Interactive comment on "Runoff reaction from extreme rainfall events on natural hillslopes: A data set from 132 large scale sprinkling experiments in south-west Germany" *by* Fabian Ries et al.

Anonymous Referee #1

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General comments:

The authors present a very valuable dataset on sprinkler experiments in the Alps. The comprehensive dataset (freely available at FreiDok plus data repository, https://doi.org/10.6094/UNIFR/149650) is provided in one single zip file, file format is txt with all necessary Metadata and easily importable to R, MATLAB, MS Excel (that is what I have tested ïĄŁ). The provided data are of high value for experimentalists, modelers (rainfall-runoff) but also soil- and ecohydrologists. Provided pictures of soils and soil cover (i.e. vegetation) are very valuable and can help the user of the datasets

to at least estimate partly missing information. Nevertheless, my main suggestion is to try hard to add further data on topography (slope angle, slope aspect, elevation) and plant traits (LAI, vegetation height, biomass dry weight, . . .). Following few comments, which might further improve this study and should be addressed in the revised version of the manuscript:

* I like the test of rainfall distribution and the fact that the study addresses real rainfall provided at several points in field plots by using precipitation gauges. These information are very valuable to trust the data because of knowledge on drop eenergy. I would suggest to add a table in the manuscript following "site-data.txt" so that people quickly can check if the data is suitable for the research questions of the respective reader, especially from the biological characteristics point of view.

* Pastures are grassland, so at least provide estimation of vegetation height at the timing of rainfall experiments (because of interception and influence on rainfall distribution on the ground). It would be helpful to have some key species mentioned or perfect if you have a vegetation survey of the plots (not mandatory, but any information on that might be very helpful for the user of your data).

* Please discuss in a broader context which soil parameters (i.e. soil organic matter SOM, soil stone content) or plant parameters might be important and/or influence infiltration behavior as well as water storage capacity. Also address the kinetic energy of your water compared to natural rainfall and how this might impact your results, infiltration, and possible hydrophobic effects - this helps the reader to better undertsand the complex issue of sprinkler experiments.

To cover abovementioned issues I recommend to have a look into papers from Abdallah Alaoui (CH) or Christian Newesely (AUT) or Georg Leitinger (AUT) and many others. Not necessarily cite them but to gain a broader view on the addressed issue.

Specific comment:

* Figure 1: what do the hatched areas mean? (I assume to highlight which soil types have been investigated / covered, but then: why is there a red dot in a hatched area?). Please clarify!

Finally my apologies for providing this review at the last day of the deadline.

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Interactive comment on Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2019-94, 2019.