



## **A hydrological model driven by remote sensing products at basin scale in the South East of Spain**

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The increase of the water demands by population growth and by agriculture activities, which consume almost 85 % of total water demand in the South East of Spain, together with the intensification of water quality deterioration, and climate change scenario, are some of the pressures over water resources systems in semiarid areas of Spain. The use of remote sensing based products to parameterize hydrological models, is a way to reduce the uncertainties involved in the modelling process. In the present work, a continuous hydrological model with few parameters is forced by the dataset PERSIANN-CDR (Precipitation Estimation from Remotely Sensed Information using Artificial Neural Networks-Climate Data Record), and satellite retrieval of actual evapotranspiration (AET). PERSIANN-CDR is a high resolution satellite-based global daily precipitation climate dataset. To improve the spatial calibration of the continuous hydrological model used, a graphical algorithm for remote sensing AET retrieval was applied from MODIS sensor, and validated with ground truth (eddy covariance). The Fuensanta basin located in the headwater Segura River basin of South East of Spain was selected as study region. The comparison of spatially simulated runoff - between the model driven by remote sensing products, and by conventional climate datasets -, presented promising results; while some limitations were identified.