

Dear Editor,

We have provided our responses to the reviewers' comments below. Our responses are marked in green. The line numbers in the response letter refer to the track-changes version of the manuscript.

On behalf of all coauthors,

Kind regards,

Iuliia Burdun

The authors have considered all of my previous comments and changed the manuscript accordingly. I am happy with the answers and changes. Only the Conclusions may need another iteration, as some parts are still more Discussion than Conclusion to me. Maybe the authors give it another read and editing.

Thank you for this suggestion. We agreed that parts of the Conclusions still repeated interpretation and future research directions that are more appropriate for the Discussion. We therefore substantially shortened and refocused the Conclusions on the principal findings (P20, L515-549):

- the contrast between widespread pixel-level greening and the non-significant map-scale LAI trend,
- the associations with precipitation and tree-cover context,
- the lack of an association with protection status, and
- the regional occurrence of non-linear LAI trajectories.

We removed the detailed discussion of implications for satellite-record length and the specific recommendations for future drained-lake and protected-area analyses.

Line 11: “pixels” comes a bit out of the blue, at least to me. If no sensor is mentioned, I would always use “grid cells” or “raster cells” which appear more general, while pixel to me would necessarily be related to an image/picture. But I am no native speaker. It may still, however, make sense to mention in the abstract that it was a sensor independent LAI product. (see also lines 82ff and actually the entire paper) > This comment is for the authors to freely decide!

We retained the term “pixel” because the analysis is performed on the 500 m raster elements of the LAI climate data record, but we agreed that the term was introduced before its raster-data context was clear. We therefore reordered the sentence in the Abstract so that the gap-filled, sensor-independent LAI climate data record and its 500 m resolution are introduced before referring to peatland-dominated pixels. The sensor-independent nature of the LAI record is now therefore explicit at its first mention in the Abstract (P1, L11-13).

Line 127: Only “functioning peatlands” or “wet peatlands” are a type of wetland – I would say.

Fully agree, thanks for this comment. We removed the general statement that peatlands are a type of wetland, as this qualification was not necessary for explaining our workflow. The sentence now states simply that OSM and ESA WorldCover map wetlands rather than peatlands specifically (P4, L104-105).

Line 560: climate DATA (word missing)

Thank you, we checked this wording and ensured that “climate data” is used in the revised manuscript.