



## **CERA: The Coupled ECMWF ReAnalysis system**

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A coupled data assimilation system for reanalysis called CERA (Coupled ECMWF ReAnalysis) is being developed at ECMWF. The CERA system aims at generating a self-consistent ocean-atmosphere state by assimilating both atmospheric and oceanic observations within a coupled model. CERA uses the ECMWF coupled model where the atmospheric component is based on the ECMWF Integrated Forecast System and the oceanic component is based on the NEMO framework. While the computation of the non-linear trajectories needed in the data assimilation uses the coupled model, the computation of the increments is still performed separately for the atmosphere and ocean components and any covariance between them are ignored. This framework is aimed at being flexible enough to adapt to the coupled initialisation of medium range, monthly and seasonal forecasting activities. This presentation will describe the CERA system and its validation. Focus will be put on the impact of the coupled initialisation on the medium range predictability.