

Dear Editors and Referees,

Thanks for your detailed review and constructive feedback provided on our manuscript. Your insightful comments have been invaluable in enhancing the quality of our work. In response to Dr. Lucas Harris's concerns regarding the hydrostatic solver of FV3, we have made the necessary revisions. The following are detailed comment and reply.

Comment:

The manuscript has been notably improved compared to the original version, and my comments have been answered to my satisfaction. One clarification that is still needed in the manuscript is that the IAP-CAS model is using the hydrostatic solver, which is indeed the best choice at this resolution. In the hydrostatic solver there are no vertically-propagating sound waves and so the semi-implicit solver is not needed. I would replace the sentence on lines 107 & 108 with a statement that the hydrostatic solver of FV3 is used.

Response:

Thank you for helping us identify this issue. We have clarified that our model uses the hydrostatic solver of FV3 to replace the inaccurate information. The specific changes can be found on lines [107-109](#) of the revised paper.

Thank you for your guidance and support again!

Best regards,

Qing Bao

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