The unusual floods and flood frequency in 1858–1878 dry period in Central and Western Europe

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According to the present knowledge, the second half of the 19th century meant the end of the Little Ice Age and gradual warming. This is, however, undoubtedly a fairly simplified statement. Our contribution presents the period of 1858–1878: (1) from the point of view of drought but also (2) regarding frequency of floods. The aggregation for this period of weather-driven risks such as droughts, floods, strong winds and high tides, is worth attention. The length of the drought period of 1858–1878, the absolute value of rainfall deficits and the length of seasonal droughts, as well as their impacts, are a certain warning in terms of our present.

Surprisingly, in such a dry period we witness an accumulation of important and extreme flood episodes as well. The regional catastrophic floods of 1858, and winter extensive floods of 1862 and 1876, may serve as excellent examples. Furthermore, the Elbe catchment recorded floods with return periods of 10–20 years in 1860, 1865 and 1872. For this period, an occurrence of intensive mesoscale flash flood events with extreme hydrological parameters, high number of fatalities and large damages are of the utmost importance (e.g. 1868-Switzerland, 1872-Czechlands, 1874-Catalonia, 1875-South France). Our contribution builds on earlier analysed flood events of 1872, 1875 and drought period presented at EGU earlier. The contribution stresses the analogies and differences with present situation in 2014–2019. We mainly address the situation in Czech lands, Central Europe interpreted in wider European context.