

## 應用不安定指數法分析大安河流域崩塌潛勢之研究

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**摘 要** 山區潛在災害的預測，傳統上是由專家依經驗來判斷，以現地調查的方式對崩塌因子進行選擇及評分，此方法需要大量的人力和物力，且以人為方式給予權重或評分則較為主觀。本研究的目的即是應用地理資訊系統(GIS)之技術，配合不安定指數法之概念，建立一套評估區域性坡地安定之計量分析方法。本研究以大安河流域為例，利用衛星影像和數值高程模型 (DEM) 擷取出坡度、高程、坡向、地質、距水系距離、距道路距離等六大因子資料，利用不安定指數法分析，計算其變異係數和標準差以求得權重，可求出崩塌潛感預測式以利坡地管理與監測之參考。

**關鍵詞：**崩塌、大安溪、不安定指數法。

## Application of Instability Index Method on Landslide Potential Analysis Using Da-an River Drainage Basin

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**ABSTRACT** The prediction of the potential hazard of mountain region is performed by the experts who choose and grade the factors of landslide by way of investigating traditional. This method needs a large amount of manpower and material resources, and it is comparatively subjective to offers the weight or grades by judgment. The purpose of this research is to use the technology of the geographical information system (GIS) and instability index method to set up one quantitative method to estimate hillside fields. Satellite images and the Digital Elevation Model (DEM) can extract six major factors, such as elevation, slope, aspect, geology, distance to rivers and distance to roads. The landslide susceptibility map illustrates the risk of landslides by computing landslide factors through a Geographic Information System (GIS). In this study, the instability index was applied to analyze the risk of landslides. DTM and aerial photographs of Da-an River watershed were employed.

**Key Words:** Da-an River, Landslide, Instability index method.

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