



Detection of trends in magnitude and frequency of flood peaks across Europe

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This study analyses the differences in significant trends in magnitude and frequency of floods obtained from Annual Maximum Flood (AMF) and Peak Over Threshold (POT) flood peak series. Flood peaks are identified from European daily discharge data for the period 1965-2005, using a baseflow-based algorithm and significant trends in AMF series are compared with POT series, derived for six different exceedance thresholds. Results show that more trends in flood magnitude are detected in the AMF than the POT series and for the POT series more significant trends are detected in flood frequency than in flood magnitude. Spatial coherent patterns of significant trends are detected, which is further investigated by stratifying the results into five regions based of catchment and hydro-climatic characteristics. All data and tools used in this study are open-access and results are fully reproducible.