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Landslide Susceptibility Mapping in SouthEast Asia

S. Lee

Korea Institute of Geology, Mining & Materials (KIGAM) (leesaro@kigam.re.kr / Fax: 82-2-861-9714 / Phone: 82-42-868-3057

The aim of this study is to evaluate the hazard of landslides in SouthEast Asia, using a Geographic Information System (GIS) and remote sensing. The study areas were Baguio of Philipines, Lai Chau of Vietnam, Damrei Romel of Cambodia, Pechabun of Thai, Penang of Malaysia and Clicap of Indonesia. Landslide locations were identified in the study area from interpretation of aerial photographs and from field surveys. Topographical and geological data and satellite images were collected, processed, and constructed into a spatial database using GIS and image processing. The factors chosen that influence landslide occurrence were: topographic slope, topographic aspect, topographic curvature and distance from drainage, all from the topographic database; lithology and distance from fault, taken from the geologic database; land use from TM satellite images; and the vegetation index value from satellite images. Landslide hazardous area were analysed and mapped using the landslide-occurrence factors by frequency ratio model. The results of the analysis were verified quantitatively using the area ratio method and compared with each study area.