



Using probabilistic quantitative precipitation forecasts (PQPFs) within a hydro-meteorological chain

R. Marty (1), A. Djerboua (1), Ch. Obled (1), I. Zin (1)

(1) INPG/LTHE, France (renaud.marty@hmg.inpg.fr, +33 (0)4 76 82 50 01)

The presentation will describe a prototype of a simple but rather complete hydro-meteorological forecasting chain, which is adapted for small or medium sized quick responding catchments. This chain is made up of four modules : first, a system collecting hydro-meteorological observations and its related database; second, a module gathering meteorological forecasts from different suppliers and processing these data in order to satisfy the hydrological model requirements; third, the hydrological model itself, making forecasts of river heights and/or discharges; finally, an hydraulic component that manages flow propagation and flooding. Special focus will be put on module two, i.e. on the use of probabilistic quantitative precipitation forecasts. These precipitation forecasts are given at a meteorological time step (usually, 12 or 24 hours) and require to be disaggregated down to the more appropriated hydrological time step for quick responding catchments (1 hour or even less). The presentation will propose a way for coping with operational constraints to match current meteorological and hydrological lead-times, but also to take into account the updating cycle of the meteorological forecasts. A case study will be presented with daily PQPFs used in an hourly flash flood forecasting system giving ensemble discharge forecasts.