



Calibration of a hydrological model for flash flood prediction with satellite retrieved data

S. Gabellani (1,2), F. Silvestro (1), R. Rudari (1,4), F. Sini (1) and G. Boni (1,3)

(1) CIMA, University of Genova and University of Basilicata, Savona, Italy (2) DIAM, University of Genova, Genoa, Italy (3) DIST, Università di Genova, Genoa, Italy (4) CNR-GNDCI, Perugia, Roma

An intriguing prospective in distributed modeling for floods forecasting is the possibility to incorporate remotely sensed data, such as evaporative fraction and soil moisture conditions. In this work a distributed model devoted to small catchments discharge simulation is presented. A modified Horton method, calibrated using soil type and land use information, is used to simulate infiltration process and radiation-based approach is adopted to compute evapotranspiration. Under wet conditions the model when calibrated on reliable hydro-pluviometric data mimics the different component of the continuity equation, while during relatively long dry-down periods it shows a faster dry-down of the soil than the observed. In condition of data scarcity to correct this behavior the evaporative fraction maps retrieved by a flexible and simple model of satellite data assimilation (see abstract EGU05-A-02533) can be used to calibrate and update the model.