



Regionalisation of statistical model outputs creating gridded data sets for Germany

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The goal of the German research program ReKliEs-De (regional climate projection ensembles for Germany, <http://reklies.hlug.de>) is to distribute robust information about the range and the extremes of future climate for Germany and its neighbouring river catchment areas. This joint research project is supported by the German Federal Ministry of Education and Research (BMBF) and was initiated by the German Federal States. The Project results are meant to support the development of adaptation strategies to mitigate the impacts of future climate change. The aim of our part of the project is to adapt and transfer the regionalisation methods of the gridded hydrological data set (HYRAS) from daily station data to the station based statistical regional climate model output of WETTREG (regionalisation method based on weather patterns). The WETTREG model output covers the period of 1951 to 2100 with a daily temporal resolution. For this, we generate a gridded data set of the WETTREG output for precipitation, air temperature and relative humidity with a spatial resolution of 12.5 km x 12.5 km, which is common for regional climate models. Thus, this regionalisation allows comparing statistical to dynamical climate model outputs.

The HYRAS data set was developed by the German Meteorological Service within the German research program KLIWAS (www.kliwas.de) and consists of daily gridded data for Germany and its neighbouring river catchment areas. It has a spatial resolution of 5 km x 5 km for the entire domain for the hydro-meteorological elements precipitation, air temperature and relative humidity and covers the period of 1951 to 2006. After conservative remapping the HYRAS data set is also convenient for the validation of climate models.

The presentation will consist of two parts to present the actual state of the adaptation of the HYRAS regionalisation methods to the statistical regional climate model WETTREG: First, an overview of the HYRAS data set and the regionalisation methods for precipitation (REGNIE method based on a combination of multiple linear regression with 5 predictors and inverse distance weighting), air temperature and relative humidity (optimal interpolation) will be given. Finally, results of the regionalisation of WETTREG model output will be shown.