



Evaluation of preliminary results using the ICON-based Earth System Model of DWD

The project “Earth System Modelling at the Weather scale” (ESM-W) by DWD in cooperation with GeoInfoDienst Bundeswehr aims to develop a coupled ocean-atmosphere forecasting system based on ICON-O for the ocean model and ICON-NWP for the atmosphere including a weakly coupled data assimilation. In order to evaluate the short-term products from ESM-W, two forecast experiments with deterministic configurations in two different seasons of 2022 were carried out separately. Here, we perform an evaluation of state variables (temperature, salinity and sea surface height) and diagnostic quantities (e.g. transports of heat and moisture) from the forecast system in the large-scale mean (monthly and globally) and the short-term variability, by comparison with Argo observations and ORAS5 reanalysis retrieved from the Copernicus Marine Data Store.

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