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Natural Hazards and Earth System Sciences
Discussions

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.

Anonymous Referee #2

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Authors should introduce the description of the occurrence mechanism of the analyzed debris flows: are they runoff-generated debris flows? Are they channelized debris flows? References about them should be also inserted (Coe et al., 2008; Gregoretti and Dalla Fontana, 2008; Hurlimann et al., 2014; Ma et al., 2018). Channelized debris flows have a very high impact on the environment because the grow volumetrically along routing (Reid e tal., 2016) with values also up to 100000 m3 (Gregoretti et al., 2018). The examined factors should depend on such analysis.

About the factors, authors should better distinguish between longitudinal slope and

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main ditch slope. The former is the gully bed longitudinal slope, while the latter is the main slope of what? What do the authors mean for ditch? Moreover, looking at what it is written at lines 251 and 317, the two slopes seem to be the same thing. About factors the presence of sediment source area can play a significant role (see the discussion) and maybe the hourly precipitation is better than the daily precipitations.

Some sentences are unclear, with no apparent meaning and out of the context (see below some examples)

Lines 88-89: “The process of rainfall and confluence carries with it a large amount of soil and rock, which then produce debris flow” unclear sentence.

Lines 172-173: “For continuous variables, weighted mean difference and SMD are two important measures of SMD in meta-analysis.” Unclear sentence

Lines 393-395 “The feature of meta-analysis is that researchers synthetically analyze the results obtained from previous studies to reflect regular patterns in a more objective form. It can provide a basis for the selection of risk factors of debris flow and has certain reliability.” Unclear periods

The discussion of results seems poor.

The writer suggests the authors to re-write the paper, better explaining the phenomen, linking the factors to the physics of debris flow occurrence and widening the discussion of results.

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