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Reply on RC1 and RC2

Karina Y. Gutierrez-Jurado et al.

Author comment on "Taking theory to the field: streamflow generation mechanisms in an intermittent Mediterranean catchment" by Karina Y. Gutierrez-Jurado et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2020-659-AC2>, 2021

We thank the two anonymous referees for their considerate and comprehensive comments. We are glad to see that both reviewers are broadly supportive of this manuscript and had no fundamental issues with the methodology or results.

Referee 1 has provided extensive edits to improve the readability of the manuscript. We appreciate the they have taken to not just suggest revision of the text, but to be specific in how to make this improvement. Given this level of detail, it should be no problem to meet the referee's request. Moreover, we are happy to reformulate the objective as a research question, to add the requested background on parameter selection and model setup, and to include more lengthy discussion of how these results are useful in other catchments with different geology.

Finally, both referees noted that the use of a numerical model in unsaturated, very transient conditions along a stream network is not trivial; however, we seek to understand and separate the contributions of various physical processes in generating and sustaining this periodic flow; as explained in the introduction, separating these physical processes requires a process-based, integrated model. We will add more background detailing the past use of numerical models for understanding streamflow generation, so that the logical progression of complexity that led to this modelling effort is clearer.