

Landslide extraction method using digital elevation model

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Landslide distributions are important information to make landslide mitigation plan and development plan. Landslides are extracted by expert's interpretation of landslide morphology on the aerial photo or topographical map. But extraction result depends on the skills of expert. Recently high resolution digital elevation model (DEM) data are obtained by airborne laser scanner measurement, and these digital data enabled detailed geomorphic analysis. Geomorphic analysis using DEM has objectivity, since geographical feature can be treated quantitatively. It also has the advantage which can analyze the broad range automatically if the algorithm is once made. Generally, landslide has a specific topography; scarp, depression etc.. Therefore, we were being developed landslide extraction method using DEM.

We developed extraction method using clustering of morphological features and pattern classification of topographical features. On this study, knick point which is highly relevant with landslide topography was used to decide landslide boundary. As a result of study, landslide area can extract in the case landslide topography is clear, but extract by mistake was seen in some sites. The method to express knick lines by DEM was also developed.