

Response to reviewers

We thank the reviewers for their constructive feedback and helpful comments which we've used to try and improve the clarity of the manuscript. Please find line-by-line responses to each comment below in red and italics.

Reviewer: Norman Steinert

The authors have done a good job incorporating the suggestions and clarifications.

Please check the first sentence in line 236 (270) of the revised manuscript (with track changes), which either looks incomplete or out of place.

Other than that, I have no further comments on the current version.

Thank you. Yes, we agree and have decided to simply remove this sentence (L238).

Reviewer: Rachel James

The authors have responded thoroughly to the comments from me and the other reviewer. I think the manuscript is largely ready for publication.

Thank you.

One of my comments was "I ... found it a bit confusing to compare the 3^oC transient sample with the 3^oC stable samples, as I believe they have different cumulative emissions? In some cases a "reduction" (for example in heat extremes) is noted between the transient and stable cases, and it is unclear whether this is a reduction over time in the same scenario, or rather a difference between a rapidly warming 3^oC world with high emissions and stabilized world which has received fewer anthropogenic greenhouse gas emissions and more slowly reached 3^oC."

The authors have responded to this by clarifying the text. However, I have still noticed a couple of places where it is a bit unclear. I suggest that the authors check these and clarify:

1. Figure 12 figure caption refers to "reversal" - is "reversal" the right word, since it is comparing two different simulations? Is there evidence that there is a change in the direction of the trend over time? Or is it a difference between a transient state and a (differently forced) stable state. Please clarify in the figure caption.
2. Description of Figure 12 refers to "return" and "reversal" - is there evidence for a return? Or is more a difference between two different experiments?
3. Figure A7 caption and description - again, is "reversal" accurate? Please clarify.

Thanks for these points. Given they're all along the same theme we respond to them together. We see your point that we are comparing precipitation changes between different simulations which aren't completely sequential, so care needs to be taken in describing these results. We have made edits in the locations in the text that you point to (L445-463, 627-628), as well as the Data and Methods section (L246, 250) so that we don't refer to reversal anymore. Rather we refer to locations where the trends are significantly different and change depending on examining transient or stabilised climate projections.