

## **Navy Coastal Ocean Model Development (NCOM)**

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NCOM is a hydrostatic, free surface, baroclinic ocean model that has been developed for use in the Coupled Ocean/Atmosphere Mesoscale Prediction System (COAMPS) and also for general application. Some recent improvements to NCOM are that (a) Flux-Corrected Transport has been provided as an option for advection of scalars to avoid advective overshoots; (b) the vertical buoyancy gradient, which is used for vertical mixing, is computed using expansion coefficients rather than as a correction to the in situ density to provide a more numerically stable calculation; and (c) horizontal filtering of the vertical buoyancy gradient is used to suppress checkerboard mixing. The current status of the model, these changes, and some model test results are presented.