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Geoscientific Model Development Discussions

Interactive comment on "Set-up and preliminary results of mid-Pliocene climate simulations with CAM3.1" *by* Q. Yan et al.

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This paper is one of the required model set up and preliminary result documents that each group running experiment 1 and 2 will provide as part of the PlioMIP effort. The experimental design is spelled out in Haywood et al. (2010). The authors appear to have followed the prescribed setup and adapted the boundary conditions for the CAM3.1 model. Yan et al. have done a good job in documenting their experiment 1 results. This paper will be quite useful to all those who wish to compare PlioMIP models.

The figures are well done and support the text.

I have only minor suggestions to improve the text. Since my expertise is with the

boundary conditions used by the authors my comments are confined to those aspects of the paper.

The authors use both 3.3 to 3 and 3.29 to 2.97 to define the limits of the PRISM time slab used by PlioMIP. It would be best to use the latter. The use of Ma is correct and does not need to be followed by BP.

Since the Pliocene is an Epoch, referring to the time interval studied as an "epoch" is confusing. I'd just refer to the mid-Pliocene or mid-Piacenzian.

The PRISM modern or present day SST field is that or Reynolds and Smith (1995). The Schweitzer reference is incorrectly formatted (Survey, G. is not an author) and should not be used to describe the SST field; delete it from text and references.

I'm not sure where the Amante and Eakins, 2009 reference comes from but the PRISM modern topography is based upon Edwards (1992).

I've provided the citations for the few papers I've mentioned.

———————- Edwards, M., 1992. Global Gridded Elevation and Bathymetry, in Kineman, J.J., and Ohrenschall, M.A., eds., Global Ecosystems Database, Version 1.0 (on CD-ROM), Documentation Manual, Disc-A: National Geophysical Data Center, Key to Geophysical Records Documentation No. 26 (Incorporated in: Global Change Database, Volume 1): Boulder, CO, National Oceanic and Atmospheric Administration, p. A14-1 to A14-4.

Reynolds, R.W. and Smith, T.M., 1995. A high resolution global sea surface temperature climatology. Journal of Climate, 8: 1571-1583.

Haywood, A.M. et al., 2010. Pliocene Model Intercomparison Project (PlioMIP): experimental design and boundary conditions (Experiment 1). Geoscientific Model Development, 3(1): 227-242.

Interactive comment on Geosci. Model Dev. Discuss., 4, 3339, 2011.