

In general both referees are supportive of the paper and we are hopeful that on both counts they will find our resubmission acceptable. We here respond only in a general way, leaving specific (line by line) points to our text accompanying the actual resubmission itself.

First; Referee 1 (R1) raises some statistical issues which we do not necessarily agree with. As example, s/he seems to hold to the common misconception that $p < 0.05$ = “significant” and $p > 0.05$ = “non-significant” is some sort of fixed rule. But if you read Fisher’s original paper (or any good statistics textbook) then it is immediately clear that $p = 0.05$ is actually just a suggested guideline as regard to specific hypothesis testing and - especially as regards to our context where we were merely describing simple trait *vs.* precipitation patterns rather than specifically testing hypotheses – then “only significant at $p = 0.08$ ” for example is just fine: “Significance” of course really being a linguistic shortcut for “the probability of rejecting the null hypothesis given that it is true”. So especially as we never make any claims about the general nature of the precipitation *vs.* trait relationships (i.e. that those we observed necessarily represent anything other than a transect specific pattern) then we think what we say and the way we say it at the moment is fine. But we will amend the phrasing in places where there are some admitted inconsistencies in style in this respect.

R1 also seems to be concerned that the results are somehow ‘regional specific’ and in the revised version we will be happy to provide more discussion on this issue, especially in relation to the conclusions of Lehmann et al. (2013). We will be more than happy to do that (!).

As for shortening the Discussion, what one reader finds to be “irresponsible speculation” another may well find an “interesting insight” and we see no reason to reduce the length of the manuscript at this advanced stage of submission – especially as this seems to be just for the sake of it.

We also do not think it wise to remove figures from the main text as R1 seems to be suggesting just because some panels do not show significant relationships. This is because, especially in a multivariate trait study such as this; the very lack of a clear association with a climate or soil measure can be just as instructive as is a statistically strong one.

Based on R1’s comments regarding the complexity of the observed K effect (start of 2nd paragraph), we will, however, attempt a flow diagram showing the K-induced linkages.

As regards Referee II (R2), we address his/her issues point by point:

1. We are surprised that R2 actually took that impression from our analysis as we never said that higher photosynthetic rates had anything to do with the potassium effect: Indeed as we show with our statistical analysis the effect of K on photosynthesis per unit area is actually negative and we say in the introduction, there are three primarily identifiable means by which nutrients could have an effect of which only one involves photosynthetic C acquisition. In our revised manuscript discussion of likely mechanisms of K effects we will try and make this clearer.
2. In retrospect, we agree our thinking here could have been made more explicit. But in short, other things being equal, trees and/or will always win as they can shade out the grasses. Because of their structural requirements and need to operate at more negative

water potentials (plumbing constraints compared with height requirements), trees require more K. We will make this clearer.

3. Here we have essentially a reference to Mills and Co “theory of biological energy intensity”. We mention this in passing, but admittedly do not attempt to interpret our own data in that respect. This is because we did not want the paper to get bogged down into a critique of a theory that currently has only marginal acceptance in the literature. Nevertheless we are happy to insert a paragraph or two on whether it could be that trace elements really are the cause of the results also outlining what we think in terms of “the theory of biological energy intensity “ and our results.
4. We discuss fire effects on soil physical and chemical properties briefly, but (noting that K is hardly likely to vaporise away in any sort of low-intensity savanna fire) are also happy to expand our discussion in that respect as wold seem to be being requested here.
5. See (2)
6. See (3)
7. See (2)