

Interactive comment on “A taxonomically harmonized and temporally standardized fossil pollen dataset from Siberia covering the last 40 ka” by Xianyong Cao et al.

Anonymous Referee #1

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Cao et al. manuscript presents a comprehensive pollen database including quite well-distributed records from Siberia covering the last 40,000 years. The database is well presented, properly taxonomically harmonized and temporally standardized. It is stored and easily accessible in PANGAEA. Cao et al. manuscript deserves publication in ESSD after the authors include the major and minor modifications listed below.

Major comments

- I have not found a table devoted to the dating information; i.e. the dated samples used to establish the age models and their corresponding depth, age and age uncertainties, and more importantly the lab code. This table should spell out clearly and not just with

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a code, the dated material.

- It would be also useful that Cao et al. generate biome pollen percentages (temperate forest, boreal forest, steppe. . .) to optimize the use of this database by non-pollen paleoclimatologists.

- Regarding the age models, the authors should explain why they have used the Bayesian age-depth modeling taking into account the difficulties inherent to this method to obtain information about accumulation rates and other informative user-defined priors (Blaauw and Christen, 2011).

Minor comments

-Introduction: The authors should add the reference of Sanchez Goñi et al., 2017, The ACER pollen and charcoal database: a global resource to document vegetation and fire response to abrupt climate changes during the last glacial period, ESSD 9: 679-695) to highlight the relevance of their Siberian pollen database. The ACER database only includes very few Siberian pollen records.

- Page 4, line 8: Please explain the meaning of “palsa”.

- In the text and in the caption of Figure 2: *Larix* should be in italics.

- Caption of Figure 3: the genus should be in italics.

- Appendix Table 2 : Replace "Hippophae" with "Hippophäe"

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