 | 174.20 | 173.90 | 174.20 | 174.28 | 173.97 | 174.07 |
| 20   | 173.69 | 173.99 | 174.13 | 174.15 | 174.16 | 174.22 | 174.23 | 174.09 | 174.19 | 174.03 | 173.98 | 173.94 |
| 21   | 173.87 | 173.96 | 174.11 | 174.14 | 174.14 | 174.30 | 174.20 | 174.09 | 174.14 | 174.11 | 173.95 | 174.02 |
| 22   | 173.96 | 173.96 | 174.13 | 174.16 | 174.19 | 174.21 | 174.07 | 174.10 | 174.36 | 174.05 | 174.03 | 174.07 |
| 23   | 173.75 | 173.98 | 174.15 | 174.14 | 174.24 | 174.46 | 174.23 | 174.11 | 174.38 | 174.00 | 174.19 | 174.05 |
| 24   | 173.89 | 174.00 | 174.06 | 174.13 | 174.21 | 174.32 | 174.20 | 174.14 | 174.45 | 174.07 | 174.19 | 174.46 |
| 25   | 173.93 | 174.15 | 174.15 | 174.18 | 174.19 | 174.25 | 174.19 | 174.16 | 174.28 | 174.05 | 174.15 | 174.45 |
| 26   | 174.07 | 174.05 | 174.13 | 174.16 | 174.19 | 174.23 | 174.18 | 174.19 | 174.14 | 174.02 | 173.87 | 174.28 |
| 27   | 173.82 | 174.12 | 174.05 | 174.13 | 174.22 | 174.23 | 174.15 | 174.21 | 174.10 | 174.14 | 174.04 | 174.00 |
| 28   | 173.87 | 174.09 | 174.07 | 174.12 | 174.19 | 174.13 | 174.16 | 174.30 | 174.10 | 174.30 | 174.27 | 174.08 |
| 29   | 173.71 |        | 173.96 | 174.13 | 174.13 | 174.23 | 174.17 | 174.20 | 174.06 | 174.04 | 174.15 | 174.16 |
| 30   | 173.82 |        | 174.04 | 174.11 | 174.24 | 174.19 | 174.19 | 174.17 | 174.16 | 174.08 | 174.13 | 174.15 |
| 31   | 173.82 |        | 174.06 |        | 174.25 |        | 174.19 | 174.13 |        | 173.96 |        | 174.30 |
| Mean | 173.82 | 173.93 | 174.06 | 174.16 | 174.21 | 174.25 | 174.18 | 174.16 | 174.19 | 174.12 | 174.09 | 174.13 |
| Max. | 174.92 | 174.86 | 174.64 | 174.56 | 174.98 | 174.78 | 174.46 | 174.59 | 174.85 | 175.83 | 175.98 | 175.01 |
| Hr.  | 2400   | 2400   | 1000   | 1400   | 1200   | 1700   | 1300   | 2100   | 1600   | 1500   | 0400   | 0600   |
| Day  | 25     | 24     | 18     | 2      | 17     | 23     | 4      | 28     | 24     | 18     | 6      | 4      |
| Min. | 173.49 | 173.22 | 173.68 | 173.93 | 173.72 | 174.04 | 173.77 | 173.74 | 173.82 | 173.67 | 173.56 | 172.95 |
| Hr.  | 0100   | 0600   | 1300   | 0600   | 1700   | 2400   | 1300   | 1700   | 1300   | 0300   | 1100   | 1000   |
| Day  | 21     | 15     | 6      | 10     | 4      | 28     | 12     | 19     | 16     | 10     | 5      | 3      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.11

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 174.24 Jun  
Daily mean elevation: 174.55 18 Oct  
Instant/hourly elevation: 175.64 0400/6 Nov

LOWEST

Monthly mean elevation: 173.82 Jan  
Daily mean elevation: 173.59 15 Feb  
Instant/hourly elevation: 173.12 0900/3 Dec

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 174.06<br>26 | 174.15<br>25 | 174.23<br>18 | 174.28<br>17 | 174.41<br>10 | 174.41<br>23 | 174.31<br>4  | 174.25<br>28 | 174.37<br>24 | 174.55<br>18 | 174.41<br>11 | 174.52<br>4 |
| Min Day | 173.70<br>20 | 173.59<br>15 | 173.81<br>6  | 174.07<br>1  | 174.00<br>4  | 174.13<br>28 | 173.99<br>13 | 173.93<br>19 | 174.04<br>3  | 173.89<br>9  | 173.87<br>26 | 173.72<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.50         |     |     |     |     |     |     |     |     |     | 1   |     |     | 174.50         |                            |
| 174.45         |     |     |     |     |     |     |     |     |     |     | 1   |     | 174.45         | 2                          |
| 174.40         |     |     |     |     |     |     |     |     |     |     | 2   |     | 174.40         | 2                          |
| 174.35         |     |     |     |     | 1   | 1   |     |     |     |     |     | 1   | 174.35         | 7                          |
| 174.30         |     |     |     |     | 3   | 1   |     |     |     |     |     | 1   | 174.30         | 13                         |
| 174.25         |     |     |     |     |     | 1   | 1   |     |     |     |     | 1   | 174.25         | 18                         |
| 174.20         |     |     |     |     |     | 6   |     |     |     | 3   |     | 1   | 174.20         | 29                         |
| 174.15         |     |     |     |     | 1   | 8   | 18  | 6   | 2   | 3   | 3   | 2   | 174.20         | 77                         |
| 174.10         |     |     |     |     | 4   | 11  | 2   | 15  | 14  | 8   | 1   | 2   | 174.15         | 141                        |
| 174.05         | 1   |     |     |     | 2   | 7   | 11  | 5   | 1   | 5   | 6   | 3   | 174.10         | 210                        |
| 174.00         |     |     |     |     | 3   | 5   | 4   | 2   | 10  | 10  | 5   | 5   | 174.05         | 256                        |
| 173.95         | 2   |     |     |     | 4   | 2   |     | 2   |     |     | 3   | 4   | 174.00         | 285                        |
| 173.90         | 3   |     |     |     | 6   | 1   |     |     | 1   |     | 4   | 4   | 173.95         | 308                        |
| 173.85         | 6   |     |     |     | 4   | 2   |     |     |     |     | 1   | 1   | 173.90         | 324                        |
| 173.80         | 4   |     |     |     | 2   | 1   |     |     |     |     |     | 1   | 173.85         | 338                        |
| 173.75         | 6   |     |     |     | 1   |     |     |     |     |     |     |     | 173.80         | 345                        |
| 173.70         | 8   |     |     |     | 2   |     |     |     |     |     |     | 1   | 173.75         | 352                        |
| 173.65         | 1   |     |     |     |     |     |     |     |     |     |     | 1   | 173.70         | 363                        |
| 173.60         |     |     |     |     |     |     |     |     |     |     |     |     | 173.65         | 364                        |
| 173.55         |     |     |     |     |     |     |     |     |     |     |     |     | 173.60         | 364                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     | 173.55         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 173.91 | 173.83 | 174.14 | 174.07 | 174.19 | 174.19 | 174.21 | 174.16 | 174.16 | 174.22 | 174.02 | 174.18 |
| 2    | 173.87 | 173.71 | 174.15 | 174.10 | 174.11 | 174.22 | 174.20 | 174.16 | 174.16 | 174.14 | 174.05 | 173.92 |
| 3    | 173.71 | 173.72 | 174.03 | 174.15 | 174.08 | 174.37 | 174.20 | 174.16 | 174.04 | 174.05 | 174.05 | 173.72 |
| 4    | 173.77 | 173.83 | 174.06 | 174.22 | 174.00 | 174.32 | 174.31 | 174.14 | 174.12 | 174.29 | 173.98 | 174.52 |
| 5    | 173.74 | 173.92 | 173.89 | 174.23 | 174.18 | 174.25 | 174.19 | 174.19 | 174.16 | 174.21 | 173.91 | 174.24 |
| 6    | 173.76 | 173.93 | 173.81 | 174.10 | 174.21 | 174.25 | 174.13 | 174.15 | 174.15 | 174.15 | 174.41 | 174.15 |
| 7    | 173.79 | 173.88 | 173.86 | 174.21 | 174.25 | 174.22 | 174.13 | 174.18 | 174.20 | 174.08 | 174.11 | 174.04 |
| 8    | 173.71 | 173.88 | 173.96 | 174.14 | 174.20 | 174.21 | 174.16 | 174.17 | 174.09 | 173.97 | 174.00 | 174.07 |
| 9    | 173.71 | 173.92 | 174.04 | 174.12 | 174.14 | 174.27 | 174.19 | 174.14 | 174.15 | 173.89 | 174.02 | 174.13 |
| 10   | 173.86 | 173.98 | 174.04 | 174.10 | 174.41 | 174.26 | 174.18 | 174.14 | 174.21 | 173.98 | 174.08 | 174.06 |
| 11   | 173.95 | 173.88 | 174.02 | 174.19 | 174.40 | 174.23 | 174.12 | 174.14 | 174.16 | 174.11 | 174.41 | 173.93 |
| 12   | 174.00 | 173.88 | 174.08 | 174.21 | 174.09 | 174.21 | 173.99 | 174.13 | 174.17 | 174.03 | 174.16 | 174.02 |
| 13   | 173.87 | 173.94 | 174.10 | 174.14 | 174.14 | 174.22 | 173.99 | 174.17 | 174.15 | 174.08 | 174.04 | 174.17 |
| 14   | 173.71 | 173.77 | 174.06 | 174.17 | 174.14 | 174.24 | 174.10 | 174.18 | 174.25 | 174.11 | 174.02 | 173.94 |
| 15   | 173.77 | 173.59 | 174.06 | 174.20 | 174.16 | 174.22 | 174.19 | 174.21 | 174.31 | 174.29 | 174.05 | 173.98 |
| 16   | 173.73 | 174.10 | 174.08 | 174.13 | 174.20 | 174.21 | 174.22 | 174.20 | 174.13 | 174.09 | 174.12 | 174.17 |
| 17   | 173.76 | 174.09 | 174.15 | 174.28 | 174.37 | 174.21 | 174.22 | 174.17 | 174.15 | 174.10 | 173.95 | 173.96 |
| 18   | 173.84 | 173.97 | 174.23 | 174.20 | 174.37 | 174.29 | 174.21 | 174.17 | 174.15 | 174.55 | 173.91 | 174.10 |
| 19   | 173.75 | 174.13 | 174.09 | 174.13 | 174.21 | 174.28 | 174.19 | 173.93 | 174.19 | 174.23 | 173.96 | 174.06 |
| 20   | 173.70 | 174.00 | 174.13 | 174.14 | 174.16 | 174.21 | 174.21 | 174.08 | 174.19 | 174.03 | 173.97 | 173.94 |
| 21   | 173.89 | 173.97 | 174.11 | 174.14 | 174.16 | 174.27 | 174.19 | 174.08 | 174.14 | 174.10 | 173.95 | 174.01 |
| 22   | 173.96 | 173.99 | 174.14 | 174.16 | 174.19 | 174.21 | 174.08 | 174.09 | 174.32 | 174.05 | 174.01 | 174.05 |
| 23   | 173.76 | 174.00 | 174.17 | 174.14 | 174.23 | 174.41 | 174.22 | 174.10 | 174.35 | 174.01 | 174.15 | 174.05 |
| 24   | 173.90 | 174.02 | 174.08 | 174.14 | 174.21 | 174.30 | 174.19 | 174.12 | 174.37 | 174.07 | 174.15 | 174.42 |
| 25   | 173.93 | 174.15 | 174.17 | 174.17 | 174.19 | 174.24 | 174.18 | 174.15 | 174.25 | 174.05 | 174.11 | 174.38 |
| 26   | 174.06 | 174.07 | 174.14 | 174.16 | 174.19 | 174.21 | 174.18 | 174.17 | 174.13 | 174.03 | 173.87 | 174.23 |
| 27   | 173.83 | 174.12 | 174.06 | 174.13 | 174.21 | 174.21 | 174.15 | 174.19 | 174.09 | 174.12 | 174.01 | 174.00 |
| 28   | 173.88 | 174.09 | 174.07 | 174.13 | 174.19 | 174.13 | 174.15 | 174.25 | 174.09 | 174.26 | 174.21 | 174.07 |
| 29   | 173.73 |        | 173.97 | 174.13 | 174.15 | 174.21 | 174.17 | 174.18 | 174.06 | 174.03 | 174.12 | 174.13 |
| 30   | 173.83 |        | 174.04 | 174.12 | 174.24 | 174.19 | 174.17 | 174.15 | 174.15 | 174.07 | 174.09 | 174.16 |
| 31   | 173.82 |        | 174.07 |        | 174.24 |        | 174.18 | 174.12 |        |        | 173.96 | 174.30 |
| Mean | 173.82 | 173.94 | 174.07 | 174.15 | 174.20 | 174.24 | 174.17 | 174.15 | 174.17 | 174.11 | 174.06 | 174.10 |
| Max. | 174.81 | 174.81 | 174.59 | 174.47 | 174.89 | 174.66 | 174.39 | 174.46 | 174.73 | 175.47 | 175.64 | 174.89 |
| Hr.  | 2300   | 2400   | 1000   | 1400   | 1300   | 2400   | 1200   | 1300   | 1600   | 1500   | 0400   | 0500   |
| Day  | 25     | 24     | 18     | 2      | 10     | 3      | 4      | 28     | 24     | 18     | 6      | 4      |
| Min. | 173.51 | 173.27 | 173.71 | 173.93 | 173.75 | 174.03 | 173.82 | 173.74 | 173.84 | 173.68 | 173.61 | 173.12 |
| Hr.  | 0100   | 0600   | 0400   | 0900   | 1900   | 0800   | 1300   | 1700   | 1400   | 0300   | 0800   | 0900   |
| Day  | 21     | 15     | 7      | 2      | 4      | 28     | 12     | 19     | 16     | 10     | 5      | 3      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.10

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

Station: 906-3038 Erie, Pennsylvania on Lake Erie

HIGHEST

Monthly mean elevation: 174.27 Jun  
Daily mean elevation: 174.39 18 Oct  
Instant/hourly elevation: 175.02 0300/6 Nov

LOWEST

Monthly mean elevation: 173.83 Jan.  
Daily mean elevation: 173.73 3 Jan  
Instant/hourly elevation: 173.46 0800/3 Dec

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

|         | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max Day | 173.97 | 174.19 | 174.18 | 174.25 | 174.38 | 174.37 | 174.28 | 174.22 | 174.34 | 174.39 | 174.30 | 174.35 |
| Min Day | 173.73 | 173.77 | 173.93 | 174.11 | 174.09 | 174.20 | 174.09 | 174.09 | 174.11 | 174.03 | 173.94 | 173.80 |

----- 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. |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-------------------------|
| 174.35      |     |     |     |     | 1   | 1   |     |     |     | 1   |     |     | 174.35      | 3                       |
| 174.30      |     |     |     |     | 3   | 2   |     |     | 4   |     | 3   |     | 174.30      | 15                      |
| 174.25      |     |     |     |     | 4   | 16  | 1   |     |     | 1   | 2   | 1   | 174.25      | 40                      |
| 174.20      |     |     |     | 8   | 16  | 10  | 22  | 7   | 11  | 4   |     | 1   | 174.20      | 119                     |
| 174.15      | 1   | 7   | 16  | 4   | 1   | 6   | 23  | 10  | 10  | 1   |     | 2   | 174.15      | 190                     |
| 174.10      | 3   | 10  | 6   | 2   |     |     |     | 5   | 11  | 6   | 4   |     | 174.10      | 237                     |
| 174.05      | 5   | 9   |     | 1   |     | 2   | 1   |     | 10  | 9   | 10  |     | 174.05      | 284                     |
| 174.00      | 2   | 2   |     |     |     |     |     |     | 3   | 10  | 4   |     | 174.00      | 305                     |
| 173.95      | 2   | 3   | 1   |     |     |     |     |     |     | 2   | 5   |     | 173.95      | 318                     |
| 173.90      | 2   | 8   | 2   |     |     |     |     |     |     | 1   |     |     | 173.90      | 331                     |
| 173.85      | 7   | 2   |     |     |     |     |     |     |     |     |     |     | 173.85      | 340                     |
| 173.80      | 6   | 3   |     |     |     |     |     |     |     |     |     |     | 173.80      | 349                     |
| 173.75      | 10  | 1   |     |     |     |     |     |     |     |     | 1   |     | 173.75      | 361                     |
| 173.70      | 4   |     |     |     |     |     |     |     |     |     |     |     | 173.70      | 365                     |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 173.86 | 173.84 | 174.14 | 174.11 | 174.21 | 174.24 | 174.25 | 174.21 | 174.20 | 174.21 | 174.06 | 174.10 |
| 2    | 173.81 | 173.82 | 174.16 | 174.14 | 174.16 | 174.25 | 174.24 | 174.19 | 174.20 | 174.15 | 174.07 | 173.96 |
| 3    | 173.73 | 173.82 | 174.08 | 174.19 | 174.14 | 174.35 | 174.23 | 174.19 | 174.14 | 174.07 | 174.07 | 173.80 |
| 4    | 173.77 | 173.90 | 174.10 | 174.21 | 174.09 | 174.31 | 174.28 | 174.18 | 174.17 | 174.21 | 174.03 | 174.35 |
| 5    | 173.76 | 173.93 | 173.98 | 174.22 | 174.22 | 174.27 | 174.22 | 174.21 | 174.19 | 174.17 | 174.01 | 174.18 |
| 6    | 173.77 | 173.93 | 173.93 | 174.13 | 174.21 | 174.27 | 174.20 | 174.20 | 174.17 | 174.12 | 174.27 | 174.10 |
| 7    | 173.78 | 173.91 | 173.95 | 174.21 | 174.24 | 174.26 | 174.19 | 174.20 | 174.23 | 174.09 | 174.13 | 174.05 |
| 8    | 173.75 | 173.91 | 174.03 | 174.15 | 174.21 | 174.26 | 174.20 | 174.19 | 174.18 | 174.05 | 174.06 | 174.07 |
| 9    | 173.75 | 173.92 | 174.09 | 174.14 | 174.17 | 174.29 | 174.22 | 174.17 | 174.21 | 174.03 | 174.04 | 174.09 |
| 10   | 173.85 | 173.97 | 174.09 | 174.14 | 174.38 | 174.28 | 174.22 | 174.17 | 174.25 | 174.09 | 174.10 | 174.07 |
| 11   | 173.88 | 173.92 | 174.07 | 174.21 | 174.32 | 174.28 | 174.18 | 174.18 | 174.21 | 174.15 | 174.30 | 174.00 |
| 12   | 173.97 | 173.92 | 174.11 | 174.22 | 174.14 | 174.26 | 174.09 | 174.17 | 174.21 | 174.10 | 174.14 | 174.04 |
| 13   | 173.88 | 173.94 | 174.12 | 174.17 | 174.19 | 174.26 | 174.09 | 174.22 | 174.20 | 174.14 | 174.08 | 174.14 |
| 14   | 173.75 | 173.86 | 174.10 | 174.18 | 174.19 | 174.27 | 174.18 | 174.22 | 174.24 | 174.15 | 174.04 | 174.00 |
| 15   | 173.78 | 173.77 | 174.11 | 174.21 | 174.21 | 174.27 | 174.23 | 174.22 | 174.31 | 174.26 | 174.04 | 174.02 |
| 16   | 173.77 | 174.09 | 174.12 | 174.17 | 174.22 | 174.26 | 174.24 | 174.22 | 174.21 | 174.13 | 174.10 | 174.14 |
| 17   | 173.78 | 174.07 | 174.16 | 174.25 | 174.32 | 174.25 | 174.24 | 174.20 | 174.21 | 174.11 | 174.03 | 174.00 |
| 18   | 173.84 | 174.00 | 174.18 | 174.21 | 174.34 | 174.29 | 174.22 | 174.20 | 174.20 | 174.39 | 173.99 | 174.09 |
| 19   | 173.80 | 174.10 | 174.13 | 174.16 | 174.24 | 174.28 | 174.22 | 174.09 | 174.22 | 174.23 | 174.02 | 174.08 |
| 20   | 173.77 | 174.03 | 174.16 | 174.17 | 174.24 | 174.25 | 174.23 | 174.18 | 174.22 | 174.09 | 174.02 | 173.99 |
| 21   | 173.88 | 174.00 | 174.13 | 174.19 | 174.24 | 174.27 | 174.22 | 174.18 | 174.17 | 174.11 | 173.99 | 174.05 |
| 22   | 173.92 | 174.01 | 174.14 | 174.19 | 174.24 | 174.25 | 174.16 | 174.17 | 174.31 | 174.10 | 174.03 | 174.09 |
| 23   | 173.79 | 174.06 | 174.17 | 174.18 | 174.26 | 174.37 | 174.25 | 174.18 | 174.34 | 174.10 | 174.13 | 174.11 |
| 24   | 173.88 | 174.12 | 174.12 | 174.18 | 174.25 | 174.29 | 174.23 | 174.19 | 174.31 | 174.12 | 174.12 | 174.35 |
| 25   | 173.93 | 174.19 | 174.16 | 174.20 | 174.24 | 174.25 | 174.22 | 174.20 | 174.21 | 174.12 | 174.08 | 174.27 |
| 26   | 173.97 | 174.10 | 174.16 | 174.19 | 174.24 | 174.24 | 174.22 | 174.20 | 174.14 | 174.10 | 173.94 | 174.21 |
| 27   | 173.84 | 174.13 | 174.09 | 174.18 | 174.26 | 174.24 | 174.21 | 174.20 | 174.13 | 174.12 | 174.02 | 174.07 |
| 28   | 173.87 | 174.13 | 174.10 | 174.17 | 174.24 | 174.20 | 174.21 | 174.22 | 174.13 | 174.25 | 174.14 | 174.10 |
| 29   | 173.81 |        | 174.04 | 174.18 | 174.23 | 174.24 | 174.21 | 174.20 | 174.11 | 174.07 | 174.12 | 174.12 |
| 30   | 173.85 |        | 174.10 | 174.16 | 174.28 | 174.24 | 174.21 | 174.19 | 174.18 | 174.07 | 174.06 | 174.20 |
| 31   | 173.86 |        | 174.11 |        | 174.27 |        | 174.23 | 174.18 |        | 174.03 |        | 174.31 |
| Mean | 173.83 | 173.98 | 174.10 | 174.18 | 174.23 | 174.27 | 174.21 | 174.19 | 174.21 | 174.14 | 174.07 | 174.10 |
| Max. | 174.54 | 174.60 | 174.35 | 174.35 | 174.71 | 174.64 | 174.33 | 174.33 | 174.50 | 174.77 | 175.02 | 174.59 |
| Hr.  | 2400   | 0100   | 0900   | 0700   | 0400   | 2300   | 1000   | 2300   | 0200   | 1400   | 0300   | 0600   |
| Day  | 25     | 25     | 18     | 17     | 11     | 3      | 4      | 28     | 15     | 18     | 6      | 4      |
| Min. | 173.64 | 173.57 | 173.82 | 174.02 | 173.92 | 174.14 | 173.96 | 173.96 | 174.03 | 173.89 | 173.78 | 173.46 |
| Hr.  | 0100   | 0600   | 0400   | 0700   | 1700   | 0800   | 1500   | 1600   | 1400   | 2400   | 0900   | 0800   |
| Day  | 5      | 15     | 7      | 10     | 4      | 28     | 12     | 19     | 16     | 9      | 5      | 3      |

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

Annual Mean 174.13

International  
Great Lakes  
Datum (1955)

Station: 906-3053 Fairport, Ohio on Lake Erie

Annual Summary of Levels, in Meters, 1990

HIGHEST

Monthly mean elevation: 174.28 Jun  
Daily mean elevation: 174.32 20 May  
Instant/hourly elevation: 174.65 1900/24 Feb

LOWEST

Monthly mean elevation: 173.80 Jan  
Daily mean elevation: 173.72 2 Jan  
Instant/hourly elevation: 173.64 0300/26 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 173.89<br>29 | 174.21<br>24 | 174.17<br>23 | 174.22<br>24 | 174.32<br>20 | 174.30<br>11 | 174.27<br>1  | 174.30<br>19 | 174.29<br>16 | 174.19<br>10 | 174.12<br>7  | 174.26<br>31 |
| Min Day | 173.72<br>2  | 173.86<br>1  | 174.08<br>2  | 174.13<br>1  | 174.19<br>12 | 174.25<br>29 | 174.22<br>13 | 174.20<br>28 | 174.11<br>25 | 174.06<br>30 | 174.00<br>30 | 173.96<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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.30         |     |     |     |     | 2   |     |     |     |     |     |     |     | 174.30         | 2                          |
| 174.25         |     |     |     |     | 13  | 28  | 3   | 2   | 5   |     |     |     | 174.25         | 54                         |
| 174.20         |     | 1   |     | 12  | 7   | 2   | 28  | 26  | 15  |     |     |     | 174.20         | 146                        |
| 174.15         | 1   |     | 3   | 16  | 9   |     |     | 3   | 7   | 6   |     |     | 174.15         | 193                        |
| 174.10         | 4   | 26  |     | 2   |     |     |     |     | 3   | 17  | 3   | 5   | 174.10         | 253                        |
| 174.05         |     | 2   |     |     |     |     |     |     |     | 8   | 9   | 7   | 174.05         | 279                        |
| 174.00         |     | 7   |     |     |     |     |     |     |     | 16  | 13  |     | 174.00         | 315                        |
| 173.95         |     | 2   |     |     |     |     |     |     |     | 2   | 2   |     | 173.95         | 321                        |
| 173.90         |     | 10  |     |     |     |     |     |     |     |     |     |     | 173.90         | 331                        |
| 173.85         | 4   | 3   |     |     |     |     |     |     |     |     |     |     | 173.85         | 338                        |
| 173.80         | 10  |     |     |     |     |     |     |     |     |     |     |     | 173.80         | 348                        |
| 173.75         | 14  |     |     |     |     |     |     |     |     |     |     |     | 173.75         | 362                        |
| 173.70         | 3   |     |     |     |     |     |     |     |     |     |     |     | 173.70         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

Station: 906-3053 Fairport, Ohio on Lake Erie

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 173.77 | 173.86 | 174.10 | 174.13 | 174.20 | 174.28 | 174.27 | 174.23 | 174.21 | 174.15 | 174.07 | 173.96 |
| 2    | 173.72 | 173.92 | 174.08 | 174.16 | 174.19 | 174.27 | 174.25 | 174.22 | 174.22 | 174.12 | 174.06 | 174.00 |
| 3    | 173.74 | 173.92 | 174.13 | 174.21 | 174.19 | 174.29 | 174.25 | 174.21 | 174.22 | 174.10 | 174.05 | 174.05 |
| 4    | 173.75 | 173.94 | 174.11 | 174.17 | 174.22 | 174.30 | 174.22 | 174.21 | 174.19 | 174.09 | 174.07 | 174.04 |
| 5    | 173.77 | 173.90 | 174.12 | 174.17 | 174.22 | 174.28 | 174.25 | 174.22 | 174.19 | 174.10 | 174.12 | 174.05 |
| 6    | 173.77 | 173.90 | 174.15 | 174.17 | 174.22 | 174.28 | 174.26 | 174.23 | 174.18 | 174.08 | 174.03 | 174.03 |
| 7    | 173.76 | 173.92 | 174.11 | 174.17 | 174.19 | 174.27 | 174.23 | 174.22 | 174.25 | 174.11 | 174.12 | 174.05 |
| 8    | 173.77 | 173.92 | 174.11 | 174.16 | 174.20 | 174.28 | 174.22 | 174.21 | 174.27 | 174.13 | 174.09 | 174.04 |
| 9    | 173.77 | 173.93 | 174.12 | 174.14 | 174.20 | 174.29 | 174.23 | 174.21 | 174.26 | 174.17 | 174.07 | 174.03 |
| 10   | 173.78 | 173.93 | 174.12 | 174.18 | 174.20 | 174.30 | 174.24 | 174.21 | 174.24 | 174.19 | 174.11 | 174.05 |
| 11   | 173.76 | 173.94 | 174.13 | 174.21 | 174.19 | 174.30 | 174.22 | 174.20 | 174.25 | 174.15 | 174.06 | 174.06 |
| 12   | 173.81 | 173.94 | 174.12 | 174.20 | 174.19 | 174.28 | 174.25 | 174.20 | 174.25 | 174.17 | 174.09 | 174.04 |
| 13   | 173.78 | 173.92 | 174.13 | 174.19 | 174.25 | 174.28 | 174.22 | 174.25 | 174.24 | 174.18 | 174.07 | 174.05 |
| 14   | 173.78 | 173.97 | 174.14 | 174.20 | 174.23 | 174.28 | 174.25 | 174.24 | 174.24 | 174.15 | 174.03 | 174.05 |
| 15   | 173.78 | 174.04 | 174.14 | 174.19 | 174.23 | 174.28 | 174.25 | 174.22 | 174.24 | 174.16 | 174.02 | 174.07 |
| 16   | 173.79 | 174.02 | 174.14 | 174.21 | 174.25 | 174.29 | 174.24 | 174.22 | 174.29 | 174.15 | 174.04 | 174.04 |
| 17   | 173.78 | 174.00 | 174.14 | 174.22 | 174.26 | 174.28 | 174.24 | 174.22 | 174.26 | 174.12 | 174.08 | 174.04 |
| 18   | 173.82 | 174.02 | 174.14 | 174.19 | 174.28 | 174.27 | 174.23 | 174.22 | 174.23 | 174.13 | 174.05 | 174.07 |
| 19   | 173.82 | 174.02 | 174.17 | 174.19 | 174.27 | 174.29 | 174.24 | 174.30 | 174.24 | 174.14 | 174.05 | 174.09 |
| 20   | 173.83 | 174.02 | 174.15 | 174.19 | 174.32 | 174.27 | 174.24 | 174.27 | 174.22 | 174.13 | 174.04 | 174.07 |
| 21   | 173.83 | 174.02 | 174.14 | 174.22 | 174.31 | 174.26 | 174.24 | 174.24 | 174.21 | 174.11 | 174.03 | 174.09 |
| 22   | 173.82 | 174.05 | 174.14 | 174.21 | 174.29 | 174.28 | 174.26 | 174.24 | 174.23 | 174.15 | 174.04 | 174.11 |
| 23   | 173.83 | 174.11 | 174.17 | 174.21 | 174.28 | 174.26 | 174.24 | 174.24 | 174.26 | 174.15 | 174.04 | 174.17 |
| 24   | 173.83 | 174.21 | 174.15 | 174.22 | 174.28 | 174.28 | 174.25 | 174.23 | 174.16 | 174.14 | 174.00 | 174.16 |
| 25   | 173.86 | 174.17 | 174.13 | 174.21 | 174.29 | 174.26 | 174.25 | 174.22 | 174.11 | 174.17 | 174.02 | 174.10 |
| 26   | 173.80 | 174.11 | 174.14 | 174.21 | 174.29 | 174.26 | 174.25 | 174.21 | 174.16 | 174.14 | 174.04 | 174.14 |
| 27   | 173.83 | 174.11 | 174.14 | 174.21 | 174.28 | 174.25 | 174.25 | 174.21 | 174.15 | 174.08 | 174.02 | 174.14 |
| 28   | 173.85 | 174.13 | 174.12 | 174.21 | 174.28 | 174.26 | 174.24 | 174.20 | 174.15 | 174.11 | 174.03 | 174.14 |
| 29   | 173.89 |        | 174.14 | 174.20 | 174.30 | 174.25 | 174.24 | 174.24 | 174.17 | 174.09 | 174.05 | 174.13 |
| 30   | 173.86 |        | 174.15 | 174.20 | 174.29 | 174.26 | 174.24 | 174.23 | 174.18 | 174.06 | 174.00 | 174.24 |
| 31   | 173.86 |        | 174.16 |        | 174.28 |        | 174.24 | 174.21 |        | 174.10 |        | 174.26 |
| Mean | 173.80 | 174.00 | 174.13 | 174.19 | 174.25 | 174.28 | 174.24 | 174.22 | 174.21 | 174.13 | 174.05 | 174.08 |
| Max. | 174.05 | 174.65 | 174.25 | 174.32 | 174.40 | 174.48 | 174.35 | 174.40 | 174.43 | 174.35 | 174.26 | 174.35 |
| Hr.  | 1800   | 1900   | 1100   | 0700   | 0900   | 1900   | 2300   | 1500   | 1700   | 1100   | 2400   | 2400   |
| Day  | 25     | 24     | 23     | 17     | 17     | 3      | 22     | 19     | 14     | 18     | 11     | 30     |
| Min. | 173.64 | 173.82 | 174.03 | 174.06 | 174.10 | 174.18 | 174.17 | 174.04 | 174.03 | 173.90 | 173.87 | 173.89 |
| Hr.  | 0300   | 0500   | 1300   | 1200   | 2000   | 2300   | 1500   | 0200   | 2400   | 1600   | 0400   | 0600   |
| Day  | 26     | 2      | 2      | 9      | 10     | 3      | 11     | 28     | 6      | 18     | 6      | 4      |

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

Annual Mean 174.13

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

Station: 906-3063 Cleveland, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 174.25 Jun  
 Daily mean elevation: 174.30 19 Aug  
 Instant/hourly elevation: 174.83 1800/24 Feb

LOWEST

Monthly mean elevation: 173.77 Jan  
 Daily mean elevation: 173.66 2 Jan  
 Instant/hourly elevation: 173.31 2400/25 Jan

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

|         | Jan          | Feb          | Mar         | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 173.89<br>29 | 174.21<br>24 | 174.18<br>6 | 174.20<br>23 | 174.30<br>29 | 174.28<br>11 | 174.27<br>12 | 174.30<br>19 | 174.29<br>16 | 174.18<br>9  | 174.10<br>5  | 174.21<br>30 |
| Min Day | 173.66<br>2  | 173.82<br>1  | 174.03<br>2 | 174.13<br>9  | 174.14<br>10 | 174.19<br>23 | 174.18<br>4  | 174.16<br>28 | 174.02<br>25 | 174.02<br>30 | 173.92<br>30 | 173.86<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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.25         |     |     |     |     | 13  | 12  | 2   | 1   | 3   |     |     |     | 174.25         | 31                         |
| 174.20         |     | 1   |     |     | 8   | 17  | 26  | 12  | 9   |     |     | 1   | 174.20         | 105                        |
| 174.15         | 1   | 1   |     | 23  | 9   | 1   | 3   | 18  | 11  | 5   |     | 2   | 174.15         | 179                        |
| 174.10         | 1   | 20  | 7   |     | 1   |     |     |     | 5   | 9   |     | 2   | 174.10         | 224                        |
| 174.05         | 4   | 9   |     |     |     |     |     | 1   | 11  | 6   |     | 6   | 174.05         | 261                        |
| 174.00         | 1   | 1   |     |     |     |     |     | 1   | 6   | 10  | 8   |     | 174.00         | 288                        |
| 173.95         | 7   |     |     |     |     |     |     |     |     | 13  | 10  |     | 173.95         | 318                        |
| 173.90         | 6   |     |     |     |     |     |     |     |     | 1   | 1   |     | 173.90         | 326                        |
| 173.85         | 1   | 5   |     |     |     |     |     |     |     |     | 1   |     | 173.85         | 333                        |
| 173.80         | 7   | 2   |     |     |     |     |     |     |     |     |     |     | 173.80         | 342                        |
| 173.75         | 8   |     |     |     |     |     |     |     |     |     |     |     | 173.75         | 350                        |
| 173.70         | 12  |     |     |     |     |     |     |     |     |     |     |     | 173.70         | 362                        |
| 173.65         | 3   |     |     |     |     |     |     |     |     |     |     |     | 173.65         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

Station: 906-3063 Cleveland, Ohio on Lake Erie

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 173.72 | 173.82 | 174.06 | 174.13 | 174.17 | 174.26 | 174.24 | 174.21 | 174.18 | 174.10 | 174.05 | 173.86 |
| 2    | 173.66 | 173.93 | 174.03 | 174.13 | 174.17 | 174.24 | 174.23 | 174.20 | 174.19 | 174.09 | 174.02 | 173.98 |
| 3    | 173.71 | 173.92 | 174.12 | 174.19 | 174.18 | 174.25 | 174.22 | 174.19 | 174.22 | 174.06 | 174.02 | 174.07 |
| 4    | 173.71 | 173.93 | 174.10 | 174.15 | 174.23 | 174.27 | 174.18 | 174.18 | 174.17 | 174.05 | 174.05 | 173.92 |
| 5    | 173.75 | 173.85 | 174.14 | 174.14 | 174.21 | 174.25 | 174.23 | 174.19 | 174.16 | 174.02 | 174.10 | 173.98 |
| 6    | 173.74 | 173.86 | 174.18 | 174.16 | 174.19 | 174.24 | 174.25 | 174.22 | 174.17 | 174.02 | 173.99 | 173.97 |
| 7    | 173.70 | 173.90 | 174.15 | 174.15 | 174.16 | 174.25 | 174.22 | 174.21 | 174.26 | 174.07 | 174.08 | 174.00 |
| 8    | 173.74 | 173.89 | 174.12 | 174.13 | 174.17 | 174.26 | 174.19 | 174.19 | 174.26 | 174.12 | 174.07 | 173.99 |
| 9    | 173.74 | 173.90 | 174.09 | 174.13 | 174.18 | 174.27 | 174.21 | 174.19 | 174.25 | 174.18 | 174.03 | 173.96 |
| 10   | 173.75 | 173.91 | 174.10 | 174.17 | 174.14 | 174.28 | 174.22 | 174.18 | 174.21 | 174.16 | 174.08 | 174.01 |
| 11   | 173.69 | 173.93 | 174.12 | 174.19 | 174.17 | 174.28 | 174.22 | 174.17 | 174.24 | 174.12 | 173.97 | 174.03 |
| 12   | 173.81 | 173.92 | 174.10 | 174.17 | 174.18 | 174.26 | 174.27 | 174.18 | 174.22 | 174.16 | 174.07 | 173.99 |
| 13   | 173.75 | 173.89 | 174.10 | 174.17 | 174.23 | 174.25 | 174.24 | 174.23 | 174.22 | 174.16 | 174.04 | 174.00 |
| 14   | 173.76 | 173.99 | 174.12 | 174.17 | 174.22 | 174.25 | 174.23 | 174.21 | 174.18 | 174.12 | 173.99 | 174.03 |
| 15   | 173.75 | 174.08 | 174.12 | 174.16 | 174.21 | 174.26 | 174.23 | 174.19 | 174.23 | 174.10 | 173.97 | 174.03 |
| 16   | 173.76 | 173.99 | 174.12 | 174.18 | 174.23 | 174.26 | 174.21 | 174.19 | 174.29 | 174.12 | 173.99 | 174.00 |
| 17   | 173.75 | 173.99 | 174.11 | 174.19 | 174.23 | 174.26 | 174.20 | 174.20 | 174.25 | 174.07 | 174.07 | 174.02 |
| 18   | 173.79 | 174.00 | 174.10 | 174.16 | 174.25 | 174.25 | 174.21 | 174.20 | 174.20 | 174.02 | 174.03 | 174.01 |
| 19   | 173.81 | 173.99 | 174.15 | 174.17 | 174.26 | 174.27 | 174.21 | 174.30 | 174.21 | 174.10 | 174.02 | 174.05 |
| 20   | 173.83 | 174.00 | 174.13 | 174.17 | 174.30 | 174.25 | 174.21 | 174.25 | 174.20 | 174.11 | 174.02 | 174.05 |
| 21   | 173.80 | 173.99 | 174.12 | 174.20 | 174.29 | 174.24 | 174.23 | 174.24 | 174.18 | 174.07 | 174.00 | 174.06 |
| 22   | 173.76 | 174.04 | 174.11 | 174.19 | 174.28 | 174.23 | 174.26 | 174.24 | 174.17 | 174.13 | 174.00 | 174.08 |
| 23   | 173.82 | 174.10 | 174.14 | 174.20 | 174.26 | 174.19 | 174.21 | 174.23 | 174.20 | 174.14 | 173.96 | 174.16 |
| 24   | 173.79 | 174.21 | 174.13 | 174.19 | 174.26 | 174.25 | 174.22 | 174.21 | 174.07 | 174.11 | 173.96 | 174.06 |
| 25   | 173.77 | 174.16 | 174.10 | 174.18 | 174.27 | 174.24 | 174.23 | 174.20 | 174.02 | 174.16 | 173.97 | 173.98 |
| 26   | 173.74 | 174.08 | 174.11 | 174.18 | 174.27 | 174.24 | 174.23 | 174.18 | 174.13 | 174.13 | 174.04 | 174.08 |
| 27   | 173.79 | 174.08 | 174.12 | 174.19 | 174.26 | 174.24 | 174.24 | 174.17 | 174.13 | 174.03 | 173.98 | 174.12 |
| 28   | 173.82 | 174.11 | 174.10 | 174.18 | 174.27 | 174.26 | 174.23 | 174.16 | 174.13 | 174.08 | 173.96 | 174.11 |
| 29   | 173.89 |        | 174.15 | 174.18 | 174.30 | 174.22 | 174.22 | 174.22 | 174.15 | 174.07 | 173.99 | 174.08 |
| 30   | 173.83 |        | 174.13 | 174.18 | 174.27 | 174.24 | 174.22 | 174.21 | 174.15 | 174.02 | 173.92 | 174.21 |
| 31   | 173.84 |        | 174.14 |        | 174.26 |        | 174.23 | 174.20 |        | 174.08 |        | 174.20 |
| Mean | 173.77 | 173.98 | 174.12 | 174.17 | 174.23 | 174.25 | 174.22 | 174.21 | 174.19 | 174.10 | 174.01 | 174.03 |
| Max. | 173.96 | 174.83 | 174.25 | 174.32 | 174.46 | 174.46 | 174.36 | 174.41 | 174.48 | 174.32 | 174.27 | 174.33 |
| Hr.  | 1700   | 1800   | 0800   | 2100   | 2400   | 1900   | 2200   | 1400   | 1900   | 0700   | 0100   | 0500   |
| Day  | 25     | 24     | 23     | 10     | 19     | 3      | 22     | 19     | 6      | 4      | 12     | 31     |
| Min. | 173.31 | 173.75 | 173.93 | 174.04 | 173.99 | 174.07 | 174.12 | 173.98 | 173.95 | 173.68 | 173.69 | 173.66 |
| Hr.  | 2400   | 1400   | 1000   | 1400   | 1200   | 0400   | 0100   | 0600   | 1500   | 1500   | 0300   | 0800   |
| Day  | 25     | 1      | 2      | 2      | 10     | 23     | 9      | 28     | 24     | 18     | 6      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.11

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 906-3079 Marblehead, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 174.25 Jul  
Daily mean elevation: 174.42 12 Jul  
Instant/hourly elevation: 174.57 1800/19 Aug

LOWEST

Monthly mean elevation: 173.73 Jan  
Daily mean elevation: 173.55 12 Jan  
Instant/hourly elevation: 172.84 2300/25 Jan

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

|         | Jan          | Feb          | Mar         | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 173.91<br>29 | 174.24<br>15 | 174.32<br>6 | 174.21<br>30 | 174.36<br>29 | 174.29<br>28 | 174.42<br>12 | 174.38<br>19 | 174.32<br>8  | 174.25<br>9  | 174.10<br>26 | 174.20<br>27 |
| Min Day | 173.55<br>12 | 173.82<br>5  | 173.99<br>2 | 174.07<br>7  | 173.86<br>10 | 174.01<br>23 | 174.14<br>4  | 174.13<br>28 | 173.96<br>25 | 173.68<br>18 | 173.76<br>11 | 173.60<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.40         |     |     |     |     |     |     |     |     |     |     |     |     | 174.40         | 1                          |
| 174.35         |     |     |     |     | 1   |     | 1   | 1   |     |     |     |     | 174.35         | 4                          |
| 174.30         |     |     | 1   |     | 6   |     | 1   | 1   | 1   |     |     |     | 174.30         | 14                         |
| 174.25         |     |     | 2   |     | 7   | 12  | 5   | 3   | 5   |     |     |     | 174.25         | 48                         |
| 174.20         | 1   | 1   | 5   | 7   | 16  | 19  | 12  | 4   | 1   |     |     |     | 174.20         | 114                        |
| 174.15         |     | 4   | 12  | 4   |     | 3   | 13  | 10  | 4   |     |     |     | 174.15         | 168                        |
| 174.10         | 3   | 12  | 8   | 4   |     | 1   | 1   | 6   | 8   |     | 4   |     | 174.10         | 213                        |
| 174.05         | 5   | 6   | 4   |     |     | 1   | 1   | 1   | 8   | 6   | 2   |     | 174.05         | 247                        |
| 174.00         |     | 4   |     | 1   |     |     |     | 1   | 2   | 10  | 6   |     | 174.00         | 272                        |
| 173.95         | 5   | 1   |     |     |     |     |     | 2   | 4   | 5   | 6   |     | 173.95         | 295                        |
| 173.90         | 1   | 5   |     |     |     |     |     |     | 3   | 1   | 4   |     | 173.90         | 309                        |
| 173.85         | 1   | 5   |     |     | 1   |     |     |     |     | 4   | 2   |     | 173.85         | 322                        |
| 173.80         | 4   | 4   |     |     |     |     |     |     |     | 3   | 2   |     | 173.80         | 335                        |
| 173.75         | 5   |     |     |     |     |     |     |     |     | 1   |     |     | 173.75         | 341                        |
| 173.70         | 9   |     |     |     |     |     |     |     |     |     | 1   |     | 173.70         | 351                        |
| 173.65         | 5   |     |     |     |     |     |     |     |     |     | 1   |     | 173.65         | 357                        |
| 173.60         | 2   |     |     |     |     |     |     |     |     |     |     |     | 173.60         | 359                        |
| 173.55         | 2   |     |     |     |     |     |     |     |     |     | 1   |     | 173.55         | 362                        |
| 173.50         | 2   |     |     |     |     |     |     |     |     |     |     |     | 173.50         | 364                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

Station: 906-3079 Marblehead, Ohio on Lake Erie

| Day  | Jan    | Feb    | Mar    | Apr     | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec     |
|------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1    | 173.62 | 173.83 | 174.02 | /       | 174.15 | 174.28 | 174.25 | 174.23 | 174.18 | 174.04 | 174.05 | 173.75  |
| 2    | 173.59 | 173.98 | 173.99 | 174.08* | 174.20 | 174.24 | 174.25 | 174.22 | 174.20 | 174.08 | 174.01 | 174.03  |
| 3    | 173.71 | 173.97 | 174.14 | 174.11  | 174.21 | 174.10 | 174.22 | 174.20 | 174.27 | 174.09 | 174.01 | 173.96* |
| 4    | 173.68 | 173.95 | 174.11 | 174.10  | 174.32 | 174.23 | 174.14 | 174.19 | 174.18 | 173.95 | 174.08 | 173.60  |
| 5    | 173.74 | 173.82 | 174.27 | 174.09  | 174.21 | 174.25 | 174.24 | 174.20 | 174.15 | 173.95 | 174.07 | 173.86  |
| 6    | 173.72 | 173.85 | 174.32 | 174.17  | 174.20 | 174.22 | 174.28 | 174.23 | 174.19 | 173.98 | 173.83 | 173.90  |
| 7    | 173.68 | 173.91 | 174.28 | 174.07  | 174.14 | 174.26 | 174.26 | 174.21 | 174.25 | 174.06 | 174.01 | 173.97  |
| 8    | 173.75 | 173.90 | 174.18 | 174.13  | 174.15 | 174.27 | 174.20 | 174.20 | 174.32 | 174.17 | 174.08 | 173.94  |
| 9    | 173.74 | 173.89 | 174.10 | 174.11  | 174.19 | 174.23 | 174.21 | 174.20 | 174.26 | 174.25 | 174.04 | 173.92  |
| 10   | 173.66 | 173.87 | 174.11 | 174.17  | 173.86 | 174.28 | 174.23 | 174.18 | 174.19 | 174.16 | 174.03 | 173.98  |
| 11   | 173.55 | 173.95 | 174.14 | 174.17  | 174.01 | 174.29 | 174.28 | 174.18 | 174.26 | 174.10 | 173.76 | 174.05  |
| 12   | 173.55 | 173.92 | 174.09 | 174.14  | 174.22 | 174.27 | 174.42 | 174.19 | 174.23 | 174.19 | 173.99 | 173.97  |
| 13   | 173.68 | 173.89 | 174.10 | 174.18  | 174.25 | 174.25 | 174.38 | 174.25 | 174.24 | 174.17 | 174.01 | 173.91  |
| 14   | 173.78 | 174.10 | 174.14 | 174.15  | 174.25 | 174.26 | 174.28 | 174.22 | 174.14 | 174.11 | 173.99 | 174.05  |
| 15   | 173.74 | 174.24 | 174.13 | 174.14  | 174.22 | 174.28 | 174.22 | 174.18 | 174.17 | 173.99 | 173.96 | 174.00  |
| 16   | 173.77 | 173.85 | 174.13 | 174.20  | 174.23 | 174.28 | 174.19 | 174.18 | 174.30 | 174.14 | 173.90 | 173.91  |
| 17   | 173.76 | 173.93 | 174.05 | 174.13  | 174.12 | 174.27 | 174.19 | 174.21 | 174.26 | 174.08 | 174.06 | 174.05  |
| 18   | 173.75 | 173.99 | 174.03 | 174.15  | 174.16 | 174.21 | 174.21 | 174.19 | 174.21 | 173.68 | 174.06 | 173.96  |
| 19   | 173.82 | 173.90 | 174.16 | 174.18  | 174.31 | 174.25 | 174.22 | 174.38 | 174.18 | 174.04 | 174.03 | 174.03  |
| 20   | 173.89 | 173.99 | 174.13 | 174.17  | 174.30 | 174.26 | 174.21 | 174.29 | 174.20 | 174.14 | 174.03 | 174.13  |
| 21   | 173.74 | 173.99 | 174.11 | 174.21  | 174.35 | 174.22 | 174.25 | 174.31 | 174.19 | 174.07 | 174.03 | 174.09  |
| 22   | 173.69 | 174.06 | 174.08 | 174.20  | 174.32 | 174.22 | 174.35 | 174.29 | 174.05 | 174.14 | 173.99 | 174.07  |
| 23   | 173.85 | 174.11 | 174.10 | 174.21  | 174.27 | 174.01 | 174.21 | 174.27 | 174.08 | 174.15 | 173.85 | 174.16  |
| 24   | 173.72 | 174.08 | 174.15 | 174.21  | 174.28 | 174.22 | 174.23 | 174.23 | 173.96 | 174.11 | 173.89 | 173.83  |
| 25   | 173.63 | 174.06 | 174.05 | 174.19  | 174.30 | 174.25 | 174.25 | 174.21 | 173.96 | 174.15 | 173.92 | 173.83  |
| 26   | 173.60 | 174.15 | 174.09 | 174.20  | 174.31 | 174.23 | 174.25 | 174.19 | 174.12 | 174.11 | 174.10 | 174.01  |
| 27   | 173.77 | 174.11 | 174.14 | 174.21  | 174.28 | 174.24 | 174.27 | 174.17 | 174.15 | 173.97 | 173.97 | 174.20  |
| 28   | 173.78 | 174.10 | 174.12 | 174.20  | 174.32 | 174.29 | 174.25 | 174.13 | 174.13 | 173.95 | 173.81 | 174.18  |
| 29   | 173.91 |        | 174.23 | 174.20  | 174.36 | 174.22 | 174.24 | 174.25 | 174.17 | 174.07 | 173.90 | 174.07  |
| 30   | 173.82 |        | 174.16 | 174.21  | 174.29 | 174.24 | 174.24 | 174.24 | 174.12 | 174.00 | 173.86 | 174.19  |
| 31   | 173.84 |        |        | 174.17* |        | 174.26 |        | 174.25 | 174.24 |        | 174.09 |         |
| Mean | 173.73 | 173.98 | 174.13 | 174.16  | 174.23 | 174.24 | 174.25 | 174.22 | 174.18 | 174.07 | 173.98 | 173.99  |
| Max. | 174.07 | 174.44 | 174.41 | 174.31  | 174.51 | 174.40 | 174.57 | 174.57 | 174.54 | 174.44 | 174.35 | 174.32  |
| Hr.  | 0900   | 0900   | 0400   | 1900    | 1800   | 1100   | 1700   | 1800   | 1500   | 0300   | 0800   | 1300    |
| Day  | 25     | 15     | 7      | 10      | 4      | 28     | 12     | 19     | 16     | 10     | 5      | 3       |
| Min. | 172.84 | 173.40 | 173.82 | 173.91  | 173.58 | 173.89 | 174.07 | 173.98 | 173.75 | 173.14 | 173.14 | 173.06  |
| Hr.  | 2300   | 2100   | 0800   | 1700    | 1600   | 0400   | 0300   | 0400   | 1700   | 1600   | 0200   | 0800    |
| Day  | 25     | 16     | 2      | 2       | 10     | 23     | 9      | 28     | 24     | 18     | 6      | 4       |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.10

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 906-3085 Toledo, Ohio on Lake Erie

HIGHEST

Monthly mean elevation: 174.27 Jul  
Daily mean elevation: 174.58 13 Jul  
Instant/hourly elevation: 175.50 0800/3 Dec

LOWEST

Monthly mean elevation: 173.71 Jan  
Daily mean elevation: 173.31 4 Dec  
Instant/hourly elevation: 172.32 2400/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 173.99<br>20 | 174.47<br>15 | 174.48<br>6  | 174.24<br>27 | 174.49<br>4  | 174.33<br>28 | 174.58<br>13 | 174.45<br>19 | 174.39<br>8  | 174.33<br>9  | 174.20<br>26 | 174.45<br>3 |
| Min Day | 173.39<br>12 | 173.72<br>16 | 173.93<br>17 | 173.99<br>7  | 173.44<br>10 | 173.76<br>23 | 174.08<br>4  | 174.10<br>28 | 173.87<br>24 | 173.35<br>18 | 173.58<br>11 | 173.31<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|----------------|----------------------------|
| 174.55         |     |     |     |     |     |     | 1   |     |     |     |        |     | 174.55         | 1                          |
| 174.50         |     |     |     |     |     |     | 1   |     |     |     |        |     | 174.50         | 2                          |
| 174.45         |     | 1   | 2   |     | 1   |     | 1   |     |     |     |        |     | 174.45         | 7                          |
| 174.40         |     | 1   |     | 1   |     |     | 2   |     |     |     |        | 1   | 174.40         | 12                         |
| 174.35         |     | 1   |     | 4   |     | 1   | 1   | 1   |     |     |        |     | 174.35         | 20                         |
| 174.30         |     |     | 3   | 2   | 2   | 2   | 1   |     | 1   |     |        |     | 174.30         | 31                         |
| 174.25         | 1   |     | 9   | 8   | 8   | 2   | 6   |     |     |     |        | 1   | 174.25         | 66                         |
| 174.20         |     | 1   | 8   | 4   | 10  | 10  | 12  | 4   | 2   |     |        | 1   | 174.20         | 118                        |
| 174.15         | 1   | 8   | 9   | 2   | 7   | 6   | 11  | 8   | 5   | 1   | 1      | 1   | 174.15         | 177                        |
| 174.10         | 1   | 9   | 6   |     | 1   |     | 3   | 5   | 1   | 5   |        |     | 174.10         | 208                        |
| 174.05         | 3   | 3   | 2   | 3   |     | 1   | 1   | 3   | 8   | 8   | 5      |     | 174.05         | 245                        |
| 174.00         | 3   | 1   | 3   |     |     |     |     |     | 4   | 1   |        |     | 174.00         | 257                        |
| 173.95         | 1   | 6   | 3   | 2   | 1   |     |     |     | 3   | 4   | 4      |     | 173.95         | 281                        |
| 173.90         | 1   | 4   | 2   |     | 1   |     |     |     | 2   | 4   | 3      |     | 173.90         | 301                        |
| 173.85         | 2   | 2   |     |     | 1   |     |     | 1   | 2   | 1   | 3      |     | 173.85         | 313                        |
| 173.80         | 3   | 4   |     |     | 1   |     |     |     | 2   | 3   | 1      |     | 173.80         | 327                        |
| 173.75         | 4   | 1   |     |     | 1   |     |     |     |     |     | 1      |     | 173.75         | 334                        |
| 173.70         | 7   | 1   |     |     |     |     |     |     |     |     | 1      |     | 173.70         | 343                        |
| 173.65         | 4   |     |     |     |     |     |     |     |     |     | 1      | 2   | 173.65         | 350                        |
| 173.60         | 5   |     |     |     |     |     |     |     |     |     | 1      |     | 173.60         | 356                        |
| 173.55         |     |     |     |     |     |     |     |     |     | 1   | 1      |     | 173.55         | 358                        |
| 173.50         |     |     |     |     |     |     |     |     |     |     |        |     | 173.50         | 358                        |
| 173.45         | 1   |     |     |     |     |     |     |     |     |     |        |     | 173.45         | 359                        |
| 173.40         | 2   |     |     |     | 1   |     |     |     |     |     |        |     | 173.40         | 362                        |
| 173.35         | 1   |     |     |     |     |     |     |     |     |     |        |     | 173.35         | 363                        |
| 173.30         |     |     |     |     |     |     |     |     | 1   | 1   | 173.30 |     | 365            |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 173.63 | 173.83 | 173.97 | 174.16 | 174.08 | 174.30 | 174.27 | 174.25 | 174.17 | 173.97 | 174.07 | 173.67 |
| 2    | 173.61 | 174.07 | 173.96 | 174.07 | 174.23 | 174.24 | 174.27 | 174.24 | 174.22 | 174.08 | 174.01 | 174.11 |
| 3    | 173.75 | 174.04 | 174.17 | 174.03 | 174.26 | 173.87 | 174.21 | 174.21 | 174.32 | 174.13 | 174.01 | 174.45 |
| 4    | 173.68 | 173.97 | 174.14 | 174.04 | 174.49 | 174.17 | 174.08 | 174.20 | 174.17 | 173.87 | 174.14 | 173.31 |
| 5    | 173.75 | 173.79 | 174.47 | 174.00 | 174.22 | 174.24 | 174.25 | 174.18 | 174.14 | 173.84 | 174.09 | 173.78 |
| 6    | 173.75 | 173.84 | 174.48 | 174.17 | 174.20 | 174.20 | 174.30 | 174.21 | 174.19 | 173.94 | 173.68 | 173.86 |
| 7    | 173.68 | 173.92 | 174.45 | 173.99 | 174.10 | 174.28 | 174.30 | 174.20 | 174.26 | 174.06 | 173.95 | 173.95 |
| 8    | 173.76 | 173.91 | 174.25 | 174.12 | 174.10 | 174.27 | 174.18 | 174.21 | 174.39 | 174.23 | 174.09 | 173.91 |
| 9    | 173.76 | 173.89 | 174.11 | 174.09 | 174.17 | 174.18 | 174.21 | 174.22 | 174.27 | 174.33 | 174.06 | 173.90 |
| 10   | 173.63 | 173.81 | 174.14 | 174.17 | 173.44 | 174.27 | 174.25 | 174.19 | 174.18 | 174.17 | 173.96 | 174.00 |
| 11   | 173.44 | 173.97 | 174.18 | 174.12 | 173.85 | 174.30 | 174.37 | 174.19 | 174.29 | 174.09 | 173.58 | 174.10 |
| 12   | 173.39 | 173.93 | 174.09 | 174.12 | 174.28 | 174.28 | 174.55 | 174.19 | 174.25 | 174.24 | 173.93 | 173.97 |
| 13   | 173.66 | 173.90 | 174.12 | 174.19 | 174.28 | 174.25 | 174.58 | 174.24 | 174.26 | 174.19 | 174.00 | 173.81 |
| 14   | 173.82 | 174.28 | 174.16 | 174.13 | 174.29 | 174.25 | 174.33 | 174.24 | 174.08 | 174.12 | 174.01 | 174.09 |
| 15   | 173.75 | 174.47 | 174.14 | 174.12 | 174.24 | 174.30 | 174.20 | 174.16 | 174.10 | 173.89 | 173.95 | 173.99 |
| 16   | 173.79 | 173.72 | 174.14 | 174.20 | 174.24 | 174.31 | 174.17 | 174.17 | 174.30 | 174.18 | 173.83 | 173.87 |
| 17   | 173.77 | 173.91 | 173.93 | 174.04 | 173.95 | 174.25 | 174.17 | 174.21 | 174.28 | 174.09 | 174.07 | 174.10 |
| 18   | 173.71 | 174.00 | 173.94 | 174.14 | 174.00 | 174.13 | 174.21 | 174.19 | 174.23 | 173.35 | 174.10 | 173.93 |
| 19   | 173.86 | 173.81 | 174.17 | 174.20 | 174.38 | 174.22 | 174.21 | 174.45 | 174.16 | 173.98 | 174.04 | 174.04 |
| 20   | 173.99 | 174.00 | 174.12 | 174.18 | 174.33 | 174.28 | 174.20 | 174.34 | 174.20 | 174.18 | 174.06 | 174.23 |
| 21   | 173.68 | 174.00 | 174.11 | 174.24 | 174.44 | 174.18 | 174.27 | 174.43 | 174.21 | 174.07 | 174.07 | 174.13 |
| 22   | 173.64 | 174.10 | 174.06 | 174.23 | 174.39 | 174.19 | 174.46 | 174.37 | 173.91 | 174.15 | 173.99 | 174.07 |
| 23   | 173.90 | 174.16 | 174.04 | 174.24 | 174.29 | 173.76 | 174.20 | 174.32 | 173.93 | 174.17 | 173.72 | 174.14 |
| 24   | 173.65 | 174.01 | 174.17 | 174.23 | 174.30 | 174.18 | 174.24 | 174.25 | 173.87 | 174.10 | 173.88 | 173.60 |
| 25   | 173.45 | 174.00 | 173.98 | 174.19 | 174.34 | 174.25 | 174.26 | 174.22 | 173.91 | 174.13 | 173.91 | 173.70 |
| 26   | 173.48 | 174.11 | 174.07 | 174.20 | 174.35 | 174.20 | 174.26 | 174.19 | 174.13 | 174.10 | 174.20 | 173.97 |
| 27   | 173.71 | 174.05 | 174.17 | 174.24 | 174.29 | 174.25 | 174.31 | 174.16 | 174.17 | 173.93 | 173.97 | 174.27 |
| 28   | 173.75 | 174.09 | 174.15 | 174.22 | 174.38 | 174.33 | 174.28 | 174.10 | 174.15 | 173.83 | 173.63 | 174.15 |
| 29   | 173.94 |        | 174.40 | 174.22 | 174.38 | 174.21 | 174.25 | 174.25 | 174.19 | 174.08 | 173.81 | 174.10 |
| 30   | 173.83 |        | 174.20 | 174.22 | 174.30 | 174.22 | 174.24 | 174.29 | 174.07 | 174.00 | 173.83 | 174.20 |
| 31   | 173.84 |        | 174.19 |        | 174.27 |        | 174.25 | 174.30 |        | 174.11 |        | 174.13 |
| Mean | 173.71 | 173.98 | 174.15 | 174.15 | 174.22 | 174.21 | 174.27 | 174.24 | 174.17 | 174.05 | 173.96 | 173.99 |
| Max. | 174.24 | 174.82 | 174.72 | 174.43 | 174.80 | 174.50 | 174.90 | 174.78 | 174.62 | 174.71 | 174.67 | 175.50 |
| Hr.  | 1000   | 0100   | 0500   | 1900   | 1500   | 1000   | 1100   | 2000   | 1400   | 0200   | 0900   | 0800   |
| Day  | 25     | 15     | 7      | 6      | 4      | 28     | 13     | 19     | 16     | 10     | 5      | 3      |
| Min. | 172.32 | 172.88 | 173.69 | 173.80 | 172.86 | 173.60 | 173.95 | 173.80 | 173.51 | 172.56 | 172.62 | 172.66 |
| Hr.  | 2400   | 2400   | 0800   | 0600   | 0200   | 1100   | 0400   | 2000   | 1700   | 1800   | 0400   | 1100   |
| Day  | 25     | 16     | 2      | 5      | 11     | 3      | 9      | 28     | 24     | 18     | 6      | 4      |

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

Annual Mean 174.09

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 174.24 Jul  
Daily mean elevation: 174.42 13 Jul  
Instant/hourly elevation: 175.17 0800/3 Dec

LOWEST

Monthly mean elevation: 173.73 Jan  
Daily mean elevation: 173.42 4 Dec  
Instant/hourly elevation: 172.67 2400/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 173.91<br>20 | 174.30<br>15 | 174.36<br>7  | 174.22<br>28 | 174.38<br>4  | 174.30<br>28 | 174.42<br>13 | 174.39<br>19 | 174.34<br>8  | 174.22<br>9  | 174.17<br>26 | 174.37<br>3 |
| Min Day | 173.42<br>12 | 173.75<br>16 | 173.98<br>18 | 173.98<br>3  | 173.69<br>10 | 173.89<br>23 | 174.13<br>4  | 174.12<br>28 | 173.93<br>24 | 173.52<br>18 | 173.64<br>11 | 173.42<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.40         |     |     |     |     |     |     | 1   |     |     |     |     |     | 174.40         | 1                          |
| 174.35         |     |     | 1   |     | 1   |     | 1   | 1   |     |     |     | 1   | 174.35         | 6                          |
| 174.30         |     |     | 2   |     | 6   |     | 1   | 1   | 1   |     |     |     | 174.30         | 17                         |
| 174.25         | 1   | 1   |     | 9   |     | 12  | 4   | 5   | 2   |     |     |     | 174.25         | 51                         |
| 174.20         |     |     | 1   | 9   | 6   | 11  | 18  | 10  | 8   | 1   |     | 1   | 174.20         | 116                        |
| 174.15         |     |     | 3   | 5   | 3   | 4   | 5   | 13  | 8   | 7   | 1   | 1   | 174.15         | 166                        |
| 174.10         | 1   | 13  | 9   | 1   | 1   | 1   | 1   | 1   | 5   | 4   | 1   | 3   | 174.10         | 206                        |
| 174.05         | 5   | 4   | 2   | 1   |     |     |     |     | 2   | 9   | 6   | 7   | 174.05         | 242                        |
| 174.00         | 1   | 4   | 2   | 1   |     | 1   |     |     |     | 2   | 7   | 2   | 174.00         | 263                        |
| 173.95         | 4   | 2   | 3   |     |     |     |     |     | 2   | 3   | 3   | 5   | 173.95         | 285                        |
| 173.90         | 1   | 8   |     |     |     |     |     |     | 2   | 3   | 5   | 3   | 173.90         | 307                        |
| 173.85         | 2   | 2   |     |     | 1   | 1   |     |     |     | 1   | 2   | 2   | 173.85         | 316                        |
| 173.80         | 5   | 5   |     |     |     |     |     |     |     | 1   | 2   | 3   | 173.80         | 332                        |
| 173.75         | 4   |     |     |     |     |     |     |     |     |     | 1   |     | 173.75         | 337                        |
| 173.70         | 8   | 1   |     |     |     |     |     |     |     | 2   | 2   | 2   | 173.70         | 350                        |
| 173.65         | 5   |     |     |     | 1   |     |     |     |     |     |     |     | 173.65         | 356                        |
| 173.60         | 2   |     |     |     |     |     |     |     |     |     | 1   |     | 173.60         | 359                        |
| 173.55         | 3   |     |     |     |     |     |     |     |     |     |     |     | 173.55         | 362                        |
| 173.50         |     |     |     |     |     |     |     |     |     | 1   |     |     | 173.50         | 363                        |
| 173.45         |     |     |     |     |     |     |     |     |     |     |     |     | 173.45         | 363                        |
| 173.40         |     | 1   |     |     |     |     |     |     |     |     | 1   |     | 173.40         | 365                        |

**Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990**

| 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   | 173.62 | 173.85 | 174.01 | 174.14 | 174.09 | 174.30 | 174.22 | 174.22 | 174.17 | 174.00 | 174.07 | 173.75                                 |
| 2   | 173.60 | 173.94 | 173.98 | 174.09 | 174.21 | 174.27 | 174.25 | 174.22 | 174.18 | 174.08 | 174.03 | 174.03                                 |
| 3   | 173.73 | 173.99 | 174.12 | 173.98 | 174.25 | 174.04 | 174.23 | 174.21 | 174.26 | 174.17 | 174.02 | 174.37                                 |
| 4   | 173.69 | 173.91 | 174.11 | 174.03 | 174.38 | 174.17 | 174.13 | 174.21 | 174.18 | 173.91 | 174.08 | 173.42                                 |
| 5   | 173.74 | 173.85 | 174.34 | 174.00 | 174.17 | 174.25 | 174.21 | 174.16 | 174.14 | 173.95 | 174.11 | 173.82                                 |
| 6   | 173.74 | 173.85 | 174.32 | 174.15 | 174.18 | 174.22 | 174.23 | 174.17 | 174.19 | 174.01 | 173.71 | 173.88                                 |
| 7   | 173.69 | 173.91 | 174.36 | 174.00 | 174.14 | 174.27 | 174.26 | 174.17 | 174.21 | 174.07 | 173.94 | 173.99                                 |
| 8   | 173.76 | 173.92 | 174.22 | 174.13 | 174.16 | 174.28 | 174.21 | 174.19 | 174.34 | 174.17 | 174.07 | 173.93                                 |
| 9   | 173.77 | 173.89 | 174.10 | 174.12 | 174.21 | 174.18 | 174.19 | 174.20 | 174.26 | 174.22 | 174.06 | 173.92                                 |
| 10  | 173.67 | 173.81 | 174.12 | 174.13 | 173.69 | 174.23 | 174.21 | 174.17 | 174.19 | 174.17 | 173.95 | 173.99                                 |
| 11  | 173.56 | 173.94 | 174.16 | 174.10 | 173.89 | 174.27 | 174.30 | 174.17 | 174.25 | 174.09 | 173.64 | 174.09                                 |
| 12  | 173.42 | 173.94 | 174.11 | 174.12 | 174.27 | 174.30 | 174.40 | 174.17 | 174.23 | 174.18 | 173.92 | 174.00                                 |
| 13  | 173.66 | 173.92 | 174.11 | 174.19 | 174.21 | 174.27 | 174.42 | 174.22 | 174.25 | 174.16 | 173.98 | 173.82                                 |
| 14  | 173.82 | 174.09 | 174.15 | 174.15 | 174.27 | 174.25 | 174.30 | 174.22 | 174.12 | 174.13 | 174.02 | 174.07                                 |
| 15  | 173.75 | 174.30 | 174.15 | 174.14 | 174.23 | 174.26 | 174.21 | 174.17 | 174.09 | 173.92 | 173.98 | 174.00                                 |
| 16  | 173.78 | 173.75 | 174.14 | 174.21 | 174.24 | 174.28 | 174.19 | 174.17 | 174.25 | 174.17 | 173.85 | 173.88                                 |
| 17  | 173.78 | 173.91 | 174.03 | 174.01 | 174.03 | 174.27 | 174.19 | 174.21 | 174.24 | 174.14 | 174.03 | 174.09                                 |
| 18  | 173.71 | 174.02 | 173.98 | 174.14 | 174.04 | 174.15 | 174.21 | 174.19 | 174.23 | 173.52 | 174.07 | 173.94                                 |
| 19  | 173.83 | 173.82 | 174.13 | 174.20 | 174.33 | 174.21 | 174.22 | 174.39 | 174.16 | 173.98 | 174.03 | 174.03                                 |
| 20  | 173.91 | 173.98 | 174.10 | 174.18 | 174.30 | 174.28 | 174.20 | 174.28 | 174.20 | 174.18 | 174.04 | 174.20                                 |
| 21  | 173.72 | 174.00 | 174.12 | 174.21 | 174.35 | 174.20 | 174.24 | 174.34 | 174.22 | 174.09 | 174.08 | 174.10                                 |
| 22  | 173.67 | 174.06 | 174.10 | 174.21 | 174.31 | 174.24 | 174.35 | 174.29 | 173.96 | 174.12 | 173.99 | 174.06                                 |
| 23  | 173.90 | 174.08 | 174.03 | 174.22 | 174.27 | 173.89 | 174.18 | 174.27 | 173.93 | 174.13 | 173.79 | 174.08                                 |
| 24  | 173.71 | 173.90 | 174.15 | 174.22 | 174.30 | 174.17 | 174.21 | 174.22 | 173.93 | 174.09 | 173.90 | 173.71                                 |
| 25  | 173.65 | 173.96 | 174.02 | 174.19 | 174.31 | 174.24 | 174.24 | 174.21 | 173.99 | 174.07 | 173.92 | 173.82                                 |
| 26  | 173.56 | 174.12 | 174.07 | 174.20 | 174.31 | 174.21 | 174.24 | 174.18 | 174.11 | 174.08 | 174.17 | 173.98                                 |
| 27  | 173.81 | 174.06 | 174.17 | 174.22 | 174.27 | 174.23 | 174.28 | 174.16 | 174.16 | 173.99 | 174.02 | 174.24                                 |
| 28  | 173.75 | 174.07 | 174.13 | 174.22 | 174.31 | 174.30 | 174.25 | 174.12 | 174.14 | 173.83 | 173.73 | 174.14                                 |
| 29  | 173.89 |        | 174.30 | 174.21 | 174.30 | 174.21 | 174.25 | 174.24 | 174.15 | 174.07 | 173.85 | 174.12                                 |
| 30  | 173.84 |        | 174.16 | 174.21 | 174.27 | 174.21 | 174.22 | 174.26 | 174.06 | 174.02 | 173.91 | 174.14                                 |
| 31  | 173.83 |        | 174.15 |        | 174.27 |        | 174.21 | 174.27 |        | 174.09 |        | 174.10                                 |
| Mean  | 173.73 | 173.96 | 174.13 | 174.14 | 174.21 | 174.22 | 174.24 | 174.21 | 174.16 | 174.06 | 173.96 | 173.99                                 |
| Max.  | 174.22 | 174.52 | 174.55 | 174.39 | 174.61 | 174.45 | 174.65 | 174.63 | 174.55 | 174.51 | 174.57 | 175.17                                 |
| Hr.   | 0900   | 0200   | 0500   | 0800   | 1700   | 2200   | 1700   | 1900   | 1600   | 0100   | 0400   | 0800                                   |
| Day   | 25     | 15     | 7      | 10     | 4      | 8      | 12     | 19     | 16     | 10     | 12     | 3                                      |
| Min.  | 172.67 | 173.02 | 173.77 | 173.82 | 173.11 | 173.73 | 173.99 | 173.92 | 173.62 | 172.73 | 172.70 | 172.75                                 |
| Hr.   | 2400   | 2300   | 0700   | 2000   | 0200   | 0100   | 0300   | 1900   | 1700   | 1800   | 0300   | 1000                                   |
| Day   | 25     | 16     | 18     | 5      | 11     | 4      | 9      | 28     | 24     | 18     | 6      | 4                                      |

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

Annual Mean 174.08

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 904-4020 Gibraltar, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 174.32 Jul  
Daily mean elevation: 174.46 19 Aug  
Instant/hourly elevation: 175.09 0900/3 Dec

LOWEST

Monthly mean elevation: 173.83 Jan  
Daily mean elevation: 173.54 12 Jan  
Instant/hourly elevation: 172.98 0100/26 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 173.98<br>23 | 174.31<br>15 | 174.37<br>7  | 174.26<br>29 | 174.39<br>4  | 174.36<br>28 | 174.46<br>13 | 174.46<br>19 | 174.42<br>8  | 174.28<br>10 | 174.23<br>5  | 174.43<br>3 |
| Min Day | 173.54<br>12 | 173.87<br>16 | 174.04<br>18 | 174.01<br>3  | 173.85<br>10 | 174.02<br>23 | 174.21<br>4  | 174.24<br>28 | 174.05<br>23 | 173.75<br>18 | 173.76<br>11 | 173.60<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.45         |     |     |     |     |     |     | 1   | 1   |     |     |     |     | 174.45         | 2                          |
| 174.40         |     |     |     |     |     |     | 1   | 1   | 1   |     |     | 1   | 174.40         | 6                          |
| 174.35         |     |     | 1   |     | 3   | 2   | 3   | 4   | 1   |     |     |     | 174.35         | 20                         |
| 174.30         | 1   | 3   |     | 13  | 12  | 8   | 10  | 9   |     |     |     |     | 174.30         | 76                         |
| 174.25         |     | 1   | 6   | 5   | 10  | 17  | 12  | 7   | 4   |     |     | 1   | 174.25         | 139                        |
| 174.20         |     | 2   | 9   | 3   | 4   | 1   | 3   | 6   | 6   | 1   | 1   | 1   | 174.20         | 175                        |
| 174.15         | 1   | 13  | 8   | 2   |     |     |     | 1   | 8   | 1   | 1   | 1   | 174.15         | 214                        |
| 174.10         | 4   | 5   | 2   | 2   | 1   |     |     | 2   | 5   | 7   | 5   | 5   | 174.10         | 247                        |
| 174.05         | 3   | 4   | 3   | 1   |     |     |     | 2   | 4   | 8   | 5   | 5   | 174.05         | 277                        |
| 174.00         | 4   | 2   | 2   |     |     | 1   |     | 1   | 2   | 4   | 4   | 4   | 174.00         | 297                        |
| 173.95         | 2   | 8   |     | 1   |     |     |     |     |     | 3   | 3   | 3   | 173.95         | 314                        |
| 173.90         | 3   | 4   |     |     |     |     |     |     | 1   | 3   | 2   | 2   | 173.90         | 327                        |
| 173.85         | 8   | 3   |     |     |     |     |     |     |     |     |     |     | 173.85         | 340                        |
| 173.80         | 9   |     |     | 1   |     |     |     |     |     |     | 2   | 2   | 173.80         | 353                        |
| 173.75         | 5   |     |     |     |     |     |     |     |     | 2   | 1   | 1   | 173.75         | 359                        |
| 173.70         | 1   |     |     |     |     |     |     |     |     | 1   |     |     | 173.70         | 361                        |
| 173.65         | 2   |     |     |     |     |     |     |     |     |     |     |     | 173.65         | 363                        |
| 173.60         |     |     |     |     |     |     |     |     |     |     |     |     | 173.60         | 363                        |
| 173.55         |     |     |     |     |     |     |     |     |     |     |     |     | 173.55         | 364                        |
| 173.50         | 1   |     |     |     |     |     |     |     |     |     | 1   |     | 173.50         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

Station: 904-4020    Gibraltar, Michigan    on Detroit River

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 173.78 | 173.92 | 174.08 | 174.19 | 174.13 | 174.35 | 174.28 | 174.31 | 174.28 | 174.11 | 174.14 | 173.87 |
| 2    | 173.78 | 173.97 | 174.05 | 174.13 | 174.26 | 174.34 | 174.31 | 174.31 | 174.28 | 174.18 | 174.11 | 174.07 |
| 3    | 173.87 | 174.04 | 174.16 | 174.01 | 174.29 | 174.14 | 174.30 | 174.30 | 174.35 | 174.28 | 174.10 | 174.43 |
| 4    | 173.84 | 173.95 | 174.15 | 174.07 | 174.39 | 174.23 | 174.21 | 174.31 | 174.28 | 174.03 | 174.13 | 173.60 |
| 5    | 173.88 | 173.95 | 174.35 | 174.06 | 174.20 | 174.32 | 174.28 | 174.24 | 174.25 | 174.08 | 174.23 | 173.92 |
| 6    | 173.87 | 173.91 | 174.32 | 174.19 | 174.21 | 174.28 | 174.30 | 174.25 | 174.29 | 174.12 | 173.83 | 173.96 |
| 7    | 173.82 | 173.96 | 174.37 | 174.06 | 174.19 | 174.32 | 174.34 | 174.26 | 174.32 | 174.16 | 174.02 | 174.07 |
| 8    | 173.88 | 174.00 | 174.26 | 174.18 | 174.22 | 174.34 | 174.29 | 174.28 | 174.42 | 174.23 | 174.13 | 174.00 |
| 9    | 173.86 | 173.96 | 174.14 | 174.17 | 174.27 | 174.25 | 174.28 | 174.29 | 174.36 | 174.27 | 174.14 | 174.01 |
| 10   | 173.77 | 173.88 | 174.17 | 174.16 | 173.85 | 174.27 | 174.28 | 174.27 | 174.29 | 174.28 | 174.02 | 174.04 |
| 11   | 173.69 | 173.99 | 174.20 | 174.14 | 173.96 | 174.32 | 174.36 | 174.26 | 174.35 | 174.18 | 173.76 | 174.15 |
| 12   | 173.54 | 174.01 | 174.16 | 174.17 | 174.32 | 174.36 | 174.45 | 174.27 | 174.33 | 174.25 | 174.00 | 174.08 |
| 13   | 173.73 | 173.98 | 174.16 | 174.25 | 174.25 | 174.33 | 174.46 | 174.31 | 174.35 | 174.24 | 174.05 | 173.88 |
| 14   | 173.89 | 174.09 | 174.19 | 174.22 | 174.31 | 174.30 | 174.36 | 174.32 | 174.25 | 174.23 | 174.10 | 174.13 |
| 15   | 173.82 | 174.31 | 174.20 | 174.19 | 174.27 | 174.31 | 174.30 | 174.27 | 174.20 | 174.03 | 174.06 | 174.08 |
| 16   | 173.85 | 173.87 | 174.19 | 174.26 | 174.30 | 174.33 | 174.28 | 174.27 | 174.33 | 174.25 | 173.94 | 173.95 |
| 17   | 173.85 | 173.97 | 174.10 | 174.05 | 174.11 | 174.34 | 174.27 | 174.31 | 174.33 | 174.23 | 174.08 | 174.16 |
| 18   | 173.78 | 174.09 | 174.04 | 174.19 | 174.09 | 174.21 | 174.28 | 174.29 | 174.33 | 173.75 | 174.14 | 174.01 |
| 19   | 173.89 | 173.88 | 174.16 | 174.25 | 174.36 | 174.26 | 174.30 | 174.46 | 174.26 | 174.06 | 174.09 | 174.09 |
| 20   | 173.96 | 174.03 | 174.14 | 174.23 | 174.34 | 174.35 | 174.28 | 174.37 | 174.29 | 174.26 | 174.10 | 174.25 |
| 21   | 173.81 | 174.06 | 174.17 | 174.25 | 174.38 | 174.26 | 174.32 | 174.41 | 174.33 | 174.18 | 174.14 | 174.15 |
| 22   | 173.77 | 174.11 | 174.15 | 174.25 | 174.35 | 174.33 | 174.40 | 174.37 | 174.08 | 174.18 | 174.06 | 174.11 |
| 23   | 173.98 | 174.13 | 174.07 | 174.26 | 174.32 | 174.02 | 174.26 | 174.35 | 174.05 | 174.20 | 173.91 | 174.13 |
| 24   | 173.82 | 173.97 | 174.19 | 174.26 | 174.34 | 174.24 | 174.29 | 174.32 | 174.07 | 174.16 | 173.99 | 173.83 |
| 25   | 173.85 | 174.02 | 174.08 | 174.23 | 174.35 | 174.30 | 174.32 | 174.31 | 174.13 | 174.13 | 174.00 | 173.98 |
| 26   | 173.66 | 174.20 | 174.12 | 174.24 | 174.35 | 174.28 | 174.32 | 174.28 | 174.21 | 174.15 | 174.20 | 174.04 |
| 27   | 173.92 | 174.12 | 174.21 | 174.26 | 174.31 | 174.30 | 174.35 | 174.27 | 174.25 | 174.10 | 174.09 | 174.28 |
| 28   | 173.82 | 174.11 | 174.17 | 174.26 | 174.35 | 174.36 | 174.33 | 174.24 | 174.23 | 173.91 | 173.85 | 174.20 |
| 29   | 173.94 |        | 174.32 | 174.26 | 174.32 | 174.29 | 174.33 | 174.32 | 174.23 | 174.15 | 173.92 | 174.18 |
| 30   | 173.93 |        | 174.21 | 174.25 | 174.31 | 174.28 |        | 174.30 | 174.36 | 174.15 | 174.10 | 174.03 |
| 31   | 173.90 |        | 174.19 |        | 174.32 |        |        | 174.28 | 174.37 |        | 174.16 |        |
| Mean | 173.83 | 174.02 | 174.17 | 174.19 | 174.26 | 174.29 | 174.32 | 174.31 | 174.26 | 174.15 | 174.04 | 174.07 |
| Max. | 174.28 | 174.52 | 174.53 | 174.46 | 174.64 | 174.57 | 174.67 | 174.68 | 174.57 | 174.54 | 174.61 | 175.09 |
| Hr.  | 1000   | 0100   | 0400   | 0900   | 1700   | 1600   | 1600   | 1900   | 1500   | 0100   | 0800   | 0900   |
| Day  | 25     | 15     | 7      | 14     | 4      | 22     | 12     | 19     | 16     | 10     | 5      | 3      |
| Min. | 172.98 | 173.22 | 173.85 | 173.84 | 173.26 | 173.80 | 174.09 | 174.07 | 173.82 | 173.13 | 173.05 | 173.04 |
| Hr.  | 0100   | 2300   | 0800   | 0500   | 0100   | 0200   | 0400   | 1900   | 1700   | 1800   | 0300   | 1000   |
| Day  | 26     | 16     | 18     | 3      | 11     | 4      | 9      | 28     | 24     | 18     | 6      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.16

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 904-4030 Wyandotte, Michigan on Detroit River

HIGHEST

Monthly mean elevation: 174.67 Jul  
Daily mean elevation: 174.78 13 Jul  
Instant/hourly elevation: 175.22 0900/3 Dec

LOWEST

Monthly mean elevation: 174.26 Jan  
Daily mean elevation: 174.08 12 Jan  
Instant/hourly elevation: 173.77 2300/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 174.39<br>6  | 174.59<br>15 | 174.62<br>7  | 174.57<br>27 | 174.70<br>21 | 174.69<br>28 | 174.78<br>13 | 174.76<br>19 | 174.76<br>8  | 174.64<br>10 | 174.59<br>5  | 174.73<br>3 |
| Min Day | 174.08<br>12 | 174.27<br>19 | 174.42<br>18 | 174.43<br>3  | 174.25<br>10 | 174.47<br>23 | 174.59<br>4  | 174.60<br>28 | 174.47<br>24 | 174.27<br>18 | 174.30<br>28 | 174.21<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.75         |     |     |     |     |     |     | 2   | 1   | 1   |     |     |     | 174.75         | 4                          |
| 174.70         |     |     |     |     |     |     | 2   | 1   | 1   |     |     |     | 174.70         | 9                          |
| 174.65         |     |     |     |     | 11  | 6   | 13  | 9   | 9   |     | 1   |     | 174.65         | 57                         |
| 174.60         |     |     | 1   |     | 4   | 17  | 13  | 19  | 7   | 4   |     |     | 174.60         | 123                        |
| 174.55         | 1   | 3   | 10  |     | 8   | 5   | 1   | 1   | 7   | 8   | 1   | 1   | 174.55         | 171                        |
| 174.50         | 3   | 11  | 12  |     | 3   |     |     |     | 1   | 9   | 3   | 3   | 174.50         | 216                        |
| 174.45         | 4   | 11  | 4   |     | 3   | 2   |     |     | 4   | 6   | 13  | 7   | 174.45         | 270                        |
| 174.40         | 1   | 5   | 4   |     |     |     |     |     | 2   | 4   | 8   |     | 174.40         | 294                        |
| 174.35         | 3   | 5   |     |     |     |     |     |     | 1   | 4   | 3   |     | 174.35         | 310                        |
| 174.30         | 6   | 8   |     |     | 1   |     |     |     |     | 4   | 4   | 1   | 174.30         | 333                        |
| 174.25         | 7   | 6   |     |     | 1   |     |     |     | 1   | 1   |     |     | 174.25         | 348                        |
| 174.20         | 9   |     |     |     |     |     |     |     |     |     |     | 1   | 174.20         | 359                        |
| 174.15         | 3   |     |     |     |     |     |     |     |     |     |     |     | 174.15         | 362                        |
| 174.10         | 2   |     |     |     |     |     |     |     |     |     |     |     | 174.10         | 364                        |
| 174.05         | 1   |     |     |     |     |     |     |     |     |     |     |     | 174.05         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

Station: 904-4030 Wyandotte, Michigan on Detroit River

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 174.29 | 174.28 | 174.47 | 174.51 | 174.48 | 174.65 | 174.65 | 174.66 | 174.63 | 174.49 | 174.49 | 174.31 |
| 2    | 174.29 | 174.31 | 174.42 | 174.48 | 174.56 | 174.64 | 174.66 | 174.65 | 174.64 | 174.53 | 174.46 | 174.44 |
| 3    | 174.34 | 174.35 | 174.49 | 174.43 | 174.59 | 174.49 | 174.64 | 174.64 | 174.67 | 174.58 | 174.46 | 174.73 |
| 4    | 174.37 | 174.31 | 174.47 | 174.46 | 174.67 | 174.58 | 174.59 | 174.65 | 174.62 | 174.42 | 174.49 | 174.21 |
| 5    | 174.39 | 174.29 | 174.58 | 174.45 | 174.57 | 174.63 | 174.65 | 174.61 | 174.60 | 174.44 | 174.59 | 174.35 |
| 6    | 174.39 | 174.27 | 174.59 | 174.53 | 174.55 | 174.61 | 174.66 | 174.62 | 174.62 | 174.46 | 174.35 | 174.39 |
| 7    | 174.34 | 174.31 | 174.62 | 174.45 | 174.52 | 174.64 | 174.67 | 174.62 | 174.70 | 174.52 | 174.47 | 174.44 |
| 8    | 174.33 | 174.32 | 174.54 | 174.50 | 174.52 | 174.66 | 174.63 | 174.63 | 174.76 | 174.58 | 174.51 | 174.41 |
| 9    | 174.27 | 174.33 | 174.48 | 174.49 | 174.56 | 174.60 | 174.64 | 174.64 | 174.71 | 174.64 | 174.53 | 174.41 |
| 10   | 174.22 | 174.28 | 174.49 | 174.52 | 174.25 | 174.62 | 174.65 | 174.62 | 174.65 | 174.64 | 174.47 | 174.43 |
| 11   | 174.15 | 174.37 | 174.51 | 174.51 | 174.35 | 174.65 | 174.69 | 174.62 | 174.69 | 174.56 | 174.31 | 174.50 |
| 12   | 174.08 | 174.37 | 174.50 | 174.53 | 174.58 | 174.66 | 174.76 | 174.62 | 174.67 | 174.62 | 174.44 | 174.45 |
| 13   | 174.17 | 174.35 | 174.51 | 174.57 | 174.58 | 174.65 | 174.78 | 174.67 | 174.67 | 174.61 | 174.46 | 174.32 |
| 14   | 174.25 | 174.44 | 174.53 | 174.55 | 174.60 | 174.64 | 174.72 | 174.65 | 174.60 | 174.60 | 174.49 | 174.49 |
| 15   | 174.20 | 174.59 | 174.53 | 174.53 | 174.59 | 174.64 | 174.66 | 174.62 | 174.59 | 174.47 | 174.43 | 174.46 |
| 16   | 174.21 | 174.30 | 174.53 | 174.56 | 174.62 | 174.66 | 174.64 | 174.63 | 174.70 | 174.59 | 174.38 | 174.39 |
| 17   | 174.22 | 174.32 | 174.44 | 174.45 | 174.49 | 174.65 | 174.63 | 174.65 | 174.68 | 174.56 | 174.46 | 174.49 |
| 18   | 174.19 | 174.39 | 174.42 | 174.52 | 174.48 | 174.57 | 174.63 | 174.64 | 174.67 | 174.27 | 174.49 | 174.42 |
| 19   | 174.27 | 174.27 | 174.52 | 174.56 | 174.67 | 174.62 | 174.65 | 174.76 | 174.63 | 174.46 | 174.46 | 174.46 |
| 20   | 174.32 | 174.36 | 174.50 | 174.55 | 174.67 | 174.67 | 174.64 | 174.70 | 174.65 | 174.59 | 174.46 | 174.56 |
| 21   | 174.23 | 174.39 | 174.50 | 174.57 | 174.70 | 174.60 | 174.67 | 174.73 | 174.66 | 174.53 | 174.48 | 174.50 |
| 22   | 174.21 | 174.46 | 174.49 | 174.57 | 174.68 | 174.66 | 174.72 | 174.70 | 174.50 | 174.55 | 174.43 | 174.48 |
| 23   | 174.32 | 174.54 | 174.44 | 174.57 | 174.66 | 174.47 | 174.64 | 174.69 | 174.47 | 174.57 | 174.33 | 174.51 |
| 24   | 174.23 | 174.48 | 174.51 | 174.57 | 174.67 | 174.60 | 174.66 | 174.66 | 174.47 | 174.53 | 174.37 | 174.33 |
| 25   | 174.23 | 174.46 | 174.43 | 174.55 | 174.67 | 174.64 | 174.67 | 174.65 | 174.49 | 174.52 | 174.39 | 174.37 |
| 26   | 174.13 | 174.55 | 174.48 | 174.55 | 174.67 | 174.63 | 174.67 | 174.63 | 174.56 | 174.53 | 174.53 | 174.42 |
| 27   | 174.27 | 174.49 | 174.53 | 174.57 | 174.65 | 174.65 | 174.69 | 174.62 | 174.58 | 174.47 | 174.45 | 174.57 |
| 28   | 174.23 | 174.51 | 174.50 | 174.56 | 174.67 | 174.69 | 174.67 | 174.60 | 174.57 | 174.37 | 174.30 | 174.54 |
| 29   | 174.32 |        | 174.60 | 174.56 | 174.66 | 174.64 | 174.66 | 174.66 | 174.57 | 174.51 | 174.35 | 174.55 |
| 30   | 174.28 |        | 174.54 | 174.55 | 174.65 | 174.64 | 174.66 | 174.68 | 174.53 | 174.48 | 174.39 | 174.61 |
| 31   | 174.27 |        | 174.51 |        | 174.64 |        | 174.65 | 174.69 |        | 174.51 |        | 174.60 |
| Mean | 174.26 | 174.38 | 174.51 | 174.53 | 174.59 | 174.63 | 174.67 | 174.65 | 174.62 | 174.52 | 174.44 | 174.46 |
| Max. | 174.48 | 174.71 | 174.71 | 174.67 | 174.85 | 174.78 | 174.90 | 174.89 | 174.82 | 174.79 | 174.81 | 175.22 |
| Hr.  | 1000   | 0800   | 0500   | 0900   | 1700   | 1500   | 1100   | 2000   | 1700   | 0600   | 0900   | 0900   |
| Day  | 25     | 24     | 7      | 14     | 4      | 22     | 13     | 19     | 16     | 10     | 5      | 3      |
| Min. | 173.77 | 173.95 | 174.31 | 174.35 | 173.96 | 174.36 | 174.54 | 174.46 | 174.34 | 173.98 | 174.02 | 173.98 |
| Hr.  | 2300   | 2400   | 0600   | 0600   | 1900   | 1100   | 0400   | 2000   | 1700   | 1900   | 0400   | 1000   |
| Day  | 25     | 16     | 18     | 3      | 10     | 3      | 9      | 28     | 24     | 18     | 6      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.52

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 174.78 Jul  
Daily mean elevation: 174.88 13 Jul  
Instant/hourly elevation: 175.24 0900/3 Dec

LOWEST

Monthly mean elevation: 174.40 Jan  
Daily mean elevation: 174.24 12 Jan  
Instant/hourly elevation: 174.15 1500/10 May

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 174.55<br>1  | 174.68<br>26 | 174.71<br>7  | 174.68<br>21 | 174.80<br>21 | 174.80<br>28 | 174.88<br>13 | 174.87<br>19 | 174.87<br>8  | 174.77<br>10 | 174.69<br>5  | 174.82<br>3 |
| Min Day | 174.24<br>12 | 174.40<br>19 | 174.55<br>25 | 174.57<br>17 | 174.39<br>10 | 174.60<br>23 | 174.71<br>4  | 174.71<br>28 | 174.61<br>24 | 174.45<br>18 | 174.46<br>28 | 174.39<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 174.85         |     |     |     |     |     |     | 2   | 1   | 1   |     |     |     | 174.85         | 4                          |
| 174.80         |     |     |     |     |     |     | 2   | 3   | 3   |     |     |     | 174.80         | 13                         |
| 174.75         |     |     |     |     |     |     | 11  | 10  | 22  | 14  | 11  | 2   | 174.75         | 85                         |
| 174.70         |     |     | 1   |     | 4   | 16  | 5   | 13  | 6   | 4   |     | 2   | 174.70         | 134                        |
| 174.65         | 3   | 3   | 13  |     | 8   | 2   |     |     | 5   | 10  | 2   | 4   | 174.65         | 184                        |
| 174.60         | 4   | 16  | 10  |     | 4   | 1   |     |     | 4   | 7   | 9   | 6   | 174.60         | 245                        |
| 174.55         | 1   | 8   | 7   |     | 2   | 1   |     |     |     | 6   | 10  | 7   | 174.55         | 287                        |
| 174.50         | 4   | 3   | 3   |     |     |     |     |     |     | 1   | 4   | 6   | 174.50         | 308                        |
| 174.45         | 3   | 12  |     |     | 1   |     |     |     |     |     | 5   | 4   | 174.45         | 333                        |
| 174.40         | 5   | 4   |     |     |     |     |     |     |     | 1   |     |     | 174.40         | 343                        |
| 174.35         | 10  | 1   |     |     | 1   |     |     |     |     |     |     | 1   | 174.35         | 356                        |
| 174.30         | 6   |     |     |     |     |     |     |     |     |     |     |     | 174.30         | 362                        |
| 174.25         | 2   |     |     |     |     |     |     |     |     |     |     |     | 174.25         | 364                        |
| 174.20         | 1   |     |     |     |     |     |     |     |     |     |     |     | 174.20         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 174.55 | 174.42 | 174.60 | 174.62 | 174.59 | 174.75 | 174.77 | 174.78 | 174.75 | 174.63 | 174.62 | 174.46 |
| 2    | 174.52 | 174.46 | 174.55 | 174.59 | 174.66 | 174.74 | 174.77 | 174.77 | 174.76 | 174.65 | 174.59 | 174.57 |
| 3    | 174.54 | 174.50 | 174.61 | 174.57 | 174.68 | 174.61 | 174.75 | 174.76 | 174.78 | 174.70 | 174.59 | 174.82 |
| 4    | 174.51 | 174.47 | 174.59 | 174.57 | 174.75 | 174.70 | 174.71 | 174.76 | 174.74 | 174.57 | 174.62 | 174.39 |
| 5    | 174.50 | 174.46 | 174.67 | 174.58 | 174.67 | 174.74 | 174.77 | 174.74 | 174.72 | 174.58 | 174.69 | 174.50 |
| 6    | 174.50 | 174.46 | 174.68 | 174.63 | 174.66 | 174.72 | 174.78 | 174.74 | 174.74 | 174.59 | 174.52 | 174.54 |
| 7    | 174.46 | 174.48 | 174.71 | 174.57 | 174.62 | 174.74 | 174.78 | 174.74 | 174.83 | 174.65 | 174.61 | 174.57 |
| 8    | 174.44 | 174.51 | 174.65 | 174.61 | 174.63 | 174.77 | 174.74 | 174.74 | 174.87 | 174.70 | 174.65 | 174.55 |
| 9    | 174.39 | 174.49 | 174.60 | 174.60 | 174.65 | 174.72 | 174.75 | 174.75 | 174.82 | 174.77 | 174.66 | 174.55 |
| 10   | 174.35 | 174.42 | 174.60 | 174.63 | 174.39 | 174.73 | 174.77 | 174.74 | 174.78 | 174.77 | 174.62 | 174.57 |
| 11   | 174.29 | 174.49 | 174.62 | 174.63 | 174.48 | 174.76 | 174.79 | 174.74 | 174.80 | 174.70 | 174.49 | 174.62 |
| 12   | 174.24 | 174.49 | 174.61 | 174.64 | 174.66 | 174.77 | 174.86 | 174.74 | 174.79 | 174.75 | 174.58 | 174.57 |
| 13   | 174.31 | 174.47 | 174.63 | 174.67 | 174.68 | 174.75 | 174.88 | 174.78 | 174.78 | 174.74 | 174.61 | 174.47 |
| 14   | 174.36 | 174.55 | 174.64 | 174.66 | 174.70 | 174.74 | 174.84 | 174.77 | 174.72 | 174.73 | 174.62 | 174.61 |
| 15   | 174.31 | 174.67 | 174.64 | 174.64 | 174.69 | 174.76 | 174.78 | 174.74 | 174.72 | 174.62 | 174.57 | 174.59 |
| 16   | 174.32 | 174.43 | 174.64 | 174.67 | 174.73 | 174.76 | 174.76 | 174.74 | 174.82 | 174.71 | 174.53 | 174.53 |
| 17   | 174.34 | 174.45 | 174.57 | 174.57 | 174.62 | 174.75 | 174.76 | 174.76 | 174.80 | 174.68 | 174.59 | 174.61 |
| 18   | 174.33 | 174.51 | 174.55 | 174.63 | 174.60 | 174.68 | 174.75 | 174.76 | 174.79 | 174.45 | 174.61 | 174.55 |
| 19   | 174.40 | 174.40 | 174.64 | 174.66 | 174.77 | 174.73 | 174.77 | 174.87 | 174.77 | 174.60 | 174.59 | 174.59 |
| 20   | 174.44 | 174.47 | 174.61 | 174.65 | 174.78 | 174.78 | 174.77 | 174.81 | 174.77 | 174.70 | 174.59 | 174.67 |
| 21   | 174.38 | 174.50 | 174.61 | 174.68 | 174.80 | 174.71 | 174.79 | 174.83 | 174.78 | 174.66 | 174.60 | 174.63 |
| 22   | 174.36 | 174.57 | 174.59 | 174.67 | 174.79 | 174.76 | 174.83 | 174.81 | 174.65 | 174.68 | 174.56 | 174.61 |
| 23   | 174.44 | 174.67 | 174.56 | 174.67 | 174.77 | 174.60 | 174.77 | 174.80 | 174.62 | 174.69 | 174.48 | 174.64 |
| 24   | 174.37 | 174.63 | 174.62 | 174.67 | 174.77 | 174.71 | 174.78 | 174.78 | 174.61 | 174.66 | 174.50 | 174.49 |
| 25   | 174.39 | 174.62 | 174.55 | 174.66 | 174.77 | 174.75 | 174.78 | 174.77 | 174.62 | 174.65 | 174.53 | 174.51 |
| 26   | 174.30 | 174.68 | 174.60 | 174.66 | 174.77 | 174.74 | 174.78 | 174.75 | 174.69 | 174.66 | 174.64 | 174.56 |
| 27   | 174.41 | 174.63 | 174.63 | 174.66 | 174.76 | 174.77 | 174.80 | 174.74 | 174.70 | 174.60 | 174.57 | 174.70 |
| 28   | 174.37 | 174.64 | 174.61 | 174.66 | 174.77 | 174.80 | 174.78 | 174.71 | 174.70 | 174.52 | 174.46 | 174.67 |
| 29   | 174.44 |        | 174.69 | 174.66 | 174.77 | 174.76 | 174.78 | 174.77 | 174.70 | 174.63 | 174.49 | 174.68 |
| 30   | 174.40 |        | 174.64 | 174.65 | 174.75 | 174.75 | 174.78 | 174.79 | 174.67 | 174.60 | 174.52 | 174.77 |
| 31   | 174.40 |        | 174.62 |        | 174.75 |        | 174.77 | 174.79 |        | 174.64 |        | 174.77 |
| Mean | 174.40 | 174.52 | 174.62 | 174.64 | 174.69 | 174.74 | 174.78 | 174.77 | 174.74 | 174.65 | 174.58 | 174.59 |
| Max. | 174.56 | 174.80 | 174.77 | 174.76 | 174.92 | 174.91 | 174.97 | 175.17 | 174.92 | 174.89 | 174.88 | 175.24 |
| Hr.  | 1400   | 1000   | 1700   | 0900   | 1700   | 1700   | 1100   | 1500   | 0300   | 0300   | 0900   | 0900   |
| Day  | 1      | 24     | 29     | 14     | 4      | 22     | 13     | 19     | 8      | 10     | 5      | 3      |
| Min. | 174.15 | 174.16 | 174.45 | 174.49 | 174.15 | 174.49 | 174.68 | 174.58 | 174.52 | 174.22 | 174.27 | 174.22 |
| Hr.  | 0400   | 2300   | 0600   | 0600   | 1500   | 1200   | 0900   | 2000   | 1700   | 1900   | 0300   | 0900   |
| Day  | 26     | 16     | 18     | 3      | 10     | 3      | 4      | 28     | 24     | 18     | 6      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.64

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 175.01 Jul  
Daily mean elevation: 175.08 13 Jul  
Instant/hourly elevation: 175.22 0900/3 Dec

LOWEST

Monthly mean elevation: 174.63 Jan  
Daily mean elevation: 174.55 16 Jan  
Instant/hourly elevation: 174.32 2100/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 174.72<br>1  | 174.91<br>24 | 174.89<br>29 | 174.89<br>23 | 175.01<br>21 | 175.00<br>28 | 175.08<br>13 | 175.05<br>19 | 175.07<br>8  | 175.00<br>9  | 174.91<br>9  | 175.05<br>31 |
| Min Day | 174.55<br>16 | 174.62<br>6  | 174.78<br>25 | 174.81<br>9  | 174.64<br>10 | 174.84<br>3  | 174.95<br>4  | 174.94<br>28 | 174.85<br>25 | 174.74<br>18 | 174.73<br>28 | 174.71<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 175.05         |     |     |     |     |     |     | 3   |     | 2   |     |     |     | 175.05         | 5                          |
| 175.00         |     |     |     |     | 1   |     | 10  | 5   | 6   |     | 2   |     | 175.00         | 29                         |
| 174.95         |     |     |     |     | 12  | 20  | 17  | 25  | 10  | 5   | 1   |     | 174.95         | 119                        |
| 174.90         |     | 2   |     |     | 3   | 8   | 1   | 1   | 9   | 9   | 2   | 1   | 174.90         | 155                        |
| 174.85         | 2   |     | 7   | 19  | 7   | 1   |     |     | 2   | 10  | 7   | 6   | 174.85         | 216                        |
| 174.80         | 3   |     | 19  | 11  | 6   | 1   |     |     | 1   | 6   | 13  | 13  | 174.80         | 289                        |
| 174.75         | 2   |     | 5   |     |     |     |     |     |     | 4   | 5   |     | 174.75         | 305                        |
| 174.70         | 1   | 8   |     |     | 1   |     |     |     |     | 1   | 4   | 3   | 174.70         | 323                        |
| 174.65         | 10  | 7   |     |     |     |     |     |     |     |     |     |     | 174.65         | 340                        |
| 174.60         | 9   | 4   |     |     |     | 1   |     |     |     |     |     |     | 174.60         | 354                        |
| 174.55         | 9   |     |     |     |     |     |     |     |     |     |     |     | 174.55         | 363                        |
| 174.50         | 2   |     |     |     |     |     |     |     |     |     |     |     | 174.50         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 174.72 | 174.64 | 174.81 | 174.83 | 174.82 | 174.96 | 175.00 | 175.00 | 174.97 | 174.86 | 174.85 | 174.72 |
| 2    | 174.69 | 174.66 | 174.79 | 174.81 | 174.86 | 174.94 | 174.99 | 175.00 | 174.99 | 174.88 | 174.82 | 174.82 |
| 3    | 174.69 | 174.67 | 174.83 | 174.83 | 174.88 | 174.84 | 174.97 | 174.99 | 174.99 | 174.89 | 174.82 | 174.97 |
| 4    | 174.68 | 174.66 | 174.81 | 174.82 | 174.94 | 174.94 | 174.95 | 174.98 | 174.95 | 174.81 | 174.86 | 174.71 |
| 5    | 174.69 | 174.62 | 174.84 | 174.83 | 174.91 | 174.94 | 175.00 | 174.98 | 174.95 | 174.81 | 174.89 | 174.76 |
| 6    | 174.70 | 174.62 | 174.85 | 174.85 | 174.88 | 174.94 | 175.01 | 174.99 | 174.96 | 174.82 | 174.83 | 174.81 |
| 7    | 174.68 | 174.65 | 174.86 | 174.82 | 174.84 | 174.96 | 175.00 | 174.98 | 175.05 | 174.88 | 174.88 | 174.80 |
| 8    | 174.67 | 174.66 | 174.85 | 174.83 | 174.83 | 174.98 | 174.96 | 174.97 | 175.07 | 174.93 | 174.91 | 174.82 |
| 9    | 174.64 | 174.70 | 174.82 | 174.81 | 174.85 | 174.96 | 174.99 | 174.97 | 175.04 | 175.00 | 174.91 | 174.80 |
| 10   | 174.62 | 174.67 | 174.82 | 174.86 | 174.64 | 174.96 | 174.99 | 174.97 | 175.01 | 174.97 | 174.89 | 174.83 |
| 11   | 174.57 | 174.73 | 174.84 | 174.87 | 174.74 | 174.97 | 175.01 | 174.97 | 175.03 | 174.94 | 174.81 | 174.85 |
| 12   | 174.55 | 174.71 | 174.85 | 174.88 | 174.85 | 174.96 | 175.07 | 174.97 | 175.00 | 174.99 | 174.85 | 174.81 |
| 13   | 174.59 | 174.71 | 174.86 | 174.89 | 174.89 | 174.95 | 175.08 | 175.00 | 174.99 | 174.99 | 174.89 | 174.76 |
| 14   | 174.59 | 174.78 | 174.87 | 174.88 | 174.89 | 174.96 | 175.06 | 174.99 | 174.99 | 174.96 | 174.86 | 174.84 |
| 15   | 174.58 | 174.85 | 174.86 | 174.87 | 174.90 | 174.98 | 175.02 | 174.97 | 174.97 | 174.89 | 174.82 | 174.83 |
| 16   | 174.55 | 174.71 | 174.87 | 174.88 | 174.93 | 174.97 | 174.99 | 174.98 | 175.06 | 174.94 | 174.80 | 174.81 |
| 17   | 174.56 | 174.73 | 174.79 | 174.83 | 174.85 | 174.96 | 174.99 | 174.98 | 175.02 | 174.74 | 174.85 | 174.81 |
| 18   | 174.58 | 174.72 | 174.79 | 174.85 | 174.87 | 174.98 | 174.92 | 174.99 | 175.05 | 175.00 | 174.86 | 174.84 |
| 19   | 174.64 | 174.68 | 174.88 | 174.87 | 174.98 | 174.96 | 175.00 | 175.00 | 175.03 | 175.00 | 174.91 | 174.82 |
| 20   | 174.68 | 174.72 | 174.85 | 174.86 | 175.00 | 174.97 | 175.00 | 175.00 | 175.03 | 174.91 | 174.82 | 174.88 |
| 21   | 174.65 | 174.72 | 174.83 | 174.89 | 175.01 | 174.93 | 175.02 | 175.04 | 174.99 | 174.88 | 174.81 | 174.86 |
| 22   | 174.64 | 174.79 | 174.81 | 174.89 | 175.00 | 174.96 | 175.04 | 175.03 | 174.92 | 174.92 | 174.80 | 174.86 |
| 23   | 174.67 | 174.91 | 174.80 | 174.89 | 174.99 | 174.88 | 175.00 | 175.02 | 174.89 | 174.92 | 174.73 | 174.89 |
| 24   | 174.63 | 174.91 | 174.84 | 174.88 | 174.99 | 174.94 | 175.01 | 175.00 | 174.87 | 174.91 | 174.75 | 174.79 |
| 25   | 174.58 | 174.89 | 174.78 | 174.87 | 174.98 | 174.97 | 175.01 | 174.99 | 174.85 | 174.91 | 174.78 | 174.75 |
| 26   | 174.58 | 174.89 | 174.83 | 174.87 | 174.98 | 174.96 | 175.01 | 174.97 | 174.92 | 174.91 | 174.86 | 174.82 |
| 27   | 174.60 | 174.85 | 174.84 | 174.87 | 174.98 | 174.99 | 175.01 | 174.96 | 174.92 | 174.83 | 174.81 | 174.90 |
| 28   | 174.62 | 174.85 | 174.83 | 174.87 | 174.99 | 175.00 | 175.00 | 174.94 | 174.92 | 174.82 | 174.73 | 174.90 |
| 29   | 174.67 |        | 174.89 | 174.86 | 174.99 | 174.99 | 174.99 | 174.99 | 174.92 | 174.87 | 174.76 | 174.92 |
| 30   | 174.64 |        | 174.85 | 174.86 | 174.98 | 174.99 | 175.00 | 175.00 | 174.91 | 174.85 | 174.74 | 175.02 |
| 31   | 174.65 |        | 174.84 |        | 174.96 |        | 175.01 | 175.00 |        | 174.87 |        | 175.05 |
| Mean | 174.63 | 174.74 | 174.83 | 174.86 | 174.91 | 174.96 | 175.01 | 174.99 | 174.97 | 174.89 | 174.83 | 174.84 |
| Max. | 174.72 | 175.00 | 174.94 | 174.92 | 175.07 | 175.06 | 175.12 | 175.10 | 175.11 | 175.07 | 175.00 | 175.22 |
| Hr.  | 2000   | 1100   | 1700   | 0600   | 1600   | 1700   | 1000   | 2100   | 0100   | 0500   | 0700   | 0900   |
| Day  | 1      | 24     | 29     | 14     | 4      | 22     | 13     | 19     | 8      | 10     | 5      | 3      |
| Min. | 174.32 | 174.53 | 174.71 | 174.74 | 174.46 | 174.71 | 174.92 | 174.86 | 174.78 | 174.59 | 174.55 | 174.61 |
| Hr.  | 2100   | 2000   | 0500   | 1900   | 1400   | 1200   | 1100   | 1900   | 1300   | 1100   | 2300   | 0800   |
| Day  | 25     | 16     | 18     | 9      | 10     | 3      | 3      | 28     | 25     | 18     | 5      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.87

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 175.06 Aug  
Daily mean elevation: 175.13 31 Dec  
Instant/hourly elevation: 175.17 1200/3 Dec

LOWEST

Monthly mean elevation: 174.71 Jan  
Daily mean elevation: 174.61 16 Jan  
Instant/hourly elevation: 174.59 2200/27 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 174.77<br>1  | 174.98<br>26 | 174.93<br>29 | 174.95<br>14 | 175.05<br>24 | 175.06<br>28 | 175.12<br>14 | 175.10<br>19 | 175.13<br>8  | 175.05<br>13 | 174.99<br>9  | 175.13<br>31 |
| Min Day | 174.61<br>16 | 174.73<br>1  | 174.85<br>23 | 174.86<br>3  | 174.78<br>10 | 174.95<br>3  | 175.02<br>4  | 175.02<br>28 | 174.96<br>25 | 174.87<br>18 | 174.82<br>23 | 174.83<br>13 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|----------------|----------------------------|
| 175.10         |     |     |     |     |     |     | 2   |     | 1   |     |     | 1      | 175.10         | 4                          |
| 175.05         |     |     |     |     |     | 1   | 19  | 14  | 12  |     |     | 1      | 175.05         | 51                         |
| 175.00         |     |     |     |     | 13  | 23  | 10  | 17  | 8   | 7   |     | 1      | 175.00         | 130                        |
| 174.95         |     | 2   |     |     | 2   | 5   |     | 9   | 11  | 4   | 3   | 174.95 | 166            |                            |
| 174.90         | 4   | 11  | 20  |     | 10  | 1   |     |     | 10  | 10  | 5   | 174.90 | 237            |                            |
| 174.85         | 1   | 19  | 10  |     | 4   |     |     |     | 3   | 10  | 17  | 174.85 | 301            |                            |
| 174.80         | 5   | 1   |     |     | 1   |     |     |     |     | 6   | 3   | 174.80 | 317            |                            |
| 174.75         | 3   | 11  |     |     | 1   |     |     |     |     |     |     | 174.75 | 332            |                            |
| 174.70         | 17  | 5   |     |     |     |     |     |     |     |     |     | 174.70 | 354            |                            |
| 174.65         | 7   |     |     |     |     |     |     |     |     |     |     | 174.65 | 361            |                            |
| 174.60         | 4   |     |     |     |     |     |     |     |     |     |     | 174.60 | 365            |                            |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 174.77 | 174.73 | 174.89 | 174.89 | 174.88 | 175.02 | 175.05 | 175.06 | 175.05 | 174.95 | 174.92 | 174.83 |
| 2    | 174.76 | 174.79 | 174.87 | 174.87 | 174.91 | 175.01 | 175.05 | 175.06 | 175.05 | 174.96 | 174.90 | 174.87 |
| 3    | 174.74 | 174.82 | 174.88 | 174.86 | 174.93 | 174.95 | 175.04 | 175.06 | 175.05 | 174.97 | 174.89 | 175.01 |
| 4    | 174.74 | 174.82 | 174.88 | 174.88 | 174.96 | 174.99 | 175.02 | 175.05 | 175.03 | 174.90 | 174.91 | 174.83 |
| 5    | 174.75 | 174.77 | 174.91 | 174.89 | 174.94 | 175.01 | 175.04 | 175.04 | 175.02 | 174.91 | 174.91 | 174.86 |
| 6    | 174.76 | 174.75 | 174.92 | 174.91 | 174.93 | 175.01 | 175.05 | 175.04 | 175.03 | 174.91 | 174.91 | 174.89 |
| 7    | 174.75 | 174.75 | 174.92 | 174.89 | 174.90 | 175.01 | 175.06 | 175.04 | 175.10 | 174.95 | 174.95 | 174.89 |
| 8    | 174.74 | 174.76 | 174.91 | 174.89 | 174.90 | 175.03 | 175.03 | 175.04 | 175.13 | 174.98 | 174.98 | 174.89 |
| 9    | 174.72 | 174.76 | 174.89 | 174.88 | 174.92 | 175.01 | 175.04 | 175.04 | 175.10 | 175.03 | 174.99 | 174.88 |
| 10   | 174.71 | 174.74 | 174.88 | 174.90 | 174.78 | 175.01 | 175.05 | 175.04 | 175.08 | 175.03 | 174.96 | 174.89 |
| 11   | 174.68 | 174.79 | 174.90 | 174.92 | 174.81 | 175.02 | 175.06 | 175.04 | 175.09 | 175.02 | 174.91 | 174.92 |
| 12   | 174.67 | 174.78 | 174.91 | 174.94 | 174.90 | 175.02 | 175.09 | 175.04 | 175.07 | 175.04 | 174.92 | 174.89 |
| 13   | 174.67 | 174.77 | 174.92 | 174.94 | 174.93 | 175.02 | 175.11 | 175.06 | 175.06 | 175.05 | 174.95 | 174.83 |
| 14   | 174.65 | 174.81 | 174.93 | 174.95 | 174.94 | 175.01 | 175.12 | 175.06 | 175.03 | 175.04 | 174.94 | 174.90 |
| 15   | 174.62 | 174.87 | 174.92 | 174.93 | 174.95 | 175.02 | 175.09 | 175.05 | 175.04 | 174.98 | 174.90 | 174.90 |
| 16   | 174.61 | 174.80 | 174.92 | 174.94 | 174.99 | 175.02 | 175.07 | 175.05 | 175.09 | 175.01 | 174.87 | 174.87 |
| 17   | 174.63 | 174.80 | 174.88 | 174.88 | 174.94 | 175.02 | 175.06 | 175.05 | 175.08 | 174.99 | 174.89 | 174.90 |
| 18   | 174.66 | 174.81 | 174.87 | 174.92 | 174.94 | 174.98 | 175.05 | 175.05 | 175.09 | 174.87 | 174.92 | 174.88 |
| 19   | 174.70 | 174.75 | 174.92 | 174.92 | 175.03 | 175.01 | 175.06 | 175.10 | 175.07 | 174.93 | 174.89 | 174.90 |
| 20   | 174.73 | 174.79 | 174.90 | 174.92 | 175.04 | 175.03 | 175.06 | 175.09 | 175.07 | 174.99 | 174.89 | 174.95 |
| 21   | 174.75 | 174.78 | 174.89 | 174.94 | 175.05 | 175.00 | 175.07 | 175.09 | 175.06 | 174.96 | 174.89 | 174.92 |
| 22   | 174.74 | 174.84 | 174.88 | 174.94 | 175.05 | 175.03 | 175.08 | 175.08 | 175.00 | 174.98 | 174.87 | 174.92 |
| 23   | 174.75 | 174.95 | 174.85 | 174.94 | 175.04 | 174.97 | 175.07 | 175.08 | 174.96 | 174.98 | 174.82 | 174.93 |
| 24   | 174.72 | 174.95 | 174.89 | 174.93 | 175.05 | 175.00 | 175.07 | 175.06 | 174.97 | 174.97 | 174.84 | 174.89 |
| 25   | 174.71 | 174.98 | 174.86 | 174.92 | 175.04 | 175.03 | 175.06 | 175.06 | 174.96 | 174.95 | 174.85 | 174.87 |
| 26   | 174.68 | 174.98 | 174.88 | 174.92 | 175.03 | 175.03 | 175.06 | 175.04 | 174.98 | 174.96 | 174.92 | 174.90 |
| 27   | 174.71 | 174.92 | 174.90 | 174.92 | 175.03 | 175.04 | 175.07 | 175.04 | 174.99 | 174.93 | 174.89 | 174.96 |
| 28   | 174.69 | 174.92 | 174.89 | 174.92 | 175.03 | 175.06 | 175.06 | 175.02 | 174.99 | 174.88 | 174.83 | 174.98 |
| 29   | 174.72 |        | 174.93 | 174.92 | 175.02 | 175.05 | 175.06 | 175.05 | 174.98 | 174.94 | 174.84 | 174.99 |
| 30   | 174.73 |        | 174.90 | 174.91 | 175.02 | 175.04 | 175.06 | 175.06 | 174.97 | 174.92 | 174.85 | 175.07 |
| 31   | 174.74 |        | 174.89 |        | 175.02 |        | 175.06 | 175.07 |        | 174.93 |        | 175.13 |
| Mean | 174.71 | 174.82 | 174.89 | 174.91 | 174.96 | 175.02 | 175.06 | 175.06 | 175.04 | 174.96 | 174.90 | 174.91 |
| Max. | 174.78 | 175.04 | 174.97 | 174.99 | 175.09 | 175.10 | 175.16 | 175.13 | 175.15 | 175.08 | 175.08 | 175.17 |
| Hr.  | 0500   | 1000   | 1700   | 0800   | 2000   | 0500   | 1000   | 1200   | 0100   | 0900   | 1500   | 1200   |
| Day  | 1      | 24     | 29     | 14     | 19     | 8      | 14     | 19     | 8      | 10     | 5      | 3      |
| Min. | 174.59 | 174.70 | 174.79 | 174.82 | 174.63 | 174.88 | 175.00 | 174.95 | 174.93 | 174.73 | 174.70 | 174.71 |
| Hr.  | 2200   | 2100   | 0500   | 2300   | 1500   | 1200   | 2100   | 2000   | 0400   | 2200   | 2300   | 0800   |
| Day  | 27     | 16     | 18     | 2      | 10     | 3      | 8      | 28     | 23     | 18     | 5      | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 174.94

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 175.20 Aug  
Daily mean elevation: 175.28 31 Dec  
Instant/hourly elevation: 175.35 1600/3 Jun

LOWEST

Monthly mean elevation: 174.93 Jan  
Daily mean elevation: 174.82 17 Jan  
Instant/hourly elevation: 174.78 0500/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 175.05<br>6  | 175.21<br>26 | 175.12<br>1  | 175.08<br>14 | 175.18<br>17 | 175.24<br>3  | 175.24<br>15 | 175.22<br>15 | 175.24<br>10 | 175.22<br>18 | 175.22<br>11 | 175.28<br>31 |
| Min Day | 174.82<br>17 | 174.89<br>1  | 175.00<br>31 | 175.00<br>1  | 175.01<br>11 | 175.14<br>15 | 175.17<br>6  | 175.18<br>11 | 175.12<br>27 | 175.06<br>31 | 175.01<br>21 | 175.00<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 175.25         |     |     |     |     |     |     |     |     |     |     |     |     | 175.25         | 1                          |
| 175.20         |     | 1   |     |     |     |     |     |     |     |     |     |     | 175.20         | 39                         |
| 175.15         |     | 3   |     |     | 5   | 2   | 11  | 7   | 14  | 1   | 1   | 1   | 175.15         | 128                        |
| 175.10         |     | 1   | 1   |     | 11  | 16  | 20  | 24  | 11  | 6   | 3   | 1   | 175.10         | 184                        |
| 175.05         |     | 1   | 6   | 9   | 7   | 12  |     |     | 5   | 18  | 5   | 3   | 175.05         | 234                        |
| 175.00         | 4   | 6   | 18  | 20  | 8   |     |     |     |     | 5   | 10  | 12  | 175.00         | 313                        |
| 174.95         | 7   | 4   | 6   | 1   |     |     |     |     |     |     | 11  | 12  | 174.95         | 332                        |
| 174.90         | 7   | 11  |     |     |     |     |     |     |     |     |     |     | 174.90         | 350                        |
| 174.85         | 12  | 1   |     |     |     |     |     |     |     |     |     |     | 174.85         | 363                        |
| 174.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 174.80         | 364                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct     | Nov    | Dec    |        |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|
| 1    | 175.01 | 174.89 | 175.12 | 175.00 | 175.03 | 175.14 | 175.18 | 175.21 | 175.20 | 175.15  | 175.06 | 175.07 |        |
| 2    | 174.99 | 174.92 | 175.06 | 175.02 | 175.03 | 175.15 | 175.18 | 175.20 | 175.18 | 175.13  | 175.06 | 175.00 |        |
| 3    | 174.99 | 174.97 | 175.01 | 175.02 | 175.03 | 175.24 | 175.19 | 175.19 | 175.17 | 175.12  | 175.06 | 175.05 |        |
| 4    | 175.04 | 175.03 | 175.00 | 175.04 | 175.03 | 175.15 | 175.19 | 175.20 | 175.18 | 175.15  | 175.05 | 175.13 |        |
| 5    | 175.05 | 175.05 | 175.00 | 175.05 | 175.05 | 175.17 | 175.17 | 175.19 | 175.17 | 175.14  | 175.12 | 175.09 |        |
| 6    | 175.05 | 175.03 | 175.07 | 175.05 | 175.06 | 175.15 | 175.17 | 175.19 | 175.18 | 175.13  | 175.12 | 175.07 |        |
| 7    | 175.00 | 174.95 | 175.09 | 175.04 | 175.07 | 175.14 | 175.18 | 175.19 | 175.23 | 175.11  | 175.12 | 175.09 |        |
| 8    | 174.99 | 174.93 | 175.06 | 175.03 | 175.06 | 175.16 | 175.19 | 175.19 | 175.24 | 175.10  | 175.13 | 175.06 |        |
| 9    | 174.94 | 174.92 | 175.01 | 175.04 | 175.06 | 175.17 | 175.18 | 175.19 | 175.24 | 175.12  | 175.16 | 175.06 |        |
| 10   | 174.92 | 174.94 | 175.00 | 175.02 | 175.17 | 175.15 | 175.18 | 175.18 | 175.24 | 175.18  | 175.18 | 175.05 |        |
| 11   | 174.89 | 174.93 | 175.02 | 175.06 | 175.01 | 175.15 | 175.18 | 175.18 | 175.21 | 175.16  | 175.22 | 175.05 |        |
| 12   | 174.92 | 174.92 | 175.04 | 175.08 | 175.02 | 175.16 | 175.19 | 175.19 | 175.21 | 175.17  | 175.20 | 175.05 |        |
| 13   | 174.94 | 174.92 | 175.05 | 175.08 | 175.03 | 175.15 | 175.21 | 175.20 | 175.20 | 175.17  | 175.13 | 175.06 |        |
| 14   | 175.00 | 174.91 | 175.04 | 175.08 | 175.07 | 175.14 | 175.24 | 175.22 | 175.21 | 175.19* | 175.08 | 175.05 |        |
| 15   | 174.98 | 174.95 | 175.04 | 175.07 | 175.07 | 175.10 | 175.15 | 175.23 | 175.21 | 175.20  | /      | 175.07 | 175.03 |
| 16   | 174.90 | 175.01 | 175.05 | 175.07 | 175.07 | 175.18 | 175.22 | 175.20 | 175.22 | 175.14* | 175.04 | 175.04 |        |
| 17   | 174.82 | 174.99 | 175.09 | 175.06 | 175.18 | 175.16 | 175.22 | 175.20 | 175.23 | 175.22  | 175.03 | 175.05 |        |
| 18   | 174.86 | 175.01 | 175.07 | 175.06 | 175.16 | 175.18 | 175.21 | 175.20 | 175.23 | 175.12  | 175.03 | 175.05 |        |
| 19   | 174.88 | 175.01 | 175.03 | 175.05 | 175.14 | 175.15 | 175.21 | 175.20 | 175.23 | 175.12  | 175.03 | 175.04 |        |
| 20   | 174.89 | 174.96 | 175.03 | 175.05 | 175.15 | 175.16 | 175.21 | 175.21 | 175.22 | 175.12  | 175.03 | 175.04 |        |
| 21   | 174.92 | 174.94 | 175.03 | 175.05 | 175.15 | 175.17 | 175.20 | 175.20 | 175.21 | 175.13  | 175.01 | 175.05 |        |
| 22   | 174.92 | 174.97 | 175.02 | 175.06 | 175.16 | 175.18 | 175.20 | 175.20 | 175.21 | 175.11  | 175.03 | 175.07 |        |
| 23   | 174.89 | 175.06 | 175.03 | 175.05 | 175.16 | 175.21 | 175.21 | 175.21 | 175.19 | 175.11  | 175.08 | 175.09 |        |
| 24   | 174.91 | 175.12 | 175.02 | 175.05 | 175.15 | 175.16 | 175.21 | 175.20 | 175.20 | 175.11  | 175.03 | 175.15 |        |
| 25   | 174.96 | 175.18 | 175.04 | 175.04 | 175.15 | 175.17 | 175.21 | 175.20 | 175.19 | 175.11  | 175.04 | 175.19 |        |
| 26   | 174.90 | 175.21 | 175.03 | 175.04 | 175.15 | 175.18 | 175.20 | 175.19 | 175.13 | 175.11  | 175.03 | 175.08 |        |
| 27   | 174.89 | 175.17 | 175.01 | 175.03 | 175.14 | 175.17 | 175.20 | 175.19 | 175.12 | 175.14  | 175.03 | 175.09 |        |
| 28   | 174.89 | 175.16 | 175.01 | 175.03 | 175.14 | 175.18 | 175.20 | 175.21 | 175.13 | 175.10  | 175.09 | 175.10 |        |
| 29   | 174.88 |        | 175.00 | 175.03 | 175.14 | 175.19 | 175.20 | 175.19 | 175.13 | 175.09  | 175.06 | 175.12 |        |
| 30   | 174.88 |        | 175.00 | 175.03 | 175.14 | 175.19 | 175.20 | 175.20 | 175.13 | 175.08  | 175.10 | 175.21 |        |
| 31   | 174.89 |        | 175.00 |        | 175.15 |        | 175.20 | 175.20 |        | 175.06  |        | 175.28 |        |
| Mean | 174.93 | 175.00 | 175.03 | 175.05 | 175.10 | 175.17 | 175.20 | 175.20 | 175.19 | 175.13  | 175.08 | 175.08 |        |
| Max. | 175.15 | 175.26 | 175.16 | 175.13 | 175.31 | 175.35 | 175.28 | 175.33 | 175.31 | 175.34  | 175.34 | 175.30 |        |
| Hr.  | 2100   | 0800   | 0300   | 2200   | 1000   | 1600   | 1900   | 0500   | 1400   | 1100    | 1500   | 1800   |        |
| Day  | 25     | 26     | 1      | 16     | 10     | 3      | 15     | 28     | 14     | 18      | 11     | 31     |        |
| Min. | 174.78 | 174.85 | 174.96 | 174.97 | 174.97 | 175.10 | 175.11 | 175.06 | 175.07 | 175.05  | 174.97 | 174.94 |        |
| Hr.  | 0500   | 0400   | 2200   | 2100   | 1200   | 1000   | 2300   | 0100   | 1900   | 0700    | 1300   | 0900   |        |
| Day  | 11     | 1      | 30     | 17     | 11     | 22     | 5      | 28     | 29     | 31      | 25     | 3      |        |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 175.10

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 175.60 Jul  
Daily mean elevation: 175.63 23 Sep  
Instant/hourly elevation: 175.91 0300/28 Aug

LOWEST

Monthly mean elevation: 175.32 Jan  
Daily mean elevation: 175.20 17 Jan  
Instant/hourly elevation: 175.08 0500/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 175.60<br>1  | 175.51<br>25 | 175.42<br>26 | 175.46<br>3 | 175.54<br>29 | 175.59<br>30 | 175.62<br>31 | 175.62<br>5  | 175.63<br>23 | 175.57<br>28 | 175.59<br>12 | 175.61<br>30 |
| Min Day | 175.20<br>17 | 175.26<br>1  | 175.32<br>9  | 175.36<br>1 | 175.39<br>8  | 175.49<br>2  | 175.56<br>8  | 175.57<br>26 | 175.51<br>27 | 175.46<br>31 | 175.37<br>21 | 175.40<br>20 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|----------------|----------------------------|
| 175.60         |     |     |     |     |     |     | 8   | 2   | 6   |     | 1   | 175.60 |                | 17                         |
| 175.55         | 1   |     |     |     |     | 12  | 23  | 29  | 17  | 5   | 2   | 1      | 175.55         | 107                        |
| 175.50         |     | 1   |     |     | 15  | 16  |     |     | 7   | 16  | 6   | 5      | 175.50         | 173                        |
| 175.45         | 2   | 4   |     | 1   |     | 2   |     |     |     | 10  | 11  | 14     | 175.45         | 217                        |
| 175.40         | 2   | 1   | 4   | 18  | 14  |     |     |     |     | 9   | 9   |        | 175.40         | 274                        |
| 175.35         | 2   | 4   | 18  | 11  | 2   |     |     |     |     |     | 2   | 1      | 175.35         | 314                        |
| 175.30         | 6   | 11  | 9   |     |     |     |     |     |     |     |     |        | 175.30         | 340                        |
| 175.25         | 13  | 7   |     |     |     |     |     |     |     |     |     |        | 175.25         | 360                        |
| 175.20         | 4   |     |     |     |     |     |     |     |     |     |     |        | 175.20         | 364                        |
| 175.15         | 1   |     |     |     |     |     |     |     |     |     |     |        | 175.15         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 175.60 | 175.26 | 175.39 | 175.36 | 175.41 | 175.51 | 175.60 | 175.60 | 175.57 | 175.53 | 175.44 | 175.47 |
| 2    | 175.47 | 175.33 | 175.38 | 175.40 | 175.41 | 175.49 | 175.59 | 175.60 | 175.60 | 175.52 | 175.45 | 175.47 |
| 3    | 175.44 | 175.32 | 175.38 | 175.46 | 175.40 | 175.56 | 175.58 | 175.58 | 175.56 | 175.46 | 175.46 | 175.43 |
| 4    | 175.46 | 175.37 | 175.35 | 175.42 | 175.41 | 175.55 | 175.60 | 175.58 | 175.55 | 175.50 | 175.49 | 175.49 |
| 5    | 175.41 | 175.34 | 175.32 | 175.44 | 175.43 | 175.53 | 175.60 | 175.62 | 175.57 | 175.53 | 175.50 | 175.49 |
| 6    | 175.38 | 175.36 | 175.35 | 175.43 | 175.43 | 175.52 | 175.59 | 175.61 | 175.56 | 175.50 | 175.55 | 175.50 |
| 7    | 175.32 | 175.30 | 175.37 | 175.41 | 175.43 | 175.52 | 175.58 | 175.60 | 175.63 | 175.53 | 175.54 | 175.47 |
| 8    | 175.31 | 175.27 | 175.34 | 175.40 | 175.39 | 175.53 | 175.56 | 175.59 | 175.60 | 175.52 | 175.54 | 175.48 |
| 9    | 175.29 | 175.29 | 175.32 | 175.38 | 175.42 | 175.53 | 175.59 | 175.58 | 175.60 | 175.55 | 175.49 | 175.46 |
| 10   | 175.31 | 175.32 | 175.33 | 175.42 | 175.44 | 175.55 | 175.59 | 175.58 | 175.61 | 175.53 | 175.54 | 175.51 |
| 11   | 175.25 | 175.31 | 175.35 | 175.45 | 175.43 | 175.53 | 175.59 | 175.59 | 175.59 | 175.52 | 175.58 | 175.45 |
| 12   | 175.36 | 175.27 | 175.36 | 175.45 | 175.41 | 175.50 | 175.61 | 175.57 | 175.57 | 175.54 | 175.59 | 175.42 |
| 13   | 175.34 | 175.30 | 175.38 | 175.42 | 175.42 | 175.52 | 175.61 | 175.60 | 175.56 | 175.55 | 175.54 | 175.51 |
| 14   | 175.32 | 175.32 | 175.37 | 175.42 | 175.44 | 175.53 | 175.62 | 175.60 | 175.59 | 175.53 | 175.45 | 175.46 |
| 15   | 175.31 | 175.32 | 175.37 | 175.43 | 175.44 | 175.53 | 175.61 | 175.60 | 175.63 | 175.56 | 175.47 | 175.44 |
| 16   | 175.28 | 175.31 | 175.37 | 175.42 | 175.45 | 175.53 | 175.60 | 175.58 | 175.62 | 175.52 | 175.49 | 175.45 |
| 17   | 175.20 | 175.37 | 175.41 | 175.45 | 175.52 | 175.52 | 175.59 | 175.58 | 175.62 | 175.48 | 175.47 | 175.44 |
| 18   | 175.26 | 175.31 | 175.42 | 175.44 | 175.54 | 175.56 | 175.60 | 175.60 | 175.59 | 175.57 | 175.43 | 175.45 |
| 19   | 175.28 | 175.37 | 175.40 | 175.40 | 175.54 | 175.56 | 175.59 | 175.57 | 175.60 | 175.57 | 175.42 | 175.48 |
| 20   | 175.28 | 175.32 | 175.39 | 175.41 | 175.53 | 175.53 | 175.60 | 175.58 | 175.60 | 175.49 | 175.44 | 175.40 |
| 21   | 175.29 | 175.28 | 175.38 | 175.42 | 175.53 | 175.54 | 175.60 | 175.58 | 175.54 | 175.49 | 175.37 | 175.44 |
| 22   | 175.28 | 175.33 | 175.35 | 175.41 | 175.53 | 175.56 | 175.60 | 175.59 | 175.59 | 175.53 | 175.43 | 175.46 |
| 23   | 175.26 | 175.41 | 175.42 | 175.41 | 175.53 | 175.59 | 175.61 | 175.59 | 175.63 | 175.51 | 175.46 | 175.52 |
| 24   | 175.24 | 175.47 | 175.40 | 175.39 | 175.52 | 175.58 | 175.61 | 175.58 | 175.57 | 175.53 | 175.46 | 175.53 |
| 25   | 175.28 | 175.51 | 175.39 | 175.41 | 175.52 | 175.56 | 175.60 | 175.57 | 175.56 | 175.56 | 175.48 | 175.52 |
| 26   | 175.28 | 175.46 | 175.42 | 175.40 | 175.52 | 175.56 | 175.60 | 175.57 | 175.53 | 175.52 | 175.44 | 175.50 |
| 27   | 175.24 | 175.48 | 175.37 | 175.39 | 175.53 | 175.57 | 175.60 | 175.58 | 175.51 | 175.50 | 175.40 | 175.48 |
| 28   | 175.27 | 175.46 | 175.38 | 175.38 | 175.52 | 175.57 | 175.59 | 175.60 | 175.53 | 175.57 | 175.48 | 175.44 |
| 29   | 175.28 |        | 175.35 | 175.39 | 175.54 | 175.56 | 175.58 | 175.60 | 175.54 | 175.49 | 175.51 | 175.48 |
| 30   | 175.24 |        | 175.36 | 175.39 | 175.52 | 175.59 | 175.62 | 175.59 | 175.54 | 175.47 | 175.45 | 175.61 |
| 31   | 175.28 |        | 175.37 |        | 175.52 |        | 175.62 | 175.58 |        | 175.46 |        | 175.60 |
| Mean | 175.32 | 175.35 | 175.37 | 175.41 | 175.47 | 175.54 | 175.60 | 175.59 | 175.58 | 175.52 | 175.48 | 175.48 |
| Max. | 175.72 | 175.66 | 175.60 | 175.52 | 175.62 | 175.68 | 175.68 | 175.91 | 175.74 | 175.82 | 175.81 | 175.70 |
| Hr.  | 1200   | 1800   | 0600   | 0700   | 1900   | 1600   | 1500   | 0300   | 2300   | 2400   | 1900   | 2000   |
| Day  | 1      | 24     | 26     | 3      | 17     | 3      | 30     | 28     | 14     | 18     | 11     | 30     |
| Min. | 175.08 | 175.16 | 175.28 | 175.32 | 175.33 | 175.41 | 175.45 | 175.46 | 175.44 | 175.32 | 175.31 | 175.36 |
| Hr.  | 0500   | 0500   | 0200   | 1300   | 1800   | 0200   | 1800   | 0700   | 1700   | 2100   | 2300   | 1800   |
| Day  | 11     | 13     | 6      | 30     | 8      | 29     | 8      | 28     | 21     | 3      | 21     | 20     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 175.48

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 175.94 Jul  
Daily mean elevation: 175.99 23 Sep  
Instant/hourly elevation: 176.35 2300/27 Aug

LOWEST

Monthly mean elevation: 175.61 Jan  
Daily mean elevation: 175.51 17 Jan  
Instant/hourly elevation: 175.25 0400/11 Jan

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

|         | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max Day | 175.78 | 175.79 | 175.77 | 175.84 | 175.90 | 175.94 | 175.98 | 175.98 | 175.99 | 175.95 | 175.96 | 175.94 |
| Min Day | 175.51 | 175.56 | 175.57 | 175.67 | 175.67 | 175.78 | 175.90 | 175.89 | 175.83 | 175.76 | 175.67 | 175.61 |

----- 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         |     |     |     |     |     |     | 4   | 2   | 5   |     | 1   |     | 175.95         | 12                         |
| 175.90         |     |     |     |     |     | 5   | 25  | 24  | 10  | 4   | 1   | 1   | 175.90         | 82                         |
| 175.85         |     |     |     |     | 5   | 14  | 2   | 5   | 13  | 10  | 6   | 6   | 175.85         | 143                        |
| 175.80         |     |     |     | 1   | 9   | 10  |     | 2   | 12  | 7   | 5   | 5   | 175.80         | 189                        |
| 175.75         | 1   | 2   | 2   | 7   | 6   | 1   |     |     | 5   | 11  | 15  | 15  | 175.75         | 239                        |
| 175.70         | 1   | 3   | 3   | 17  | 9   |     |     |     |     | 2   | 3   | 3   | 175.70         | 277                        |
| 175.65         | 5   | 6   | 13  | 5   | 2   |     |     |     |     | 2   |     |     | 175.65         | 310                        |
| 175.60         | 8   | 8   | 10  |     |     |     |     |     |     |     | 1   |     | 175.60         | 337                        |
| 175.55         | 11  | 9   | 3   |     |     |     |     |     |     |     |     |     | 175.55         | 360                        |
| 175.50         | 5   |     |     |     |     |     |     |     |     |     |     |     | 175.50         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.78 | 175.59 | 175.63 | 175.68 | 175.73 | 175.82 | 175.95 | 175.95 | 175.90 | 175.85 | 175.76 | 175.79  |
| 2    | 175.68 | 175.69 | 175.67 | 175.73 | 175.74 | 175.78 | 175.92 | 175.93 | 175.95 | 175.87 | 175.77 | 175.85  |
| 3    | 175.64 | 175.62 | 175.69 | 175.84 | 175.71 | 175.84 | 175.90 | 175.92 | 175.91 | 175.76 | 175.79 | 175.76  |
| 4    | 175.69 | 175.66 | 175.64 | 175.77 | 175.74 | 175.90 | 175.93 | 175.91 | 175.87 | 175.81 | 175.85 | 175.61* |
| 5    | 175.67 | 175.58 | 175.60 | 175.78 | 175.77 | 175.85 | 175.95 | 175.98 | 175.92 | 175.86 | 175.82 | 175.79* |
| 6    | 175.66 | 175.65 | 175.61 | 175.75 | 175.76 | 175.83 | 175.95 | 175.98 | 175.88 | 175.81 | 175.89 | 175.87  |
| 7    | 175.60 | 175.60 | 175.61 | 175.72 | 175.73 | 175.85 | 175.93 | 175.95 | 175.98 | 175.89 | 175.89 | 175.78  |
| 8    | 175.60 | 175.56 | 175.59 | 175.71 | 175.68 | 175.83 | 175.90 | 175.92 | 175.91 | 175.88 | 175.88 | 175.84  |
| 9    | 175.59 | 175.60 | 175.57 | 175.67 | 175.74 | 175.85 | 175.94 | 175.93 | 175.90 | 175.92 | 175.81 | 175.78  |
| 10   | 175.63 | 175.64 | 175.63 | 175.76 | 175.67 | 175.89 | 175.94 | 175.92 | 175.92 | 175.82 | 175.89 | 175.89  |
| 11   | 175.54 | 175.64 | 175.63 | 175.78 | 175.79 | 175.87 | 175.94 | 175.93 | 175.92 | 175.81 | 175.93 | 175.78  |
| 12   | 175.75 | 175.56 | 175.62 | 175.76 | 175.74 | 175.81 | 175.98 | 175.92 | 175.88 | 175.87 | 175.96 | 175.71  |
| 13   | 175.67 | 175.62 | 175.67 | 175.72 | 175.77 | 175.82 | 175.97 | 175.94 | 175.88 | 175.87 | 175.89 | 175.88  |
| 14   | 175.60 | 175.68 | 175.65 | 175.71 | 175.75 | 175.86 | 175.95 | 175.93 | 175.90 | 175.83 | 175.74 | 175.80  |
| 15   | 175.59 | 175.66 | 175.64 | 175.74 | 175.76 | 175.87 | 175.94 | 175.93 | 175.97 | 175.85 | 175.78 | 175.78  |
| 16   | 175.59 | 175.60 | 175.67 | 175.72 | 175.74 | 175.87 | 175.94 | 175.91 | 175.97 | 175.84 | 175.84 | 175.80  |
| 17   | 175.51 | 175.68 | 175.68 | 175.79 | 175.79 | 175.83 | 175.92 | 175.91 | 175.96 | 175.78 | 175.83 | 175.77  |
| 18   | 175.61 | 175.56 | 175.71 | 175.76 | 175.86 | 175.90 | 175.92 | 175.93 | 175.91 | 175.86 | 175.76 | 175.78  |
| 19   | 175.63 | 175.69 | 175.74 | 175.71 | 175.87 | 175.92 | 175.92 | 175.89 | 175.91 | 175.94 | 175.76 | 175.83  |
| 20   | 175.61 | 175.64 | 175.70 | 175.72 | 175.85 | 175.86 | 175.94 | 175.90 | 175.92 | 175.81 | 175.78 | 175.71  |
| 21   | 175.58 | 175.56 | 175.68 | 175.74 | 175.87 | 175.87 | 175.95 | 175.91 | 175.83 | 175.80 | 175.67 | 175.76  |
| 22   | 175.60 | 175.65 | 175.64 | 175.71 | 175.85 | 175.88 | 175.95 | 175.92 | 175.91 | 175.88 | 175.76 | 175.80  |
| 23   | 175.59 | 175.71 | 175.77 | 175.72 | 175.85 | 175.91 | 175.95 | 175.92 | 175.99 | 175.85 | 175.78 | 175.89  |
| 24   | 175.53 | 175.78 | 175.72 | 175.69 | 175.85 | 175.94 | 175.95 | 175.91 | 175.89 | 175.87 | 175.81 | 175.85  |
| 25   | 175.56 | 175.79 | 175.69 | 175.71 | 175.83 | 175.90 | 175.94 | 175.90 | 175.87 | 175.92 | 175.85 | 175.80  |
| 26   | 175.60 | 175.65 | 175.77 | 175.71 | 175.85 | 175.90 | 175.94 | 175.89 | 175.87 | 175.86 | 175.78 | 175.86  |
| 27   | 175.53 | 175.71 | 175.69 | 175.71 | 175.85 | 175.92 | 175.94 | 175.92 | 175.83 | 175.79 | 175.70 | 175.81  |
| 28   | 175.61 | 175.73 | 175.70 | 175.69 | 175.86 | 175.89 | 175.93 | 175.92 | 175.87 | 175.95 | 175.79 | 175.73  |
| 29   | 175.63 |        | 175.66 | 175.70 | 175.90 | 175.89 | 175.92 | 175.94 | 175.89 | 175.81 | 175.87 | 175.78  |
| 30   | 175.55 |        | 175.67 | 175.71 | 175.85 | 175.93 | 175.97 | 175.92 | 175.88 | 175.81 | 175.75 | 175.94  |
| 31   | 175.61 |        | 175.70 |        | 175.85 |        | 175.98 | 175.90 |        | 175.80 |        | 175.86  |
| Mean | 175.61 | 175.65 | 175.67 | 175.73 | 175.79 | 175.87 | 175.94 | 175.92 | 175.91 | 175.85 | 175.81 | 175.80  |
| Max. | 175.91 | 176.13 | 176.06 | 175.98 | 175.98 | 176.06 | 176.07 | 176.35 | 176.09 | 176.26 | 176.31 | 176.03  |
| Hr.  | 1200   | 1800   | 0600   | 1000   | 2000   | 0500   | 1500   | 2300   | 2300   | 2400   | 1900   | 2000    |
| Day  | 1      | 24     | 26     | 17     | 4      | 4      | 30     | 27     | 14     | 18     | 11     | 30      |
| Min. | 175.25 | 175.37 | 175.53 | 175.59 | 175.53 | 175.73 | 175.74 | 175.66 | 175.70 | 175.48 | 175.58 | 175.58  |
| Hr.  | 0400   | 2400   | 0400   | 2200   | 1800   | 1100   | 1500   | 0300   | 1800   | 1800   | 1600   | 2300    |
| Day  | 11     | 12     | 9      | 9      | 10     | 13     | 8      | 28     | 21     | 4      | 21     | 3       |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 175.80

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.06 Jul  
Daily mean elevation: 176.12 23 Sep  
Instant/hourly elevation: 176.51 2300/27 Aug

LOWEST

Monthly mean elevation: 175.68 Jan  
Daily mean elevation: 175.57 17 Jan  
Instant/hourly elevation: 175.34 0400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 175.83<br>1  | 175.90<br>25 | 175.88<br>26 | 175.95<br>3  | 176.02<br>29 | 176.06<br>24 | 176.10<br>31 | 176.10<br>6  | 176.12<br>23 | 176.09<br>28 | 176.10<br>12 | 176.06<br>30 |
| Min Day | 175.57<br>17 | 175.62<br>5  | 175.66<br>9  | 175.74<br>24 | 175.75<br>10 | 175.88<br>2  | 176.00<br>3  | 176.01<br>26 | 175.94<br>21 | 175.86<br>3  | 175.77<br>21 | 175.81<br>20 |

~~~~~ 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.10         |     |     |     |     |     |     |     |     | 1   |     |     |     | 176.10         | 1                          |
| 176.05         |     |     |     |     |     |     |     |     | 5   |     |     |     | 176.05         | 35                         |
| 176.00         |     |     |     |     | 1   | 10  | 14  | 24  | 13  | 3   | 1   | 1   | 176.00         | 109                        |
| 175.95         |     |     |     |     | 9   | 11  | 1   |     | 9   | 11  | 5   | 6   | 175.95         | 161                        |
| 175.90         |     |     | 1   | 5   | 7   |     |     | 2   | 11  | 4   | 8   |     | 175.90         | 199                        |
| 175.85         | 2   | 2   | 7   | 6   | 1   |     |     |     | 3   | 11  | 10  |     | 175.85         | 241                        |
| 175.80         | 2   | 4   | 4   | 12  | 8   |     |     |     |     | 1   | 3   |     | 175.80         | 275                        |
| 175.75         | 1   | 3   | 12  | 9   | 1   |     |     |     |     | 2   |     |     | 175.75         | 303                        |
| 175.70         | 6   | 10  | 8   | 1   | 1   |     |     |     |     |     |     |     | 175.70         | 329                        |
| 175.65         | 10  | 5   | 5   |     |     |     |     |     |     |     |     |     | 175.65         | 349                        |
| 175.60         | 7   | 4   |     |     |     |     |     |     |     |     |     |     | 175.60         | 360                        |
| 175.55         | 5   |     |     |     |     |     |     |     |     |     |     |     | 175.55         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

International  
Great Lakes  
Datum (1955)

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

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 175.83 | 175.64 | 175.71 | 175.77 | 175.85 | 175.93 | 176.07 | 176.07 | 176.01 | 175.96 | 175.88 | 175.91 |
| 2    | 175.74 | 175.75 | 175.77 | 175.82 | 175.85 | 175.88 | 176.04 | 176.05 | 176.07 | 175.99 | 175.89 | 175.99 |
| 3    | 175.71 | 175.68 | 175.80 | 175.95 | 175.83 | 175.95 | 176.00 | 176.03 | 176.02 | 175.86 | 175.91 | 175.88 |
| 4    | 175.76 | 175.71 | 175.75 | 175.87 | 175.85 | 176.02 | 176.04 | 176.02 | 175.98 | 175.93 | 175.99 | 175.89 |
| 5    | 175.75 | 175.62 | 175.70 | 175.89 | 175.88 | 175.96 | 176.08 | 176.10 | 176.04 | 175.97 | 175.93 | 175.94 |
| 6    | 175.74 | 175.72 | 175.70 | 175.86 | 175.87 | 175.94 | 176.06 | 176.10 | 176.00 | 175.92 | 176.01 | 176.00 |
| 7    | 175.67 | 175.70 | 175.69 | 175.83 | 175.82 | 175.96 | 176.05 | 176.08 | 176.10 | 176.01 | 176.02 | 175.89 |
| 8    | 175.67 | 175.66 | 175.68 | 175.82 | 175.78 | 175.94 | 176.01 | 176.04 | 176.02 | 176.01 | 176.01 | 175.96 |
| 9    | 175.67 | 175.71 | 175.66 | 175.77 | 175.85 | 175.96 | 176.05 | 176.05 | 176.01 | 176.04 | 175.92 | 175.90 |
| 10   | 175.71 | 175.74 | 175.72 | 175.87 | 175.75 | 176.01 | 176.06 | 176.04 | 176.04 | 175.93 | 176.02 | 176.02 |
| 11   | 175.60 | 175.74 | 175.73 | 175.90 | 175.91 | 175.99 | 176.06 | 176.06 | 176.03 | 175.93 | 176.05 | 175.89 |
| 12   | 175.82 | 175.65 | 175.71 | 175.87 | 175.85 | 175.92 | 176.10 | 176.04 | 176.00 | 175.99 | 176.10 | 175.83 |
| 13   | 175.73 | 175.71 | 175.77 | 175.82 | 175.88 | 175.93 | 176.08 | 176.07 | 175.99 | 175.98 | 176.02 | 176.01 |
| 14   | 175.64 | 175.79 | 175.75 | 175.81 | 175.86 | 175.97 | 176.06 | 176.05 | 176.00 | 175.93 | 175.84 | 175.92 |
| 15   | 175.63 | 175.74 | 175.74 | 175.83 | 175.87 | 175.99 | 176.03 | 176.05 | 176.10 | 175.98 | 175.90 | 175.90 |
| 16   | 175.64 | 175.70 | 175.77 | 175.81 | 175.84 | 175.99 | 176.05 | 176.03 | 176.10 | 175.95 | 175.96 | 175.92 |
| 17   | 175.57 | 175.79 | 175.78 | 175.89 | 175.89 | 175.95 | 176.03 | 176.03 | 176.08 | 175.88 | 175.96 | 175.88 |
| 18   | 175.68 | 175.65 | 175.82 | 175.85 | 175.98 | 176.01 | 176.03 | 176.04 | 176.02 | 175.96 | 175.88 | 175.95 |
| 19   | 175.70 | 175.81 | 175.85 | 175.79 | 175.99 | 176.04 | 176.04 | 176.01 | 176.02 | 176.08 | 175.89 | 175.95 |
| 20   | 175.67 | 175.75 | 175.81 | 175.80 | 175.95 | 175.97 | 176.05 | 176.01 | 176.04 | 175.92 | 175.89 | 175.81 |
| 21   | 175.64 | 175.67 | 175.79 | 175.82 | 175.99 | 175.99 | 176.06 | 176.03 | 175.94 | 175.91 | 175.77 | 175.88 |
| 22   | 175.65 | 175.76 | 175.74 | 175.78 | 175.96 | 176.00 | 176.07 | 176.04 | 176.03 | 176.00 | 175.88 | 175.92 |
| 23   | 175.65 | 175.82 | 175.88 | 175.79 | 175.95 | 176.02 | 176.06 | 176.03 | 176.12 | 175.97 | 175.88 | 176.01 |
| 24   | 175.58 | 175.89 | 175.83 | 175.74 | 175.95 | 176.06 | 176.07 | 176.03 | 176.01 | 175.99 | 175.93 | 175.97 |
| 25   | 175.60 | 175.90 | 175.79 | 175.80 | 175.95 | 176.02 | 176.06 | 176.02 | 175.98 | 176.06 | 175.97 | 175.90 |
| 26   | 175.66 | 175.72 | 175.88 | 175.84 | 175.96 | 176.01 | 176.06 | 176.01 | 176.00 | 175.99 | 175.90 | 175.99 |
| 27   | 175.59 | 175.81 | 175.79 | 175.83 | 175.97 | 176.04 | 176.05 | 176.04 | 175.95 | 175.90 | 175.80 | 175.93 |
| 28   | 175.67 | 175.82 | 175.80 | 175.80 | 175.98 | 176.01 | 176.04 | 176.04 | 175.98 | 176.09 | 175.90 | 175.83 |
| 29   | 175.70 |        | 175.76 | 175.80 | 176.02 | 176.00 | 176.03 | 176.06 | 176.02 | 175.93 | 176.00 | 175.89 |
| 30   | 175.61 |        | 175.78 | 175.82 | 175.97 | 176.05 | 176.10 | 176.04 | 176.00 | 175.92 | 175.86 | 176.06 |
| 31   | 175.68 |        | 175.80 |        | 175.96 |        | 176.10 | 176.02 |        | 175.92 |        | 175.96 |
| Mean | 175.68 | 175.74 | 175.77 | 175.83 | 175.90 | 175.98 | 176.06 | 176.04 | 176.02 | 175.97 | 175.93 | 175.93 |
| Max. | 175.97 | 176.27 | 176.18 | 176.04 | 176.08 | 176.20 | 176.20 | 176.51 | 176.24 | 176.40 | 176.45 | 176.14 |
| Hr.  | 1200   | 1800   | 0600   | 0800   | 1300   | 0500   | 1500   | 2300   | 2300   | 2400   | 2000   | 1600   |
| Day  | 1      | 24     | 26     | 3      | 29     | 4      | 30     | 27     | 14     | 18     | 10     | 13     |
| Min. | 175.34 | 175.44 | 175.60 | 175.68 | 175.60 | 175.81 | 175.89 | 175.81 | 175.81 | 175.64 | 175.68 | 175.65 |
| Hr.  | 0400   | 2400   | 2000   | 2200   | 1800   | 0800   | 1500   | 0300   | 1700   | 1800   | 1500   | 0500   |
| Day  | 11     | 12     | 1      | 9      | 10     | 3      | 8      | 28     | 21     | 4      | 21     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 175.90

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.18 Jul  
Daily mean elevation: 176.25 23 Sep  
Instant/hourly elevation: 176.73 2000/10 Nov

LOWEST

Monthly mean elevation: 175.81 Jan  
Daily mean elevation: 175.71 27 Jan  
Instant/hourly elevation: 175.42 0400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.00<br>12 | 175.99<br>25 | 176.01<br>26 | 176.09<br>3 | 176.15<br>29 | 176.19<br>24 | 176.24<br>12 | 176.22<br>6  | 176.25<br>23 | 176.21<br>28 | 176.23<br>12 | 176.17<br>30 |
| Min Day | 175.71<br>27 | 175.72<br>18 | 175.76<br>9  | 175.87<br>9 | 175.83<br>10 | 175.99<br>2  | 176.12<br>8  | 176.12<br>25 | 176.03<br>21 | 175.96<br>3  | 175.87<br>21 | 175.92<br>20 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.20         |     |     |     |     |     |     |     |     |     |     |     |     | 176.20         |                            |
| 176.15         |     |     |     |     |     |     |     |     |     |     |     |     | 176.20         | 12                         |
| 176.10         |     |     |     |     |     |     |     |     |     |     |     |     | 176.15         | 61                         |
| 176.05         |     |     |     |     |     |     |     |     |     |     |     |     | 176.10         | 126                        |
| 176.00         |     |     |     |     |     |     |     |     |     |     |     |     | 176.05         | 175                        |
| 175.95         | 1   | 2   | 2   | 6   | 9   | 1   |     |     | 1   | 9   | 8   | 11  | 176.00         | 215                        |
| 175.90         | 5   | 7   | 7   | 17  | 3   |     |     |     | 3   |     | 6   | 5   | 175.95         | 250                        |
| 175.85         | 4   | 7   | 8   | 3   | 1   |     |     |     |     | 2   | 3   |     | 175.90         | 287                        |
| 175.80         | 11  | 7   | 8   |     |     | 1   |     |     |     |     | 1   |     | 175.85         | 311                        |
| 175.75         | 10  | 5   | 5   |     |     |     |     |     |     |     |     |     | 175.80         | 338                        |
| 175.70         | 5   | 2   |     |     |     |     |     |     |     |     |     |     | 175.75         | 358                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     | 175.70         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.90  | 175.81 | 175.79 | 175.89 | 175.96 | 176.05 | 176.20 | 176.19 | 176.12 | 176.07 | 175.99 | 176.02 |
| 2    | 175.81  | 175.93 | 175.87 | 175.95 | 175.98 | 175.99 | 176.15 | 176.17 | 176.20 | 176.11 | 175.99 | 176.12 |
| 3    | 175.78  | 175.83 | 175.91 | 176.09 | 175.94 | 176.04 | 176.13 | 176.15 | 176.13 | 175.96 | 176.03 | 175.99 |
| 4    | 175.84  | 175.86 | 175.85 | 176.00 | 175.98 | 176.14 | 176.16 | 176.13 | 176.09 | 176.06 | 176.12 | 175.99 |
| 5    | 175.84  | 175.75 | 175.81 | 176.02 | 176.01 | 176.08 | 176.21 | 176.22 | 176.16 | 176.10 | 176.04 | 176.06 |
| 6    | 175.85  | 175.85 | 175.80 | 175.98 | 176.00 | 176.06 | 176.19 | 176.22 | 176.11 | 176.03 | 176.13 | 176.12 |
| 7    | 175.77  | 175.81 | 175.79 | 175.94 | 175.94 | 176.08 | 176.17 | 176.20 | 176.21 | 176.13 | 176.13 | 176.01 |
| 8    | 175.78  | 175.76 | 175.77 | 175.93 | 175.89 | 176.06 | 176.12 | 176.16 | 176.13 | 176.12 | 176.12 | 176.09 |
| 9    | 175.79  | 175.82 | 175.76 | 175.87 | 175.96 | 176.08 | 176.18 | 176.17 | 176.12 | 176.18 | 176.03 | 176.01 |
| 10   | 175.85  | 175.87 | 175.85 | 176.00 | 175.83 | 176.14 | 176.19 | 176.17 | 176.15 | 176.03 | 176.15 | 176.16 |
| 11   | 175.73  | 175.87 | 175.83 | 176.03 | 176.04 | 176.10 | 176.18 | 176.17 | 176.15 | 176.03 | 176.17 | 176.02 |
| 12   | 176.00  | 175.78 | 175.81 | 175.98 | 175.98 | 176.04 | 176.24 | 176.15 | 176.11 | 176.10 | 176.23 | 175.93 |
| 13   | 175.88  | 175.85 | 175.86 | 175.93 | 176.01 | 176.05 | 176.21 | 176.18 | 176.10 | 176.09 | 176.15 | 176.13 |
| 14   | 175.79  | 175.93 | 175.84 | 175.92 | 175.98 | 176.10 | 176.19 | 176.16 | 176.12 | 176.03 | 175.95 | 176.04 |
| 15   | 175.78  | 175.88 | 175.84 | 175.94 | 175.99 | 176.11 | 176.16 | 176.16 | 176.21 | 176.09 | 176.01 | 176.02 |
| 16   | 175.79  | 175.78 | 175.86 | 175.93 | 175.95 | 176.10 | 176.16 | 176.14 | 176.20 | 176.06 | 176.09 | 176.05 |
| 17   | 175.73  | 175.89 | 175.87 | 176.02 | 176.00 | 176.07 | 176.15 | 176.14 | 176.19 | 175.97 | 176.10 | 176.00 |
| 18   | 175.84  | 175.72 | 175.92 | 175.98 | 176.08 | 176.13 | 176.16 | 176.16 | 176.13 | 176.06 | 176.00 | 176.03 |
| 19   | 175.86  | 175.91 | 175.97 | 175.93 | 176.10 | 176.17 | 176.17 | 176.12 | 176.13 | 176.20 | 176.00 | 176.08 |
| 20   | 175.83  | 175.85 | 175.92 | 175.94 | 176.08 | 176.09 | 176.18 | 176.12 | 176.15 | 176.04 | 176.02 | 175.92 |
| 21   | 175.80  | 175.77 | 175.90 | 175.96 | 176.10 | 176.10 | 176.19 | 176.14 | 176.03 | 176.02 | 175.87 | 175.99 |
| 22   | 175.80  | 175.87 | 175.84 | 175.93 | 176.08 | 176.11 | 176.19 | 176.15 | 176.14 | 176.12 | 176.01 | 176.04 |
| 23   | 175.81  | 175.92 | 176.00 | 175.94 | 176.07 | 176.13 | 176.18 | 176.15 | 176.25 | 176.09 | 176.00 | 176.14 |
| 24   | 175.72  | 175.99 | 175.95 | 175.90 | 176.07 | 176.19 | 176.19 | 176.14 | 176.11 | 176.11 | 176.06 | 176.09 |
| 25   | 175.74  | 175.99 | 175.90 | 175.94 | 176.06 | 176.14 | 176.18 | 176.12 | 176.08 | 176.18 | 176.10 | 176.00 |
| 26   | 175.81  | 175.78 | 176.01 | 175.93 | 176.09 | 176.13 | 176.17 | 176.13 | 176.11 | 176.10 | 176.03 | 176.12 |
| 27   | 175.71  | 175.90 | 175.91 | 175.92 | 176.09 | 176.16 | 176.17 | 176.15 | 176.06 | 176.00 | 175.91 | 176.05 |
| 28   | 175.82  | 175.91 | 175.92 | 175.91 | 176.10 | 176.12 | 176.16 | 176.17 | 176.10 | 176.21 | 176.02 | 175.93 |
| 29   | 175.86  |        | 175.88 | 175.92 | 176.15 | 176.12 | 176.14 | 176.19 | 176.14 | 176.05 | 176.14 | 176.01 |
| 30   | 175.76* |        | 175.90 | 175.93 | 176.10 | 176.16 | 176.22 | 176.16 | 176.12 | 176.04 | 175.96 | 176.17 |
| 31   | 175.85  |        | 175.92 |        | 176.09 |        | 176.23 | 176.13 |        | 176.04 |        | 176.06 |
| Mean | 175.81  | 175.85 | 175.87 | 175.95 | 176.02 | 176.10 | 176.18 | 176.16 | 176.13 | 176.08 | 176.05 | 176.05 |
| Max. | 176.11  | 176.39 | 176.28 | 176.16 | 176.21 | 176.29 | 176.34 | 176.56 | 176.37 | 176.55 | 176.73 | 176.28 |
| Hr.  | 1100    | 1800   | 0600   | 0800   | 1300   | 0500   | 1500   | 2300   | 2200   | 2300   | 2000   | 0800   |
| Day  | 12      | 24     | 26     | 3      | 29     | 4      | 30     | 27     | 14     | 18     | 10     | 10     |
| Min. | 175.42  | 175.54 | 175.67 | 175.81 | 175.67 | 175.89 | 175.96 | 175.94 | 175.91 | 175.83 | 175.77 | 175.71 |
| Hr.  | 0400    | 2300   | 2000   | 1400   | 1800   | 0800   | 1700   | 2400   | 1800   | 2400   | 2200   | 0400   |
| Day  | 11      | 12     | 1      | 9      | 10     | 3      | 8      | 27     | 21     | 10     | 21     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.02

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.27 Jul  
Daily mean elevation: 176.36 23 Sep  
Instant/hourly elevation: 176.91 2000/10 Nov

LOWEST

Monthly mean elevation: 175.89 Jan  
Daily mean elevation: 175.78 18 Feb  
Instant/hourly elevation: 175.38 0400/11 Jan

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

|         | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Max Day | 176.12 | 176.08 | 176.10 | 176.20 | 176.25 | 176.29 | 176.34 | 176.34 | 176.36 | 176.34 | 176.34 | 176.26 |
| Min Day | 175.79 | 175.78 | 175.82 | 175.95 | 175.87 | 176.07 | 176.21 | 176.21 | 176.11 | 176.05 | 175.95 | 176.00 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.35         |     |     |     |     |     |     |     |     | 1   |     |     |     | 176.35         | 1                          |
| 176.30         |     |     |     |     |     |     |     |     | 3   |     |     |     | 176.30         | 15                         |
| 176.25         |     |     |     |     |     |     |     |     | 2   |     |     |     | 176.25         | 49                         |
| 176.20         |     |     |     |     |     |     |     |     | 11  |     |     |     | 176.20         | 121                        |
| 176.15         |     |     |     |     | 1   |     |     |     | 11  |     |     |     | 176.15         | 163                        |
| 176.10         | 1   |     |     |     | 3   |     |     |     | 9   |     |     |     | 176.10         | 203                        |
| 176.05         |     | 2   |     |     | 5   |     |     |     | 1   |     |     |     | 176.05         | 244                        |
| 176.00         |     | 2   |     |     | 2   |     |     |     | 5   |     |     |     | 176.00         | 269                        |
| 175.95         | 3   | 7   |     |     | 9   |     |     |     | 1   |     |     |     | 175.95         | 300                        |
| 175.90         | 9   | 7   |     |     | 8   |     |     |     | 1   |     |     |     | 175.90         | 327                        |
| 175.85         | 11  | 4   |     |     | 5   |     |     |     | 1   |     |     |     | 175.85         | 348                        |
| 175.80         | 5   | 4   |     |     | 4   |     |     |     |     |     |     |     | 175.80         | 361                        |
| 175.75         | 2   | 2   |     |     |     |     |     |     |     |     |     |     | 175.75         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.96 | 175.89 | 175.85 | 175.97 | 176.05 | 176.14 | 176.31 | 176.30 | 176.21 | 176.16 | 176.08 | 176.10 |
| 2    | 175.86 | 176.03 | 175.95 | 176.04 | 176.06 | 176.07 | 176.25 | 176.26 | 176.30 | 176.21 | 176.08 | 176.22 |
| 3    | 175.83 | 175.92 | 176.00 | 176.20 | 176.03 | 176.11 | 176.21 | 176.25 | 176.23 | 176.05 | 176.12 | 176.08 |
| 4    | 175.91 | 175.94 | 175.93 | 176.10 | 176.07 | 176.24 | 176.25 | 176.22 | 176.18 | 176.14 | 176.23 | 176.06 |
| 5    | 175.92 | 175.80 | 175.87 | 176.11 | 176.10 | 176.15 | 176.32 | 176.33 | 176.25 | 176.19 | 176.13 | 176.14 |
| 6    | 175.92 | 175.92 | 175.86 | 176.07 | 176.08 | 176.14 | 176.29 | 176.34 | 176.20 | 176.12 | 176.23 | 176.22 |
| 7    | 175.86 | 175.88 | 175.84 | 176.03 | 176.02 | 176.17 | 176.26 | 176.30 | 176.31 | 176.23 | 176.23 | 176.09 |
| 8    | 175.86 | 175.83 | 175.82 | 176.01 | 175.95 | 176.15 | 176.21 | 176.26 | 176.22 | 176.24 | 176.22 | 176.17 |
| 9    | 175.88 | 175.90 | 175.82 | 175.95 | 176.05 | 176.16 | 176.28 | 176.26 | 176.21 | 176.29 | 176.12 | 176.09 |
| 10   | 175.94 | 175.95 | 175.89 | 176.09 | 175.87 | 176.23 | 176.29 | 176.26 | 176.24 | 176.11 | 176.25 | 176.26 |
| 11   | 175.83 | 175.96 | 175.89 | 176.12 | 176.13 | 176.19 | 176.28 | 176.27 | 176.24 | 176.12 | 176.27 | 176.10 |
| 12   | 176.12 | 175.86 | 175.87 | 176.06 | 176.07 | 176.11 | 176.34 | 176.24 | 176.20 | 176.19 | 176.34 | 176.00 |
| 13   | 175.98 | 175.93 | 175.93 | 176.00 | 176.10 | 176.12 | 176.31 | 176.28 | 176.19 | 176.18 | 176.25 | 176.24 |
| 14   | 175.87 | 176.04 | 175.91 | 175.99 | 176.07 | 176.18 | 176.28 | 176.25 | 176.20 | 176.11 | 176.03 | 176.13 |
| 15   | 175.87 | 175.97 | 175.91 | 176.02 | 176.07 | 176.20 | 176.24 | 176.25 | 176.32 | 176.19 | 176.10 | 176.10 |
| 16   | 175.89 | 175.85 | 175.93 | 176.00 | 176.03 | 176.18 | 176.25 | 176.23 | 176.32 | 176.15 | 176.18 | 176.13 |
| 17   | 175.81 | 175.98 | 175.94 | 176.11 | 176.08 | 176.15 | 176.24 | 176.23 | 176.30 | 176.05 | 176.20 | 176.08 |
| 18   | 175.93 | 175.78 | 176.00 | 176.06 | 176.17 | 176.21 | 176.25 | 176.25 | 176.23 | 176.14 | 176.10 | 176.11 |
| 19   | 175.95 | 175.99 | 176.06 | 176.00 | 176.20 | 176.26 | 176.25 | 176.21 | 176.22 | 176.31 | 176.09 | 176.17 |
| 20   | 175.93 | 175.94 | 176.00 | 176.02 | 176.17 | 176.17 | 176.27 | 176.21 | 176.24 | 176.13 | 176.11 | 176.00 |
| 21   | 175.88 | 175.84 | 175.98 | 176.05 | 176.21 | 176.18 | 176.28 | 176.24 | 176.11 | 176.10 | 175.95 | 176.08 |
| 22   | 175.88 | 175.95 | 175.91 | 176.01 | 176.17 | 176.20 | 176.29 | 176.25 | 176.24 | 176.22 | 176.09 | 176.12 |
| 23   | 175.89 | 176.00 | 176.10 | 176.02 | 176.17 | 176.22 | 176.27 | 176.25 | 176.36 | 176.19 | 176.08 | 176.24 |
| 24   | 175.79 | 176.08 | 176.03 | 175.98 | 176.16 | 176.29 | 176.29 | 176.23 | 176.20 | 176.22 | 176.15 | 176.17 |
| 25   | 175.81 | 176.06 | 175.97 | 176.01 | 176.15 | 176.23 | 176.28 | 176.21 | 176.16 | 176.30 | 176.20 | 176.06 |
| 26   | 175.89 | 175.82 | 176.10 | 176.01 | 176.17 | 176.21 | 176.27 | 176.22 | 176.21 | 176.20 | 176.12 | 176.21 |
| 27   | 175.79 | 175.96 | 175.99 | 176.00 | 176.18 | 176.26 | 176.27 | 176.25 | 176.15 | 176.08 | 175.98 | 176.14 |
| 28   | 175.91 | 175.98 | 176.00 | 175.99 | 176.19 | 176.21 | 176.25 | 176.27 | 176.20 | 176.34 | 176.09 | 176.01 |
| 29   | 175.97 |        | 175.96 | 176.00 | 176.25 | 176.21 | 176.23 | 176.28 | 176.24 | 176.14 | 176.23 | 176.07 |
| 30   | 175.84 |        | 175.98 | 176.02 | 176.20 | 176.25 | 176.33 | 176.26 | 176.22 | 176.13 | 176.03 | 176.25 |
| 31   | 175.93 |        | 176.01 |        | 176.17 |        | 176.34 | 176.23 |        | 176.14 |        | 176.12 |
| Mean | 175.89 | 175.93 | 175.94 | 176.03 | 176.11 | 176.19 | 176.27 | 176.25 | 176.23 | 176.17 | 176.14 | 176.13 |
| Max. | 176.25 | 176.53 | 176.42 | 176.28 | 176.32 | 176.41 | 176.46 | 176.79 | 176.51 | 176.71 | 176.91 | 176.39 |
| Hr.  | 1100   | 1800   | 0600   | 0800   | 1300   | 0500   | 1400   | 2300   | 2200   | 2300   | 2000   | 1600   |
| Day  | 12     | 24     | 26     | 3      | 29     | 4      | 30     | 27     | 14     | 18     | 10     | 13     |
| Min. | 175.38 | 175.59 | 175.72 | 175.87 | 175.70 | 175.95 | 176.03 | 175.93 | 175.98 | 175.88 | 175.83 | 175.74 |
| Hr.  | 0400   | 2300   | 2000   | 2000   | 1800   | 0800   | 1400   | 2400   | 1800   | 2400   | 2200   | 0400   |
| Day  | 11     | 12     | 1      | 9      | 10     | 3      | 8      | 27     | 21     | 10     | 21     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.11

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 907-5002 Lakeport, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 176.31 Jul  
Daily mean elevation: 176.38 12 Nov  
Instant/hourly elevation: 176.89 1900/11 Nov

LOWEST

Monthly mean elevation: 175.93 Jan  
Daily mean elevation: 175.83 24 Jan  
Instant/hourly elevation: 175.54 2200/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.13<br>12 | 176.07<br>24 | 176.14<br>26 | 176.20<br>3 | 176.27<br>29 | 176.34<br>24 | 176.36<br>31 | 176.36<br>6  | 176.38<br>23 | 176.38<br>28 | 176.38<br>12 | 176.31<br>10 |
| Min Day | 175.83<br>24 | 175.84<br>18 | 175.88<br>1  | 175.99<br>9 | 175.92<br>10 | 176.11<br>2  | 176.25<br>8  | 176.24<br>20 | 176.15<br>21 | 176.09<br>3  | 176.01<br>21 | 176.06<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.35         |     |     |     |     |     |     |     |     |     |     |     |     | 176.35         |                            |
| 176.30         |     |     |     |     |     |     |     |     |     |     |     |     | 176.30         | 7                          |
| 176.25         |     |     |     |     |     |     |     |     |     |     |     |     | 176.30         | 40                         |
| 176.20         |     |     |     |     |     |     |     |     |     |     |     |     | 176.25         | 111                        |
| 176.15         |     |     |     |     |     |     |     |     |     |     |     |     | 176.20         | 155                        |
| 176.10         | 1   |     |     |     |     |     |     |     |     |     |     |     | 176.15         | 199                        |
| 176.05         |     | 4   |     | 2   | 4   | 8   | 7   |     |     | 1   | 5   | 7   | 176.10         | 236                        |
| 176.00         | 1   | 3   | 9   | 11  | 6   |     |     |     |     | 2   | 2   | 4   | 176.05         | 267                        |
| 175.95         | 9   | 10  | 6   | 1   | 1   |     |     |     |     |     | 2   |     | 176.00         | 294                        |
| 175.90         | 9   | 4   | 8   |     | 1   |     |     |     |     |     |     |     | 175.95         | 321                        |
| 175.85         | 8   | 4   | 4   |     |     |     |     |     |     |     |     |     | 175.90         | 343                        |
| 175.80         | 3   | 3   |     |     |     |     |     |     |     |     |     |     | 175.85         | 359                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     | 175.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.99 | 175.93 | 175.88 | 176.01 | 176.09 | 176.17  | 176.34 | 176.33 | 176.24 | 176.20  | 176.13 | 176.16 |
| 2    | 175.90 | 176.06 | 175.98 | 176.07 | 176.10 | 176.11  | 176.29 | 176.30 | 176.32 | 176.26  | 176.13 | 176.27 |
| 3    | 175.89 | 175.95 | 176.03 | 176.20 | 176.06 | 176.15  | 176.27 | 176.28 | 176.26 | 176.09  | 176.16 | 176.15 |
| 4    | 175.95 | 175.99 | 175.96 | 176.13 | 176.11 | 176.27  | 176.30 | 176.27 | 176.23 | 176.17  | 176.26 | 176.10 |
| 5    | 175.95 | 175.85 | 175.93 | 176.14 | 176.12 | 176.20  | 176.35 | 176.36 | 176.29 | 176.22  | 176.19 | 176.21 |
| 6    | 175.96 | 175.96 | 175.94 | 176.10 | 176.11 | 176.18  | 176.33 | 176.36 | 176.23 | 176.17  | 176.27 | 176.26 |
| 7    | 175.89 | 175.94 | 175.92 | 176.06 | 176.07 | 176.21  | 176.30 | 176.33 | 176.34 | 176.27  | 176.27 | 176.14 |
| 8    | 175.89 | 175.90 | 175.90 | 176.06 | 175.99 | 176.18  | 176.25 | 176.30 | 176.26 | 176.27  | 176.26 | 176.23 |
| 9    | 175.92 | 175.94 | 175.89 | 175.99 | 176.08 | 176.20  | 176.34 | 176.30 | 176.24 | 176.31  | 176.16 | 176.16 |
| 10   | 175.97 | 175.99 | 175.94 | 176.11 | 175.92 | 176.27  | 176.33 | 176.30 | 176.27 | 176.15  | 176.27 | 176.31 |
| 11   | 175.87 | 175.99 | 175.94 | 176.16 | 176.18 | 176.22  | 176.31 | 176.31 | 176.27 | 176.14  | 176.32 | 176.17 |
| 12   | 176.13 | 175.89 | 175.90 | 176.10 | 176.12 | 176.15  | 176.36 | 176.29 | 176.24 | 176.22* | 176.38 | 176.06 |
| 13   | 176.02 | 175.97 | 175.96 | 176.04 | 176.14 | 176.17  | 176.35 | 176.31 | 176.22 | 176.21* | 176.29 | 176.29 |
| 14   | 175.91 | 176.06 | 175.95 | 176.03 | 176.11 | 176.23* | 176.32 | 176.29 | 176.25 | 176.14  | 176.08 | 176.20 |
| 15   | 175.90 | 176.01 | 175.94 | 176.06 | 176.11 | 176.25  | 176.29 | 176.28 | 176.35 | 176.22  | 176.16 | 176.16 |
| 16   | 175.93 | 175.88 | 175.96 | 176.06 | 176.06 | 176.23  | 176.29 | 176.27 | 176.34 | 176.19  | 176.22 | 176.18 |
| 17   | 175.86 | 176.00 | 175.96 | 176.15 | 176.11 | 176.18  | 176.27 | 176.26 | 176.32 | 176.10  | 176.23 | 176.17 |
| 18   | 175.97 | 175.84 | 176.04 | 176.10 | 176.20 | 176.26  | 176.28 | 176.29 | 176.25 | 176.18  | 176.14 | 176.15 |
| 19   | 175.99 | 176.03 | 176.09 | 176.04 | 176.23 | 176.30  | 176.29 | 176.26 | 176.25 | 176.35  | 176.14 | 176.23 |
| 20   | 175.96 | 175.96 | 176.04 | 176.05 | 176.20 | 176.24  | 176.31 | 176.24 | 176.27 | 176.16  | 176.16 | 176.06 |
| 21   | 175.92 | 175.89 | 176.01 | 176.09 | 176.23 | 176.23  | 176.33 | 176.27 | 176.15 | 176.14  | 176.01 | 176.13 |
| 22   | 175.92 | 175.99 | 175.95 | 176.05 | 176.20 | 176.26  | 176.32 | 176.29 | 176.27 | 176.26  | 176.13 | 176.17 |
| 23   | 175.95 | 176.02 | 176.13 | 176.06 | 176.20 | 176.26  | 176.31 | 176.28 | 176.38 | 176.22  | 176.14 | 176.28 |
| 24   | 175.83 | 176.07 | 176.07 | 176.02 | 176.20 | 176.34  | 176.33 | 176.27 | 176.24 | 176.25  | 176.20 | 176.22 |
| 25   | 175.85 | 176.06 | 176.01 | 176.06 | 176.19 | 176.27  | 176.31 | 176.25 | 176.21 | 176.32  | 176.25 | 176.11 |
| 26   | 175.92 | 175.85 | 176.14 | 176.05 | 176.20 | 176.26  | 176.31 | 176.25 | 176.24 | 176.24  | 176.18 | 176.27 |
| 27   | 175.85 | 175.98 | 176.03 | 176.04 | 176.21 | 176.30  | 176.30 | 176.26 | 176.18 | 176.13  | 176.03 | 176.20 |
| 28   | 175.96 | 175.99 | 176.04 | 176.03 | 176.22 | 176.26  | 176.29 | 176.29 | 176.24 | 176.38  | 176.15 | 176.06 |
| 29   | 176.00 |        | 176.00 | 176.05 | 176.27 | 176.27  | 176.27 | 176.32 | 176.29 | 176.20  | 176.29 | 176.13 |
| 30   | 175.88 |        | 176.01 | 176.05 | 176.23 | 176.31  | 176.34 | 176.29 | 176.27 | 176.17  | 176.09 | 176.29 |
| 31   | 175.98 |        | 176.05 |        | 176.21 |         | 176.36 | 176.26 |        | 176.17  |        | 176.16 |
| Mean | 175.93 | 175.96 | 175.99 | 176.07 | 176.14 | 176.23  | 176.31 | 176.29 | 176.26 | 176.21  | 176.19 | 176.18 |
| Max. | 176.24 | 176.43 | 176.50 | 176.27 | 176.30 | 176.42  | 176.46 | 176.44 | 176.56 | 176.77  | 176.89 | 176.42 |
| Hr.  | 1100   | 1700   | 0600   | 0700   | 0700   | 0400    | 1500   | 2400   | 2100   | 2300    | 1900   | 2000   |
| Day  | 12     | 24     | 26     | 3      | 29     | 4       | 30     | 5      | 14     | 18      | 11     | 13     |
| Min. | 175.54 | 175.67 | 175.79 | 175.95 | 175.73 | 176.02  | 176.07 | 175.91 | 176.00 | 175.92  | 175.88 | 175.78 |
| Hr.  | 2200   | 2300   | 2000   | 1400   | 1700   | 0200    | 1700   | 2400   | 1700   | 2400    | 2200   | 0400   |
| Day  | 25     | 12     | 1      | 9      | 10     | 6       | 8      | 27     | 21     | 10      | 21     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.15

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
STATION: 907-5014 Harbor Beach, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 176.29 Jul  
Daily mean elevation: 176.34 12 Nov  
Instant/hourly elevation: 176.47 2300/18 Oct

LOWEST

Monthly mean elevation: 175.94 Jan  
Daily mean elevation: 175.85 24 Jan  
Instant/hourly elevation: 175.71 0900/24 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.08<br>12 | 176.01<br>14 | 176.09<br>26 | 176.12<br>17 | 176.20<br>31 | 176.32<br>24 | 176.32<br>21 | 176.33<br>6  | 176.34<br>23 | 176.31<br>28 | 176.34<br>12 | 176.27<br>10 |
| Min Day | 175.85<br>24 | 175.86<br>18 | 175.88<br>9  | 176.00<br>9  | 175.98<br>10 | 176.13<br>2  | 176.25<br>8  | 176.21<br>20 | 176.17<br>21 | 176.12<br>11 | 176.04<br>21 | 176.07<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.30         |     |     |     |     |     | 1   | 6   | 4   | 2   | 2   | 1   |     | 176.30         | 16                         |
| 176.25         |     |     |     |     |     | 5   | 24  | 20  | 6   |     | 2   | 1   | 176.25         | 74                         |
| 176.20         |     |     |     |     |     | 11  | 1   | 7   | 19  | 8   | 7   | 7   | 176.20         | 134                        |
| 176.15         |     |     |     | 15  |     | 12  |     |     | 3   | 14  | 9   | 13  | 176.15         | 200                        |
| 176.10         |     |     | 3   | 2   |     | 1   |     |     |     | 7   | 8   | 6   | 176.10         | 227                        |
| 176.05         | 1   |     | 2   | 8   | 10  |     |     |     |     |     | 2   | 4   | 176.05         | 254                        |
| 176.00         |     | 1   | 8   | 17  | 3   |     |     |     |     |     | 1   |     | 176.00         | 284                        |
| 175.95         | 7   | 12  | 8   | 2   | 1   |     |     |     |     |     |     |     | 175.95         | 314                        |
| 175.90         | 16  | 10  | 8   |     |     |     |     |     |     |     |     |     | 175.90         | 348                        |
| 175.85         | 6   | 5   | 5   |     |     |     |     |     |     |     |     |     | 175.85         | 364                        |
| 175.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 175.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.97 | 175.93 | 175.90 | 176.00 | 176.10 | 176.17 | 176.30 | 176.30 | 176.23 | 176.20 | 176.11 | 176.18 |
| 2    | 175.94 | 176.00 | 175.98 | 176.05 | 176.08 | 176.13 | 176.27 | 176.29 | 176.29 | 176.24 | 176.14 | 176.24 |
| 3    | 175.90 | 175.93 | 175.99 | 176.10 | 176.04 | 176.17 | 176.27 | 176.28 | 176.24 | 176.12 | 176.16 | 176.17 |
| 4    | 175.95 | 175.95 | 175.94 | 176.09 | 176.06 | 176.25 | 176.29 | 176.27 | 176.21 | 176.17 | 176.20 | 176.09 |
| 5    | 175.95 | 175.89 | 175.90 | 176.12 | 176.08 | 176.19 | 176.31 | 176.32 | 176.25 | 176.24 | 176.22 | 176.20 |
| 6    | 175.93 | 175.95 | 175.91 | 176.09 | 176.09 | 176.17 | 176.29 | 176.33 | 176.23 | 176.18 | 176.22 | 176.25 |
| 7    | 175.92 | 175.92 | 175.90 | 176.05 | 176.07 | 176.20 | 176.27 | 176.31 | 176.29 | 176.22 | 176.24 | 176.17 |
| 8    | 175.91 | 175.91 | 175.88 | 176.05 | 176.02 | 176.17 | 176.25 | 176.29 | 176.23 | 176.20 | 176.23 | 176.20 |
| 9    | 175.92 | 175.94 | 175.88 | 176.00 | 176.07 | 176.20 | 176.31 | 176.29 | 176.22 | 176.24 | 176.15 | 176.16 |
| 10   | 175.95 | 175.98 | 175.92 | 176.06 | 175.98 | 176.24 | 176.30 | 176.28 | 176.25 | 176.14 | 176.23 | 176.27 |
| 11   | 175.90 | 175.98 | 175.92 | 176.11 | 176.16 | 176.20 | 176.30 | 176.28 | 176.26 | 176.12 | 176.28 | 176.16 |
| 12   | 176.08 | 175.90 | 175.91 | 176.09 | 176.11 | 176.16 | 176.31 | 176.27 | 176.23 | 176.20 | 176.34 | 176.08 |
| 13   | 175.98 | 175.94 | 175.95 | 176.04 | 176.11 | 176.17 | 176.30 | 176.27 | 176.21 | 176.19 | 176.25 | 176.24 |
| 14   | 175.90 | 176.01 | 175.94 | 176.02 | 176.10 | 176.23 | 176.30 | 176.28 | 176.24 | 176.15 | 176.10 | 176.18 |
| 15   | 175.88 | 175.96 | 175.94 | 176.06 | 176.09 | 176.23 | 176.28 | 176.28 | 176.34 | 176.20 | 176.17 | 176.15 |
| 16   | 175.92 | 175.89 | 175.97 | 176.05 | 176.05 | 176.20 | 176.29 | 176.26 | 176.29 | 176.20 | 176.19 | 176.16 |
| 17   | 175.87 | 175.97 | 175.97 | 176.12 | 176.10 | 176.17 | 176.28 | 176.26 | 176.27 | 176.14 | 176.19 | 176.16 |
| 18   | 175.97 | 175.86 | 176.03 | 176.10 | 176.20 | 176.24 | 176.30 | 176.27 | 176.24 | 176.20 | 176.13 | 176.14 |
| 19   | 175.98 | 176.00 | 176.04 | 176.04 | 176.19 | 176.27 | 176.28 | 176.24 | 176.24 | 176.31 | 176.12 | 176.20 |
| 20   | 175.94 | 175.97 | 176.02 | 176.04 | 176.17 | 176.21 | 176.30 | 176.21 | 176.27 | 176.17 | 176.14 | 176.09 |
| 21   | 175.92 | 175.91 | 175.99 | 176.06 | 176.18 | 176.22 | 176.32 | 176.24 | 176.17 | 176.15 | 176.04 | 176.11 |
| 22   | 175.92 | 175.95 | 175.96 | 176.04 | 176.18 | 176.25 | 176.29 | 176.26 | 176.25 | 176.23 | 176.13 | 176.15 |
| 23   | 175.95 | 175.96 | 176.08 | 176.05 | 176.18 | 176.24 | 176.29 | 176.26 | 176.34 | 176.20 | 176.17 | 176.24 |
| 24   | 175.85 | 176.00 | 176.05 | 176.01 | 176.17 | 176.32 | 176.31 | 176.25 | 176.25 | 176.22 | 176.20 | 176.21 |
| 25   | 175.91 | 175.99 | 176.02 | 176.05 | 176.17 | 176.26 | 176.29 | 176.24 | 176.23 | 176.25 | 176.23 | 176.16 |
| 26   | 175.93 | 175.88 | 176.09 | 176.05 | 176.17 | 176.26 | 176.28 | 176.24 | 176.21 | 176.21 | 176.17 | 176.25 |
| 27   | 175.90 | 175.96 | 176.02 | 176.04 | 176.19 | 176.28 | 176.27 | 176.28 | 176.19 | 176.16 | 176.06 | 176.19 |
| 28   | 175.97 | 175.98 | 176.02 | 176.02 | 176.19 | 176.24 | 176.27 | 176.26 | 176.20 | 176.31 | 176.16 | 176.07 |
| 29   | 175.98 |        | 175.97 | 176.04 | 176.20 | 176.25 | 176.26 | 176.31 | 176.22 | 176.19 | 176.27 | 176.12 |
| 30   | 175.91 |        | 175.99 | 176.05 | 176.19 | 176.29 | 176.30 | 176.27 | 176.22 | 176.16 | 176.15 | 176.23 |
| 31   | 175.97 |        | 176.02 |        | 176.20 |        | 176.31 | 176.25 |        | 176.14 |        | 176.15 |
| Mean | 175.94 | 175.95 | 175.97 | 176.06 | 176.13 | 176.22 | 176.29 | 176.27 | 176.24 | 176.20 | 176.18 | 176.17 |
| Max. | 176.13 | 176.11 | 176.17 | 176.17 | 176.27 | 176.35 | 176.38 | 176.38 | 176.42 | 176.47 | 176.45 | 176.34 |
| Hr.  | 1000   | 0700   | 0600   | 1500   | 1700   | 1700   | 2000   | 0500   | 2200   | 2300   | 1800   | 2200   |
| Day  | 12     | 2      | 26     | 17     | 18     | 24     | 18     | 28     | 14     | 18     | 11     | 13     |
| Min. | 175.71 | 175.77 | 175.83 | 175.95 | 175.86 | 176.08 | 176.18 | 176.11 | 176.10 | 175.99 | 175.97 | 175.91 |
| Hr.  | 0900   | 1900   | 0400   | 0500   | 1600   | 0900   | 1000   | 0700   | 1600   | 0100   | 2100   | 0400   |
| Day  | 24     | 16     | 9      | 1      | 10     | 13     | 8      | 28     | 21     | 11     | 21     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.14

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.31 Jul  
Daily mean elevation: 176.61 5 Nov  
Instant/hourly elevation: 177.00 1900/5 Nov

LOWEST

Monthly mean elevation: 175.91 Jan  
Daily mean elevation: 175.67 10 May  
Instant/hourly elevation: 175.31 1500/10 May

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

|         | Jan          | Feb          | Mar          | Apr         | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.02<br>12 | 176.20<br>15 | 176.13<br>26 | 176.25<br>2 | 176.50<br>29 | 176.33<br>27 | 176.57<br>12 | 176.45<br>19 | 176.43<br>16 | 176.61<br>9  | 176.61<br>5  | 176.53<br>3  |
| Min Day | 175.79<br>24 | 175.77<br>18 | 175.78<br>1  | 175.95<br>9 | 175.67<br>10 | 175.88<br>3  | 176.19<br>18 | 176.22<br>15 | 176.05<br>21 | 175.97<br>18 | 175.92<br>28 | 175.86<br>25 |

~~~~~ 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.60         |     |     |     |     |     |     |     |     |     | 1   | 1   |     | 176.60         | 2                          |
| 176.55         |     |     |     |     |     |     | 1   |     |     |     |     |     | 176.55         | 3                          |
| 176.50         |     |     |     |     |     |     |     |     |     |     | 1   |     | 176.50         | 4                          |
| 176.45         |     |     |     | 1   |     |     |     |     |     |     |     | 1   | 176.45         | 5                          |
| 176.40         |     |     |     |     | 1   |     | 1   | 1   | 1   | 1   |     |     | 176.40         | 10                         |
| 176.35         |     |     |     |     |     | 3   | 1   | 1   | 1   |     |     |     | 176.35         | 16                         |
| 176.30         |     |     |     |     |     | 8   | 7   | 5   | 3   |     |     |     | 176.30         | 42                         |
| 176.25         |     |     |     |     | 1   | 5   | 10  | 14  | 6   | 1   | 2   |     | 176.25         | 82                         |
| 176.20         |     |     |     | 1   | 6   | 8   | 7   | 8   | 6   | 3   | 4   | 3   | 176.20         | 128                        |
| 176.15         | 2   |     | 2   |     | 7   | 8   | 1   |     | 6   | 7   | 7   | 7   | 176.15         | 175                        |
| 176.10         | 1   | 1   | 1   | 1   | 5   | 3   |     | 2   | 6   | 5   | 6   |     | 176.10         | 205                        |
| 176.05         | 1   | 3   | 6   | 5   | 5   | 2   |     |     | 2   | 4   | 6   | 7   | 176.05         | 241                        |
| 176.00         | 1   |     | 4   | 17  | 2   |     |     |     | 1   | 2   | 4   | 4   | 176.00         | 276                        |
| 175.95         | 5   | 6   | 8   | 2   | 1   |     |     |     |     | 2   |     |     | 175.95         | 300                        |
| 175.90         | 13  | 9   | 11  | 1   | 1   |     | 1   |     |     |     | 2   |     | 175.90         | 337                        |
| 175.85         | 7   | 5   | 1   |     |     |     |     |     |     |     |     | 1   | 175.85         | 352                        |
| 175.80         | 3   | 3   | 2   |     |     |     |     |     |     |     |     |     | 175.80         | 360                        |
| 175.75         | 2   | 1   | 1   |     |     |     |     |     |     |     |     |     | 175.75         | 364                        |
| 175.70         |     |     |     |     |     |     |     |     |     |     |     |     | 175.70         | 364                        |
| 175.65         |     |     |     |     | 1   |     |     |     |     |     |     |     | 175.65         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.94 | 175.93 | 175.78 | 176.01 | 176.03 | 176.16 | 176.35 | 176.30 | 176.20 | 176.06 | 176.11 | 176.06 |
| 2    | 175.87 | 176.20 | 175.96 | 176.25 | 176.10 | 176.07 | 176.27 | 176.29 | 176.33 | 176.21 | 176.08 | 176.26 |
| 3    | 175.90 | 175.95 | 175.99 | 176.20 | 176.08 | 175.88 | 176.21 | 176.26 | 176.27 | 176.07 | 176.15 | 176.53 |
| 4    | 175.93 | 175.95 | 175.94 | 176.07 | 176.20 | 176.27 | 176.25 | 176.25 | 176.15 | 176.03 | 176.26 | 176.07 |
| 5    | 175.95 | 175.82 | 175.92 | 176.10 | 176.11 | 176.16 | 176.40 | 176.35 | 176.27 | 176.17 | 176.61 | 176.08 |
| 6    | 175.92 | 175.95 | 175.92 | 176.08 | 176.12 | 176.12 | 176.34 | 176.40 | 176.21 | 176.12 | 176.17 | 176.19 |
| 7    | 175.87 | 175.89 | 175.91 | 176.02 | 176.02 | 176.20 | 176.28 | 176.31 | 176.38 | 176.37 | 176.19 | 176.01 |
| 8    | 175.92 | 175.89 | 175.91 | 175.98 | 175.95 | 176.17 | 176.21 | 176.26 | 176.26 | 176.45 | 176.21 | 176.18 |
| 9    | 175.92 | 175.92 | 175.89 | 175.95 | 176.17 | 176.18 | 176.31 | 176.28 | 176.21 | 176.61 | 176.09 | 176.04 |
| 10   | 175.95 | 175.91 | 175.93 | 176.20 | 175.67 | 176.25 | 176.35 | 176.28 | 176.28 | 176.34 | 176.20 | 176.26 |
| 11   | 175.85 | 175.98 | 175.95 | 176.13 | 176.11 | 176.22 | 176.34 | 176.31 | 176.27 | 176.03 | 176.13 | 176.17 |
| 12   | 176.02 | 175.90 | 175.91 | 176.05 | 176.10 | 176.08 | 176.57 | 176.27 | 176.19 | 176.19 | 176.24 | 176.02 |
| 13   | 175.95 | 175.94 | 175.95 | 176.01 | 176.15 | 176.13 | 176.44 | 176.35 | 176.20 | 176.19 | 176.24 | 176.20 |
| 14   | 175.93 | 176.13 | 175.96 | 176.03 | 176.09 | 176.23 | 176.36 | 176.22 | 176.18 | 176.12 | 176.05 | 176.15 |
| 15   | 175.88 | 176.20 | 175.93 | 176.04 | 176.17 | 176.23 | 176.25 | 176.22 | 176.33 | 176.12 | 176.07 | 176.18 |
| 16   | 175.93 | 175.81 | 175.97 | 176.02 | 176.06 | 176.23 | 176.23 | 176.24 | 176.43 | 176.16 | 176.18 | 176.15 |
| 17   | 175.87 | 175.98 | 175.83 | 176.09 | 175.98 | 176.14 | 176.22 | 176.23 | 176.33 | 176.08 | 176.20 | 176.16 |
| 18   | 175.92 | 175.77 | 175.97 | 176.04 | 176.11 | 176.20 | 176.19 | 176.33 | 176.22 | 175.97 | 176.10 | 176.12 |
| 19   | 175.97 | 175.92 | 176.09 | 176.00 | 176.25 | 176.31 | 176.26 | 176.45 | 176.20 | 176.31 | 176.10 | 176.21 |
| 20   | 175.95 | 175.93 | 176.00 | 176.03 | 176.43 | 176.19 | 176.30 | 176.29 | 176.24 | 176.14 | 176.15 | 176.10 |
| 21   | 175.97 | 175.83 | 175.99 | 176.09 | 176.28 | 176.17 | 176.33 | 176.32 | 176.05 | 176.09 | 176.03 | 176.15 |
| 22   | 175.88 | 176.00 | 175.95 | 176.03 | 176.20 | 176.29 | 176.30 | 176.32 | 176.13 | 176.24 | 176.09 | 176.08 |
| 23   | 175.98 | 175.99 | 176.08 | 176.06 | 176.19 | 176.24 | 176.30 | 176.28 | 176.32 | 176.18 | 176.01 | 176.24 |
| 24   | 175.79 | 176.06 | 176.02 | 176.01 | 176.21 | 176.33 | 176.31 | 176.26 | 176.10 | 176.24 | 176.15 | 176.05 |
| 25   | 175.91 | 175.96 | 175.83 | 176.04 | 176.20 | 176.25 | 176.30 | 176.23 | 176.10 | 176.31 | 176.16 | 175.86 |
| 26   | 175.85 | 175.87 | 176.13 | 176.04 | 176.24 | 176.21 | 176.30 | 176.23 | 176.22 | 176.19 | 176.23 | 176.14 |
| 27   | 175.80 | 175.90 | 176.00 | 176.03 | 176.21 | 176.33 | 176.29 | 176.27 | 176.18 | 176.00 | 176.03 | 176.19 |
| 28   | 175.84 | 175.96 | 176.06 | 176.03 | 176.24 | 176.26 | 176.27 | 176.27 | 176.27 | 176.29 | 175.92 | 176.07 |
| 29   | 175.97 |        | 176.01 | 176.03 | 176.50 | 176.26 | 176.25 | 176.30 | 176.31 | 176.15 | 176.19 | 176.12 |
| 30   | 175.89 |        | 176.04 | 176.03 | 176.22 | 176.28 | 176.35 | 176.27 | 176.23 | 176.12 | 175.93 | 176.25 |
| 31   | 175.98 |        | 176.04 |        | 176.18 |        | 176.37 | 176.24 |        | 176.18 |        | 176.08 |
| Mean | 175.91 | 175.95 | 175.96 | 176.06 | 176.15 | 176.20 | 176.31 | 176.29 | 176.24 | 176.18 | 176.14 | 176.14 |
| Max. | 176.26 | 176.45 | 176.38 | 176.50 | 176.81 | 176.48 | 176.84 | 176.69 | 176.64 | 176.74 | 177.00 | 176.99 |
| Hr.  | 0500   | 1000   | 0600   | 1500   | 0400   | 0500   | 1300   | 0100   | 1100   | 0600   | 1900   | 1200   |
| Day  | 21     | 2      | 26     | 2      | 29     | 4      | 12     | 19     | 7      | 9      | 5      | 3      |
| Min. | 175.44 | 175.45 | 175.66 | 175.85 | 175.31 | 175.61 | 176.04 | 176.05 | 175.88 | 175.54 | 175.63 | 175.62 |
| Hr.  | 2200   | 2200   | 1800   | 2000   | 1500   | 1200   | 1100   | 0500   | 2000   | 0200   | 1400   | 1100   |
| Day  | 25     | 16     | 1      | 16     | 10     | 3      | 8      | 28     | 21     | 11     | 28     | 25     |

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

Annual Mean 176.13

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 907-5059 Harrisville, Michigan on Lake Huron

HIGHEST

Monthly mean elevation: 176.26 Jul  
Daily mean elevation: 176.28 21 Jul  
Instant/hourly elevation: 176.46 1300/3 Dec

LOWEST

Monthly mean elevation: 175.91 Feb  
Daily mean elevation: 175.85 24 Jan  
Instant/hourly elevation: 175.71 2100/25 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 175.97<br>12 | 175.94<br>28 | 176.02<br>26 | 176.07<br>18 | 176.17<br>31 | 176.27<br>24 | 176.28<br>21 | 176.27<br>29 | 176.27<br>15 | 176.24<br>19 | 176.23<br>29 | 176.26<br>3 |
| Min Day | 175.85<br>24 | 175.86<br>16 | 175.86<br>9  | 175.96<br>1  | 176.00<br>10 | 176.13<br>2  | 176.24<br>29 | 176.20<br>20 | 176.16<br>30 | 176.09<br>11 | 176.07<br>21 | 176.03<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.25         |     |     |     |     |     | 1   | 19  | 7   | 1   |     | 1   |     | 176.25         | 29                         |
| 176.20         |     |     |     |     |     | 10  | 12  | 23  | 18  | 2   | 3   | 1   | 176.20         | 98                         |
| 176.15         |     |     |     |     | 5   | 15  |     | 1   | 11  | 16  | 11  | 13  | 176.15         | 170                        |
| 176.10         |     |     |     | 11  | 4   |     |     |     |     | 12  | 13  | 12  | 176.10         | 222                        |
| 176.05         |     |     | 3   |     | 6   |     |     |     |     | 1   | 3   | 3   | 176.05         | 238                        |
| 176.00         |     | 4   |     | 20  | 6   |     |     |     |     |     |     | 1   | 176.00         | 269                        |
| 175.95         | 1   |     | 8   | 7   | 3   |     |     |     |     |     |     |     | 175.95         | 288                        |
| 175.90         | 16  | 17  | 9   |     |     |     |     |     |     |     |     |     | 175.90         | 330                        |
| 175.85         | 13  | 11  | 10  |     |     |     |     |     |     |     |     |     | 175.85         | 364                        |
| 175.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 175.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

Station: 907-5059 Harrisville, Michigan on Lake Huron

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May     | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 175.92 | 175.89 | 175.90 | 175.96 | 176.06  | 176.15 | 176.26 | 176.27 | 176.22 | 176.16 | 176.10 | 176.18 |
| 2    | 175.94 | 175.94 | 175.95 | 176.00 | 176.05  | 176.13 | 176.26 | 176.26 | 176.25 | 176.20 | 176.14 | 176.18 |
| 3    | 175.90 | 175.91 | 175.92 | 176.01 | 176.01  | 176.16 | 176.25 | 176.24 | 176.21 | 176.12 | 176.14 | 176.26 |
| 4    | 175.90 | 175.91 | 175.90 | 176.03 | 176.00  | 176.20 | 176.28 | 176.24 | 176.21 | 176.15 | 176.15 | 176.03 |
| 5    | 175.92 | 175.90 | 175.87 | 176.06 | 176.04  | 176.17 | 176.27 | 176.27 | 176.21 | 176.20 | 176.21 | 176.16 |
| 6    | 175.90 | 175.92 | 175.87 | 176.04 | 176.06  | 176.17 | 176.25 | 176.27 | 176.21 | 176.15 | 176.12 | 176.20 |
| 7    | 175.91 | 175.90 | 175.87 | 176.02 | 176.05  | 176.16 | 176.24 | 176.27 | 176.24 | 176.15 | 176.17 | 176.18 |
| 8    | 175.90 | 175.90 | 175.86 | 176.03 | 176.00  | 176.14 | 176.24 | 176.27 | 176.21 | 176.15 | 176.18 | 176.17 |
| 9    | 175.90 | 175.91 | 175.86 | 175.99 | 176.04  | 176.17 | 176.27 | 176.25 | 176.20 | 176.16 | 176.13 | 176.17 |
| 10   | 175.91 | 175.93 | 175.89 | 176.00 | 176.00  | 176.20 | 176.27 | 176.24 | 176.21 | 176.13 | 176.17 | 176.20 |
| 11   | 175.90 | 175.93 | 175.88 | 176.04 | 176.11  | 176.16 | 176.26 | 176.24 | 176.21 | 176.09 | 176.20 | 176.14 |
| 12   | 175.97 | 175.90 | 175.89 | 176.06 | 176.13* | 176.14 | 176.25 | 176.24 | 176.20 | 176.16 | 176.23 | 176.08 |
| 13   | 175.93 | 175.88 | 175.94 | 176.03 | 176.06* | 176.17 | 176.25 | 176.24 | 176.19 | 176.14 | 176.19 | 176.17 |
| 14   | 175.90 | 175.93 | 175.92 | 176.00 | 176.07  | 176.18 | 176.26 | 176.25 | 176.20 | 176.14 | 176.12 | 176.16 |
| 15   | 175.86 | 175.92 | 175.92 | 176.03 | 176.06  | 176.20 | 176.25 | 176.24 | 176.27 | 176.17 | 176.16 | 176.14 |
| 16   | 175.89 | 175.86 | 175.95 | 176.03 | 176.05  | 176.17 | 176.27 | 176.22 | 176.23 | 176.17 | 176.14 | 176.12 |
| 17   | 175.86 | 175.90 | 175.95 | 176.04 | 176.08  | 176.17 | 176.25 | 176.23 | 176.22 | 176.14 | 176.15 | 176.14 |
| 18   | 175.91 | 175.87 | 176.00 | 176.07 | 176.17  | 176.22 | 176.27 | 176.24 | 176.21 | 176.16 | 176.11 | 176.13 |
| 19   | 175.94 | 175.92 | 175.99 | 176.02 | 176.17  | 176.22 | 176.27 | 176.21 | 176.19 | 176.24 | 176.11 | 176.16 |
| 20   | 175.92 | 175.94 | 175.99 | 176.02 | 176.12  | 176.18 | 176.26 | 176.20 | 176.22 | 176.16 | 176.11 | 176.08 |
| 21   | 175.90 | 175.91 | 175.98 | 176.03 | 176.14  | 176.20 | 176.28 | 176.21 | 176.17 | 176.14 | 176.07 | 176.11 |
| 22   | 175.90 | 175.91 | 175.96 | 176.03 | 176.14  | 176.21 | 176.27 | 176.21 | 176.21 | 176.19 | 176.14 | 176.14 |
| 23   | 175.93 | 175.92 | 176.01 | 176.03 | 176.14  | 176.21 | 176.27 | 176.21 | 176.24 | 176.16 | 176.16 | 176.19 |
| 24   | 175.85 | 175.92 | 176.01 | 175.99 | 176.13  | 176.27 | 176.27 | 176.21 | 176.24 | 176.16 | 176.16 | 176.19 |
| 25   | 175.90 | 175.92 | 176.01 | 176.03 | 176.12  | 176.24 | 176.26 | 176.21 | 176.24 | 176.16 | 176.18 | 176.16 |
| 26   | 175.92 | 175.88 | 176.02 | 176.03 | 176.14  | 176.23 | 176.25 | 176.21 | 176.22 | 176.18 | 176.16 | 176.15 |
| 27   | 175.91 | 175.90 | 175.99 | 176.02 | 176.16  | 176.24 | 176.24 | 176.23 | 176.17 | 176.16 | 176.08 | 176.15 |
| 28   | 175.93 | 175.94 | 175.99 | 176.00 | 176.15  | 176.21 | 176.24 | 176.23 | 176.16 | 176.21 | 176.14 | 176.07 |
| 29   | 175.93 |        | 175.95 | 176.02 | 176.13  | 176.22 | 176.24 | 176.27 | 176.16 | 176.16 | 176.23 | 176.12 |
| 30   | 175.91 |        | 175.95 | 176.02 | 176.16  | 176.25 | 176.27 | 176.24 | 176.16 | 176.12 | 176.17 | 176.14 |
| 31   | 175.92 |        | 175.98 |        | 176.17  |        | 176.27 | 176.23 |        | 176.12 |        | 176.12 |
| Mean | 175.91 | 175.91 | 175.94 | 176.02 | 176.10  | 176.19 | 176.26 | 176.24 | 176.21 | 176.16 | 176.15 | 176.15 |
| Max. | 176.03 | 176.04 | 176.08 | 176.10 | 176.23  | 176.30 | 176.36 | 176.35 | 176.32 | 176.29 | 176.38 | 176.46 |
| Hr.  | 0200   | 0700   | 1400   | 2400   | 2400    | 1700   | 0100   | 0400   | 1200   | 1100   | 1900   | 1300   |
| Day  | 21     | 2      | 23     | 17     | 18      | 24     | 9      | 28     | 7      | 19     | 5      | 3      |
| Min. | 175.71 | 175.82 | 175.83 | 175.92 | 175.93  | 176.08 | 176.14 | 176.13 | 176.10 | 175.92 | 176.02 | 175.94 |
| Hr.  | 2100   | 0600   | 0600   | 0200   | 1900    | 0400   | 1400   | 0900   | 1900   | 0200   | 0900   | 0400   |
| Day  | 25     | 16     | 9      | 17     | 10      | 3      | 8      | 28     | 21     | 11     | 25     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.10

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.27 Jul  
Daily mean elevation: 176.31 17 Jul  
Instant/hourly elevation: 176.41 2400/17 Oct

LOWEST

Monthly mean elevation: 175.91 Feb  
Daily mean elevation: 175.82 12 Jan  
Instant/hourly elevation: 175.71 1100/24 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.00<br>27 | 175.99<br>26 | 176.02<br>25 | 176.06<br>26 | 176.17<br>31 | 176.26<br>29 | 176.31<br>17 | 176.28<br>14 | 176.26<br>4  | 176.22<br>17 | 176.26<br>30 | 176.20<br>9  |
| Min Day | 175.82<br>12 | 175.84<br>24 | 175.87<br>6  | 175.93<br>2  | 176.01<br>4  | 176.16<br>11 | 176.24<br>14 | 176.22<br>15 | 176.13<br>30 | 176.10<br>28 | 176.08<br>25 | 176.07<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.30         |     |     |     |     |     |     | 1   |     |     |     |     |     | 176.30         |                            |
| 176.25         |     |     |     |     |     |     | 1   | 20  | 8   | 1   |     |     | 176.25         | 1                          |
| 176.20         |     |     |     |     |     |     | 14  | 10  | 23  | 16  | 3   | 2   | 176.20         | 32                         |
| 176.15         |     |     |     |     | 1   | 15  |     |     | 9   | 19  | 12  | 14  | 176.15         | 100                        |
| 176.10         |     |     |     |     | 13  |     |     |     | 4   | 6   | 12  | 13  | 176.10         | 170                        |
| 176.05         |     |     |     | 4   | 9   |     |     |     |     | 3   | 3   | 4   | 176.05         | 218                        |
| 176.00         |     |     | 1   | 17  | 8   |     |     |     |     |     |     |     | 176.00         | 241                        |
| 175.95         | 4   | 4   | 14  | 8   |     |     |     |     |     |     |     |     | 175.95         | 267                        |
| 175.90         | 20  | 10  | 6   | 1   |     |     |     |     |     |     |     |     | 175.90         | 297                        |
| 175.85         | 6   | 10  | 10  |     |     |     |     |     |     |     |     |     | 175.85         | 334                        |
| 175.80         | 1   | 4   |     |     |     |     |     |     |     |     |     |     | 175.80         | 360                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     |                | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 175.92 | 175.89 | 175.95 | 175.99 | 176.05 | 176.16 | 176.24 | 176.27 | 176.25 | 176.17 | 176.16 | 176.17 |
| 2    | 175.96 | 175.89 | 175.89 | 175.93 | 176.04 | 176.19 | 176.26 | 176.27 | 176.22 | 176.16 | 176.17 | 176.13 |
| 3    | 175.95 | 175.91 | 175.87 | 175.97 | 176.03 | 176.21 | 176.29 | 176.26 | 176.23 | 176.20 | 176.11 | 176.20 |
| 4    | 175.87 | 175.92 | 175.88 | 175.97 | 176.01 | 176.16 | 176.27 | 176.27 | 176.26 | 176.20 | 176.10 | 176.10 |
| 5    | 175.93 | 175.97 | 175.87 | 175.97 | 176.03 | 176.18 | 176.24 | 176.23 | 176.21 | 176.17 | 176.16 | 176.20 |
| 6    | 175.91 | 175.92 | 175.87 | 176.00 | 176.04 | 176.19 | 176.24 | 176.25 | 176.24 | 176.15 | 176.12 | 176.15 |
| 7    | 175.94 | 175.93 | 175.88 | 176.01 | 176.05 | 176.17 | 176.25 | 176.25 | 176.22 | 176.10 | 176.15 | 176.20 |
| 8    | 175.95 | 175.95 | 175.89 | 176.02 | 176.06 | 176.17 | 176.30 | 176.26 | 176.24 | 176.10 | 176.18 | 176.16 |
| 9    | 175.91 | 175.93 | 175.90 | 176.01 | 176.02 | 176.17 | 176.27 | 176.27 | 176.24 | 176.11 | 176.19 | 176.20 |
| 10   | 175.93 | 175.89 | 175.90 | 175.98 | 176.06 | 176.16 | 176.25 | 176.23 | 176.20 | 176.20 | 176.14 | 176.10 |
| 11   | 175.93 | 175.91 | 175.89 | 175.98 | 176.08 | 176.16 | 176.26 | 176.23 | 176.22 | 176.19 | 176.13 | 176.14 |
| 12   | 175.82 | 175.94 | 175.94 | 176.03 | 176.09 | 176.21 | 176.24 | 176.24 | 176.23 | 176.17 | 176.09 | 176.17 |
| 13   | 175.89 | 175.85 | 175.95 | 176.05 | 176.07 | 176.21 | 176.24 | 176.22 | 176.24 | 176.16 | 176.11 | 176.10 |
| 14   | 175.93 | 175.87 | 175.96 | 176.02 | 176.09 | 176.19 | 176.24 | 176.28 | 176.21 | 176.20 | 176.19 | 176.16 |
| 15   | 175.90 | 175.85 | 175.98 | 176.03 | 176.07 | 176.18 | 176.27 | 176.22 | 176.21 | 176.19 | 176.18 | 176.14 |
| 16   | 175.89 | 175.89 | 176.00 | 176.04 | 176.13 | 176.17 | 176.29 | 176.24 | 176.20 | 176.19 | 176.11 | 176.15 |
| 17   | 175.92 | 175.89 | 176.00 | 175.99 | 176.13 | 176.23 | 176.31 | 176.25 | 176.20 | 176.22 | 176.13 | 176.17 |
| 18   | 175.88 | 175.98 | 175.97 | 176.06 | 176.11 | 176.21 | 176.30 | 176.24 | 176.21 | 176.19 | 176.16 | 176.14 |
| 19   | 175.94 | 175.84 | 175.95 | 176.06 | 176.10 | 176.19 | 176.27 | 176.25 | 176.19 | 176.16 | 176.14 | 176.13 |
| 20   | 175.89 | 175.95 | 175.99 | 176.03 | 176.10 | 176.21 | 176.27 | 176.23 | 176.20 | 176.21 | 176.12 | 176.18 |
| 21   | 175.91 | 175.97 | 175.99 | 176.03 | 176.13 | 176.22 | 176.27 | 176.23 | 176.24 | 176.19 | 176.24 | 176.15 |
| 22   | 175.92 | 175.87 | 175.98 | 176.04 | 176.13 | 176.18 | 176.26 | 176.23 | 176.18 | 176.18 | 176.20 | 176.17 |
| 23   | 175.92 | 175.91 | 175.94 | 176.03 | 176.14 | 176.25 | 176.27 | 176.24 | 176.15 | 176.19 | 176.17 | 176.13 |
| 24   | 175.94 | 175.84 | 175.99 | 176.05 | 176.15 | 176.23 | 176.27 | 176.24 | 176.23 | 176.14 | 176.15 | 176.15 |
| 25   | 175.91 | 175.88 | 176.02 | 176.06 | 176.14 | 176.24 | 176.27 | 176.26 | 176.20 | 176.13 | 176.08 | 176.17 |
| 26   | 175.92 | 175.99 | 175.95 | 176.06 | 176.14 | 176.25 | 176.26 | 176.25 | 176.16 | 176.19 | 176.14 | 176.13 |
| 27   | 176.00 | 175.87 | 175.99 | 176.04 | 176.15 | 176.23 | 176.25 | 176.24 | 176.17 | 176.21 | 176.16 | 176.14 |
| 28   | 175.95 | 175.90 | 175.98 | 176.04 | 176.14 | 176.24 | 176.27 | 176.24 | 176.13 | 176.10 | 176.22 | 176.16 |
| 29   | 175.96 |        | 175.98 | 176.05 | 176.12 | 176.26 | 176.28 | 176.23 | 176.14 | 176.17 | 176.17 | 176.13 |
| 30   | 175.96 |        | 175.97 | 176.04 | 176.15 | 176.25 | 176.26 | 176.24 | 176.13 | 176.13 | 176.26 | 176.07 |
| 31   | 175.93 |        | 175.99 |        | 176.17 |        | 176.25 | 176.24 |        | 176.12 |        | 176.18 |
| Mean | 175.92 | 175.91 | 175.95 | 176.02 | 176.10 | 176.20 | 176.27 | 176.24 | 176.20 | 176.17 | 176.16 | 176.15 |
| Max. | 176.13 | 176.06 | 176.11 | 176.13 | 176.27 | 176.35 | 176.40 | 176.33 | 176.34 | 176.41 | 176.36 | 176.34 |
| Hr.  | 1900   | 2300   | 1800   | 1300   | 1400   | 1300   | 0800   | 0500   | 1000   | 2400   | 0600   | 0700   |
| Day  | 27     | 26     | 15     | 16     | 16     | 17     | 8      | 28     | 4      | 17     | 28     | 25     |
| Min. | 175.74 | 175.71 | 175.81 | 175.88 | 175.90 | 176.08 | 176.18 | 176.14 | 176.09 | 175.95 | 175.91 | 175.99 |
| Hr.  | 1700   | 1100   | 1800   | 1200   | 1500   | 0100   | 1500   | 1900   | 0900   | 2200   | 0700   | 1000   |
| Day  | 12     | 24     | 2      | 2      | 9      | 4      | 12     | 28     | 28     | 18     | 25     | 4      |

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

Annual Mean 176.11

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.24 Jul  
Daily mean elevation: 176.29 18 Jul  
Instant/hourly elevation: 176.32 1600/18 Jul

LOWEST

Monthly mean elevation: 175.89 Feb  
Daily mean elevation: 175.82 24 Feb  
Instant/hourly elevation: 175.68 1500/13 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec         |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Max Day | 175.98<br>27 | 175.96<br>26 | 176.01<br>25 | 176.07<br>18 | 176.16<br>31 | 176.24<br>30 | 176.29<br>18 | 176.25<br>14 | 176.22<br>4  | 176.21<br>20 | 176.24<br>30 | 176.20<br>7 |
| Min Day | 175.83<br>12 | 175.82<br>24 | 175.84<br>6  | 175.89<br>2  | 175.98<br>4  | 176.14<br>8  | 176.19<br>12 | 176.16<br>19 | 176.10<br>30 | 176.07<br>9  | 176.04<br>6  | 175.92<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.25         |     |     |     |     |     |     |     |     |     |     |     |     | 176.25         | 7                          |
| 176.20         |     |     |     |     |     |     | 6   | 23  | 23  | 5   | 1   | 1   | 176.20         | 66                         |
| 176.15         |     |     |     |     | 1   | 17  | 1   | 8   | 18  | 14  | 9   | 8   | 176.15         | 142                        |
| 176.10         |     |     |     |     | 9   | 7   |     |     | 5   | 10  | 12  | 18  | 176.10         | 203                        |
| 176.05         |     |     |     | 1   | 7   |     |     |     | 2   | 6   | 7   | 4   | 176.05         | 230                        |
| 176.00         |     |     | 1   | 17  | 10  |     |     |     |     |     | 1   |     | 176.00         | 259                        |
| 175.95         | 3   | 2   | 9   | 7   | 4   |     |     |     |     |     |     |     | 175.95         | 284                        |
| 175.90         | 11  | 10  | 11  | 4   |     |     |     |     |     |     |     | 1   | 175.90         | 321                        |
| 175.85         | 14  | 10  | 6   | 1   |     |     |     |     |     |     |     |     | 175.85         | 352                        |
| 175.80         | 3   | 6   | 4   |     |     |     |     |     |     |     |     |     | 175.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.89 | 175.86 | 175.95 | 175.95 | 176.03 | 176.15 | 176.23 | 176.25 | 176.21 | 176.14 | 176.12 | 176.18 |
| 2    | 175.96 | 175.87 | 175.91 | 175.89 | 176.03 | 176.16 | 176.24 | 176.24 | 176.20 | 176.17 | 176.15 | 176.13 |
| 3    | 175.93 | 175.87 | 175.86 | 175.93 | 176.00 | 176.17 | 176.26 | 176.23 | 176.19 | 176.18 | 176.10 | 176.11 |
| 4    | 175.85 | 175.88 | 175.87 | 175.95 | 175.98 | 176.15 | 176.25 | 176.24 | 176.22 | 176.16 | 176.09 | 175.92 |
| 5    | 175.92 | 175.94 | 175.85 | 175.98 | 176.00 | 176.17 | 176.23 | 176.21 | 176.19 | 176.19 | 176.09 | 176.14 |
| 6    | 175.88 | 175.91 | 175.84 | 176.01 | 176.03 | 176.16 | 176.22 | 176.21 | 176.20 | 176.13 | 176.04 | 176.14 |
| 7    | 175.94 | 175.91 | 175.86 | 175.99 | 176.03 | 176.17 | 176.24 | 176.21 | 176.19 | 176.09 | 176.13 | 176.20 |
| 8    | 175.94 | 175.94 | 175.85 | 176.02 | 176.00 | 176.14 | 176.26 | 176.24 | 176.21 | 176.07 | 176.18 | 176.15 |
| 9    | 175.88 | 175.91 | 175.85 | 175.98 | 176.02 | 176.15 | 176.26 | 176.24 | 176.21 | 176.07 | 176.16 | 176.17 |
| 10   | 175.88 | 175.89 | 175.88 | 175.94 | 176.02 | 176.15 | 176.24 | 176.21 | 176.17 | 176.10 | 176.12 | 176.12 |
| 11   | 175.93 | 175.91 | 175.86 | 175.96 | 176.05 | 176.15 | 176.23 | 176.20 | 176.19 | 176.10 | 176.11 | 176.13 |
| 12   | 175.83 | 175.93 | 175.89 | 176.03 | 176.10 | 176.17 | 176.19 | 176.20 | 176.20 | 176.16 | 176.11 | 176.11 |
| 13   | 175.88 | 175.82 | 175.92 | 176.04 | 176.04 | 176.18 | 176.21 | 176.18 | 176.20 | 176.13 | 176.13 | 176.08 |
| 14   | 175.92 | 175.87 | 175.93 | 175.99 | 176.08 | 176.17 | 176.22 | 176.25 | 176.18 | 176.17 | 176.16 | 176.17 |
| 15   | 175.86 | 175.84 | 175.94 | 176.00 | 176.04 | 176.16 | 176.24 | 176.22 | 176.20 | 176.17 | 176.17 | 176.10 |
| 16   | 175.88 | 175.82 | 175.98 | 176.04 | 176.08 | 176.15 | 176.28 | 176.21 | 176.14 | 176.19 | 176.10 | 176.09 |
| 17   | 175.88 | 175.86 | 175.99 | 175.97 | 176.08 | 176.17 | 176.27 | 176.23 | 176.15 | 176.18 | 176.12 | 176.17 |
| 18   | 175.87 | 175.94 | 175.98 | 176.07 | 176.10 | 176.20 | 176.29 | 176.21 | 176.19 | 176.15 | 176.14 | 176.11 |
| 19   | 175.95 | 175.84 | 175.94 | 176.04 | 176.13 | 176.19 | 176.26 | 176.16 | 176.16 | 176.17 | 176.12 | 176.13 |
| 20   | 175.88 | 175.96 | 175.97 | 176.01 | 176.04 | 176.18 | 176.24 | 176.18 | 176.18 | 176.21 | 176.10 | 176.16 |
| 21   | 175.85 | 175.95 | 175.98 | 176.01 | 176.10 | 176.19 | 176.25 | 176.19 | 176.20 | 176.14 | 176.16 | 176.11 |
| 22   | 175.89 | 175.88 | 175.94 | 176.02 | 176.11 | 176.18 | 176.24 | 176.20 | 176.16 | 176.18 | 176.16 | 176.13 |
| 23   | 175.94 | 175.87 | 175.94 | 176.02 | 176.13 | 176.16 | 176.24 | 176.21 | 176.12 | 176.16 | 176.17 | 176.13 |
| 24   | 175.88 | 175.82 | 176.00 | 176.01 | 176.13 | 176.22 | 176.25 | 176.21 | 176.21 | 176.13 | 176.15 | 176.14 |
| 25   | 175.90 | 175.85 | 176.01 | 176.03 | 176.11 | 176.23 | 176.24 | 176.23 | 176.20 | 176.11 | 176.06 | 176.17 |
| 26   | 175.89 | 175.96 | 175.94 | 176.04 | 176.11 | 176.22 | 176.23 | 176.23 | 176.13 | 176.15 | 176.16 | 176.15 |
| 27   | 175.98 | 175.86 | 175.96 | 176.03 | 176.13 | 176.21 | 176.22 | 176.23 | 176.16 | 176.20 | 176.10 | 176.19 |
| 28   | 175.94 | 175.91 | 175.97 | 176.01 | 176.13 | 176.20 | 176.23 | 176.20 | 176.11 | 176.11 | 176.15 | 176.13 |
| 29   | 175.96 |        | 175.94 | 176.02 | 176.09 | 176.21 | 176.25 | 176.22 | 176.10 | 176.17 | 176.19 | 176.12 |
| 30   | 175.94 |        | 175.92 | 176.01 | 176.13 | 176.24 | 176.22 | 176.22 | 176.10 | 176.11 | 176.24 | 176.08 |
| 31   | 175.92 |        | 175.96 |        | 176.16 |        | 176.22 | 176.22 |        | 176.10 |        | 176.14 |
| Mean | 175.91 | 175.89 | 175.92 | 176.00 | 176.07 | 176.18 | 176.24 | 176.22 | 176.17 | 176.14 | 176.13 | 176.13 |
| Max. | 176.07 | 176.03 | 176.05 | 176.14 | 176.18 | 176.28 | 176.32 | 176.28 | 176.27 | 176.27 | 176.27 | 176.29 |
| Hr.  | 0700   | 2100   | 0600   | 0700   | 1100   | 0600   | 1600   | 0800   | 1700   | 1200   | 1600   | 0900   |
| Day  | 27     | 12     | 25     | 18     | 31     | 30     | 18     | 28     | 4      | 1      | 30     | 25     |
| Min. | 175.74 | 175.68 | 175.82 | 175.82 | 175.86 | 176.10 | 176.17 | 176.12 | 176.06 | 175.90 | 175.81 | 175.86 |
| Hr.  | 0200   | 1500   | 2300   | 1800   | 0400   | 0100   | 1500   | 1900   | 0800   | 2300   | 0700   | 1300   |
| Day  | 28     | 13     | 5      | 2      | 11     | 4      | 12     | 28     | 30     | 18     | 25     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.08

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.53 Jan  
Daily mean elevation: 176.69 13 Sep  
Instant/hourly elevation: 176.81 0900/14 Sep

LOWEST

Monthly mean elevation: 176.36 Apr  
Daily mean elevation: 176.09 23 Sep  
Instant/hourly elevation: 176.00 2200/11 Nov

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.66<br>2  | 176.60<br>28 | 176.59<br>2  | 176.49<br>6  | 176.51<br>16 | 176.51<br>3  | 176.57<br>8  | 176.54<br>30 | 176.69<br>13 | 176.49<br>3  | 176.58<br>21 | 176.67<br>28 |
| Min Day | 176.40<br>21 | 176.39<br>18 | 176.38<br>30 | 176.22<br>17 | 176.22<br>18 | 176.21<br>10 | 176.38<br>30 | 176.33<br>5  | 176.09<br>23 | 176.14<br>28 | 176.18<br>4  | 176.19<br>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         | 1   |     |     |     |     |     |     |     | 2   |     |     | 1   | 176.65         | 4                          |
| 176.60         | 2   |     |     |     |     |     |     |     | 2   |     |     | 2   | 176.60         | 10                         |
| 176.55         | 9   | 5   | 2   |     |     |     |     |     | 3   |     |     | 1   | 176.55         | 31                         |
| 176.50         | 8   | 6   | 8   |     | 1   | 1   | 11  | 9   | 1   |     |     | 4   | 176.50         | 80                         |
| 176.45         | 9   | 9   | 16  | 5   |     | 2   | 6   | 12  | 5   | 2   | 8   | 5   | 176.45         | 159                        |
| 176.40         | 1   | 7   | 3   | 3   | 8   | 10  | 12  | 4   | 8   | 15  | 5   | 6   | 176.40         | 241                        |
| 176.35         | 1   | 1   | 2   | 3   | 8   | 8   | 1   | 5   | 3   | 6   | 3   | 9   | 176.35         | 291                        |
| 176.30         |     |     |     | 15  | 11  | 3   |     | 1   | 1   | 1   | 3   | 2   | 176.30         | 328                        |
| 176.25         |     |     |     | 2   | 1   | 1   |     |     | 1   | 4   | 1   | 3   | 176.25         | 341                        |
| 176.20         |     |     |     | 2   | 2   | 5   |     |     | 1   | 1   | 3   | 2   | 176.20         | 357                        |
| 176.15         |     |     |     |     |     |     |     |     | 2   | 1   | 2   | 1   | 176.15         | 363                        |
| 176.10         |     |     |     |     |     |     |     |     |     | 1   |     |     | 176.10         | 364                        |
| 176.05         |     |     |     |     |     |     |     |     |     |     |     | 1   | 176.05         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 176.51 | 176.59 | 176.59 | 176.45 | 176.33 | 176.48 | 176.43 | 176.53 | 176.43 | 176.43 | 176.36 | 176.38 |
| 2    | 176.66 | 176.45 | 176.59 | 176.47 | 176.38 | 176.47 | 176.51 | 176.53 | 176.39 | 176.44 | 176.34 | 176.29 |
| 3    | 176.65 | 176.42 | 176.49 | 176.44 | 176.37 | 176.51 | 176.55 | 176.52 | 176.44 | 176.49 | 176.24 | 176.45 |
| 4    | 176.55 | 176.53 | 176.47 | 176.48 | 176.35 | 176.37 | 176.49 | 176.44 | 176.54 | 176.41 | 176.18 | 176.19 |
| 5    | 176.59 | 176.56 | 176.48 | 176.49 | 176.33 | 176.43 | 176.50 | 176.33 | 176.48 | 176.44 | 176.39 | 176.39 |
| 6    | 176.56 | 176.54 | 176.47 | 176.49 | 176.31 | 176.37 | 176.50 | 176.36 | 176.46 | 176.27 | 176.25 | 176.41 |
| 7    | 176.57 | 176.54 | 176.46 | 176.47 | 176.34 | 176.38 | 176.55 | 176.48 | 176.44 | 176.20 | 176.38 | 176.50 |
| 8    | 176.58 | 176.55 | 176.48 | 176.45 | 176.35 | 176.39 | 176.57 | 176.53 | 176.43 | 176.24 | 176.47 | 176.36 |
| 9    | 176.56 | 176.50 | 176.46 | 176.35 | 176.27 | 176.23 | 176.54 | 176.53 | 176.39 | 176.33 | 176.51 | 176.36 |
| 10   | 176.50 | 176.49 | 176.45 | 176.28 | 176.31 | 176.21 | 176.51 | 176.50 | 176.42 | 176.37 | 176.27 | 176.33 |
| 11   | 176.56 | 176.47 | 176.42 | 176.24 | 176.24 | 176.37 | 176.52 | 176.36 | 176.50 | 176.39 | 176.19 | 176.41 |
| 12   | 176.52 | 176.48 | 176.46 | 176.31 | 176.41 | 176.43 | 176.50 | 176.38 | 176.60 | 176.43 | 176.25 | 176.43 |
| 13   | 176.50 | 176.52 | 176.50 | 176.34 | 176.33 | 176.41 | 176.51 | 176.45 | 176.69 | 176.30 | 176.35 | 176.25 |
| 14   | 176.52 | 176.50 | 176.52 | 176.32 | 176.36 | 176.31 | 176.52 | 176.53 | 176.65 | 176.37 | 176.44 | 176.47 |
| 15   | 176.46 | 176.45 | 176.49 | 176.31 | 176.33 | 176.31 | 176.52 | 176.50 | 176.46 | 176.43 | 176.49 | 176.31 |
| 16   | 176.46 | 176.42 | 176.48 | 176.37 | 176.51 | 176.22 | 176.54 | 176.49 | 176.41 | 176.44 | 176.44 | 176.24 |
| 17   | 176.47 | 176.44 | 176.51 | 176.22 | 176.36 | 176.29 | 176.52 | 176.52 | 176.56 | 176.45 | 176.42 | 176.45 |
| 18   | 176.46 | 176.39 | 176.53 | 176.35 | 176.22 | 176.37 | 176.50 | 176.40 | 176.66 | 176.44 | 176.49 | 176.38 |
| 19   | 176.56 | 176.49 | 176.53 | 176.33 | 176.38 | 176.43 | 176.47 | 176.38 | 176.63 | 176.36 | 176.48 | 176.38 |
| 20   | 176.49 | 176.50 | 176.51 | 176.31 | 176.34 | 176.45 | 176.42 | 176.48 | 176.57 | 176.47 | 176.44 | 176.48 |
| 21   | 176.40 | 176.52 | 176.51 | 176.31 | 176.35 | 176.45 | 176.43 | 176.49 | 176.49 | 176.42 | 176.58 | 176.38 |
| 22   | 176.44 | 176.49 | 176.49 | 176.33 | 176.38 | 176.45 | 176.43 | 176.44 | 176.24 | 176.45 | 176.48 | 176.28 |
| 23   | 176.47 | 176.42 | 176.49 | 176.34 | 176.44 | 176.24 | 176.42 | 176.50 | 176.09 | 176.42 | 176.49 | 176.27 |
| 24   | 176.52 | 176.50 | 176.53 | 176.33 | 176.45 | 176.23 | 176.45 | 176.51 | 176.44 | 176.29 | 176.43 | 176.38 |
| 25   | 176.52 | 176.45 | 176.53 | 176.35 | 176.45 | 176.44 | 176.44 | 176.48 | 176.45 | 176.30 | 176.33 | 176.38 |
| 26   | 176.50 | 176.57 | 176.49 | 176.37 | 176.43 | 176.41 | 176.44 | 176.43 | 176.35 | 176.42 | 176.52 | 176.42 |
| 27   | 176.52 | 176.60 | 176.49 | 176.36 | 176.43 | 176.40 | 176.45 | 176.50 | 176.39 | 176.37 | 176.49 | 176.61 |
| 28   | 176.54 | 176.60 | 176.48 | 176.32 | 176.44 | 176.41 | 176.41 | 176.49 | 176.26 | 176.14 | 176.51 | 176.67 |
| 29   | 176.58 |        | 176.45 | 176.29 | 176.39 | 176.36 | 176.44 | 176.46 | 176.20 | 176.45 | 176.46 | 176.50 |
| 30   | 176.64 |        | 176.38 | 176.31 | 176.40 | 176.31 | 176.38 | 176.54 | 176.17 | 176.43 | 176.52 | 176.48 |
| 31   | 176.59 |        | 176.40 |        | 176.45 |        | 176.42 | 176.48 |        | 176.40 |        | 176.61 |
| Mean | 176.53 | 176.50 | 176.49 | 176.36 | 176.37 | 176.37 | 176.48 | 176.47 | 176.44 | 176.38 | 176.41 | 176.40 |
| Max. | 176.70 | 176.64 | 176.63 | 176.55 | 176.75 | 176.56 | 176.66 | 176.65 | 176.81 | 176.65 | 176.67 | 176.73 |
| Hr.  | 1500   | 2400   | 1300   | 1500   | 1500   | 1400   | 1300   | 1100   | 0900   | 1300   | 1200   | 2000   |
| Day  | 2      | 26     | 2      | 5      | 16     | 3      | 8      | 8      | 14     | 1      | 21     | 28     |
| Min. | 176.34 | 176.28 | 176.34 | 176.17 | 176.07 | 176.06 | 176.33 | 176.25 | 176.02 | 176.00 | 176.00 | 176.10 |
| Hr.  | 1000   | 0900   | 0800   | 1700   | 0800   | 1500   | 1900   | 1700   | 1600   | 0600   | 2200   | 0600   |
| Day  | 21     | 18     | 31     | 11     | 11     | 24     | 30     | 5      | 23     | 28     | 11     | 4      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.43

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 182.97 Nov  
Daily mean elevation: 183.20 12 Nov  
Instant/hourly elevation: 183.64 0600/25 Nov

LOWEST

Monthly mean elevation: 182.54 Apr  
Daily mean elevation: 182.40 23 Apr  
Instant/hourly elevation: 182.27 0900/16 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 182.89<br>12 | 182.79<br>19 | 182.72<br>23 | 182.71<br>30 | 182.92<br>18 | 182.96<br>23 | 183.02<br>30 | 183.05<br>5  | 183.12<br>22 | 183.14<br>18 | 183.20<br>12 | 183.05<br>13 |
| Min Day | 182.61<br>31 | 182.58<br>26 | 182.53<br>29 | 182.40<br>23 | 182.64<br>16 | 182.69<br>2  | 182.83<br>7  | 182.89<br>31 | 182.80<br>13 | 182.87<br>17 | 182.74<br>21 | 182.61<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.15         |     |     |     |     |     |     |     |     |     |     | 2   |     | 183.15         | 2                          |
| 183.10         |     |     |     |     |     |     |     |     | 2   | 1   | 2   |     | 183.10         | 7                          |
| 183.05         |     |     |     |     |     |     |     |     |     | 4   |     |     | 183.05         | 11                         |
| 183.00         |     |     |     |     |     |     | 1   | 2   | 2   | 4   | 7   | 4   | 183.00         | 31                         |
| 182.95         |     |     |     |     |     | 1   | 7   | 6   | 10  | 9   | 6   | 7   | 182.95         | 77                         |
| 182.90         |     |     |     |     | 1   | 3   | 17  | 17  | 10  | 4   | 3   | 4   | 182.90         | 136                        |
| 182.85         | 2   |     |     |     | 1   | 9   | 4   | 6   | 5   | 9   | 6   | 6   | 182.85         | 184                        |
| 182.80         | 2   |     |     |     |     | 6   | 2   |     |     |     | 3   | 6   | 182.80         | 203                        |
| 182.75         | 4   | 2   |     |     | 13  | 6   |     |     | 1   |     |     |     | 182.75         | 229                        |
| 182.70         | 11  | 4   | 1   | 1   | 9   | 4   |     |     |     | 1   | 1   |     | 182.70         | 261                        |
| 182.65         | 10  | 9   | 6   | 2   | 4   | 1   |     |     |     |     | 2   |     | 182.65         | 295                        |
| 182.60         | 2   | 11  | 8   | 5   | 3   |     |     |     |     |     | 1   |     | 182.60         | 325                        |
| 182.55         |     | 2   | 9   | 3   |     |     |     |     |     |     |     |     | 182.55         | 339                        |
| 182.50         |     |     | 7   | 7   |     |     |     |     |     |     |     |     | 182.50         | 353                        |
| 182.45         |     |     |     | 6   |     |     |     |     |     |     |     |     | 182.45         | 359                        |
| 182.40         |     |     |     | 5   |     |     |     |     |     |     |     |     | 182.40         | 364                        |
| 182.35         |     |     |     | 1   |     |     |     |     |     |     |     |     | 182.35         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 182.75 | 182.75 | 182.62 | 182.59 | 182.73 | 182.72 | 182.92 | 182.93 | 182.95 | 183.00 | 182.86 | 183.04 |
| 2    | 182.73 | 182.68 | 182.69 | 182.67 | 182.70 | 182.69 | 182.86 | 182.92 | 182.98 | 182.97 | 182.96 | 183.00 |
| 3    | 182.70 | 182.65 | 182.65 | 182.64 | 182.68 | 182.80 | 182.85 | 182.91 | 182.88 | 182.87 | 183.03 | 182.85 |
| 4    | 182.81 | 182.65 | 182.62 | 182.65 | 182.69 | 182.79 | 182.92 | 182.97 | 182.92 | 183.05 | 183.05 | 182.99 |
| 5    | 182.76 | 182.65 | 182.61 | 182.65 | 182.75 | 182.72 | 182.93 | 183.05 | 182.93 | 183.01 | 182.96 | 182.90 |
| 6    | 182.73 | 182.67 | 182.59 | 182.56 | 182.69 | 182.79 | 182.90 | 183.02 | 182.94 | 183.06 | 183.02 | 183.04 |
| 7    | 182.75 | 182.64 | 182.55 | 182.53 | 182.65 | 182.78 | 182.83 | 182.97 | 182.95 | 183.04 | 183.05 | 182.92 |
| 8    | 182.66 | 182.67 | 182.53 | 182.51 | 182.64 | 182.75 | 182.87 | 182.94 | 182.90 | 182.99 | 182.90 | 182.92 |
| 9    | 182.75 | 182.67 | 182.57 | 182.50 | 182.73 | 182.83 | 182.92 | 182.94 | 182.93 | 182.97 | 182.96 | 182.95 |
| 10   | 182.68 | 182.74 | 182.59 | 182.54 | 182.89 | 182.87 | 182.94 | 182.98 | 182.97 | 182.93 | 183.11 | 182.97 |
| 11   | 182.87 | 182.69 | 182.55 | 182.51 | 182.76 | 182.77 | 182.96 | 183.00 | 182.88 | 182.93 | 183.19 | 182.85 |
| 12   | 182.89 | 182.59 | 182.54 | 182.48 | 182.73 | 182.71 | 182.95 | 182.97 | 182.90 | 182.90 | 183.20 | 182.85 |
| 13   | 182.77 | 182.78 | 182.59 | 182.46 | 182.73 | 182.79 | 182.94 | 182.95 | 182.80 | 182.89 | 182.98 | 183.05 |
| 14   | 182.64 | 182.67 | 182.56 | 182.45 | 182.71 | 182.86 | 182.92 | 182.93 | 183.01 | 182.89 | 182.87 | 182.85 |
| 15   | 182.73 | 182.65 | 182.54 | 182.60 | 182.73 | 182.87 | 182.91 | 182.96 | 182.98 | 182.94 | 182.95 | 182.85 |
| 16   | 182.70 | 182.63 | 182.57 | 182.45 | 182.64 | 182.84 | 182.92 | 182.93 | 183.01 | 182.90 | 183.00 | 182.88 |
| 17   | 182.73 | 182.63 | 182.68 | 182.53 | 182.79 | 182.84 | 182.88 | 182.94 | 182.94 | 182.87 | 182.90 | 182.86 |
| 18   | 182.84 | 182.66 | 182.69 | 182.42 | 182.92 | 182.91 | 182.96 | 182.94 | 182.95 | 182.87 | 182.90 | 182.86 |
| 19   | 182.69 | 182.79 | 182.66 | 182.41 | 182.79 | 182.85 | 182.94 | 182.89 | 182.95 | 183.00 | 182.90 | 182.85 |
| 20   | 182.74 | 182.62 | 182.63 | 182.49 | 182.77 | 182.81 | 182.97 | 182.91 | 182.93 | 182.88 | 182.84 | 182.70 |
| 21   | 182.67 | 182.62 | 182.61 | 182.46 | 182.78 | 182.86 | 182.97 | 182.92 | 182.92 | 183.02 | 182.74 | 182.88 |
| 22   | 182.76 | 182.69 | 182.69 | 182.46 | 182.76 | 182.87 | 182.96 | 182.92 | 183.12 | 182.97 | 182.93 | 182.97 |
| 23   | 182.68 | 182.66 | 182.72 | 182.40 | 182.76 | 182.96 | 182.97 | 182.89 | 183.11 | 182.97 | 183.03 | 182.97 |
| 24   | 182.72 | 182.71 | 182.64 | 182.43 | 182.77 | 182.94 | 182.95 | 182.89 | 182.99 | 183.06 | 182.97 | 182.97 |
| 25   | 182.78 | 182.63 | 182.67 | 182.51 | 182.75 | 182.86 | 182.93 | 182.89 | 182.98 | 182.99 | 183.15 | 183.03 |
| 26   | 182.70 | 182.58 | 182.62 | 182.54 | 182.77 | 182.90 | 182.92 | 182.92 | 182.96 | 182.88 | 182.83 | 182.98 |
| 27   | 182.74 | 182.73 | 182.60 | 182.63 | 182.78 | 182.89 | 182.91 | 182.91 | 182.97 | 183.10 | 182.92 | 182.66 |
| 28   | 182.71 | 182.64 | 182.57 | 182.62 | 182.79 | 182.82 | 182.92 | 182.95 | 182.99 | 183.08 | 183.05 | 182.61 |
| 29   | 182.66 |        | 182.53 | 182.68 | 182.79 | 182.90 | 182.95 | 182.95 | 182.97 | 182.90 | 183.02 | 182.88 |
| 30   | 182.70 |        | 182.57 | 182.71 | 182.77 | 182.93 | 183.02 | 182.90 | 182.99 | 182.97 | 182.90 | 182.84 |
| 31   | 182.61 |        | 182.54 |        | 182.74 |        | 182.97 | 182.89 |        | 182.91 |        | 182.73 |
| Mean | 182.73 | 182.67 | 182.61 | 182.54 | 182.75 | 182.83 | 182.93 | 182.94 | 182.95 | 182.97 | 182.97 | 182.90 |
| Max. | 183.23 | 182.98 | 182.87 | 182.90 | 183.08 | 183.13 | 183.36 | 183.47 | 183.32 | 183.61 | 183.64 | 183.36 |
| Hr.  | 2300   | 0900   | 2000   | 1500   | 2200   | 0900   | 1300   | 1400   | 1000   | 2200   | 0600   | 2200   |
| Day  | 27     | 19     | 22     | 29     | 10     | 23     | 8      | 26     | 14     | 27     | 25     | 1      |
| Min. | 182.34 | 182.35 | 182.36 | 182.27 | 182.31 | 182.34 | 182.40 | 182.28 | 182.55 | 182.47 | 182.42 | 182.44 |
| Hr.  | 1500   | 1400   | 0100   | 0900   | 0100   | 0300   | 1100   | 1200   | 0700   | 1300   | 0600   | 0100   |
| Day  | 31     | 16     | 16     | 16     | 8      | 13     | 8      | 26     | 12     | 17     | 21     | 28     |

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

Annual Mean 182.82

Annual Summary of Levels, in Meters, 1990

International  
Great Lakes  
Datum (1955)

station: 908-7023 Ludington, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 176.37 Jul  
Daily mean elevation: 176.46 19 Aug  
Instant/hourly elevation: 176.58 2000/10 Oct

LOWEST

Monthly mean elevation: 176.00 Feb  
Daily mean elevation: 175.89 12 Jan  
Instant/hourly elevation: 175.84 2400/11 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.08<br>24 | 176.12<br>16 | 176.14<br>30 | 176.19<br>24 | 176.35<br>20 | 176.39<br>30 | 176.40<br>29 | 176.46<br>19 | 176.37<br>6  | 176.41<br>10 | 176.30<br>27 | 176.41<br>4  |
| Min Day | 175.89<br>12 | 175.94<br>20 | 175.96<br>2  | 176.05<br>18 | 176.12<br>2  | 176.22<br>4  | 176.34<br>31 | 176.29<br>14 | 176.20<br>24 | 176.13<br>28 | 176.12<br>12 | 176.08<br>26 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.45         |     |     |     |     |     |     |     | 1   |     |     |     |     | 176.45         | 1                          |
| 176.40         |     |     |     |     |     |     |     | 1   |     |     |     |     | 176.40         | 4                          |
| 176.35         |     |     |     |     |     | 4   | 25  | 8   | 1   |     |     |     | 176.35         | 42                         |
| 176.30         |     |     |     |     | 1   | 13  | 6   | 19  | 15  | 5   |     |     | 176.30         | 105                        |
| 176.25         |     |     |     |     | 13  | 10  |     | 2   | 11  | 15  | 8   |     | 176.25         | 173                        |
| 176.20         |     |     |     |     | 3   | 3   |     |     | 1   | 8   | 15  | 9   | 176.20         | 212                        |
| 176.15         |     |     |     | 5   | 8   |     |     |     | 2   | 1   | 4   | 6   | 176.15         | 238                        |
| 176.10         |     | 1   | 3   | 13  | 6   |     |     |     |     | 1   | 3   | 1   | 176.10         | 266                        |
| 176.05         | 3   | 1   | 12  | 10  |     |     |     |     |     |     |     | 1   | 176.05         | 293                        |
| 176.00         | 9   | 13  | 12  | 2   |     |     |     |     |     |     |     |     | 176.00         | 329                        |
| 175.95         | 17  | 10  | 4   |     |     |     |     |     |     |     |     |     | 175.95         | 360                        |
| 175.90         | 1   | 3   |     |     |     |     |     |     |     |     |     |     | 175.90         | 364                        |
| 175.85         | 1   |     |     |     |     |     |     |     |     |     |     |     | 175.85         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

Station: 908-7023 Ludington, Michigan on Lake Michigan

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 175.99 | 176.04 | 175.97 | 176.13 | 176.13 | 176.26 | 176.36 | 176.31 | 176.34 | 176.27 | 176.27 | 176.26 |
| 2    | 175.97 | 176.01 | 175.96 | 176.16 | 176.12 | 176.31 | 176.35 | 176.32 | 176.32 | 176.22 | 176.24 | 176.21 |
| 3    | 176.00 | 176.06 | 175.97 | 176.10 | 176.15 | 176.29 | 176.37 | 176.34 | 176.32 | 176.30 | 176.24 | 176.34 |
| 4    | 176.02 | 176.03 | 176.00 | 176.08 | 176.16 | 176.22 | 176.35 | 176.36 | 176.35 | 176.27 | 176.21 | 176.41 |
| 5    | 175.99 | 176.03 | 176.02 | 176.05 | 176.14 | 176.27 | 176.36 | 176.33 | 176.34 | 176.20 | 176.30 | 176.30 |
| 6    | 176.00 | 176.01 | 176.02 | 176.07 | 176.13 | 176.27 | 176.35 | 176.34 | 176.37 | 176.31 | 176.27 | 176.20 |
| 7    | 175.99 | 176.03 | 176.01 | 176.08 | 176.16 | 176.24 | 176.36 | 176.34 | 176.32 | 176.31 | 176.25 | 176.26 |
| 8    | 175.99 | 176.02 | 176.02 | 176.08 | 176.21 | 176.31 | 176.38 | 176.32 | 176.35 | 176.28 | 176.25 | 176.23 |
| 9    | 176.03 | 176.03 | 176.03 | 176.14 | 176.18 | 176.29 | 176.36 | 176.30 | 176.33 | 176.28 | 176.27 | 176.26 |
| 10   | 176.01 | 175.96 | 176.02 | 176.14 | 176.29 | 176.25 | 176.38 | 176.32 | 176.32 | 176.41 | 176.22 | 176.20 |
| 11   | 175.99 | 175.97 | 176.04 | 176.09 | 176.15 | 176.27 | 176.38 | 176.33 | 176.33 | 176.34 | 176.12 | 176.30 |
| 12   | 175.89 | 176.00 | 176.10 | 176.07 | 176.16 | 176.31 | 176.38 | 176.35 | 176.30 | 176.28 | 176.12 | 176.32 |
| 13   | 175.96 | 176.01 | 176.03 | 176.10 | 176.20 | 176.31 | 176.37 | 176.36 | 176.33 | 176.29 | 176.18 | 176.20 |
| 14   | 176.00 | 175.96 | 176.06 | 176.15 | 176.18 | 176.33 | 176.38 | 176.29 | 176.35 | 176.28 | 176.23 | 176.22 |
| 15   | 176.02 | 176.05 | 176.10 | 176.13 | 176.24 | 176.29 | 176.38 | 176.31 | 176.28 | 176.28 | 176.20 | 176.25 |
| 16   | 176.00 | 176.12 | 176.08 | 176.11 | 176.27 | 176.31 | 176.34 | 176.32 | 176.33 | 176.26 | 176.23 | 176.28 |
| 17   | 176.06 | 176.01 | 176.09 | 176.08 | 176.26 | 176.34 | 176.38 | 176.32 | 176.30 | 176.33 | 176.21 | 176.25 |
| 18   | 175.98 | 176.03 | 176.05 | 176.05 | 176.18 | 176.27 | 176.36 | 176.38 | 176.30 | 176.27 | 176.21 | 176.29 |
| 19   | 175.94 | 175.95 | 176.06 | 176.10 | 176.18 | 176.29 | 176.39 | 176.46 | 176.31 | 176.21 | 176.26 | 176.26 |
| 20   | 175.97 | 175.94 | 176.06 | 176.16 | 176.35 | 176.32 | 176.40 | 176.43 | 176.28 | 176.30 | 176.21 | 176.31 |
| 21   | 176.06 | 175.95 | 176.06 | 176.12 | 176.26 | 176.31 | 176.37 | 176.40 | 176.35 | 176.31 | 176.29 | 176.33 |
| 22   | 175.99 | 175.98 | 176.13 | 176.13 | 176.26 | 176.31 | 176.40 | 176.36 | 176.27 | 176.26 | 176.23 | 176.25 |
| 23   | 176.00 | 176.01 | 176.05 | 176.15 | 176.27 | 176.36 | 176.38 | 176.35 | 176.20 | 176.28 | 176.21 | 176.17 |
| 24   | 176.08 | 176.00 | 176.06 | 176.19 | 176.28 | 176.30 | 176.38 | 176.35 | 176.20 | 176.25 | 176.16 | 176.18 |
| 25   | 176.03 | 176.00 | 176.05 | 176.15 | 176.29 | 176.33 | 176.38 | 176.37 | 176.23 | 176.25 | 176.15 | 176.19 |
| 26   | 176.03 | 176.00 | 176.04 | 176.14 | 176.29 | 176.34 | 176.38 | 176.36 | 176.26 | 176.25 | 176.23 | 176.08 |
| 27   | 176.05 | 175.99 | 176.08 | 176.14 | 176.28 | 176.35 | 176.38 | 176.38 | 176.28 | 176.23 | 176.30 | 176.15 |
| 28   | 175.98 | 175.96 | 176.09 | 176.18 | 176.28 | 176.37 | 176.38 | 176.35 | 176.28 | 176.13 | 176.29 | 176.26 |
| 29   | 175.99 |        | 176.12 | 176.15 | 176.29 | 176.39 | 176.40 | 176.35 | 176.28 | 176.23 | 176.17 | 176.21 |
| 30   | 176.03 |        | 176.14 | 176.16 | 176.26 | 176.39 | 176.35 | 176.35 | 176.30 | 176.25 | 176.24 | 176.23 |
| 31   | 176.01 |        | 176.09 |        | 176.23 |        | 176.34 | 176.35 |        | 176.26 |        | 176.25 |
| Mean | 176.00 | 176.00 | 176.05 | 176.12 | 176.22 | 176.31 | 176.37 | 176.35 | 176.30 | 176.27 | 176.23 | 176.25 |
| Max. | 176.21 | 176.20 | 176.20 | 176.24 | 176.41 | 176.52 | 176.50 | 176.53 | 176.55 | 176.58 | 176.42 | 176.54 |
| Hr.  | 0500   | 1300   | 0100   | 0200   | 0500   | 0600   | 1200   | 0900   | 1300   | 2000   | 2200   | 1800   |
| Day  | 24     | 16     | 16     | 29     | 20     | 29     | 5      | 19     | 14     | 10     | 5      | 3      |
| Min. | 175.84 | 175.89 | 175.92 | 176.00 | 176.06 | 176.12 | 176.26 | 176.24 | 176.17 | 176.04 | 176.05 | 176.03 |
| Hr.  | 2400   | 2400   | 2200   | 1100   | 1900   | 1500   | 0600   | 1600   | 1600   | 0200   | 2300   | 1300   |
| Day  | 11     | 19     | 1      | 5      | 2      | 5      | 5      | 14     | 24     | 28     | 11     | 26     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.21

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 908-7031 Holland, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 176.33 Jul  
Daily mean elevation: 176.47 4 Dec  
Instant/hourly elevation: 176.80 0100/4 Dec

LOWEST

Monthly mean elevation: 175.96 Jan  
Daily mean elevation: 175.86 2 Jan  
Instant/hourly elevation: 175.78 2400/10 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.13<br>25 | 176.07<br>16 | 176.11<br>30 | 176.22<br>2  | 176.32<br>20 | 176.36<br>29 | 176.39<br>12 | 176.42<br>19 | 176.35<br>7  | 176.35<br>10 | 176.34<br>5  | 176.47<br>4  |
| Min Day | 175.86<br>2  | 175.88<br>20 | 175.88<br>1  | 176.00<br>18 | 176.07<br>1  | 176.19<br>4  | 176.28<br>3  | 176.25<br>14 | 176.17<br>24 | 176.13<br>28 | 176.06<br>30 | 176.06<br>26 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.45         |     |     |     |     |     |     |     |     |     |     |     |     | 176.45         | 1                          |
| 176.40         |     |     |     |     |     |     |     |     |     |     |     |     | 176.40         | 2                          |
| 176.35         |     |     |     |     |     |     |     |     |     |     |     |     | 176.35         | 11                         |
| 176.30         |     |     |     |     |     |     |     |     |     |     |     |     | 176.30         | 56                         |
| 176.25         |     |     |     |     |     |     |     |     |     |     |     |     | 176.25         | 119                        |
| 176.20         |     |     |     |     |     |     |     |     |     |     |     |     | 176.20         | 174                        |
| 176.15         |     |     |     |     |     |     |     |     |     |     |     |     | 176.15         | 211                        |
| 176.10         | 1   |     | 1   | 7   | 7   |     |     |     |     |     |     |     | 176.10         | 247                        |
| 176.05         | 1   | 2   | 3   | 10  | 5   |     |     |     |     |     |     |     | 176.05         | 272                        |
| 176.00         | 3   | 6   | 14  | 10  |     |     |     |     |     |     |     |     | 176.00         | 305                        |
| 175.95         | 10  | 11  | 7   | 1   |     |     |     |     |     |     |     |     | 175.95         | 334                        |
| 175.90         | 8   | 7   | 4   |     |     |     |     |     |     |     |     |     | 175.90         | 353                        |
| 175.85         | 4   | 2   | 2   |     |     |     |     |     |     |     |     |     | 175.85         | 361                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.93  | 176.01 | 175.88 | 176.07  | 176.07  | 176.22 | 176.33 | 176.28 | 176.30 | 176.20  | 176.20  | 176.16 |
| 2    | 175.86  | 176.01 | 175.89 | 176.22  | 176.10  | 176.23 | 176.31 | 176.29 | 176.30 | 176.17  | 176.17  | 176.13 |
| 3    | 175.90  | 176.02 | 175.93 | 176.11  | 176.14  | 176.23 | 176.28 | 176.29 | 176.30 | 176.21  | 176.22  | 176.35 |
| 4    | 175.99  | 175.99 | 175.94 | 176.05  | 176.15* | 176.19 | 176.29 | 176.32 | 176.28 | 176.21  | 176.21  | 176.47 |
| 5    | 175.92  | 175.94 | 175.99 | 176.04  | 176.10* | 176.20 | 176.33 | 176.34 | 176.31 | 176.17  | 176.34  | 176.23 |
| 6    | 175.96  | 175.99 | 175.95 | 176.03  | 176.08  | 176.23 | 176.31 | 176.32 | 176.31 | 176.24  | 176.27  | 176.20 |
| 7    | 175.89  | 175.97 | 175.94 | 176.04  | 176.09  | 176.21 | 176.29 | 176.30 | 176.35 | 176.31  | 176.23  | 176.17 |
| 8    | 175.90  | 175.96 | 175.97 | 176.03  | 176.14  | 176.25 | 176.30 | 176.28 | 176.30 | 176.27  | 176.18  | 176.20 |
| 9    | 175.98  | 176.00 | 175.99 | 176.09  | 176.16  | 176.23 | 176.32 | 176.27 | 176.29 | 176.28  | 176.21  | 176.18 |
| 10   | 175.94  | 175.95 | 175.97 | 176.16  | 176.30  | 176.21 | 176.34 | 176.30 | 176.29 | 176.35  | 176.18  | 176.19 |
| 11   | 175.98  | 175.97 | 176.01 | 176.07  | 176.11  | 176.23 | 176.36 | 176.31 | 176.28 | 176.29  | 176.13  | 176.23 |
| 12   | 175.98  | 175.95 | 176.01 | 176.03  | 176.14  | 176.23 | 176.39 | 176.34 | 176.26 | 176.23  | 176.11  | 176.28 |
| 13   | 175.92  | 176.04 | 175.99 | 176.05  | 176.17  | 176.27 | 176.35 | 176.35 | 176.28 | 176.24  | 176.13  | 176.17 |
| 14   | 175.95  | 175.98 | 176.02 | 176.11  | 176.15  | 176.27 | 176.36 | 176.25 | 176.32 | 176.23  | 176.14  | 176.15 |
| 15   | 175.98  | 176.03 | 176.03 | 176.06  | 176.20  | 176.26 | 176.34 | 176.30 | 176.25 | 176.22  | 176.12  | 176.26 |
| 16   | 175.95  | 176.07 | 176.00 | 176.03* | 176.21* | 176.28 | 176.29 | 176.30 | 176.34 | 176.20  | 176.19  | 176.24 |
| 17   | 176.01  | 176.02 | 176.02 | 176.01* | 176.19* | 176.28 | 176.31 | 176.27 | 176.28 | 176.23* | 176.14  | 176.18 |
| 18   | 175.98  | 175.94 | 176.01 | 176.00  | 176.13  | 176.25 | 176.29 | 176.34 | 176.25 | 176.27  | 176.14  | 176.27 |
| 19   | 175.91  | 175.93 | 176.04 | 176.05  | 176.17  | 176.24 | 176.35 | 176.42 | 176.30 | 176.14  | 176.18  | 176.21 |
| 20   | 175.99  | 175.88 | 176.01 | 176.09  | 176.32  | 176.28 | 176.37 | 176.38 | 176.24 | 176.21  | 176.15  | 176.24 |
| 21   | 176.05  | 175.89 | 176.04 | 176.10  | 176.25  | 176.26 | 176.35 | 176.36 | 176.30 | 176.28  | 176.17  | 176.25 |
| 22   | 175.99  | 175.99 | 176.09 | 176.08  | 176.24  | 176.30 | 176.35 | 176.33 | 176.27 | 176.21  | 176.14  | 176.22 |
| 23   | 175.97  | 175.97 | 176.03 | 176.10* | 176.23  | 176.36 | 176.34 | 176.31 | 176.20 | 176.23  | 176.17  | 176.17 |
| 24   | 176.04  | 176.06 | 176.02 | 176.11  | 176.24  | 176.27 | 176.33 | 176.30 | 176.17 | 176.26  | 176.11  | 176.15 |
| 25   | 176.13  | 176.00 | 176.00 | 176.08  | 176.26  | 176.29 | 176.33 | 176.29 | 176.22 | 176.23  | 176.13  | 176.13 |
| 26   | 176.06* | 175.93 | 176.05 | 176.09  | 176.27  | 176.31 | 176.34 | 176.30 | 176.24 | 176.18  | 176.14  | 176.06 |
| 27   | /       | 175.97 | 176.04 | 176.11  | 176.24  | 176.33 | 176.35 | 176.31 | 176.21 | 176.19  | 176.22* | 176.07 |
| 28   | /       | 175.93 | 176.04 | 176.15  | 176.26  | 176.35 | 176.34 | 176.33 | 176.28 | 176.13  | 176.18* | 176.15 |
| 29   | /       |        | 176.10 | 176.13  | 176.30  | 176.36 | 176.34 | 176.30 | 176.27 | 176.15  | 176.10  | 176.19 |
| 30   | /       |        | 176.11 | 176.13  | 176.23  | 176.34 | 176.36 | 176.30 | 176.25 | 176.23  | 176.06  | 176.23 |
| 31   | 175.92* |        | 176.06 |         | 176.20  |        | 176.31 | 176.29 |        | 176.24  |         | 176.18 |
| Mean | 175.96  | 175.98 | 176.01 | 176.08  | 176.19  | 176.27 | 176.33 | 176.31 | 176.27 | 176.23  | 176.17  | 176.20 |
| Max. | 176.36  | 176.29 | 176.16 | 176.32  | 176.49  | 176.47 | 176.44 | 176.46 | 176.41 | 176.48  | 176.51  | 176.80 |
| Hr.  | 1800    | 1000   | 0300   | 1300    | 1100    | 0200   | 1700   | 2200   | 1600   | 1400    | 1700    | 0100   |
| Day  | 25      | 24     | 30     | 2       | 10      | 23     | 12     | 19     | 7      | 18      | 5       | 4      |
| Min. | 175.78  | 175.84 | 175.81 | 175.95  | 176.04  | 176.15 | 176.22 | 176.21 | 176.13 | 176.09  | 176.03  | 176.01 |
| Hr.  | 2400    | 0500   | 2000   | 0400    | 2000    | 2000   | 0700   | 1600   | 1700   | 1100    | 1500    | 1700   |
| Day  | 10      | 20     | 1      | 6       | 6       | 4      | 5      | 14     | 24     | 28      | 30      | 26     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.17

International  
Great Lakes  
Datum (1955)

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

Annual Summary of Levels, in Meters, 1990

HIGHEST

Monthly mean elevation: 176.37 Jul  
Daily mean elevation: 176.54 4 Dec  
Instant/hourly elevation: 176.84 0100/4 Dec

LOWEST

Monthly mean elevation: 175.95 Jan  
Daily mean elevation: 175.79 2 Jan  
Instant/hourly elevation: 175.65 0100/2 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct         | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| Max Day | 176.14<br>25 | 176.23<br>24 | 176.17<br>29 | 176.29<br>2  | 176.37<br>29 | 176.40<br>23 | 176.53<br>12 | 176.49<br>19 | 176.45<br>16 | 176.53<br>9 | 176.49<br>5  | 176.54<br>4  |
| Min Day | 175.79<br>2  | 175.85<br>26 | 175.85<br>1  | 176.02<br>18 | 176.08<br>7  | 176.17<br>3  | 176.27<br>4  | 176.27<br>17 | 176.10<br>24 | 176.08<br>5 | 175.97<br>30 | 176.04<br>25 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.50         |     |     |     |     |     |     | 2   |     |     | 1   |     | 1   | 176.50         | 4                          |
| 176.45         |     |     |     |     |     |     | 1   | 1   |     | 1   | 1   | 1   | 176.45         | 9                          |
| 176.40         |     |     |     |     |     |     | 2   | 6   | 2   | 1   |     |     | 176.40         | 20                         |
| 176.35         |     |     |     |     | 2   | 2   | 13  | 3   | 3   | 1   |     |     | 176.35         | 44                         |
| 176.30         |     |     |     |     | 3   | 6   | 8   | 16  | 9   | 2   | 2   | 1   | 176.30         | 91                         |
| 176.25         |     |     |     | 1   | 6   | 10  | 5   | 5   | 11  | 4   |     | 2   | 176.25         | 135                        |
| 176.20         | 1   |     |     | 1   | 7   | 9   |     | 3   | 9   | 7   | 9   |     | 176.20         | 181                        |
| 176.15         | 2   | 1   | 1   | 1   | 6   | 3   |     |     | 8   | 11  | 9   |     | 176.15         | 222                        |
| 176.10         | 1   | 1   | 3   | 9   | 5   |     |     |     | 1   | 3   | 3   | 4   | 176.10         | 252                        |
| 176.05         | 4   | 8   | 15  | 2   |     |     |     |     | 1   | 1   | 5   | 3   | 176.05         | 291                        |
| 176.00         | 5   | 5   | 12  | 3   |     |     |     |     |     |     |     | 1   | 176.00         | 317                        |
| 175.95         | 7   | 5   | 5   |     |     |     |     |     |     |     |     | 1   | 175.95         | 335                        |
| 175.90         | 11  | 6   |     |     |     |     |     |     |     |     |     |     | 175.90         | 352                        |
| 175.85         | 4   | 3   | 1   |     |     |     |     |     |     |     |     |     | 175.85         | 360                        |
| 175.80         | 2   | 1   | 1   |     |     |     |     |     |     |     |     |     | 175.80         | 364                        |
| 175.75         | 1   |     |     |     |     |     |     |     |     |     |     |     | 175.75         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 175.92 | 176.06 | 175.85 | 176.09 | 176.08 | 176.23 | 176.36 | 176.33 | 176.28 | 176.16 | 176.20 | 176.14 |
| 2    | 175.79 | 176.16 | 175.89 | 176.29 | 176.13 | 176.20 | 176.36 | 176.32 | 176.34 | 176.17 | 176.16 | 176.31 |
| 3    | 175.87 | 176.10 | 176.01 | 176.20 | 176.17 | 176.17 | 176.28 | 176.30 | 176.36 | 176.16 | 176.22 | 176.50 |
| 4    | 176.01 | 176.03 | 176.02 | 176.08 | 176.27 | 176.24 | 176.27 | 176.35 | 176.25 | 176.12 | 176.33 | 176.54 |
| 5    | 175.93 | 175.87 | 176.12 | 176.06 | 176.17 | 176.19 | 176.37 | 176.43 | 176.32 | 176.08 | 176.49 | 176.17 |
| 6    | 175.95 | 175.98 | 176.09 | 176.06 | 176.12 | 176.23 | 176.39 | 176.43 | 176.30 | 176.16 | 176.33 | 176.21 |
| 7    | 175.86 | 175.97 | 176.04 | 176.07 | 176.08 | 176.26 | 176.33 | 176.37 | 176.41 | 176.39 | 176.25 | 176.12 |
| 8    | 175.88 | 175.93 | 176.03 | 176.05 | 176.11 | 176.31 | 176.29 | 176.31 | 176.33 | 176.46 | 176.20 | 176.20 |
| 9    | 176.00 | 175.98 | 176.01 | 176.09 | 176.16 | 176.24 | 176.33 | 176.32 | 176.31 | 176.53 | 176.23 | 176.16 |
| 10   | 175.92 | 175.95 | 176.03 | 176.24 | 176.20 | 176.21 | 176.38 | 176.35 | 176.32 | 176.42 | 176.20 | 176.23 |
| 11   | 175.85 | 175.98 | 176.04 | 176.14 | 176.14 | 176.27 | 176.44 | 176.35 | 176.31 | 176.31 | 176.13 | 176.23 |
| 12   | 176.02 | 175.93 | 175.97 | 176.06 | 176.21 | 176.21 | 176.53 | 176.38 | 176.27 | 176.28 | 176.17 | 176.25 |
| 13   | 175.94 | 176.10 | 176.01 | 176.06 | 176.23 | 176.22 | 176.51 | 176.42 | 176.27 | 176.28 | 176.20 | 176.20 |
| 14   | 175.93 | 176.14 | 176.03 | 176.11 | 176.20 | 176.25 | 176.46 | 176.27 | 176.31 | 176.22 | 176.13 | 176.17 |
| 15   | 175.97 | 176.17 | 176.01 | 176.08 | 176.23 | 176.29 | 176.39 | 176.29 | 176.30 | 176.22 | 176.07 | 176.24 |
| 16   | 175.99 | 176.02 | 175.98 | 176.08 | 176.25 | 176.31 | 176.32 | 176.30 | 176.45 | 176.21 | 176.22 | 176.24 |
| 17   | 175.99 | 176.03 | 175.96 | 176.10 | 176.16 | 176.27 | 176.30 | 176.27 | 176.37 | 176.17 | 176.21 | 176.17 |
| 18   | 175.97 | 175.86 | 176.00 | 176.02 | 176.14 | 176.25 | 176.29 | 176.32 | 176.27 | 176.25 | 176.16 | 176.27 |
| 19   | 175.93 | 175.95 | 176.08 | 176.05 | 176.22 | 176.29 | 176.36 | 176.49 | 176.32 | 176.21 | 176.20 | 176.22 |
| 20   | 176.04 | 175.91 | 176.03 | 176.10 | 176.36 | 176.29 | 176.35 | 176.44 | 176.28 | 176.17 | 176.21 | 176.24 |
| 21   | 176.02 | 175.87 | 176.03 | 176.14 | 176.34 | 176.27 | 176.38 | 176.44 | 176.27 | 176.24 | 176.16 | 176.24 |
| 22   | 175.95 | 176.09 | 176.06 | 176.11 | 176.29 | 176.31 | 176.40 | 176.42 | 176.26 | 176.24 | 176.14 | 176.20 |
| 23   | 175.92 | 176.05 | 176.09 | 176.10 | 176.25 | 176.40 | 176.36 | 176.38 | 176.28 | 176.23 | 176.10 | 176.20 |
| 24   | 176.02 | 176.23 | 176.06 | 176.11 | 176.27 | 176.28 | 176.34 | 176.35 | 176.10 | 176.31 | 176.10 | 176.09 |
| 25   | 176.14 | 176.05 | 175.96 | 176.08 | 176.31 | 176.29 | 176.35 | 176.32 | 176.14 | 176.30 | 176.16 | 176.04 |
| 26   | 175.99 | 175.85 | 176.08 | 176.08 | 176.31 | 176.30 | 176.37 | 176.32 | 176.25 | 176.18 | 176.19 | 176.07 |
| 27   | 175.85 | 175.95 | 176.06 | 176.12 | 176.28 | 176.35 | 176.37 | 176.31 | 176.24 | 176.14 | 176.24 | 176.09 |
| 28   | 175.90 | 175.96 | 176.09 | 176.15 | 176.30 | 176.38 | 176.35 | 176.32 | 176.32 | 176.19 | 176.10 | 176.11 |
| 29   | 175.94 |        | 176.17 | 176.15 | 176.37 | 176.34 | 176.33 | 176.34 | 176.36 | 176.13 | 176.10 | 176.20 |
| 30   | 175.94 |        | 176.15 | 176.13 | 176.28 | 176.31 | 176.43 | 176.34 | 176.29 | 176.21 | 175.97 | 176.27 |
| 31   | 175.96 |        | 176.11 |        | 176.24 |        | 176.39 | 176.32 |        | 176.27 |        | 176.13 |
| Mean | 175.95 | 176.01 | 176.03 | 176.11 | 176.22 | 176.27 | 176.37 | 176.35 | 176.30 | 176.24 | 176.18 | 176.21 |
| Max. | 176.28 | 176.63 | 176.22 | 176.45 | 176.47 | 176.61 | 176.65 | 176.59 | 176.58 | 176.74 | 176.65 | 176.84 |
| Hr.  | 1400   | 0800   | 1400   | 1900   | 1100   | 0400   | 1700   | 1500   | 0900   | 0500   | 1400   | 0100   |
| Day  | 25     | 24     | 29     | 2      | 20     | 20     | 12     | 19     | 16     | 10     | 5      | 4      |
| Min. | 175.65 | 175.71 | 175.74 | 175.96 | 175.88 | 175.81 | 176.11 | 176.16 | 175.98 | 175.95 | 175.90 | 175.88 |
| Hr.  | 0100   | 2000   | 2000   | 0500   | 0100   | 1800   | 0900   | 0400   | 2400   | 1400   | 2000   | 0400   |
| Day  | 2      | 26     | 1      | 5      | 10     | 5      | 5      | 15     | 24     | 4      | 30     | 25     |

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

Annual Mean 176.19

International  
Great Lakes  
Datum (1955)

station: 908-7057 Milwaukee, Wisconsin on Lake Michigan

Annual Summary of Levels, in Meters, 1990

HIGHEST

Monthly mean elevation: 176.37 Jul  
Daily mean elevation: 176.65 3 Dec  
Instant/hourly elevation: 176.77 0800/3 Dec

LOWEST

Monthly mean elevation: 175.98 Jan  
Daily mean elevation: 175.89 1 Mar  
Instant/hourly elevation: 175.77 0100/2 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.10<br>25 | 176.14<br>15 | 176.15<br>29 | 176.23<br>2  | 176.35<br>20 | 176.38<br>28 | 176.46<br>12 | 176.48<br>19 | 176.42<br>16 | 176.43<br>10 | 176.41<br>5  | 176.65<br>3  |
| Min Day | 175.89<br>2  | 175.91<br>20 | 175.89<br>1  | 176.05<br>18 | 176.10<br>1  | 176.21<br>4  | 176.31<br>4  | 176.31<br>17 | 176.17<br>24 | 176.16<br>28 | 176.12<br>12 | 176.06<br>26 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 176.60         |     |     |     |     |     |     |     |     |     |     |     |     | 176.60         | 1                          |
| 176.55         |     |     |     |     |     |     |     |     |     |     |     |     | 176.55         | 1                          |
| 176.50         |     |     |     |     |     |     |     |     |     |     |     |     | 176.50         | 1                          |
| 176.45         |     |     |     |     |     |     |     |     |     |     |     |     | 176.45         | 3                          |
| 176.40         |     |     |     |     |     |     |     |     |     |     |     |     | 176.40         | 12                         |
| 176.35         |     |     |     |     |     |     |     |     |     |     |     |     | 176.35         | 48                         |
| 176.30         |     |     |     |     |     |     |     |     |     |     |     |     | 176.30         | 100                        |
| 176.25         |     |     |     |     |     |     |     |     |     |     |     |     | 176.25         | 148                        |
| 176.20         |     |     |     |     |     |     |     |     |     |     |     |     | 176.20         | 196                        |
| 176.15         |     |     |     |     |     |     |     |     |     |     |     |     | 176.15         | 229                        |
| 176.10         |     |     |     |     |     |     |     |     |     |     |     |     | 176.10         | 262                        |
| 176.05         | 1   | 5   | 14  | 12  | 1   |     |     |     |     |     |     |     | 176.05         | 297                        |
| 176.00         | 6   | 8   | 11  | 1   |     |     |     |     |     |     |     |     | 176.00         | 323                        |
| 175.95         | 14  | 8   | 2   |     |     |     |     |     |     |     |     |     | 175.95         | 347                        |
| 175.90         | 8   | 6   | 1   |     |     |     |     |     |     |     |     |     | 175.90         | 362                        |
| 175.85         | 2   |     | 1   |     |     |     |     |     |     |     |     |     | 175.85         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

| 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   | 175.94 | 176.07 | 175.89 | 176.13 | 176.10 | 176.27 | 176.35 | 176.34 | 176.32 | 176.21 | 176.24 | 176.20 |  |
| 2   | 175.89 | 176.10 | 175.92 | 176.23 | 176.13 | 176.27 | 176.36 | 176.35 | 176.32 | 176.21 | 176.19 | 176.25 |  |
| 3   | 175.95 | 176.08 | 175.98 | 176.15 | 176.16 | 176.22 | 176.34 | 176.35 | 176.35 | 176.24 | 176.23 | 176.65 |  |
| 4   | 176.00 | 176.03 | 176.02 | 176.08 | 176.21 | 176.21 | 176.31 | 176.36 | 176.30 | 176.16 | 176.26 | 176.44 |  |
| 5   | 175.95 | 175.99 | 176.08 | 176.06 | 176.14 | 176.24 | 176.34 | 176.37 | 176.32 | 176.16 | 176.41 | 176.25 |  |
| 6   | 175.96 | 176.01 | 176.07 | 176.07 | 176.12 | 176.25 | 176.35 | 176.38 | 176.33 | 176.24 | 176.30 | 176.18 |  |
| 7   | 175.93 | 176.00 | 176.05 | 176.07 | 176.13 | 176.25 | 176.36 | 176.36 | 176.38 | 176.36 | 176.23 | 176.17 |  |
| 8   | 175.96 | 176.00 | 176.06 | 176.09 | 176.18 | 176.30 | 176.35 | 176.34 | 176.36 | 176.37 | 176.23 | 176.21 |  |
| 9   | 175.99 | 175.99 | 176.03 | 176.13 | 176.22 | 176.24 | 176.34 | 176.33 | 176.33 | 176.38 | 176.23 | 176.18 |  |
| 10  | 175.98 | 175.95 | 176.02 | 176.19 | 176.27 | 176.23 | 176.36 | 176.36 | 176.33 | 176.43 | 176.19 | 176.21 |  |
| 11  | 175.90 | 175.98 | 176.06 | 176.10 | 176.15 | 176.29 | 176.40 | 176.35 | 176.32 | 176.34 | 176.12 | 176.28 |  |
| 12  | 175.93 | 176.00 | 176.06 | 176.06 | 176.19 | 176.27 | 176.46 | 176.39 | 176.30 | 176.27 | 176.12 | 176.27 |  |
| 13  | 175.96 | 176.04 | 176.03 | 176.09 | 176.20 | 176.30 | 176.44 | 176.39 | 176.30 | 176.29 | 176.18 | 176.17 |  |
| 14  | 175.99 | 176.05 | 176.07 | 176.14 | 176.20 | 176.27 | 176.42 | 176.31 | 176.31 | 176.25 | 176.19 | 176.21 |  |
| 15  | 176.00 | 176.14 | 176.08 | 176.09 | 176.23 | 176.29 | 176.39 | 176.34 | 176.29 | 176.21 | 176.15 | 176.29 |  |
| 16  | 176.01 | 176.09 | 176.03 | 176.10 | 176.28 | 176.32 | 176.35 | 176.33 | 176.42 | 176.24 | 176.22 | 176.24 |  |
| 17  | 176.03 | 176.04 | 176.01 | 176.06 | 176.19 | 176.31 | 176.34 | 176.31 | 176.38 | 176.28 | 176.20 | 176.21 |  |
| 18  | 175.95 | 175.97 | 176.01 | 176.05 | 176.13 | 176.25 | 176.33 | 176.37 | 176.33 | 176.22 | 176.20 | 176.27 |  |
| 19  | 175.93 | 175.92 | 176.06 | 176.09 | 176.24 | 176.25 | 176.35 | 176.48 | 176.32 | 176.20 | 176.23 | 176.26 |  |
| 20  | 176.05 | 175.91 | 176.05 | 176.12 | 176.35 | 176.34 | 176.37 | 176.44 | 176.30 | 176.27 | 176.24 | 176.29 |  |
| 21  | 176.05 | 175.92 | 176.08 | 176.13 | 176.29 | 176.28 | 176.36 | 176.43 | 176.30 | 176.28 | 176.24 | 176.26 |  |
| 22  | 175.96 | 176.03 | 176.10 | 176.12 | 176.26 | 176.34 | 176.39 | 176.41 | 176.23 | 176.24 | 176.17 | 176.20 |  |
| 23  | 175.99 | 176.02 | 176.03 | 176.14 | 176.27 | 176.36 | 176.37 | 176.39 | 176.23 | 176.26 | 176.14 | 176.15 |  |
| 24  | 176.03 | 176.09 | 176.05 | 176.16 | 176.27 | 176.30 | 176.36 | 176.38 | 176.17 | 176.26 | 176.13 | 176.11 |  |
| 25  | 176.10 | 176.02 | 176.00 | 176.12 | 176.30 | 176.33 | 176.37 | 176.36 | 176.21 | 176.26 | 176.15 | 176.09 |  |
| 26  | 176.01 | 175.95 | 176.07 | 176.13 | 176.29 | 176.34 | 176.37 | 176.36 | 176.21 | 176.26 | 176.15 | 176.09 |  |
| 27  | 175.97 | 175.97 | 176.08 | 176.15 | 176.27 | 176.35 | 176.38 | 176.33 | 176.26 | 176.23 | 176.25 | 176.06 |  |
| 28  | 175.93 | 175.95 | 176.09 | 176.18 | 176.28 | 176.38 | 176.37 | 176.35 | 176.31 | 176.16 | 176.16 | 176.15 |  |
| 29  | 175.96 |        | 176.15 | 176.15 | 176.32 | 176.36 | 176.36 | 176.32 | 176.32 | 176.19 | 176.13 | 176.19 |  |
| 30  | 175.98 |        | 176.13 | 176.15 | 176.26 | 176.35 | 176.38 | 176.34 | 176.28 | 176.24 | 176.13 | 176.21 |  |
| 31  | 175.99 |        | 176.10 |        | 176.24 |        | 176.35 | 176.34 |        | 176.26 |        | 176.17 |  |
| Mean  | 175.98 | 176.01 | 176.05 | 176.12 | 176.22 | 176.29 | 176.37 | 176.36 | 176.31 | 176.25 | 176.20 | 176.23 |  |
| Max.  | 176.25 | 176.22 | 176.23 | 176.29 | 176.41 | 176.50 | 176.52 | 176.66 | 176.47 | 176.63 | 176.58 | 176.77 |  |
| Hr.   | 1300   | 0400   | 0300   | 1800   | 2200   | 0100   | 1800   | 1100   | 1200   | 0700   | 1400   | 0800   |  |
| Day   | 25     | 16     | 30     | 2      | 20     | 23     | 12     | 19     | 16     | 10     | 5      | 3      |  |
| Min.  | 175.77 | 175.86 | 175.84 | 176.01 | 176.03 | 176.11 | 176.17 | 176.23 | 176.10 | 176.04 | 176.03 | 176.01 |  |
| Hr.   | 0100   | 1900   | 1900   | 2300   | 2000   | 1500   | 0500   | 0200   | 2300   | 1500   | 2300   | 1400   |  |
| Day   | 2      | 9      | 1      | 17     | 1      | 3      | 5      | 29     | 24     | 4      | 11     | 26     |  |

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

Annual Mean 176.20

Annual Summary of Levels, in Meters, 1990

International  
Great Lakes  
Datum (1955)

station: 908-7068 Kewaunee, Wisconsin on Lake Michigan

HIGHEST

Monthly mean elevation: 176.33 Aug  
Daily mean elevation: 176.43 19 Aug  
Instant/hourly elevation: 177.05 0400/4 Sep

LOWEST

Monthly mean elevation: 175.95 Jan  
Daily mean elevation: 175.85 19 Feb  
Instant/hourly elevation: 175.74 1100/13 Mar

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.02<br>21 | 176.06<br>16 | 176.08<br>30 | 176.12<br>30 | 176.26<br>20 | 176.35<br>29 | 176.36<br>22 | 176.43<br>19 | 176.34<br>16 | 176.34<br>10 | 176.27<br>21 | 176.30<br>20 |
| Min Day | 175.85<br>12 | 175.85<br>19 | 175.88<br>2  | 175.99<br>5  | 176.05<br>1  | 176.17<br>4  | 176.28<br>4  | 176.28<br>17 | 176.19<br>23 | 176.12<br>28 | 176.08<br>12 | 176.02<br>26 |

----- 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   |     |     |     |     | 176.40         | 1                          |
| 176.35         |     |     |     |     |     |     | 3   | 3   |     |     |     |     | 176.35         | 7                          |
| 176.30         |     |     |     |     |     | 3   | 25  | 21  | 8   | 1   |     |     | 176.30         | 65                         |
| 176.25         |     |     |     | 1   | 13  | 3   | 6   | 14  | 3   | 2   | 5   |     | 176.25         | 112                        |
| 176.20         |     |     |     |     | 10  | 10  |     | 4   | 17  | 7   | 7   |     | 176.20         | 167                        |
| 176.15         |     |     |     |     | 7   | 4   |     | 4   | 8   | 14  | 12  |     | 176.15         | 216                        |
| 176.10         |     |     |     | 2   | 6   |     |     |     | 2   | 5   | 4   |     | 176.10         | 235                        |
| 176.05         |     | 1   | 5   | 6   | 6   |     |     |     |     | 2   | 1   |     | 176.05         | 256                        |
| 176.00         | 2   | 3   | 11  | 10  | 1   |     |     |     |     |     | 1   |     | 176.00         | 284                        |
| 175.95         | 10  | 12  | 12  |     | 1   |     |     |     |     |     |     |     | 175.95         | 319                        |
| 175.90         | 15  | 7   | 2   |     |     |     |     |     |     |     |     |     | 175.90         | 343                        |
| 175.85         | 3   | 4   | 1   |     |     |     |     |     |     |     |     |     | 175.85         | 351                        |
| 175.80         | 1   | 1   |     |     |     |     |     |     |     |     |     |     | 175.80         | 353                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.92 | 175.98 | 175.91 | 176.09  | 176.05 | 176.22 | 176.30 | 176.31 | 176.29 | 176.18 | 176.24 | 176.17  |
| 2    | 175.89 | 176.01 | 175.88 | 176.08  | 176.07 | 176.27 | 176.32 | 176.31 | 176.28 | 176.17 | 176.20 | 176.19  |
| 3    | 175.93 | 176.05 | 175.93 | 176.08  | 176.11 | 176.20 | 176.33 | 176.32 | 176.33 | 176.24 | 176.20 | 176.27* |
| 4    | 175.94 | 175.99 | 175.96 | 176.04  | 176.08 | 176.17 | 176.28 | 176.32 | 176.32 | 176.17 | 176.19 | /       |
| 5    | 175.94 | 175.98 | 175.99 | 175.99  | 176.09 | 176.23 | 176.31 | 176.31 | 176.28 | 176.15 | 176.25 | 176.23* |
| 6    | 175.95 | 175.97 | 175.99 | 176.03  | 176.09 | 176.23 | 176.32 | 176.34 | 176.31 | 176.21 | 176.27 | 176.13  |
| 7    | 175.90 | 175.97 | 175.98 | 176.04  | 176.13 | 176.20 | 176.34 | 176.34 | 176.31 | 176.21 | 176.20 | 176.18  |
| 8    | 175.94 | 175.96 | 176.00 | 176.04  | 176.16 | 176.26 | 176.33 | 176.31 | 176.33 | 176.24 | 176.21 | 176.20  |
| 9    | 175.95 | 175.95 | 175.99 | 176.11  | 176.15 | 176.21 | 176.31 | 176.29 | 176.30 | 176.25 | 176.20 | 176.19  |
| 10   | 175.97 | 175.90 | 175.98 | 176.08  | 176.20 | 176.18 | 176.32 | 176.31 | 176.29 | 176.34 | 176.15 | 176.17  |
| 11   | 175.88 | 175.93 | 176.01 | 176.05  | 176.10 | 176.24 | 176.34 | 176.31 | 176.32 | 176.30 | 176.11 | 176.27  |
| 12   | 175.85 | 175.99 | 176.04 | 176.04* | 176.12 | 176.27 | 176.35 | 176.33 | 176.28 | 176.24 | 176.08 | 176.29  |
| 13   | 175.92 | 175.95 | 176.01 | 176.06  | 176.15 | 176.25 | 176.35 | 176.35 | 176.30 | 176.25 | 176.16 | 176.13  |
| 14   | 175.97 | 175.95 | 176.05 | 176.09  | 176.14 | 176.23 | 176.36 | 176.30 | 176.28 | 176.24 | 176.22 | 176.20  |
| 15   | 175.96 | 176.03 | 176.07 | 176.05  | 176.17 | 176.22 | 176.36 | 176.29 | 176.27 | 176.20 | 176.16 | 176.26  |
| 16   | 175.95 | 176.06 | 176.03 | 176.05* | 176.24 | 176.27 | 176.32 | 176.30 | 176.34 | 176.23 | 176.18 | 176.24  |
| 17   | 176.01 | 175.99 | 175.99 | 176.02* | 176.17 | 176.30 | 176.35 | 176.28 | 176.33 | 176.29 | 176.19 | 176.20  |
| 18   | 175.91 | 175.97 | 175.96 | 176.02* | 176.10 | 176.22 | 176.30 | 176.33 | 176.29 | 176.19 | 176.20 | 176.24  |
| 19   | 175.91 | 175.85 | 176.01 | /       | 176.16 | 176.22 | 176.35 | 176.43 | 176.29 | 176.20 | 176.20 | 176.24  |
| 20   | 175.95 | 175.89 | 176.02 | /       | 176.26 | 176.28 | 176.34 | 176.40 | 176.27 | 176.29 | 176.22 | 176.30  |
| 21   | 176.02 | 175.90 | 176.04 | /       | 176.20 | 176.27 | 176.32 | 176.37 | 176.29 | 176.25 | 176.27 | 176.25  |
| 22   | 175.93 | 175.93 | 176.06 | /       | 176.21 | 176.27 | 176.36 | 176.36 | 176.20 | 176.21 | 176.18 | 176.20  |
| 23   | 175.97 | 175.96 | 175.98 | /       | 176.21 | 176.30 | 176.35 | 176.34 | 176.19 | 176.24 | 176.13 | 176.12  |
| 24   | 175.99 | 175.94 | 176.01 | /       | 176.22 | 176.26 | 176.34 | 176.34 | 176.20 | 176.22 | 176.13 | 176.11  |
| 25   | 175.97 | 175.97 | 175.99 | /       | 176.24 | 176.30 | 176.35 | 176.34 | 176.20 | 176.21 | 176.10 | 176.08  |
| 26   | 175.99 | 175.96 | 176.00 | /       | 176.23 | 176.30 | 176.34 | 176.34 | 176.22 | 176.23 | 176.21 | 176.02  |
| 27   | 175.97 | 175.90 | 176.03 | /       | 176.22 | 176.27 | 176.35 | 176.31 | 176.22 | 176.22 | 176.16 | 176.25  |
| 28   | 175.92 | 175.91 | 176.04 | /       | 176.21 | 176.35 | 176.35 | 176.31 | 176.24 | 176.12 | 176.17 | 176.21  |
| 29   | 175.94 |        | 176.08 | /       | 176.23 | 176.35 | 176.34 | 176.29 | 176.26 | 176.21 | 176.11 | 176.16  |
| 30   | 175.96 |        | 176.08 | 176.12* | 176.21 | 176.31 | 176.32 | 176.31 | 176.24 | 176.20 | 176.19 | 176.17  |
| 31   | 175.98 |        | 176.06 |         | 176.20 |        | 176.34 | 176.31 |        | 176.23 |        | 176.23  |
| Mean | 175.95 | 175.96 | 176.01 | 176.06  | 176.17 | 176.26 | 176.33 | 176.33 | 176.27 | 176.22 | 176.19 | 176.19  |
| Max. | 176.09 | 176.21 | 176.26 | 176.24  | 176.41 | 176.56 | 176.47 | 176.52 | 177.05 | 176.49 | 176.39 | 176.37  |
| Hr.  | 1300   | 0700   | 0700   | 1200    | 2400   | 1300   | 1900   | 2100   | 0400   | 0700   | 2100   | 1000    |
| Day  | 21     | 16     | 15     | 30      | 9      | 29     | 19     | 18     | 4      | 10     | 27     | 20      |
| Min. | 175.79 | 175.81 | 175.74 | 175.95  | 175.97 | 176.08 | 176.18 | 176.20 | 176.09 | 176.06 | 176.00 | 175.98  |
| Hr.  | 2300   | 2400   | 1100   | 1200    | 1600   | 1600   | 2400   | 2400   | 0900   | 1300   | 1100   | 1300    |
| Day  | 18     | 19     | 13     | 5       | 4      | 13     | 4      | 17     | 14     | 4      | 12     | 26      |

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

Annual Mean 176.16

International  
Great Lakes  
Datum (1955)

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

Annual Summary of Levels, in Meters, 1990

HIGHEST

Monthly mean elevation: 176.33 Jul  
Daily mean elevation: 176.43 19 Aug  
Instant/hourly elevation: 176.57 1800/29 Jul

LOWEST

Monthly mean elevation: 175.96 Jan  
Daily mean elevation: 175.85 12 Jan  
Instant/hourly elevation: 175.81 2100/18 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.05<br>21 | 176.08<br>16 | 176.09<br>30 | 176.14<br>28 | 176.27<br>20 | 176.35<br>28 | 176.35<br>29 | 176.43<br>19 | 176.32<br>16 | 176.34<br>10 | 176.27<br>27 | 176.36<br>4  |
| Min Day | 175.85<br>12 | 175.88<br>19 | 175.89<br>2  | 175.99<br>5  | 176.06<br>2  | 176.19<br>3  | 176.29<br>18 | 176.27<br>17 | 176.18<br>24 | 176.12<br>28 | 176.06<br>12 | 176.01<br>26 |

~~~~~ 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   |     |     |     |     | 176.40         | 1                          |
| 176.35         |     |     |     |     |     |     |     | 1   |     |     |     |     | 176.35         | 3                          |
| 176.30         |     |     |     |     |     | 5   | 27  | 14  | 3   | 1   | 1   |     | 176.30         | 54                         |
| 176.25         |     |     |     |     | 1   | 9   | 4   | 15  | 17  | 4   | 2   | 3   | 176.25         | 109                        |
| 176.20         |     |     |     |     | 11  | 13  |     | 6   | 13  | 5   | 6   |     | 176.20         | 163                        |
| 176.15         |     |     |     |     | 5   | 3   |     | 4   | 10  | 15  | 11  |     | 176.15         | 211                        |
| 176.10         |     |     |     | 7   | 8   |     |     |     | 3   | 6   | 6   |     | 176.10         | 241                        |
| 176.05         |     | 1   | 6   | 15  | 6   |     |     |     |     | 2   | 2   |     | 176.05         | 273                        |
| 176.00         | 3   | 5   | 14  | 7   |     |     |     |     |     |     | 1   |     | 176.00         | 303                        |
| 175.95         | 15  | 11  | 7   | 1   |     |     |     |     |     |     |     |     | 175.95         | 337                        |
| 175.90         | 10  | 9   | 3   |     |     |     |     |     |     |     |     |     | 175.90         | 359                        |
| 175.85         | 2   | 2   | 1   |     |     |     |     |     |     |     |     |     | 175.85         | 364                        |
| 175.80         | 1   |     |     |     |     |     |     |     |     |     |     |     | 175.80         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 175.94 | 175.97 | 175.93 | 176.09 | 176.06 | 176.22 | 176.30 | 176.29 | 176.27 | 176.17 | 176.24 | 176.17 |
| 2    | 175.90 | 176.01 | 175.89 | 176.09 | 176.06 | 176.24 | 176.32 | 176.30 | 176.25 | 176.16 | 176.20 | 176.17 |
| 3    | 175.95 | 176.02 | 175.94 | 176.09 | 176.10 | 176.19 | 176.31 | 176.31 | 176.31 | 176.21 | 176.19 | 176.34 |
| 4    | 175.94 | 175.99 | 175.97 | 176.04 | 176.11 | 176.20 | 176.29 | 176.31 | 176.27 | 176.15 | 176.18 | 176.36 |
| 5    | 175.94 | 176.00 | 175.99 | 175.99 | 176.10 | 176.23 | 176.30 | 176.31 | 176.28 | 176.16 | 176.25 | 176.21 |
| 6    | 175.97 | 175.98 | 175.99 | 176.03 | 176.10 | 176.23 | 176.32 | 176.33 | 176.28 | 176.20 | 176.26 | 176.12 |
| 7    | 175.91 | 175.99 | 175.99 | 176.05 | 176.14 | 176.21 | 176.32 | 176.31 | 176.30 | 176.21 | 176.18 | 176.17 |
| 8    | 175.96 | 175.98 | 176.01 | 176.05 | 176.17 | 176.25 | 176.33 | 176.29 | 176.31 | 176.24 | 176.18 | 176.19 |
| 9    | 175.97 | 175.96 | 176.01 | 176.11 | 176.15 | 176.23 | 176.31 | 176.28 | 176.30 | 176.24 | 176.20 | 176.18 |
| 10   | 175.98 | 175.91 | 175.95 | 176.08 | 176.20 | 176.20 | 176.32 | 176.29 | 176.29 | 176.34 | 176.15 | 176.15 |
| 11   | 175.88 | 175.94 | 176.01 | 176.06 | 176.10 | 176.24 | 176.33 | 176.30 | 176.30 | 176.29 | 176.10 | 176.26 |
| 12   | 175.85 | 176.01 | 176.06 | 176.03 | 176.12 | 176.26 | 176.35 | 176.32 | 176.26 | 176.22 | 176.06 | 176.28 |
| 13   | 175.93 | 175.95 | 176.02 | 176.06 | 176.15 | 176.24 | 176.33 | 176.32 | 176.28 | 176.24 | 176.14 | 176.12 |
| 14   | 175.99 | 175.94 | 176.04 | 176.10 | 176.15 | 176.23 | 176.34 | 176.28 | 176.27 | 176.27 | 176.19 | 176.17 |
| 15   | 175.97 | 176.01 | 176.06 | 176.06 | 176.19 | 176.24 | 176.34 | 176.27 | 176.28 | 176.17 | 176.16 | 176.24 |
| 16   | 175.97 | 176.08 | 176.03 | 176.08 | 176.24 | 176.27 | 176.31 | 176.30 | 176.32 | 176.21 | 176.17 | 176.23 |
| 17   | 176.02 | 176.02 | 176.01 | 176.03 | 176.20 | 176.31 | 176.31 | 176.27 | 176.29 | 176.28 | 176.17 | 176.18 |
| 18   | 175.92 | 176.00 | 175.98 | 176.04 | 176.11 | 176.22 | 176.29 | 176.30 | 176.27 | 176.17 | 176.19 | 176.22 |
| 19   | 175.91 | 175.88 | 176.02 | 176.06 | 176.15 | 176.23 | 176.33 | 176.43 | 176.27 | 176.19 | 176.18 | 176.23 |
| 20   | 175.98 | 175.90 | 176.03 | 176.08 | 176.27 | 176.27 | 176.33 | 176.39 | 176.25 | 176.27 | 176.21 | 176.28 |
| 21   | 176.05 | 175.92 | 176.04 | 176.08 | 176.22 | 176.27 | 176.33 | 176.35 | 176.27 | 176.24 | 176.25 | 176.21 |
| 22   | 175.94 | 175.93 | 176.07 | 176.09 | 176.22 | 176.28 | 176.35 | 176.33 | 176.19 | 176.21 | 176.17 | 176.17 |
| 23   | 175.97 | 175.98 | 175.98 | 176.10 | 176.22 | 176.32 | 176.34 | 176.32 | 176.18 | 176.23 | 176.12 | 176.13 |
| 24   | 176.01 | 175.93 | 176.01 | 176.13 | 176.22 | 176.27 | 176.33 | 176.32 | 176.18 | 176.20 | 176.12 | 176.10 |
| 25   | 175.97 | 175.97 | 175.99 | 176.10 | 176.25 | 176.30 | 176.33 | 176.32 | 176.19 | 176.22 | 176.11 | 176.06 |
| 26   | 176.00 | 175.98 | 176.01 | 176.11 | 176.23 | 176.30 | 176.33 | 176.31 | 176.22 | 176.22 | 176.21 | 176.01 |
| 27   | 175.99 | 175.91 | 176.04 | 176.12 | 176.23 | 176.29 | 176.35 | 176.30 | 176.22 | 176.14 | 176.27 | 176.14 |
| 28   | 175.93 | 175.91 | 176.05 | 176.14 | 176.22 | 176.35 | 176.34 | 176.31 | 176.24 | 176.12 | 176.19 | 176.20 |
| 29   | 175.96 |        | 176.09 | 176.12 | 176.23 | 176.33 | 176.35 | 176.29 | 176.26 | 176.18 | 176.11 | 176.16 |
| 30   | 175.97 |        | 176.09 | 176.12 | 176.21 | 176.31 | 176.32 | 176.29 | 176.23 | 176.20 | 176.17 | 176.14 |
| 31   | 175.98 |        | 176.06 |        | 176.19 |        | 176.33 | 176.28 |        | 176.23 |        | 176.19 |
| Mean | 175.96 | 175.97 | 176.01 | 176.08 | 176.17 | 176.26 | 176.33 | 176.31 | 176.26 | 176.21 | 176.18 | 176.19 |
| Max. | 176.10 | 176.24 | 176.16 | 176.20 | 176.34 | 176.45 | 176.57 | 176.47 | 176.36 | 176.46 | 176.38 | 176.49 |
| Hr.  | 1500   | 0700   | 0700   | 2000   | 2400   | 0300   | 1800   | 1500   | 1200   | 1700   | 0200   | 1800   |
| Day  | 21     | 16     | 14     | 28     | 9      | 29     | 29     | 19     | 14     | 10     | 28     | 3      |
| Min. | 175.81 | 175.82 | 175.86 | 175.93 | 176.03 | 176.09 | 176.19 | 176.21 | 176.12 | 176.06 | 175.97 | 175.97 |
| Hr.  | 2100   | 2300   | 0900   | 2400   | 0100   | 2000   | 0700   | 2000   | 1800   | 2000   | 1700   | 0900   |
| Day  | 18     | 19     | 2      | 5      | 2      | 3      | 5      | 26     | 22     | 27     | 11     | 26     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.16

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 176.34 Jul  
Daily mean elevation: 177.14 3 Dec  
Instant/hourly elevation: 177.83 1300/3 Dec

LOWEST

Monthly mean elevation: 175.95 Feb  
Daily mean elevation: 175.79 12 Jan  
Instant/hourly elevation: 175.51 2400/24 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.03<br>21 | 176.06<br>16 | 176.11<br>29 | 176.28<br>2  | 176.49<br>20 | 176.53<br>22 | 176.54<br>12 | 176.58<br>19 | 176.44<br>16 | 176.56<br>10 | 176.41<br>5  | 177.14<br>3  |
| Min Day | 175.79<br>12 | 175.84<br>19 | 175.87<br>2  | 175.96<br>18 | 175.99<br>1  | 176.07<br>3  | 176.27<br>4  | 176.19<br>14 | 176.02<br>24 | 176.01<br>4  | 175.98<br>28 | 175.96<br>26 |

~~~~~ 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 177.10         |     |     |     |     |     |     |     |     |     |     |     |     | 177.10         | 1                          |
| 177.05         |     |     |     |     |     |     |     |     |     |     |     |     | 177.05         | 1                          |
| 177.00         |     |     |     |     |     |     |     |     |     |     |     |     | 177.00         | 1                          |
| 176.95         |     |     |     |     |     |     |     |     |     |     |     |     | 176.95         | 1                          |
| 176.90         |     |     |     |     |     |     |     |     |     |     |     |     | 176.90         | 1                          |
| 176.85         |     |     |     |     |     |     |     |     |     |     |     |     | 176.85         | 1                          |
| 176.80         |     |     |     |     |     |     |     |     |     |     |     |     | 176.80         | 1                          |
| 176.75         |     |     |     |     |     |     |     |     |     |     |     |     | 176.75         | 1                          |
| 176.70         |     |     |     |     |     |     |     |     |     |     |     |     | 176.70         | 1                          |
| 176.65         |     |     |     |     |     |     |     |     |     |     |     |     | 176.65         | 1                          |
| 176.60         |     |     |     |     |     |     |     |     |     |     |     |     | 176.60         | 1                          |
| 176.55         |     |     |     |     |     |     | 1   |     | 1   |     |     |     | 176.55         | 3                          |
| 176.50         |     |     |     |     |     |     | 1   |     |     |     |     |     | 176.50         | 5                          |
| 176.45         |     |     |     |     |     | 2   | 1   | 1   |     |     |     |     | 176.45         | 7                          |
| 176.40         |     |     |     |     |     |     | 1   | 2   | 3   | 1   |     |     | 176.40         | 15                         |
| 176.35         |     |     |     |     |     |     | 5   | 4   | 1   | 1   |     |     | 176.35         | 27                         |
| 176.30         |     |     |     |     | 1   | 4   | 13  | 8   | 3   | 2   | 1   |     | 176.30         | 60                         |
| 176.25         |     |     |     | 1   | 6   | 7   | 10  | 11  | 13  | 2   | 1   | 2   | 176.25         | 113                        |
| 176.20         |     |     |     |     | 6   | 11  |     | 3   | 7   | 8   | 4   | 5   | 176.20         | 157                        |
| 176.15         |     |     | 2   |     | 3   | 5   |     | 1   | 2   | 6   | 5   | 6   | 176.15         | 187                        |
| 176.10         |     | 1   | 2   |     | 5   |     |     |     | 2   | 8   | 7   | 6   | 176.10         | 218                        |
| 176.05         | 3   | 1   | 6   | 15  | 5   | 1   |     |     |     | 2   | 5   | 3   | 176.05         | 256                        |
| 176.00         | 2   | 2   | 10  | 4   | 2   |     |     |     | 1   | 1   | 5   | 3   | 176.00         | 287                        |
| 175.95         | 12  | 13  | 9   | 6   | 1   |     |     |     |     | 1   | 1   | 3   | 175.95         | 332                        |
| 175.90         | 12  | 6   | 3   |     |     |     |     |     |     |     |     |     | 175.90         | 353                        |
| 175.85         | 3   | 5   | 2   |     |     |     |     |     |     |     |     |     | 175.85         | 363                        |
| 175.80         |     | 1   |     |     |     |     |     |     |     |     |     |     | 175.80         | 364                        |
| 175.75         |     | 1   |     |     |     |     |     |     |     |     |     |     | 175.75         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.91 | 175.99 | 175.90 | 176.10 | 175.99 | 176.21 | 176.33 | 176.25 | 176.27 | 176.10 | 176.21 | 176.14 |
| 2    | 175.90 | 175.98 | 175.87 | 176.28 | 176.05 | 176.18 | 176.30 | 176.26 | 176.29 | 176.11 | 176.19 | 176.23 |
| 3    | 175.98 | 176.00 | 175.92 | 176.10 | 176.12 | 176.07 | 176.27 | 176.30 | 176.29 | 176.12 | 176.21 | 177.14 |
| 4    | 175.94 | 176.00 | 175.96 | 176.04 | 176.13 | 176.18 | 176.27 | 176.35 | 176.27 | 176.01 | 176.31 | 176.38 |
| 5    | 175.94 | 175.99 | 175.97 | 176.00 | 176.13 | 176.16 | 176.35 | 176.40 | 176.29 | 176.13 | 176.41 | 176.13 |
| 6    | 175.95 | 175.97 | 175.98 | 176.04 | 176.08 | 176.20 | 176.34 | 176.37 | 176.30 | 176.30 | 176.24 | 176.05 |
| 7    | 175.92 | 175.99 | 175.98 | 176.02 | 176.06 | 176.21 | 176.29 | 176.29 | 176.38 | 176.35 | 176.14 | 176.08 |
| 8    | 175.96 | 175.98 | 176.01 | 176.03 | 176.13 | 176.25 | 176.30 | 176.26 | 176.30 | 176.34 | 176.10 | 176.14 |
| 9    | 175.95 | 175.96 | 176.00 | 176.17 | 176.46 | 176.22 | 176.30 | 176.23 | 176.27 | 176.40 | 176.09 | 176.10 |
| 10   | 175.99 | 175.90 | 175.96 | 176.17 | 176.29 | 176.20 | 176.37 | 176.32 | 176.31 | 176.56 | 176.11 | 176.18 |
| 11   | 175.86 | 175.92 | 176.02 | 176.08 | 176.05 | 176.22 | 176.43 | 176.32 | 176.26 | 176.21 | 176.02 | 176.27 |
| 12   | 175.79 | 176.01 | 176.07 | 175.99 | 176.10 | 176.27 | 176.54 | 176.38 | 176.25 | 176.19 | 176.04 | 176.23 |
| 13   | 175.91 | 175.95 | 176.01 | 176.00 | 176.15 | 176.24 | 176.37 | 176.31 | 176.25 | 176.23 | 176.12 | 176.09 |
| 14   | 175.99 | 175.93 | 176.06 | 176.06 | 176.16 | 176.24 | 176.38 | 176.19 | 176.32 | 176.20 | 176.12 | 176.13 |
| 15   | 175.98 | 176.02 | 176.05 | 176.06 | 176.24 | 176.25 | 176.34 | 176.28 | 176.31 | 176.11 | 176.12 | 176.32 |
| 16   | 175.96 | 176.06 | 176.01 | 176.06 | 176.26 | 176.30 | 176.28 | 176.29 | 176.44 | 176.18 | 176.20 | 176.17 |
| 17   | 176.01 | 175.97 | 175.97 | 176.00 | 176.10 | 176.26 | 176.28 | 176.26 | 176.30 | 176.27 | 176.13 | 176.17 |
| 18   | 175.89 | 175.99 | 175.96 | 175.96 | 176.07 | 176.22 | 176.28 | 176.45 | 176.23 | 176.20 | 176.13 | 176.23 |
| 19   | 175.92 | 175.84 | 176.01 | 175.99 | 176.24 | 176.25 | 176.36 | 176.58 | 176.27 | 176.15 | 176.18 | 176.26 |
| 20   | 175.93 | 175.89 | 176.01 | 176.09 | 176.49 | 176.27 | 176.35 | 176.45 | 176.24 | 176.22 | 176.19 | 176.25 |
| 21   | 176.03 | 175.92 | 176.04 | 176.08 | 176.26 | 176.24 | 176.32 | 176.41 | 176.20 | 176.25 | 176.18 | 176.24 |
| 22   | 175.95 | 175.92 | 176.07 | 176.06 | 176.22 | 176.53 | 176.38 | 176.36 | 176.15 | 176.17 | 176.06 | 176.05 |
| 23   | 175.99 | 175.97 | 175.95 | 176.09 | 176.24 | 176.42 | 176.34 | 176.32 | 176.15 | 176.20 | 176.02 | 176.04 |
| 24   | 175.99 | 175.88 | 175.97 | 176.12 | 176.25 | 176.26 | 176.31 | 176.30 | 176.02 | 176.24 | 176.09 | 176.00 |
| 25   | 175.95 | 175.95 | 175.93 | 176.08 | 176.28 | 176.27 | 176.32 | 176.31 | 176.16 | 176.22 | 176.08 | 175.96 |
| 26   | 176.01 | 175.97 | 176.03 | 176.08 | 176.26 | 176.30 | 176.33 | 176.29 | 176.21 | 176.13 | 176.24 | 175.96 |
| 27   | 175.96 | 175.89 | 176.03 | 176.10 | 176.23 | 176.35 | 176.34 | 176.32 | 176.23 | 176.06 | 176.29 | 176.13 |
| 28   | 175.92 | 175.89 | 176.06 | 176.11 | 176.28 | 176.34 | 176.32 | 176.31 | 176.28 | 176.12 | 175.98 | 176.19 |
| 29   | 175.96 |        | 176.11 | 176.10 | 176.35 | 176.34 | 176.34 | 176.27 | 176.27 | 176.11 | 176.01 | 176.17 |
| 30   | 175.96 |        | 176.09 | 176.09 | 176.20 | 176.34 | 176.41 | 176.27 | 176.23 | 176.21 | 176.01 | 176.16 |
| 31   | 175.98 |        | 176.06 |        | 176.16 |        | 176.29 | 176.25 |        | 176.25 |        | 176.13 |
| Mean | 175.95 | 175.95 | 176.00 | 176.07 | 176.19 | 176.26 | 176.34 | 176.32 | 176.26 | 176.20 | 176.14 | 176.19 |
| Max. | 176.28 | 176.35 | 176.31 | 176.43 | 176.81 | 177.01 | 176.83 | 176.85 | 176.76 | 176.86 | 176.71 | 177.83 |
| Hr.  | 2400   | 1800   | 0400   | 0600   | 0700   | 1900   | 1000   | 1800   | 0300   | 1200   | 1500   | 1300   |
| Day  | 23     | 24     | 16     | 2      | 20     | 22     | 12     | 18     | 14     | 10     | 5      | 3      |
| Min. | 175.56 | 175.51 | 175.78 | 175.65 | 175.82 | 175.70 | 176.12 | 176.09 | 175.91 | 175.68 | 175.67 | 175.79 |
| Hr.  | 1900   | 2400   | 0100   | 2400   | 1000   | 1100   | 2400   | 0700   | 2400   | 1500   | 0700   | 2300   |
| Day  | 11     | 24     | 16     | 5      | 11     | 3      | 3      | 14     | 24     | 4      | 12     | 25     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.16

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 908-7096 Port Inland, Michigan on Lake Michigan

HIGHEST

Monthly mean elevation: 176.28 Jul  
Daily mean elevation: 176.44 9 Jun  
Instant/hourly elevation: 176.56 0200/9 Jun

LOWEST

Monthly mean elevation: 175.94 Feb  
Daily mean elevation: 175.83 24 Feb  
Instant/hourly elevation: 175.62 1000/24 Feb

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun         | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 176.03<br>27 | 176.05<br>26 | 176.04<br>29 | 176.09<br>28 | 176.20<br>16 | 176.44<br>9 | 176.33<br>17 | 176.32<br>19 | 176.28<br>13 | 176.29<br>3  | 176.32<br>21 | 176.29<br>20 |
| Min Day | 175.90<br>20 | 175.83<br>24 | 175.88<br>3  | 175.95<br>17 | 176.03<br>9  | 176.14<br>4 | 176.24<br>30 | 176.21<br>5  | 176.04<br>23 | 176.05<br>28 | 176.00<br>12 | 176.01<br>26 |

~~~~~ 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         |     |     |     |     |     | 3   |     |     |     |     |     |     | 176.40         | 3                          |
| 176.35         |     |     |     |     |     | 2   |     |     |     |     |     |     | 176.35         | 5                          |
| 176.30         |     |     |     |     |     |     | 5   | 1   |     |     | 1   |     | 176.30         | 12                         |
| 176.25         |     |     |     |     |     | 5   | 18  | 16  | 8   | 4   | 2   | 2   | 176.25         | 67                         |
| 176.20         |     |     |     |     |     | 10  | 8   | 14  | 6   | 5   | 6   | 7   | 176.20         | 123                        |
| 176.15         |     |     |     |     | 10  | 8   |     | 13  | 12  | 8   | 10  |     | 176.15         | 184                        |
| 176.10         |     |     |     |     | 8   | 1   |     | 2   | 8   | 8   | 5   |     | 176.10         | 216                        |
| 176.05         |     |     |     |     | 11  | 6   |     |     | 1   | 2   | 6   |     | 176.05         | 242                        |
| 176.00         | 2   | 4   | 13  | 10  | 7   |     |     | 1   | 1   | 2   | 1   |     | 176.00         | 283                        |
| 175.95         | 12  | 6   | 6   | 4   |     |     |     |     |     |     | 1   |     | 175.95         | 312                        |
| 175.90         | 11  | 9   | 10  | 2   |     |     |     |     |     |     |     |     | 175.90         | 344                        |
| 175.85         | 2   | 7   | 2   |     |     |     |     |     |     |     |     |     | 175.85         | 355                        |
| 175.80         |     | 1   |     |     |     |     |     |     |     |     |     |     | 175.80         | 356                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 175.94  | 175.93 | 176.02  | 176.03  | 176.04 | 176.17  | 176.25 | 176.26  | 176.26* | 176.10* | 176.22 | 176.16 |
| 2    | /       | 175.92 | 175.89* | 175.95  | 176.03 | 176.23  | 176.28 | 176.27  | 176.21  | 176.15  | 176.18 | 176.11 |
| 3    | /       | 175.97 | 175.88  | 175.98  | 176.05 | 176.22  | 176.32 | 176.27  | 176.27  | 176.29  | 176.15 | 176.07 |
| 4    | 175.93* | 175.96 | 175.91  | /       | 176.04 | 176.14  | 176.24 | 176.28  | 176.26  | 176.20  | 176.12 | 176.21 |
| 5    | 175.96  | 176.01 | 175.91  | /       | 176.03 | 176.20* | 176.24 | 176.21  | 176.23  | 176.15  | 176.12 | 176.21 |
| 6    | 175.92* | 175.94 | 175.91  | /       | 176.04 | 176.23* | 176.25 | 176.22  | 176.25  | 176.18  | 176.20 | 176.11 |
| 7    | 175.93* | 175.99 | 175.91  | 176.03* | 176.09 | 176.40* | 176.27 | 176.25  | 176.23  | 176.12  | 176.14 | 176.19 |
| 8    | 175.99  | 175.97 | 175.93  | 176.03  | 176.15 | 176.44  | 176.31 | 176.26  | 176.27  | 176.15  | 176.19 | 176.17 |
| 9    | 175.96  | 175.97 | 175.96  | 176.06  | 176.03 | 176.44  | 176.27 | 176.26  | 176.26  | 176.13  | 176.23 | 176.21 |
| 10   | 175.96* | 175.90 | 175.91  | 175.99  | 176.11 | 176.37  | 176.25 | 176.22  | 176.20  | 176.22  | 176.11 | 176.09 |
| 11   | /       | 175.92 | 175.94  | 175.98  | 176.06 | 176.41* | 176.27 | 176.23  | 176.24  | 176.28  | 176.05 | 176.21 |
| 12   | /       | /      | 176.01  | 176.00  | 176.09 | /       | 176.24 | 176.23  | 176.26  | 176.19  | 176.00 | 176.29 |
| 13   | 175.95* | 175.89 | 175.97  | 176.05  | 176.11 | 176.21* | 176.25 | 176.25  | 176.28  | 176.20  | 176.10 | 176.07 |
| 14   | 175.99  | 175.88 | 176.01  | 176.06  | 176.10 | 176.20  | 176.26 | 176.27  | 176.21  | 176.25  | 176.24 | 176.19 |
| 15   | 175.97  | 175.90 | 176.03  | 176.02  | 176.11 | 176.19  | 176.29 | 176.24* | 176.17  | 176.20* | 176.17 | 176.17 |
| 16   | 175.91  | 175.98 | 176.03  | 176.04  | 176.20 | 176.20  | 176.28 | 176.27* | 176.20  | 176.20* | 176.13 | 176.21 |
| 17   | 176.00  | 175.93 | 176.02  | 175.95  | 176.17 | 176.27  | 176.33 | 176.24  | 176.20  | 176.28  | 176.16 | 176.16 |
| 18   | 175.90  | 176.04 | 175.95  | 176.03  | 176.06 | 176.20  | 176.28 | 176.24  | 176.20  | 176.17  | 176.21 | 176.17 |
| 19   | 175.92  | 175.86 | 175.97  | 176.07  | 176.07 | 176.19  | 176.29 | 176.32  | 176.20  | 176.13  | 176.17 | 176.16 |
| 20   | 175.90  | 175.95 | 176.01  | 176.04  | 176.16 | 176.25  | 176.28 | 176.29  | 176.17  | 176.28  | 176.16 | 176.29 |
| 21   | 176.00  | 176.01 | 176.01  | 176.04  | 176.14 | 176.25  | 176.27 | 176.26  | 176.27  | 176.24  | 176.32 | 176.19 |
| 22   | 175.95  | 175.87 | 176.03  | 176.06  | 176.16 | 176.20  | 176.29 | 176.26  | 176.12  | 176.19  | 176.23 | 176.19 |
| 23   | 175.92  | 175.94 | 175.93  | 176.05  | 176.15 | 176.23  | 176.29 | 176.26  | 176.04  | 176.23  | 176.16 | 176.10 |
| 24   | 176.03  | 175.83 | 175.99* | 176.09  | 176.16 | 176.21  | 176.27 | 176.27  | 176.15  | 176.15  | 176.12 | 176.11 |
| 25   | 175.91  | 175.92 | 175.99* | 176.06  | 176.17 | 176.27  | 176.29 | 176.29  | 176.17  | 176.14  | 176.05 | 176.10 |
| 26   | 175.98  | 176.05 | 175.95  | 176.07  | 176.18 | 176.27  | 176.29 | 176.27  | 176.18  | 176.24  | 176.15 | 176.01 |
| 27   | 176.03  | 175.87 | 176.01  | 176.07* | 176.17 | 176.23  | 176.30 | 176.24  | 176.19  | 176.18  | 176.26 | 176.14 |
| 28   | 175.97  | 175.91 | 176.00  | 176.09  | 176.16 | 176.28  | 176.31 | 176.25  | 176.16  | 176.05  | 176.23 | 176.24 |
| 29   | 175.98  |        | 176.04  | 176.07  | 176.15 | 176.29  | 176.31 | 176.22  | 176.18  | 176.20  | 176.10 | 176.14 |
| 30   | 176.00  |        | 176.03  | 176.08  | 176.15 | 176.25  | 176.24 | 176.26  | 176.17* | 176.17  | 176.27 | 176.08 |
| 31   | 175.95  |        | 176.01  |         | 176.16 |         | 176.27 | 176.25  |         | 176.17  |        | 176.21 |
| Mean | 175.96  | 175.94 | 175.97  | 176.04  | 176.11 | 176.26  | 176.28 | 176.25  | 176.21  | 176.19  | 176.16 | 176.16 |
| Max. | 176.18  | 176.14 | 176.21  | 176.15  | 176.34 | 176.56  | 176.42 | 176.37  | 176.38  | 176.45  | 176.40 | 176.40 |
| Hr.  | 0500    | 2100   | 1600    | 1900    | 1500   | 0200    | 1900   | 1600    | 0900    | 2400    | 0600   | 0500   |
| Day  | 24      | 26     | 15      | 28      | 16     | 9       | 3      | 19      | 4       | 10      | 28     | 4      |
| Min. | 175.74  | 175.62 | 175.82  | 175.89  | 175.85 | 175.96  | 176.12 | 176.14  | 175.99  | 175.93  | 175.87 | 175.91 |
| Hr.  | 1300    | 1000   | 0200    | 1300    | 1700   | 2400    | 2400   | 1400    | 0700    | 0600    | 1900   | 1300   |
| Day  | 25      | 24     | 3       | 2       | 9      | 3       | 4      | 5       | 23      | 28      | 11     | 3      |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 176.13

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 183.02 Nov  
Daily mean elevation: 183.20 18 Oct  
Instant/hourly elevation: 183.43 2100/27 Oct

LOWEST

Monthly mean elevation: 182.71 Apr  
Daily mean elevation: 182.63 23 Apr  
Instant/hourly elevation: 182.51 0400/26 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 182.97<br>12 | 182.89<br>13 | 182.82<br>23 | 182.80<br>5  | 182.92<br>10 | 182.98<br>23 | 183.04<br>30 | 183.06<br>5  | 183.12<br>22 | 183.20<br>18 | 183.16<br>12 | 183.06<br>13 |
| Min Day | 182.73<br>14 | 182.68<br>26 | 182.63<br>8  | 182.63<br>23 | 182.72<br>7  | 182.75<br>2  | 182.89<br>7  | 182.93<br>31 | 182.90<br>13 | 182.90<br>3  | 182.85<br>21 | 182.80<br>20 |

~~~~~ 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.15         |     |     |     |     |     |     |     |     |     | 1   | 1   |     | 183.15         | 2                          |
| 183.10         |     |     |     |     |     |     |     |     | 2   | 3   | 3   |     | 183.10         | 10                         |
| 183.05         |     |     |     |     |     |     |     | 1   | 1   | 2   | 6   | 2   | 183.05         | 22                         |
| 183.00         |     |     |     |     |     |     | 1   | 3   | 9   | 10  | 6   | 5   | 183.00         | 56                         |
| 182.95         | 1   |     |     |     |     | 1   | 20  | 21  | 14  | 14  | 9   | 10  | 182.95         | 146                        |
| 182.90         | 2   |     |     |     | 2   | 7   | 9   | 6   | 3   |     | 4   | 8   | 182.90         | 187                        |
| 182.85         | 5   | 2   |     |     |     | 12  | 1   |     | 1   | 1   |     | 4   | 182.85         | 213                        |
| 182.80         | 13  | 3   | 1   |     | 13  | 5   |     |     |     |     | 1   | 1   | 182.80         | 250                        |
| 182.75         | 8   | 9   | 6   | 6   | 10  | 4   |     |     |     |     |     | 1   | 182.75         | 294                        |
| 182.70         | 2   | 12  | 6   | 7   | 6   | 1   |     |     |     |     |     |     | 182.70         | 328                        |
| 182.65         |     | 2   | 12  | 14  |     |     |     |     |     |     |     |     | 182.65         | 356                        |
| 182.60         |     |     | 6   | 3   |     |     |     |     |     |     |     |     | 182.60         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 182.86 | 182.85 | 182.73 | 182.68 | 182.78 | 182.77 | 182.95 | 182.97 | 182.98 | 183.02 | 182.97 | 183.06 |
| 2    | 182.84 | 182.77 | 182.78 | 182.76 | 182.75 | 182.75 | 182.91 | 182.96 | 183.00 | 182.98 | 183.04 | 183.02 |
| 3    | 182.82 | 182.74 | 182.73 | 182.74 | 182.74 | 182.86 | 182.91 | 182.95 | 182.93 | 182.90 | 183.08 | 182.96 |
| 4    | 182.90 | 182.74 | 182.70 | 182.76 | 182.75 | 182.83 | 182.97 | 183.00 | 182.96 | 183.04 | 183.08 | 183.04 |
| 5    | 182.86 | 182.76 | 182.70 | 182.80 | 182.79 | 182.78 | 182.97 | 183.06 | 182.97 | 183.01 | 183.04 | 182.95 |
| 6    | 182.83 | 182.77 | 182.68 | 182.76 | 182.74 | 182.83 | 182.94 | 183.04 | 182.98 | 183.05 | 183.06 | 183.05 |
| 7    | 182.85 | 182.74 | 182.65 | 182.72 | 182.72 | 182.82 | 182.89 | 183.00 | 183.00 | 183.02 | 183.09 | 182.97 |
| 8    | 182.77 | 182.76 | 182.63 | 182.70 | 182.73 | 182.80 | 182.93 | 182.97 | 182.94 | 183.00 | 182.97 | 182.95 |
| 9    | 182.84 | 182.77 | 182.66 | 182.70 | 182.78 | 182.86 | 182.97 | 182.98 | 182.97 | 183.00 | 183.01 | 182.99 |
| 10   | 182.78 | 182.83 | 182.68 | 182.74 | 182.92 | 182.86 | 182.99 | 183.02 | 183.00 | 182.97 | 183.11 | 182.98 |
| 11   | 182.95 | 182.78 | 182.64 | 182.73 | 182.78 | 182.81 | 182.99 | 183.02 | 182.94 | 182.98 | 183.15 | 182.90 |
| 12   | 182.97 | 182.69 | 182.65 | 182.71 | 182.78 | 182.79 | 183.00 | 183.00 | 182.97 | 182.98 | 183.16 | 182.93 |
| 13   | 182.86 | 182.89 | 182.69 | 182.67 | 182.76 | 182.83 | 182.98 | 182.99 | 182.90 | 182.96 | 183.02 | 183.06 |
| 14   | 182.73 | 182.76 | 182.67 | 182.66 | 182.76 | 182.88 | 182.97 | 182.97 | 183.08 | 182.97 | 182.94 | 182.91 |
| 15   | 182.81 | 182.75 | 182.64 | 182.75 | 182.79 | 182.89 | 182.96 | 182.99 | 183.03 | 183.00 | 182.99 | 182.93 |
| 16   | 182.79 | 182.73 | 182.67 | 182.70 | 182.76 | 182.86 | 182.95 | 182.96 | 183.04 | 182.97 | 183.05 | 182.92 |
| 17   | 182.82 | 182.73 | 182.75 | 182.78 | 182.83 | 182.86 | 182.93 | 182.97 | 183.01 | 182.98 | 182.97 | 182.92 |
| 18   | 182.91 | 182.73 | 182.77 | 182.68 | 182.91 | 182.93 | 182.98 | 182.98 | 182.96 | 183.20 | 182.91 | 182.97 |
| 19   | 182.79 | 182.88 | 182.75 | 182.64 | 182.83 | 182.89 | 182.97 | 182.95 | 183.02 | 183.05 | 182.97 | 182.90 |
| 20   | 182.82 | 182.72 | 182.72 | 182.70 | 182.84 | 182.87 | 182.99 | 182.96 | 183.00 | 182.96 | 182.91 | 182.80 |
| 21   | 182.76 | 182.72 | 182.70 | 182.68 | 182.83 | 182.90 | 182.99 | 182.97 | 182.98 | 183.08 | 182.85 | 182.93 |
| 22   | 182.84 | 182.78 | 182.79 | 182.67 | 182.81 | 182.92 | 182.99 | 182.96 | 183.12 | 183.03 | 182.99 | 183.00 |
| 23   | 182.76 | 182.74 | 182.82 | 182.63 | 182.82 | 182.98 | 182.99 | 182.93 | 183.11 | 183.03 | 183.06 | 182.97 |
| 24   | 182.82 | 182.79 | 182.76 | 182.65 | 182.82 | 182.94 | 182.97 | 182.93 | 183.02 | 183.11 | 183.00 | 182.98 |
| 25   | 182.86 | 182.72 | 182.79 | 182.67 | 182.81 | 182.90 | 182.97 | 182.93 | 183.03 | 183.06 | 183.14 | 183.04 |
| 26   | 182.79 | 182.68 | 182.76 | 182.67 | 182.83 | 182.94 | 182.96 | 182.97 | 183.01 | 182.96 | 182.92 | 183.03 |
| 27   | 182.83 | 182.83 | 182.72 | 182.70 | 182.82 | 182.92 | 182.95 | 182.96 | 183.02 | 183.12 | 182.99 | 182.86 |
| 28   | 182.81 | 182.74 | 182.70 | 182.68 | 182.84 | 182.87 | 182.94 | 182.99 | 183.02 | 183.11 | 183.08 | 182.85 |
| 29   | 182.76 |        | 182.66 | 182.73 | 182.83 | 182.93 | 182.98 | 182.98 | 183.00 | 183.00 | 183.04 | 182.97 |
| 30   | 182.82 |        | 182.68 | 182.76 | 182.81 | 182.95 | 183.04 | 182.96 | 183.00 | 183.05 | 182.97 | 182.96 |
| 31   | 182.74 |        | 182.65 |        | 182.79 |        | 183.00 | 182.93 |        | 183.01 |        | 182.89 |
| Mean | 182.83 | 182.76 | 182.71 | 182.71 | 182.80 | 182.87 | 182.97 | 182.97 | 183.00 | 183.02 | 183.02 | 182.96 |
| Max. | 183.27 | 183.02 | 182.94 | 182.88 | 183.01 | 183.05 | 183.12 | 183.17 | 183.24 | 183.43 | 183.42 | 183.26 |
| Hr.  | 2200   | 0800   | 1900   | 1300   | 2300   | 0900   | 1200   | 1300   | 2300   | 2100   | 1300   | 2100   |
| Day  | 27     | 19     | 22     | 15     | 10     | 23     | 8      | 26     | 22     | 27     | 11     | 1      |
| Min. | 182.61 | 182.55 | 182.55 | 182.51 | 182.58 | 182.61 | 182.71 | 182.69 | 182.77 | 182.77 | 182.68 | 182.64 |
| Hr.  | 1900   | 1800   | 0400   | 0400   | 1600   | 0200   | 1000   | 1100   | 0800   | 1500   | 0600   | 0700   |
| Day  | 31     | 12     | 12     | 26     | 7      | 13     | 8      | 26     | 13     | 3      | 21     | 20     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 182.88

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

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

HIGHEST

Monthly mean elevation: 183.05 Oct  
Daily mean elevation: 183.18 18 Oct  
Instant/hourly elevation: 183.30 1400/18 Oct

LOWEST

Monthly mean elevation: 182.74 Apr  
Daily mean elevation: 182.70 19 Apr  
Instant/hourly elevation: 182.65 2000/26 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 182.95<br>12 | 182.86<br>1  | 182.80<br>23 | 182.80<br>2  | 182.90<br>10 | 182.97<br>30 | 183.04<br>30 | 183.06<br>5  | 183.09<br>23 | 183.18<br>18 | 183.09<br>5  | 183.08<br>3  |
| Min Day | 182.82<br>29 | 182.72<br>26 | 182.72<br>11 | 182.70<br>19 | 182.78<br>1  | 182.83<br>1  | 182.97<br>7  | 182.99<br>31 | 182.99<br>11 | 183.00<br>13 | 182.99<br>21 | 182.92<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.15         |     |     |     |     |     |     |     |     |     | 1   |     |     | 183.15         | 1                          |
| 183.10         |     |     |     |     |     |     |     |     |     |     |     |     | 183.10         | 1                          |
| 183.05         |     |     |     |     |     |     |     |     |     |     |     |     | 183.05         | 33                         |
| 183.00         |     |     |     |     |     |     |     |     |     |     |     |     | 183.00         | 123                        |
| 182.95         |     |     |     |     |     |     |     |     |     |     |     |     | 182.95         | 182                        |
| 182.90         | 2   |     |     |     |     |     |     |     |     |     |     |     | 182.90         | 203                        |
| 182.85         | 12  | 1   |     |     |     |     |     |     |     |     |     |     | 182.85         | 236                        |
| 182.80         | 17  | 7   |     |     | 9   | 11  |     |     |     |     |     |     | 182.80         | 276                        |
| 182.75         |     | 17  | 13  | 9   | 8   | 14  | 2   |     |     |     |     |     | 182.75         | 323                        |
| 182.70         |     | 3   | 18  | 20  |     | 1   |     |     |     |     |     |     | 182.70         | 364                        |
| 182.65         |     |     |     |     |     |     |     |     |     |     |     |     | 182.65         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 182.89 | 182.86 | 182.74 | 182.76 | 182.78 | 182.83 | 182.97 | 183.01 | 183.01 | 183.03 | 183.05 | 183.02 |
| 2    | 182.87 | 182.84 | 182.77 | 182.80 | 182.79 | 182.84 | 182.97 | 183.01 | 183.03 | 183.02 | 183.07 | 183.03 |
| 3    | 182.87 | 182.81 | 182.77 | 182.77 | 182.79 | 182.90 | 182.98 | 183.01 | 183.00 | 183.01 | 183.07 | 183.08 |
| 4    | 182.89 | 182.80 | 182.74 | 182.75 | 182.80 | 182.87 | 182.97 | 183.03 | 183.00 | 183.03 | 183.09 | 183.07 |
| 5    | 182.89 | 182.80 | 182.73 | 182.77 | 182.80 | 182.86 | 182.98 | 183.06 | 183.00 | 183.04 | 183.09 | 182.99 |
| 6    | 182.85 | 182.80 | 182.73 | 182.75 | 182.79 | 182.86 | 182.97 | 183.04 | 183.01 | 183.07 | 183.07 | 183.00 |
| 7    | 182.86 | 182.79 | 182.72 | 182.74 | 182.80 | 182.87 | 182.97 | 183.02 | 183.02 | 183.04 | 183.07 | 182.99 |
| 8    | 182.85 | 182.80 | 182.72 | 182.73 | 182.82 | 182.87 | 182.98 | 183.02 | 183.00 | 183.04 | 183.03 | 182.97 |
| 9    | 182.90 | 182.80 | 182.72 | 182.75 | 182.81 | 182.88 | 183.00 | 183.04 | 183.00 | 183.04 | 183.04 | 182.99 |
| 10   | 182.85 | 182.80 | 182.72 | 182.75 | 182.90 | 182.87 | 183.00 | 183.04 | 183.01 | 183.04 | 183.05 | 182.99 |
| 11   | 182.91 | 182.81 | 182.72 | 182.75 | 182.81 | 182.87 | 183.01 | 183.04 | 182.99 | 183.00 | 183.08 | 182.97 |
| 12   | 182.95 | 182.78 | 182.73 | 182.73 | 182.81 | 182.88 | 183.01 | 183.03 | 183.00 | 183.01 | 183.08 | 182.97 |
| 13   | 182.87 | 182.83 | 182.75 | 182.72 | 182.80 | 182.90 | 183.00 | 183.02 | 183.01 | 183.00 | 183.03 | 183.01 |
| 14   | 182.84 | 182.81 | 182.74 | 182.72 | 182.82 | 182.91 | 183.00 | 183.00 | 183.08 | 183.02 | 182.99 | 182.96 |
| 15   | 182.85 | 182.80 | 182.73 | 182.74 | 182.82 | 182.92 | 183.00 | 183.02 | 183.06 | 183.02 | 183.04 | 182.97 |
| 16   | 182.86 | 182.83 | 182.74 | 182.73 | 182.85 | 182.91 | 183.00 | 183.02 | 183.06 | 183.02 | 183.04 | 182.95 |
| 17   | 182.85 | 182.80 | 182.76 | 182.76 | 182.86 | 182.93 | 183.00 | 183.02 | 183.04 | 183.09 | 183.01 | 182.96 |
| 18   | 182.86 | 182.77 | 182.79 | 182.72 | 182.86 | 182.94 | 183.00 | 183.04 | 183.02 | 183.18 | 182.99 | 183.01 |
| 19   | 182.83 | 182.80 | 182.77 | 182.70 | 182.86 | 182.93 | 183.02 | 183.02 | 183.03 | 183.08 | 183.01 | 182.97 |
| 20   | 182.86 | 182.76 | 182.76 | 182.72 | 182.86 | 182.94 | 183.02 | 183.01 | 183.04 | 183.06 | 183.00 | 182.93 |
| 21   | 182.83 | 182.75 | 182.77 | 182.72 | 182.86 | 182.93 | 183.02 | 183.01 | 183.03 | 183.08 | 182.99 | 182.98 |
| 22   | 182.84 | 182.77 | 182.79 | 182.72 | 182.86 | 182.95 | 183.02 | 183.00 | 183.09 | 183.07 | 183.01 | 182.99 |
| 23   | 182.84 | 182.79 | 182.80 | 182.71 | 182.86 | 182.97 | 183.02 | 183.00 | 183.09 | 183.08 | 183.03 | 182.96 |
| 24   | 182.84 | 182.83 | 182.77 | 182.72 | 182.85 | 182.95 | 183.02 | 183.00 | 183.04 | 183.10 | 183.03 | 182.95 |
| 25   | 182.87 | 182.78 | 182.76 | 182.73 | 182.85 | 182.95 | 183.01 | 183.01 | 183.04 | 183.09 | 183.06 | 182.97 |
| 26   | 182.83 | 182.72 | 182.78 | 182.74 | 182.85 | 182.95 | 183.01 | 183.02 | 183.04 | 183.04 | 183.03 | 182.95 |
| 27   | 182.83 | 182.79 | 182.76 | 182.76 | 182.85 | 182.96 | 183.01 | 183.02 | 183.03 | 183.10 | 183.04 | 182.93 |
| 28   | 182.82 | 182.75 | 182.75 | 182.78 | 182.86 | 182.96 | 183.00 | 183.02 | 183.04 | 183.10 | 183.06 | 182.92 |
| 29   | 182.82 |        | 182.75 | 182.78 | 182.85 | 182.96 | 183.02 | 183.02 | 183.04 | 183.06 | 183.03 | 182.97 |
| 30   | 182.84 |        | 182.73 | 182.79 | 182.84 | 182.97 | 183.04 | 183.01 | 183.03 | 183.08 | 183.00 | 182.98 |
| 31   | 182.83 |        | 182.73 |        | 182.84 |        | 183.03 | 182.99 |        | 183.06 |        | 182.92 |
| Mean | 182.86 | 182.79 | 182.75 | 182.74 | 182.83 | 182.91 | 183.00 | 183.02 | 183.03 | 183.05 | 183.04 | 182.98 |
| Max. | 183.04 | 182.95 | 182.87 | 182.87 | 182.96 | 183.05 | 183.14 | 183.11 | 183.23 | 183.30 | 183.19 | 183.15 |
| Hr.  | 1100   | 1900   | 2200   | 2200   | 1200   | 2300   | 1900   | 2100   | 0300   | 1400   | 1200   | 0200   |
| Day  | 12     | 16     | 13     | 27     | 10     | 29     | 8      | 18     | 14     | 18     | 27     | 4      |
| Min. | 182.72 | 182.69 | 182.65 | 182.65 | 182.73 | 182.77 | 182.76 | 182.93 | 182.90 | 182.91 | 182.91 | 182.86 |
| Hr.  | 1900   | 0500   | 0800   | 2000   | 2400   | 0200   | 1200   | 1800   | 0700   | 1600   | 0500   | 0100   |
| Day  | 6      | 18     | 16     | 26     | 7      | 3      | 8      | 31     | 12     | 17     | 21     | 29     |

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

Annual Mean 182.92

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990

Station: 909-9044 Ontonagon, Michigan on Lake Superior

HIGHEST

LOWEST

Monthly mean elevation: 183.07 Oct  
Daily mean elevation: 183.11 1 Nov  
Instant/hourly elevation: 183.35 1700/16 Aug

Monthly mean elevation: 182.76 Apr  
Daily mean elevation: 182.73 20 Apr  
Instant/hourly elevation: 182.63 2300/25 Apr

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 182.90<br>14 | 182.84<br>12 | 182.85<br>15 | 182.83<br>28 | 182.90<br>19 | 183.00<br>28 | 183.05<br>28 | 183.06<br>16 | 183.08<br>20 | 183.11<br>31 | 183.11<br>1  | 183.05<br>3  |
| Min Day | 182.84<br>30 | 182.76<br>28 | 182.75<br>31 | 182.73<br>20 | 182.79<br>1  | 182.87<br>4  | 182.99<br>4  | 183.01<br>21 | 183.00<br>10 | 183.02<br>11 | 183.02<br>16 | 182.96<br>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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.10         |     |     |     |     |     |     |     |     |     | 6   | 1   |     | 183.10         | 7                          |
| 183.05         |     |     |     |     |     |     |     | 4   | 7   | 13  | 13  |     | 183.05         | 44                         |
| 183.00         |     |     |     |     |     |     | 25  | 27  | 22  | 12  | 16  | 7   | 183.00         | 153                        |
| 182.95         |     |     |     |     |     |     | 12  | 6   | 1   |     |     | 24  | 182.95         | 196                        |
| 182.90         |     |     |     |     |     |     | 9   |     |     |     |     |     | 182.90         | 205                        |
| 182.85         | 25  |     |     |     | 17  |     | 9   |     |     |     |     |     | 182.85         | 256                        |
| 182.80         | 6   | 15  | 4   | 1   | 12  |     |     |     |     |     |     |     | 182.80         | 294                        |
| 182.75         |     | 13  | 23  | 10  | 2   |     |     |     |     |     |     |     | 182.75         | 342                        |
| 182.70         |     |     | 4   | 19  |     |     |     |     |     |     |     |     | 182.70         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

Station: 909-9044 Ontonagon, Michigan on Lake Superior

International  
Great Lakes  
Datum (1955)

| Day  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1    | 182.88 | 182.84 | 182.75 | 182.79 | 182.79 | 182.87 | 183.00 | 183.04 | 183.03 | 183.04 | 183.11 | 183.02 |
| 2    | 182.88 | 182.84 | 182.76 | 182.77 | 182.81 | 182.91 | 183.00 | 183.05 | 183.03 | 183.06 | 183.09 | 183.03 |
| 3    | 182.90 | 182.83 | 182.76 | 182.74 | 182.83 | 182.88 | 183.00 | 183.06 | 183.04 | 183.08 | 183.09 | 183.05 |
| 4    | 182.89 | 182.83 | 182.77 | 182.74 | 182.83 | 182.87 | 182.99 | 183.05 | 183.03 | 183.05 | 183.09 | 182.98 |
| 5    | 182.90 | 182.83 | 182.76 | 182.74 | 182.81 | 182.90 | 183.00 | 183.03 | 183.04 | 183.07 | 183.10 | 183.00 |
| 6    | 182.88 | 182.83 | 182.76 | 182.74 | 182.83 | 182.88 | 183.00 | 183.03 | 183.05 | 183.05 | 183.08 | 182.98 |
| 7    | 182.88 | 182.83 | 182.76 | 182.74 | 182.86 | 182.89 | 183.01 | 183.04 | 183.02 | 183.05 | 183.07 | 183.00 |
| 8    | 182.90 | 182.83 | 182.78 | 182.75 | 182.83 | 182.90 | 183.02 | 183.04 | 183.01 | 183.04 | 183.08 | 183.01 |
| 9    | 182.89 | 182.83 | 182.75 | 182.75 | 182.83 | 182.89 | 183.02 | 183.06 | 183.01 | 183.03 | 183.07 | 182.99 |
| 10   | 182.89 | 182.82 | 182.75 | 182.73 | 182.80 | 182.90 | 183.02 | 183.06 | 183.00 | 183.03 | 183.05 | 183.00 |
| 11   | 182.88 | 182.82 | 182.79 | 182.74 | 182.81 | 182.93 | 183.02 | 183.05 | 183.03 | 183.02 | 183.04 | 183.02 |
| 12   | 182.88 | 182.84 | 182.82 | 182.73 | 182.83 | 182.93 | 183.03 | 183.03 | 183.04 | 183.03 | 183.04 | 182.99 |
| 13   | 182.88 | 182.79 | 182.80 | 182.74 | 182.84 | 182.94 | 183.01 | 183.03 | 183.07 | 183.05 | 183.05 | 182.99 |
| 14   | 182.90 | 182.80 | 182.83 | 182.75 | 182.85 | 182.93 | 183.04 | 183.04 | 183.03 | 183.04 | 183.06 | 182.98 |
| 15   | 182.86 | 182.82 | 182.85 | 182.73 | 182.85 | 182.93 | 183.04 | 183.04 | 183.07 | 183.04 | 183.05 | 182.99 |
| 16   | 182.87 | 182.83 | 182.83 | 182.76 | 182.88 | 182.95 | 183.03 | 183.06 | 183.04 | 183.07 | 183.02 | 182.98 |
| 17   | 182.86 | 182.80 | 182.80 | 182.73 | 182.87 | 182.95 | 183.04 | 183.05 | 183.04 | 183.09 | 183.03 | 182.98 |
| 18   | 182.85 | 182.80 | 182.80 | 182.74 | 182.86 | 182.95 | 183.03 | 183.04 | 183.05 | 183.06 | 183.04 | 182.99 |
| 19   | 182.86 | 182.78 | 182.79 | 182.74 | 182.90 | 182.98 | 183.03 | 183.03 | 183.04 | 183.09 | 183.04 | 182.99 |
| 20   | 182.87 | 182.79 | 182.78 | 182.73 | 182.89 | 182.98 | 183.03 | 183.03 | 183.08 | 183.11 | 183.06 | 183.01 |
| 21   | 182.86 | 182.78 | 182.80 | 182.74 | 182.89 | 182.97 | 183.04 | 183.01 | 183.07 | 183.09 | 183.08 | 183.01 |
| 22   | 182.84 | 182.79 | 182.77 | 182.75 | 182.89 | 182.97 | 183.05 | 183.02 | 183.07 | 183.11 | 183.04 | 182.98 |
| 23   | 182.88 | 182.81 | 182.78 | 182.76 | 182.89 | 182.96 | 183.04 | 183.03 | 183.04 | 183.11 | 183.04 | 182.98 |
| 24   | 182.85 | 182.78 | 182.76 | 182.76 | 182.89 | 182.97 | 183.04 | 183.04 | 183.06 | 183.09 | 183.06 | 182.99 |
| 25   | 182.85 | 182.77 | 182.77 | 182.76 | 182.89 | 182.98 | 183.04 | 183.04 | 183.05 | 183.09 | 183.03 | 182.99 |
| 26   | 182.86 | 182.78 | 182.76 | 182.77 | 182.88 | 182.97 | 183.05 | 183.04 | 183.05 | 183.11 | 183.08 | 182.98 |
| 27   | 182.84 | 182.76 | 182.76 | 182.79 | 182.87 | 182.99 | 183.05 | 183.04 | 183.05 | 183.09 | 183.05 | 183.00 |
| 28   | 182.86 | 182.76 | 182.78 | 182.83 | 182.87 | 183.00 | 183.05 | 183.02 | 183.05 | 183.09 | 183.03 | 182.98 |
| 29   | 182.86 |        | 182.77 | 182.80 | 182.87 | 182.99 | 183.04 | 183.03 | 183.06 | 183.11 | 183.03 | 182.98 |
| 30   | 182.84 |        | 182.76 | 182.80 | 182.86 | 182.99 | 183.02 | 183.03 | 183.04 | 183.09 | 183.04 | 182.98 |
| 31   | 182.86 |        | 182.75 |        | 182.86 |        | 183.04 | 183.04 |        | 183.11 |        | 182.96 |
| Mean | 182.87 | 182.81 | 182.78 | 182.76 | 182.85 | 182.94 | 183.03 | 183.04 | 183.04 | 183.07 | 183.06 | 183.00 |
| Max. | 182.94 | 182.89 | 182.91 | 182.91 | 182.94 | 183.06 | 183.11 | 183.35 | 183.20 | 183.18 | 183.15 | 183.10 |
| Hr.  | 0400   | 1500   | 0800   | 1100   | 0200   | 1900   | 1400   | 1700   | 2100   | 0500   | 0300   | 0200   |
| Day  | 8      | 12     | 16     | 28     | 8      | 28     | 18     | 16     | 13     | 21     | 4      | 1      |
| Min. | 182.72 | 182.73 | 182.68 | 182.63 | 182.72 | 182.82 | 182.90 | 182.99 | 182.92 | 182.95 | 182.93 | 182.92 |
| Hr.  | 2100   | 2300   | 1800   | 2300   | 1900   | 1400   | 0600   | 1600   | 0800   | 2100   | 0600   | 0700   |
| Day  | 27     | 27     | 24     | 25     | 8      | 3      | 4      | 28     | 14     | 6      | 28     | 14     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 182.94

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 909-9064 Duluth, Minnesota on Lake Superior

HIGHEST

Monthly mean elevation: 183.11 Oct  
Daily mean elevation: 183.25 17 Oct  
Instant/hourly elevation: 183.38 1100/17 Oct

LOWEST

Monthly mean elevation: 182.80 Apr  
Daily mean elevation: 182.70 1 Mar  
Instant/hourly elevation: 182.51 2000/27 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 182.96<br>23 | 182.91<br>2  | 182.88<br>15 | 182.89<br>28 | 182.98<br>7  | 183.07<br>28 | 183.16<br>27 | 183.21<br>19 | 183.16<br>12 | 183.25<br>17 | 183.18<br>26 | 183.14<br>3  |
| Min Day | 182.77<br>11 | 182.73<br>27 | 182.70<br>1  | 182.74<br>17 | 182.81<br>10 | 182.90<br>6  | 183.03<br>4  | 183.06<br>28 | 183.05<br>23 | 183.02<br>4  | 182.97<br>23 | 182.90<br>25 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.20         |     |     |     |     |     |     |     | 1   |     | 1   |     |     | 183.20         |                            |
| 183.15         |     |     |     |     |     |     |     | 1   | 1   | 5   | 2   |     | 183.15         | 2                          |
| 183.10         |     |     |     |     |     |     | 3   | 10  | 14  | 9   | 7   | 1   | 183.10         | 12                         |
| 183.05         |     |     |     |     |     | 1   | 23  | 19  | 13  | 14  | 10  | 5   | 183.05         | 56                         |
| 183.00         |     |     |     |     |     | 9   | 4   |     | 2   | 2   | 8   | 11  | 183.00         | 141                        |
| 182.95         | 1   |     |     |     | 3   | 14  |     |     |     |     | 3   | 8   | 182.95         | 177                        |
| 182.90         | 13  | 1   |     |     | 15  | 5   |     |     |     |     |     | 4   | 182.90         | 206                        |
| 182.85         | 10  | 12  | 4   | 3   | 11  | 1   |     |     |     |     |     | 2   | 182.85         | 244                        |
| 182.80         | 5   | 4   | 14  | 9   | 2   |     |     |     |     |     |     |     | 182.80         | 287                        |
| 182.75         | 2   | 10  | 7   | 15  |     |     |     |     |     |     |     |     | 182.75         | 321                        |
| 182.70         | 1   |     | 5   | 3   |     |     |     |     |     |     |     |     | 182.70         | 355                        |
| 182.65         |     |     | 1   |     |     |     |     |     |     |     |     |     | 182.65         | 364                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     |                | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 182.88 | 182.86 | 182.70 | 182.84 | 182.81 | 182.95 | 183.05 | 183.11 | 183.05 | 183.06 | 183.17 | 183.00 |
| 2    | 182.92 | 182.91 | 182.72 | 182.80 | 182.86 | 182.99 | 183.05 | 183.12 | 183.09 | 183.13 | 183.11 | 183.09 |
| 3    | 182.92 | 182.89 | 182.78 | 182.81 | 182.89 | 182.91 | 183.08 | 183.10 | 183.12 | 183.11 | 183.09 | 183.14 |
| 4    | 182.90 | 182.89 | 182.83 | 182.77 | 182.88 | 182.92 | 183.03 | 183.06 | 183.09 | 183.02 | 183.12 | 183.03 |
| 5    | 182.93 | 182.86 | 182.81 | 182.76 | 182.86 | 182.98 | 183.04 | 183.08 | 183.11 | 183.09 | 183.14 | 183.03 |
| 6    | 182.89 | 182.86 | 182.82 | 182.75 | 182.86 | 182.90 | 183.06 | 183.09 | 183.12 | 183.06 | 183.08 | 182.98 |
| 7    | 182.90 | 182.87 | 182.82 | 182.77 | 182.98 | 182.95 | 183.10 | 183.09 | 183.14 | 183.08 | 183.08 | 183.01 |
| 8    | 182.93 | 182.86 | 182.84 | 182.79 | 182.89 | 182.96 | 183.06 | 183.07 | 183.11 | 183.09 | 183.11 | 183.06 |
| 9    | 182.91 | 182.82 | 182.78 | 182.83 | 182.91 | 182.92 | 183.06 | 183.08 | 183.09 | 183.08 | 183.04 | 182.98 |
| 10   | 182.93 | 182.81 | 182.78 | 182.77 | 182.81 | 182.96 | 183.09 | 183.11 | 183.08 | 183.09 | 183.02 | 183.07 |
| 11   | 182.77 | 182.85 | 182.86 | 182.76 | 182.87 | 183.00 | 183.09 | 183.11 | 183.11 | 183.07 | 183.01 | 183.10 |
| 12   | 182.86 | 182.90 | 182.84 | 182.76 | 182.88 | 183.00 | 183.08 | 183.10 | 183.16 | 183.07 | 183.02 | 182.98 |
| 13   | 182.91 | 182.76 | 182.82 | 182.79 | 182.90 | 182.99 | 183.08 | 183.09 | 183.15 | 183.12 | 183.09 | 182.99 |
| 14   | 182.94 | 182.84 | 182.86 | 182.79 | 182.92 | 182.97 | 183.10 | 183.08 | 183.08 | 183.07 | 183.11 | 183.01 |
| 15   | 182.89 | 182.89 | 182.88 | 182.76 | 182.93 | 183.00 | 183.09 | 183.08 | 183.13 | 183.04 | 183.09 | 183.03 |
| 16   | 182.93 | 182.90 | 182.83 | 182.74 | 182.94 | 183.04 | 183.07 | 183.08 | 183.14 | 183.10 | 183.04 | 183.01 |
| 17   | 182.87 | 182.87 | 182.77 | 182.74 | 182.86 | 183.00 | 183.10 | 183.11 | 183.14 | 183.25 | 183.08 | 183.01 |
| 18   | 182.83 | 182.77 | 182.78 | 182.77 | 182.86 | 182.97 | 183.06 | 183.20 | 183.12 | 183.06 | 183.09 | 183.04 |
| 19   | 182.88 | 182.76 | 182.79 | 182.79 | 182.97 | 183.05 | 183.08 | 183.21 | 183.08 | 183.18 | 183.08 | 183.08 |
| 20   | 182.95 | 182.80 | 182.83 | 182.79 | 182.95 | 183.02 | 183.07 | 183.14 | 183.15 | 183.16 | 183.15 | 183.05 |
| 21   | 182.88 | 182.78 | 182.86 | 182.79 | 182.93 | 182.99 | 183.08 | 183.09 | 183.09 | 183.10 | 183.11 | 183.04 |
| 22   | 182.83 | 182.80 | 182.72 | 182.81 | 182.94 | 183.00 | 183.08 | 183.10 | 183.06 | 183.18 | 183.00 | 182.90 |
| 23   | 182.96 | 182.86 | 182.75 | 182.83 | 182.94 | 182.99 | 183.08 | 183.11 | 183.05 | 183.13 | 182.97 | 182.94 |
| 24   | 182.85 | 182.76 | 182.72 | 182.81 | 182.94 | 183.02 | 183.10 | 183.11 | 183.07 | 183.13 | 183.06 | 182.97 |
| 25   | 182.85 | 182.80 | 182.74 | 182.83 | 182.96 | 183.02 | 183.11 | 183.11 | 183.08 | 183.15 | 183.01 | 182.90 |
| 26   | 182.90 | 182.80 | 182.79 | 182.83 | 182.91 | 183.03 | 183.15 | 183.08 | 183.09 | 183.17 | 183.18 | 182.95 |
| 27   | 182.79 | 182.73 | 182.82 | 182.87 | 182.91 | 183.05 | 183.16 | 183.11 | 183.08 | 183.06 | 183.10 | 183.03 |
| 28   | 182.92 | 182.78 | 182.85 | 182.89 | 182.93 | 183.07 | 183.13 | 183.06 | 183.09 | 183.13 | 182.99 | 183.00 |
| 29   | 182.93 |        | 182.83 | 182.86 | 182.92 | 183.03 | 183.10 | 183.07 | 183.12 | 183.15 | 183.04 | 182.93 |
| 30   | 182.81 |        | 182.81 | 182.82 | 182.91 | 183.03 | 183.09 | 183.08 | 183.11 | 183.14 | 183.05 | 182.96 |
| 31   | 182.91 |        | 182.81 |        | 182.91 |        | 183.09 | 183.10 |        | 183.17 |        | 182.95 |
| Mean | 182.89 | 182.83 | 182.80 | 182.80 | 182.90 | 182.99 | 183.08 | 183.10 | 183.10 | 183.11 | 183.08 | 183.01 |
| Max. | 183.10 | 183.04 | 182.97 | 183.02 | 183.14 | 183.16 | 183.22 | 183.30 | 183.30 | 183.38 | 183.32 | 183.26 |
| Hr.  | 0200   | 0800   | 0900   | 1900   | 2300   | 2000   | 1800   | 0200   | 2300   | 1100   | 0600   | 0700   |
| Day  | 8      | 16     | 15     | 27     | 7      | 27     | 26     | 19     | 12     | 17     | 21     | 3      |
| Min. | 182.51 | 182.63 | 182.56 | 182.66 | 182.66 | 182.81 | 182.91 | 182.94 | 182.93 | 182.94 | 182.84 | 182.79 |
| Hr.  | 2000   | 1600   | 1200   | 0200   | 1300   | 0900   | 0600   | 0900   | 1200   | 0800   | 2300   | 1100   |
| Day  | 27     | 18     | 1      | 17     | 1      | 6      | 4      | 4      | 14     | 4      | 21     | 22     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 182.97

International  
Great Lakes  
Datum (1955)

Annual Summary of Levels, in Meters, 1990  
Station: 909-9090 Grand Marais, Minnesota on Lake Superior

HIGHEST

Monthly mean elevation: 183.04 Oct  
Daily mean elevation: 183.11 26 Oct  
Instant/hourly elevation: 183.21 2000/13 Sep

LOWEST

Monthly mean elevation: 182.74 Apr  
Daily mean elevation: 182.69 2 Mar  
Instant/hourly elevation: 182.60 2100/27 Jan

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

|         | Jan          | Feb          | Mar          | Apr          | May          | Jun          | Jul          | Aug          | Sep          | Oct          | Nov          | Dec          |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max Day | 182.89<br>10 | 182.83<br>3  | 182.81<br>15 | 182.81<br>28 | 182.86<br>25 | 182.98<br>28 | 183.04<br>17 | 183.04<br>2  | 183.07<br>15 | 183.11<br>26 | 183.10<br>1  | 183.01<br>3  |
| Min Day | 182.79<br>30 | 182.70<br>27 | 182.69<br>2  | 182.70<br>17 | 182.76<br>10 | 182.85<br>3  | 182.96<br>5  | 183.00<br>28 | 182.99<br>1  | 183.00<br>18 | 182.97<br>28 | 182.89<br>25 |

----- 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. |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------------------|
| 183.10         |     |     |     |     |     |     |     |     |     | 1   |     |     | 183.10         |                            |
| 183.05         |     |     |     |     |     |     |     |     | 3   | 13  | 6   |     | 183.05         | 1                          |
| 183.00         |     |     |     |     |     |     |     |     |     |     |     |     | 183.00         | 23                         |
| 182.95         |     |     |     |     |     |     | 5   | 14  | 27  | 21  | 10  | 16  | 183.00         | 112                        |
| 182.90         |     |     |     |     |     |     | 17  | 4   | 6   | 7   | 8   | 16  | 182.95         | 175                        |
| 182.85         | 8   |     |     |     |     | 5   | 11  |     |     |     |     | 13  | 182.90         | 201                        |
| 182.80         | 18  | 7   | 1   | 1   | 20  | 1   |     |     |     |     |     | 1   | 182.85         | 226                        |
| 182.75         | 5   | 11  | 5   | 6   | 6   | 1   |     |     |     |     |     |     | 182.80         | 274                        |
| 182.70         |     | 9   | 23  | 21  |     |     |     |     |     |     |     |     | 182.75         | 307                        |
| 182.65         |     | 1   | 2   | 2   |     |     |     |     |     |     |     |     | 182.70         | 360                        |
|                |     |     |     |     |     |     |     |     |     |     |     |     | 182.65         | 365                        |

Daily Mean Water Levels, Monthly Means and Extremes, in Meters, 1990

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    | 182.85 | 182.80 | 182.69 | 182.76 | 182.77 | 182.87 | 182.97 | 183.03 | 182.99 | 183.02 | 183.10 | 182.97 |
| 2    | 182.87 | 182.83 | 182.69 | 182.73 | 182.80 | 182.90 | 182.97 | 183.04 | 183.00 | 183.05 | 183.06 | 183.00 |
| 3    | 182.88 | 182.83 | 182.72 | 182.74 | 182.80 | 182.85 | 182.97 | 183.02 | 183.02 | 183.06 | 183.06 | 183.01 |
| 4    | 182.85 | 182.82 | 182.73 | 182.71 | 182.81 | 182.86 | 182.96 | 183.00 | 183.01 | 183.00 | 183.05 | 182.97 |
| 5    | 182.86 | 182.81 | 182.73 | 182.71 | 182.79 | 182.88 | 182.96 | 183.00 | 183.01 | 183.01 | 183.07 | 183.00 |
| 6    | 182.86 | 182.81 | 182.74 | 182.71 | 182.81 | 182.86 | 182.97 | 183.01 | 183.00 | 183.00 | 183.04 | 182.95 |
| 7    | 182.85 | 182.81 | 182.74 | 182.72 | 182.83 | 182.88 | 183.00 | 183.01 | 183.01 | 183.01 | 183.03 | 182.98 |
| 8    | 182.89 | 182.79 | 182.75 | 182.73 | 182.80 | 182.89 | 182.99 | 183.01 | 183.01 | 183.00 | 183.06 | 182.99 |
| 9    | 182.86 | 182.79 | 182.73 | 182.74 | 182.82 | 182.87 | 183.00 | 183.02 | 183.01 | 183.01 | 183.02 | 182.94 |
| 10   | 182.89 | 182.77 | 182.72 | 182.71 | 182.76 | 182.88 | 182.99 | 183.02 | 183.00 | 183.00 | 183.00 | 182.96 |
| 11   | 182.79 | 182.79 | 182.75 | 182.71 | 182.81 | 182.90 | 182.99 | 183.01 | 183.01 | 183.01 | 182.98 | 183.00 |
| 12   | 182.83 | 182.81 | 182.76 | 182.71 | 182.82 | 182.93 | 182.98 | 183.00 | 183.02 | 183.00 | 182.98 | 182.95 |
| 13   | 182.85 | 182.75 | 182.75 | 182.73 | 182.83 | 182.91 | 183.00 | 183.01 | 183.05 | 183.03 | 183.02 | 182.95 |
| 14   | 182.87 | 182.78 | 182.77 | 182.73 | 182.83 | 182.91 | 183.00 | 183.01 | 183.03 | 183.01 | 183.03 | 182.96 |
| 15   | 182.83 | 182.80 | 182.81 | 182.71 | 182.83 | 182.90 | 183.00 | 183.01 | 183.07 | 183.00 | 183.02 | 182.96 |
| 16   | 182.84 | 182.79 | 182.78 | 182.70 | 182.85 | 182.92 | 183.00 | 183.01 | 183.04 | 183.01 | 182.99 | 182.96 |
| 17   | 182.83 | 182.79 | 182.74 | 182.70 | 182.83 | 182.92 | 183.04 | 183.02 | 183.06 | 183.06 | 183.01 | 182.96 |
| 18   | 182.80 | 182.75 | 182.74 | 182.73 | 182.82 | 182.92 | 183.00 | 183.03 | 183.06 | 183.00 | 183.03 | 182.95 |
| 19   | 182.83 | 182.73 | 182.75 | 182.74 | 182.86 | 182.96 | 183.01 | 183.02 | 183.03 | 183.07 | 183.01 | 182.99 |
| 20   | 182.83 | 182.77 | 182.76 | 182.72 | 182.85 | 182.94 | 183.01 | 183.01 | 183.05 | 183.08 | 183.05 | 183.00 |
| 21   | 182.84 | 182.75 | 182.77 | 182.73 | 182.85 | 182.94 | 183.01 | 183.01 | 183.04 | 183.06 | 183.06 | 182.98 |
| 22   | 182.80 | 182.74 | 182.71 | 182.73 | 182.86 | 182.93 | 183.01 | 183.01 | 183.00 | 183.10 | 183.01 | 182.91 |
| 23   | 182.85 | 182.76 | 182.71 | 182.75 | 182.86 | 182.92 | 183.01 | 183.01 | 183.00 | 183.08 | 182.97 | 182.92 |
| 24   | 182.82 | 182.72 | 182.72 | 182.74 | 182.86 | 182.94 | 183.01 | 183.01 | 183.03 | 183.06 | 183.00 | 182.93 |
| 25   | 182.81 | 182.75 | 182.71 | 182.76 | 182.86 | 182.95 | 183.02 | 183.03 | 183.02 | 183.08 | 182.97 | 182.89 |
| 26   | 182.84 | 182.75 | 182.73 | 182.76 | 182.85 | 182.95 | 183.03 | 183.03 | 183.03 | 183.11 | 183.04 | 182.92 |
| 27   | 182.79 | 182.70 | 182.74 | 182.78 | 182.85 | 182.96 | 183.03 | 183.02 | 183.01 | 183.04 | 183.04 | 182.98 |
| 28   | 182.83 | 182.74 | 182.75 | 182.81 | 182.85 | 182.98 | 183.03 | 183.00 | 183.02 | 183.06 | 182.97 | 182.94 |
| 29   | 182.85 |        | 182.75 | 182.80 | 182.84 | 182.96 | 183.01 | 183.01 | 183.03 | 183.08 | 183.01 | 182.91 |
| 30   | 182.79 |        | 182.75 | 182.79 | 182.84 | 182.97 | 183.01 | 183.01 | 183.03 | 183.07 | 183.01 | 182.91 |
| 31   | 182.84 |        | 182.75 |        | 182.85 |        | 183.03 | 183.03 |        | 183.08 |        | 182.91 |
| Mean | 182.84 | 182.78 | 182.74 | 182.74 | 182.83 | 182.92 | 183.00 | 183.01 | 183.02 | 183.04 | 183.02 | 182.96 |
| Max. | 182.99 | 182.94 | 182.92 | 182.95 | 182.91 | 183.11 | 183.16 | 183.14 | 183.21 | 183.18 | 183.18 | 183.12 |
| Hr.  | 0400   | 1300   | 1600   | 0200   | 0100   | 1700   | 0500   | 1600   | 2000   | 1100   | 1300   | 1200   |
| Day  | 3      | 12     | 15     | 29     | 8      | 2      | 8      | 31     | 13     | 3      | 21     | 5      |
| Min. | 182.60 | 182.65 | 182.61 | 182.64 | 182.67 | 182.78 | 182.85 | 182.95 | 182.73 | 182.84 | 182.82 | 182.81 |
| Hr.  | 2100   | 0500   | 1300   | 0200   | 1000   | 0500   | 1100   | 0900   | 0100   | 1100   | 2300   | 1500   |
| Day  | 27     | 27     | 1      | 17     | 8      | 5      | 8      | 5      | 12     | 6      | 24     | 25     |

\* Indicates Less than 90% of the Hourly Data Available.

/ Indicates No Data.

Annual Mean 182.91

**Monthly Water Level Stages, in Meters, 1900 thru Dec 1990**

**Lake Ontario at Oswego**

International Great Lakes Datum (1955) Chart Datum  
74.0

|      | 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 | 75.01 | 75.12 | 75.22 | 75.50 | 75.58 | 75.61 | 75.51 | 75.42 | 75.26 | 75.08 | 75.04 | 75.04 |
| Mean | 74.39 | 74.42 | 74.50 | 74.71 | 74.83 | 74.87 | 74.83 | 74.73 | 74.60 | 74.48 | 74.40 | 74.38 |
|      | 1935  | 1936  | 1935  | 1935  | 1935  | 1935  | 1934  | 1934  | 1934  | 1934  | 1934  | 1934  |
| Low  | 73.66 | 73.64 | 73.79 | 73.88 | 73.97 | 74.04 | 73.99 | 73.84 | 73.74 | 73.68 | 73.59 | 73.60 |

**Monthly Changes**

Dec-Jan Jan-Feb Feb-Mar Mar-Apr Apr-May May-Jun Jun-Jul Jul-Aug Aug-Sep Sep-Oct Oct-Nov Nov-Dec

|          |       |       |       |       |       |       |       |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | 1973  | 1932  | 1976  | 1936  | 1929  | 1947  | 1917  | 1915  | 1915  | 1945  | 1926  | 1927  |
| Max Rise | +0.26 | +0.21 | +0.35 | +0.47 | +0.30 | +0.34 | +0.15 | +0.09 | +0.01 | +0.11 | +0.09 | +0.24 |
| Mean     | +0.01 | +0.03 | +0.08 | +0.21 | +0.12 | +0.04 | -0.03 | -0.11 | -0.13 | -0.12 | -0.08 | -0.02 |
|          | 1918  | 1964  | 1978  | 1915  | 1987  | 1987  | 1978  | 1973  | 1974  | 1974  | 1964  | 1904  |
| Max Fall | -0.18 | -0.16 | -0.15 | -0.07 | -0.07 | -0.11 | -0.18 | -0.26 | -0.28 | -0.28 | -0.20 | -0.17 |

1900 thru 1990 mean 74.60

**Monthly Water Level Stages, in Meters, 1900 thru Dec 1990**

**Lake Erie at Cleveland**

|             |        |        |        |        |        |        |        |        |        |        |        | International Great Lakes Datum (1955) |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Chart Datum | 173.3  |        |        |        |        |        |        |        |        |        |        |  |
|             | 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        | 174.67 | 174.60 | 174.68 | 174.79 | 174.78 | 174.86 | 174.85 | 174.76 | 174.64 | 174.74 | 174.65 | 174.68                                 |
| Mean        | 173.73 | 173.73 | 173.81 | 173.98 | 174.06 | 174.10 | 174.09 | 174.03 | 173.94 | 173.84 | 173.76 | 173.74                                 |
|             | 1935   | 1936   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934                                   |
| Low         | 173.01 | 172.97 | 173.02 | 173.19 | 173.26 | 173.27 | 173.27 | 173.24 | 173.20 | 173.11 | 173.00 | 172.98                                 |

**Monthly Changes**

|          | Dec-Jan | Jan-Feb | Feb-Mar | Mar-Apr | Apr-May | May-Jun | Jun-Jul | Jul-Aug | Aug-Sep | Sep-Oct | Oct-Nov | Nov-Dec |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Max Rise | 1950    | 1990    | 1976    | 1913    | 1947    | 1989    | 1902    | 1915    | 1926    | 1986    | 1985    | 1927    |
| Mean     | +0.24   | +0.21   | +0.34   | +0.48   | +0.29   | +0.20   | +0.19   | +0.08   | +0.04   | +0.11   | +0.16   | +0.16   |
|          | +0.00   | +0.00   | +0.08   | +0.16   | +0.09   | +0.04   | -0.02   | -0.06   | -0.09   | -0.10   | -0.08   | -0.02   |
| Max Fall | 1918    | 1956    | 1931    | 1918    | 1985    | 1977    | 1919    | 1930    | 1937    | 1966    | 1924    | 1917    |
| Fall     | -0.20   | -0.17   | -0.09   | +0.01   | -0.05   | -0.07   | -0.10   | -0.14   | -0.17   | -0.20   | -0.20   | -0.13   |

1900 thru 1990 mean 173.90

**Monthly Water Level Stages, in Meters, 1900 thru Dec 1990**

**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**

|  |        |        |        |        |        |        |        |        |        |        |        | Chart  | Datum |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| International Great Lakes Datum (1955) |        |        |        |        |        |        |        |        |        |        |        |        | 174.2 |
|  | 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                                   | 175.60 | 175.62 | 175.62 | 175.63 | 175.64 | 175.72 | 175.74 | 175.70 | 175.66 | 175.78 | 175.63 | 175.61 |       |
| Mean                                   | 174.60 | 174.53 | 174.65 | 174.81 | 174.90 | 174.95 | 174.97 | 174.94 | 174.87 | 174.79 | 174.70 | 174.71 |       |
|  | 1936   | 1926   | 1934   | 1901   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1934   | 1925   |       |
| Low                                    | 173.69 | 173.70 | 173.86 | 174.07 | 174.24 | 174.27 | 174.31 | 174.22 | 174.15 | 174.08 | 173.99 | 174.06 |       |

**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 Rise | +0.17 | +0.30 | +0.55 | +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 | -0.06 | -0.09 | -0.09 | +0.00 |  |
|          | 1956  | 1939  | 1932  | 1984  | 1987  | 1977  | 1919  | 1921  | 1913  | 1948  | 1924  | 1919  |  |
| Max Fall | -0.57 | -0.51 | -0.25 | -0.47 | -0.05 | -0.05 | -0.06 | -0.10 | -0.15 | -0.17 | -0.20 | -0.15 |  |

1900 thru 1990 mean 174.78

**Monthly Water Level Stages, in Meters, 1900 thru Dec 1990**

**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<br>175.8 |        |        |        |        |        |        |        |        |        |        |        |        | 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                 | 176.98 | 176.89 | 176.91 | 177.01 | 177.06 | 177.11 | 177.17 | 177.19 | 177.17 | 177.28 | 177.18 | 177.05 |  |
| Mean                 | 176.15 | 176.14 | 176.15 | 176.23 | 176.32 | 176.39 | 176.43 | 176.42 | 176.37 | 176.30 | 176.24 | 176.19 |  |
|                      | 1965   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   | 1964   |  |
| Low                  | 175.38 | 175.39 | 175.37 | 175.37 | 175.50 | 175.53 | 175.55 | 175.56 | 175.55 | 175.49 | 175.43 | 175.38 |  |

**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

|      |       |       |       |       |       |       |       |       |       |       |       |       |  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Max  | 1960  | 1938  | 1976  | 1929  | 1960  | 1943  | 1917  | 1972  | 1972  | 1986  | 1928  | 1934  |  |
| Rise | +0.04 | +0.11 | +0.11 | +0.21 | +0.25 | +0.21 | +0.13 | +0.05 | +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  | -0.12 | -0.09 | -0.08 | -0.04 | -0.02 | -0.02 | -0.06 | -0.08 | -0.17 | -0.17 | -0.16 | -0.16 |  |
| Fall |       |       |       |       |       |       |       |       |       |       |       |       |  |

1900 thru 1990 mean 176.28

**Monthly Water Level Stages, in Meters, 1900 thru Dec 1990**

**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<br>182.9 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|
|  | 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                                   | 183.38 | 183.30 | 183.28 | 183.33 | 183.40 | 183.42 | 183.46 | 183.50 | 183.51 | 183.56 | 183.56 | 183.49               |
| Mean                                   | 183.00 | 182.93 | 182.89 | 182.91 | 183.01 | 183.10 | 183.16 | 183.19 | 183.20 | 183.18 | 183.14 | 183.07               |
|  | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1926   | 1925   | 1925   | 1925                 |
| Low                                    | 182.45 | 182.38 | 182.37 | 182.34 | 182.36 | 182.46 | 182.57 | 182.62 | 182.72 | 182.72 | 182.63 | 182.56               |

**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 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Max  | 1939    | 1937    | 1979    | 1945    | 1960    | 1950    | 1952    | 1911    | 1900    | 1941    | 1970    | 1909    |
| 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   | +0.06   | +0.03   | +0.01   | -0.02   | -0.04   | -0.07   |
| Max  | 1908    | 1978    | 1956    | 1975    | 1929    | 1986    | 1910    | 1954    | 1954    | 1952    | 1952    | 1904    |
| Fall | -0.13   | -0.11   | -0.09   | -0.06   | -0.01   | +0.02   | -0.01   | -0.03   | -0.07   | -0.14   | -0.15   | -0.12   |

1900 thru 1990 mean 183.07