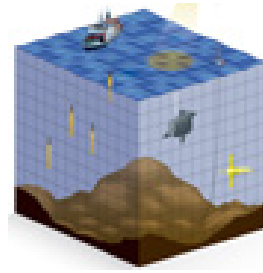


Joint ECMWF/OceanPredict workshop on Advances in Ocean Data Assimilation



Contribution ID: 39

Type: **Poster presentation**

Multiscale FGAT data assimilation in OceanMAPS (v3.4) Forecasting System

The Ocean Model, Analysis and Prediction System (OceanMAPS) is the ocean forecasting system implemented at the Bureau of Meteorology. OceanMAPS provides 7-day forecasts on daily basis in near global eddy-resolving horizontal grid. The system is based on Modular Ocean Model (MOM 5) and data assimilation is using Enkf-C software in Ensemble Optimal Interpolation (EnOI) mode. An efficient, two-stage, multiscale FGAT (First Guess at Appropriate Time) EnOI data assimilation is used in OceanMAPSv3.4. First stage EnOI data assimilation is done using a static ensemble of climatological anomalies constructed using a coarse, 1° global ocean model. This followed by an FGAT EnOI data assimilation based on intraseasonal anomalies from a free run of the eddy-resolving ocean model (same as the OceanMAPS Ocean Model configuration). The coarse-resolution ensemble is aimed to correct broad-scales, and high-resolution ensemble is used to correct the eddy-scales. Corrections from the coarse steps are more effective at reducing the biases in the subsurface ocean whereas the high-resolution steps largely restricted to vertically uniform corrections that are associated with mesoscale eddies. Implementation of FGAT sees more observations are assimilated into the system, especially in the form of satellite-derived sea surface temperature, that gives closer fit to observation in surface and near-surface temperature. The talk includes the configuration of the two-system data assimilation system and statistical comparison with the previous version of OceanMAPS

Which theme does your abstract refer to?

Data assimilation methods (algorithmic developments in variational, ensemble and hybrid DA, covariance modelling, etc)

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