



## Downscaling Meteorological Data for Use in Hydrological Modelling

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**ABSTRACT:** The IMPETUS Westafricaprojekt focuses on water availability, use and management as well as on impacts of climate variability on the water cycle in two climate risk regions: The river catchments of the Qued Drâa in Morocco and of the Ouémé in Benin.

The catchment of the Drâa river in Morocco is located in the vicinity of the High Atlas Mountains. Thus, rainfall and snowmelt contribute to the water balance of this semi-arid catchment. For hydrological modelling of longer periods, distributed meteorological data are necessary to compute surface fluxes, which actually connect soil/vegetation cover and the atmosphere.

In opposite to very expensive methods of downscaling with prognostic meteorological models, a relatively simple, diagnostic model was constructed to calculate spatially distributed snow and rain fields as well as surface fluxes for larger time scales (days to months). The model physics are described in some detail. A first insight into the performance of the model is given by comparison with observational data of a small climatic station network in the region of interest.