

Interactive comment on “Droughts in the Czech Lands, 1090–2012 AD” by R. Brázdil et al.

Anonymous Referee #3

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The paper aims to reconstruct droughts frequency and intensity from documentary sources and observational records for the period 1090 to present. The manuscript and figures are clear and well written and I think that the material is valuable for a better understanding of droughts variability in that area. However I have some questions on different methodological issues that I discuss below.

1) While the authors explain clearly how they compute drought indices for the instrumental records, it is not clear what a ‘drought in the Czech lands’ means during the 1500-1805 period. According to the authors it is a period when there are evidences of droughts during at least two consecutive records, but nothing is discussed about the spatial distribution of these records. So, two dry months in a single location lead to a drought in the whole area? Is the same for two drought records in consecutive months but in different locations? It is not clear from the text. This must be clarified because, as shown by the authors in their figure 9, droughts do not affect necessarily

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to the whole Czech territory. This is a source of uncertainty of the current 1500-1805 series which should be discussed in the paper. So, if the droughts have great spatial variability, does it make sense to build a series of ‘Czech droughts’? In fact, I think that these records are an excellent opportunity of analyzing the long term spatial variability of the droughts in the Czech territory. This is not possible if the records are merged into a single index with uncertain interpretation.

2) I think that figures 7 and 11 and their corresponding analysis should be deleted since they imply a homogeneity in the record which has not been achieved yet. In fact the authors recognize the need of a further analysis for a period overlapping instrumental and documentary records. Merging both types of series in a single record is misleading since they are clearly inhomogeneous. If they authors want to present the whole record, they should represent both parts of the records with different symbols and, in any case avoid a joint analysis.

Minor comments

1) In my view some of the problems found in the comparison with tree rings (section 5.2) could be derived from the different spatial representativeness of the records. Perhaps a more refined spatial analysis of the documentary records could improve the association with tree ring evidences.

2) In section 6 the authors claim that the severe droughts of the 19th century were caused by lack of precipitation but the more recent droughts can be more clearly attributed to significant increase in temperature. This is not supported from any data in the manuscript. The authors should support this statement either with data or an appropriate reference.

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