Bin Zhang   4-2 4DVAR Data Assimilation for NOAA's Chesapeake Bay Operational Forecasting System

The Chesapeake Bay Operational Forecasting System (CBOFS) is an operational hydrodynamic model system, based on the Regional Ocean Modeling System (ROMS), to provide forecasting of water temperature, salinity, currents and sea levels for up to two days forecasting time. However, the modeled surface temperature and salinity generally have high bias and variations compared to observations and hence impacting the model forecasting skills. 4-D Variational Data Assimilation and Local Ensemble Transformed Kalman Filter are two data assimilation methods which have been applied to ROMS over different world ocean regions, and are being tested in this study. In this talk, we focus on the implementation of 4DVAR with CBOFS and its application using AVHRR SST and in-situ observations from the Chesapeake Bay Buoy Interpretive System and Chesapeake Bay Program.