

Interactive comment on “Extreme droughts and human responses to them: the Czech Lands in the pre-instrumental period” by Rudolf Brázdil et al.

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General comments

Thank you for the opportunity to review this manuscript, which presents a detailed analysis of extreme droughts in the Czech Lands during the 12th-18th centuries. It is extremely well-written, founded on a rich empirical basis, and demonstrates clear and systematic analysis. It makes some interesting conclusions that will be of considerable relevance for other analysis of historical droughts. I was particularly struck by the observations on p.12 regarding the identification (or otherwise) of spatially limited droughts, which could only be made from such a rich dataset. I have no hesitation in recommending it for publication, subject to a few recommendations.

C1

Specific comments

1. The introduction to the paper is generally good, and sets a sound context for the study. However, it could stress the novelty of the investigation more forcefully. There are relatively few parts of the world where there is a sufficiently rich documentary dataset to conduct this type of study. This should come through more forcefully in p.2 lines 29-40.

2. I found the text in sub-section 4.1.1 of Sect. 4.1 rather confusing. The overall heading for section 4.1 is ‘Extreme droughts in the Czech Lands during the pre-instrumental period’ but the text in section 4.1.1 (p.5 line 29-30) indicates that ‘it is difficult to identify cases that could clearly be classified as extreme’. So are these droughts before AD 1500 extreme? If not, then why is the paragraph a subset of section 4.1? I suggest the authors either drop the subheadings to 4.1.1 and 4.1.2 and group the text together, or move lines 21-30 to immediately after the heading to section 4 (i.e. before 4.1) as an introduction to the whole section.

3. Sections 4.2.1 and 4.2.2, while rich with detail, take up 4.5 pages of the 15.5 pages of text in the manuscript. I wouldn’t suggest losing these sections, but (depending on the policy of Climate of the Past) they could be more usefully moved to the end of the document as an appendix.

4. It would help the reader (and help link the descriptions of droughts in sections 4.2.1 and 4.2.2 to the rest of the manuscript) if the text in section 5.2 could cross-reference to specific drought years as examples. So, the mention of famine in p.13 line 42 could note years when famine was identified in parentheses. I’m not suggesting that all droughts need to be cross-referenced, but mentions of noteworthy examples would bring the sections of the manuscript together.

5. Tables 1 and 3 could be made more clear for the reader. I would recommend replacing ‘a, b, c’ in the column headings of Tables 1 and 3 with ‘SPI, SPEI and Z-index’, such that the reader does not need to cross-refer with the table caption.

C2

6. I found Table 2 very difficult to interpret – could this be made more user-friendly? I assume that I am meant to read it by looking down the columns ‘Order 1-10’ and ‘Order 1-20’ to see which years appear in multiple studies? This isn’t easy across multiple centuries. Could the authors perhaps highlight years that appear in the majority of series (e.g. by putting them in bold or italics) or think of a graphical way to display the data?

7. I found it difficult to compare the three parts of Figure 2. Could the diagram be made larger and more easily readable (e.g. by inserting some vertical lines at each 0/100 year tick mark)?

Technical corrections

p.1 line 37 – ‘...in a deficit...’ (delete ‘a’)

p.1 line 39 – ‘...this may be exacerbated...’ (insert ‘be’)

p.2 line 27 – ‘...in the other areas of the world...’ (delete first ‘the’)

p.2 line 29 – ‘...already exist for the...’ (insert ‘for’)

p.2 line 32 – ‘However, the somewhat...’ (delete ‘However’, capitalise ‘The’)

p.2 line 44 – ‘...may be used for the...’ (insert ‘the’)

p.2 line 45-46 – replace ‘...mean monthly precipitation series calculated for the territory of the Czech Lands’ with ‘...mean monthly calculated precipitation series’.

p.3 line 14 – ‘On the other hand, records related...’ (delete ‘On the other hand’, capitalise ‘Records’)

p.3 line 22 – not sure what ‘nad Labem’ means.

p.4 line 37 – ‘ and the instrumental periods...’ (delete ‘the’)

p.4 line 39 – ‘On the other hand, the...’ (delete ‘On the other hand’, capitalise ‘The’)

C3

p.4 line 39 – replace ‘...may be taken as a certain disadvantage’ with ‘...may be considered as a minor disadvantage’

p.5 line 35 – ‘... that the use of...’ (delete ‘the’)

p.13 line 1 – replace ‘Impacts on social life and human responses...’ with ‘Impacts on society and human responses...’

p.13 line 13 – not sure what ‘aftermath harvest’ means – do you mean ‘poor ensuing harvest’?

p.13 line 13 – ‘... had to be bought...’ (insert ‘be’)

p.13 line 21 – replace ‘eruptions’ with ‘outbreaks’?

p.13 line 22 – ‘...rendering them small, maggoty...’ (delete comma after ‘them’)

p.13 line 25 – replace ‘if fire that broke out...’ with ‘if fire also broke out...’

p.14 line 11 – ‘... may be collated...’ (insert ‘be’)

p.14 line 15 – should section 5.2.1 not be section 5.3? There isn’t a section 5.2.2. If so, section 5.3 will need renumbering to 5.4

p.14 line 41 – ‘...led to produce a great...’ (delete ‘produce’)

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C4