



## **Quantitative Information on Extreme Precipitation – a new Climate Service for Switzerland**

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Return levels and return periods of rare precipitation events are important instruments for design in engineering projects, and for the qualification of events in response to insurance claims. The hitherto available standard reference work for this information in Switzerland has long been out of date, both in terms of data, which only extended into the 1980s, and of the statistical methods employed.

In a joint project, the Swiss Federal Office for Meteorology and Climatology MeteoSwiss and the Swiss Federal Office for the Environment have created a web platform providing quantitative information on heavy and extreme precipitation at stations of the MeteoSwiss observational network for a wide range of precipitation durations. This new web platform is easy to use, is presented in four languages, and gives the possibility to download the information.

The statistical methods used for the extreme value analyses are state-of-the-art, and in particular provide not only return level estimates, but also their confidence intervals. Two sets of data are used for the analyses. The first covers the entire measurement period, beginning at some stations in 1864, and differs from station to station. The second covers the period 1966-2015 at all stations and thus permits comparisons of events occurring at different locations and at a different time.

In addition to the traditional information on heavy precipitation in the form of return levels and return periods, the web site provides a novel product of significance for hydrological modeling: time series of hourly precipitation for the 10 events with the largest accumulation over a given time interval, for instance 24 hours.

The presentation will focus on three aspects: (i) the process of creating this climate service which involved a close dialogue with the stakeholder community, (ii) the results developed and made available on the platform and (iii) share first experiences on running the new climate service at MeteoSwiss.