

Review of esd-2023-41

**Title: Uncertainty-informed selection of CMIP6 Earth System Model subsets for use in multisectoral and impact models**

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***Overall Recommendation: Accept***

This study, submitted to Earth System Dynamics, highlights a new approach to select subsets of CMIP6 GCMs for use in multi-sectoral and impacts modeling. The approach is novel and attempts to capture multiple sources of uncertainty in the subset and does have potential utility for multiple applications beyond what was mentioned in the manuscript. This is the second time I have reviewed this manuscript and I'm pleased that the authors addressed my previous comments. As my remaining comments are minor issues, I recommend moving forward with publication. I look forward to seeing the revised manuscript in print.

Minor Comments:

Line 135 – There's a typo where Tables 1, 2, and 3 are all mentioned in this line. I believe Table 2 was what the author's meant to refer to.

Lines 138-142: "Models for which we... (more details in Section 2.2)." – How do you know the distribution of ECS is preserved when those without an ECS value in literature are removed? Presumably, these models have an ECS value, it is simply that the ECS values for those GCMs have not been assessed by other literature.

Line 189 – Like the comment for Line 135, there's a typo where Tables 1, 2, and 3 are mentioned in the same line.

Lines 199-201: "Based on this figure...flexibility of this method." – The authors did respond to my question with respect to the number of chosen eigenvectors. I suggest including the response here rather than only in the response to the reviewers.