**Climate
of the Past
Discussions**

Interactive
Comment

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

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Ha ha. I guess I deserved that response.

However, I did think the first two comments were worth considering and briefly explaining. I'll elaborate a bit on the first one.

It should be stated right at the start that the early Eocene (as defined) likely has a wide range in baseline temperatures over the interval, probably especially at high latitudes. For example, the TEX records in the ACEX cores (same proxy, same location) suggest a change from ∼23°C at PETM to ∼11°C before Azolla. Even if we ignore the PETM, it's still ∼18°C to ∼11°C (and you have nicely incorporated other examples into the Table and into Figure 4).

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This seems pretty important to me because the background variance in temperature across the early Eocene, even excluding the PETM and other hyperthermals, may to be more than the difference between the results of the 4480 and 2240 runs. Is this correct, and if so, how should it be interpreted? There was at least a variance of 2x forcing across the early Eocene independent of the hyperthermals?

In the end, it comes down to a query as to how much can we slide the modeling curve up and down, especially at high latitudes, and/or compress the data across the early Eocene because of temporal differences (and presumably greenhouse gas forcing?). What do things look like when you add blue dots = 2240 to Figure 4? And by how much does this affect various interpretations? Does it make things worse or better by lumping all the data and comparing to a single model? Are the discrepancies reduced or amplified by changing the baseline conditions x2 and comparing things in the time domain?

Jerry

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

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