Kurzfassungen der Meteorologentagung DACH
Bonn, Deutschland, 20.–24. September 2010
DACH2010-42

Evaluation of COSMO-CLM simulations for the use in climate impact studies

B. Früh, S. Brienen, and A. Walter
Deutscher Wetterdienst, Klima und Umweltberatung, Offenbach, Germany (barbara.frueh@dwd.de)

Contemporary climate and environmental consulting need to consider the impact of climate change. For this purpose, past and future climate projections at spatially high resolution and high quality are mandatory. Although regional climate models evolved largely in the last years, model deficiencies, which are too high to be acceptable in policy and climate advice, still remain. To improve the regional climate projections of the regional climate model COSMO-CLM and, thus, enable a subsequent climate impact research we work on the optimization of the physical parameterization for climate purposes.
In a first step, we examine an ensemble of sensitivity simulations using COSMO-CLM with 7 km grid spacing, forced by operational global model analyses, in comparison to surface observations in Germany. We find that important differences occur especially in the 2 m relative humidity, but also in the 2 m air temperature, and that changes in the configuration of all parts of the model (e.g. physics, numerics, model domain...) can influence the results. Here, we present and discuss our first results.