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Applying climate service in "The Future Okavango" (TFO) project

Torsten Weber, Andreas Haensler, Arne Kriegsmann, and Daniela Jacob
Climate Service Center, Helmholtz-Zentrum Geesthacht, Hamburg, Germany (torsten.weber@hzg.de, (+49 40) 226 338 163)

The Okavango River Basin with the world's largest inland delta is a hotspot of future climate change. The river originates in the rainy Bié Plateau in Angola, touches the north-western part of Namibia with its savanna woodlands and terminates in a delta situated in the Kalahari Desert in Botswana. Accordingly, the basins climate is characterized by changing environmental conditions along the river and by relatively high temperatures leading to pronounced evaporation fluxes. The annual hydrological cycle of the area shows two extremes: seasonal flooding alternates with dry periods influencing water levels of the Okavango River in downstream regions.

As the region strongly depends on the water resource of the Okavango River, possible changes of the climate are of uppermost importance and interest, because they affect all components of the hydrological cycle and thus the lives of the people living in a region of such unique natural characteristics. The project "The Future Okavango" (TFO), which covers Angola, Botswana and Namibia, aims at an improvement of knowledge based land use management within the Okavango River Basin. An important aspect of TFO is the application of a trans-disciplinary approach by involving relevant regional stakeholders on different scales from the three countries and the support of the already well established communication between science and decision makers in the region. In order to develop strategies for sustainable land management in the Okavango River Basin, decision makers need high resolution climate change information for the future. To generate regional climate change projections, regional climate models are used to downscale simulations created by global circulation models. Climate projections, however, contain various uncertainties which have to be considered and estimated.

In the framework of TFO, the Climate Service Center (CSC) delivers dynamically downscaled climate data sets and climate change information on a high spatial resolution for the Okavango River Basin to project partners. Moreover, the CSC answers questions concerning the use and interpretation of the climate data within the project. In our presentation we will give a short introduction into the TFO project, the method for deriving climate change signals and the uncertainty communication. Furthermore, examples of climate information products demanded by the project partners will be shown.