Association of Clean Water Administrators

2026 Modeling Workshop

September 29 – October 1, 2026

SWAT+ and HAWQS 2.0 Training

Install and open before Day 1: QGIS (latest LTS), then SWAT+ Tools 4.0, which carries the current QSWAT+, SWAT+ Editor, and SWAT+ Toolbox. The Toolbox is demonstrated on Day 2 but not run by participants.

Laptop with 8 GB RAM and 20 GB free disk; administrator rights are not needed. No SWAT experience assumed; basic GIS familiarity helps.

Every day runs from 08:30 to 4:30, with breaks at 10:15 and 2:30, lunch at 11:30, and Q&A/Discussion from 4:15.

This Water Quality Modeling Workshop is a national meeting organized by ACWA, in partnership with USEPA for state program managers and staff involved in water quality modeling, as well as for both Regional and Headquarters-based U.S. Environmental Protection Agency managers and staff.

TUESDAY, SEPTEMBER 29

8:30 – 8:45 AM ET	Welcome, introductions, objectives
8:45 – 8:50 AM ET	Everyone opens QGIS, QSWAT+ and SWAT+ Editor, failures flagged
8:50 – 10:15 AM ET	SWAT+ theory: hydrologic cycle, spatial units (channels, LSUs, HRUs, aquifers, reservoirs), scope and limits
10:15 – 10:30 AM ET	Break
10:30 – 11:30 AM ET	Hands-on 1: project creation, loading the DEM, starting delineation
11:30—1:00 PM ET	Lunch/Installation Clinic
1:00 – 1:45 PM ET	Hands-on 1 continued: delineation, outlets, reviewing the stream network
1:45 – 2:30 PM ET	Hands-on 2: land use and soil layers, lookup tables, slope bands
2:30 – 2:45 PM ET	Break
2:45 – 3:45 PM ET	Hands-on 2 continued: thresholds and creating HRUs
3:45 – 4:15 PM ET	Hands-on 3: SWAT+ Editor overview, opening the project
4:15 – 4:30 PM ET	Q&A/Discussion and preview of Day 2

WEDNESDAY, SEPTEMBER 30

8:30 – 8:45 AM ET	Recap, clearing Day 1 problems
8:45 – 9:55 AM ET	Hands-on 3 continued: weather data, input tables, management schedules (no decision tables), writing inputs, running the model
9:55 – 10:15 AM ET	Hands-on 4: SWAT+ Check, first pass through the diagnostics
10:15 – 10:30 AM ET	Break
10:30 – 11:30 AM ET	Hands-on 4 continued: SWAT+ Check
11:30—1:00 PM ET	Lunch
1:00 – 1:25 PM ET	Hands-on 4 continued: SWAT+ Check
1:25 – 2:30 PM ET	Hands-on 5: QSWAT+ visualization, maps, animations, exporting figures
2:30 – 2:45 PM ET	Break
2:45 – 3:05 PM ET	Hands-on 5 continued

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3:05 – 4:15 PM ET	Calibration theory: sensitive parameters, objective functions (NSE, PBIAS, R^2, KGE), calibration and validation workflow, SWAT+ Toolbox shown from the front
4:15 – 4:30 PM ET	Q&A/Discussion and preview of Day 3

THURSDAY, OCTOBER 1

8:30 – 8:45 AM ET	Recap
8:45 – 9:15 AM ET	HAWQS 2.0: introduction
9:15 – 10:15 AM ET	HAWQS 2.0: demonstration
10:15 – 10:30 AM ET	Break
10:30 – 11:30 AM ET	Hands-on 6: setting up your own HAWQS project
11:30—1:00 PM ET	Lunch
1:00 – 2:00 PM ET	HAWQS 2.0 use cases: point source and nonpoint source
2:00 – 2:30 PM ET	HAWQS 2.0 use cases: climate sensitivity
2:30 – 2:45 PM ET	Break
2:45 – 3:45 PM ET	HAWQS to SWAT+: download data and set up locally
3:45 – 4:00 PM ET	SWAT+ or HAWQS: when to use which
4:00 – 4:15 PM ET	Closing, future directions, next workshops
4:15 – 4:30 PM ET	Q&A/Discussion