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Importance of ecohydrological modelling approaches in the prediction of plant behaviour and water balance at different scales

Alicia García-Arias (1), Guiomar Ruiz-Pérez (2), and Félix Francés (1)

(1) Research Institute of Water and Environmental Engineering, Universitat Politècnica de València (UPV), Valencia, Spain (algarar2@upv.es), (2) Department of Crop Production Ecology, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden (guiomar.ruiz.perez@slu.se)

Vegetation plays a main role in the water balance of most hydrological systems. However, in the past it has been barely considered the effect of the interception and evapotranspiration for hydrological modelling purposes. During the last years many authors have recognised and supported ecohydrological approaches instead of traditional strategies. This contribution is aimed to demonstrate the pivotal role of the vegetation in ecohydrological models and that a better understanding of the hydrological systems can be achieved by considering the appropriate processes related to plants. The study is performed in two scales: the plot scale and the reach scale. At plot scale, only zonal vegetation was considered while at reach scale both zonal and riparian were taken into account. In order to assure the main role of the water on the vegetation development, semiarid environments have been selected for the case studies. Results show an increase of the capabilities to predict plant behaviour and water balance when interception and evapotranspiration are taken into account in the soil water balance