

Ocean Sci. Discuss., referee comment RC2
<https://doi.org/10.5194/os-2021-101-RC2>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on os-2021-101

Anonymous Referee #2

Referee comment on "On the use of acoustic data to characterise the thermohaline stratification in a tropical ocean" by Ramilla Vieira Assunção et al., Ocean Sci. Discuss., <https://doi.org/10.5194/os-2021-101-RC2>, 2022

General comment

The manuscript tries to use high resolution and continuous acoustic recordings to characterize the thermohaline structure of the seawater column. For this challenge, they test three different methods for survey data of different regions with different hydrological characteristics in different seasons. The only highlight is that the MS revealed a variety of oceanscapes with different responses in terms of organisms vertical distribution. It's a pity that preliminary results didn't match the authors' expectations and this result is far from the authors' goal. Given the various reasons detailed in major comments, I think this MS has a long way from publication.

Major comments

- 1) Amendments to article objectives. Now the goal of the MS has not been achieved, not even a real attempt. Given the present results, there should be a corresponding research objective.
- 2) Detailed method description. As a core part, the three methods used in this study are not described in sufficient detail. More importantly, there is a lack of discussion on the advantages and disadvantages of these methods and the corresponding results.
- 3) Improvements to Results and Discussion. The current status appears to be a listing of the findings and a description of some of the characteristics. For the confusing results, a more systematic summary and is needed. If possible, I would much rather see new approaches proposed for current research goals.

4) Figure modifications and clarifications. I don't know if it's personal reasons, Fig1, 3, 6 are very unclear and affect the understanding of the MS. Some figure annotations are difficult to understand.