Interactive comment on “Impact of oceanic processes on the carbon cycle during the last termination” by N. Bouttes et al.

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Received and published: 25 August 2011

Both reviewers support the ultimate publication of the paper but neither are happy with it as it stands.

Reviewer#1 provides an extensive list of major comments that at the very least will require substantial additions to the discussion and possibly additional simulations/figures. Their point#1 that alternative approaches ‘can explain some fraction of data-based changes over the glacial/interglacial cycles without the apparent major process of the Bouttes approach (brine rejection)’ especially needs careful attention.

Reviewer#2 states that ‘This is not a process that is interactively simulated in the model, but an ad hoc manipulation of deep-water formation in the Southern Ocean’. This needs to be dealt with clearly with appropriate caveats in both the conclusion and abstract.

The comments of both reviewers therefore sum up to ‘major changes’ and I anticipate that this will go out to review again before final acceptance in Climates of the Past. Please respond in full to both major and minor comments.

Interactive comment on Clim. Past Discuss., 7, 1887, 2011.