

The destruction of mountain's roads caused by typhoon-induced landslides

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Typhoons which accompanied heavy rainfall easily result in the closure of the mountain's roads. Therefore, to develop a good method for recognizing potential landslide areas is urgent for a regional plan purpose.

In this study, a landslide prediction model was built by an event-based landslide susceptibility analysis using a set of training data from the landslides triggered by Typhoon Haitang in July 2005. A programmed computer code for dividing the slope unit where the susceptibility results displayed was developed. The susceptibility of each slope unit was mapped in the whole study area as well as along the road routes. Locations of high potential for landslide occurrence were thus highlighted along the road routes and were proposed for road closure during typhoon events.

At last, the performance of model and the proposed locations for road closure were validated by historical road closures caused by Typhoon Morakot in August 2009. The results showed that the proposed model could be used in predicting road closure due to typhoon-induced landslides.