



Interactive comment on “Social vulnerability to climate in the “Little Ice Age”: an example from Central Europe in the early 1770s” by C. Pfister and R. Brázdil

Anonymous Referee #2

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General Comments

This paper constitutes a direct proposal for historians to take in consideration study of climatic variability and its extreme events into historical explanation, like one of others factors affecting human communities. Of course, it implies strong methodological efforts and adjustments. All research fields characterized by interdisciplinarity frameworks are no easy. This case is specially singular because is needed a quantitative reconstruction of natural variables (atmospheric conditions) and a quantitative reconstruction of human impacts from qualitative data, obtained in documentary historical sources. But this is only the first step. A complex system of interactions between natural and human elements and factors is established. This paper explore on these interactions, proposing tools and methods to evaluate most of them. A new approach

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is showed: research on climatic variability to know about next future trends and climatic extremes is needed. But it's not enough. Now, society is needing also a good knowledge about the own evolution in this future climatic scenario. Recovering historical experiences may be a good way to face up to future uncertainties. Consequently an overview to the past is useful, but already considering interactions environment/human communities.

Specific Comments

When a paper open new fields for research, usually produce more questions and suggestions than criticisms. In this case, different aspects appear from my own modest experience on climatic reconstruction:

1) How we must consider the role of technology? Authors consider like positive aspect for resistance to subsistence crises the introduction of potatoes for human food. A positive example of technology avoiding or mitigating impacts by natural hazards. Construction of hydraulic infrastructures also suppose positive...or negative results concerning vulnerability in front of climatic extremes (floods and droughts). It's a complex subject. Technological resources applied by a human community can be positive or negative on the balance of vulnerability because connected to potencial technological protection, increase of human exposition is usually recorded. A careful analysis is needed for reconstruction of climatic extremes, considering the balance human vulnerability/exposition. Contemporary increase of impacts by flood in Mediterranean Sea regions is not produced by increase in frequency or magnitude of torrential rainfall. These impacts are directly related to human occupation of floodable areas close to river beds.

2) Considering the role of epidemics. I have special interest for study of historical epidemics. I feel it can offer a lot of environmental information. Present paper show epidemics like a final step of subsistence crises. It's the most clear role following expression "opportunistic epidemics" that appear when population is in a context of famine

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(due by different factors). But a better knowledge about epidemics and its mechanisms could explain other aspects. For example, what about epidemics arriving with no social stress or previous environmental difficulties? In all the case, epidemics are not only indicator of a community with problems, like other of impacts. Generation of epidemics, and recording evolution of endemic diseases, can offer by itself environmental information thanks to thresholds for temperature or precipitation asked by pathogenic agents or vectors for consolidation and propagation. Of course, recovering all documentary testimonies on that item is a clear contribution for climatic change research: all diseases linked with climatic change must be modelled as be possible for a potential future expansion or reappearance.

3) Authors propose a research in high resolution and short scale. It's a good way to encourage historians in a systematic approach to documentary sources. Large research is only possible under important and long research projects. Documentary Heritage is enoughly massive to frustrate modest initiatives of data collection when objectives are excessively ambitious. Consequently, modest objectives of research can produce good results. Facilities of contact and exchanges between researchers thanks to computers

Technical Corrections

Only one aspect: Figure 6 describing demographic evolution in Czech Republic, in my opinion, don't explain clearly the variable showed.

Interactive comment on Climate of the Past Discussions, 2, 123, 2006.

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