Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
https://doi.org/10.5194/hess-2021-352-RC2, 2021

Comment on hess-2021-352

Anonymous Referee #2

Referee comment on "Rainfall–runoff relationships at event scale in western Mediterranean ephemeral streams" by Roberto Serrano-Notivoli et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2021-352-RC2, 2021

The authors propose a study that analyze the transformation rainfall-runoff in semi-arid catchments of Southern Spain, where the ephemeral regime of rivers and the climatic stress may lead to hazardous floods or, on the contrary, to dramatic droughts. The study is quite novel and gives significant insight about precipitation depths and return intervals, which may determine water and sediment flows in the channels. The statistical analysis is fine and suitable for the study aims. The results are presented with clearness and synthesis. Although the study is of good quality, I have three suggestions that may improve the MS:

- several methodological sentences are reported in the results sections, and this may confuse the reader. I ask the authors to revise both parts.

- although literature about the flow regime in ephemeral channels is not abundant, some other cross-comparisons with similar studies may further valorize the study results

- some expectations about the future trends of rainfall-runoff transformation under the forecasted climate change scenarios (higher mean temperature and lower precipitation amounts) in the studied area may be reported on the authors' knowledge and experience.

Some other minor suggestions are reported in the commented MS in attachment.

Please also note the supplement to this comment:
https://hess.copernicus.org/preprints/hess-2021-352/hess-2021-352-RC2-supplement.pdf