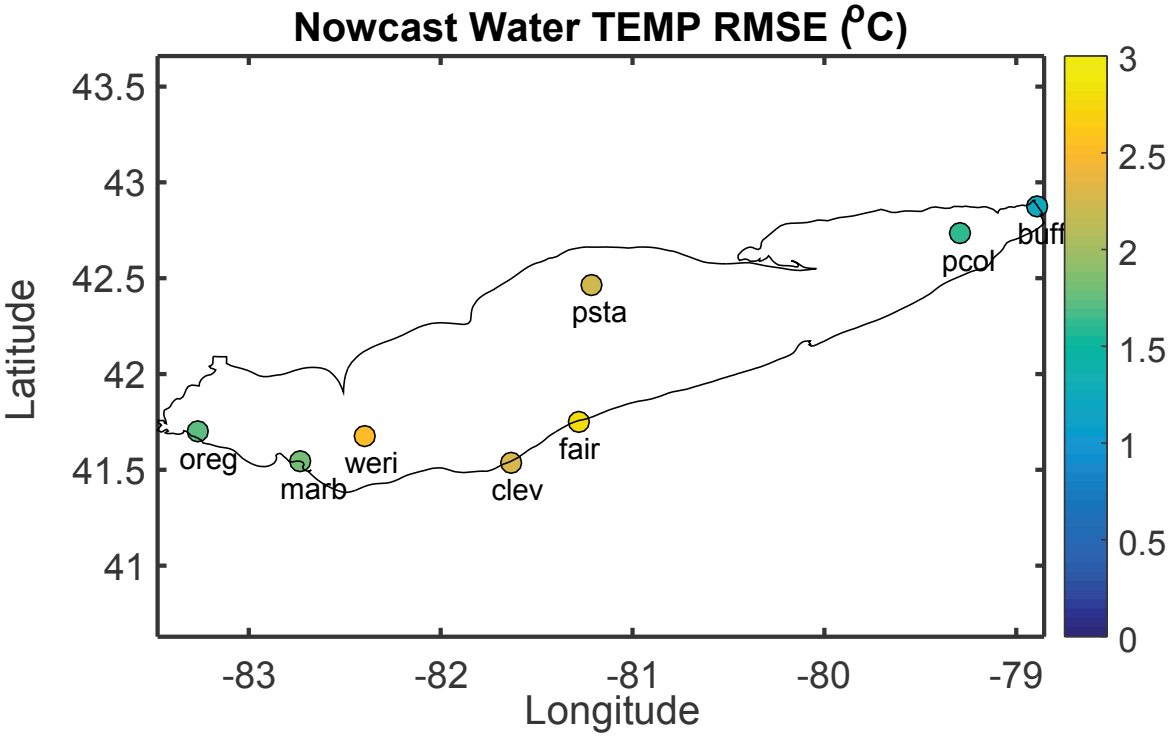
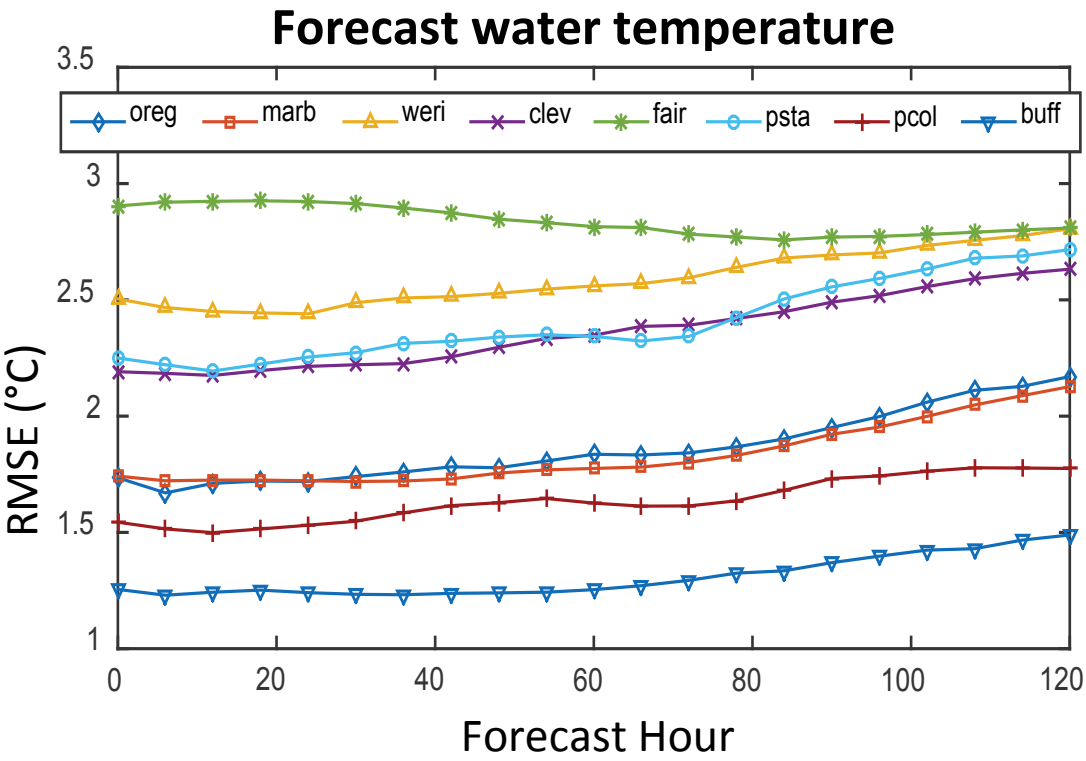
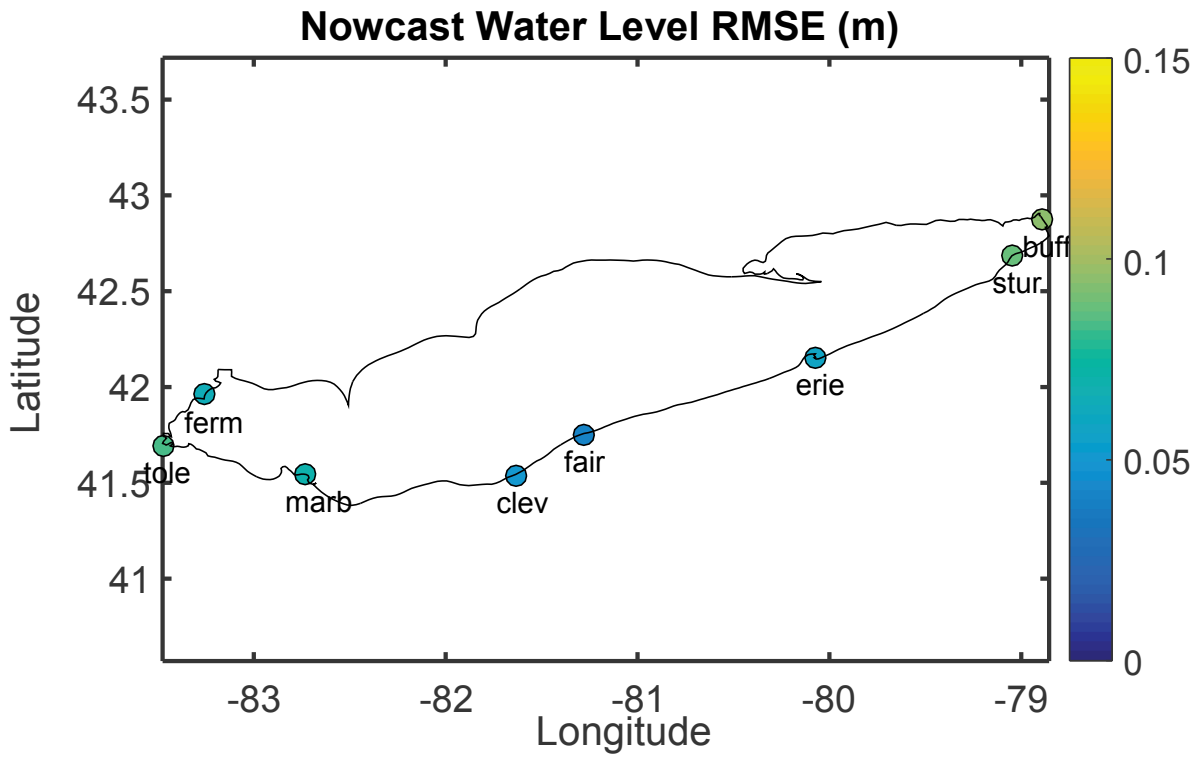
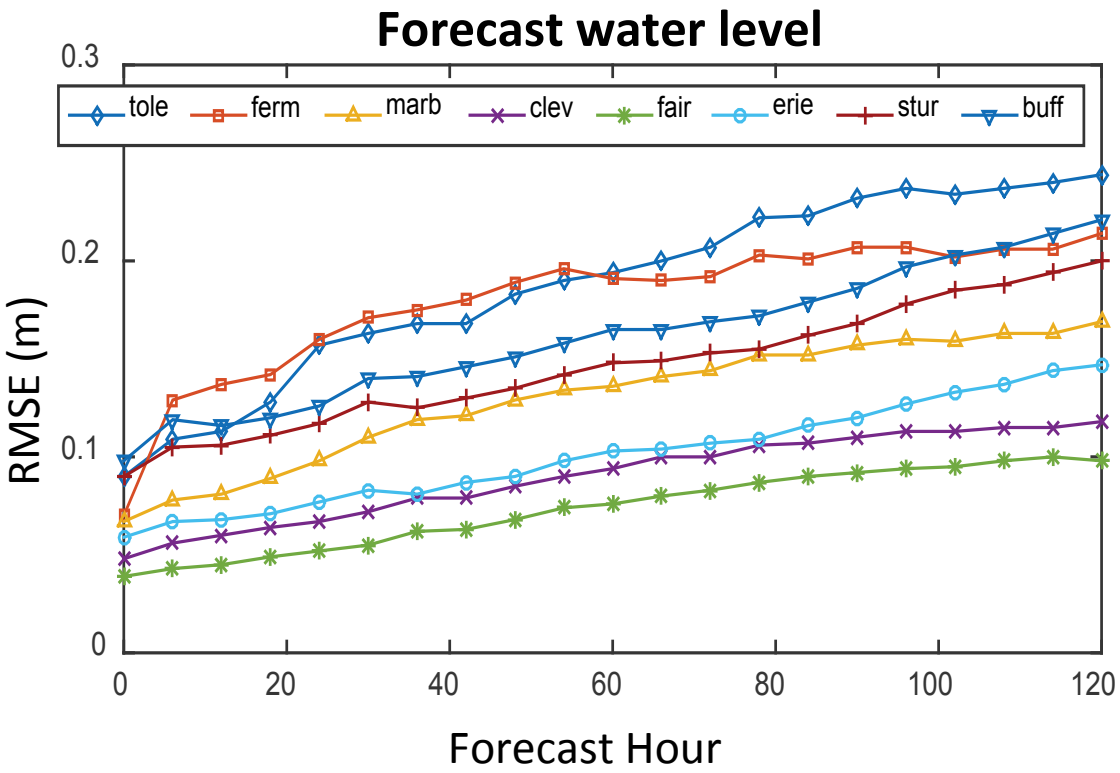
The upgraded Lake Erie Operational Forecast System (LEOFS) uses the Finite Volume Community Ocean Model (FVCOM) as its core circulation model. It became operational on 2016/05/03 on the National Center for Environmental Prediction's (NCEP) Climate Operational Supercomputing System (WCOSS). Six-hour near realtime (nowcast) and 120-hour forecast guidance are provided four times a day for water levels, currents, and water temperature. CO-OPS produces LEOFS uncertainty estimates by running the NOS standardized skill assessment tools (Hess et al., 2003; Zhang et al., 2009; and Zhang et al., 2010) for the LEOFS operational model output. The figures below indicate the Root Mean Square Error (RMSE) of LEOFS water temperature and water levels nowcasts and forecasts during the operational implementation (2015/04-2016/02). Currents evaluation is not available due to lack of observations.


Nowcast Water TEMP RMSE (°C)
43.5
43
42.5
42
41.5
41
Latitude
-83
-82
-81
-80
-79
Longitude
oreg
marb
weri
clev
fair
psta
pcol
buff
3
2.5
2
1.5
1
0.5
0


Forecast water temperature
oreg
marb
weri
clev
fair
psta
pcol
buff
RMSE (°C)
3.5
3
2.5
2
1.5
1
0
20
40
60
80
100
120
Forecast Hour


Nowcast Water Level RMSE (m)
Latitude
Longitude
43.5
43
42.5
42
41.5
41
-83
-82
-81
-80
-79
0.15
0.1
0.05
0
tole
ferm
marb
clev
fair
erie
stur
buff


Forecast water level
RMSE (m)
Forecast Hour
0.3
0.2
0.1
0
0
20
40
60
80
100
120
tole
ferm
marb
clev
fair
erie
stur
buff

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Hess, K.W.; Gross, T.F.; Schmalz, R.A.; Kelley, J.G.W.; Aikman, F.; Wei, E.; Vincent, M.S., 2003. NOS Standards for Evaluating Operational Nowcast and Forecast Hydrodynamic Model Systems; *NOAA Technical Report, NOS CS 17*. National Oceanic and Atmospheric Administration, Silver Spring, MD, USA.

Zhang, A., Hess, K., Wei, E. and Myers, E., 2009. Implementation of model skill assessment software for water level and current in tidal regions, *NOAA Technical Report, NOS CS 24*.

Zhang, A., K.W. Hess and F. Aikman III. 2010. User-based Skill Assessment Techniques for Operational Hydrodynamic Forecast Systems. *Journal of Operational Oceanography*, Volume 3, Number 2, August 2010, pp. 11-24 (14).