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# 秀姑巒溪之河川沖淤演變趨勢模擬之探討分析

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**摘　　要**　本研究針對秀姑巒溪河床之沖淤情形，以 NETSTATS 模式進行數值模擬，以了解模式在陡峻河系的適用性。秀姑巒溪是一個主支流型的複雜河系，以往測量資料除了主流外，也擴及一些主要支流，流域內有八個水文站可以提供必要的水位流量資料。依照所蒐集的大斷面測量資料判斷，需要的水文站的流量與水位資料爲民國 85 至 95 年間的實測颱風暴雨記錄，以作爲模式的上、下游輸入邊界條件，並選定模擬區的兩個水文站來檢定水理參數；並以 85 年所量測大斷面資料當作起算河床地形，利用 95 年實測大斷面河床地形當作檢測資料，完成檢定適合秀姑巒溪的河川輸砂參數。當此河川的水理輸砂參數確定後，可以用所蒐集 10 年的水理歷史資料，預測未來 10 年河川的變化情形。透過二維平面差異圖的檢視可以了解局部河段未來河床的演變趨勢，可作爲河川治理規劃的參考，以利業務單位盡早做好防災的規劃。

**關鍵詞**：NETSTARS、輸砂、沖淤、秀姑巒溪。

# Trend Analysis of Scouring and Deposition in Xiu-Gu-Luan Creek by Using the NETSTARS Model

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**ABSTRACT**　This study focused on the scouring and deposition analyses in the Xiu-Gu-Luan river by using the NETSTARS model. The Xiu-Gu-Luan river is a river of the main-tributary type for a channel network. We needed some data from 8 gauge stations in this creek for the model's input data files. The cross-sections along the Xiu-Gu-Luan river were measured in 1996 and 2006. The data from typhoons and stroms from 1996 to 2006 were collected as the boundry conditions of upstream and downstream in this model. Calibrating hydraulic parameters was performed by comparing the measured and computed water stages in two gauge stations. Calibrating sediment parameters was performed by comparing of the measured and computed longitudinal riverbed in 2006. The results of calibration are satisfactory. The trend of calculated 2D riverbed for the full river system is similar to the measured one.　Then we reuse the discharge and water stage data from 1996 to 2006 to forecast the riverbed revolution of the Xiu-Gu-Luan river for the next ten years. The 2D maps of river variations were made by ARCVIEW software can let us

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know where serious scouring and deposition may take place. The planner or descision maker can use the information to prevent the disasters.

***Key Words:*** NETSTATS, sedient transport, scouring and deposition, Xiu-Gu- Luan Creek