

## ***Interactive comment on “A Prequel to the Dantean Anomaly: The Water Seesaw and Droughts of 1302–1307 in Europe” by Martin Bauch et al.***

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### General comments

This is a very important and innovative exploratory contribution to historical droughts in Europe for a time period not examined in detail so far. The authors testify an excellent overview of the state of the art (see also the large bibliography). The data used for this study is clearly described in chapter 2 and listed in SI 2 (with the original quotes from the narratives sources). Chapter 3 on methodological issues is very accurate and well understandable. It is based on the Pfister temperature and precipitation indices and critically questions the reliability of the Old World Drought Atlas (OWDA), which for the case of Italy is based on only very few tree-ring series. The comparison with the 2018

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water seesaw phenomenon (Toreti et al. 2019) is convincing. In the discussion chapter 4, they excellently highlight societal impact issues and different adaptation strategies. The figures are of high quality and well explained in the main text.

Specific comments on individual scientific issues

Abstract:

Please explain the abbreviations MCA and LIA also here for a readership not familiar with this topic so far. This is done only later in the main text (l. 48-49)

Chapter 1: Introduction

l. 55: “major drought events at European scale” seems to be exaggerated to me (and contradictory to the water seesaw phenomenon discussed later) compared to the events of 1360-1362, 1473 and 1540 mentioned in this article. I suggest speaking of “drought events of supra-regional scale” as long as the density of sources cannot be enlarged. Right now, we only know that the in the one case “Italian regions” were affected by drought, and “Regions north of the Alps” in the other case.

Chapter 2 Data

l. 97 The terms “weather” (for short time conditions in the atmosphere) and “climate” (for long-term developments) are not distinguished clearly. I suggest speaking rather of “weather” events” than of “climate events”.

l. 100 and 106 chapter 2.3 is doubled. Please rename the latter one into chapter 2.4 (Information from manuals)

l. 101: Concerning the importance of charters I suggest referring also to the monumental monograph by Andrea Kiss published in 2019 (“Floods and Long-Term Water-Level Changes in Medieval Hungary”) with a much broader evidence on the rich information from charters.

Chapter 4 Discussion

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l. 331-340 It is obvious that very low water had a strong impact on the navigability of rivers and on mills. I wonder whether an increase of ship mills could have been a reaction on the larger rivers such as the Rhine River. Maybe you could check your sources for this detail.

l. 353-354 Giordano da Pisa has not been already mentioned and might refer to an earlier version of the text. Please delete “already mentioned”.

#### Technical corrections

##### a) Language and style

Both language and style are satisfying. Nevertheless, they should once again be proof-read by a professional native speaker. In addition, frequent repetition of the same word should be avoided (e.g. 3 times “reach”/“reached” in l. 174-177). In some cases, “climate” used as adjective should be replaced by “climatic”. “impact” should only be used in singular (l. 38, 66, 180, 277).

##### b) Formal requirements

Revision is needed, however, concerning the formal requirements. Numerous references in the text and in the bibliography are not accurate enough and show a relatively large number of typos:

l. 23 and 51 “Pfister et al. 1998” cited twice cannot be found in the bibliography, whereas in the bibliography (l. 539-540) Pfister, Schwarz-Zanetti, Wegmann 1996 can be found, which is nowhere else cited. I suppose “Pfister et al. 1998 refers to this title, but the authors have to clarify it.

l. 26, 31 and 511-512: Jordan’s book has been published in 1996, but in l. 26 it is cited as “Jordan 1998” and in the full bibliographical entry as well. I suppose that the authors refer only to one title published in 1996, but they should clarify and correct the typos.

l. 53 and 596: Sam White’s article “The real Little Ice Age” is quoted as “White 2014

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in l. 53, but as “White 2013” in the full bibliographical entry. The case is a bit tricky, because the volume of the “Journal of Interdisciplinary History” has been published in 2014 (see also the front matter), but in the baseline of the first page of the article, the misleading information “© 2013” is given. I suggest unifying to “2014”.

l. 278: “Brázdil 2020” is missing in the bibliography

l. 284, 290 and 301: Sources are given by a short quote, but a full bibliographical reference is missing. In the first case “Chron. Parm., 86” should be replaced by “Bonazzi 1902, 86”

l. 373 “Brázdil et al. 2020, 82-83” is not cited in the bibliography. Do you mean “Brázdil et al. 2019”? Please clarify.

l. 477-478 and 488-489: Normally all authors are named in the full bibliographical entry. Please unify also for the further authors of these two publications and replace “et al.”.

Major typos and formal inaccuracies to be corrected:

l. 35 read “Martín-Vide, Barriendos Vallvé 1995” instead of “Martin-Vide, Barriendos 1995”

l. 35 and 538 read “millennium” instead of “millennium”

l. 38 and 375 read “Nicolíć” instead of “Nicolic”

l. 43 read “Pribyl” instead of “Prybil”

l. 92 and 188 read “Pribyl et al. 2012” instead of “Pribyl 2012”

l. 188 read “indices” instead of “indinces”

l. 196 read “patterns” instead of “pattern”

l. 245 read “Jankrift” instead of “Jenkrift”

l. 279 read “Bonazzi 1902, 84” instead of “Bonazzi 1902-04, 84”

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- l. 348 read "Ibid., 21-27" instead of "Contessa 2000, 21-27"
- l. 351 read "Di Tura del Grasso 1839, 265" instead of "Agnolo di Tura, 265"
- l. 370 read "Italian" instead of "italian"
- l. 440-441 read "Michael Imhof Verlag" instead of "Dr. Imhof" (cf. l. 599 and 603)
- l. 448 read "Bothe, W. M." instead of "Bothe, William Marvin"
- l. 458 read "Barriendos, M." instead of "Barriendos"
- l. 465 add series title after "Jahrhundert": "WSU. Wirtschafts-, Sozial- und Umweltgeschichte 5"
- l. 478 and 489: set year after comma, but not in brackets
- l. 513 delete "(1939-1974)"
- l. 534 read "Martín-Vide, J. and Barriendos Vallvé, M." instead of "Martn-Vide, J. and Vallv, M. B."
- l. 544 delete "365"
- l. 561 read "Sippel, S. and Otto, F. E. L." instead of "Sippel, S., Otto, F.E.L."
- l. 576 read "Baldassari" instead of "Baldassarri"
- l. 579 read "1851a" instead of "1851"
- l. 581 read "1851b" instead of "1851"
- l. 593 read "Nordli" instead of "Nordl"
- l. 599 and 603 read "Wagener" instead of "Wagner"

Some general remarks concerning unification of style:

- a) Hyphens for page and year numbers are sometimes short, sometimes long. Please

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unify.

- b) Short quotes are partly divided by semicolons and partly by commas. Please unify.

- c) "et al." is mostly written with a full stop after "al", but sometimes not. Please unify.

- d) "edited by" is sometimes written with a colon at the end, sometimes not. Please unify.

Overall assessment

In general, this is an important and innovative contribution, which should be accepted with minor revision, i.e. there are mostly some technical improvements (formal requirements, typos) and some clarifications needed, as mentioned in my comments.

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Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2020-34>, 2020.

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