

Title: **Climate variability in Poland (Central Europe) in the 16th century based on multiproxy data.**

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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 few minor corrections :

Figures 2, 3, 4, 5. Please add axis titles.

14. Are the number and quality of references appropriate?

YES

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

There is no supplementary material attached to this paper.

3. TECHNICAL CORRECTIONS

No corrections to be made.

SUMMARY

(version en Français) Cet article se place dans le contexte de nombreuses autres publications traitant de l'étude des conditions climatiques durant le Petit Âge Glaciaire en Europe moyenne, au moyen de l'analyse combinée de données dendrochronologiques et de sources documentaires. L'intérêt majeur des résultats obtenus est de confirmer, sur le territoire de la Pologne actuelle, la complexité de l'histoire climatique de cette époque. Les auteurs montrent clairement l'existence d'oscillations pluri-annuelles, tant thermiques que pluviométriques, et, de façon très pertinente, parfois contradictoires avec la notion de Petit Âge Glaciaire tel qu'on l'entend habituellement. La variabilité climatique interannuelle est donc mise en avant,

modulée selon les saisons. La saisonnalité me semble être, dans cet article, un des points les plus intéressants, car les auteurs mettent en évidence un caractère continental du climat plus accentué que de nos jours. La continentalité est plus rarement étudiée que la seule évolution temporelle de la température, ce qui rend ce point particulièrement intéressant à étudier et à développer, peut-être pour une suite éventuelle à cet article ? De nombreux "indices de continentalité" ont été mis au point, depuis plus d'un siècle, pour quantifier la continentalité à l'aide de divers paramètres. Peut-être serait-il pertinent d'en utiliser certains pour des études de reconstructions paléoclimatiques ?

Deux autres questions pour les auteurs :

- Parmi les sources documentaires utilisées, les auteurs ont-ils eu en main des informations concernant des liens possibles entre les conditions météo-climatiques et les activités agricoles, par exemple les dates de récoltes et/ou des indications de rendements et de dégâts sur certaines cultures ?

- À cette époque, l'administration de la ville hanséatique de Danzig a-t-elle procédé à des observations systématiques de l'englacement hivernal de son port et de son golfe, à l'instar de ses "collègues" de Riga ?

(English version) This paper is placed in the context of numerous other publications dealing with the study of climatic conditions during the Little Ice Age in Western and Central Europe, by means of the combined analysis of dendrochronological data and documentary sources. The major interest of the results obtained is to confirm, on the territory of present-day Poland, the complexity of the climatic history at that time. The authors clearly show the existence of multi-year oscillations, both thermal and pluviometric, and sometimes contradict, in a very relevant way, the notion of the Little Ice Age as it is usually understood. Interannual climate variability is therefore highlighted, modulated according to the seasons. Seasonality seems to me, in this article, to be one of the most interesting points, because the authors highlight a continental character of the climate more accentuated than nowadays. Continentality is more rarely studied than the mere temporal evolution of temperature, which makes this point particularly interesting to study and develop, perhaps for a possible follow-up to this article? Many "continentality indices" have been developed for more than a century to quantify continentality using various parameters. Perhaps it would be relevant to use some of them for studies of palaeoclimatic reconstructions?

Two other questions for the authors:

- Among the documentary sources used, did the authors have in hand information concerning possible links between weather / climate conditions and agricultural activities, for example harvest dates and/or indications of yields and damage to certain crops?

- At that time, did the administration of the Hanseatic city of Danzig carry out systematic observations of the winter freeze-up of its port and gulf, like its "colleagues" in Riga?