



Analysing regional climate change in Africa in a 1.5 °C global warming world

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At the 21st session of the UNFCCC Conference of the Parties (COP21) in Paris, a reaffirmation to strengthen the effort to limit the global temperature increase to 1.5 °C was decided. However, even if global warming is limited, some regions might still be substantially affected by climate change, especially for continents like Africa where the socio-economic conditions are strongly linked to the climatic conditions. Hence, providing a detailed analysis of the projected climate changes in a 1.5 °C global warming scenario will allow the African society to undertake measures for adaptation in order to mitigate potential negative consequences.

In order to provide such climate change information, the existing CORDEX Africa ensemble for RCP2.6 scenario simulations has systematically been increased by conducting additional REMO simulations using data from various global circulation models (GCMs) as lateral boundary conditions. Based on this ensemble, which now consists of eleven CORDEX Africa RCP2.6 regional climate model simulations from three RCMs (forced with different GCMs), various temperature and precipitation indices such as number of cold/hot days and nights, duration of the rainy season, the amount of rainfall in the rainy seasons and the number of dry spells have been calculated for a 1.5 °C global warming scenario. The applied method to define the 1.5 °C global warming period has been already applied in the IMPACT2C project.

In our presentation, we will discuss the analysis of the climate indices in a 1.5 °C global warming world for the CORDEX-Africa region. Amongst presenting the magnitude of projected changes, we will also address the question for selected indices if the changes projected in a 1.5 °C global warming scenario are already larger than the climate variability and we will also draw links to the changes projected under a more extreme scenario.