Dear Dr. Singer,

Thank you for the further evaluation of our manuscript. We're glad to see the reviewers are nearly satisfied. We've addressed the remaining comment in our response below, with our responses in bold text. Thank you for the opportunity to provide this additional revision.

We appreciate your time and look forward to your further thoughts, James Stegen (on behalf of all co-authors)

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## Reviewer 2:

The revision addresses the main points that I raised in my review of the first submission of this paper and I appreciate the work the authors have put in to clarify and improve the manuscript. I have only one more concern:

I do not agree with line 374 and 376 where the authors state that the correlation between ERWC and total drainage area is too weak to confirm their hypothesis, i.e. ERWC fastens downstream. Because I actually see a descent relationship of ERWC with total drainage area (Figure 3b). This is underlined by a Pearson correlation coefficient of -0.39 and a p-value below 0.05 (Figure S5). In fact, the relationship seems to be curvilinear saturating and therefore the Pearson correlation coefficient, which specifically measures linear correlation and does not capture non-linear relationships such as those represented in Figure 3b, might even underestimate the strength of the relationship. Such non-linear relationships are also visible in Figure 4d and to some extent in Figure 4a. A log transformation of the predictors instead of a cube root transformation might "linearize" those relationships. I apologize for not pointing this out already in the first review. Having said that, I agree with the authors' general conclusion "that localized factors, not upstream conditions or drainage area, provide primary controls over ERWC", as well as I appreciate the added more detailed discussion starting in line 414, still, I think in general ERWC seems to accelerate towards downstream locations, despite strong local controls.

We're glad to see the reviewer agrees with our ultimate inference and, as such, we haven't altered that part of the manuscript. We edited the section the reviewer refers to, which is section 3.2. The text was edited to acknowledge that there appears to be a relationship, as the reviewer points out. Our view is that the multivariate analyses offer a more robust evaluation of the relative importance of the relationship between ERwc and drainage area. The text already conveyed that perspective, and we edited slightly to help further emphasize this idea. Please see the first paragraph of section 3.2 for the revised text. We also made minor edits to the last paragraph in section 1 and to the single paragraph of section 4. Those additional edits were made to reflect the changes to section 3.2 (i.e., to maintain consistency across the manuscript).