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Peer Review

Review of: "Cyanobacterial Biomass Estimation in Subtropical and Temperate Reservoirs by Sentinel-2"

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The manuscript presents a very interesting and valuable approach for estimating cyanobacterial biomass in reservoirs using satellite imagery. Given the increasing need for efficient and large-scale monitoring tools for harmful cyanobacterial blooms, I believe this study addresses a highly relevant topic and provides an important contribution to the field.

Overall, I found the manuscript to be of high quality and well-written. The methodology is clearly described, the results are presented in a logical manner, and the discussion appropriately highlights the strengths and limitations of the proposed approach. However, I noticed several typographical and minor language errors throughout the text that should be carefully revised before publication.

Regarding the discussion, I understand the authors' intention to compare their findings with those reported in previous studies. Nevertheless, I do not believe that direct comparisons between the maximum and minimum cyanobacterial biomass values reported by different studies are entirely appropriate. Cyanobacterial bloom dynamics are influenced by numerous environmental factors, including nutrient availability, hydrological conditions, climatic variability, and seasonal patterns. Furthermore, bloom intensity can vary substantially from year to year, even within the same reservoir. For this reason, I believe that comparisons with field measurements collected within the framework of the present study would provide a more robust and meaningful evaluation of the model's performance.

Finally, I strongly agree with the authors that the additional data planned to be collected in the coming years will be of fundamental importance for further calibration and validation of the algorithm. The expansion of the dataset will likely contribute to improving the accuracy and robustness of biomass estimations, helping to achieve values that are closer to the actual conditions observed in the field. This

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will be particularly important for developing models that can be reliably applied across both temperate and subtropical environments.

In conclusion, I consider this to be a valuable and promising study, and I believe that addressing the points above would further strengthen the manuscript.

Declarations

Potential competing interests: No potential competing interests to declare.