Biogeosciences

Discussions

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Interactive comment on "Challenges and opportunities in modelling savanna ecosystems" *by* Rhys Whitley et al.

Anonymous Referee #1

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I enjoyed reading "Challenges and opportunities in modelling savanna ecosystems". I feel this paper provides a useful overview and is largely well-written. After the minor issues below are resolved I recommend this for publication. It will be a good addition to Biogeoscicenes.

L51: Remove "current-generation" as one might read this that previous generations were immune this challenge.

L60: Remove ",namely"

L67: Try "the effects"

L78: Something is off here as "and provide important in providing ecosystem services,..." makes no sense.

L84: Try "creates"

L88: The antecedent of "it" is unclear, use "fire" again here.

L96: I think you want "confounding" here?

L102: Try "the current generation of TBMs has..."

L126: I think you "proceed" given that you use present tense throughout here.

L184: Remove the first "region"

L189: Replace "For the" with "As an"

L190: Try "to emerge"

L207: Replace "...occupy the top ranks among terrestrial biomes, together contributing c. 30%" with "...contribute c. 30%"

L243: Try "are"

L246: "until"? Until what?

L268: Try "are"

L310: Try "partition" and "LAI."

L335: Remove comma after "advances". Also, I must state that the paper needs a good final proofreading. I have pointed out several (albeit minor) issues but have certainly not caught all the comma issues, and sundry other language faux pas.

L567: What is NATT? Maybe define in L560 above.

L572: Regarding your "as they cannot capture..." comment. I would dispute this especially as you invoke the space for time argument above. FLUXNET can quite do the same thing.

L575: Citations are off.

L591: I appreciate that the authors can't solve all these data limitations. But the "such data may be critical" comment is an interesting one, especially in the context of rather dear excavation studies. I'd like more detail. How many such excavation studies with what sampling design frame do you envision. That is, how do we move forward as a community to actually get the right data?

L603: In this section I would encourage the authors to cite some other developments here, e.g., ILAMB, that certainly hold promise to improve benchmarking. PALS is well and good but there is more afoot.

L692: Might NEON be a good idea? I must say I've noted a rather Australian-centric view of the literature. That is not bad, particularly in an OzFLux special issue, but again there are other things afoot and this is a review paper. And savannas do not exist solely in Australia.

L703: I am confused on the juxtaposition of long-term EC sites and fire return. A fire typically has adverse consequences for a FLUXNET installation. Are you advocating pre- and post-fire EC measurements?