Earth **Surface**
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Discussions

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Interactive comment on "The mass distribution of coarse particulate organic matter exported from an alpine headwater stream" *by* J. M. Turowski et al.

J. M. Turowski et al.

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Reply Review #4 Hervé Piégay

We thank the reviewer for his/her comments. Below we give detailed replies and outline the changes made to the manuscript.

L17-L22 p. 9, there are no references to support your statement here. They should be introduced in the introduction part to support hypothesis tested related to factors controlling scaling factor. - These are some very general statements to open the discussion. No changes.

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Part 5.1 as a whole is an interesting part but I have a problem to understand how it is related to the question. - The article is focused on the measured distribution of CPOM masses transported out of the catchment. In section 5.1 we put forward explanations as to how this distribution may arise.

L18-20 p.12 Why is it characteristic? Arguments? Hypothesis tested? It seems it is not the case anyway. - We introduce here our expectations. The paragraph was rewritten and amended.

L7 to L14 p.9 should be a discussion point because it is not new data but data that can be compared with new ones similarly to MacVicar and Piegay observations. - We have reanalyzed the data to obtain scaling exponents and their relations to catchment parameters. We believe these are well placed in the results, because they go quite a way beyond the original data analysis. No changes.

L14 p. 11. I don't understand the sentence. - We have split the sentence into two.

L3 p.13. I would say they are not correlated at all. - We changed to 'significant correlation'.

L5-7 p. 13 The forest cover in basin is fairly variable between catchments. We would have expected here a potential relationships which is not. One of the key issues is also the representativity of your samples. Can we expect an effect of seasons? type of floods? High event-based variability is not explored or discussed. - These are all good points. Forest cover alone is not sufficient, as one would expect the distance of the forest to the stream to play a role. We have extended our description and discussion, and provided some reasoning.

Fig.8 R^2 is only 0.17!! What is the p-value?. Should correct x-axis title : LENGTH. - Corrected.

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