



European flash flood data

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Flash floods are one of the most significant natural hazards in Europe, and can cause damage to buildings and infrastructure and pose a high risk to life. Existing inventories of past floods give information for other geographical regions or lack quantitative information on the meteo-hydrological and hydraulic characteristics of the event. The lack of centralised national and international databases for storing meteo-hydrological, hydraulic and socio-economic data relating to past flood (and particularly flash flood) events within Europe means that it is difficult to calibrate and validate research results on a range of previous floods from different climatic regions. To address this apparent gap in availability of centrally stored, high quality data and with the aim of supporting research on risk assessment and flash flood forecasting, a data base has been developed that collates flash flood data from seven European hydrometeorological regions and that could be extended in the future to other areas. Compilation of the database required the development of a data template and flood event selection rules. Initial analyses of the data highlight spatial variations of flood hazard magnitude, with highest specific peak discharges in the Mediterranean region. There is a strong seasonality to the occurrence of events, with events occurring mostly in the autumn in the Mediterranean region and in the summer in middle and eastern European regions. There have been flash floods in France and Spain on a basin scale of greater than 500 km². This work has been carried out for HYDRATE, which is a currently ongoing EC funded project that is aiming to improve techniques for flash flood forecasting. The work presented here represents some of the first outputs from this project.