

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.

Anonymous Referee #2

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Flood forecasting is perhaps the most important challenge in Hydrological Sciences. Particularly, short term flood forecasting that associated with heavy rainfall events have societal benefits. With the help of satellite images together with physics based models, realistic precipitation forecast at short term (1-4 days) is possible with increasing accuracy. However, the predicting the catchment's response to any precipitation event is more complicated. Because the status of the surface water reservoirs at the land surface (mainly in the form of soil moisture and snow) prior to the precipitation event significantly affects to the catchment's response to the precipitation event. The

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manuscript addresses the very question; the impact of antecedent soil moisture conditions on flood forecasting. Authors have compared different initialization methodologies for their rainfall-runoff model, and applied on 178 French catchments. The results have been presented convincingly. This is a good manuscript that interests field hydrologists. I have some minor comments: 1) There are some typos, for e.g., page 3 line 28 (traditionally), page 6 line 6 (choose) etc. do a quick spelling check. 2) page 6, line 18 - extraterrestrial radiation - is it incoming shortwave radiation at the top of the atmosphere 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. 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. 5) The paper is well written. You can still improve the text little bit, particularly the introduction.

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