

Title: **Historical climate extremes in Europe and the connection between spring precipitation and summer heat.**

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MS type: Research article

Iteration: Initial submission

1. GENERAL COMMENTS

Principal criteria	Excellent	Good	Fair	Poor
Scientific significance: Does the manuscript represent a substantial contribution to scientific progress within the scope of <i>Climate of the Past</i> (substantial new concepts, ideas, methods, or data)?	X			
Scientific quality: Are the scientific approach and applied methods valid? Are the results discussed in an appropriate and balanced way (consideration of related work, including appropriate references)?	X			
Presentation quality: Are the scientific results and conclusions presented in a clear, concise, and well-structured way (number and quality of figures/tables, appropriate use of English language)?	X			

Presentation quality: Regarding the quality of the writing in English, please ask confirmation from an English-speaking colleague (this is not my case).

2. SPECIFIC COMMENTS

1. Does the paper address relevant scientific questions within the scope of CP?
YES
2. Does the paper present novel concepts, ideas, tools, or data?
YES
3. Are substantial conclusions reached?
YES
4. Are the scientific methods and assumptions valid and clearly outlined?
YES
5. Are the results sufficient to support the interpretations and conclusions?
YES
6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)?

YES

7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution?

YES

8. Does the title clearly reflect the contents of the paper?

YES

9. Does the abstract provide a concise and complete summary?

YES

10. Is the overall presentation well structured and clear?

YES

11. Is the language fluent and precise?

YES - If this question includes the quality of the writing in English, please ask an English-speaking colleague for confirmation (this is not my case).

12. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used?

YES

13. Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated?

YES - Thank you for making the following minor correction:

Figure 1, Please add the legend of each colorbar.

14. Are the number and quality of references appropriate?

YES

15. Is the amount and quality of supplementary material appropriate?

YES (Appendix: Documentary data for hot summers that followed dry springs)

3. TECHNICAL CORRECTIONS

No corrections to be made.

SUMMARY

This particularly fascinating article proposes to go back 600 years in the past of Europe in order to identify, using proxy and instrumental data, reanalyses, and numerical simulations, whether the combination of certain spring weather / climate conditions is, significantly, heralding hot summers (a terribly topical subject!).

Given the quality of this work, I have no negative criticism to make. I would just like to ask a few questions and propose some suggestions to the authors, which may possibly improve the understanding of certain points and results that seem particularly interesting to me.

1) Would it be possible to specify what is the influence of the climatic context of the Little Ice Age (and its more or less severe / attenuated internal oscillations) on the frequency of atmospheric circulation types and their manifestations in terms of weather conditions highlighted in this study?

- NAO+ and NAO- phases;
- blocking patterns;
- occurrence of megadrought events.

2) Climatic conditions (interannual variability and multi-year alternately warm / cool oscillations) and atmospheric circulation that occurred during the transition between the end of the Little Ice Age and the period of contemporary global warming, did they influence certain results?

3) Possibility of an influence of the type of data used and analyzed on the results?

Compared to proxy data, what impacts and what importance could have precisely the measurements carried out from the seventeenth century onwards and their development (increasingly numerous across Europe) over the following centuries, in the analyses and on the results obtained in this work?

4) Among the questions asked by the authors themselves about highlighting characteristics specific to South-Eastern Europe climatology in the interpretation and understanding of the results, maybe the classification of atmospheric circulation patterns used in this work is not precise enough? If the classification used is relevant at the scale of the European continent, it is probably less so at smaller scales. Would the use of a more detailed classification such as that of Hess-Brezowsky circulation types (Großwetterlagen), if possible in the context of this work, be better suited to this regional scale?