



Simulations with the global-regional two-way nested climate model system - influence of different key regions on the general circulation

P. Lorenz and D. Jacob

Max Planck Institute for Meteorology, Hamburg, Germany (philip.lorenz@dkrz.de)

A global-regional two-way nested atmospheric climate model system (Lorenz and Jacob, 2005) has been applied for the simulation of today's climate. The global model component is the ECHAM4 GCM which is used at T42 horizontal resolution; the regional model component is the REMO RCM at 0.5° horizontal resolution. Both model components use the same set of physical parameterizations.

A set of simulations using observed SST data (AMIP) has been carried out for one decade. In these simulations a high resolution two-way nested domain has been setup for different possible key regions of the global circulation.

An analysis of the influence of the finer horizontal and temporal treatment within the two-way nested domains on the simulation of the general circulation will be presented. For validation the results of the runs are validated against climatologies and re-analysis data.

References:

Lorenz, P., and D. Jacob (2005), Influence of regional scale information on the global circulation: A two-way nesting climate simulation, *Geophys. Res. Lett.*, 32, L18706, doi:10.1029/2005GL023351.