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Potential Hazard Map for Disaster Prevention Using GIS-Based Linear Combination Approach and Analytic Hierarchy Method

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Author(s)

Szu-Hsien Peng, Meng-Ju Shieh, Shih-Yi Fan

ABSTRACT

In recent years, global warming has gradually become obvious, thus created the climate change. Typhoon Morakot attacked Taiwan and brought heavy rainfall in August, 2009. In mountainous areas including Central and South Taiwan, the flood and debris flow disasters were induced by the typhoon. In this study, Changhua City is selected as the research region and the Delphi method is employed to interview experts and establish comprehensive evaluation criteria for assessing the evacuation plan on disaster areas. The concept is to combine the landslide potential analysis by geographic information systems with the flood or debris flow maps into the potential hazard map. Meanwhile, analytic hierarchy method (AHP) is comprehensively carried on the expert questionnaire survey for the potential hazard map of the compound disaster states. It should be useful for the local government and native people in the future.

KEYWORDS

Geographic Information Systems; Potential Hazard Map; Analytic Hierarchy Method (AHP)

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