

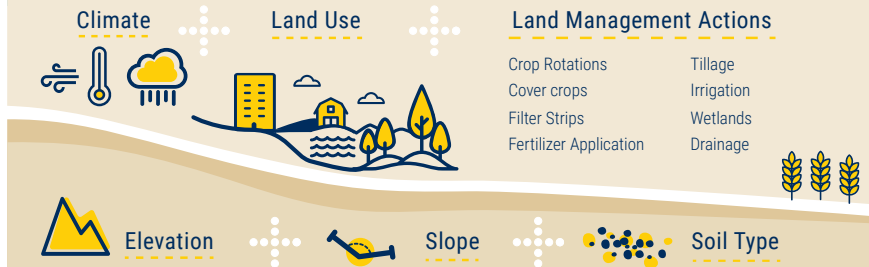
SWAT

Soil & Water Assessment Tool

A spatially referenced watershed model used to simulate the impact of land use, land management, and climate on water quantity and water quality.

WATERSHED MODEL PROCESS

1 MODEL SET-UP – DATA INPUTS



MODEL OUTPUTS



WATERWAY SCALES Field | Sub-watershed | River Outlet

COMPARE WITH MEASUREMENTS

2 CALIBRATION

Make informed adjustments of model parameters so model outputs fit observed data, judged by goodness of fit statistics.



3 VALIDATION

Run model with data from another time period or location, testing for statistical agreement between the model output and observations.



WATERSHED MODEL APPLICATION

4 SCENARIO ANALYSIS

Adjust climate, land use, or land management inputs to develop distinct "what if" scenarios to test with the model.

Climate
Past, present, and/or future



Land Use
Agricultural, forested, and/or urban/suburban



Land Management
Implementation extent, intensity, and/or spatial locations of management actions



WATERSHED MODELING GOALS

- o Understand watershed processes
- o Evaluate how alternative actions affect model outputs
- o Inform land management decisions to improve water quality