

Response to Editorial Comments of GMDD-8-7983-2015, ‘Impact of surface coupling grids on tropical cyclone extremes in high-resolution atmospheric simulations’

C. M. Zarzycki, K. A. Reed, J. Bacmeister, A. P. Craig, S. C. Bates, N. A. Rosenbloom

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Response to Editorial Comments

P. 2, 1st line of the Abstract: please change "to ocean coupling ..." for "to surface coupling ..." to reflect the changes done in the title.

Reply: Changed.

P. 4, last line of parag 2.1: I think it is misleading to use the words "ocean and ice grids" while the model where the internal interpolation is done is the atmospheric model, right? If my understanding is correct, can you find another way to refer to the ocean and ice surface conditions in the atmospheric model?

Reply: The interpolation is still done within the ice and ocean model frameworks, however, these models are data models and don't solve for SST and ice cover dynamically (therefore, they just read a data stream which requires negligible computational cost).

To clarify this, the passage now reads ‘In the default CESM configuration, prescribed SST and ice data at $1^\circ \times 1^\circ$ resolution are internally interpolated to the particular data ocean and ice components. Since these components therefore only require a data stream, their cost is negligible compared to the dynamical atmospheric model.’

P. 5 line 7: please add "now" or "currently" in "... system is the default ..."

Reply: Added.

p.5, lines 12 and 15: the word "values" is not precise enough as one could think it refers to the atm/ocean fluxes. I suppose that "values" refer to the atmospheric variables described in the 1st sentence of the paragraphe. If this is the case, please change "values" for "atmospheric variables".

Reply: Added ‘atmospheric’ to clarify that the values such as wind come from the atmospheric model component. We have also changed the Line 15 such that it reads “the remapped atmospheric quantities” to emphasize that the variables discussed are the remapped quantities referred to in Line 12.

p.8 line 3: please add (not shown)

Reply: Added.

Fig. 5: please add "of surface fluxes and momentum drag" after "calculations" the first time it appears in the captions (i.e line 2)

Reply: Added.