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Soil data definition for hydrologic response unit analysis in swat model of Langkawi Island , Malaysia (Article) [\(Open Access\)](#)

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Abstract

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Soil and water assessment tool (SWAT) have been assessed to examine environmental conditions and watershed scale, particularly for water quality and natural resource management. In this study, SWAT model has been applied to the main river basins in Langkawi Island . Soil data , one of the spatially distributed data needed for SWAT model interface. Currently, no soil interpretation record (s5id) data code available in readable format for user soil SWAT database for Langkawi Island . The purpose of soil data definition is to create a soil input data setup for hydrologic response unit (HRU) analysis in SWAT model which includes soil map, soil type, soil texture, and soil s5id code. Study by Leman et al. (2007) showed that geological formation of soil in Langkawi consists of alluvium, granite, Machincang, Setul, Chuping and Singa formation. The dominant soil group was Acrisols (soil unit name: Orthic Acrisols, Ao) and the dominant soil texture classification was sandy clay loam. MY4284 and MY4464 defined as the code for soil interpretation record number (s5id). Percentage of coverage for MY4464 was (62.21%; 10,865.87 ha [26,850.15 ac]) and the percentage of coverage for MY4284 was (37.79%; 6,599.8 ha [16,308.46 ac]) within the selected watershed boundary of Langkawi Island . This data setup has been successfully tested and fully functional for usersoil database of Langkawi SWAT model analysis . © 2021 Federation of Eurasian Soil Science Societies. All rights reserved.

SciVal Topic Prominence

Topic: Soil and Water Assessment Tool Model | Nonpoint Source Pollution | Stream Flow

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Soil input data setup Soil S5id code

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