

Coupling of ocean model NEMO to regional climate model MAR over the arctic Ocean

SIEVERS I. AND FETTWEIS X.

University of Liège - Laboratoire de Climatologie

The Arctic is currently undergoing rapid changes with major effect on the global climate system. Since the Arctic is a ruff environment which is hard to sample with observations, modelling is often chosen to understand the different processes and interactions at play. Most regional modelling efforts however focus on only one component of the arctic climate system at a time (ocean, atmosphere, ice sheet...) and therefore, neglect that many climate components are linked to each other.

To fully understand all the interactions involved in the Arctic climate system we will present first results of a coupling of an atmosphere-ocean regional climate model with an integrated sea ice model set up over the arctic Ocean in the framework of the Belgian PARAMOUR project. The models used are the regional climate model MAR (developed at Uliège), which is especially designed to model the Polar regions, and the ocean model NEMO with the integrated ice model LIM at a resolution of $1/4^\circ$. By coupling these high resolved models we aim to get a better insight into the small scale interactions between atmosphere, ocean as well as the Greenland Ice Sheet Surface Mass Balance, and with this insight contribute to a better understanding of the arctic climate system.

Poster preference