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A 320-year long series of Danube floods in Central Hungary (Budapest and Pest County): a frequency-magnitude-seasonality overview

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The present paper is based on a recently developed database including contemporary original, administrative, legal and private source materials (published and archival) as well as media reports related to the floods occurred in the town of Budapest (historical towns of Pest, Buda) and Central Hungary (historical Pest-Pilis-Solt County). As for the archival evidence, main bases of investigation are the administrative sources such as town council protocols and county meeting protocols of Budapest and historical Pest-Pilis-Solt County: in these (legal-)administrative documents damaging events (natural/environmental hazards) were systematically recorded. Moreover, other source types such as taxation-related damage accounts as well as private and official reports, letters and correspondence (published, unpublished) were also included. Concerning published evidence, a most important source is flood reports in contemporary newspapers; however, other published sources (e.g. narratives, fund raising circulars etc.; both published and unpublished) also contained useful flood-related information.
Beyond providing information on the strength and weaknesses of different sources types and the temporal and spatial distribution of evidence, a general background on the contemporary environmental and hydrological/hydromorphological conditions of the study area (and its changes during and after river regulations) are also provided. However, in the presentation the main focus is on the analysis of flood rich flood poor periods of the last more than 300 years; furthermore, the seasonality distribution as well as the magnitude of Danube flood events - and their spatial differences are discussed. In case of Budapest and Central Hungary, with respect to the greatest flood events, ice jam floods played a rather significant role before river regulation works. Due to this fact the main types of flood events (including their main causes), with special emphasis on ice jam floods, are discussed separate.