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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "A multivariate statistical method for susceptibility analysis of the debris flow in Southwest China" *by* Feng Ji and Zili Dai

Anonymous Referee #3

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This paper introduces an empirical model for the susceptibility prediction of debris flows in Southwest China. Nine indexes are chosen to construct a factor index system and to evaluate the susceptibility of debris flow. With the modelïijŇ70 typical debris flow gullies distributed along the Brahmaputra River, Nujiang River, Yalong River, Dadu River, and Ming River as statistical samples are assessed respectively. 10 debris flow gullies on the upstream of the Dadu River are applied to verify the reliability of the proposed modelïijŇwhich suggest a high accuracy of 90% for the statistical model. The paper is general well organized and based on plenty of investigated information. However, there are still many unclear and inexact expressions. The detail comments are as below: 1. In abstractïijŇline 14-15ïijŇ The statement"At present, the susceptibility analysis models of the debris flow in Southwest China is mainly based on qualitative

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methods. Little quantitative prediction model is found in the literatures. ” is not true. There have been many research work in the area after “the shock”. The author should refer and comment the previous study objectively. 2. In abstractïijŇline 21ïijŇwhat is “the quantification theory type I”, it never explained in the content. 3. Line 18-19 and those then after, “longitudinal grade” and “valley slope orientation” are not exact the meaning, maybe “longitudinal gradient” and “valley orientation” 4. Line 77, “Study area characteristics of debris flow”, not clearly expressed, maybe “Characteristics of the debris flow in the study area” 5. Line 122, in 3.3, it just mentioned “Considerable resources are invested in drilling and geophysical prospecting”, but there is no any more information and results provided. 6. Line 178-180 and 190-193, Same meaning reappears in very close distance, the sentence is also tedious. 7. Line 209, “trend” is not a professional expression, should be “strike”.

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