

*Dear authors,*

*Thank you so much for your revised manuscript, which I think now adequately addresses the reviewer's remaining concerns. I only have a few minor requests to improve searchability and reading experience.*

*I would like to invite you to consider whether the manuscript title can be further improved to more clearly and accurately reflect the aim and scope of the study. You may also wish to consider removing the brackets, which are ambiguous in terms of what they refer to and potentially make the article less searchable. In my understanding, you assessed or evaluated the model performance, so something like "Assessing the performance of LPJmL 5 in simulating vegetation responses to normal and multi-year droughts" or similar would convey the article's gist for me.*

*I would also like to invite you to revisit the abstract for flow and clarity, making sure that the sentences 'shake hands' and logically follow each other. For example, the sentence at L10: "We find that LPJmL-5 reproduces GPP reasonably well in some regions, but there is a performance decline in parts of the Southern Hemisphere and in regions with croplands." is placed directly after the aim statement, setting the expectation that it will follow up with a key result related to drought response, but which it does not. For a first-time reader, it takes a moment or two to realise that the sentence refers to general GPP performance and is not related to drought response. I suggest replacing this sentence with a statement on your main finding that logically follows the aim statement, to avoid throwing the reader off. After that, you can unpack specific results, including discussing the perhaps counterintuitive finding that performance in vegetation response during droughts is not necessarily linked to the general GPP simulation performance.*

*Typo at L226-227 "This suggests that LPJmL-5 captures intra-annual response to changing meteorological conditions is similar between LPJmL-5 and satellite-derived MODIS GPP."*

*L231 " A similar trend" - do you mean 'pattern' or 'tendency'?*

*Please proofread throughout ahead of the final publication.*

*Best wishes,*

*Lan Wang-Erlandsson*

Dear Lan Wang-Erlandsson,

Thank you for your positive feedback and for your helpful suggestions to improve the clarity and readability of our manuscript.

Following your suggestion, we revised the manuscript title to improve clarity and searchability. The new title is: “Assessing the Performance of LPJmL 5 in Simulating Vegetation Responses to Normal and Multi-Year Droughts”.

We also revised the abstract to improve its flow and make the structure clearer. In particular, we now present the main findings on vegetation responses to drought directly after the aim statement. The sentence on general GPP performance has been moved and reframed to appear later in the abstract, where it provides broader context. In line with these changes, we also adjusted the structure of the conclusion to better match the revised abstract and ensure a consistent presentation of the main findings.

We corrected the typo at L226–227 and clarified the wording at L231. We also carefully proofread the manuscript to address minor language issues throughout.

Thank you again for your helpful feedback.

Kind regards,

On behalf of all authors, Denise Ruijsch