

## ***Interactive comment on “Physically-based model for gully simulation: application to the Brazilian Semi-arid Region” by Pedro Henrique Lima Alencar et al.***

### **Anonymous Referee #2**

Received and published: 23 February 2020

Physically-based model for gully simulation: application to the Brazilian Semi-arid Region

Dear Editor I have went through the above article. I think there are the following comments before making an acceptance decision. At present there are moderate to major comments. My decision is Major correction. Best

Manuscript need to check by a native for removing some language errors.

Abstract I cant see any quantitative results in abstract. This part need to write again. 1 Introduction Lines 16-17: this sentence needs to reference. There are too many citation in this part. Please decrease them and try to just use from newest citations. Please

C1

clearly specify innovative of the current study 2.1 Study area Please add geographical coordinate of the study area. Lines 83-84: please add a reference. The same lines 85-86. Figure 1. I cant see coordinate system on maps. 2.3 Soil data How many sample do you use in this study? Figure 4. Correlations are so low. Why? What is its reason? 2.5.1 The Foster and Lane Model (FLM) and 2.5.2 The Sidorchuk Model (SM): These are routine and readers could find them in literatures. You have to present your combined model very carefully. This is so important. Please edit this part.

2.6 Model fitness evaluators Please add equations of the used evaluation methods. Results This part is written very carefully. Discussion I think it is important to add some discussions and comparisons by previous works. 5 Conclusions This part is so general. Please add some suggestion on this new model and etc. . .

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-460>, 2019.