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Assessment of projected climate change signals over central Africa based on a multitude of global and regional climate projections

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It is well accepted within the scientific community that only a large ensemble of different projections will allow achieving robust climate change information for a specific region. In the framework of the project "Climate changes scenarios for the Congo basin" (funded by the German Ministry for Environment, Nature Conservation and Nuclear Safety) a regional climate change assessment is conducted by the Climate Service Center (CSC) over the greater Congo basin region. The analysis is based on a state-of-the-art multi-model multi-scenario ensemble of global and regional climate change projections. In this ensemble the results of several GCM projections from the CMIP3 and the CMIP5 projects are combined with some of the recently downscaled regional CORDEX-Africa projections. Altogether data from 77 different climate change projections are analysed; separated into 31 projections for a "high" and 46 for a "low" emission scenario.

In the study several parameters and indices related to temperature and precipitation are considered for the assessment of projected climate change. The large size of the analyzed ensemble is expected to be useful for not only quantifying the magnitude of projected changes, but also to analyze their robustness as well. Moreover, potential differences between projected changes from GCMs and RCMs can also be analysed.