

Interactive comment on “Climatic impacts of fresh water hosing under Last Glacial Maximum conditions: a multi-model study” by M. Kageyama et al.

M. Kageyama et al.

masa.kageyama@lsce.ipsl.fr

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Please find our responses to the reviewers posted on the Climate of the Past site. Although we found many of the suggestions for additional analyses very valuable, we have chosen to remain focused on the climate response to fresh water hosing. We had started the analyses suggested by Reviewer 2 to better understand the behaviour of the AMOC but we did not have enough archived data to analyse a representative range of model results and realised that this would widely change the main focus of the paper. We have therefore expanded the introduction to give more background on different types of analyses performed with freshwater hosing experiments and explained why

we want to focus on the climate response.

For the same reasons (lack of archived data) we have not been able to further analyse the differences in wind-evaporation-SST feedback or analyse the temperature changes in terms of heat transport convergence. We have therefore mentioned these topics as future analyses, which is the only way to acknowledge the reviewers' interesting suggestions.

We have also taken the opportunity of this revision to correct some of the figures:

1/ the values of the hosing were wrong in Fig 1 for the COSMOS model (but correct in Table 2) and the AMOC was defined as the maximum in the overturning stream function in the northern hemisphere, not at 30°S. The main text has been modified accordingly.

2/ Some panels of figures 7, 8, 9 and 10 were redrawn because the results from HadCM3-0.4 were missing (the range of the NorthAtlanticTropical temperature changes was too small to include the results from this model).

3/ various typos (even more than spotted by the reviewers...)

Interactive comment on Clim. Past Discuss., 8, 3831, 2012.

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