

“Does dynamically modeled lead area improve predictions of land surface water and carbon fluxes? - Insights into dynamic vegetation modules” Review – 3rd Round

Following the 2nd round of revisions, the authors have amended the submitted manuscript further, with the most substantial change being the implementation of carbon cycle simulation for static Noah-MP. The static runs now produce GPP and NEE output which significantly fleshes out the analysis, allowing comparison between ECLand and Noah-MP. This addition supports the inclusion of Noah-MP in the manuscript, which previously felt extraneous as mentioned in my 2nd review.

My major concerns regarding the manuscript have been addressed. There are still some minor technical comments – once addressed, I believe the manuscript is ready for publication.

I appreciate and commend the authors' efforts in addressing the concerns of myself and the other reviewers. I hope they agree with me that the manuscript in its current state is much improved through their work and the review process was worthwhile if long!

Comments

Line 165: “but resetting all variables that would be dynamically predicted within the same function”. I do not think this is clear about the steps taken. I assume this is meant to clarify that, in the static runs, it is only GPP and NEE that are modified and that the rest of the model remains in its static configuration?

Line 195: “The Noah-MP simulations were done with soil parametrization from look-up tables, Ball-Berry stomatal resistance approach with using matric potential”. Please correct the grammar in this sentence to make the implementation clear.

Table 2: This detail is good but should likely be in Supplementary Information. If it is included for Noah-MP, consistency would suggest the same information be supplied in the same table for ECLand.

Line 317: “lowered from –32 % - +69 % to –28 % - +42 %” is confusing to read with the hyphens and minus signs. I would suggest something like “lowered from between –32 % and +69 % to between –28 % and +42 %”.