

Response to comments (third revision)

Comments to the author:

Dear Dr. Ray:

Thank you for uploading your second revision which resolves the main issue of the referees (limited replication) through focusing on age rather than digging deeper into seasons, etc. I have read your paper in detail and there are still some issues pending, the majority technical/language related or sloppiness (multiple missing references).

I therefore invite you to revise again and submit a version that can, hopefully then, be forwarded to the production office.

Reply-

Dear Prof. Middelburg,

Thank you very much for your decision. We addressed all the comments in the present revised version. Your suggestive input are highly appreciated and we know they were super helpful for further refinement of the ms.

We look forward to your positive decision.

Best regards,

Raghab (on behalf of all co-authors)

List of remarks:

- Multiple references, Canfield, Bouillon et al. 2008, etc are missing. Please check carefully the completeness of your reference list.

Reply We have provided full refences of these two citations and carefully checked all that included in the ms.

- Page 1 title: shouldn't it be observationS? Corrected

- Line 80: observations Corrected

- Line 95: depositing sediment to form Corrected

- Line 108 (but all through): check the number of significant digits. An average of 52.42% does not make sense. Reply: Thank you for the suggestion. We have now reduced the decimals at significant level

- Line 155: carbon and nitrogen. (carbon stocks are estimated not measured). Corrected

- Line 182: give the G-force, not only 2000 rpm

Reply G-force is added in the ms as 760 g for the rotor we used in analytical purpose.

- Line 241: increase of the number of end-members for the model Corrected

- Line 256: I guess you should have written: showed higher values, otherwise I do not understand the sentence (discrepancy with figure). Corrected

- Line 298: Replace on the other hand with However, because on the one and on the other always come together Reply- Thank you for the correction.

- Line 365: is Ray et al. already published by now. And indicate whether negative means efflux or influx.

Reply - Since it is not published yet, we have rephrased it simply as 'unpublished data'. Signs of influx and efflux are given now.

- Line 374-375: logic of sentence needs attention. .. plants,....., as it is composed...

Reply – Corrected as Terrestrial C3 plants, like mangrove plant organs, have C/N ratios of around 12 or higher (Prahl et al., 1980) and are N-poor due to the dominance of lignin and cellulose type of compounds.

- Line 391: -21.07 permille. This number of digits does not make sense given the lumping of benthic and pelagic algae and their spread (Fig. 6).

Reply: Thank you for the suggestion. We have now reduced the decimals at significant level

- Line 424: Porewater profiles.....sediments are very rare...

Reply- Corrected as "Porewater profiles of salinity and DOC in mangrove sediments are very rare.."

- Line 436: delete Ray et al. unpublished here. No need and do cite Bouillon et al. 2008 in reference list.

Reply- Deleted and full citation of Bouillon et al is given in the list.

- Line 499: adult/mature.. **Corrected**

- Line 500: reformulate "... essentially not very significant ". Simply not significant, or not?

Corrected as not significant

- Line 501: ... might be constrained by some biological or geophysical factors. (delete significantly, if significant do not use might be). **Deleted significantly**

- Line 561: down in the tidal flat **Corrected**

- Reference list: please check careful before resubmission.

Reply- References are carefully checked and formatted.

Newly added references in the list

Bouillon, S., Borges, A.V., Castañeda-Moya, E., Diele, K., Dittmar, T., Duke, N.C., Kristensen, E., Lee, S.Y., Marchand, C., Middelburg, J.J., Rivera-Monray, V.H., Smith III, T.J., Twilley, R.R.: Mangrove production and carbon sinks: a revision of global budget estimates. *Glob. Biogeochem. Cy.* 22, GB2013. 2008, doi.org/10.1029/2007GB003052,2008.

Canfield, D.E.: Factors influencing organic carbon preservation in marine sediments. *Chemical Geology*, 114, 315-329, 1994. [doi.org/10.1016/0009-2541\(94\)90061-2](https://doi.org/10.1016/0009-2541(94)90061-2)