

We thank the Editor for carefully reviewing our submission and highlighting these pending details.

Please find our point-by-point responses provided below in blue.

Additionally, all new corrections are highlighted in green in the revised manuscript.

We appreciate the effort invested in this review, which has undoubtedly improved the quality of our work.

The authors have addressed all the previous minor comments; however, a few additional small edits are required before the manuscript can be accepted for publication:

The abbreviation CHL is used throughout the manuscript, but I could not find where it is first defined. Please ensure that it is defined upon its first appearance in the text.

Dear Editor we have define now the CHL in line 19 of the updated manuscript.

- CTD and DO are defined in Table 1, but they are used earlier in the text. Please define them at its first mention.

Dear Editor we have define now the CTD in line 129 and the DO in line 130 of the updated manuscript.

- In the caption of Figure 12, you use the abbreviation CHL, but it is not used in Figure 11. Please modify the captions for consistency.

Dear Editor, we have updated the caption of Figure 11 in lines 582-588.

- The updated colorbars refer to Figure 12 and not Figure 11—is that correct? Please confirm and clarify if needed.

The updated colorbars correspond to Figure 12, not Figure 11, as was incorrectly stated.