Reply to the editor's recommendations

We deeply thank the editor for carefully reviewing our revised manuscript. Please see below for out point-to-point reply to the comments. The comments from the editor are shown in italics, and our responses are written in the regular font.

Thank you for this revised manuscript that addresses the remarks of the two referees. I would like to mention however that the document egusphere-2022-1199-ATC3.pdf does not highlite all the modifications you made in the text and this made my review work somewhat more difficult to achieve. Before publication, I would like you to consider the following questions and remarks :

I apologize for the inconsistencies in the track-change version, making you spend longer on our manuscript. The main reason for the inconsistencies is that I have not been able to find a comprehensive tool to produce track-changed manuscript in pdf format (not the latex source code) from multiple latex files in an project created at the Ovealeaf website, an on-line collaborative latex editor that I used.

After discussing with co-authors and colleagues, I decided to manually color and strike-through for each change to create a track-changed version of the manuscript pdf file, and then remove all the latex commands to produce the final version without track changes. Due to the risks to introduce errors between the track-changed and final versions, I only highlighted major changes in my track-changed version.

The "latexdiff" tool is recommended in the GMD submission webpage, but this software does not straightforwardly work with a project with multiple tex files in a modular structure. Several approaches have been recommended to enhance latexdiff on this aspect, but I could not make them work with my files (e.g., http://www.brechtdeman.com/blog/LaTeX-diff.html).

The Ovealeaf website introduces two latex packages to produce track-changed manuscript file: TrackChanges and Changes packages. Both require manually enclose sentences to be edited or removed by certain commands (e.g., \add{}). TrackChanges does not allow using any latex commands, such as referring papers or figures (e.g., \ref{}), and multiple sentences within the track-change command, thus limiting its use. The Changes package does not have a so-called "final" option to accept all the changes at once, therefore the workflow will be just the same as using the latex-native coloring and strike-through commands.

I'd really appreciate if GMD editorial team could point me to a tool or workflow that enables one to create track-changed manuscript files more easily from a modular-style latex/overleaf project.

- *L87 : consider adding « in » in « and ERA-Interim »*

Yes, it is done.

- *L288 and L290, for example, and also in Figure 4 ; sometimes you refer to the MPI model as « MPI-ESM-LR » and sometimes as « MPI model » and sometimes as « MPI » ; please make this more uniform across the text*

All references to the MPI model have been changed to MPI-ESM-LR, including the subplot titles in Figures 10, 11, and 12. We have also noted that the model name abbreviation "MPI-ESM-LR" first appears on page 9 around L200 instead of page 12 ~L260 where we introduced the MPI-ESM-LR model and its reference (Giorgetta et al., 2013). Accordingly, we have moved the first introduction of the abbreviation and model reference up to page 9.

- *In Table 4, you sometimes use « remapped to » (as in « VR50-200 remapped to NAM-44i ») and sometimes not (as in « VR25-100 NAM-22i, 1991-1995 » that should be « VR25-100 remapped to NAM-22i, 1991-1995 » I suppose) ; please make this uniform. I think just using « to » would be fine, e.g. « VR50-200 to NAM-44i » and « VR25-100 to NAM-22i, 1991-1995 »*

Yes, that's what we meant. Thank you for the suggestion. We have shortened "remapped to" to "to", and have added "to" to all the three rows you mentioned.

- *In Table 4, I don't understand the lines « VR25-100 NAM-22i to original » and « WRF 25km NAM-22i to original » mean or represent ; maybe I have missed some explanations in the text ? Please provide more details.*

Sorry for the confusion. Those lines refer to the results after remapping the precipitation fields twice: once from the original MPAS grid (VR25-100) to the NAM-22i grid, then back to the MPAS grid, on which the statistics are calculated. The row headers for these lines and the table caption have been revised for better clarification.

- *Lines 356-358 : you write that Table 4 compares different remapping methods ; this is not right I think as it is mentioned in Table 4 captions that the first-order conserve remapping method is used. It is Figure 5 that compares different remapping methods. Please correct.*

Thank you, the mistake has been corrected so that the sentence refers to Figure 5 instead of Table 4.

Best regards,

Koichi Sakaguchi