Coupling of COSMO/CLM and NEMO in two regions

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Abstract

We have established two coupled regional atmosphere-ocean models, one for the Mediterranean Sea and the other for the North and Baltic Seas. The atmosphere model chosen is COSMO/CLM, for the ocean, it is NEMO, which includes the sea-ice model LIM. Both models are coupled via the OASIS3-MCT coupler. This coupler interpolates heat, fresh water, momentum fluxes, sea level pressure and the fraction of sea ice at the interface in space and time.

We will present the individual setups for the two regions and show results of our hindcast and decadal experiments. Our main focus is to compare the uncoupled atmospheric model and coupled atmospheric-ocean models to study the influence of the active coupled ocean on the atmospheric circulation and especially how far this influence reaches inland.