

We very much appreciate the positive review of our manuscript by the second reviewer as well as the comments made to which we reply below.

The other reviewer found several things to query in their analysis. I would hope that the review process will enable these questions to be resolved.

We hope to resolve these issues during the revision, see reply in response to the other reviewer's comments.

I think the very interesting result that could perhaps be emphasized more strongly is that there appears to be a non-linear response on land and not in the ocean. The marine-marine comparison behaves more linearly than the terrestrial-marine comparison. There may be many reasons for this, and the paper explores primarily pCO<sub>2</sub>, although they mention a few others. I wonder if these other factors might be more explicitly or more fully explored. I would encourage publication of this paper once any remaining issues with the estimated effects of pCO<sub>2</sub> are dealt with. I would also encourage some greater discussions of other potential sources of non-linear response in the PETM.

The revised version will comprehend a wider discussion on the potential sources that could lead to the possible mismatch between the terrestrial PETM-CIE and the marine ones, such as changing background CO<sub>2</sub> values.

We will take into account the minor comments during the revision.