



The COST 731 Action ‘Propagation of Uncertainty in Advanced Meteo-hydrological Forecast Systems’

A. M. Rossa

COST 731 MC Chair, Centro Meteorologico di Teolo, ARPA Veneto, I-35037 Teolo, Italy
(arossa@arpa.veneto.it)

The COST 731 Action, launched in 2005, addresses the problem of forecasting (heavy) precipitation events and the corresponding hydrological processes in connection with the uncertainty inherent in this task. The actual threat to society that potentially occurs from intense (and thus rare) events only becomes effective after the involvement of the hydrosphere, while the uncertainty in the prediction of a potential flooding event will have to take catchment behaviour and antropogenic behaviour into account in order to decide upon possible actions by local authorities.

In this presentation an overview of the COST 731 goals and a status of the current progress are given. The groups of scientists involved in the Action represent radar meteorology, NWP, hydrological modeling, as well as sociologists who deal with risk communication. The main focus of COST 731 is the quantification of forecast uncertainty and its propagation through a meteo-hydrological forecast chain. A notable number of operational groups in hydrological modeling are in the process to implement and test probabilistic NWP input to produce probabilistic stream flow predictions. New developments include ensemble quantitative precipitation estimates with radar, including driving hydrological models with such input. A prospect on the first results on the running important COST 731 element MAP D-PHASE (Demonstration of Probabilistic Hydrological and Atmospheric Simulation of Flooding Events in the Alps, Operations Period June - November 2007), a WMO/WWRP Forecast Demonstration Project in the Alpine region is given as a solicited paper in the oral session.