



Past and present floods in South Moravia

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Floods represent the most destructive natural phenomena in the Czech Republic, often causing great material damage or loss of human life. Systematic instrumental measurements of water levels in Moravia (the eastern part of the Czech Republic) started mainly in the 1880s–1890s, while for discharges it was in the 1910s–1920s. Different documentary evidence allows extension of our knowledge about floods prior the instrumental period. The paper presents long-term flood chronologies for four South Moravian rivers: the Jihlava, the Svratka, the Dyje and the Morava. Different documentary data are used to extract floods. Taxation records are of particular importance among them. Since the mid-17th century, damage to property and land (fields, meadows, pastures or gardens) entitled farmers and landowners to request a tax relief. Related documents of this administration process kept mainly in Moravian Land Archives in Brno allow to obtain detail information about floods and their impacts. Selection of floods in the instrumental period is based on calculation of N-year return period of peak water levels and/or peak discharges for selected hydrological stations of the corresponding rivers (with return period of two years and more). Final flood chronologies combine floods derived from both documentary data and hydrological measurements. Despite greater inter-decadal variability, periods of higher flood frequency are c. 1821–1850 and 1921–1950 for all four rivers; for the Dyje and Morava rivers also 1891–1900. Flood frequency fluctuations are further compared with other Central European rivers. Uncertainties in created chronologies with respect to data and methods used for compilation of long-term series and anthropogenic changes in river catchments are discussed.

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