

Dear Editor and Reviewers:

Thank you for your letter and the reviewers' comments concerning our manuscript entitled "A phytoplankton bloom caused by the super cyclonic storm Amphan in the central Bay of Bengal". Those comments are valuable and very helpful in revising and improving our paper. According to the comments, we have revised the manuscript carefully. The revisions are marked in a red font for reviewers in the revised manuscript with marked changes. Please let me know if you have any questions regarding this revision. Thank you!

Sincerely yours,

Haibin LÜ (Dr.)
2023.5.13, Lianyungang

Response to Reviewer 1 #

Reviewer #1: This preprint presents a valuable contribution to the understanding of the biological response of the Bay of Bengal to the passage of tropical cyclones, specifically the super cyclonic storm Amphan in May 2020. The authors have used a combination of reanalysis data, remote sensing, and Argo float data to investigate the dynamic mechanism of the chlorophyll-a bloom that occurred in the BoB during the passage of the super cyclonic storm Amphan in May 2020. The methodology is sound, the exposition is well constructed.

Response: Thank you very much for your constructive comments! We have carefully considered all the insightful and constructive comments from you. The corresponding revisions are marked in a red font in the revised manuscript. The following is our detailed modification and explanation.

1. However, the purpose and significance of studying this tropical cyclone were not clearly pointed out in the introduction. I think the paper requires minor revisions.

Response: Thank you very much for your constructive suggestions! Corrected. The purpose and significance of studying this tropical cyclone has been added. (Please see lines 43-44 in the revised version)

2. The introduction should highlight the purpose and significance of researching TC Amphan, clearly conveying why it is necessary to investigate this tropical cyclone.

Response: Thank you very much for your constructive suggestions! Corrected. The purpose and significance of studying this tropical cyclone has been added. (Please see lines 43-44 in the revised version)

3. Although the authors refer to inertial oscillations in their conclusion, they fail to clarify how these oscillations are linked to phytoplankton blooms.

Response: Thank you very much for your constructive suggestions! Corrected. An article is

cited to clarify the link between inertial oscillations and phytoplankton blooms. (Please see lines 212-214 in the revised version)

Technical Corrections:

4. What are the inlet fluxes in Line 16 and Line 226? Can you give more explanations?

Response: Thank you for your question! We are sorry for the unclear expression. Corrected. (Please see line 16 and line 229 in the revised version).

5. Line 11 and line 224: 'supercyclonic' should be 'super cyclonic'.

Response: Thank you for your constructive suggestions! Corrected. (Please see line 11 and line 227 in the revised version).

6. Figure 1: It is recommended to add variations in cyclone intensity to the figure, rather than simply a point representing the center of a tropical cyclone.

Response: Thank you very much for your constructive suggestions! Corrected. Figure 1 has been redrawn.

7. Line 120: 'we uses' should be 'we use'.

Response: Thank you for your constructive suggestions! Corrected. (Please see line 121 in the revised version).

8. Line 160: 'm·s⁻¹' should be 'm·s⁻¹'.

Response: Thank you for your constructive suggestions! Corrected. (Please see line 160 in the revised version).

9. line 174: 'μmol·L⁻¹' should be 'μmol·L⁻¹'

Response: Thank you for your constructive suggestions! Corrected. (Please see lines 170 and 175 in the revised version).

10. Figures 3,5,8,12: 'data' should be 'date'.

Response: Thank you for your constructive suggestions! Corrected.

11. Figure 5: The labels of figure should be enlarged to make them easier for readers to read.

Response: Thank you very much for your constructive suggestions! Corrected. Other figures are also modified in order to make them easier to read.

12. The abbreviations of the figures are not uniform. I suggest that unify the abbreviations for figure to 'Fig. ', like 'Fig. 1' on line 69.

Response: Thank you very much for your constructive suggestions! Corrected. (Please see line 51, lines 121-122, line 131, lines 147-148, line 152, line 167, line 176, lines 191-192, lines 194-195, line 204, line 213, line 215 in the revised version)