

Interactive comment on “How crucial is it to account for the Antecedent Moisture Conditions in flood forecasting? Comparison of event-based and continuous approaches on 178 catchments” by L. Berthet et al.

L. Berthet

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Dear Referee # 2,

Thank you for your constructive comments. We would like to answer the questions you raised in your interactive comment.

2) page 6, line 18 - extraterrestrial radiation - is it
C789

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incoming shortwave radiation at the top of the atmosphere

About the potential evapotranspiration (PE) formula (page 6 – slide 1712): the input variables used to calculate the PE with the Oudin's formula are temperature and extra-atmosphere global radiation. This variable is used for many PE estimations as described by Morton (1983). We will revise our paper in order to use this standard denomination.

3) Figure 1- I understand for French hydrologists this is not an issue. However showing latitudes and longitudes on a map is pretty standard now a days. Show lat/lon on the map.

Latitudes and longitudes were added to figure 1 in the revised paper.

4) Is ignoring snow justifiable in your study? Your argument is that the model does not account for snow. I suggest, at least, you might need to remove events from your analysis if snow is present.

Snow was not taken into account, not because the model does not include a snow module. The very reason is actually that on the French catchments we selected, snow has no significant impact on the flow regimes. The number of flood events that might be influenced by snow is too limited to require a snowmelt module and to have a significant impact on results. We revised the text in order to make this point clearer to the reader.

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1) There are some typos, for e.g., page 3 line 28 (traditionally), page 6 line 6 (choose) etc. do a quick spelling check.

5) The paper is well written. You can still improve the text little bit, particularly the introduction.

Finally, a spelling check is to be done again for the revised paper and we made minor changes in the introduction to make it clearer.

Yours sincerely,

Lionel Berthet, Vazken Andréassian, Charles Perrin et Pierre Javelle

References

Morton F. I. (1983). Operational estimates of areal evapotranspiration and their significance to the science and practice of hydrology. *Journal of Hydrology*, **66**: 1-76

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 1707, 2009.

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