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Climate of the Past
Discussions

Interactive comment on "The onset of Asian Monsoons: a modelling perspective" *by* Delphine Tardif et al.

Anonymous Referee #1

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In the paper, the authors present their new Late Eocene simulation, and compare the simulation with paleobotanical and sedimentological (coal and evaporites deposits) evidence from Asia. The study is an important contribution for resolving the debate about the timing of Asian monsoon onset, Late Eocene or Late Oligocene/Early Miocene. It demonstrates that 1) the new simulation with IPSL-CM5A2 does not support that modern-like Asian monsoon climate already existed in the Late Eocene, 2) the uncertainties of paleogeography reconstructions (in particular topography and the Tethys reconstructions) have remarkable impacts on the simulated Eocene climate in Asia. This study also fairly points out that the key for finally resolve the debate is collecting the geological data that shows the timing of transition from arid to modern-like monsoonal climate in Asia. The paper is well written. Thus, I suggest accepting the paper

after some minor revisions.

Line 304-305, not only the model bias, but also uncertainties in topography reconstructions, can cause the dry discrepancy in South Asia.

Line 462, the number 5 is missing in the caption.

Line 486, Figure 8 should be replotted. Please check that the purple line does not match with the shaded area in (a). It is better to add the simulated precipitation against with these sedimentological records in the Figure 8, since these records could also reflect dry or wet conditions on the orbital time scale, not only the seasonality.

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