

Editorial comments:

Your revised manuscript was reviewed by one of the original reviewers. The reviewer was generally positive (minor revisions). I concur with the reviewer's comments. Please address the comments offered by the reviewer on the revised (second version) of the manuscript and return as a third version (second revision).

Response: For the second revision of our manuscript, we would like to thank the editor and the referee for the positive comments and suggestions. We have revised the manuscript as suggested. Detailed responses to all comments are given below (responses are shown in blue and relevant changes are marked in red in the revised manuscript).

Anonymous Referee #1

Comments

1. The authors made helpful changes to this manuscript, including describing how the sampling locations fit within the broader region, adding more details to the statistical methods descriptions, and adding more comparison to other studies. I have a few suggestions to finalize the changes. Be sure to check all figure references in the text because I found a few that were incorrect due to the addition of new figures.

Response: Thank you for the positive comment. As suggested, we have checked all figure references in the revised manuscript. Please see details in the point-to-point response below. In addition, we have also double checked the figures in Appendix and reordered Figures A4, A1, A5, A2, and A3 to Figures A1, A2, A3, A4, and A5 in the revised manuscript (second revision). The corresponding figure references have also been revised in the text.

2. Your changes in naming the location seem appropriate to me. However, check the grammar in your edits:

Line 15, abstract: Change “the subregion of the PRE” to “a subregion of the PRE”

Line 27, abstract: Change the last word from “has” to “have”

Response: We have revised these sentences in Page 1, Line 15 and Line 28 of the revised manuscript as follows:

“Therefore, the long-term deoxygenation in a subregion of the PRE (the coastal waters off Hong Kong) was comprehensively investigated in this study using monthly observations during 1994-2018.”

“In summary, the Hong Kong waters have undergone considerable deterioration of low-oxygen conditions driven by substantial changes in anthropogenic eutrophication and external physical factors.”

3. Intro, Line 54 – change “ocean” to “estuary” here again to represent the citation correctly. Or just delete the word.

Response: As suggested, we have deleted the word "ocean".

4. Line 120. For the sentence that starts with “Moreover...”, I’m still trying to understand if each’s months data was interpolated separately. It sounds like it was, but this sentence could be clearer like: “Moreover, the same treatment procedure was applied to the data in each month for 25 years to generate an interpolation set for every month.”

Response: Data in each month was interpolated separately. As suggested, we have revised the sentence in Page 4, Line 120 of the revised manuscript as follows:

“Moreover, the same treatment procedure was applied to the data in each month of 25 years to generate an interpolation set for every month, making it consistent when investigating the interannual variations in low-oxygen conditions.”

5. Line 202. I think this reference should be to Figure A3. And I’d suggest removing the 10% statement because it is unclear what it refers to.

Response: Please note that we have reordered the figures in Appendix. We have corrected this reference mistake and revised the statement in Page 7, Line 201 of the revised manuscript as follows:

“Statistic results showed that low-oxygen events mainly appeared in the bottom waters of summer, which had much higher occurrences of $DO < 4$ mg/L and $DO < 2$ mg/L compared to other seasons and other layers (Figure A5).”

6. Line 215. This reference to Appendix Figure A2 seems to be the wrong figure reference.

Response: Indeed, it was a wrong figure reference. It should be referred to Figure A1. We have corrected this mistake in the revised manuscript.

7. Figure 4. An addition to the caption is still needed to define the grey region in Figure 4a, and/or put it in the legend at the top.

Response: The grey patch in Figure 4a represents the range of bottom DO observed at the 10 stations in three summer months. We have revised the caption in Page 20, Line 550 of the revised manuscript as follows:

“Figure 4. Interannual variations in the spatiotemporally (10 stations in June, July and August) mean and minimum concentrations of observed DO at the bottom (a), the cross-sectional areas (b) and layer thicknesses (c) of low-oxygen conditions, and LOI (e) in summer during 1994-2018. Note that the grey patch in (a) represents the range of bottom DO observed at the 10 stations in three summer months; the coloured bars in (b) and (c) show the mean values of three summer months, while the black thin error bars represent the range across three summer months.”

8. Response to comment 13. I appreciate your description of the wind speed decreases and agree it is supported as a true condition in the literature. I suggest adding a sentence about this to the text. It could likely be just one sentence that notes that average wind speeds have decreased, and cite the sources that discussed this.

Response: We have added a brief description on wind speed decreases in the Pearl River Basin and the northern South China Sea and the citations in Page 10, Line 315 of the revised manuscript as follows:

“It was noted that WS exhibited a decreasing trend of 0.03 m/s per year ($p < 0.05$, Figure 9a) within the coastal regions off Hong Kong over the past 25 years, while similar situation was also found in the Pearl River Basin (Zhang et al., 2019) and the northern South China Sea (Gao et al., 2020) due to the long-term climate changes (Xu et al., 2006; Zhang et al., 2009; Chen et al., 2020).”