[EE] Evening Poster | H (Human Geosciences) | H-DS Disaster geosciences

[H-DS07]Landslides and related phenomena

convener:Masahiro Chigira(Disaster Prevention Research Institute, Kyoto University), Gonghui Wang(Disaster Prevention Research Institute, Kyoto University), Fumitoshi Imaizumi(静岡大学農学部)
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Mass movements, such as landslides, rockfalls, and debris flows, have been occurring extensively in a large number of countries, causing heavy damage. In order to understand them and mitigate induced disasters, we would like to discuss on various issues. We invite contributions that report and discuss on mass movements and related phenomena, focussing on improved understanding of their characteristics; new insights into landslide mechanisms; the development of new approaches to monitoring; novel approaches to behaviour forecasting and prediction; studies of successful landslide management; and the development of methods for hazard and risk evaluation.

[HDS07-P03]Identification of the characteristics of the slopeland failure types

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Inducing of landslides and debris flow are closely related to the geomorphological conditions as well as rainfall events. In order to understand the characteristics of these slope hazards, this study determine the difference between landslides and debris flow. The identification of factors includes area and volume of landslide, length, width, depth, elevation and slope. Important factors were classified for establishing the correlation between the slopeland failure using cluster analysis.Taiwan was chosen as a study area, using major disaster cases from 2006 to 2014. These were used to analyze the topographic features of landslides and debris flow.The results show that area is the most important factor, in terms of location and distribution for both slope hazards. Additionally, it is found that slope failure occurs on the hillside and towards the toe. Debris flow almost occurred on the hillside and the normalized distance of stream (b/d) is almost close to zero, the normalized distance of ridge (a/d) is distributed in the 0 to 0.8. However, the distribution of landslides is more dispersed, but the normalized distance of ridge (a/d) is almost larger than 0.5, the normalized distance of stream (b/d) is smaller than 0.5. Finally, scale is defined by the landslide length divided by slope length. In this study it is found that an increase in the disaster area leads to scale increase. Moreover, the same is not true with slope, landslides were mainly located in the range 30 to 50 degrees, while debris flow lied between 10 to 40 degrees. The study provides a reference for future researches analysis.