Geophysical Research Abstracts
Vol. 15, EGU2013-8792, 2013
EGU General Assembly 2013

A snow model intercomparison for the evaluation of Snow Water Equivalent in Valle d'Aosta

Simone Gabellani (1), Edoardo Cremonese (2), Umberto Morra di Cella (2), Paolo Pogliotti (2), and Roberto Rudari (1)

(1) CIMA Foundation, Savona, Italy (simone.gabellani@cimafoundation.org), (2) ARPA Valle d'Aosta, St. Christophe, Aosta, Italy

Models mimicking snow evolution can be developed for several purposes: water management, avalanches forecasting, energy fluxes estimation in meteorological and climatological models. The degree of complexity of these models range from simple index methods to physical multilayer models. Each of them can be a good choice for a specific task. The goal of this work is to understand the behavior of different models that are operative in Valle d'Aosta region during both the melting and the accumulation periods with the final aim of identifying advantages and weaknesses for their in estimating Snow Water Equivalent from point to regional scale. The performances of the model are evaluated at a point scale on a very monitored site (Torgnon) performing a set of experiments that gradually degrade the inputs: starting from a configuration that feeds the model with all the observed variables until a configuration that uses input from interpolated fields and climate models analyses.