

## **Response to bg-2020-492-RC1**

This is an interesting and timely piece by Kumar, who is an early career scientist. Overall, it is well written but some discussion should be strengthened. I list a few points below:

R: Thank you. The responses to your comments are in blue fonts, and marked with R.

1. I would suggest the author to summarize text in a couple of graphics/schematic figures. Readers may save their time while reading the article and get a better picture of author's take on the subject.

R: Thank you for this valuable suggestion. A figure is permissible as per the journal's guideline on this category (Ideas and Perspectives) of submissions. Thus, a schematic is included in the revised manuscript.

2. In such a paper, one would like to see a "Recommendations" section. Within the UN decade frame work, the author should provide his own take how the decade's objectives specific to Indian Ocean would be achieved. If decade does not have Indian Ocean specific objectives, then would the author recommend to UN to also include some Indian Ocean specific objectives?

R: Thank you. The decade objectives, though global, fit well with the requirements of the Indian Ocean science and its rim countries. A recommendation section, which also serves as the conclusion, is added in the revised manuscript.

3. This paper is going to part of special issue focusing on research progress made since the inception IIOE-2. But there is no mention of IIOE-2 in the manuscript. In the introduction section, author should have some comments on the ongoing IIOE-2 program.

R: Thank you. The suggestion is very pertinent. The introduction section has been modified to highlight how multilateral initiatives such as IIOE have led to better understanding of the IO.

4. The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) supports international trade among India, Bangladesh, Bhutan, Myanmar, Thailand, Sri Lanka, and Nepal. BIMSTEC should find a place in the manuscript.

R: Thank you. The BIMSTEC has been included appropriately in the revised manuscript.

5. Acronyms have been overused. It is hard to memorize so many of these while one reads the paper. They also take the reading flow away. Unless an acronym is needed >10 times, it is of no use; and there is no need to use acronym for phrases like the “Arabian Sea” as AS even if it is used >10 times.

R: Thank you and apologies. The revised manuscript has reasonable usage of acronyms.

6. The author mentions Noctiluca blooms. This is major and relatively recent phenomenon in the Arabian Sea of whose impacts on the ecosystem are unknown. Author may go throw Rixen et al’s paper in this special issue and enlarge the discussion on this. Reference: Rixen, T., Cowie, G., Gaye, B., Goes, J. I., Gomes, H., Hood, R. R., Lachkar, Z., Schmidt, H., Segsneider, J. and Singh, A.: Reviews and syntheses: Present, past, and future of the oxygen minimum zone in the northern Indian Ocean, Biogeosciences, 17, 1–30, <https://doi.org/10.5194/bg-17-1-2020>, 2020.

R: Thank you. This recent work has been cited appropriately in the revised manuscript.

7. There are some typos/ language/grammatical mistakes that should be corrected. For example- “north ocean” -> north in line 37

R: Thank you and apologies. A sincere attempt has been made to minimize such errors in the revised manuscript.