

We would like to thank the editor for the useful comments and suggestions. We have taken advantage of the advices for improving the manuscript. For an easier comprehension, the reviewers' comments are included in our rebuttal in black typeface. Our replies appear in blue typeface. Line numbers appeared in the rebuttal are from the revised version, with changes highlighted with red color in the revised document.

Editor's comments

Thank you for addressing all the comments. Upon reading your manuscript one last time, I suggest the following minor details before final acceptance:

1. In the Abstract, please include the definition of net ecosystem exchange (NEE).
2. Please check consistency of nomenclature, e.g. for evapotranspiration you use both ET and *ET* in italics. Also for EBR.

Responses:

Thank you for the good comments and suggestions, we have revised the manuscript following your advices.

For the first comment, we have revised the "Abstract" to include a clear definition of net ecosystem exchange (*NEE*). Specifically, we define *NEE* as the net CO₂ exchange between the ecosystem and the atmosphere, and clarify that negative *NEE* values indicate net ecosystem CO₂ uptake (i.e., a carbon sink). This definition has been added in the Abstract. The revised sentence can be found in line 48-50 of the revised manuscript and listed as follows: "*Most stations act as carbon sinks, with net ecosystem exchange (NEE; the net CO₂ exchange between the ecosystem and the atmosphere, where negative values indicate net ecosystem CO₂ uptake) ranging from -3.2 to -174.3 g C m⁻² a⁻¹, except the Medog station, which behaves as a carbon source likely linked to vegetation disturbance and human activity.*"

For the second comment, thank you for pointing out the inconsistency in nomenclature and formatting, and we have carefully checked the manuscript and revised the text to ensure consistent usage of abbreviations and symbol styles throughout. In the manuscript, evapotranspiration is treated as a physical variable analogous to air temperature and wind speed (i.e. in Table 2); therefore, we use italic type (*ET*) to denote the variable, following the standard convention for symbols/variables throughout the text, tables, and figure captions. We have also reviewed the usage of *EBR*, defined it clearly at first mention, and standardized its formatting consistently. Further, all the other variables and acronyms has also been checked carefully. See changes in line 168, 288-292, 306-308, 326, 333-338, 365-366, 461, 467, 478-483, 521, 575, 592-593, 619, Figure 6, Figure S1, Figure S2, Figure S3, Figure S4, Figure S5, Figure S6, Table S7 of the revised contents.

Finally, thanks a lot for the opportunity to submit a revised version of our manuscript. In the revised manuscript, we have also added Xuan Li to the author list. This change reflects her substantial contributions to the work: she has contributed to the stations maintainance, data collection and data processing, which meet the journal's authorship criteria. All co-authors have been informed of this change and have approved the revised author list and author order. We confirm that there are no disputes regarding authorship, and that the added author has reviewed and approved the final revised manuscript for submission. We have also updated the Author Contributions section accordingly. Please let us know if whether any additional documentation is required to support this authorship change.