

利用集水區單元建立土石流發生地點預測模式

-以陳有蘭溪集水區為例

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摘要 足夠的土方、有效的河床坡度、充足的水量為土石流發生之三大要件，本研究將崩塌地及谷中埋積視為土石流發生之材料源，以濁水溪之支流陳有蘭溪集水區為範圍，利用 SPOT-5 多時期衛星影像判釋出崩塌地及谷中埋積位置，並以羅吉斯迴歸建立陳有蘭溪集水區內之崩塌潛勢資料庫，研究中將陳有蘭溪集水區以一級河為集水區單元劃分出子集水區，根據集水區上游有無土石流材料源，集水區形態與颱風發生歷史判定其發生土石流之機率，最後可建立出以集水區為單元之土石流發生地點預測模式，為未來土石流管理及預警之參考。

關鍵詞：土石流、集水區單元、羅吉斯迴歸。

Mapping Debris Flow Hazard on Watershed Scale

-The Example of Chenyulan Watershed

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ABSTRACT Sufficient material, steep riverbed slope, and abundant water are three main elements to induce debris flow. This study took Chenyulan watershed as an example, defined valley waste filled and landslides as the source materials of debris flow by using SPOT-5 satellite image interpretation, and built the landslide database of Chenyulan watershed by logistic regression model. This study divided first-order stream catchments as the basic unit, and determined the probability of debris flow occurrence of every basic unit according to the existence of source materials, the morphology, and the historic Chenyulan watershed Typhoons, then evaluated the model accuracy. This model would be very helpful for hazard mitigation and prevention.

Key Words: Debris flow, Watershed scale, Logistic regression.

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