

Interactive comment on “Assessment of relative importance of debris flow disaster risk affecting factors based on meta-analysis – cases study of northwest and southwest China” by Yuzheng Wang et al.

Yuzheng Wang et al.

minzhang@jlu.edu.cn

Received and published: 16 February 2020

I am very grateful to your comments for the manuscript. According with your advice, we amended the relevant part in manuscript. Some of your questions were answered below. Major comments: 1. Authors should introduce the description of the occurrence mechanism of the analyzed debris flows: are they run off generated debris flows? Are they channelized debris flows? References about them should be also inserted. 2. Channelized debris flows have a very high impact on the environment because the grow volumetrically along routing with values also up to 100000 m³. The examined

C1

factors should depend on such analysis. 3. About the factors, authors should better distinguish between longitudinal slope and main ditch slope. What do the authors mean for ditch? 4. About factors the presence of sediment source area can play a significant role and maybe the hourly precipitation is better than the daily precipitations. 5. Some sentences are unclear, with no apparent meaning and out of the context. 6. The discussion of results seems poor. The writer suggests the authors to re-write the paper, better explaining the phenomenon, linking the factors to the physics of debris flow occurrence and widening the discussion of results. Answer to referee comment: 1. We are extremely grateful to you for pointing out this problem. I have read the article you mentioned in detail, and I will add relevant content and relevant references. 2. As a result of your suggestion, I have found the shortcomings in my current work. I will improve my scientific research level in accordance with your suggestion in the future work and make more achievements. 3. Thanks for your question, I have checked the corresponding content in the article again and found my own major mistake. The vertical slope should be the ratio of longitudinal slope, that is, the ratio of the difference between the elevation of the gully source and the gully mouth of the debris flow to the length of the main gully. Ditch means main channel of debris flow. 4. The presence of sediment source area you mentioned is really meaningful, but the data collected is not enough to support this analysis. In addition, due to the sudden outbreak of debris flow, it is difficult to monitor the specific time of debris flow eruption in each region, so daily rainfall is selected. 5. We regret there were problems with the English. The paper has been carefully revised by a professional language editing service to improve the grammar and readability. 6. We will analyze the data further to get more valuable conclusions. Thank you for the kind advice.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2019-339>, 2020.

C2