

濁水溪揚塵潛在發生區位劃定之研究

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摘 要 濁水溪旱季來臨時，下游河道因上游截水致河床裸露面積大增，在缺少粗粒徑的礫石敷蓋，細小顆粒易被東北季風吹襲，造成大氣中的懸浮微粒濃度過高，嚴重影響鄰近居民的生活品質。濁水溪河道流路每年暴雨後變動極大，加上旱季退水期間瓜農墾植區位之變化亦大，導致河川裸地揚塵潛在發生區位須年年更新製作。另由於光譜解析度不足，傳統影像處理技術不易由衛星影像中區別河床裸地與整地初期之農地。在經濟考量上，如何藉由衛星影像早期快速劃定河川裸地揚塵潛在發生區位，供河川管理機關儘早擬定揚塵抑制對策極為重要。本研究以揚塵災害最為嚴重之河段（自強大橋至西濱大橋），利用 SPOT 衛星影像進行揚塵潛在發生區位之劃定；顯示結合影像分類及邊緣萃取技術可經濟有效劃定濁水區揚塵潛在發生區位。

關鍵詞：濁水溪、揚塵、邊緣萃取。

Potential areas of Aeolian dust occurrence in the Zhuoshui River

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ABSTRACT In Zhuoshui River, areas of bare soils increase and there is a lack of gravel's mulching protection on the surface of the downstream riverbed due to interception of debris and/or water at the upstream segments. The smaller particle matter can then be easily eroded by the monsoon, and cause serious air pollution significantly affecting the living quality of the nearby residents in the dry season. Variations in the flow paths of the river channels are frequently governed by annual storms, and the spatial distribution of highland suitable for melons cultivation is also changed annually. Therefore, locating the potential areas of aeolian dust occurrence annually is quite necessary. The traditional technique of image processing can not be employed to distinguish the bare soils and the initial phase of cultivated fields through satellite image due to the limitation of spectrum resolution. The question of how to economically delineate the potential areas of aeolian dust occurrence for the reference of related government to frame the countermeasures of dust control is a vital issue. This study focused on the dust-vulnerable segment (Bridge Ziqiang to Xibin) of the Zhuoshui River using SPOT image and integrating the techniques of image process couples with edge extraction to delineate the potential areas of aeolian dust occurrence in the River.

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Key Words: zhuoshui river, aeolian dust, edge extraction.