



Evaluation of the coupled COSMO-CLM+NEMO-Nordic model with focus on North and Baltic seas

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The region east of the Baltic Sea has been identified as a hot-spot of climate change by Giorgi, 2006, on the base of temperature and precipitation variability. For this purpose, the atmosphere model COSMO-CLM has been coupled to the ocean model NEMO, including the sea ice model LIM3, via the OASIS3-MCT coupler (Pham et al., 2014). The coupler interpolates heat, fresh water, momentum fluxes, sea level pressure and the fraction of sea ice at the interface in space and time.

Our aim is to find an optimal configuration of the already existing coupled regional atmospheric-ocean model COSMO-CLM+NEMO-Nordic. So far results for the North- and Baltic seas show that the coupled run has large biases compared with the E-OBS reference data. Therefore, additional simulation evaluations are planned by the use of independent satellite observation data (e.g. Copernicus, EURO4M).

We have performed a series of runs with the coupled COSMO-CLM+NEMO-Nordic model to find out about differences of model outputs due to different coupling time steps.

First analyses of COSMO-CLM 2m temperatures let presume that different coupling time steps have an impact on the results of the coupled model run. Additional tests over a longer period of time are conducted to understand whether the signal-to-noise ratio could influence the bias. The results will be presented in our poster.