

## ***Interactive comment on “Re-evaluating the link between the Laacher See volcanic eruption and the Younger Dryas” by James U. L. Baldini et al.***

**James U. L. Baldini et al.**

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Thank you for your detailed and very useful comments, which will undoubtedly help improve the manuscript. We will address these in depth in our revised submission, but here are some initial thoughts.

Here we are essentially trying to highlight that given the Laacher See eruption's timing, its sulphur content, its latitude, and the accumulating evidence that eruptions can affect climate for far longer than the residence time of aerosols in the stratosphere, the eruption should be considered (once again) as a viable candidate for the YD trigger. No consensus exists regarding what triggered the YD, and it is conceivable that this is due to recent research focussing on the wrong triggering mechanisms. However, we stress

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that at the moment the two other hypothesised triggers are certainly also plausible; we will therefore provide an extended review of the pros and cons of each hypothesis. We also completely agree with your point regarding magnitude versus sulphur content, and we will revise the manuscript accordingly. We will include an enhanced discussion regarding how the hypothesis can be tested, including the requirement for detailed tephrochronological work on the ice containing the candidate sulphate spike to positively ascribe this to the LSE. Thank you also for the references, and we will include these in our revised submission.

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Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2017-147>, 2017.

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