



## ***Interactive comment on “Simulating the mid-Pliocene Warm Period with the CCSM4 model” by N. A. Rosenbloom et al.***

### **Anonymous Referee #1**

Received and published: 11 January 2013

The paper “Simulating the mid-Pliocene Warm Period with the CCSM4 model”, written by Rosenbloom et al., is a contributing paper to the PlioMIP. The authors introduced their model and experimental design, and also showed important results from the mid-Pliocene experiment. The paper is well written. It is obvious that this paper is a valuable contribution to the PlioMIP. Thus, I suggest the paper should be published, after some minor revisions.

Minor points:

Page 4271, line 23-24. The statement here is confusing. CAM4 still can run as a spectral atmosphere model in the low resolution version of CCSM4/CESM, though the dynamic core is changed in the high resolution CAM4.

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Page 4275-4276. The statement about the initialization of the MP experiment is confusing. From page 4275, line 7, it seems that the MP experiment is a branch experiment from the PI control run. However, actually, the MP experiment is a hybrid experiment, since the authors changed the initial conditions of POP in the MP experiment. I suggest the authors move the initialization section after the land ice section, and put the initialization of atmosphere, land, sea ice and ocean together in one section.

Page 4275, line 16. Since the authors change the land-sea mask of the Hudson Bay, they should mention in the paper if they also change the mapping weight files.

Page 4276, line 9-11. The statement of river routine is confusing. Do they add some new routines on the new land points of Hudson Bay?

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Interactive comment on Geosci. Model Dev. Discuss., 5, 4269, 2012.

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