



## **Predicting daily streamflow using a parsimonious rainfall-runoff model with rainfall forecasts finalised to water resources allocation in a Sicilian catchment**

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This paper presents a real-time river flow forecasting application in the River Alcantara, a 400 km<sup>2</sup> catchment in eastern Sicily, Italy, using a method based on observed daily rainfall, quantitative daily forecasts of rainfall given by a regional numerical weather-prediction model, and rainfall-runoff simulation by the IAHCRES (Identification of Hydrographs And Components from Rainfall Evaporation and Streamflow), a spatially-lumped conceptual model that allows flexible schematizations of both surface and groundwater flow by combining channels and reservoirs in different ways using a parsimonious and not over-parameterised approach. The model requires only rainfall, streamflow and air temperature data for calibration and has been calibrated using GLUE procedure. The results show that for the basin considered, the use of quantitative rainfall forecasts as input to a rainfall-runoff model extend the lead-time of flow forecasts and point out the usefulness of rainfall forecasts for water resources management.