



Effects of ocean observations on medium-range weather forecasting for the ECMWF coupled system

ECMWF is among the increasing number of institutions who are using a coupled model to predict the weather at the medium-range time scales. At these time scales then prediction problem is an initial value problem, so good initial conditions are paramount for the skill of the predictions. Impact of different atmospheric observing systems in the medium-range weather forecasting problem has been investigated by many groups and the impact of ocean observations on longer time scales like seasonal forecasts has been explored, but the impact of ocean initial conditions on the medium-range is much less understood. It is expected that for longer forecasts times information from the sub-surface becomes more important for the quality of the coupled forecasts. However, for specific situations, like tropical cyclones, the upper ocean can also influence the coupled predictions. Here we present the results of a study where a set of ocean observations system experiments (OSE's) has been used to produce ocean initial conditions for coupled ocean-atmosphere coupled forecasts with a similar setup to the operational ECMWF model.

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