ArcSWAT 1.0.5 Release Notes
7/10/07

Updates\Bug Fixes from Version 1.0.4

Important: During an earlier beta release of ArcSWAT, an error was made during the QC of main channel and subbasin channel slopes in the conversion from the GIS calculation to the SWAT RTE and SUB input tables. This resulted in the input table values of "CH_S2" and "CH_S1" being 100 times too small. Users who have used the default "CH_S2" and "CH_S1" values are advised to check these parameter values in the RTE and SUB tables, and will need to multiply their values by 100 in order to obtain correct units of (m/m). The recommended procedure for updating exiting ArcSWAT project is as follows:

1. Open the attribute table of the "Watershed" feature class in ArcMap.
2. Re-calculate the "Csl" field as 100 * [Csl] (units will be in %)
3. From the ArcSWAT "Write Input Files" menu, choose to "Write Subbasin General Data" (Note: if you edited default SUB parameters, you can manually update the "CH_S1" field in the "SUB" table by re-calculating the field as 100 * [CH_S1] in ArcMap … units will be in (m/m))
4. Open the attribute table of the "Reach" feature class in ArcMap.
5. Re-calculate the "Slo2" field as 100 * [Slo2] (units will be in %)
6. From the ArcSWAT "Write Input Files" menu, choose to "Write Main Channel Data" (Note: if you edited default RTE parameters, you can manually update the "CH_S2" field in the "RTE" table by re-calculating the field as 100 * [CH_S2] in ArcMap … units will be in (m/m))

Identification of the bug described above prompted a second review of all geomorphic parameters and input tables, and while similar bugs were not identified, methodologies were reviewed and improved for several parameters' default values.

General:
1. None

SWAT Project Setup:
1. None

Watershed Delineation:
1. Fixed bug related to the reporting of main reach and subbasin channel slopes.
2. Improved the calculation of longest path length in subbasins where multiple longest paths exist.
3. Modified the calculation of main channel reach length in subbasins with multiple branches of the main reach (i.e., draining multiple upstream subbasins). The new algorithm calculates the reach length as the weighted mean of the multiple branch lengths using the upstream contributing area as the weighting factor.
4. Modified calculation of subbasin slope length parameter to be consistent AVSWAT approach.

5. For importing user defined subbasins and reaches, improved the calculation of subbasin outlets. In cases with multiple reach branches, outlets were not always being located at the terminus of the most downstream reach segment. This algorithm for outlet locations has been improved to allow for more complex reach configurations.

HRU Analysis:
1. None

Write Input Files:
1. None

Edit SWAT Input
1. None

SWAT Simulation
1. Made some updates to tool tips.

Known Bugs or Limitations with Version 1.0.5
1. When using user-defined watersheds and streams, the input watersheds and streams datasets must have exactly the same fields as defined in the user documentation (Section 3 page 14). Otherwise, errors may result. Also, user defined watersheds and streams datasets MUST have their projections defined.