



Effects of Saharan Dust on the West African Monsoon and the Niger River Basin.

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The Niger River Basin in Africa has been reconstructed using the CHYM hydrological model coupled with the regional climate model RegCM3 in order to investigate how change in monsoon precipitation due to the introduction of the dust in the regional model can affect river discharge.

The precipitation data from RegCM3 over the Western Africa domain, with and without an interactive dust scheme, have been used as input for the hydrological model. The effects of dust on precipitation and monsoon dynamics produce anomaly patterns similar to those found in dry years over the Sahel. Since the climate change signal indicates future drying over this region, this preliminary study can account for the effects of changes in water availability over the Niger River Basin in future climate change projection.