



Constraining regional extreme temperature projections of the CMIP5 ensemble

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Temperature extremes are expected to increase in frequency and intensity in the future under enhanced global warming. Associated with the future projections of hot extremes are large uncertainties in different regions such as Central Europe. Given the severe impacts it is important to understand physical mechanisms leading to the projected amplified warming of regional extremes. Soil moisture- temperature feedbacks are strongly relevant for these projections as they are a key contributor to the development of regional hot extremes. Since soil moisture itself and soil moisture-temperature feedbacks are subject to change in future they likely contribute to the uncertainties of extreme temperature projections.

In this work we link projections of changes in extreme temperatures to changes in land-atmosphere interactions with a particular focus on Central Europe. For this purpose, we employ observational data sets to constrain the model ensemble in the current climate, and consequently the extreme temperature projections.