



The German Climate Forecast System, Version 1, Provider of Seasonal Forecasts to the C3S Climate Data store

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We present the seasonal forecast system GCFS1 (German Climate Forecast System version 1), which has been in operation for one year, GCFS is based on the Earth system model of Max Planck Institute for Meteorology (MPI-ESM). GCFS1 uses the the CMIP5 version in the MPI-ESM-LR setup with T63L47 resolution in the atmosphere and a nominal resolution of 1.5 degrees with 40 vertical levels in the ocean. A version with higher resolution is currently being tested.

GCFS1 has been developed in cooperation between the Max Planck Institute for Meteorology, Universität Hamburg and the German Meteorological Service (DWD). Operational forecasts are conducted by DWD. Currently, the system is implemented to run on machines at ECMWF with a reforecast ensemble of 15 members and a forecast ensemble of 30 members. GCFS1 is one of five providers of seasonal forecasts for the C3S climate data store. Within the Copernicus Service Contracts, reforecast and forecast data are delivered to C3S according to the agreed data standards . We present an evaluation of the reforecast skill as well as forecasts, with particular emphasis on the performance of the forecasts for the ENSO region the past year.