

In the following, the reviewer's comments, our point-to-point responses, our revisions are shown in black, blue, and purple colors, respectively.

Editor:

Reviewers are in general satisfied with the revisions and recommend for publication. Before taking this decision, I suggest for minor revision with following comments (noting that all line numbers refer to the tracked-changes version of the revised manuscript).

Response: Thank you for your careful review of our revised manuscript and for providing constructive feedback. We appreciate the reviewers' overall satisfaction with the revisions and their recommendation for publication. We have addressed the minor comments as outlined below.

Comment: Line 14: In the revision, for "earth system models," why is only the first letter of "Earth" capitalized? Shouldn't all three words be capitalized?

Response: We have corrected the capitalization to "Earth System Models" and "Earth System Modeling" throughout the text to ensure consistency with standard scientific terminology. All three words are now capitalized.

Comment: Line 57: “, pH” changed to “, and pH”.

Response: Changed.

Comment: Line 280: Change “Figure S8” to “Supplementary Fig. S8” to keep the style consistent in the entire manuscript. Another important consideration is that all figures, including supplementary figures, should be cited in sequential order within the main text, which is currently not the case. For instance, while Supplementary Fig. S8 is referenced here, Supplementary Figs. S3 through S7 have not been mentioned or cited in the preceding paragraph. All the figures and tables should be checked to avoid this issue.

Response: We have updated the figure citation format to “Supplementary Fig. Sxx”. Additionally, we have carefully reviewed the entire manuscript and Supplementary to ensure that all figures (including subplots) and tables, are cited in sequential order within the main text.