

Review of first revision of Boese et al., Carbon-water flux coupling under progressive drought

Overall the authors have addressed the comments well. However, I do not think the use of ET is still sufficiently explained in the manuscript, given the framing around WUE in the abstract and introduction. The authors have added further justification and now state:

“We use a large global archive of flux tower observations [...] to scrutinize water-use efficiency formulations during periods of increasing water limitation. To test the different models, we 35 evaluated them against day-time ET observations. This has the advantage that the absolute flux magnitudes of ET and GPP are taken into account.”

I agree that there are numerical issues with using WUE when ET or GPP values are low. Nevertheless, I do not think this section is clear enough nor explains to the reader why only ET is used instead of WUE and GPP (albeit it is not directly measured). Ideally the authors should explicitly explain in this section why ET is used over WUE to avoid confusion. Also is it appropriate to equate ET with GPP, when the two can be decoupled under certain circumstances (e.g. <https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14037>)?

I will also note that the authors have only addressed 3 specific comments that I provided in my first review (out of 20 or so). I have provided some additional comments below but will not review the manuscript in detail again as I'm finding myself repeating previous comments that have not been addressed either in the manuscript or the reply.

P1 L11: Attenuation of what? Also suggest rewording “for all included FLUXNET sites” as “for n FLUXNET sites”

P2 L1: “due to photolimitation of photosynthesis”. Why is this the main mechanism given light should be more ample during droughts (reduced cloudiness)?

P3 L8: Correct spelling is “La Thuile”

P6 L11: “In the absence of a knowing”, please correct.

Finally, I would ask the authors to keep in mind that many scientists are female, and as such thanking anonymous reviewers for “his” comments should preferably be avoided.