

Numerical Ocean Modeling and Prediction

Research is conducted in the area of mesoscale and large-scale ocean modeling and prediction as part of the Navy's program to develop an ocean prediction capability. Areas of interest include model development, model-data comparisons, and the use of numerical models and data to investigate ocean dynamics, oceanic predictability, and the assimilation of satellite data into ocean models. Outstanding computing power is available from the DOD High Performance Computing Program, which has a major shared resource center co-located at the Stennis Space Center (IBM p655+ P4/2560, IBM p655+ P4/512). It has been possible to run ocean model simulations with up to 1/32-degree resolution globally and 1/64 degree for the Atlantic subtropical gyre including the Caribbean and Gulf of Mexico. Excellent facilities for analysis and display, and an extensive data base are available. The group is heavily involved in a community effort on the development and application of the HYbrid Coordinate Ocean Model (HYCOM) and in the Global Ocean Data Assimilation Experiment (GODAE).