

### **GMD Review Response – Reviewer #3**

The manuscript has been improved by addressing the reviewers' comments from the previous review round. I would like to clarify some technical points.

Response: Thank you for taking the time to review our revised paper and response letter.

Regarding the equations on pages 4-5, it would be better to explicitly list the information about the total of 15 layers (including depth and layer thickness).

Response: Thank you for this comment. The discretization information of the total 15 layers in ELM was described in Text S1 and Table S1 in the Supplement. We also added one sentence of description to the first paragraph of Section 2.1.

Line 113: What is the actual model time step?

Response: 0.5 hours were used in this study and added to Lines 113-114.