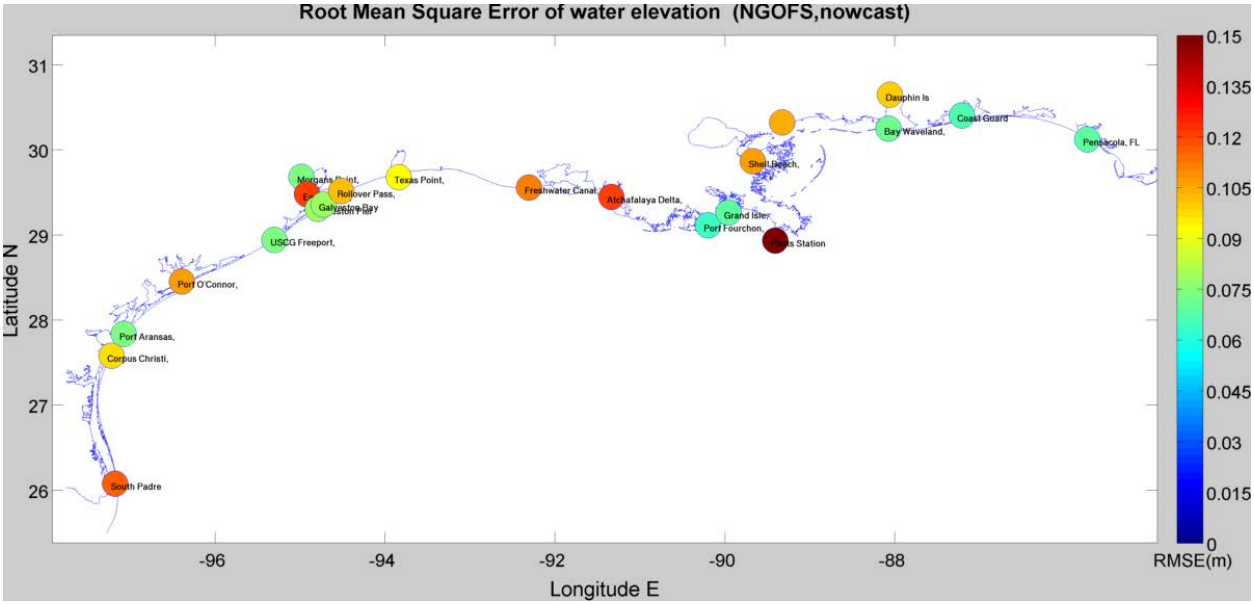
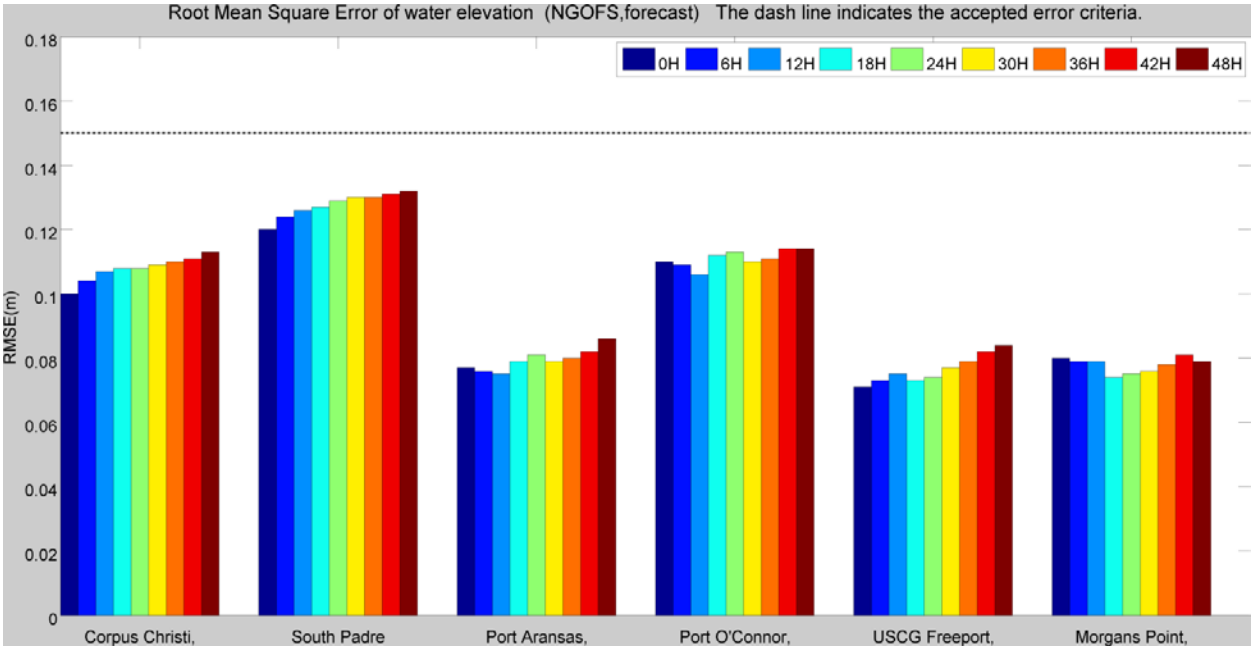
The North Gulf of Mexico Operational Forecast System (NGOFS) uses the University of Massachusetts at Dartmouth's three-dimensional Finite Volume Coastal Ocean Model (FVCOM) as its core model structure. It became operational in 2012 to provide nowcast and forecast guidance of water levels, currents, water temperature and salinity four times per day. CO-OPS produces NGOFS uncertainty estimates by running the NOS standardized skill assessment tools (Hess et al., 2003; Zhang et al. 2009) for the NGOFS operational model output. The accepted error criteria for skill assessment are: water level 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 NGOFS water levels, currents, water temperature, and salinity nowcasts and forecasts from 9/1/2014 to 9/30/2014.

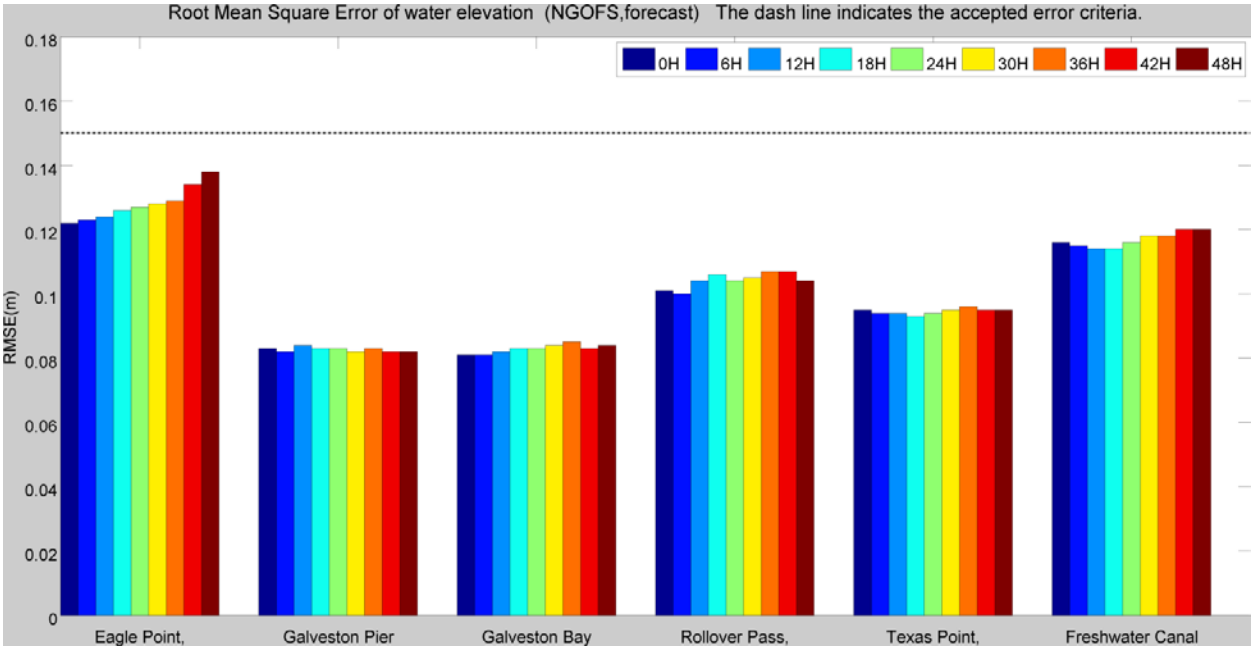
Nowcast Water Level



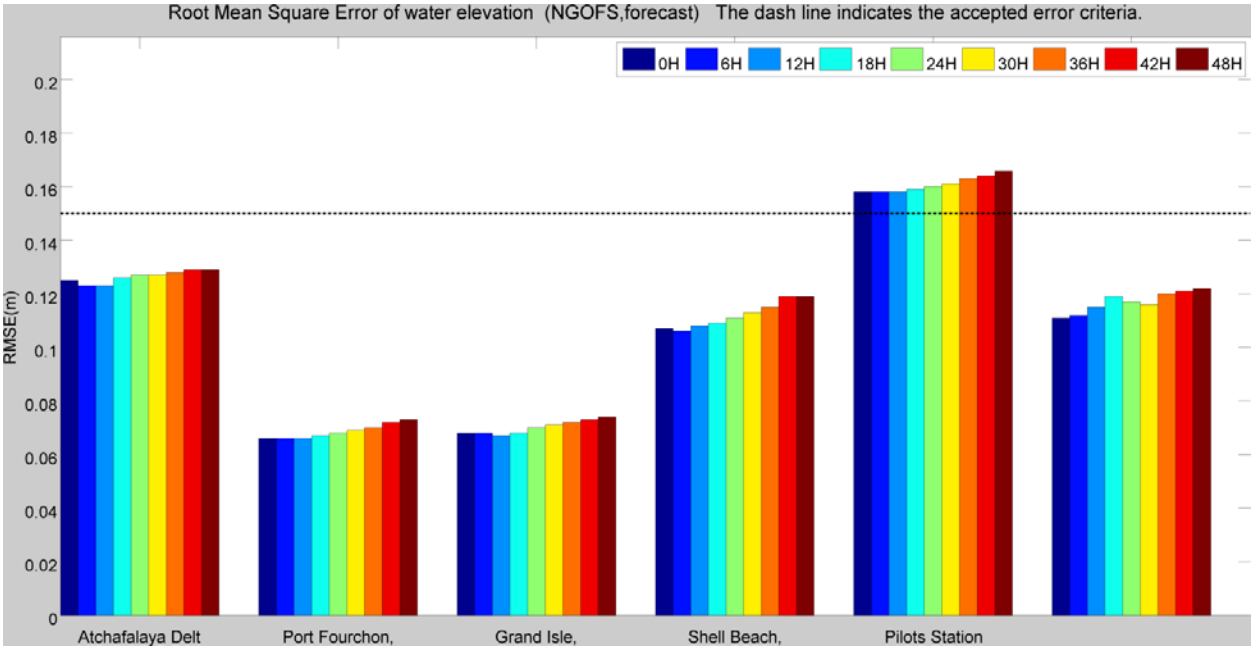
Forecast Water Level (1)



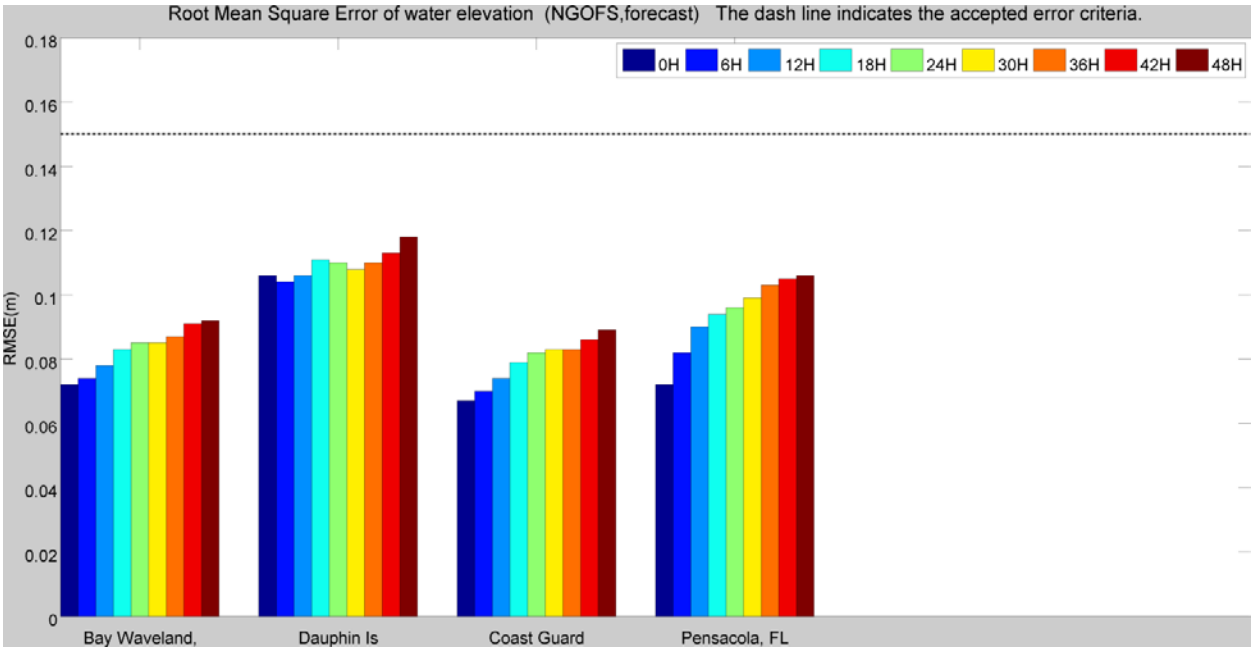
Forecast Water Level (2)



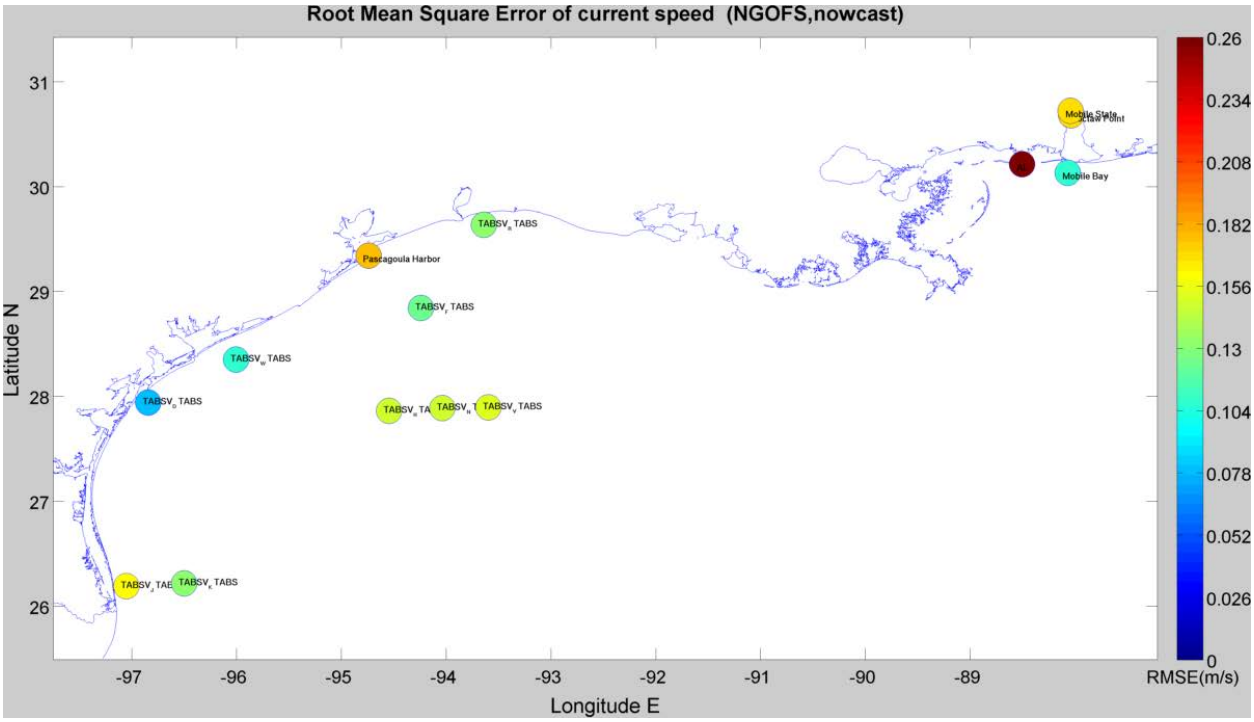
Forecast Water Level (3)



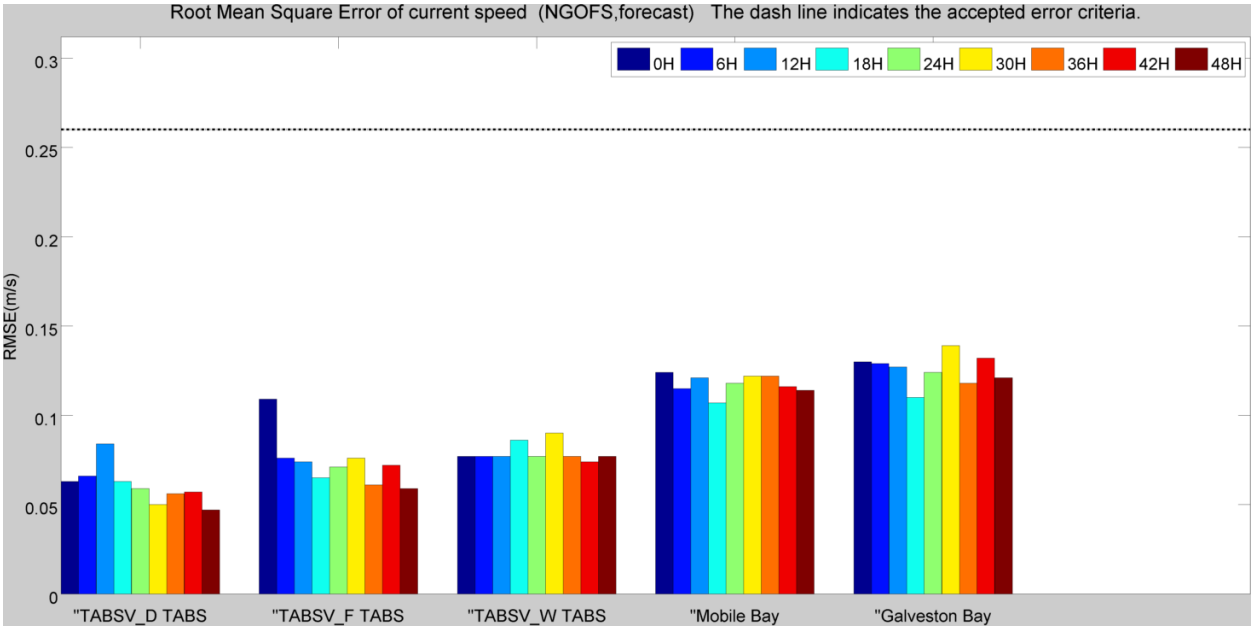
Forecast Water Level (4)



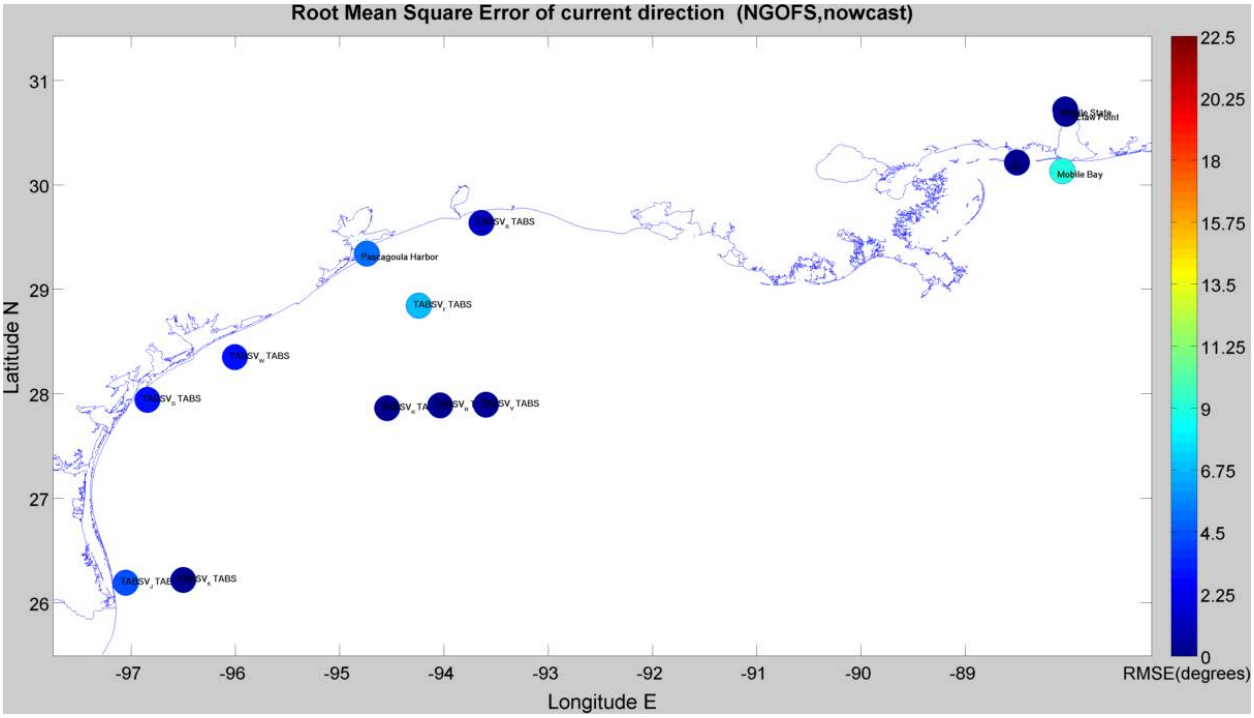
Nowcast Surface Current Speed



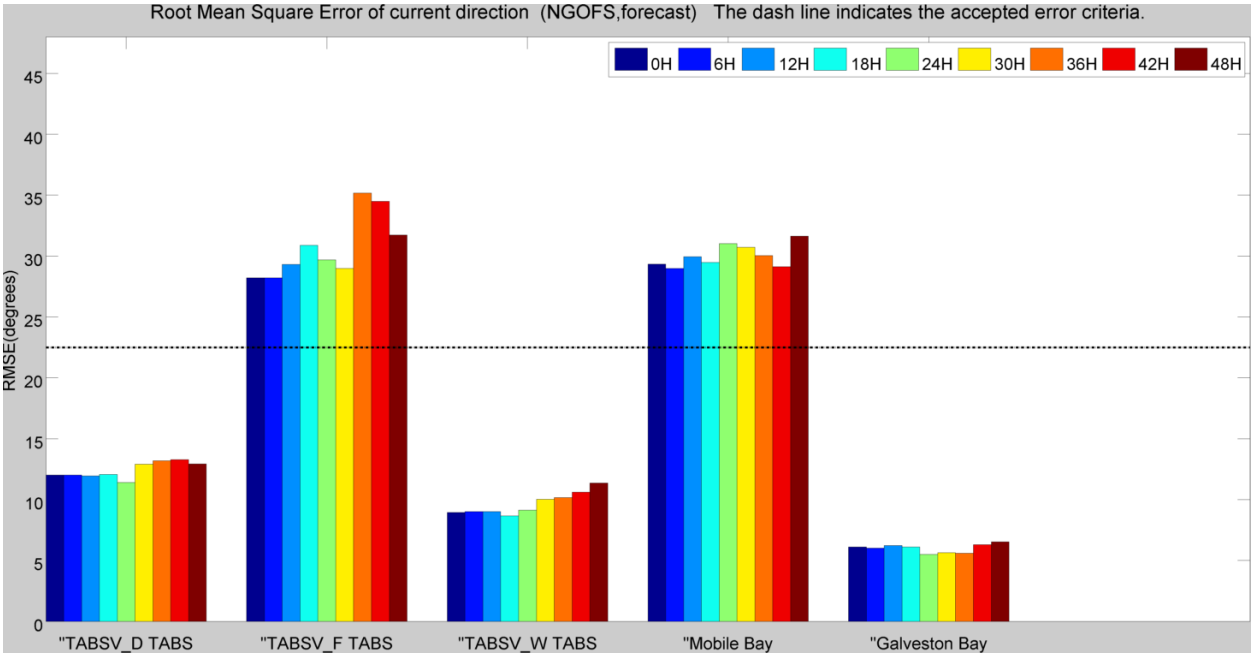
Forecast Surface Current Speed



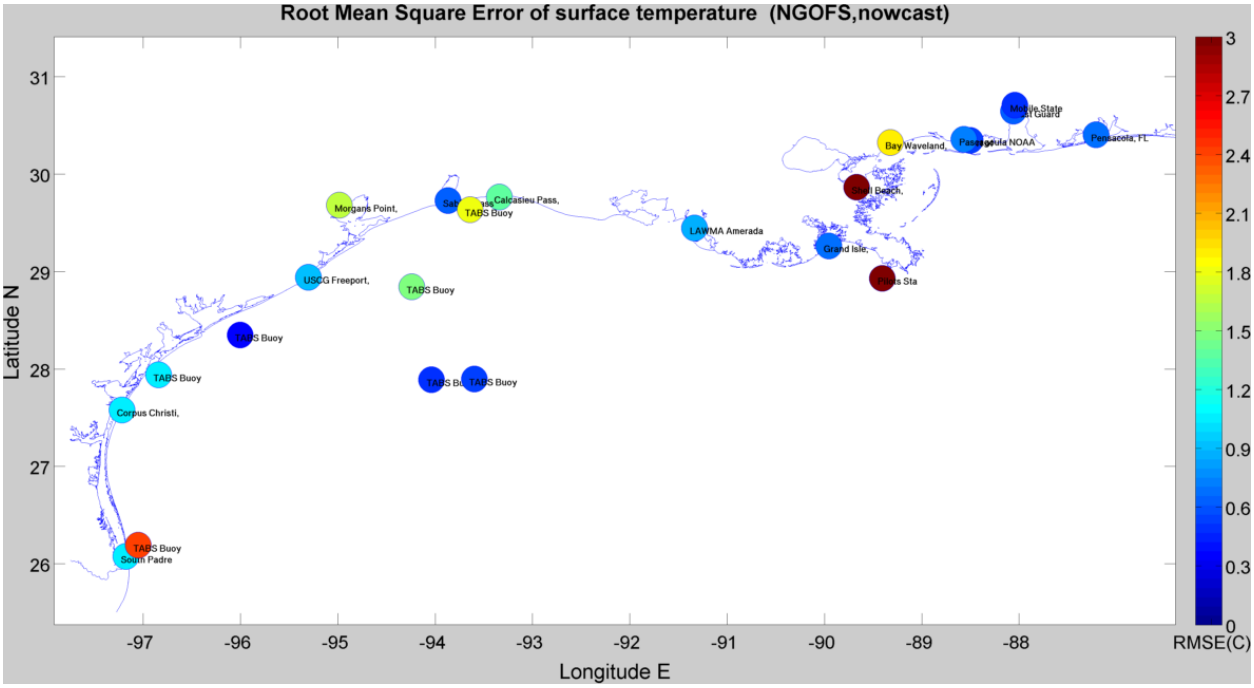
Nowcast Surface Current Direction



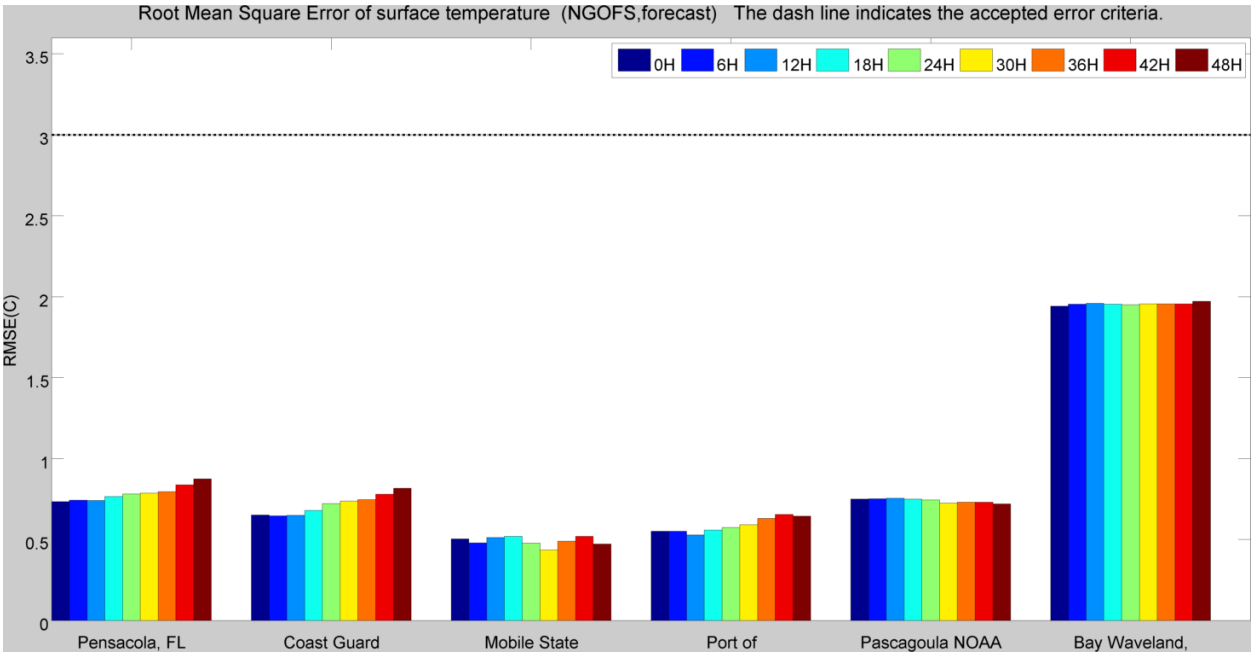
Forecast Surface Current Direction



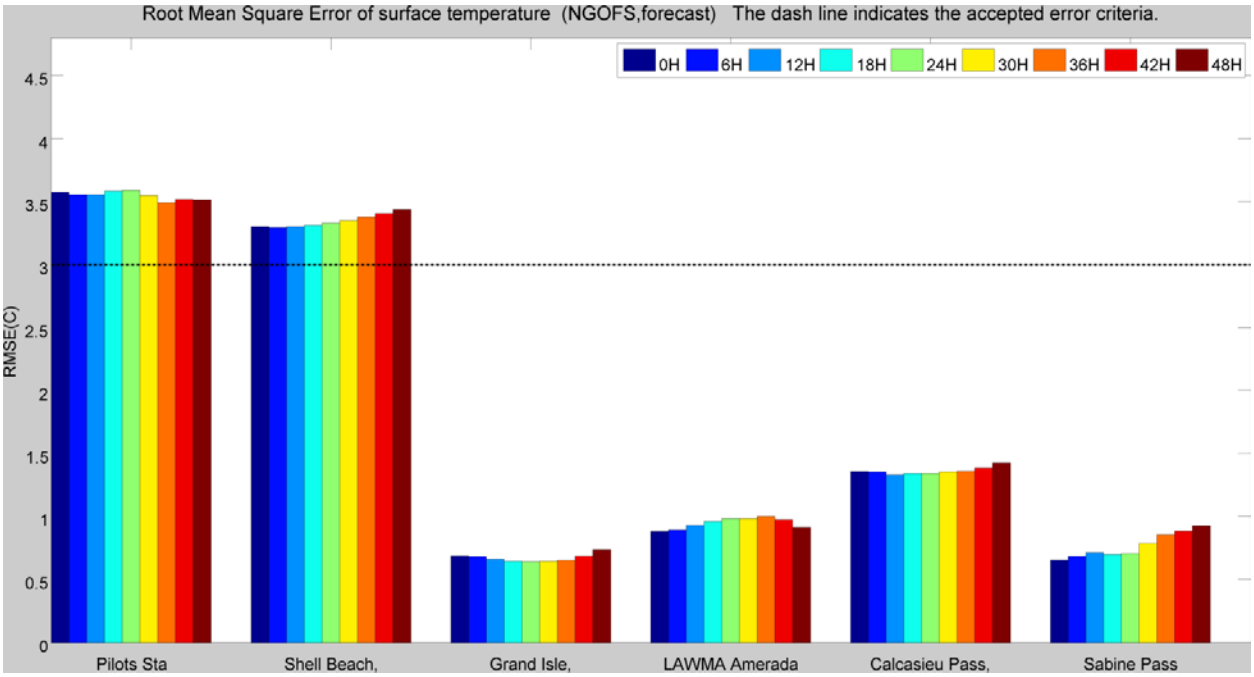
Nowcast Surface Temperature



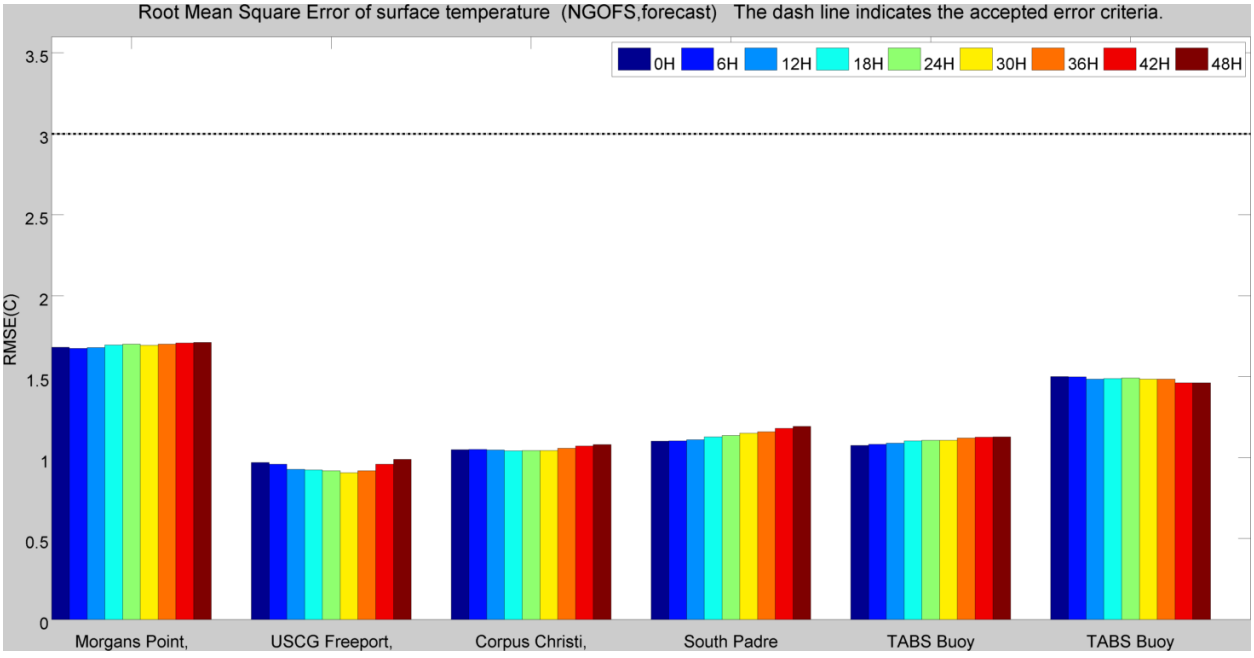
Forecast Surface Temperature (1)



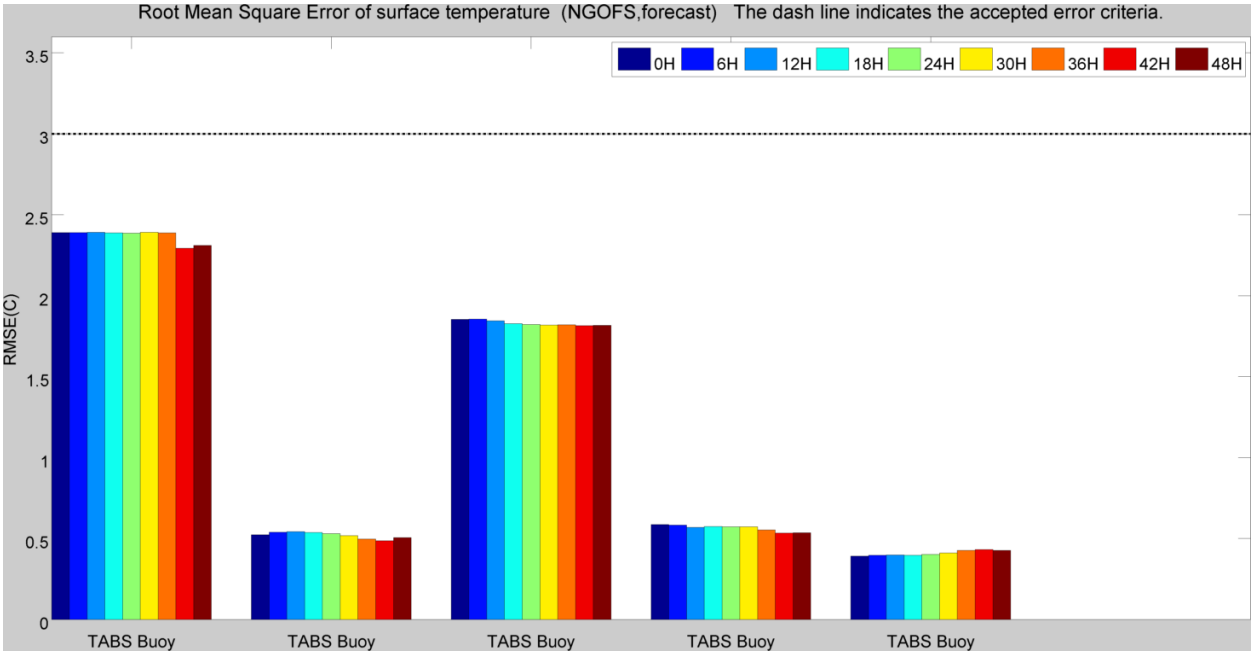
Forecast Surface Temperature (2)



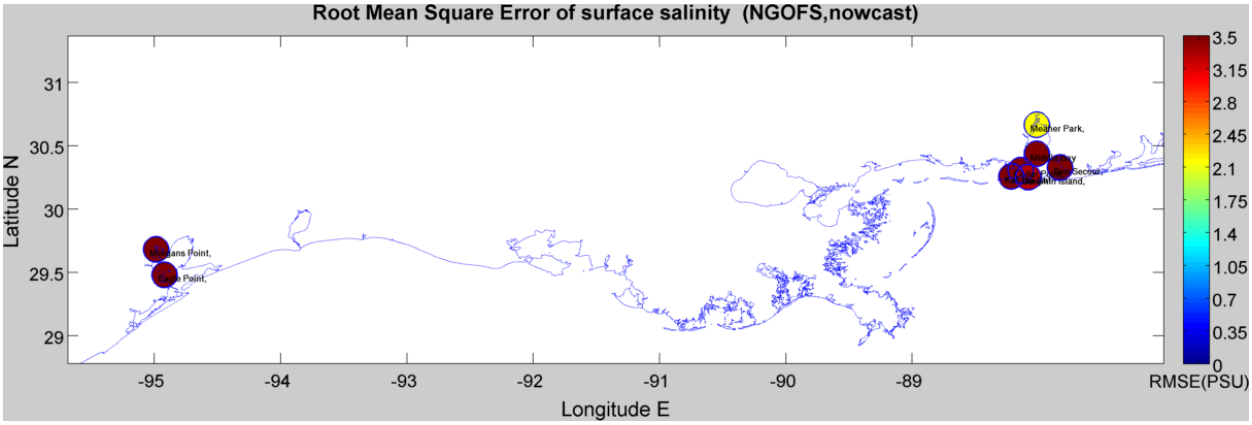
Forecast Surface Temperature (3)



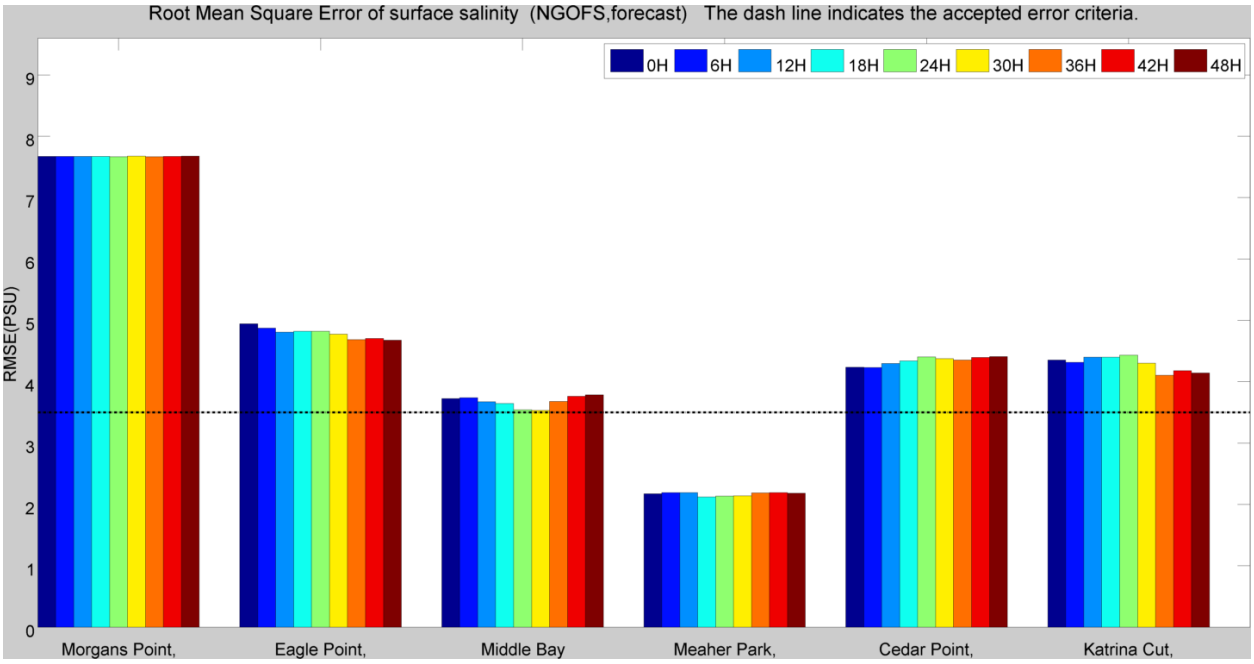
Forecast Surface Temperature (4)



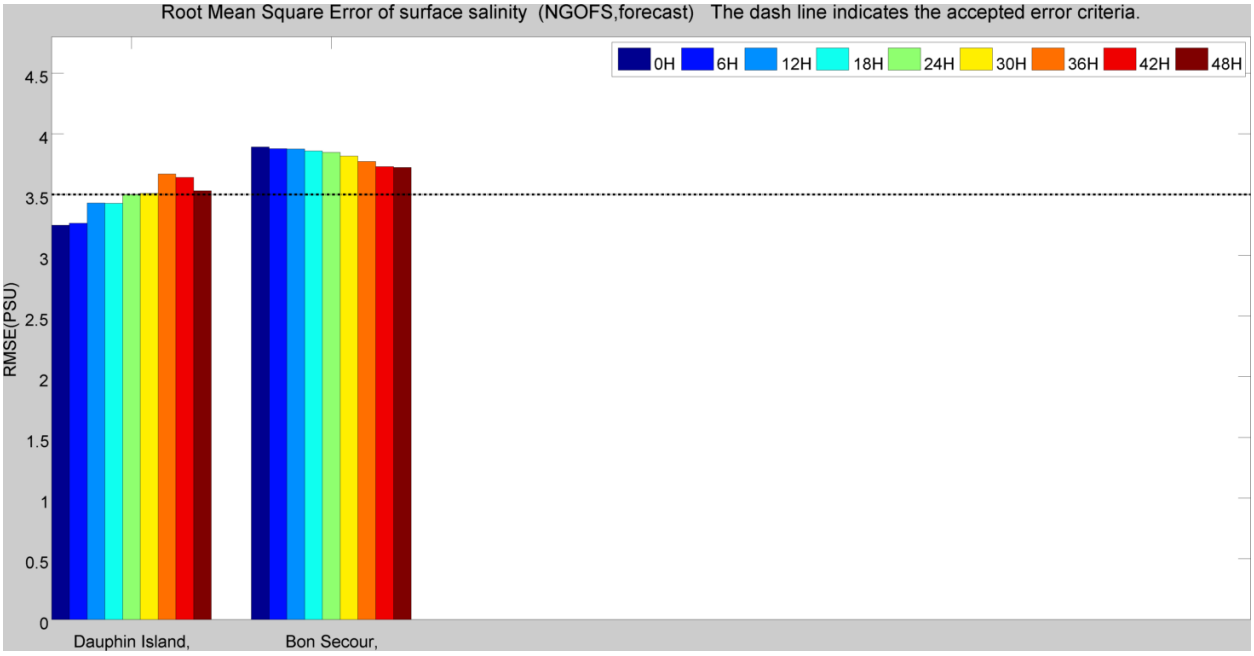
Nowcast Surface Salinity



Forecast Surface Salinity (1)



Forecast Surface Salinity (2)



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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.