Geophysical Research Abstracts
Vol. 19, EGU2017-16164, 2017
EGU General Assembly 2017

Floods, droughts and anomalous weather during the late Spörer minimum in Central Europe: the examples of the Carpathian Basin, the Eastern Alpine Region and Northern Italy

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Central Europe suffered from a major multi-decadal environmental crisis from the early 1470s onwards. The turn of the 15th-16th centuries was characterised by an unusually high number of stress factors related to large-scale climate variability, amongst others locally manifested in the great increase of weather-related extremes such as the multiannual droughts of the 1470s, with further significant drought periods in the 1490s and 1500s; the extraordinary high frequency of hard winters in the 1470s-1490s, and a major flood-rich period from the late 1470s to the mid-1520s. From the human impact side, the recurrent crisis was greatly intensified by biological hazards such as plague epidemic cycles and devastating multi-annual locust invasions that gravely affected our investigated region. Wars and war-expenses further deepened this crisis.
In our presentation we provide an overview of flood peaks on major Italian (e.g. Po, Adige) and Eastern-Alpine (e.g. Danube, Salzach, Traun), Carpathian-Basin (Danube, Danube catchment, Tisza catchment) rivers and river catchments, with special emphasis on great flood years (e.g. 1485, 1499, 1501, 1508 etc.). Further topics of the discussion are droughts and multiannual dry periods, together with related environmental problems (e.g. locust invasions, bad harvests) such as the one in the 1470s, the early-mid 1490s, 1503 and 1506-1507. The third major group of weather extremes in the period consists of hard winters. This and other extreme weather events, together with their (potential) socio-economic effects comprise the final major topic of discussion of the paper.