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Evaluation of oceanic parameters from seasonal forecasts of the MPI-ESM coupled model

Sabrina Plagemann, Kristina Fröhlich, and Barbara Früh
Deutscher Wetterdienst, Offenbach, Germany (sabrina.plagemann@dwd.de)

For seasonal forecasting the intergovernmental organisation European Centre for Medium-Range Weather Forecasts (ECMWF) provides products of the EUROSIP multi-model seasonal forecasting system. This multi-model forecasting system includes a number of independent coupled models, currently from ECMWF, the Met Office, Météo-France and NCEP. The Deutscher Wetterdienst (DWD), the German Weather Service Center, is aiming to join EUROSIP with the coupled model MPI-ESM (Max Planck Institute – Earth System Model).
Ocean and atmosphere models have always inaccuracies based on initial conditions or model errors. Hence it is necessary to analyse the errors and possible weaknesses of the model in order to assess the forecast products and to improve the model in the long term. For that reason the DWD develops an evaluation suite with deterministic as well as probabilistic scores for seasonal forecasts of the MPI-ESM. This project, named OzeanEval, is funded by the European Programme COPERNICUS, which provides a collected data set from earth observation satellites, particularly Sentinels, and in situ sensors such as ground stations and sea-borne sensors.
According to the COPERNICUS programme necessary observations for the validation of MPI-ESM are particularly used from COPERNICUS services. Since the ocean plays an important role with respect to seasonal forecasts the focus of the validation is on oceanic parameters. As an overview of the evaluation tool the ensemble reforecasts of MPI-ESM sea surface temperature of the last 20 years are validated using any deterministic and probabilistic scores and compared with satellite data sets.