# Abstract

The landslide is one of serious natural disasters in many countries around the world especially on highland area during the rainy season. Therefore, the early warning system which can predict the occurrences of landslide on hazard areas is seriously required for preventing damage to life and assets.  Three-dimensional models are also needed to simulate landslide areas for prediction of the overall effects.   This research describes a new three-dimensional landslide model by applying methodology of the image processing, global positioning system, and risk factor interaction on programming. A landslide model is built by contouring the surveyed sites. In addition, the 3D MAX script is deployed based on existing risk factors to simulate the flow of land particles during the occurrence of a landslide. Based on observation of the landslide site, the proposed method shows acceptable accuracy on both the probability of landslide incident and its effects.


Index Terms—three-dimensional; landslide; particle flow; simulation