



First steps of the regional climate model MAR over the Euro-CORDEX domain

Chloé Scholzen and Xavier Fettweis

Laboratory of Climatology, University of Liège, Liège, Belgium (cscholzen@ulg.ac.be)

In the framework of the Euro-CORDEX initiative, the Laboratory of Climatology of the University of Liège, Belgium, is currently using the regional climate model MAR (for “Modèle Atmosphérique Régional”) to simulate the past, present and future climate over Europe. Simulations are being performed for both available resolutions over the Euro-CORDEX domain, namely 0.11 deg. (12.5 km) and 0.44 deg. (50 km). Historical and present-day runs (1979-2015) use the ERA-Interim and the NCEP/NCAR-v1 reanalyses as boundary conditions, whereas future projections are driven by two selected GCMs from the CMIP5 database: NorESM1-M and MIROC5. All CMIP5-GCMs were previously compared against ERA-Interim reanalysis data in terms of their ability to represent the current mean climate over Europe. The GCMs also underwent a statistical classification based on the calculation of skill-scores evaluating for instance 850 hPa temperature and 500 hPa geopotential height. Several settings and parameters were tested in order to calibrate the regional climate model MAR over the Euro-CORDEX domain. MAR was validated with respect to observations from the European Climate Assessment & Dataset (ECA&D). The aim of this study is to assess the performance of MAR in comparing its results to other RCMs used within the Euro-CORDEX initiative.