Created by: Texas A& M University
https://swat.tamu.edu/
Language: English
High level of expertise required

Environmental Context Soil and Water assessment tool. The Soil & Water Assessment Tool is a small watershed to river basin-scale model used to simulate the quality and quantity of surface and ground water and predict the environmental impact of land use, land management practices, and climate change. SWAT is widely used in assessing soil erosion prevention and control, non-point source pollution control and regional management in watersheds.

Challenges addressed

- Soil pollution
- Watershed restoration and quality
- Landslide risk

Type of tool

Model.

Outcomes

- Database
- Hydrology tab - average annual values over all the years of simulation

Uses

Watershed-scale simulation tool.

Examples of application

The Effects of Land Use and Climate Change on the Water Yield of a Watershed in Colombia

Based on SWAT modelling, this study estimates the effects of land use and climate change on water yield. It was located in the Tona watershed, an important source of water for a metropolitan population. Results identified strategic areas in which the protection and conservation activities of water managers can be focused.

Scale

- Global
- National
- Subnational
- Local

Location

Global.

Advantages

Computationally efficient; uses readily available inputs; well documented, with several user's manuals and a theoretical manual; open source.

Constrains

Novice users may feel overwhelmed by the variety and number of inputs when they first begin to use the model. Expertise in hydrology is recommended, limiting the number of potential users.

Scope

Urban and rural.