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Downscaling of daily precipitation in the Baltic Sea catchment

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A set of statistical downscaling methods and one dynamical downscaling method were evaluated in their ability to model seasonal precipitation patterns in Swedish catchments. The large-scale predictors included MSLP, geopotential heights at different pressures and relative humidity at the surface. The methods were trained on NCEP/NCAR reanalysis data on the time period 1961-2000, focusing on the importance of areal and temporal restrictions in the predictor data. The methods were then applied to 3 scenarios from 2 GCMs, the ECHAM4 and HadCM3 models. The scenarios were a control run (1961-1990), and two scenarios a2 and b2 (2071-2100).