

## **Landscape dependent derivation of J2000 model parameters for hydrological modelling in ungauged basins**

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**Abstract** The HRU (*Hydrological Response Units*) regionalisation concept is realised with a GIS-based intersection of landscape parameters such as topography, soils, geology and land use. In many catchments of the world the required data are only available on a coarse spatial resolution and there is often a lack of discharge and precipitation data. But there is a demand to involve these catchments in planning of water management. The assumption of a process-driven feedback between the topography and further landscape components, as well as runoff dynamics, leads to a modified delineation of process entities by a topographic oriented HRU approach on the basis of SRTM elevation data. The approach is based on the expectation that the water balance of ungauged basins can be estimated using SRTM-based delineations of process-oriented model entities to get a suitable prediction of runoff dynamics with disposable landscape components in spite of an insufficient hydro-meteorological database.

**Key words** SRTM; hydrological modelling; prediction in ungauged basins; hydrological response unit; Germany; South Africa