

Interactive comment on “Lessons from a high CO₂ world: an ocean view from ~ 3 million years ago” by Erin L. McClymont et al.

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We thank both reviewers for their positive reviews and constructive comments. We have replied to each of their concerns in the accompanying replies.

Here we wish to provide two further updates to the manuscript, linked to the ongoing modelling efforts as part of the PlioMIP2 initiative.

(1) Since the submission of our manuscript, an error in the calculation of the sea surface temperature anomaly (SSTA) in the NorESM model was identified. This has been corrected in the revised manuscript. The EC-Earth3.1 model was also withdrawn, and the results of the EC-Earth3.3 and CESM2 models have been added. These changes to the modelling outputs have been incorporated into our figures and statistical analy-

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sis, but have not required changes to the manuscript text. The following figures have been adjusted from our original submission: Figures 3, 4, 5, S5, S6 and S7.

(2) In our original submission we also anticipated that the model outputs we were presenting had already been available elsewhere (Haywood et al., in review, 2020). However, this was not the case for all of the model data which we presented. As a result, we have included as new co-authors those who were responsible for the design and implementation of the PlioMIP2 model experiments, and who processed the outputs which were then used for both the statistical analysis and the data-model comparisons. The author list has therefore been extended to include those significant contributions (see below). All co-authors have contributed to the writing and editing of the manuscript.

Literature cited: Haywood, A. M., Tindall, J. C., Dowsett, H. J., Dolan, A. M., Foley, K. M., Hunter, S. J., Hill, D. J., Chan, W.-L., Abe-Ouchi, A., Stepanek, C., Lohmann, G., Chandan, D., Peltier, W. R., Tan, N., Contoux, C., Ramstein, G., Li, X., Zhang, Z., Guo, C., Nisancioglu, K. H., Zhang, Q., Li, Q., Kamae, Y., Chandler, M. A., Sohl, L. E., Otto-Bliesner, B. L., Feng, R., Brady, E. C., von der Heydt, A. S., Baatsen, M. L. J., and Lunt, D. J.: A return to large-scale features of Pliocene climate: the Pliocene Model Intercomparison Project Phase 2, *Clim. Past Discuss.*, <https://doi.org/10.5194/cp-2019-145>, in review, 2020.

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