



Challenges on establishing a convection permitting seasonal latitude-belt simulation using the Weather Research and Forecasting model

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Seasonal forecasting is still one of the big challenges in numerical weather prediction. Due to computational constraints, the horizontal resolution is often limited to about 0.5 to 1 ° resolution.

Recently, a special project at the High Performance Computing Center Stuttgart (HLRS) enabled us to perform a 5-month convection permitting latitude belt simulation using the using the Weather Research and Forecasting (WRF) model together with the NOAH-MP land surface model. The model domain covers an area between 65°N and 57°S and starts at February 1st, 2015. Forcing was only applied at the meridional boundaries from ECMWF and SSTs are provided by ECMWF and the OSTIA project. In addition to the convection permitting simulation, a simulation with a typical resolution of 0.45° and parameterized convection has been accomplished.

We will show technical challenges in setting up a convection permitting seasonal forecast as well as preliminary results.