

We thank the referees for their helpful comments on the revised manuscript. Below are our responses to the comments, with each individual comment in bold italics, followed by our response.

In addition to the edits requested by the referees, we have also renumbered Figs 5a, 5b, and 5c as Figs 5, 6, and 7, respectively. Similarly, we have changed Figs 6a, 6b, and 6c to Figures 8, 9, and 10, respectively. We were informed that we are not allowed to have separate captions for the sub-figures so we decided to make each of the sub-figure a separate figure with its own caption.

Referee 1

Even if the focus of the paper is not on a detailed analysis of differences in model chemistry and underlying emissions, the authors should still be able to provide the emission databases used in the reanalyses (in Table 1). This was also suggested by Reviewer 2.

We have revised the table to include the databases for the anthropogenic emissions, biomass burning, and biogenic emissions from terrestrial ecosystems. We have also added the biogenic emissions database for TCR-2 and GEOS-Chem to the text, as these had been previously omitted. The revised table is on Page 29 of the revised manuscript.

- The authors still need to revise their description of Fig.5b (line 355 in the annotated manuscript). It should be "January–July and October–December" instead of "January–June and September–December".

Thank you. We have corrected the description.

Referee 2

Dear authors,

thank you very much for addressing most of my comments, including relative differences, and explaining your limitations of resolving remaining issues. I only have one minor comment and two technical corrections.

**** as you have included in Fig. 7, with stippling, the statistical significance of the trends, I would (first) focus in the discussion of this figure (lines 347-354) especially on the regions with statistically significant trend differences between the reanalyses!***

We have revised the discussion to focus on the regions with statistical significance.

**** line 251: replace "which" with "where"***

Thank you. We have made the correction.

**** lines 321-323: the same sentence is doubled.***

Thank you for catching that. We have deleted the duplicate text.