



Editorial

The issue No. 3/ 2012, of this journal had been devoted to the slope-atmosphere interaction, in order to give evidence to the influence on the hydrological response of slopes of the complex thermodynamic phenomena that govern the water exchanges through the air-soil interface. The history of such exchanges affects the initial conditions, whose knowledge is requested in order to analyse the slope behaviour and possibly to predict rainfall-induced landslides.

In that issue three papers, respectively written by Ridley, by Pirone *et al.* and by Askarinejad *et al.*, presented original and thorough studies.

We strongly believe that in the near future such a topic, whose long term impact is still neglected to date, will attract an increasing number of studies. For this reason, in the opening of that issue we invited further researchers to join us with comments and possibly further papers on the subject. Luckily, this happened and now we can introduce a second issue of this journal, which hosts two papers on physical modelling and two papers on natural slope monitoring.

Cui, Tang, Tang and Ta, from the École des Ponts in Paris and from the Nanjing University, present the results of an investigation on the effects of drying. The research was carried out in a large environmental chamber carefully instrumented to measure the environmental parameters of the air and the soil (temperature and humidity) and to describe through image analysis the effects of drying (cracking).

Also Pagano, Reder and Rianna, from the University of Naples Federico II and the Euromediterranean Centre for Climatic Changes, use a physical model for the investigation of infiltration and evaporation. The experiments were performed in an instrumented 1 m³ tank containing the Nocera volcanic ash, that for two years was exposed to natural atmospheric conditions. The results of the monitoring confirm the main data collected on site by the same Authors and by other researchers, adding detailed information about the infiltration and evaporation patterns.

Through site monitoring and modeling, Cotecchia, Pedone, Bottiglieri, Santaloia and Vitone provide clear evidence of the influence of climate on the piezometric head down to large depths even in slopes formed by highly plastic highly tectonized clays. The Authors focus on the effects of rainfall at large depths and on the role of the pore pressure regime on the slope stability, highlighting, in particular, the role of evapotranspiration and of the direct investigation of the retention behaviour of the partially saturated outcropping soil layers.

Using data gathered in the last thirty years on an active slide located on the Northern side of the town of Orvieto, also Boldini, Comegna, Rianna and Tommasi analyse the evapotranspiration mechanisms in clayey soils. Based on available atmospheric and environmental data, they examine the relationship existing between these factors and evapotranspiration, stressing the limits of empirical approaches, that are often too sensible to the effects of temperature only.

The papers shortly presented above add further data and information on the topic of the slope-atmosphere interaction. The general results seem to us quite good and encouraging.

We hope that this will also be the readers' opinion.

The Guest Editors
Luciano Picarelli and Federica Cotecchia