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APPLICATIONS OF SWAT HYDROLOGICAL MODEL TO ESTIMATE SEDIMENT YIELD FOR THE UPPER LANGAT RIVER BASIN, MALAYSIA

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ABSTRACT

This paper describes the use of geographic information system (GIS), and a distributed hydrologic and water quality model (SWAT) for assessing the steam flows and sedimentation load in multiple watersheds. In this study, necessary data sets representing land uses, hydrology, weather, soils, elevation, and surface characteristics were integrated in a GIS in tabular, vector and grid formats. In order to estimate stream flow and sediment yield, several runoff parameters are calibrated to replicate daily observe flow data. Then, model validation is carried out to test the applicability of calibrated model to predict future flow and suspended sediment in the study area. The result predicted were considerably fit when compared with the observed data, therefore indicated that the SWAT model is able to estimate satisfactorily the stream flow and sediment load in multiple watersheds.

Keywords: *GIS, multiple watersheds, sediment load, stream flow, SWAT hydrological model.*