



## **Analysis of large Danube flood events at Vienna since 1700**

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Whereas Danube water level measurements are available in Vienna from 1820 onwards, documentary evidence plays a significant role in the long-term understanding of Danube hydrological processes. Based on contemporary documentary evidence and early instrumental measurements, in the present paper we aim to provide an overview and a hydrological analysis of major Danube flood events, and the changes occurred in flood behaviour in Vienna in the last 300 years. Historical flood events are discussed and analysed according to types, seasonality, frequency and magnitude.

Concerning historical flood events we apply a classification of five-scaled indices that considers height, magnitude, length and impacts. The rich data coverage in Vienna, both in terms of documentary evidence and early instrumental measurements, provide us with the possibility to create a relatively long overlap between documentary evidence and instrumental measurements. This makes possible to evaluate and, to some extent, improve the index reconstruction.

While detecting causes of changes in flood regime, we aim to provide an overview on the atmospheric background through some characteristic examples, selected great flood events (e.g. 1787). Moreover, we also seek for the answer for such questions as in what way early (pre-instrumental period) human impact such as water regulations and urban development changed flood behaviour in the town, and how much it might have an impact on flood classification.