Biogeosciences Discussions

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Reply on RC1

Raúl Tapia et al.

Author comment on "Contrasting vertical distributions of recent planktic foraminifera off Indonesia during the southeast monsoon: implications for paleoceanographic reconstructions" by Raúl Tapia et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2021-329-AC1, 2022

Reviewer #1

The contribution "Contrasting vertical distribution of recent planktic foraminifera off Indonesia during the southeast monsoon: implications for paleoceanographic reconstructions" presents new plankton net data from the eastern tropical Indian Ocean. They analyzed the planktic foraminiferal abundances from 5 depth intervals between 0-500 m water depth at 37 sites covering the Indonesian marginal seas off Sumatra, Java and the Lesser Sunda Islands in order to shed light on the spatial distribution of planktic foraminifera during the southeast monsoon and established the relationship between their abundance and the environmental parameters to finally compare those findings with sediment trap and core top assemblage data to further improve the foraminifera-based proxy reconstructions in the region. This study represents an important contribution to the scientific progress within the scope of this journal. It adds new ideas, applies reliable methods, and contributes with new data.

The manuscript is well organized, easy to follow and very well written. The introduction is very rich, refering global and regional previous contributions. Methods are very complete and correctly explained. The results are properly presented and the discussion is very rich. At some point, I consider that the authors could avoid the discussion about the changes in the species size as it is not even plotted in the main manuscript and later is not taken into account for the paleoceanographic implications discussion. Figures and tables are correct, even the Apendix ones. The references fit the journal requeriments. Below I detailed a few minor points, though mostly recommendations rather than criticisms. I recommend minor revisions and consider this manuscript fitting very well for the Journal Biogeosciences.

We thank the reviewer for their very positive comments.

Line 6: Is it "those" o "the"?

We will change it to "the".

Line: 23: I would write "e.g." because the sentence is refers to global reconstructions of

past ocean conditions, and globally there are plenty more contributions than those cited in line 23.

We agree and will add "e.g.".

Line 43: The sentence is hard to understand. I suggest to shortened it in order to make the idea clearer.

We agree and will split the sentence into two parts as below:

"However, this approach may be associated with uncertainties arising from a myriad of processes during the settling, deposition, and burial that may lead to varying degrees of proxy signal alteration (Regenberg et al., 2014). Furthermore, additional uncertainty stems from selected proxy calibrations and the instrumental database used for comparison with the proxy."

Line 176: Try to avoid sentences that sound like "discussion" in the results. Lines 176 and 177 are an example of this.

We will rephrase the sentence to:

"The multivariate analysis performed on hydrographic data separate the sites into two main groups, i.e., transects 1-3 in non-upwelling sector and transects 5-7 in upwelling sector."

Line 305: Please, check if the idea of this sentence is correctly expressed

We agree and will rephrase the sentence to improve clarity by expanding the explanation.