Abstract „Globalmodellsimulationen mit 2-Wege Nesting" (IfM,FUB)

This DKRZ-project is part of the BMBF-project MesoTel. MesoTel aims to improve the accuracy of the planetary scale dynamics and of the deterministic forecast of seasonal means over Europe by taking into account the feedback of the meso-beta-scale dynamics on the hydrostatic large to planetary scales. In particular, the relevance of the meso-beta-scale dynamics for the development of extremely growing Rossby wave trains shall be investigated and a contribution to our understanding of the mechanisms determining the interannual to decadal predictability shall be made. Hereto the recent versions of the non-hydrostatic COSMO-CLM, which is a model system for operational NWP and regional climate modelling (RCM), and of the global atmosphere-ocean circulation model (AOGCM) ECHAM6/MPIOM shall be coupled and applied.

The standard configuration of the MiKliP models is planned to be similar to the CMIP5 configurations of ECHAM/MPIOM and COSMO-CLM for Europe. The configurations are T63L47 (ECHAM) and T63L95 (MAECHAM) for the 80km and 250km high atmospheres respectively. The T63 is named low resolution (LR). The L95 (MAECHAM) configuration is necessary for simulation of the QBO phenomenon. Most probably T127L47 (ECHAM) and T127L95 (MAECHAM) will be the high resolution (HR) configurations for the ECHAM CMIP5 simulations.

The "present day interannual runs" with ECHAM6/MPIOM using LR and HR configuration. The simulation aims to investigate the quality of the storm and RWT development in the global model and for the predictability of the LR and the HR configuration using a configuration similar to the operational system. The simulations have to be repeated with the preoperational model system.