

Reply to reviewers

Editor

The two referees had a number of small suggestions in the second round. Most of them are technical questions that are easy to correct. Following the suggestions of Referee No. 1, please, consider a minor further improvement of the Discussion section.

Authors: We followed all the small suggestions of the referees. Regarding the improvement in the discussion suggested by referee #2, we added several lines to the different discussion sections. These revisions, in turn, helped to improve the introduction and the conclusions and make our contribution clearer. In order to remain under 10.000 words, we slightly reduced other parts of the text.

Referee #1

Suggestions for revision or reasons for rejection (will be published if the paper is accepted for final publication)

This article is well structured, adopting the methodology of climatic indexes construction that has been successfully tested in several works. The correlation between climate data and water supply in Barcelona is well managed and a well worked methodology. The article does, in fact, bring new elements to the discussion of subsequent impacts of climate change in terms of measures adopted by institutions and the narrative of resilience. Indeed, after identifying thermal and rainfall paroxysms, it makes perfect sense to move towards this type of correlation. The article proves how important it was to cross data on droughts with the water supply in Barcelona and this articulation is evident along the article in particular in figures 7 and 8 about “strategies of institutional response to drought”. In mapping the urban water supply network of Barcelona as described in the Llibre de les Fonts (figure 9) we have a picture of water distribution in the centre of Barcelona and we understand the reasons for conflicts and adaptation of the local (political, social, economic) and climate circumstances.

In conclusion, this article is a contribution for the advance of knowledge on the impacts of climatic extremes and societal answers.

Two final remarks:

- on line 125, there is a repeated word («... another book similar book»);

Authors: Thanks, deleted.

- on line 150, perhaps it is more correct to say 'historical climatology research' instead of 'Paleoclimatic research', as they are different disciplines. Paleoclimatology studies longer periods of time and uses only natural sources. In addition, at the beginning of the article, the author talks about Historical

Climatology and cites predominantly authors whose area of specialty is Historical Climatology, which uses documentary sources (as well as in this study)

Authors: Thank you. We have substituted “paleoclimatic research” for “historical climatology research”.

Referee #2

Suggestions for revision or reasons for rejection (will be published if the paper is accepted for final publication)

Dear authors,

I have read your revised article with great interest. I am happy to see you have addressed the main issues I’ve raised before, as well as the recommendations of the editor and the other reviewer. Particularly, I think that arranging the structure of the article has clearly improved its fluency and avoided unnecessary redundancies. Also the diagrams accompanying the second section of results are informative and help to synthesize the institutional responses documented.

I would only suggest to improve a bit more the discussion. While some references have been included in the introduction regarding other research on social responses to climate anomalies (and particularly past droughts), not many are considered in the discussion. I think that by bringing and explaining some other examples (from Catalonia but also abroad) of institutional/city responses to drought would strengthen your argument about which responses were recurrent (e.g., food rationing, expansion of water infrastructures, deeper regulation of water access) and which strategies were novel or exceptional from the Barcelona and period case (e.g., the Book of Fountains and the codification of knowledge strategy).

Authors: Thanks for insisting on this. In the revised version of the manuscript, you will find that we revised the discussion by referring to other examples mentioned in the introduction and adopting a more analytical stance. In turn, this helped improving the introduction and the conclusions to clarify our argument and contribution.

Minor/Technical Corrections

Line 125: delete repeated wording “have only identified another book similar book”.

Authors: Corrected.

Line 201: change “than” by that.

Authors: Corrected.

Lines 276-278: This sentence is unclear. Could you specify to which historical records do you refer? Probably you could mention here that you refer to the duration of rain rogations of level 2 (involving the exhibition of Santa Madrona), which is mentioned later (line 288).

Authors: We have rephrased and clarified this paragraph.

Fig. 6: what it means the J (January?). I find it more clear without it.

Authors: We have edited the figure and deleted the J, which meant January.

Lines 364-373 & 466-480, about the conflict between the city government and the Cathedral read rather repetitive. I would suggest to rephrase them to avoid repetitions

Authors: We revised and reduced this text to avoid repetitions and remain under a total of 10.000 words.