

Operational Ocean Forecasting at the Naval Oceanographic Office

*Dara D H Cadden¹

1. Naval Oceanographic Office

The United States Naval Oceanographic Office (NAVOCEANO) runs operational ocean circulation models, forecasting ocean conditions out 72-168 hours on coastal, regional and global scales. Models are run on a prioritized daily schedule, and output is made available primarily to U.S. Navy customers. Globally, NAVOCEANO runs a HYbrid Coordinate Ocean Model (HYCOM) at 1/12° horizontal resolution. A separate implementation of HYCOM (the Arctic Cap Nowcast/Forecast System, ACNFS) is run for the Arctic region, which is coupled to the Los Alamos Community Ice Model (CICE). Coastal and regional implementations of the Navy Coastal Ocean Model (NCOM) are run at higher resolutions ranging from 0.3-3.7 km. Through this hierarchy of ocean models, NAVOCEANO is able to forecast conditions from the open-ocean to the near-shore, allowing our models to support a wide range of applications. This talk will give an overview of NAVOCEANO's state of the art operational ocean modeling capability, including a discussion of model configuration, meteorological and climatological forcing, methods of data assimilation, and the use of ocean model output as a forecasting tool.

Keywords: HYCOM, RNCOM