Supplement of Hydrol. Earth Syst. Sci., 20, 2421–2435, 2016
http://www.hydrol-earth-syst-sci.net/20/2421/2016/
doi:10.5194/hess-20-2421-2016-supplement

Hydrology and Earth System Sciences
Open Access
EGU

Supplement of

Analysis of the drought recovery of Andosols on southern Ecuadorian Andean páramos

Vicente Iñiguez et al.

Correspondence to: Vicente Iñiguez (vicente.iniguez@ucuenca.edu.ec)

Water retention curves

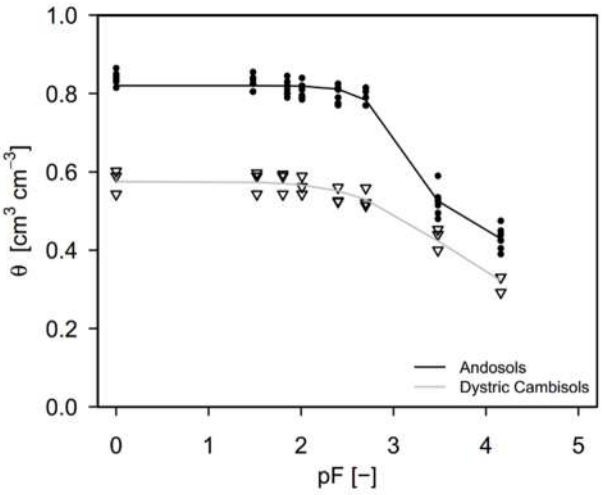

Figure S1. Modelling of the water retention curve of the Andosols –Calluancay– and Dystric Cambisols –Cumbe– with the Mualem-van Genuchten model

The Fig. S1 illustrates the well-known high water retention capacity of the Andosols (see the pF-curve). The low tension part of the curve (from saturation water content up to the field capacity) shows little change in the soil water content (i.e. the range of negative pressure is: 0-0.33 bar or up to pF 2.3). A large change is observed in the range from 0.33 up to 15 bar, which is in the available water content (AWC). The specific values obtained were: AWC: 0.40 and 0.24 cm^3 cm^{-3}, the field capacities 0.835 and 0.531 cm^3 cm^{-3} and the permanent wilting points were equal to 0.43 and 0.30 cm^3 cm^{-3} for Calluancay and Cumbe respectively. In other words, considering just an average depth of the organic soils for the whole area of about 0.50 m, the available water content expressed in millimeters is around 200. For the case in Cumbe (mineral soils), with a similar depth (0.5 m) the AWC is lower and equal to around 120 mm, which is a bit more than the half of the Andosols. The AWC values were used to calculate the volume of water retained by the soils at the catchment scale and the differences in terms of soil water storage will be clearly revealed (Fig. S1).