

SWAT+

Advantage of SWAT+

Spatial connections

One connect file per spatial object to define outflow hydrographs, fractions, and receiving objects

More flexibility in defining spatial interactions of objects within the watershed (grid, field, lsu)

Input file structure

One file for each data type with one line for each object

Reduced number of input files
Data files can be maintained as databases

Separate files for schedules and operations

Management schedules and operations can be maintained as databases

Land use and management

Unlimited number of crops growing at the same time

Simulation of plant communities and competition

Scheduling of operations based on dates, heat units, or decision tables

More flexibility in defining variables affecting the timing of management operations

Output

User-defined time step for printing output for each object
Standardized layout of output files

Printing of output according to needs of user.
Easier printing of user-defined output files

Calibration

Changes in parameter values listed in separate calibration file that overrides original values

Rapid model calibration
Better tracking of modified parameters

Watershed Configuration

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Separation of water and land areas within subbasins Water areas defined as ponds/reservoirs Definition of LSUs to aggregate HRUs	More realistic simulation of water areas Improved simulation of landscape position, overland routing, and floodplain processes
HRUs represented by a contiguous field with user-defined dimensions, actual HRU area used as expansion factor	Calculation of land phase processes independent of HRU area
Aquifers independent from HRUs	Any number of aquifers can be defined Facilitation of SWAT-MODFLOW linkage
Placement of reservoirs anywhere in the watershed	More realistic representation of reservoir position and interactions with the landscape
Pumps, canals, and water rights defined as spatial objects	Improved consideration of anthropogenic water use and management, especially irrigation
Choice between HRU, HRU-lte, and export coefficient Choice between channel, channel-lte, and delivery ratio	Different levels of complexity for simulating land phase and channel routing processes