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Central-European extreme precipitation and discharge events

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Floods are weather-induced extreme events – caused by meteorological anomalies and modified by catchment characteristics. To study the meteorological triggers for floods, historical extreme events are usually analyzed and compared. However, which data are more suitable to compile such lists of extremes – precipitation totals or discharges? Which criterion should be used for these purposes?

Our contribution discusses various approaches to select extreme events during warm half-years when neither significant snowfall in precipitation nor significant influence of thaw processes should be expected on the runoff data. Several criteria were tested and compared for two river basins (Morava, CZ and Mulde, DE). Finally, the most significant extreme events in 30 Central-European catchments are presented as a basis to further study their meteorological causes and underlying processes.