Geophysical Research Abstracts
Vol. 18, EGU2016-14730-1, 2016
EGU General Assembly 2016

Learning from the roots of mountain watersheds management

Federico Preti (1), Enrico Guastini (1), and GianBattista Chirico (2)
(1) University of Florence, GESAAF, ITALY, Italy (federico.preti@unifi.it), (2) University Federico II, Napoli, ITALY

Wooden vegetation has been constantly subjected to silvicultural activity both in exclusively productive forests and protection forests to mitigate hydrogeological risk. The potential use of protection forests to combat shallow slope instabilities is becoming increasingly important, especially in the light of the increased frequency of landslides and debris/mud flows triggered by extreme rainfall events. Several sites in north and south Italy, subjected to shallow landslides during extreme rainfall events, have been analysed in order to explore the correlation between slope stability and vegetal species. The relation between different forest types and cultivation practices with the intensity of the erosion and landslides has been also investigated. The most suitable silvicultural practices for enhancing slope stability have been retrieved based on the analysis of the succession dynamics after landslides events on slopes which reached stable conditions both with and without the contribution of soil bio-engineering works.