Biogeosciences Discussions

Biogeosciences Discuss., referee comment RC1
https://doi.org/10.5194/bg-2021-208-RC1, 2021

Comment on bg-2021-208

Anonymous Referee #1

Referee comment on "Effect of vegetation distribution driven by hydrological fluctuation on sedimental stoichiometry regulating N_2O emissions in freshwater wetland" by Huazu Liu et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2021-208-RC1, 2021

General comments:

Overall, the idea of the study is interestig, however the major limitation is that it is based on only few grab samples (both soil and gas). Samples were collected once during low water level event and once during high water level event. Making conclusing about the ecosystem based on few samples is not sufficient. For example, Figure 1 shows regression analyses that is based on only few points and same goes with other figures as well. To understand the dynamics at an ecosystem level, a much larger amount of samples should be collected. First to see the seasonal dynamics and secondly to have a realiable amount of data for statistical analyses.

Specific comments:

Figure 1 - Photos have low quality. Location of the region would be nice to show .

Lines 115-120 - You inserted pedestal into the soil and then started to collect gas samples. How long was the stabilisation period because this could create relatively large distrubance to the soil? How many gas samples were used to calculated flux? How did you access the site durign high flood to avoid soil distrubance? The size of the chambers?

Line 135 - Statistical analyses: was the data normally distributed? And whats tests were used to control that?

Figure 3 - caption is not refering to correct sub-plots. E.g. B is TOC not nitrogen density etc.

Figure 5 - text in the figure is so small that it is unreadable.

Line 350 - do you have data about N2O reducers: nosZ clade I and II genes? Currently the abundace of nirS, nirK and hzsB genes does not provide enough information about the entire N cycle.

Throughout the text: sometimes N2O has subscript (N_2O) and sometimes not.