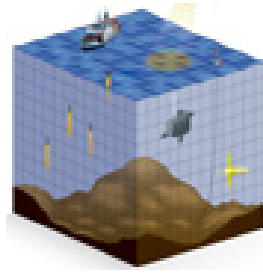


Joint ECMWF/OceanPredict workshop on Advances in Ocean Data Assimilation



Contribution ID: 44

Type: **Oral presentation**

C3S Seasonal Initialization and Global Reanalysis: Enabling an Ensemble of Data Assimilation for the Ocean

Monday, 17 May 2021 14:20 (15 minutes)

This presentation will give an overview of recent developments in NEMOVAR that took place within the Copernicus-funded project ERGO. Its aim is to improve ocean data assimilation capabilities at ECMWF, used in both initialization of seasonal forecasts and generation of coupled Earth System reanalyses. In particular it has significantly improved NEMOVAR's ensemble generation capabilities, which resulted in improved parameterisations of the existing background error covariance model. A more sophisticated, hybrid formulation has also been implemented, offering the possibility to represent fully flow-dependent background error covariances with multiple spatial scales. And finally, developments were made toward improved use of surface satellite data (SST and SSH). In parallel, significant effort were put to improve numerical efficiency, it has involved the development of multi-grid strategies, code optimisation and GPU's and mixed precision capabilities. A significant effort has also been put in performing scout experiments and providing relevant diagnostics to evaluate the benefit coming from the proposed developments. All these aspects will be covered in detail in other presentations during this workshop.

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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Session Classification: Theme 3: Data assimilation methods

Track Classification: Data assimilation methods