



Correcting model precipitation using a rank matching method

Patrick Haas and Herbert Formayer

Institute of Meteorology, University of Natural Resources and Applied Life Sciences, Vienna, Austria
(patrick.haas@boku.ac.at)

A method of a post-processing model bias correction is investigated using daily precipitation data obtained from the regional climate model RegCM driven by reanalysis data. The evaluation of the method is done by comparing the original model data and the corrected model data with observational data.

The correction method is based on the differences of the empirical cumulative density functions of model and observation and is applied to the model data in a way that the statistics are retained. The method uses correction factors which depend on the quantile values of the data.

This presentation focuses on the performance and on further improvements of the method using only precipitation. This is due to the fact that precipitation is the most difficult and complex parameter to correct and that the performance of correcting precipitation is not as good as for other parameters. For precipitation a number of problems occur using the correction method straight forward due to the distribution of precipitation. These problems are investigated and discussed here and new improvements are suggested.

The evaluation of the method was done by applying a split sample test. The data of period 1961-1985 was used to calculate the correction factors and these were used to correct the data of 1986-2000. The corrected data was verified against the observations of this period investigating a number of statistical indices.