Hydrol. Earth Syst. Sci. Discuss.,
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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Neighbourhood and stand structure affect stemflow generation in a heterogeneous deciduous temperate forest" *by* J. C. Metzger et al.

Anonymous Referee #1

Received and published: 28 July 2019

General Comments

The article by Metzger et al. was a pleasure to read. I found the paper to be novel, well written, well referenced, methodologically (field and statistical analyses) sound, and of wide appeal to a global audience. The tables and figures were also clear and readily interpretable. Therefore, I recommend publication following minor revision. My comments mostly regard readability and some minor technical comments that the authors should address.

Specific Comments

1) The statistical linear mixed effects models was nicely done. However, to make the

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analysis readily accessible to the reader, I recommend a flow chart walking one through the analysis. Such a figure in the Methods section would really clarify the sequence of the analysis and serve the reader.

2) The last sentence of the abstract is a bit awkward to read and should be rephrased.

3) Section 4.1 might benefit from the incorporation of Levia et al 2010 (https://doi.org/10.1016/j.jhydrol.2009.10.028) as this paper specifically discusses tree size in relation to the development of stemflow at the intra-storm scale, even showing the delay in stemflow production by larger trees of the same species due to differences in bark water storage capacity.

4) Page 10, line 30: I believe that the authors are referring to the following reference: https://doi.org/10.1016/j.atmosenv.2011.03.022 and not the Levia et al (2011) reference currently cited. Please check.

5) Page 11, line 27: please delete “repeatedly”

6) Section 4.2.2: I really found this section interesting and I liked how some of the forest ecology aspects were brought in. In this light, I think that the authors would find the 1971 classic book “The Adaptive Geometry of Trees” by Henry Horn (Princeton University Press) of great interest. It is their choice as to whether they wish to add this text to their paper but I believe that they would find it both informative and useful.

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