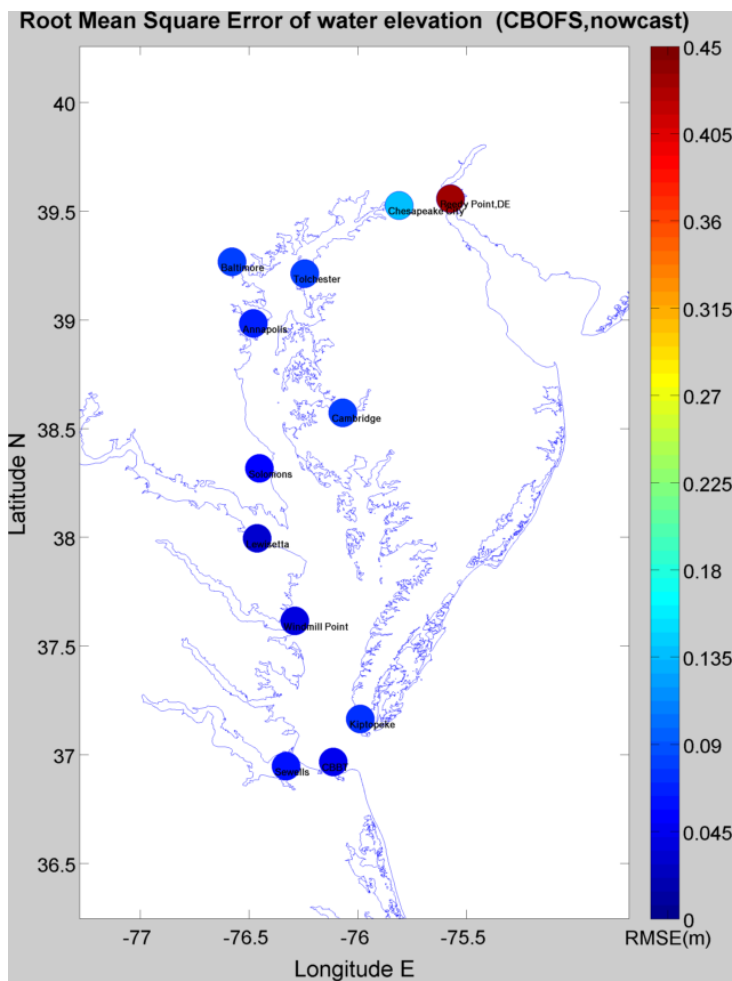


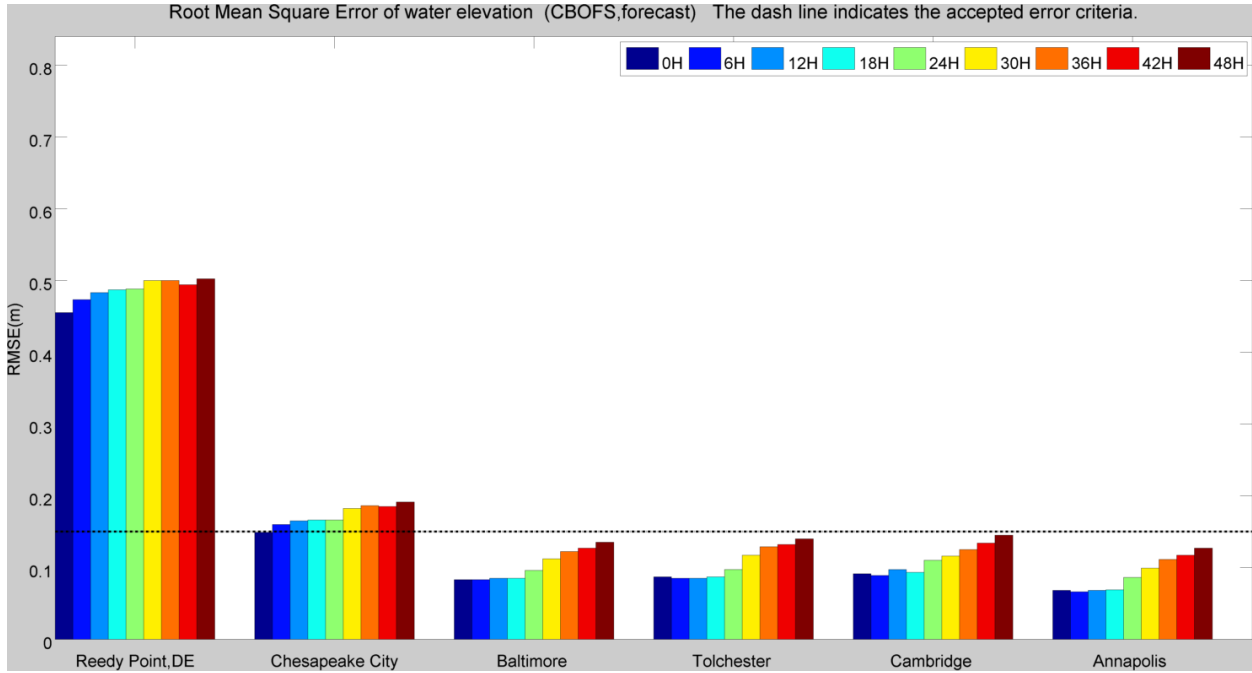
The Chesapeake Bay Operational Forecast System (CBOFS) uses the three-dimensional Rutgers University's Regional Ocean Modeling System (ROMS). It became operational in 2011 to provide nowcast and forecast guidance of water levels, currents, water temperature and salinity four times per day. CO-OPS produces CBOFS uncertainty estimates by running the NOS standardized skill assessment tools (Hess et al., 2003; Zhang et al. 2009) for the CBOFS operational model output. The NOS accepted RMSE error criteria for water level is 0.15m, current speed 0.26m/s, current direction 22.5 degree, temperature 3.0 °C and salinity 3.5 psu.

The figures below indicate the Root Mean Square Error (RMSE) of CBOFS water levels, currents, water temperature, and salinity nowcasts and forecasts from 7/1/2014 to 7/31/2014.

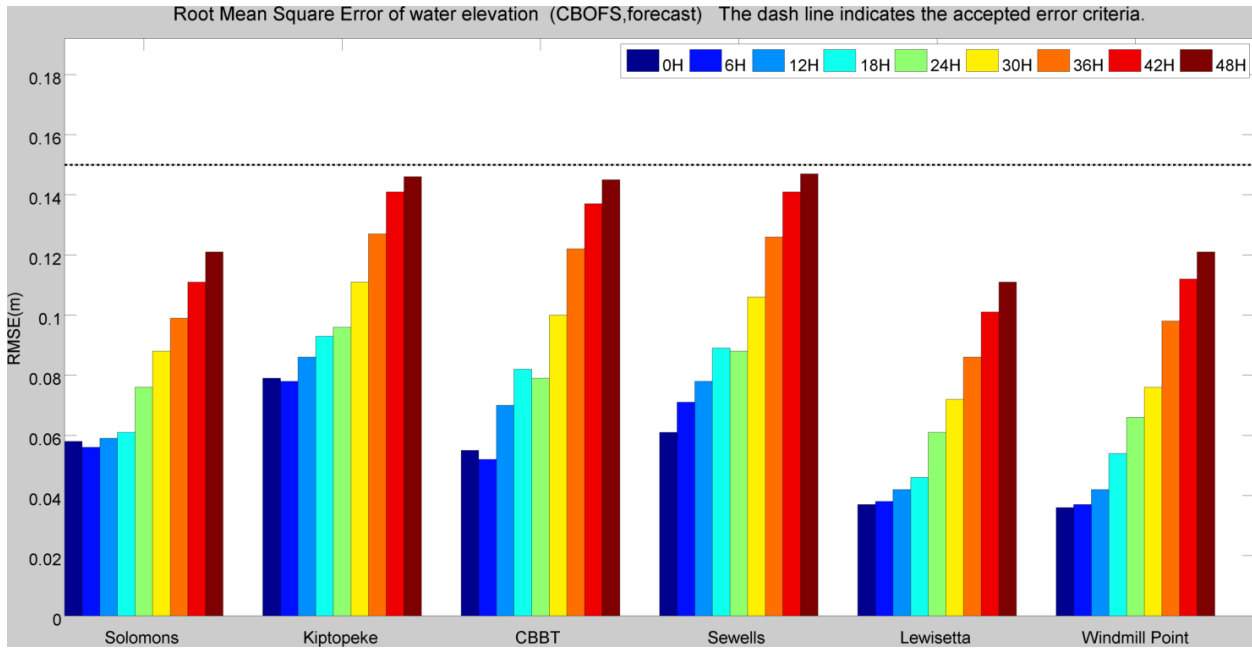
Nowcast Water Level



Forecast Water Level (1)

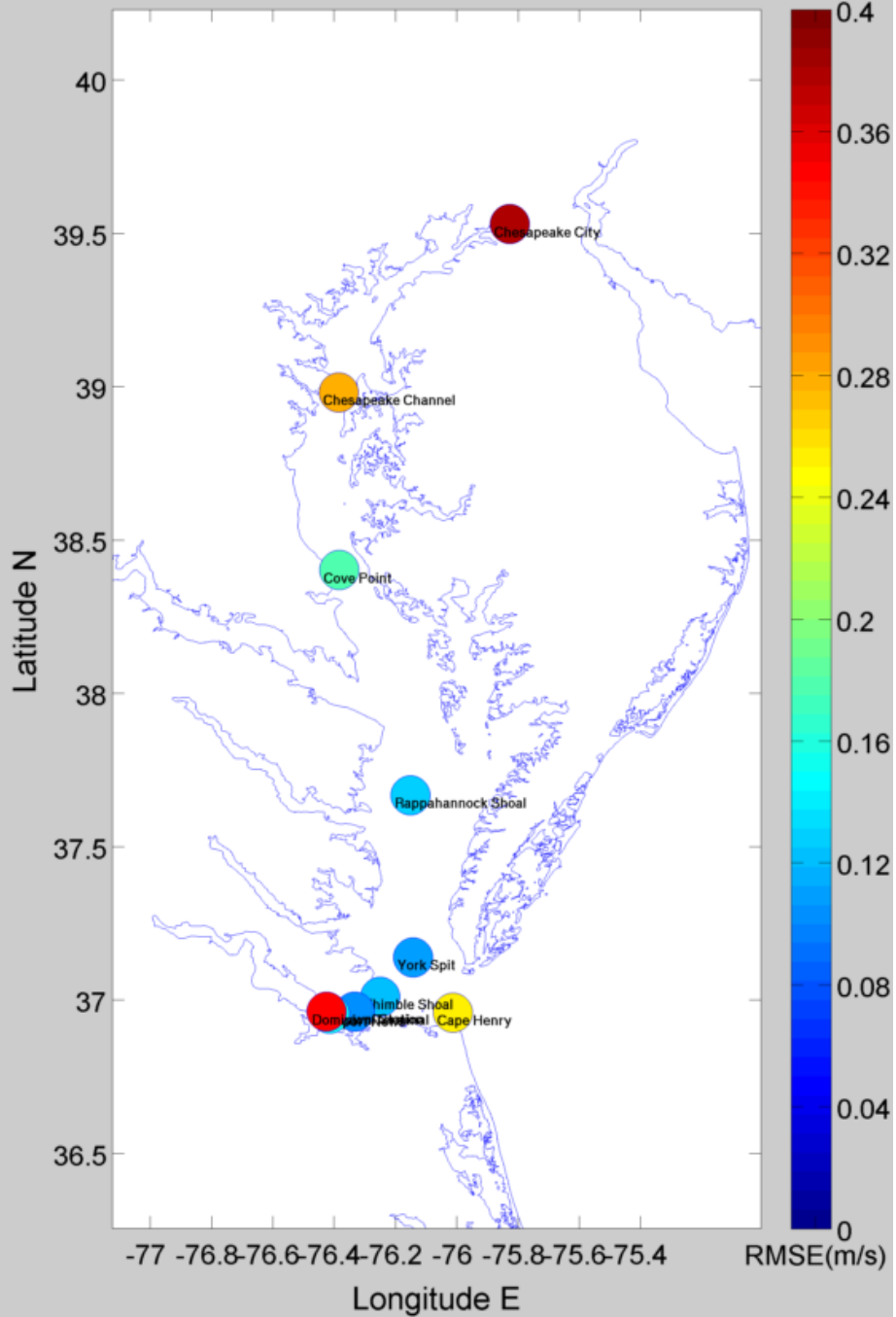


Forecast Water Level (2)

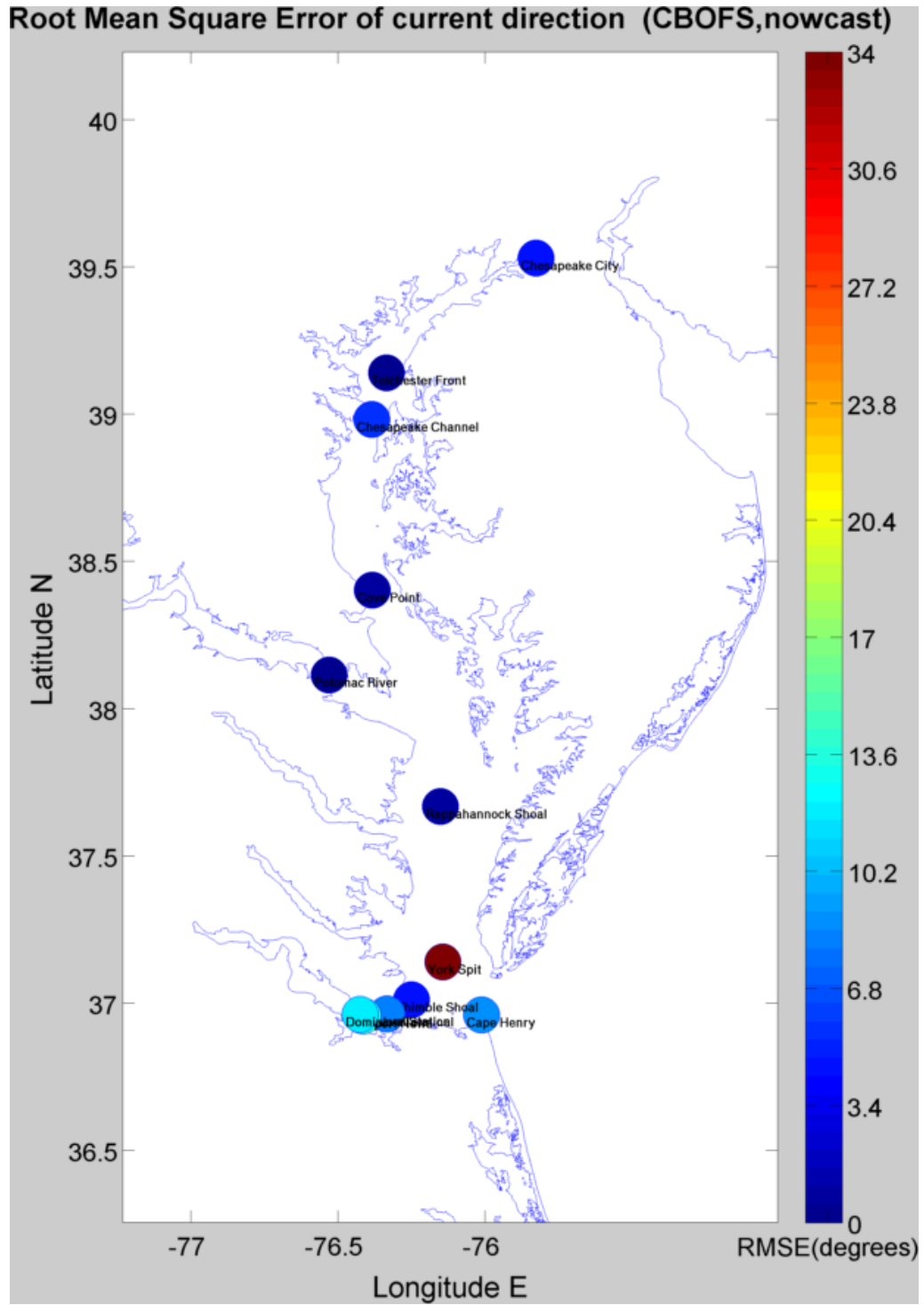


Nowcast Surface Current Speed

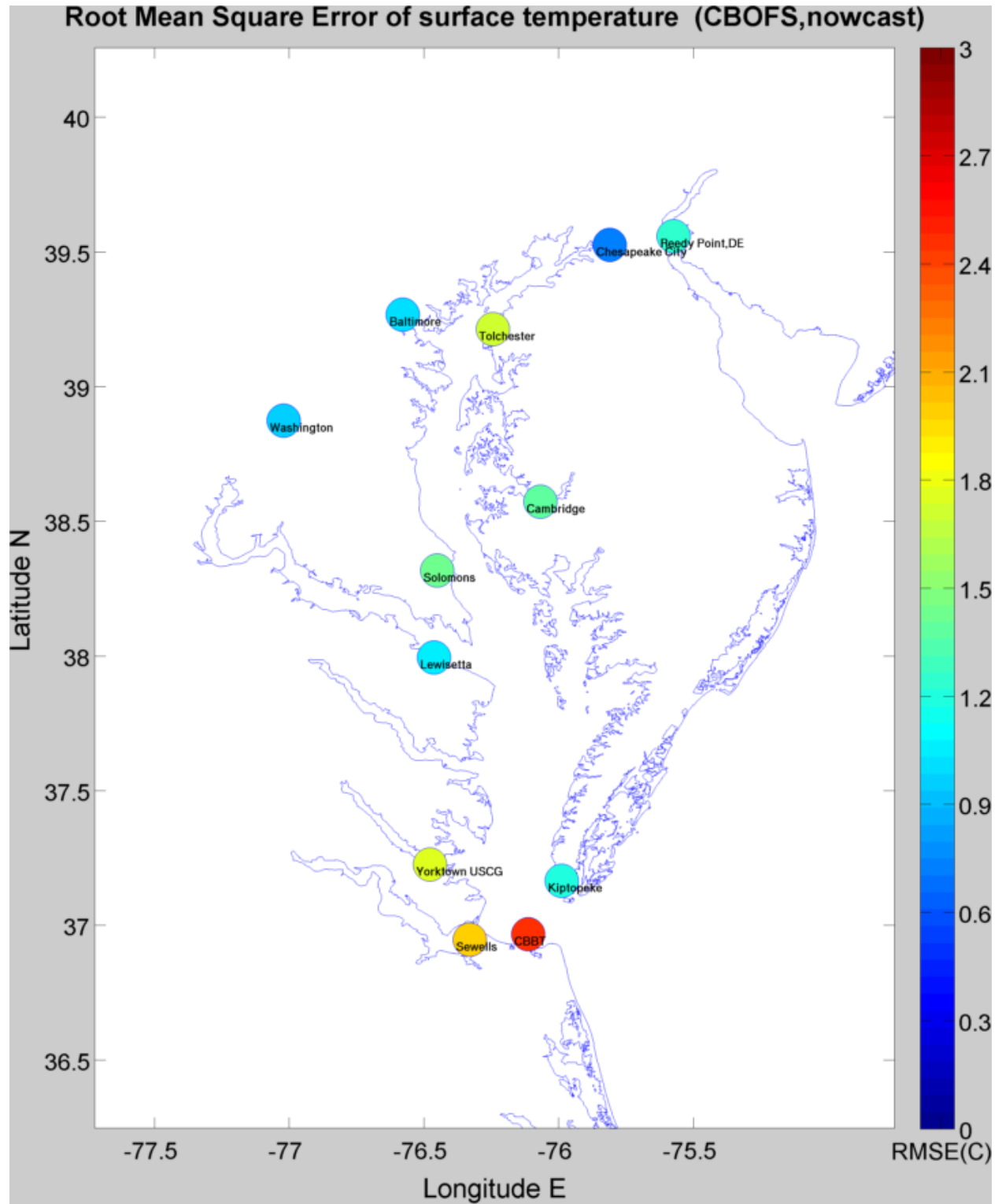
Root Mean Square Error of current speed (CBOFS,nowcast)



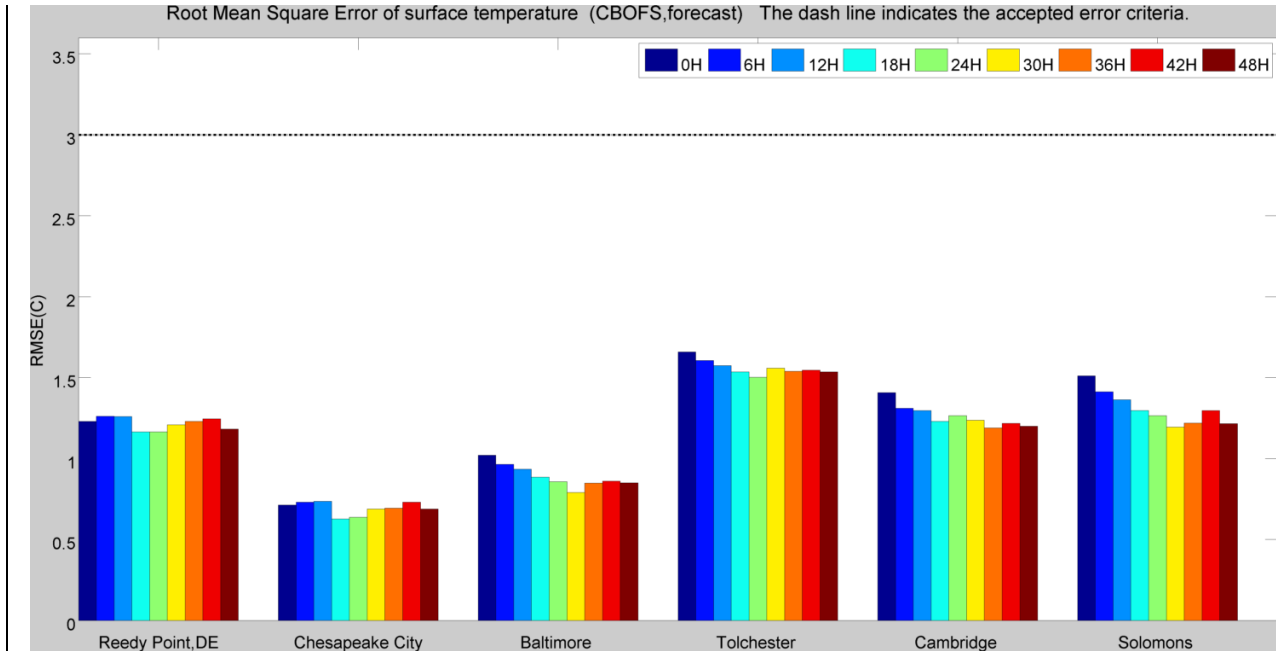
Nowcast Surface Current Direction



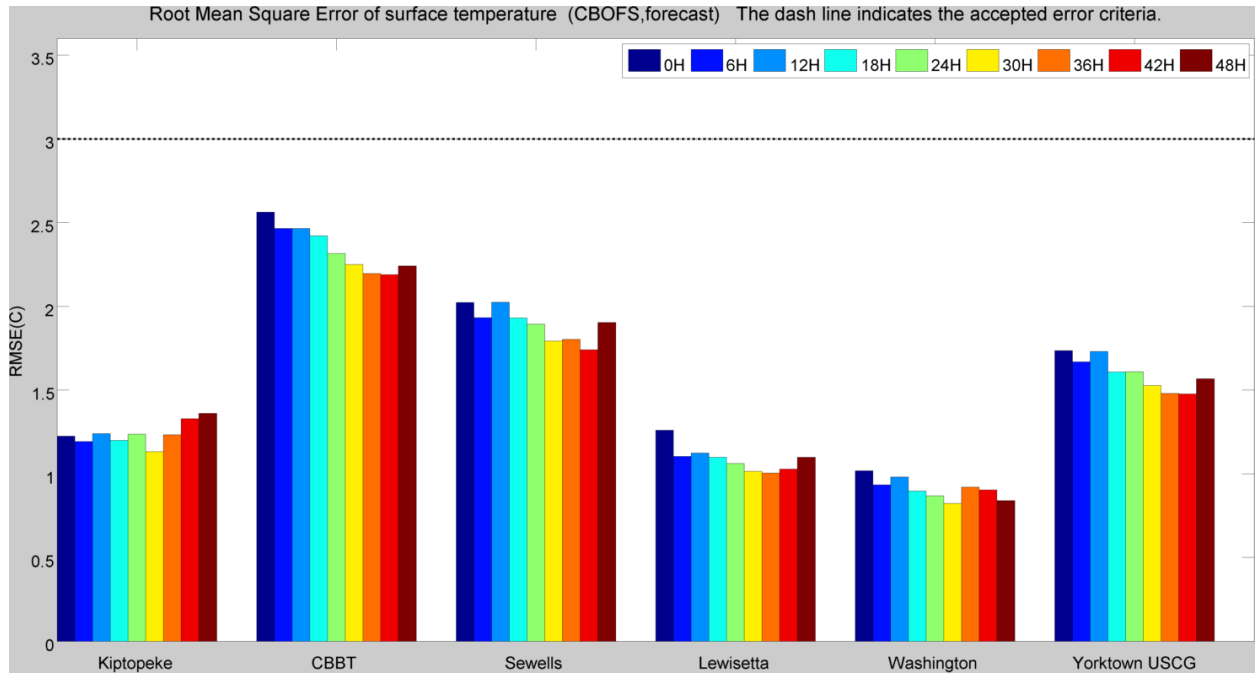
Nowcast Surface Temperature



Forecast Surface Temperature (1)

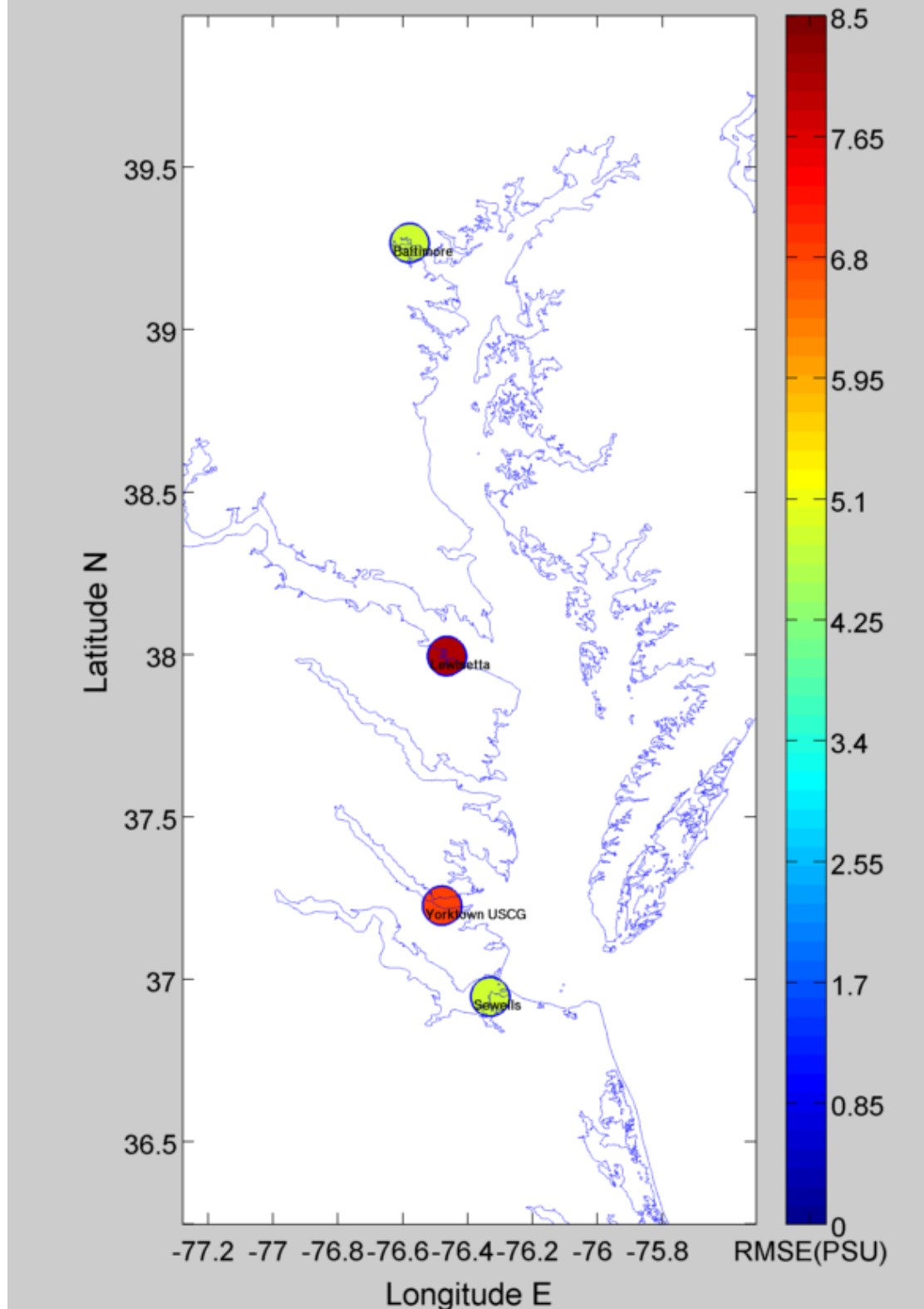


Forecast Surface Temperature (2)

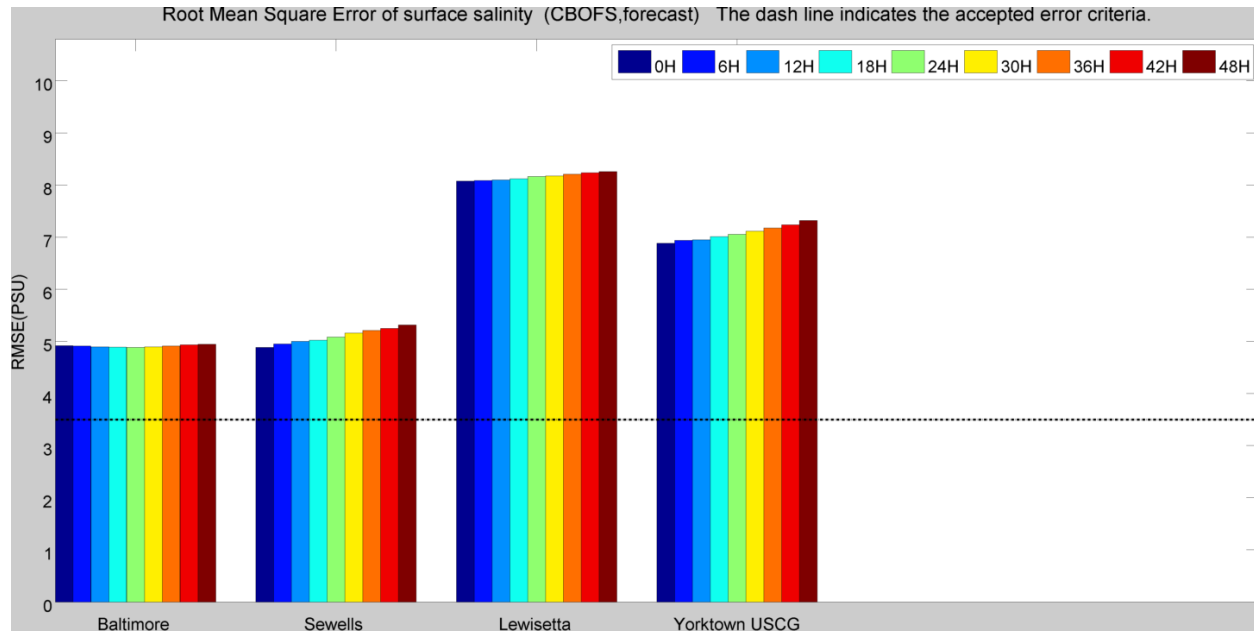


Nowcast Surface Salinity

Root Mean Square Error of surface salinity (CBOFS,nowcast)



Forecast Surface Salinity



REFERENCES

Hess, K.W.; Gross, T.F.; Schmalz, R.A.; Kelley, J.G.W.; Aikman, F.; Wei, E.; Vincent, M.S. *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, 2003.

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.