

Hydrol. Earth Syst. Sci. Discuss., author comment AC1
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Reply on RC1

Nils Hinrich Kaplan et al.

Author comment on "Event controls on intermittent streamflow in a temperate climate" by
Nils Hinrich Kaplan et al., Hydrol. Earth Syst. Sci. Discuss.,
<https://doi.org/10.5194/hess-2021-357-AC1>, 2021

R 1

Interactive comment on "Event controls on intermittent streamflow in a temperate
climate" by Nils H. Kaplan et al.
Anonymous Referee #1
Received and published: 24 August 2021

General comments:

"This study investigates the likely controls of flow intermittency in a series of temperate-climate sub-catchments with distinct geologies which are part of the larger Attert catchment. The authors use available soil temperature and moisture data (at two depths), detailed precipitation data, and streamflow (as flow/no-flow) in an event-based analysis. They implement random forest models to explore what are the most important predictors of streamflow intermittency at the event scale. From this analysis, the higher-ranked parameters are used to hypothesize the most likely flow mechanisms occurring at each geology. Overall, the most important predictor for most sites across all geologies was soil moisture. However, slight differences in the top-ranked predictors among geologies suggest that distinct controls of streamflow intermittency and flow mechanisms occur across the different geologies.

The study design and results are interesting and the topic is of relevance. However, I would highly recommend that the authors improve their manuscript's readability and expand their discussion section.

Please see detailed comments and suggestions in the attachment"

Thank you for your helpful and detailed review of our manuscript. We are glad to see your general agreement with the study design and results and are thankful for your valuable suggestions for improvement of the discussion section (which is also in

accordance with the suggestion of the second reviewer). We will adjust the manuscript accordingly. Sections which were highlighted as unclear or raised questions due to unclear or unstructured sentences will be changed to improve their readability.

Responses to the suggestions from the pdf follow below in the attachment. In cases we simply agree with your suggested changes to the manuscript we answered those changes with "yes".

Please also note the supplement to this comment:

<https://hess.copernicus.org/preprints/hess-2021-357/hess-2021-357-AC1-supplement.pdf>