

Interactive comment on “Landslides distribution at tributaries with different evolution stages in Jiangjia Gully, southwestern China” by Xia Fei Tian et al.

Anonymous Referee #1

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Review of MS #nhess-2019-90 submitted by Tian and colleagues. In general, the contents of this manuscript are suitable for publication in this journal. Nevertheless, significant revisions are still needed. First of all, I suggest to clearly state the novelty of this study in abstract and introduction. In this manuscript, the authors try to demonstrate the relation between landslide density and EI (a geomorphic index). However, as mentioned, landslides may be influenced by many factors, such as geomorphology, lithology, and rainfall. Thus, I expect you to provide information about rainfall and lithology in JJG. If the other two parameters are uniform or similar, then you can directly make comparison between the landslides and the geomorphic indices. Secondly, although the authors provide a large amount of data, language needs to be greatly improved

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so that the main findings of this investigations can be clearly illustrated. In particular, some sentences are too long to understand.

Text: 1. Line 32, add some most relevant reference for the EI index. 2. Line 38, Hamza et al., 2018, delete “V” and check the citation form throughout the text for consistence. 3. Line 57, you state ‘Moreover, the debris flow behaviors in JJG are representative and similar phenomena are subsistent in other parts of the world’, how do you know that? 4. Line 94, provide information about data source of 10 m DEM applied in this study. 5. Lines 95–96, how to divide the tributaries based on field investigation? 6. Line 135, the area of landslide is 0.38 m²? Is this really a landslide? and, how can you identify this in such a resolution? 7. Line 136, what is the meaning of accuracy here? 89.21% of the identified landslides have been observed in the field? 8. Line 147, why do you define the curves like this, and what is the meaning of this equation. 9. Line 161, scale parameter of 0.58 and shape parameter of 6.08 are inconspicuous in Figure 6. More descriptions in detail are needed. 10. Line 182, you claim that ‘For a given elevation of point, larger area above it means strong slope process in the upstream’. Do you have some references or evidence to support it?

Figures: 1. I suggest to delete Figure 8, as the same spatial distribution of the landslides can be better shown in Figure 9. 2. Figures in similar pattern can be merged, such as Figures 10 and 11, Figures 14 and 15, Figures 16 and 17. 3. Figure 1, the extracted river network is not precise, especially in the downstream; what is the meaning of the dividing line of three segments, and how do you define the location of these two lines, e.g., elevation or distance from the river mouth? 4. Figure 2, where did you take the picture? Mark the location in the index map, e.g., Figure 1. 5. Add coordinates in Figures 3, 5, 8 and 9. 6. Figure 7, provide more details about definition and meaning of ‘inflection points’ in hypsometric curves. You mentioned 5 stages in the text. but, only 4 in the figure.

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