Not enough high-resolution rainfall data? Generate it!

Hannes Müller and Uwe Haberlandt

Institute of Water Resources Management, Hydrology and Agricultural Hydraulic Engineering, Leibniz University of Hannover, Hannover, Germany

For many hydrological applications rainfall time series with a high temporal resolution are crucial, e.g. for rainfall-runoff-modeling, urban hydrology or erosion processes. Observed time series of this kind are very short in most cases, so they cannot be used. However, information from these time series can be used for the generation of time series with long durations and high resolutions.

Among an overview of different rainfall generators a special focus will be given to cascade models. With these models long time series of non-recording stations (daily measurements) can be disaggregated to the resolution of interest.