Modular and Integrated Data Assimilation System (MIDAS) applied for ensemble ocean prediction at Environment and Climate Change Canada

The purpose of this study is to provide an overview of our ongoing work on developing ensemble ocean data assimilation (DA) within our Modular and Integrated Data Assimilation System (MIDAS) software developed at Environment and Climate Change Canada. This system uses the atmospheric forcing from our global ensemble prediction NWP system. Local ensemble transform Kalman filter is the DA method used. By recycling already existing DA elements, the new ocean system will benefit from the earlier development of sea surface temperature and sea-ice analysis systems within MIDAS. The new MIDAS-based ocean DA results are compared with the analyses produced by the current operational ocean prediction system. The ensemble inflation scheme employed in our new ocean DA system is also discussed.

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