

Interactive comment on “The role of the northward-directed (sub)surface limb of the Atlantic Meridional Overturning Circulation during the 8.2 ka Event” by A. D. Tegzes et al.

L. Skinner (Editor)

luke00@esc.cam.ac.uk

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Dear Andrea Tegzes,

Thank you for your extensive response to the reviewers' comments on your manuscript. Having considered the reviewers' comments and your response, I am afraid my view is that your rebuttal has not provided a sufficient basis for publishing your manuscript in its current form. Indeed, I would like to recommend that you resubmit a fully revised version that more fully incorporates the reviewers' comments and recommendations, along with a very brief bullet point list of the changes that you have made. In particular, both reviewers have underlined four key concerns (that I feel are entirely valid, and that

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I feel have not been adequately addressed by your response):

- 1) The question of whether the sedimentation at the study location has actually been affected by the hydrographic current under study (the manuscript states that it likely was not, and your response seems to suggest that this subject is beyond the scope of the current study, having been dealt with in a doctoral thesis);
- 2) The questionable applicability of the term 'true mean grain size' and the proposed use of 'number mean' and 'volume mean' as a clearer means of distinction, as well as a full discussion of the proposed new grain-size index and its proposed superiority (e.g. "less subject to random effects"; but what random effects?);
- 3) The arguable robustness of the proposed lag between only one of the grain size indices (the one that is proposed in the manuscript to be more subject to 'random effects') versus the N.pachyderma(s) counts/isotopes and the IRD, which occurs over only 1 cm (i.e. one measurement interval) and therefore is subject to the reproducibility (i.e. by replicate raw measurements) of a single grain-size measurement (cf. the N.pachyderma isotope/counts and IRD data, which are clearly argued in your response to constrain and replicate the timing of surface hydrography changes in the core); and
- 4) The clarity (legibility) of the figures (regardless of their digital resolution, these will typically be printed on A4 paper and not blown up to larger sizes).

I do appreciate that you may feel you have dealt with these concerns in your response, but in my view they remain important issues that must be addressed (i.e. incorporated) in a revised manuscript, rather than being dismissed summarily. I also appreciate that you have included a great deal of detailed discussion in your response, and that you have offered to provide additional material to the reviewers, but the key point is that this material, where it is relevant and especially where it is necessary, must be provided in the manuscript and not only in the review process. I must also emphasise that it is not adequate for raw data, auxiliary/supporting data, and crucial discussions or methods to be referenced in sources that have not been peer reviewed

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and/or published. Where supporting discussion is required (e.g. on methodologies, hydrographic interpretations etc...), and especially where raw data are concerned, these must either be presented fully in the manuscript or else summarised briefly and in reference to an already published peer-reviewed source. If there is information that does not need to be presented in the current manuscript (e.g. a full analysis of a new methodology), because it is too lengthy and is to be published elsewhere, then it will be necessary to await publication of that material prior to re-submission of your manuscript.

My recommendation is therefore that you address (i.e. incorporate as far as possible) all of the reviewers' main concerns in a revised manuscript, which we may then reconsider for publication in *Climate of the Past*.

Yours sincerely,

Luke Skinner

Interactive comment on *Clim. Past Discuss.*, 10, 665, 2014.