

***Interactive comment on “Pliocene Model
Intercomparison Project (PlioMIP): experimental
design and boundary conditions (Experiment 2)”
by A. M. Haywood et al.***

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For a MIP one expects the boundary conditions to represent the consensus of researchers in the field. In the case of divergence of opinion, the average of the opinions is probably a good choice. In section 2.1 of the manuscript, you defend the choice of a value of 405ppm, apparently above all the data based estimates, on the grounds that you implicitly wish to include some contribution from CH₄. Had you here stated that you had an expectation for CO₂ to be high when CH₄ is high, that would have made sense. However, in the manuscript you state this is as only "a possibility", which sounds to me like no evidence at all.

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At the AGU Fall meeting in 2010, I heard a talk by A.V. Federov on how to model the Pliocene. He suggested that a CO₂ level of 350ppm was about right and that 400ppm was too high, and that such a level of CO₂ created unrealistically high temperatures in some parts of the globe. I'm not an expert in the field so I do not know how to weight the opinion of Dr Federov. Nevertheless I would be interested to hear your response to the accusation that you are likely biasing the entire PlioMIP ensemble too hot. What plans do you have to mitigate the potential problems that may arise if this is indeed the case?

Interactive comment on Geosci. Model Dev. Discuss., 4, 445, 2011.

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