

Interactive comment on “The early Eocene equable climate problem revisited” by M. Huber and R. Caballero

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Received and published: 15 March 2011

Matt and Rodrigo,

We read your paper as part of a journal discussion group at the U of C today and enjoyed it very much. We identified two issues that you might consider thinking about as you revise the paper.

(1) It seems like a more serious comparison with the tropical SST data (similar to your extratropical land comparison) would greatly improve the paper. It's always been obvious that if you're allowed to crank the tropical temperature up as high as you want you could easily solve the Equable Climate problem. Therefore it seems like it would be useful to do a point-wise comparison with tropical SST data as well, colored by

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data-type. You might be able to say something like (I'm making this up): if the delta-O-18 data are correct, then the model still can't solve the Equable Climate problem because it makes the tropics too hot compared to these data, but if the TEX-86 data are correct, then the model seems to be qualitatively reasonable both in the tropics and extratropics.

(2) You may want to "soften" the way you equate more doublings of CO₂ in a less sensitive model with fewer doublings of CO₂ in a more sensitive model. The reason is that highly sensitive and less sensitive models are likely to have somewhat different spatial warming patterns, particularly since the difference in sensitivity results mainly from differences in cloud simulation. Using a higher CO₂ to account for unknown increases in other GHGs is less likely to have this problem, but these unknown GHGs are, of course, unknown!

Your amigo, Dorian

Interactive comment on Clim. Past Discuss., 7, 241, 2011.

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