

Please accept my apologies for the lengthy time to return a re-review of the paper now titled “Understanding the Influence of Hot Models in Climate Impact Studies: A Hydrological Perspective”.

I can see the authors have taken seriously both my suggestions and those of the other reviewer.

We appreciate your time and effort in reviewing our work and your valuable feedback, which has helped us enhance the quality of our manuscript.

I am really pleased that the authors have removed the word “Dilemma”, and please check for any other dramatic wording in the manuscript. Although we may have views on the dangers of global warming, it is important for researchers to write in a way that is impartial.

we have reviewed the entire document to identify and replace any other instances of dramatic language or wording that may have crept in.

The extra diagrams are appreciated and especially Figure 5. In general, models with high ECS are expected to be wetter for the same levels of atmospheric GHGs. The disaggregation revealing Californian drying (Figure 5b) for the warmest models is fascinating. Hence, I like the additional sentences starting with “However, the west coast of the US...”. Such spatial heterogeneity has strong policy implications for the US, as reflected in the new streamflow Figure 6. Not for this manuscript, but maybe the authors might like to consider a follow-on analysis, picking apart in more detail what is projected for California – potentially in the context of fire risk.

We are delighted to hear that you found the additional diagrams, especially Figure 5, valuable and that the information provided in our manuscript has piqued your interest.

Your observation regarding the effects of high ECS models on regional climate, specifically the phenomenon of Californian drying as depicted in Figure 5b, is indeed a compelling aspect of our findings. We agree that the spatial heterogeneity highlighted in our study has important policy implications, particularly for the United States.

Regarding your suggestion for a follow-on analysis focusing on California and its relation to fire risk, we find this idea intriguing and highly relevant. Exploring the projected climate changes in California with a focus on fire risk would certainly be a valuable extension of our current research. We will consider this suggestion for future work and appreciate your input on this potential research avenue.

This paper is now ready for publication. I would advise the authors to make one final run-through of the figures to check for any very last-minute formatting issues. For instance, maintain the standard aspect ratio for maps – Figure 5 looks as if the longitudinal axis has been suppressed. Some of the “box-and-whiskers” plots look like they have substantial white space and could be reduced in size?

Thank you for your positive feedback and your recommendation that our paper is ready for publication. We greatly appreciate your careful review and valuable suggestions.

We have made the necessary adjustments to Figure 5 to ensure it maintains the standard aspect ratio. Additionally, we have reviewed the boxplots, particularly Figure 9, and have eliminated substantial white space and adjusted their size.