



Characterization of hydrological processes in a partially decomposed granite hillslope in the Mediterranean region

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Although granitic rock materials do not easily decompose, particular weathering conditions can be found even in the Mediterranean region, in relatively elevated areas with high annual rainfall and low annual evapotranspiration. One example is the Sierra Morena near Cardena, in southern Spain, at 800 m a.s.l., where the average annual rainfall is over 900 mm. The peculiar hydrological conditions of the site are determined using the information collected in a network of piezometers and soil moisture sensors along a granite hillslope. Preliminary results show subsurface flow conditions similar to those described by Rempe and Dietrich (2014) and Foster et al. (2015). The groundwater responds quickly to rain pulses, specially in winter and autumn seasons, where vegetation cover is scarce, due to the presence of macropores and fractures in the soil.

Ref:

Foster, M.A., Anderson, R.S., Wyshnytzky, C.E., Ouimet, W.B., Dethier, D.P. 2015. GSA Bull. 127:862-878.
Rempe, D.M., Dietrich, W.E. 2014. PNAS 111:6576-681.