

Recent upgrades to the coupled ocean - sea ice prediction system at ECMWF

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Abstract

The ocean and sea-ice are important components of the European Centre for Medium-Range Weather Forecasting (ECMWF) as the upper ocean and sea ice state can impact the evolution of the overlying atmosphere. It is a source of predictability that is crucial for sub-seasonal to seasonal forecast skill. Since 2018 all operational physical modelling systems employ a full 3D ocean model with dynamic-thermodynamic sea ice model. In the last year the modelling system has been upgraded to NEMO4-SI³.

In this presentation we give an overview on how the ocean and sea-ice model performance has improved. We will present some examples of the impact of the ocean and sea-ice components on the forecast performance for medium-range, sub-seasonal and seasonal time scales. Finally, we highlight some of the future development plans of the coupled system.