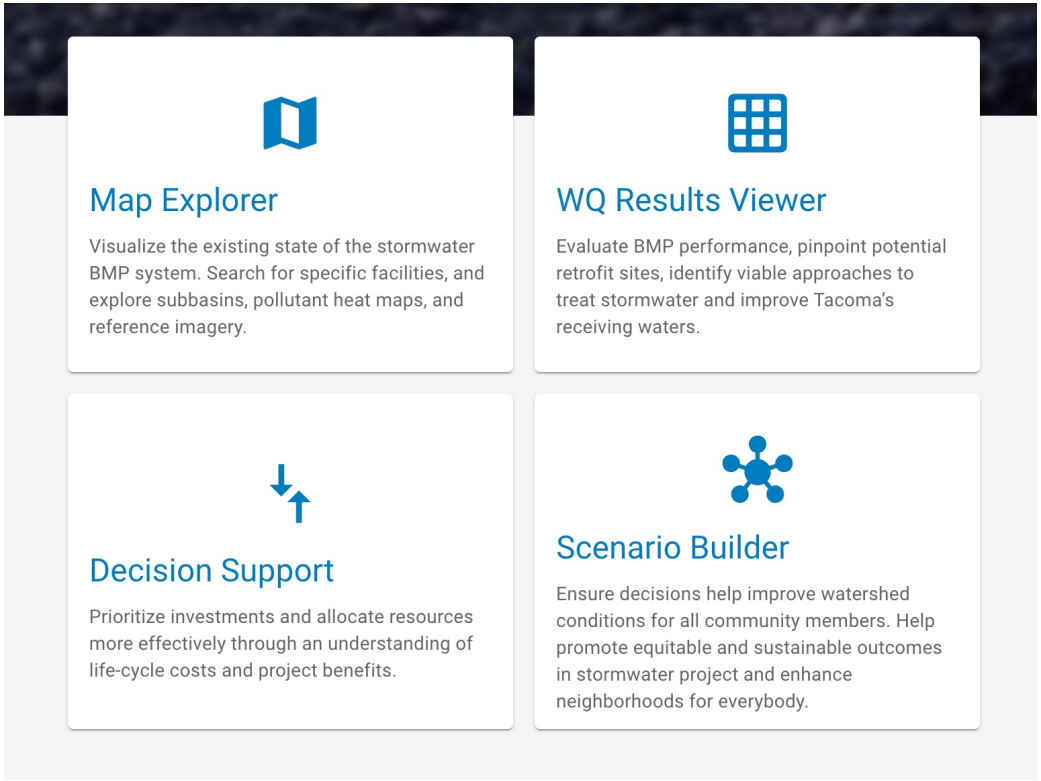
Tacoma Watershed Insights

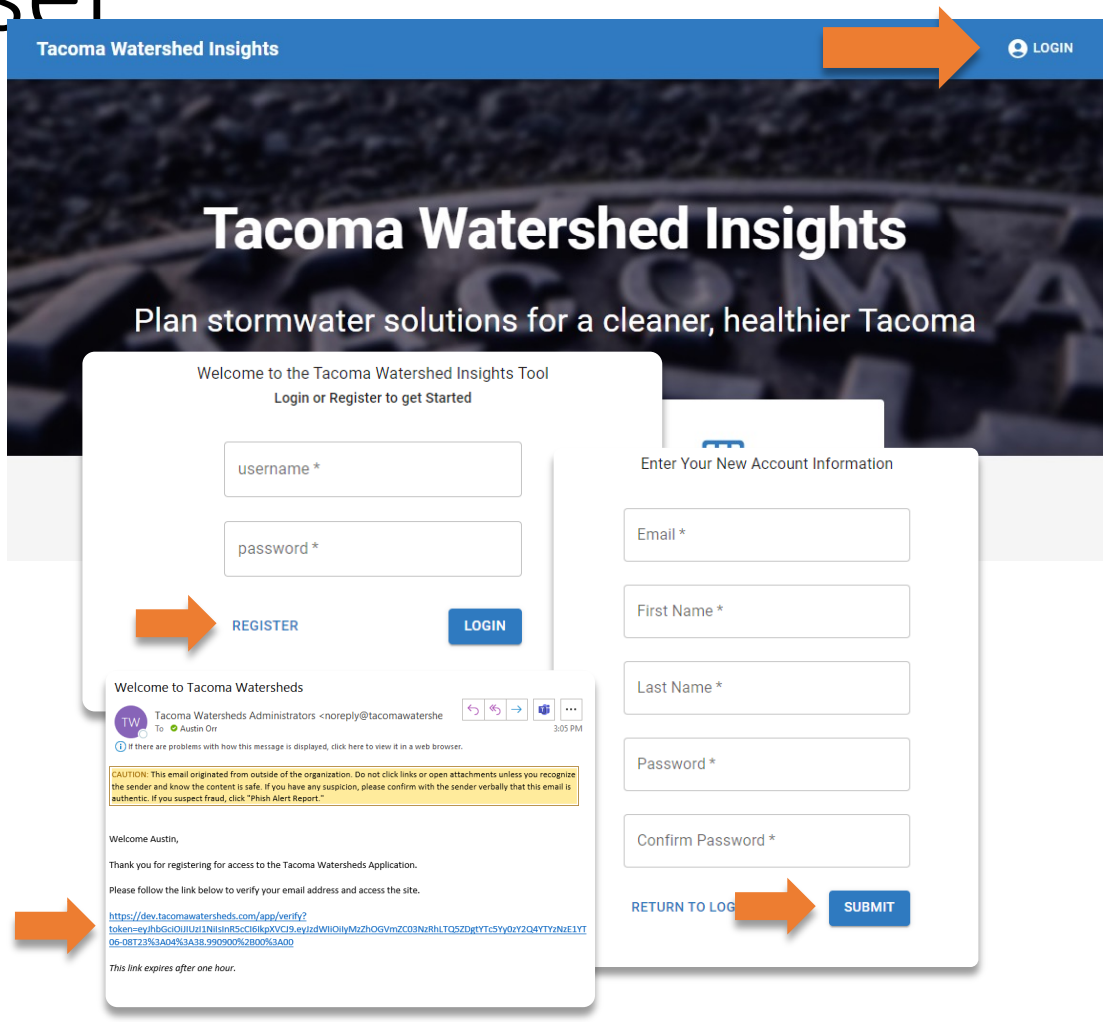
Main Components



System Administration

Enroll New User

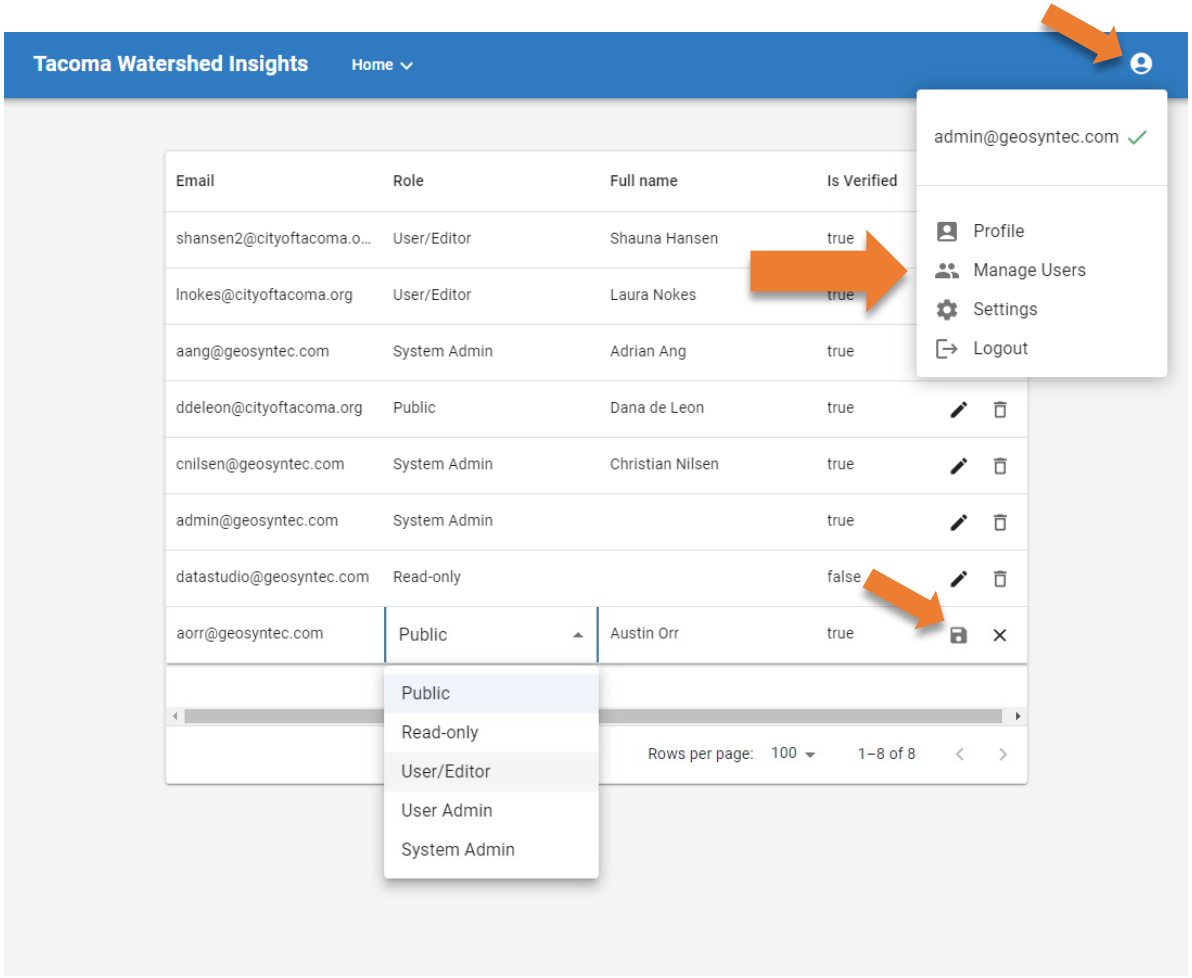
- Navigate to site
- Click Login
- Click Register
- Click Submit
- Check Email & Click through Verification



Modify User Roles

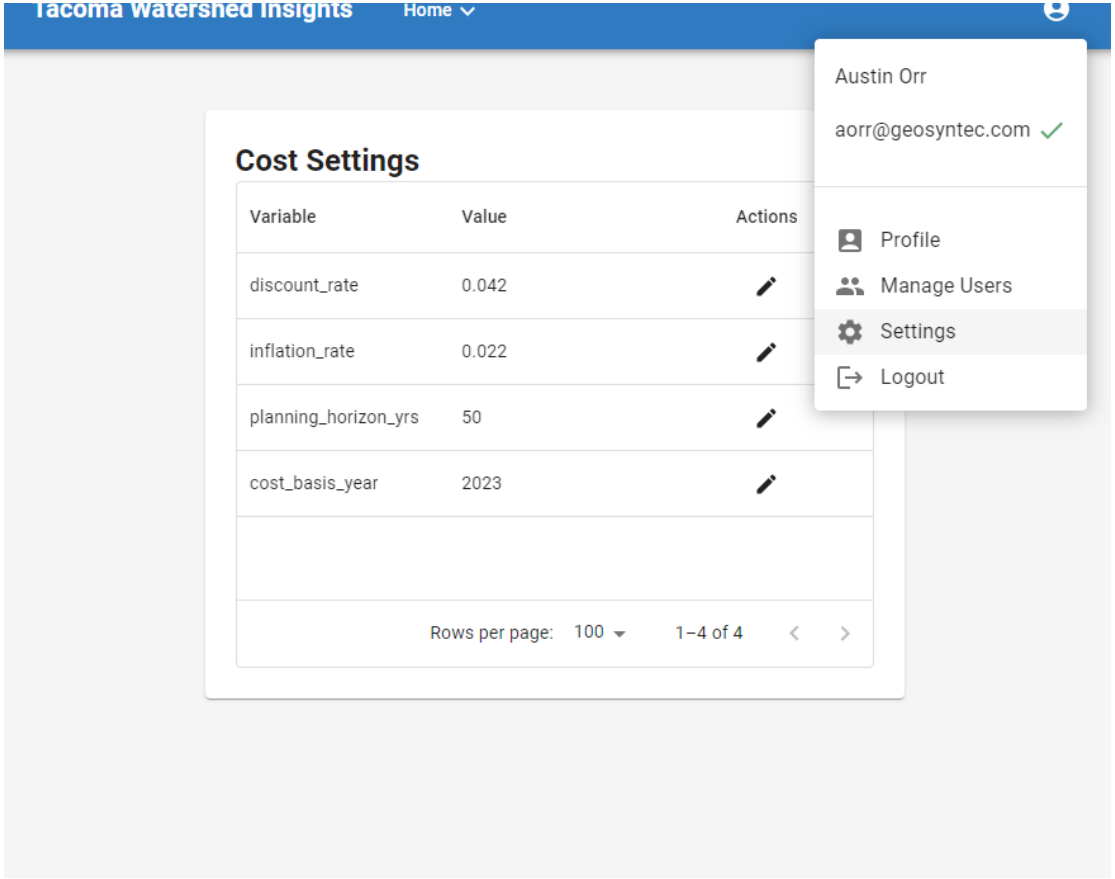
Role	Permission
Public	None
Read-only	Read access to data via site and via token
User/Editor	All of the above + access to scenarios and editing data
User Admin	All of the above + access to user manager + access to application settings
System Admin	All of the above + direct api access

- Ask a User Admin to change your role
- Click on Profile
- Click Manage Users
- Click the pen to edit
- Select Role
- Save or cancel



Cost Module Settings

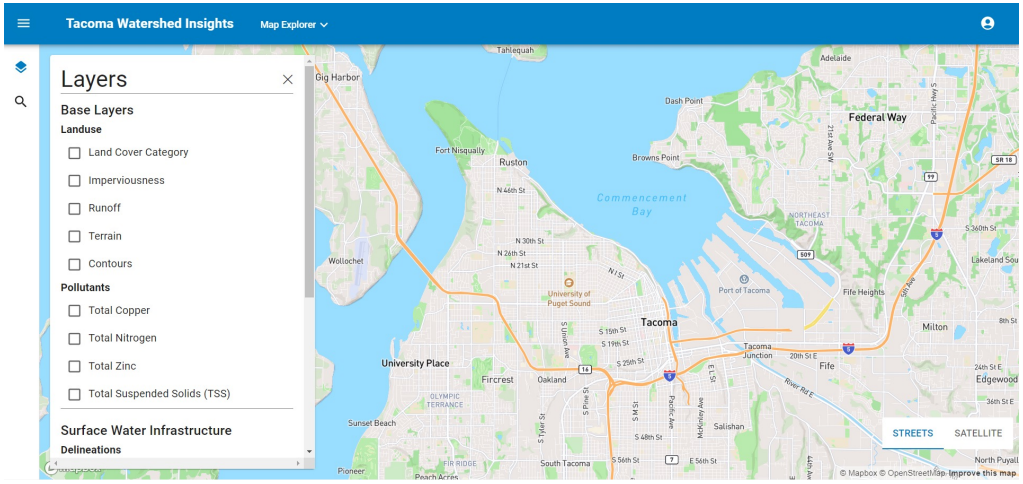
Modify Global Settings



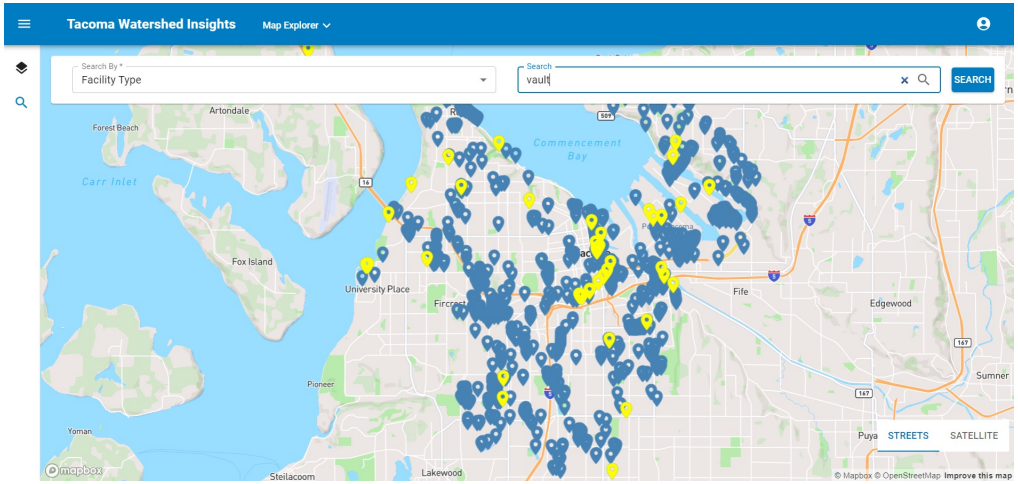
Map Explorer

Visualize Existing Infrastructure and Conditions

- Available Layers:
  - Pollutant heat maps
  - Landuse/Terrain
  - Stormwater subbasins
  - Stormwater BMPs
  - Stormwater pipes

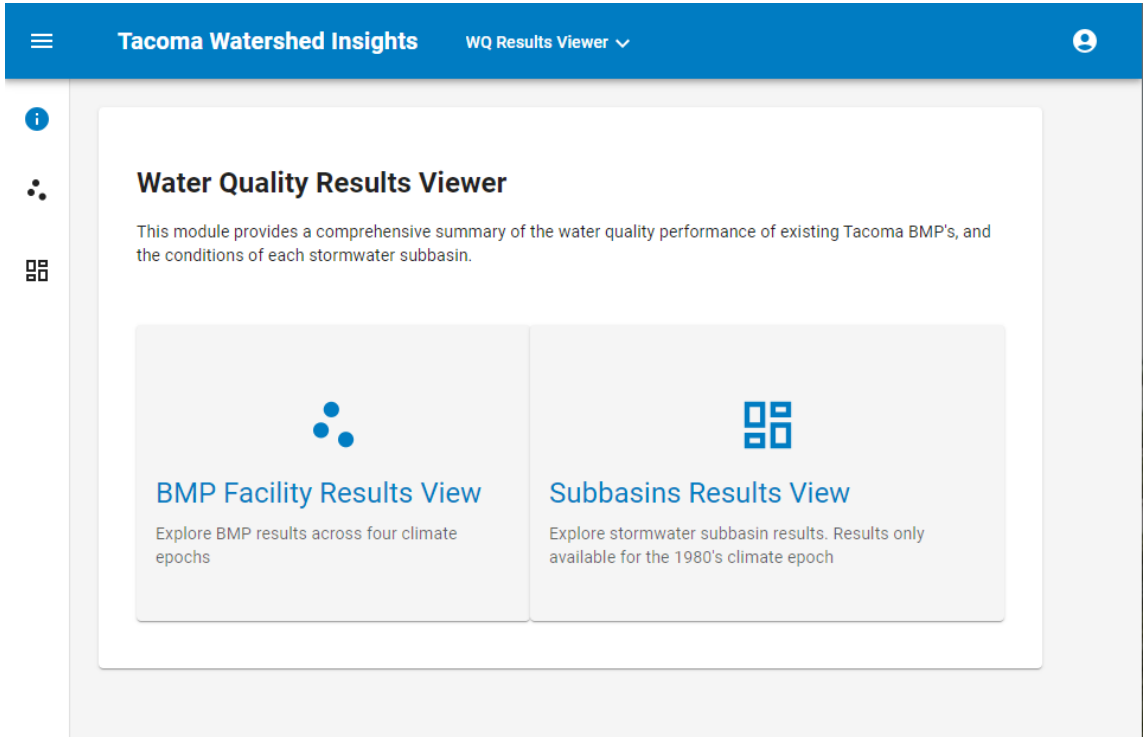


Search by Facility Type



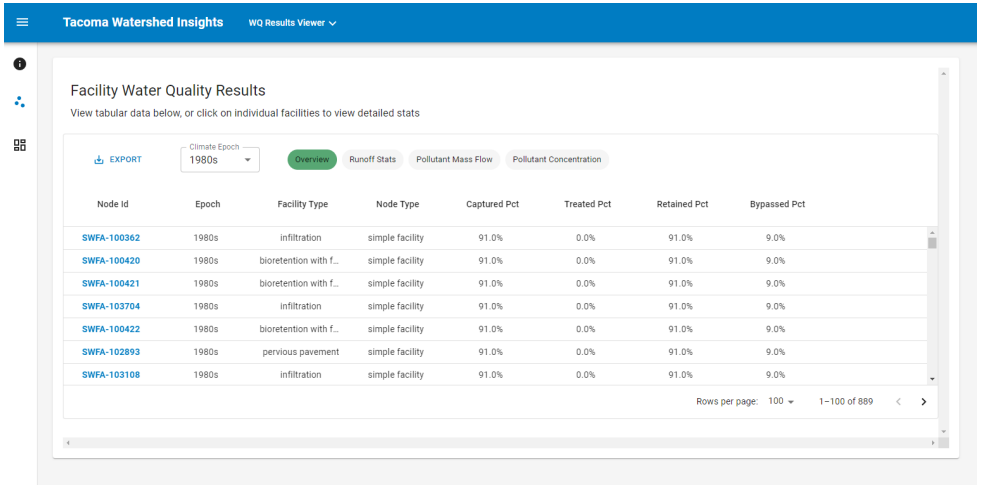
Results Reviewer

Explore WQ Performance at Facilities and Subbasins

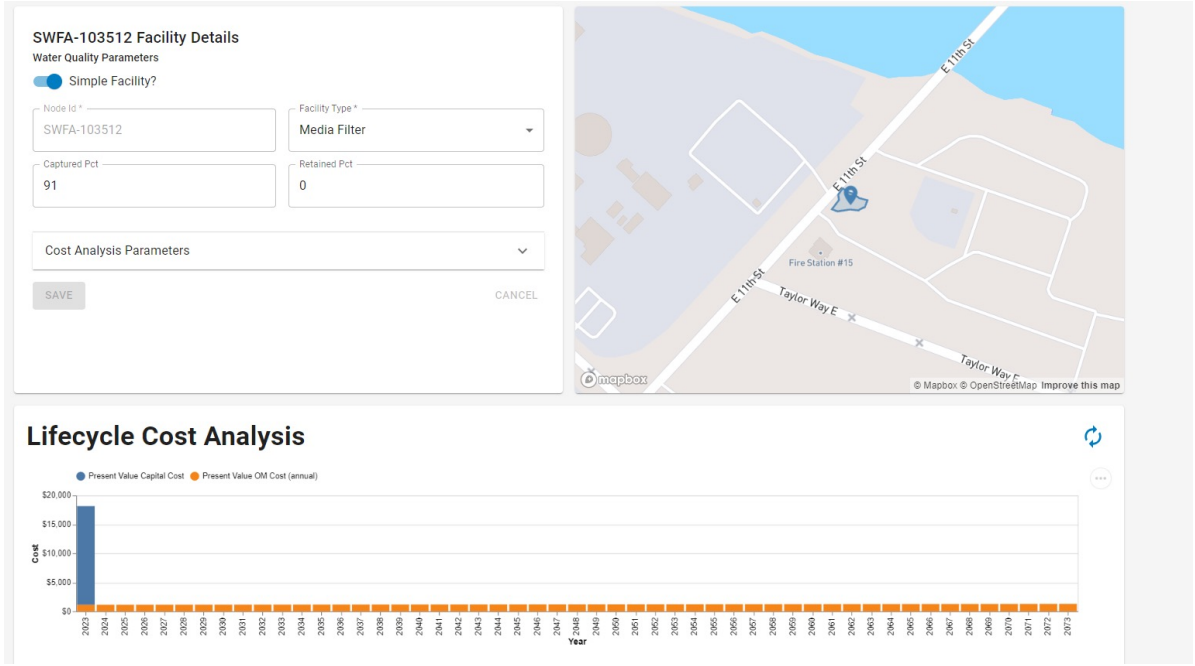


Explore BMP Attributes

- Link to individual facility details
- View stats by climate epoch and type

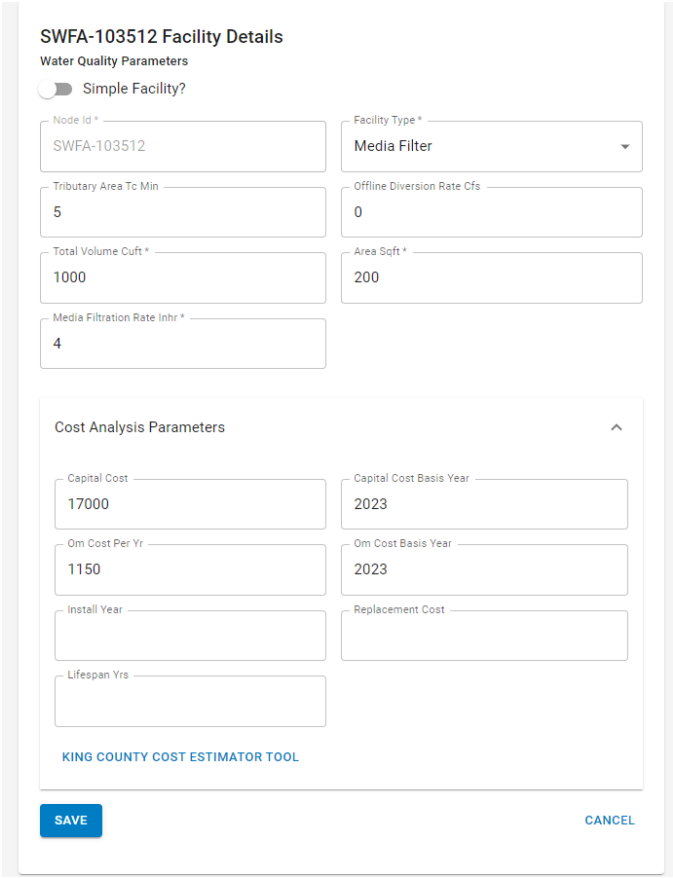


Drill down to individual BMPs



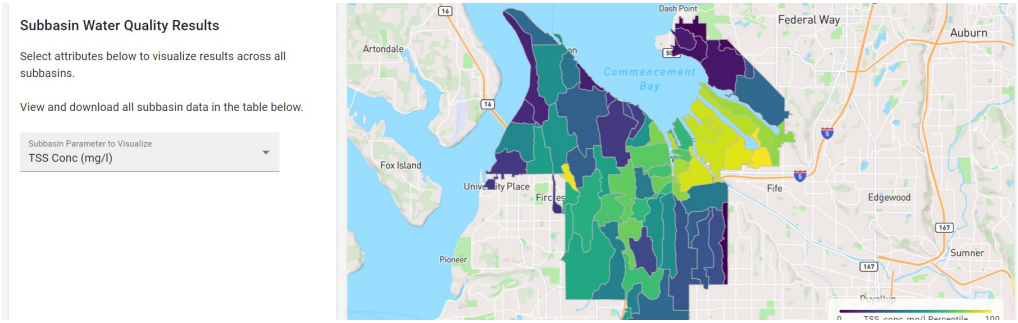
Create BMPs with Detailed Performance and Cost Attributes

- Toggle between ‘simple’ facilities driven by percentage based capture and treatment stats to ones based on physical attributes
- Add cost data that allows for capital and O&M costs to be amortized over the lifespan of the facility



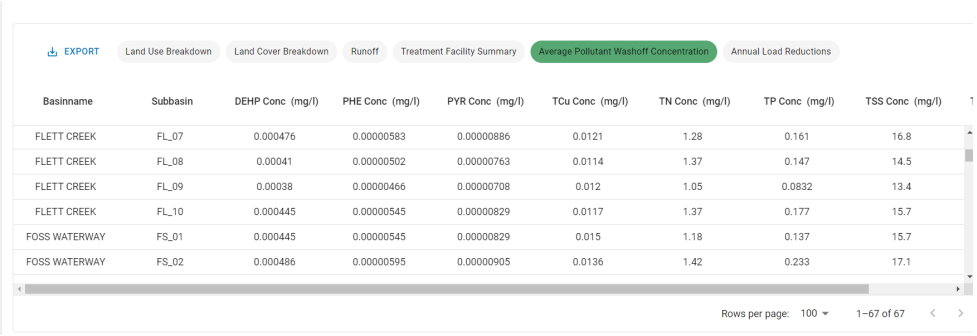
Visualize Subbasin Attributes

- Available Parameters:
- -Land Use/Cover
- -Runoff
- -Treatment Facility Summary
- -Pollutant Concentrations/Reductions



Visualize Subbasin Attributes

- View and download tabular results

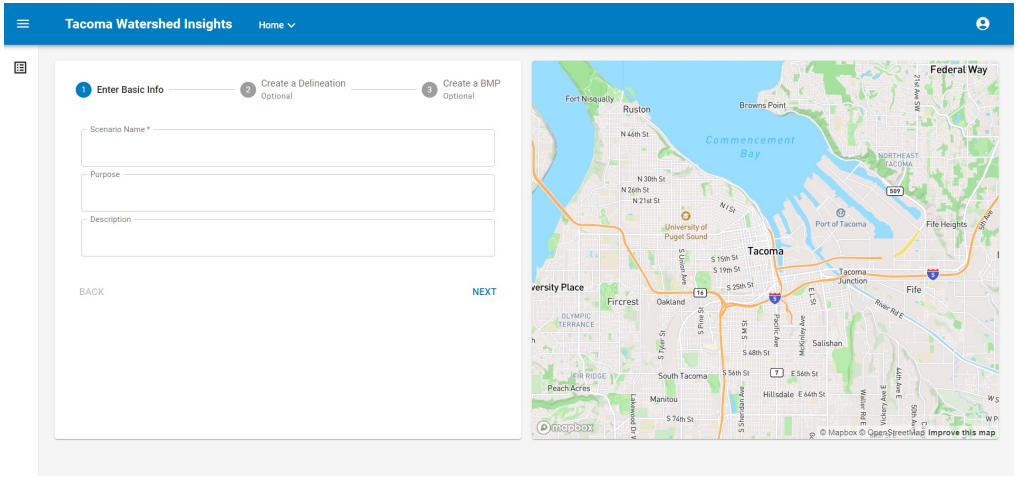


Scenario Builder

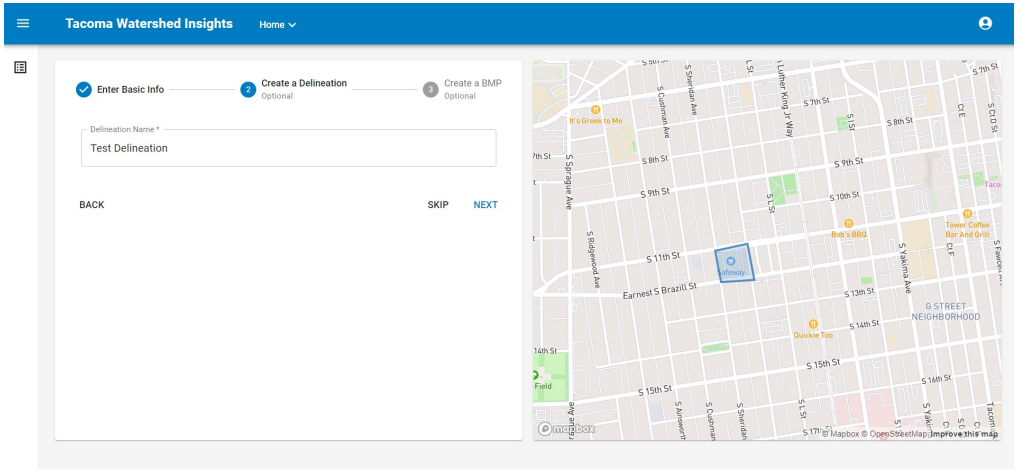
Purpose and Process

- Allows users to model a proposed single BMP facility with an upstream delineation
- Scenarios can be designed incrementally (facility/delineation can be added after creation)
- WQ results can be generated after scenario creation and future edits

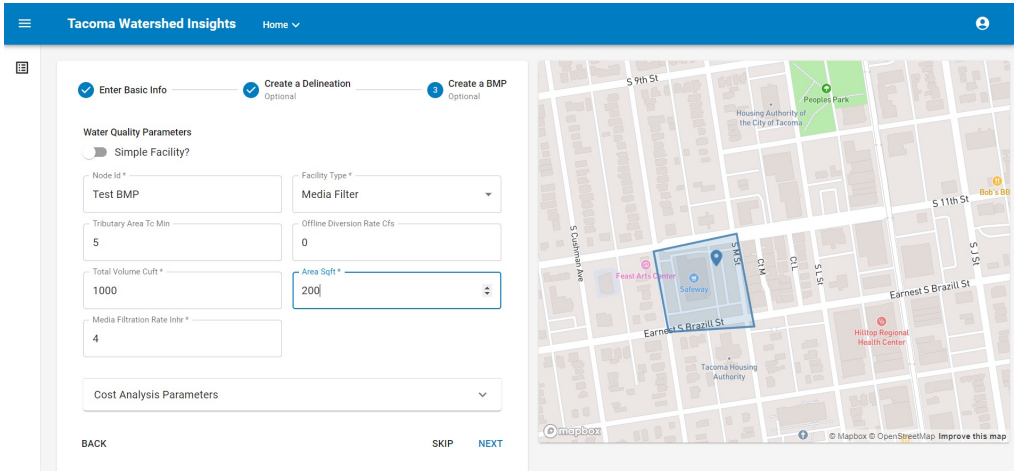
Scenario Design Process



Scenario Design Process

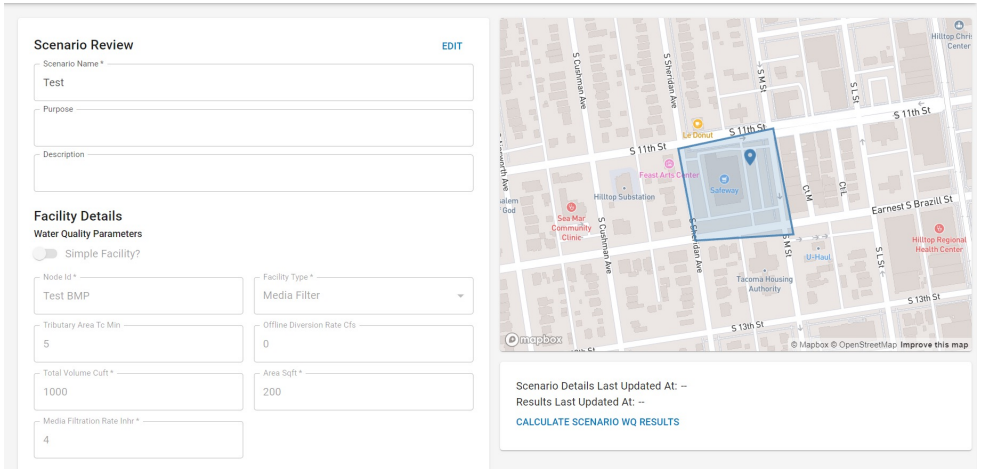


Scenario Design Process



Scenario Design Process

Make edits and calculate results



Purpose and Process

Allows users to prioritize subbasins for stormwater improvements based on a number of goals and subgoals:

- Clean Water Goal
- Resilient Community Goal
- Healthy Ecosystem Goal
- Equity Goal

Subbasins are ranked using a pairwise algorithm - visual/tabular results are produced

Criteria and subbasin ranks can be downloaded for future use

About Subbasin Prioritization

Use this tool to identify regions of the City of Tacoma Watershed that are most in need of stormwater retrofit or preservation projects

Set a project type

Are you prioritizing preservation projects or retrofit projects?

Retrofit

Set Priority Weights

Goal 1: Improve water quality outcomes (Clean Water Goal)

1.1: Prioritize areas based on pollutant concentrations

1

1.2: Improve infrastructure in areas with inadequate stormwater management

0

Goal 2: Increase resilience to climate change impacts (Resilient Community Goal)

2.1: Target areas most vulnerable to and at risk for climate change impacts

0

Goal 3: Preserve and restore critical and sensitive habitat (Healthy Ecosystems)

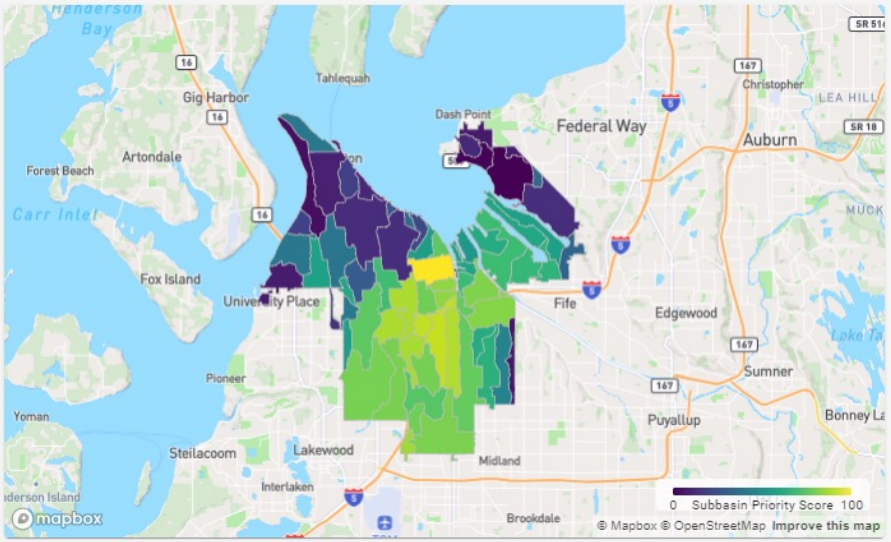
3.1 Preserve and improve Natural Spaces

0

Goal 4: Implement Equity and Social Justice (Healthy neighborhoods; Equity)

4.1: Prioritize areas of overlapping equity needs as identified by other Tacoma programs

2



Subbasin Prioritization Results

Higher priority scores indicate subbasins more favorable for new projects

To view the specific subbasin attributes that determine scores, export the results below

EXPORT

Subbasin ID	Priority Score ↓
FS_05	100
FS_09	91.153
FS_08	90.349
FS_10	88.204
FS_02	87.668
FS_03	87.668
FL_05	86.863

After submitting priorities, subbasins are scored, and results can be visualized and downloaded

Tacoma GIS (refreshed each morning)

- BMP Facilities
- BMP Facility Delineations
- Subbasins (and static subbasin metrics forthcoming)

TNC in Washington Stormwater Heatmap

- POC concentration
- runoff depth (4 climate epochs)

Changeable data

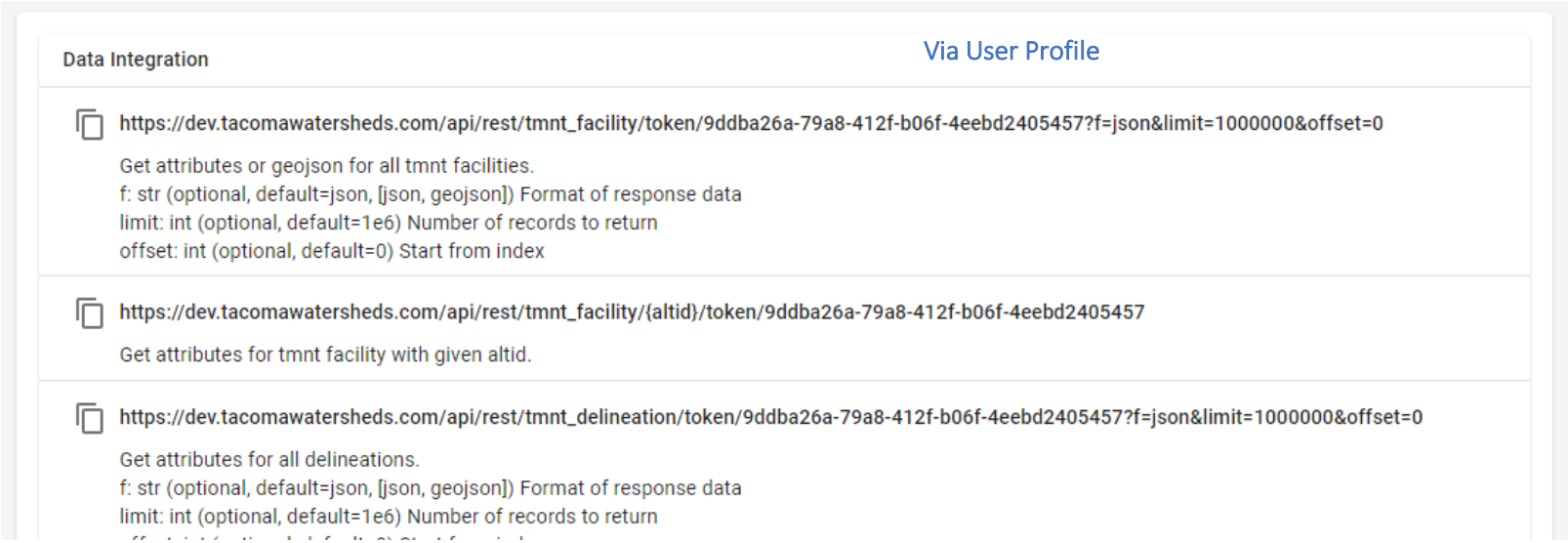
- BMP Facility modeling attributes (e.g. % capture performance, size)
- BMP Facility cost attributes (e.g., capital cost)
- Scenarios
  - Delineations, facility attributes
- Users & Permissions
- Cost Settings (e.g,. Inflation rate)

Calculated data

- BMP Facility volume and load reductions
- BMP Facility cost metrics
- Delineation and Subbasin loading
- Upstream and Downstream source control measures (sweeping and drain line cleaning for Foss Watershed)
- Scenarios
  - Delineations, BMP Facility WQ, BMP Facility Cost

Access via api with token

- TMNT Facilities: https://dev.tacomawatersheds.com/api/rest/tmnt_facility/token/<token>?f=geojson



Data Integration GIS