

This is the second time I review the paper. The authors put a lot of effort in addressing my own and the second reviewer's comments. However, I have minor/editorial comments and two remaining scientific comments.

We are grateful to Referee#1 for his/her positive feedbacks on our revised manuscript. Comments from referees were very useful to improve the MS.

Editorial:

'specie' - the authors use 'C3/C4 specie', which I believe should be 'C3/C4 species'. Can be solved with a simple 'search and replace'

We have replaced “C3/C4 specie” by “C3/C4 species”.

l. 593: 'did uptake' - can be replaced by 'took up' or similar

We have replaced “did uptake” by “took up” as proposed by Referee#1.

Scientific:

l. 283: I did not realize that in the original manuscript, but it looks to me that the authors did not apply a 'ustar filter' - otherwise there would be more nighttime data missing than 20%. This is routinely done in terrestrial system, with the goal to remove night time data collected under not well mixed conditions (because the flux measurement is not complete, and the ecosystem respiration estimate will be affected). It could be that at the coast this is not a big problem, but because it is routinely done, adding a sentence of explanation will help with comparison/repetition.

Referee#1 is right, we did not apply a ustar filter in our data processing as generally done in terrestrial ecosystem studies (Gu et al., 2005). Indeed, we measured only 11% of night-time EC data corresponding to a ustar threshold below 0.1 m s^{-1} (mean wind speed of $1.15 \pm 0.52 \text{ m s}^{-1}$) and above which NEE does not increase anymore with ustar values. This threshold value is lower than ranges determined in forests ($0.2\text{-}0.4 \text{ m s}^{-1}$) and logically closer to values found in grassland (Gu et al., 2005). Contrary to terrestrial ecosystems (forests or agricultural cover), the low canopy height of the studied salt marsh (*Spartina maritima*, *Halimione portulacoides* and *Suaeda vera*) over the year strongly limits the CO₂ storage in the vegetation and, on the contrary, favours the atmospheric CO₂ circulation. Thus, with this 0.1 m s^{-1} threshold, filtered night-time NEE data would be low; furthermore, this filter does not seem to affect monthly NEE versus Ta regressions presented in the MS endorsing our choice to do not apply a ustar filter on our measured EC data.

We have completed the revised MS for more precision concerning the ustar filter (see L244-L248, p 9).

Gu, L., Falge, E. M., Boden, T., Baldocchi, D. D., Black, T. A., Saleska, S. R., Suni, T., Verma, S. B., Vesala, T., Wofsy, S. C., and Xu, L.: Objective threshold determination for nighttime eddy flux filtering, *Agricultural and Forest Meteorology*, 128, 179–197, <https://doi.org/10.1016/j.agrformet.2004.11.006>, 2005.

Van Dam, B. R., Lopes, C. C., Polsenaere, P., Price, R. M., Rutgersson, A., and Fourqurean, J. W.: Water temperature control on CO₂ flux and evaporation over a subtropical seagrass meadow revealed by atmospheric eddy covariance, *Limnol Oceanogr*, 66, 510–527, <https://doi.org/10.1002/lno.11620>, 2021.

l. 602-607: I understand that the authors added this section in response to a comment by reviewer 2, but I think that it is not a relevant point to make for the system at hand. That is because the mix of C₃ and C₄ plants at the study site follow a clear zonation, which seems to show that the C₄ plant occurs at lower elevation (with more flooding of salt water), while the C₃ plants occur at slightly higher elevation. This is rather typical for coastal wetlands, and C₄ is associated with more salt tolerance (e.g. Bromham, L. and Bennett, T.H. (2014), Salt tolerance evolves more frequently in C₄ grass lineages. *J. Evol. Biol.*, 27: 653-659. <https://doi.org/10.1111/jeb.12320>). Thus, for a future marsh, the inundation regime is at least as important as atmospheric CO₂ levels. I would personally take out this section, because I don't think it is needed for the points the authors want to make, but I will leave it to them to expand on it.

Indeed, in response to a comment by Referee#2, we added in the revised MS the metabolic pathways of our plants in terms of C₃ and C₄ and discussed if this affects their carbon assimilation rates. However, we agree with Referee#1 that this is not a major objective of our study. Consequently, we have removed this section that also lightens the discussion section.