



Identifying missing GCM forcing data to generate a balanced CORDEX-Africa GCM/RCM matrix: A case study for southern Africa

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The selection of the forcing general circulation model (GCM) is supposed to have an impact on dynamically downscaled regional climate change projections over many parts of the globe. In order to transfer the spread of projected climate change signals of the GCMs ensemble into the higher resolved RCM projections, a multitude of GCMs representing the full range of possible future climate change has to be downscaled.

In the framework of the SASSCAL-project (Southern African Science Service Centre for Climate Change and Adaptive Land Management project), an analysis of the full multi-model multi-scenario ensemble of global climate change projections from the CMIP5 database and the sub-ensemble of global projections already downscaled within the CORDEX-Africa initiative is conducted for the southern African region.

In our presentation we will identify existing mismatches between the overall spread in the projected temperature and precipitation changes of the full CMIP5 ensemble and the sub-ensemble so far downscaled within the CORDEX-Africa initiative. Furthermore we will point out additional GCM-projections to be downscaled to better represent the full GCM-spread in the regional model ensemble, in order to balance the data basis for a robust regional climate change assessment for the southern African region.