

Interactive comment on “Twelve thousand years of dust: the Holocene global dust cycle constrained by natural archives” by S. Albani et al.

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Received and published: 26 January 2015

Dear Referee #1,

Thank you for your valuable and appropriate comments on our manuscript. We anticipate that we plan to expand certain sections of our manuscript according to your suggestions to devote more space to the size distributions, and show some comparison with the model.

One suggestion that you made is to place better in context the dust records with the climate conditions of the different regions, also by comparing to other paleoclimate proxies. We agree that this is indeed an important step in understanding the dust records. Note however that while our work provides the tools for describing DMARs,

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such a detailed and conclusive analysis for each of the different types of climate proxies for each different region is beyond the scope of our paper, especially given the different possible interpretations presented in the existing literature. The same holds for the interpretation of dust size distributions. We see this work more oriented at providing a methodology and highlighting a few clear and central issues related to the dust records, which was already an ambitious undertaking as the reviewers commented. Nonetheless we welcome your suggestion and we will recommend that future work by ourselves and others should devote proper attention to this aspect for specific regions.

We appreciate your suggestions for additional OSL data that were not mentioned in our manuscript, and we will try to incorporate the records among those that fit our selection criteria as described in the manuscript. Two records seem suitable for inclusion on the database (Jingyuan: Sun et al., 2012 & Weinan: Kang et al., 2013).

Best regards, Samuel Albani and co-authors

Interactive comment on Clim. Past Discuss., 10, 4277, 2014.

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