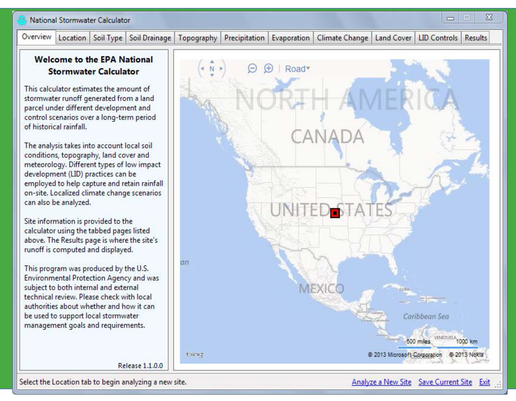
EPA's National Stormwater Calculator

A simple to use tool for computing small site hydrology for any location within the United States



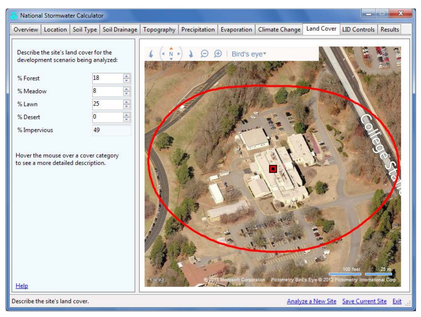
The National Stormwater Calculator (SWC) estimates the amount of stormwater runoff generated from a site under different development and control scenarios over a long period of historical rainfall. The analysis takes into account local soil conditions, slope, land cover and meteorology. The SWC's primary focus is informing site developers and property owners on how well they can meet a desired stormwater retention target. To help control runoff, seven different low impact development (LID) controls can be selected for use throughout the site. These controls are green infrastructure practices that help the user determine the best way to mimic natural water flow processes to retain rainfall onsite. Future climate change scenarios taken from internationally recognized climate change projections can also be considered.

The SWC can be used to answer questions, such as the following:

- **What is the largest daily rainfall amount that can be captured by a site in either its pre-development, current, or post-development condition?**
- **To what degree will storms of different magnitudes be captured on site?**
- **What mix of LID controls can be deployed to meet a given stormwater retention target?**
- **How well will LID controls perform under future meteorological projections made by global climate change models?**

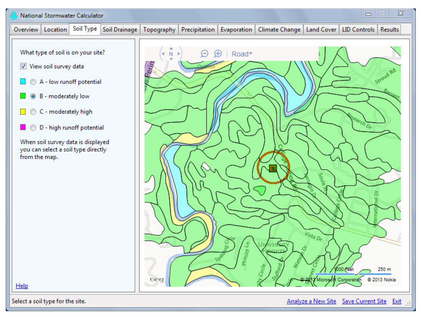
Select any property in the U.S., and define the land use.

Step 1

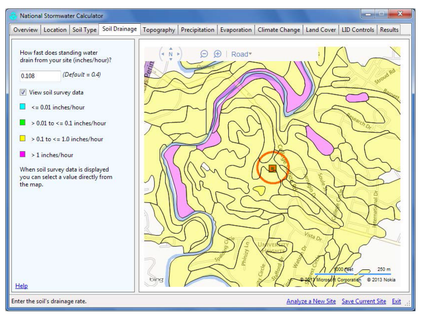


Choose the soil type, soil drainage, topography, precipitation, and evaporation from national databases.

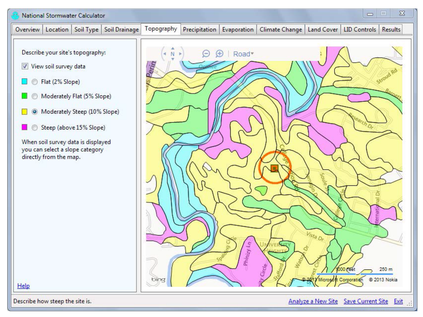
Step 2



Step 3

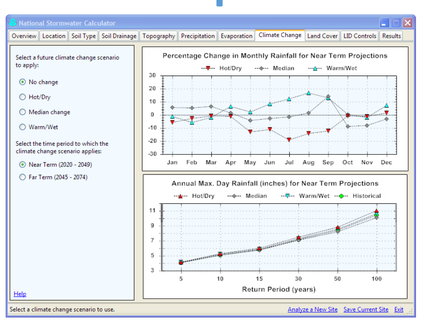


Step 4



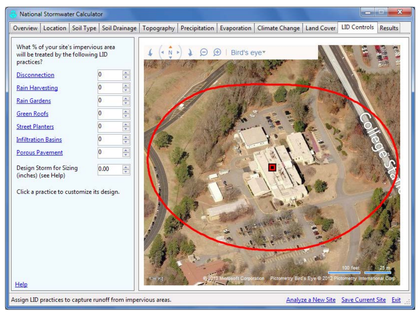
If desired, evaluate potential future weather predictions.

Step 7

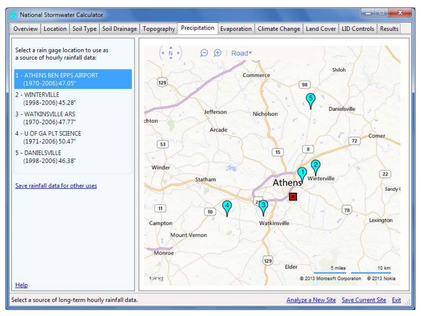


Assign land cover to the site: pre-, current-, or post-development.

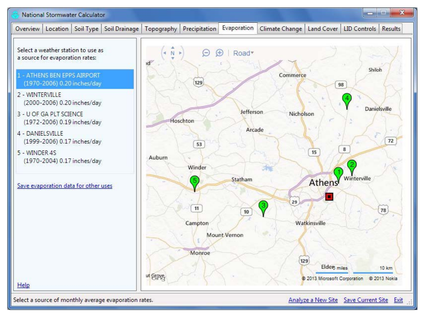
Step 8



Step 5

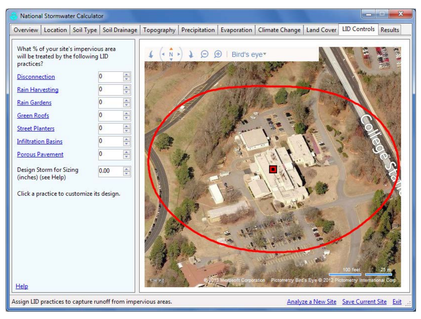


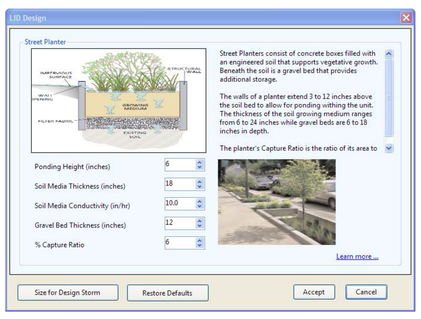
Step 6



Select desired LID Controls.

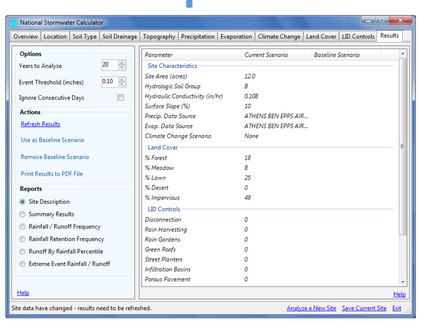
Step 9

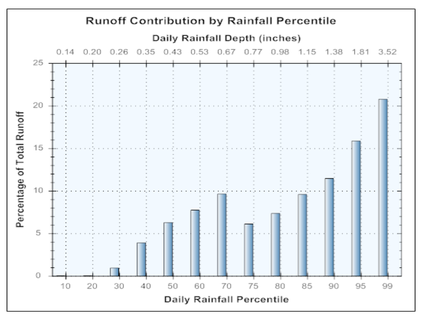


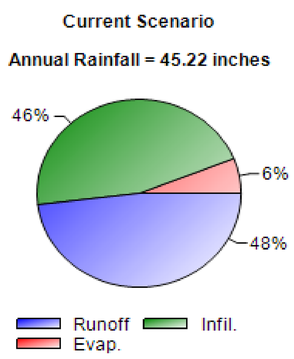


View results before and after LID controls, with historical or predicted weather.

Step 10







Statistic	Current Scenario
Average Annual Rainfall (inches)	45.22
Average Annual Runoff (inches)	21.83
Days per Year With Rainfall	68.46
Days per Year with Runoff	48.57
Percent of Wet Days Retained	29.05
Smallest Rainfall w/ Runoff (inches)	0.11
Largest Rainfall w/o Runoff (inches)	0.30
Max. Rainfall Retained (inches)	1.62