

Developing nationwide landslide hazard maps of Taiwan

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Abstract

The development of landslide hazard study is slow. Most of the previous studies were restricted in susceptibility analysis and were generally limited to a small area and research purpose. Based on actual demand, Taiwan started a research program, the Central Geological Survey, in 2003, for the execution of nationwide landslide hazard maps. By the end of year 2013, the whole of Taiwan has been mapped with good results. This study discusses the success of landslide hazard analysis and mapping over a wide region and shares the experience with society. For hazard analysis and mapping one needs to take into account heterogeneous features present in a wide area and the consistency of results from different regions. These challenges require the following two methods to be resolved: (1) division of homogeneous zones so that a reliable hazard model can be established for a zone; (2) a consistent hazard level must be chosen so that the results for different regions will be consistent. Also, it is important to select an event-based landslide susceptibility analysis method that will ensure the consistency of results from different analyses.