

# ***Interactive comment on “The ACER pollen and charcoal database: a global resource to document vegetation and fire response to abrupt climate changes during the last glacial period” by Maria Fernanda Sánchez Goñi et al.***

## **Anonymous Referee #1**

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The authors present the development of a global database of pollen and charcoal records covering the past glacial period. The work is presented logically and there is a clear emphasis on the standardization of methods to allow consistent and comparable analysis with the database. The manuscript and results are clear and given the potentially broad uses of the database, the paper is ready for publication as it stands, barring a few minor corrections. My only general comment is that it would have been useful to see some more detail on the potential uses of the database, but I understand that this is not the goal of the current paper.

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Comments:

Line 139-140: "...opportunities for the spatial analyses of global climate events", should be changed to "spatial analyses of the impacts of global climate events"

Line 147: The criteria for sampling resolution of 1000 years is somewhat at odds with the goal stated in the abstract of being able to provide examples of climate change with similar rapidity to current changes. Some discussion of the ability of these records to resolve given events might be useful here

Line 202: While the assumption of synchronous afforestation is probably not an issue at these time scales (see previous comment), it is unlikely that the true afforestation was synchronous. Some discussion of the implications of this assumption in terms of interpreting the records would be useful

Line 222: How did the authors assess the quality of fit of the age model?

Section 2.3 Structure of the database. As I understand it, the database maps samples directly to site metadata. What happens if a site has multiple cores?

Line 250: What was the basis for standardizing taxa names? Within or across cores?

Line 297-298. I assume that the names in parentheses are site names, but please clarify this

Line 401 (figure 5 caption): I think it would be useful to change the color of the lines in the time plots to colors that are not used on the maps. As it stands, it looks like the green lines refer to the green biome. Also, please update the caption so the correct color is given for the pollen time series.

Line 439-441. A little more detail would be useful in understanding the potential of the database. How much further could you go? Are there other sites available?

Line 483. Change 'write' to 'wrote'

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