



Testing a distributed hydrological model to predict scenarios of extreme events on a marginal olive orchard microcatchment

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Olive groves constitute a traditional Mediterranean crop and thus, an important source of income to these regions and a crucial landscape component. Despite its importance, most of the olive groves in the region of Andalusia, Southern Spain, are located in sloping areas, which implies a significant risk of erosion. The combination of data and models allow enhancing the knowledge about processes taking place in these areas as well as the prediction of future scenarios. This aspect might be essential to plan soil protection strategies within a context of climate change where the IPCC estimates a significant increase of soil aridity and torrential events by the end of the century.

The objective of this study is to estimate the rainfall-runoff-sediment dynamics in a microcatchment olive grove with the aid of a physically-based distributed hydrological model in order to evaluate the effect of extreme events on runoff and erosion. This study will allow to improve land-use and management planning activities in similar areas. In addition, the scale of the study (microcatchment) will allow to contrast the results in larger areas such as catchment regional spatial scales.