Natural Hazards
and Earth System
Sciences

Discussions

Interactive comment on "Development and validation of the Terrain Stability model for assessing landslide risk during heavy rain infiltration" *by* Alfonso Gutiérrez-Martín et al.

Anonymous Referee #1

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This paper deals with the ability to predict a landslide failure curve and the slope factor of safety with a terrain stability (TS) analysis. Overall it is written in a good English, but I believe it is not as innovative as claimed for considering rainfall infiltration in the calculation of the factor of safety. I suggest focus on the ability to well-predict the landslide failure curve and surface area. The literature of relevance has not been adequately cited. I recommend reviewing more methods for slope stability analysis. Chapter 2 is very confusing and the paragraphs are disjointed. As is, it is not easily readable. In chapter 3, the test should be described more accurately and the center of the failure curves should be shown in, at least, the first figure (Figure 2). In chapter 4 there is the need to mention the date of the slide. Both chapter 3 and 4 miss the

description of the calculation of the pore pressure parameter. Move lines 421-444 to chapter 2 because they describe the characteristics of the TS model compared to the STB 2010. Please, check references consistency with the journal guidelines. For other comments and technical corrections see the attached file.

Please also note the supplement to this comment:
https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-192/nhess-2018-192-RC1-supplement.pdf

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2018-192, 2018.