

## ***Interactive comment on “Hydrometeorological extremes and their impacts, as derived from taxation records for south-eastern Moravia, Czech Republic, AD 1751–1900” by R. Brázdil et al.***

**Anonymous Referee #1**

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This paper shows a new method to extract climatic/meteorological information from documentary sources not easy to be collected: administrative sources focused on taxes and tribulation of farmers to authorities. Work developed shows a complete methodology to collect information from long temporal documentary series producing proxy-data to be combined with other historical and natural sources. First results show strong relation of human activities with climatic/meteorological anomalies. But not only a qualitative approach, but also possible tools to obtain proxy-data with cartographic and quantitative outputs.

Basic problem of historical climatology is generation of objective/quantitative informa-

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tion. Present work gives a good way to produce results with these characteristics collecting information from documentary series not easy to be worked, as long administrative records. Other positive aspect is analysis of information related with atmospheric phenomena but also considering human impacts with quantitative dimension, thanks to "mechanism" of economic valuation of impacts before taxes liquidation to authorities. For long time these potential sources were considered, but methods to collect and manage information were not completely applied. Present work can help to work on different documentary heritages over Europe looking for similar results.

Of course, first specific results of the papers are limited because of effort to work on primary sources and time needed to develop specific methodologies.

Only many comments/questions are suggested after the lecture of work:

- Economic/tributary sources are valid for climatic/meteorological reconstructions. At least, to detect and evaluate severe meteorological events. New step for this line of work would be the overlapping with modern instrumental series. Efforts must be focused on techniques to make comparable events from "pre" and "instrumental" periods. Combination of different methods can be the best: statistical adjustments, but also economic expression of impacts transforming damages to a common monetary value?? Other suggestive aspect is possibility to show extension of effects for every event. This aspect opens new options to reconstruct severe events, improving knowledge about them and making possible qualitative classifications of magnitude of events.
- In addition to this tributary source focused on damage on crops, I would add other aspect to help in global reconstruction of events: records or descriptions about damages on infrastructures (bridges, roads, buildings, mills, channels and dikes...). Different elements disturbed by the same event can contribute to have a more complete idea about every event.
- All uncertainties about tributary sources highlighted by authors only confirm that historical sources must be worked from an integral overview: all possible sources for complete temporal periods must be collected to arrive at a good reconstruction for frequency of events (climatic time scale) and good reconstruction of events and

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impacts (meteorological time scale): economics (from production and taxes contribution), religious, administrative, private (family books, companies), military, scientific.... Individual or partial efforts are needed, but not enough to describe climate and severe events of a natural region. Only collective and coordinated efforts for different documentary sources can give most complete reconstruction at long time scales. After this, historical climatology results are able to "connect" with other proxy sources or palaeclimatic especialities (palinology, dendroclimatology, old instrumental records...). Historical archive contain a lot of information. Only a patient effort can organize this information in a coherent and useful result.

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