Nat. Hazards Earth Syst. Sci. Discuss.,
doi:10.5194/nhess-2016-149-AC2, 2016

Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "A preliminary study on the comprehensive threshold for debris-flow early warning" *by* X. Xue and J. Huang

X. Xue and J. Huang

huangjian2010@gmail.com

Received and published: 16 June 2016

A rainfall and pore pressure thresholds for debris-flow early warning: The Wenjiagou gully case study

X. Q. Xue & J. Huang huangjian2010@gmail.com Submitted on 29 Apr 2016, Received and Published: 10 May 2016

The authors would like to thank the two reviewers for their thorough work on the manuscript providing us with insightful and constructive comments and suggestions, which helped improve this manuscript. We have tried our best to carefully consider and respond to all the comments raised. The title of this manuscript has been changed to "A rainfall and pore pressure thresholds for debris-flow early warning: The Wenjiagou gully case study".

Printer-friendly version

Discussion paper

Response to Anonymous Referee #2 Thank the reviewer for the kindest article summary.

General Assessment: 1. Generally the idea of threshold is interesting, but research lacks sufficient amount of data to determine the threshold. Authors present one case for determining threshold and one case for the test. What does comprehensive threshold stand for, when one is talking about precipitation?

The authors agree with the reviewer's comments. In Southwest of China, most of the mountainous areas are lack of valid data for a deep research. However, the warning threshold is an urgent demand in those regions for the frequent debris flow occurrence. So, during the preliminary stage, warning thresholds need to be provided at first, and then the study work still can be continued in this area. The threshold presented in this manuscript are combined with rainfall and pore pressure. Even though there are a lot of limitations in practical usage, but it's still a useful approach in a warning system for safeguarding of population in debris-flow prone areas

2. Authors should get more data (more debris flow cases with measurements) to be able to perform analysis for threshold determination.

The authors completely agree with the reviewer's comments. During the preliminary stage, the more rainfall records with debris flow occurrence or non-occurrence are better for this study. Therefore, several ways of collecting data had been used during the work. Finally, there are 20 records with accurate dates of occurrence or non-occurrence and rainfall records collected in the data sets. The aim of this paper is to present a simple and suitable method for rainfall threshold in these mountainous area at the initial stage, then there will be a foundation to be improved in the future.

3. The idea in the manuscript is a good background for further research. Authors should consider developing methods which is not that China related and could be used on other testbeds.

Thanks. The authors completely agree with the reviewer's comments. During the preliminary stage, warning thresholds need to be provided at first in the study area, and then the study work still can be continued in the other regions.

Please also note the supplement to this comment:
http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2016-149/nhess-2016-149-AC2-supplement.pdf

---

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-149, 2016.

Printer-friendly version

Discussion paper