



Using a physically based distributed hydrological model for predicting internal model variable such as soil moisture at point and subsurface flow: an application with in situ recorded data

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This work describes preliminary results about the application of a distributed hydrological model for predicting internal model variable such as soil moisture at point and subsurface flow in a mountainous catchment of square kilometers characterized by clayey soils. The system makes use of a physically based distributed hydrological model TOPKAPI to reproduce the water flows and soil moisture distribution over the catchment and at particular point of the catchment. In the study area there are two real-time monitoring stations, the first for the river discharge, the second to measure precipitation and soil water content at different depths for three different locations along the hillslope. The soil has been analyzed either in situ and in laboratory to provide physical, mechanical and hydraulic characteristics and to provide to the distributed model a correct estimation of the hydrological parameters.