Geophysical Research Abstracts,
Vol. 11, EGU2009-1383, 2009
EGU General Assembly 2009

Lessons learned on extreme hydrological events from MAP D-PHASE

M.W. Rotach (1), M. Arpagaus (1), M. Dorninger (2), C. Hegg (3), A. Montani (4), and R. Ranzi (5)

(1) Swiss Federal Office of Meteorology and Climatology (MeteoSwiss), Zurich, Switzerland, (2) University of Vienna, Vienna, Austria, (3) WSL, Birmensdorf, Switzerland, (4) ARPA-SIMC, Bologna, Italy, (5) University of Brescia, Brescia, Italy

MAP D-PHASE is a Forecast Demonstration Project of the World Weather Research Programme (WWRP). Its goal is to demonstrate the ability of reliably and operationally forecasting orographically influenced (determined) precipitation in the Alps and, especially, its consequences on the distribution of run-off characteristics. During the D-PHASE Operations Period (DOP) from June to November 2007, an end-to-end forecasting system was operated, and a vast amount of data is currently being analysed and evaluated. The forecasting system's centre piece was a Visualization Platform, on which equally displayed warnings from some 30 atmospheric and 7 hydrological models (deterministic and probabilistic), corresponding model fields, meteograms, nowcasting information, and end user communication was made available, to forecasters, users, and end users.

The 'P' in D-PHASE stands for 'probabilistic' and thus an emphasis was put during this project on ensemble prediction systems (D-PHASE as such, with its many different models and sources of information, being a multi-facet ensemble). On the one hand the present contribution will address the lessons learned with respect to scientific/technical questions: the gain in forecast quality (and thus reliability) through re-forecasting in an ensemble system; verification of hydrological ensemble model systems; radar ensemble to drive a hydrological model in a small catchment. On the other hand the consequences of probabilistic forecasts for the end users, and especially with respect to hydrological applications, will be discussed.