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Climate of the Past
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Interactive comment on "Pulses of enhanced North Pacific Intermediate Water ventilation from the Okhotsk Sea and Bering Sea during the last deglaciation" *by* L. Max et al.

L. Skinner (Editor)

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Dear Lars Max,

Two reviewers have now posted comments on your manuscript. As you will have seen, their comments are very positive, and support publication. I certainly concur with this evaluation. However, both reviewers have also raised some points that do deserve attention (or rebuttal) prior to publication in Climate of the Past. Among these are, in particular: the need to define your use of 'deep' and 'intermediate' (in a physical oceanographic, which typically reserves deep to >3000m I believe, or some other sense); the need to apply a more strict and unambiguous interpretation of stable carbon isotopes;

the need for more careful attention to the distinction between local surface temperature increase and surface water heat convergence; and perhaps most importantly (and most challengingly) the need to consider the possibility of variable surface reservoir ages. I think that the latter is particularly relevant. The assumption of constant surface reservoir ages is often a useful working hypothesis in the absence of additional information to the contrary, but it is in general most likely to be incorrect, especially across the last deglaciation, when atmospheric pCO2 and the ocean circulation have changed significantly. Indeed, in a context where significant changes in deep/intermediate mixing and/or convection are interpreted, this assumption might well be in need of qualification and discussion at the very least. I look forward to reading your revised manuscript and your detailed response to the reviewers' comments on these and other issues that they raise, and hope that this will permit your manuscript to be formally accepted for publication in Climate of the Past.

Yours sincerely, Luke Skinner

Interactive comment on Clim. Past Discuss., 9, 6221, 2013.