

HGM021-P03

Room:Convention Hall

Time:May 24 16:15-18:45

Assessment of landslide susceptibility using landslide map

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The slope where the landslide occurred move easier than the surrounding slope, because the slip surface was formed under the slope. The slope where the landslide occurred is called the landslide topography. We think that by analyzing the landslide topography we can assess the landslide hazard. National Research Institute for Earth Science and Disaster Prevention (NIED) published the landslide map in Kyushu Island, Sikoku Island and the main island in Japan. The objective of this research is to clarify geological and geomorphological features of landslide topography in some areas by analyzing the landslide map of NIED for the assessment of landslide susceptibility.

Two methods exist in the assessment of landslide susceptibility that used by landslide map. One is the method of individual landslide assessment for re-activity, the other is the method of the wide area landslide assessment used by the features and distributions of landslide. In this research, we analyzed landforms in Ojiya area, Niigata Prefecture, Japan for individual landslide assessment and in Sikoku island, Japan for the wide area landslide assessment. The reason to select these area is as follows. In Ojiya area, many landslides occurred in 2004 Chuetsu earthquake, and the landslides are already mapped in detail. Sikoku Island seem to be comparatively easy to show geographical and geological landside features because the geologic structures is simple, and landslide distribution is different in each geological units.

We showed the concrete example of each methods of landslide assessment in this research. In the future, we want to assess the landslide susceptibility that accuracy is more high-resolution and better by adding some parameter respectively.

Keywords: Landslide, Landslide map