



Evaluation of regional climate model simulations over Central Europe using the new high-resolution HYRAS precipitation climatology

S. Brienens, B. Früh, and K. Trusilova

Deutscher Wetterdienst, Climate and Environment Consultancy, Offenbach, Germany (kristina.trusilova@dwd.de)

As the resolution of regional climate simulations continues to increase, also comparable data sets are required for the evaluation of the model skill on these fine scales. A new high-resolution precipitation climatology (HYRAS) is available covering the river catchments in Germany and neighbouring countries. The dataset is available for the time period 1951 to 2006 with a spatial grid spacing of 5km and daily temporal resolution. This data set is used for the evaluation of a set of simulations with the regional climate model COSMO-CLM. These simulations are done over Europe with different horizontal resolutions. The analysis is based on indices describing different aspects of daily precipitation statistics for all seasons. Ten different river catchment areas in Central Europe are investigated. Additionally, a comparison with the coarser gridded data sets of E-OBS and ERA-Interim is performed and the added value of using the high-resolution HYRAS data set is demonstrated. This is done using statistical methods such as correlograms and regression on moving averages of several grid points. The results show that precipitation in coarser grid averages seems to be underestimated compared to the finer grid structures, especially in the summer season.