

## A new approach for the description of discharge extremes in small catchments

Daniela Pavia Santolamazza (1), Henning Lebrenz (1), and András Bárdossy (2)

(1) Institute of Civil Engineering, University of Applied Sciences and Arts Northwestern Switzerland, Muttenz, Switzerland (daniela.paviasantolamazza@fhnw.ch, henning.lebrenz@fhnw.ch), (2) Institute for Modelling Hydraulic and Environmental Systems, University of Stuttgart, Stuttgart, Germany (andras.bardossy@iws.uni-stuttgart.de)

Small catchment basins in Northwestern Switzerland, characterized by small concentration times, are frequently targeted by floods. The peak and the volume of these floods are commonly estimated by a frequency analysis of occurrence and described by a random variable, assuming a uniform distributed probability and stationary input drivers (e.g. precipitation, temperature).

For these small catchments, we attempt to describe and identify the underlying mechanisms and dynamics at the occurrence of extremes by means of available high temporal resolution (10 min) observations and to explore the possibilities to regionalize hydrological parameters for short intervals. Therefore, we investigate new concepts for the flood description such as entropy as a measure of disorder and dispersion of precipitation. First findings and conclusions of this ongoing research are presented.