

Dear Editor:

Thank you for your letter and for the reviewer's comments concerning our manuscript ID **egusphere-2022-453** entitled "Seasonal variation of eddy activity and associated heat/salt transport in the Bay of Bengal based on satellite, Argo and 3D reprocessed data". The main corrections in the paper and the responds to the reviewer's comments are as following:

Responds to the reviewer's comments:

Minor comment: *Section 2.2.2, I understand now that they authors are here creating a single composite cyclonic and anti-cyclonic eddy from the Argo observations. I would ask them to just make this point explicitly at the very beginning of the section: this would make the following method even clearer.*

Combined with the satellite altimetry data and the Argo profiles, composite 3D structures of a single CE and a single AE were created based on eddy synthesis method in the study, respectively. The 3D structures of eddies were constructed by surfacing the Argo float profiles into SLA-based eddy areas, as shown in Figure 2. We considered the detection results (from daily SLA fields) of the long-lived eddy (eddy trajectories with lifetime ≥ 30 days) to match the Argo profiles on the same day, and selected Argo profiles with a distance of < 1.5 radii from eddy center for vertical eddy structure analysis. By matching identified eddies with Argo profiles in a long time (from the year 2001 to 2019), a large number of Argo profiles within eddies can be obtained. Consequently, 3882 and 4097 Argo profiles were selected for cyclonic and anticyclonic eddy reconstruction, respectively. These Argo profiles were interpolated to create an average CE and an average AE 3D profile.

The explanatory sentence has been added and marked in green at the beginning of the Section 2.2.2.

Special thanks to you for your valuable comment, it is very helpful for revising and improving our paper.

We appreciate for Editors/Reviewers' warm work earnestly, and hope that the correction will meet with approval. Please feel free to contact us with any questions and we are looking forward to your consideration. Once again, thank you very much for your comments and suggestions.

Sincerely,
Wei Cui