



Forcing the statistical regionalization method WETTREG with large scale models of different resolution: A sensitivity study

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The statistical regionalization method WETTREG is making use of the assumption that future climate changes are linked to changes in large scale atmospheric patterns. The frequency distributions of those patterns and their time-dependency are identified in the output fields of dynamical climate models and applied to force WETTREG. Thus, the magnitude and the time evolution of high-resolution climate signals for time horizons far into the 21st century can be computed. The model results employed to force WETTREG include the GCMS ECHAM5C, HadCM3C and CNRM. Additionally results from the dynamical regional models CLM, DMI, HadRM, RACMO and REMO, nested into one or more of these global models, are used in their pattern-generating capacity to force WETTREG.

The study yield insight concerning the forcing-dependent sensitivity of WETTREG as well as the bandwidth of climate change signals. Recent results for the German State of Hesse will be presented in an intercomparison study.