



Relevance of meso-scales in Central America for decadal predictability in Europe

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The MesoTel project aims to improve forecasts for Europe by introducing a modeling focus on the role of meso-beta-scale dynamics over a key region for such processes, the area between Central America and the south-western North Atlantic.

Meso-beta-scale atmospheric dynamics affect the development of cyclones and Rossby wave trains, which again affect ocean dynamics. As regional feedbacks are expected to modify the development of the large scales and the conditions for meso-scale processes, a two-way nesting approach is applied.

The two-way coupled model system currently under development consists of the atmosphere-ocean general circulation model ECHAM6/MPIOM and of the regional climate model COSMO-CLM (CCLM). As MesoTel is part of MiKlip research initiative, the potential effects on decadal predictions are of particular interest. Ultimately, the influence of the meso-scale processes resolved on the northern hemisphere large to planetary scale dynamics and its interannual to decadal predictability shall be investigated.

First evaluation results regarding effects in the region of interest (Central America and Europe) will be presented. In addition, the concept of coupling the used model components (OASIS, ECHAM6, MPIOM, CCLM) is presented, including data exchange, horizontal and vertical interpolation and aggregation.