Interactive comment on "Rainfall simulation experiments in the Southwestern USA using the Walnut Gulch Rainfall Simulator" *by* Viktor Polyakov et al.

Anonymous Referee #1

Dear editor and authors, in my opinion, the paper is well-written and methods well conducted to be published in this journal. However, I would want to include some suggestions to improve the quality of the paper. Abstract: I think that with a rainfall simulator you cannot quantify infiltration. You can estimate it. Please, revise it. Introduction: There is a lack of references very important in my opinion. In the first paragraph, the authors mention some general ideas, but without references. Please, add some. I suggested 4 references, but if the authors find other more new and relevant, they can obviate them and include others. After that, the authors talk about rainfall simulations and the advantage of the replicability of the experiments. I suggest including some references of paper related to this topic (comparisons with the same rainfall simulator in

different places). There is one paragraph that it is a pure method. After that, the same information is repeated in the method point. Please, talk about the importance to make a data set, other similar cases and why your paper is relevant in comparison to other papers. Methods: Really fantastic. Results and discussion: I miss some discussion about the importance of the generation big database of rainfall simulations. Problems, advantages, new ways. . . please, this is very important.

Congratulations for this great work!

Please also note the supplement to this comment: https://www.earth-syst-sci-data-discuss.net/essd-2017-81/essd-2017-81-RC1-supplement.pdf