

Interactive comment on “Monsoon response to changes in Earth’s orbital parameters: comparisons between simulations of the Eemian and of the Holocene” by P. Braconnot et al.

Anonymous Referee #3

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This paper investigates responses of the Eemian (126ka, 122ka, 115ka) and the Holocene (9.5ka, 6ka) climate on the African and the Indian monsoons. Simulations themselves are the same as the authors’ previous papers, but their results are organized and interpreted well in a convincing way in terms of orbital changes and seasonality of response of the ocean mixed layer. In particular, importance of seasonality of mixed layer depth to orbital forcing (Section 3) is a core part of the paper and could be discussed in more detail. In Section 4 the energetic of the tropics is investigated. However, compared to Section 3, this section is rather premature and not so convincing. Changes in stratocumulus could cause large changes in climate sensitivity as found in future climate projections. ENSO variability may not be a good reason. The reviewer

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recommends revisions on Section 4: one choice is to substantially shorten this section, which will be fast track revision, the other choice is to include thorough analyses on heat budget including cloud and radiation feedback, which will be a major revision and will take time.

Interactive comment on Clim. Past Discuss., 4, 459, 2008.

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4, S291–S292, 2008

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