

Earth Syst. Sci. Data Discuss., referee comment RC2
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Comment on **essd-2022-20**

Anonymous Referee #2

Referee comment on "Wave attenuation potential, sediment properties and mangrove growth dynamics data over Guyana's intertidal mudflats: assessing the potential of mangrove restoration works" by Üwe S. N. Best et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2022-20-RC2>, 2022

Wave attenuation potential, sediment properties and mangrove growth dynamics data over Guyana's intertidal mudflats: assessing the potential of mangrove restoration works

This is an interesting topic and important for the literature. In addition, this is a well-organized study from a region where there is a paucity of this type of research. This makes the data presented here worthy of publication. The methodology and design of the research project is acceptable. No comments and suggestions are given for further improvement. Manuscript is quite long. Summarize it. So, highly recommended to summarize the text of this manuscript.

Finally, I suggest "accepting" this manuscript with "minor correction".

Introduction (general comment A)

I feel that the introduction is quite long and you can reduce text by 10-20%. Carefully think and revise considering repetition of meaning. In the Introduction, you need to clearly state what is the scientific question you are addressing? And how you will do it? Why is it important for international readers to care about your manuscript? What is the novelty of your manuscript. These points should be addressed in the Introduction.

Lines 35-40 [C1]: "Mangroves belts are key ecosystems residing in the intertidal area of tropical and sub-tropical coastlines and a key component in the discussion of green-grey infrastructure (Blankespoor et al., 2017; Kg et al., 2017; Horstman et al., 2014; Beck, 2016; Borsje et al., 2011; Bao, 2011)." Please refer the journal guidelines and follow the reference in alphabetical or chronological order (check authors guidelines). Consider this comment here after.

Lines 40-45 [C2]: "in the intertidal area: tidal flooding, exposure to waves and varying degrees of

salinity(Mazda et al., 1997; Mazda et al., 2006; Hogarth, 2015; Willemsen et al., 2015)". You can refer this recent article in Journal of Coastal Conservation 22, 1191–1199. <https://doi.org/10.1007/s11852-018-0628-7> for understanding how seasonal and tidal influence for water quality changes (e.g. pH, temperature, ORP, conductivity/salinity) along the mangrove covered coastal aquifer.

Lines 50-55 [C3]: "Therefore, there is a vital need to explore in depth the physical contribution of mangroves locally to reducing coastal vulnerability to hazards such as sea level rise and extreme waves in order to adequately optimize the project planning and designing phases for green- grey infrastructure." You can read/refer this case study published in Geoenvironmental Disasters 7, 17 <https://doi.org/10.1186/s40677-020-00154-y> for understanding sea-level inundation and risk/vulnerability assessment in coastal areas.

Lines 12 and 53 [C4]: You have mentioned sea-level here. Refer Palaeogeography Palaeoclimatology Palaeoecology 465, 122–137. <http://dx.doi.org/10.1016/j.palaeo.2016.10.024> This study investigated how mangrove react with sea-level changes. This paleo study suggested mangrove spread widely with initial sea-level inundation in coastal areas during the middle Holocene sea-level stand about 7500 Cal. years BP, based on biomarker proxies (e.g. taraxerone) in sedimentary organic matter.

Lines 70-85 [C4]: It is very long chapter with having a single reference of Bovell (2019) for supporting your statement (Bovell, O.: Setting the foundations for zero net loss of the mangroves that underpin human wellbeing in the North Brazil Shelf LME: Review of the effectiveness of existing coastal restoration efforts in Guyana., 2019). I also feel that this is not peer reviewed index journal publications. Consequently, to address why is it important for international readers to care about your manuscript?, you can refer (1) Expert assessment of future vulnerability of the global peatland carbon sink. Nature Climate Change 11, 70–77. <https://doi.org/10.1038/s41558-020-00944-0> for predict present and future condition of carbon sink, and (2) The Anthropocene Review 5, 28–68. <https://doi.org/10.1177/2053019617740365> for elaborating/showing evidence of first human impacts and responses of aquatic systems in the world.

Lines 110-115 [C5]: "2.1 System characteristics": the term study area is better (I feel).

Lines 125-130 [C6]: 120m – 400m: Need a space between value and unit. Consider this comment here after. I found that such several formatting issues. Consider it during revision of your manuscript.

Lines 128-138 [C7]: a. "tidal range fluctuating between 1.17 m during an average neap tide and 2.5 m during an average spring tide", b. "The strongest winds occur in the period December – March/April and vary between 3 - 8 m/s from a predominant northeast direction", c. "The measured currents, at 25 m depths offshore, have a magnitude between 0.1 and 0.5 m/s and a direction varying between 240 °N and 360 °N.", You need to include supportive evidences/references for those statements. In this manuscript, you need to consider this comment here after, such direct statements with values.

Data collection field site (general comment B)

Again, I feel that "2.1 System characteristics" is quite long and you can reduce text by 10%. Carefully think and revise considering repetition of meaning. Similarly, sections from 2.2 to 2.7 are also quite long and you can reduce text.

Line 160 [C8]: "Data Collection and Processing" It is separate sub-sub section? 2.2.1????

Results (general comment C)

Results part is well written. However, you have to define abbreviations at its first appearance (e.g. ASTM). Consider this comment here after.

Discussion and conclusions (general comment D)

D1: The authors must separate Discussion and Conclusions.

D2: You have already discussed your discussion under chapter 3. Results, 4. Wave attenuation potential for mangrove belt, and 5 Data availability.

Consequently, you can follow the recommended/standard format of 1. Introduction, 2. Study area and Methodology, 3. Results, 4. Discussion, and 5. Conclusions.

References (general comment E)

I have observed that only few references are from the recent literatures. Consequently, I highly recommended to add few additional recent literatures which are published during few years. Researchers must be up to date and updatable. I have suggested few references as well.

Regional Studies in Marine Science 30, 100726.
<https://doi.org/10.1016/j.rsma.2019.100726>

Regional Studies in Marine Science 46, 101884.
<https://doi.org/10.1016/j.rsma.2021.101884>

Figures (general comment F)

F1: Figure 1: I can't read some text in even 139% magnification (see location names in A and B images). I can't get any relevant information from Figure 1C (must increase the size)

F2: You must improve the quality of photographs such as 3, 4, 6, 12. But, I don't know whether it is technical error during the generation of PDF from your world file.

(general comment G)

There are too many errors in the structure of the manuscript. See several comments above (but, I did not mentioned every point). The author must carefully revise the manuscript. In my conclusion, the manuscript has several repetition, many basic errors, no clear discussion.

I very strongly suggest that the authors have their manuscript revised by a qualified scholar or carefully revise it.

I hope the review a revised version of this work (if necessary).