

Response to Editor (Penelope Maher)

We thank you for the careful checking of our manuscript and your comments. We hope to have addressed them adequately with our responses (below in blue).

1. Adding new authors is a little uncommon at this stage. Could you comment on why they have been added now and were not at initial submission?

We added Ping-Gin Chiu and Takeshi Doi as co-authors because their contributions to performing relevant simulations used in designing the protocol had been overlooked in the initial submission. In addition, co-author Doi contributed during the revision stage by exploring the influence of 3DVAR vs. SST-nudging initializations.

2. During validation, this was picked up: The ROR database lists the institution of the corresponding author but with a different city than given in the manuscript. Please clarify whether the ROR "Japan Agency for Marine-Earth Science and Technology (Yokosuka, Japan)" is still correct.

JAMSTEC is headquartered in Yokosuka but maintains several offices in Japan, one of them being located in Yokohama, where I. Richter, T. Doi and T. Kataoka are based. Unfortunately, the Research Organization Registry (ROR) only lists the Yokosuka headquarters. We therefore selected this location from the pulldown menu.

3. The 2 new figures and new table (Fig 2-3, Table2) all have introduction material that would be better in the main text and not in captions.

We have moved part of the captions for Table 2 and Fig. 3 to the main text.

The purpose of Figs. 2 and 3 is to illustrate hypothesized interactions and outstanding issues, as suggested by reviewer #1. As such, the details of those figures are not essential to the main text and would disrupt the flow of the introduction. We have therefore decided to leave some of these details in the captions.

4. Fig 5: does the yellow shading around the red have any meaning? If it is just to show the buffer, then could it be a low opaque red please?

We have replotted the figure using a different color scheme with monochrome opacity gradients.

5. Please thank your reviewers in the acknowledgement section.

Done.