



Atmospheric dynamics in a nonhydrostatic regional climate model.

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In the last years nonhydrostatic regional climate models have been developed. One of them is the Climate Local Model (CLM). It is used for weather prediction and regional climate simulations with spatial resolutions between 50km and 2.8km. This provides insight into space scales much smaller than observed over time scales of seconds to decades, which is sufficiently long for statistical analysis of atmospheric turbulence.

However, an important condition of the regional simulation is the need for initial and boundary conditions. They are given by coarse grid observations or simulations. However, the interpretation of the differences between both rises several (still open) questions.

We will present an evaluation of atmospheric turbulence of a 15 year CLM-simulation with spatial resolutions of 50 and 18 km horizontally, 40 levels below 23 km vertically and for different boundary conditions (ECHAM5, ERA15). The open questions of the evaluation will be discussed.