



Assimilation of trajectories in an oceanographic 3D-VAR scheme

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A new oceanographic three-dimensional variational (3D-VAR) data assimilation scheme has been developed based on a novel specification of the background error covariances. It allows for the regional variability of the background error covariance matrix, for the complex coastal boundary conditions and variable bottom topography. This presentation shows how a complex observational operator in a form of the non-linear trajectory model is implemented inside the oceanographic 3D-VAR scheme. The impact of trajectory assimilation on the performance of the 3D-VAR scheme is demonstrated by assimilating positions of Argo floats and surface drifters in the Mediterranean Sea.