



## **Flash flood in 1714 in the Bohemian-Moravian Highlands – Reconstructing a Catastrophe.**

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Read against the backdrop of the past twenty years with their exceptional frequency of summer floods, records of historical flood events have become highly topical. Aside from the May flood of 1872, the flash flood that occurred at the turn of July and August 1714 in the Bohemian-Moravian Highlands is probably the most important case of its kind in the Czech lands, and may likely be ranked among the most notable occurrences of extreme weather even within the larger Central European context. Within the catchment basin of the Sázava River, the headwater level rose about three meters above the highest floods on the hydrological record and 1.5m above the highest historical flood-mark. Taking into account the time period – i.e. the beginning of the 18th century – some of the concurrent accounts of the flood are uncommonly detailed, containing not only a specification of the damage caused, but also high water mark figures and, at least in broad strokes, a record of the changing water levels over time. The flood caused tremendous material damage at the time, breaching e.g. about 70 fish ponds and destroying essentially all bridges; over 230 people were killed. It was revealed that the area of Žďárské vrchy (Žďár Hills) at the divide of the rivers Loučná, Chrudimka, Sázava, and Svratka which was impacted by the causative extreme precipitation may have measured 800 to 1000 square kilometers. Rough estimates of the headwater flow rate equal about four times current Q100 values. We therefore used the hydrological model Aqualog in order to determine whether an event of this scope was at all realistic. The goal was to assess whether it was realistically possible that precipitation may have been of such scope as to trigger a hydrological response of this intensity.