Geophysical Research Abstracts
Vol. 20, EGU2018-13490, 2018
EGU General Assembly 2018

Weather extremes in an ensemble of downscaled CMIP5 simulations for Germany from 1971-2000

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Within the ReKliEs-De project (http://reklies.hlnug.de) funded by the BMBF (Federal Ministry of Education and Research) climate simulations applying two downscaling methods were carried out, contributing to the EURO-CORDEX Ensemble. Due to the large efford of ReKliEs-De, now with the regional climate models (RCMs) and the empirical-statistical Downscaling (ESD) method, 37 simulations of the RCP85 scenario and 14 simulations of the RCP26 scenario are available on 12 km horizontal resolution for Germany within the EURO-CORDEX domain.
Daily precipitation and temperature climatologies for the historical (1970 - 2005) simulations of the EURO-CORDEX ensemble are analysed for Germany in comparison with the gridded observational dataset HYRAS from the German Weather Service applying the same horizontal resolution. Further, climate projections of the RCP85 and RCP26 scenario (2006 – 2100) are investigated likewise. Results are presented in respect of different seasons and regions within Germany. An increasing number of climate extremes in Germany, concerning the climate projections of EURO-CORDEX, is one of the distinct results of ReKliEs-De. Within this study, this is analysed in more detail evaluating PDFs of the horizontal temperature and precipitation distribution of the CORDEX ensemble.