Towards seasonal forecasts with the coupled climate model ECHAM6/MPIOM

Johanna Baehr (1), Wolfgang Müller (2), Michael Botzet (2), Robert Piontek (1), Luis Kornblueh (2), and Daniela Matei (2)

(1) Institute of Oceanography, KlimaCampus, University of Hamburg, Hamburg, Germany (johanna.baehr@zmaw.de), (2) Max Planck Institute for Meteorology, Hamburg, Germany

Seasonal climate forecasts based on state-of-the-art climate models have steadily been developed and have routinely been applied in operational streams. Here, we setup the ECHAM/MPIOM global coupled climate model to perform climate predictions on seasonal to decadal time scales. We both discuss the obstacles encountered in the setup, but also present initial hindcast experiments based on ECHAM5/MPIOM including the land component JSBACH.

ECHAM5/MPIOM is initialized from a nudged reference run, where full-field nudging is implemented in both the atmosphere (ERA40 reanalysis) and the ocean (ORA reanalysis). The reference run covers a period from 1960 to 1999, from which an ensemble of 10 hindcasts are initialized every 6 months starting in1981 (May and November). The skill in key regions such as the tropical Pacific (i.e. ENSO) is considered. The present simulations provide the benchmark for seasonal forecasts applied with ECHAM6/MPIOM.