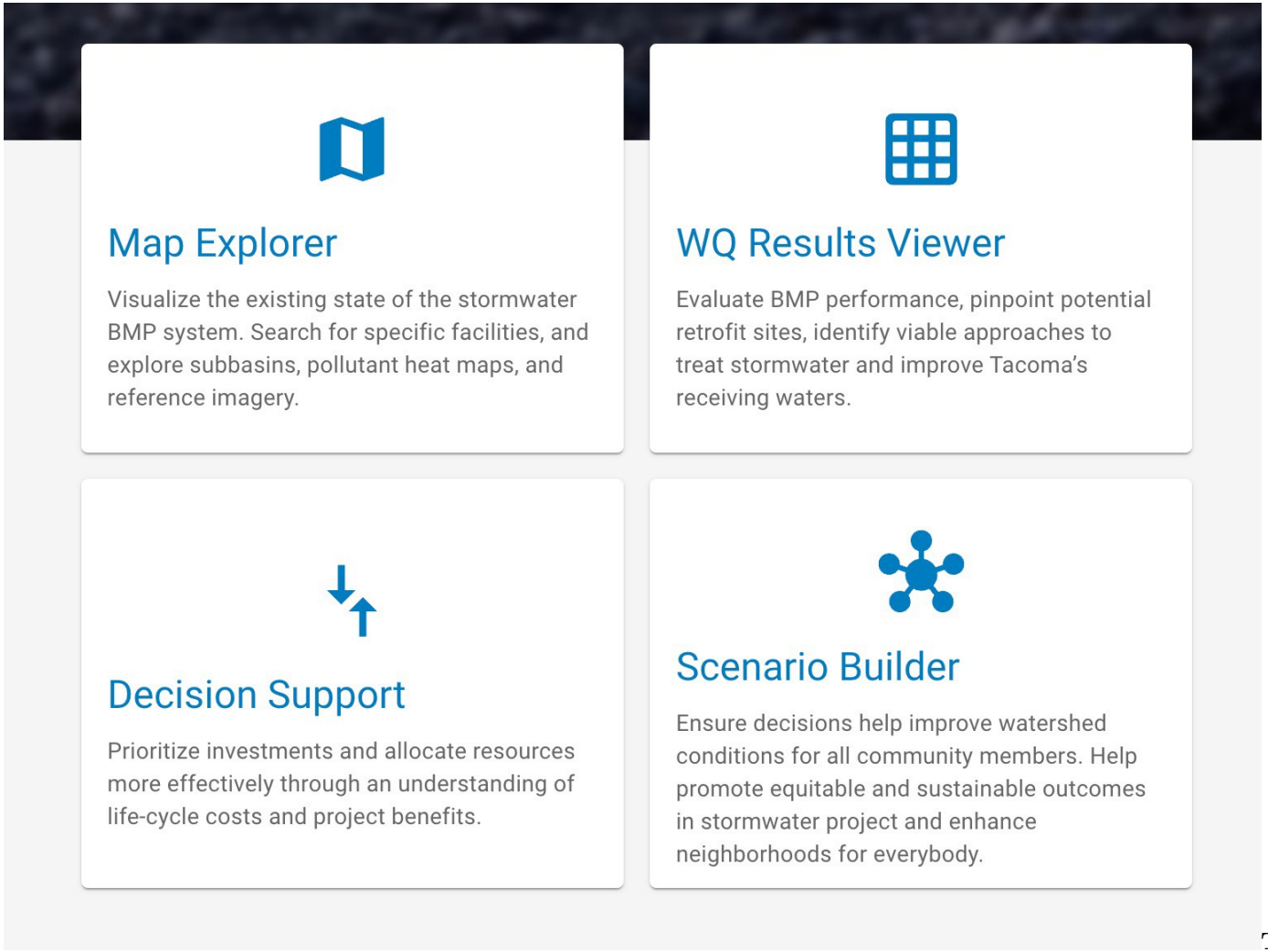
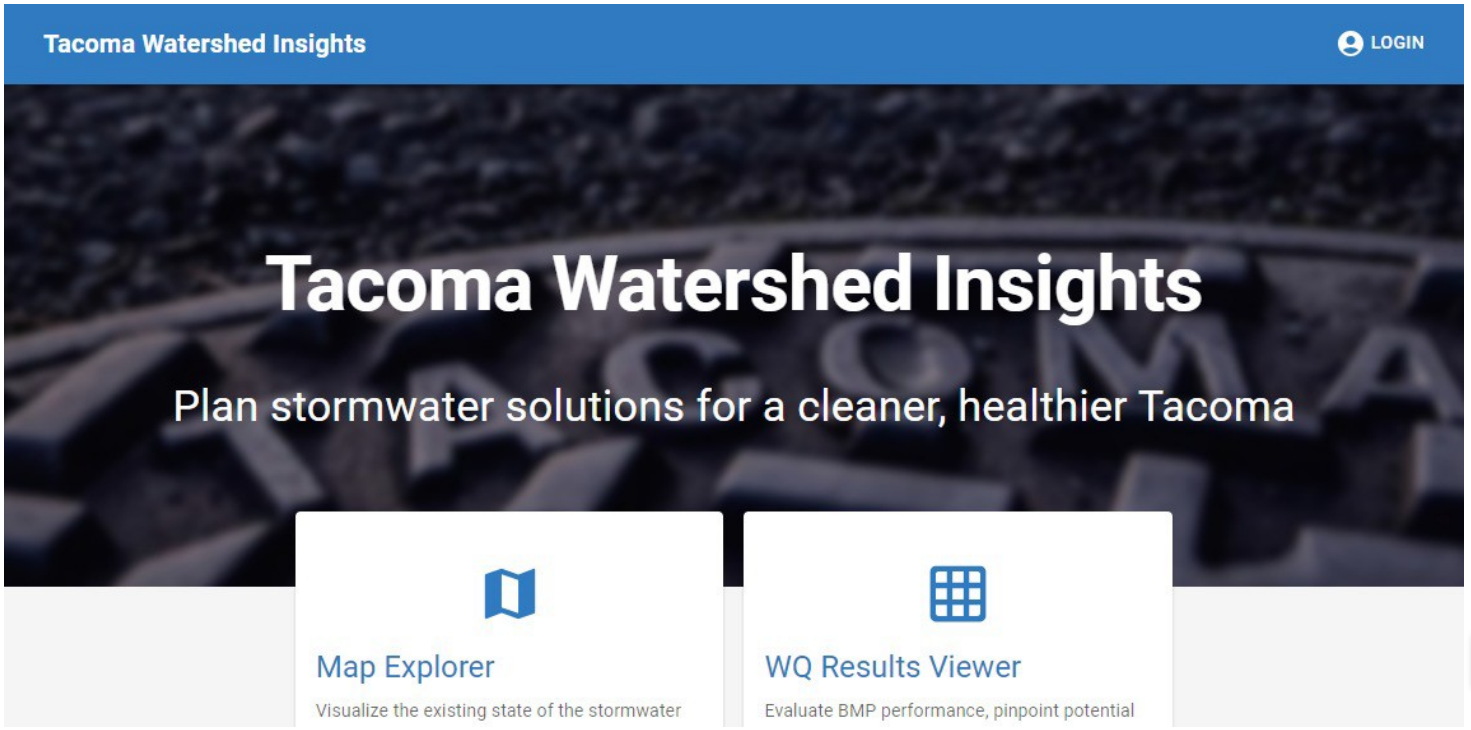


Tacoma Watershed Insights

Main Components

System Administration



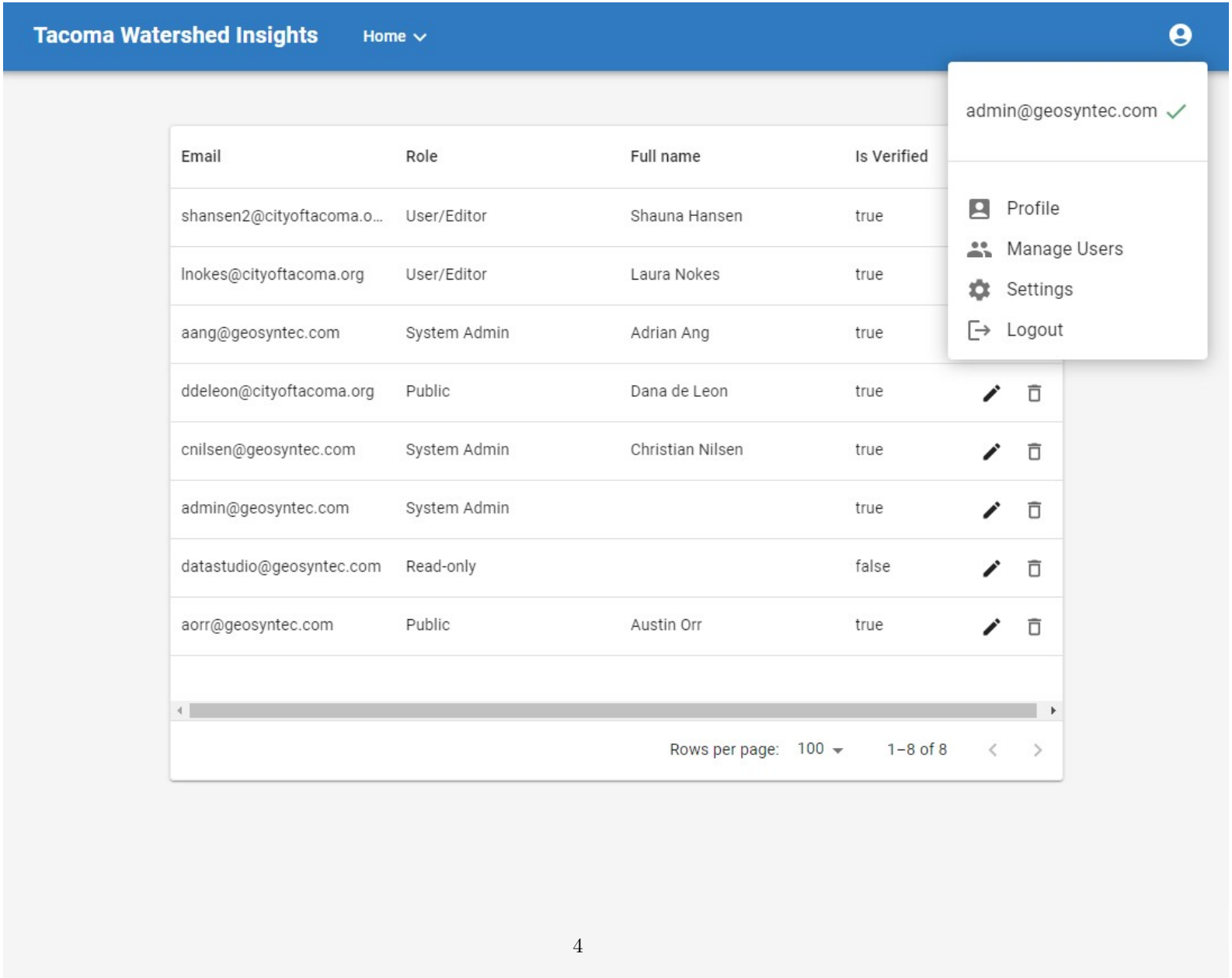
Enroll New User

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

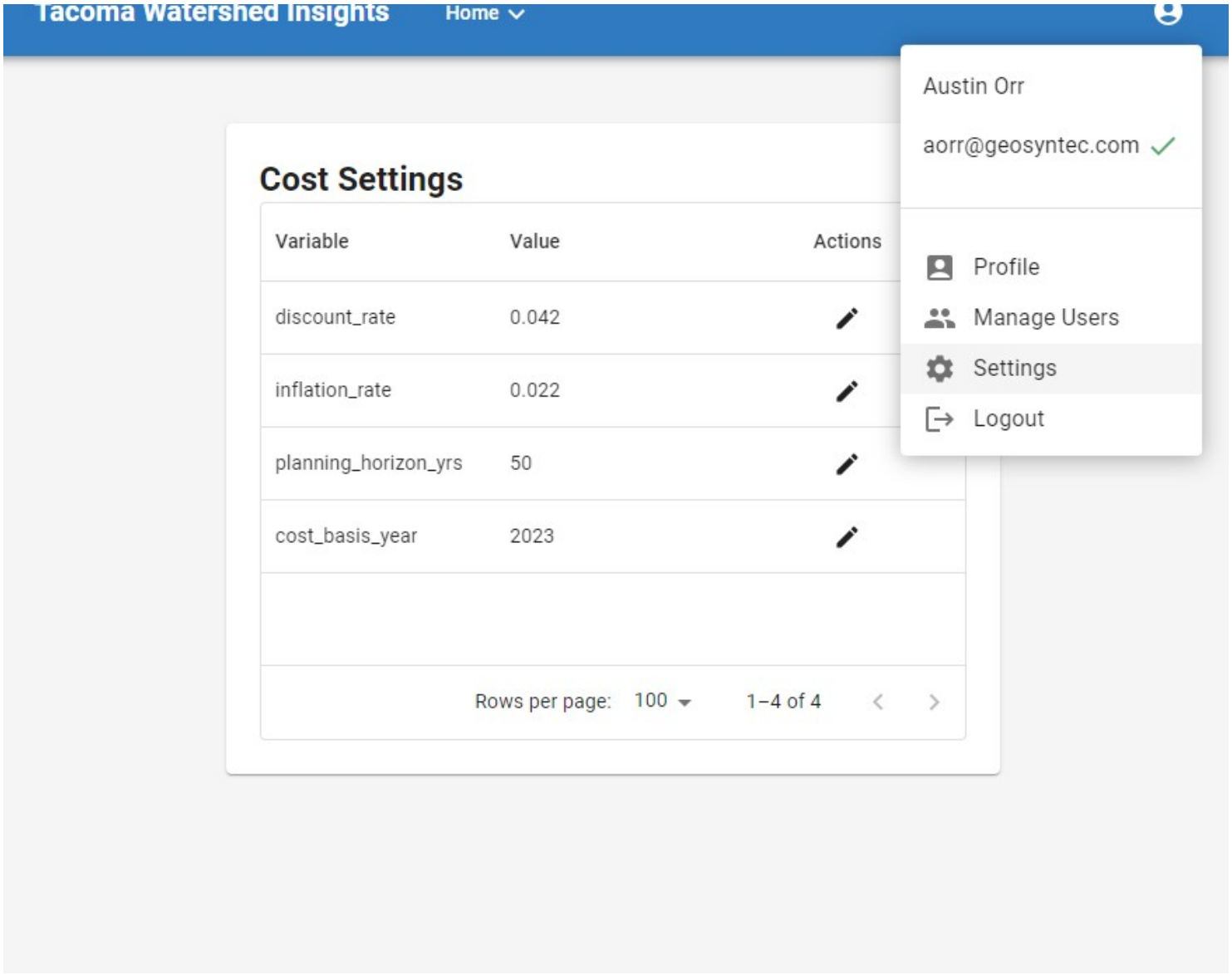
  Click through Verification

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


Tacoma Watershed Insights
Home
admin@geosyntec.com
Profile
Manage Users
Settings
Logout
Email
Role
Full name
Is Verified
shansen2@cityoftacoma.o...
User/Editor
Shauna Hansen
true
lnokes@cityoftacoma.org
User/Editor
Laura Nokes
true
aang@geosyntec.com
System Admin
Adrian Ang
true
ddeleon@cityoftacoma.org
Public
Dana de Leon
true
cnilsen@geosyntec.com
System Admin
Christian Nilsen
true
admin@geosyntec.com
System Admin
true
datastudio@geosyntec.com
Read-only
false
aorr@geosyntec.com
Public
Austin Orr
true
Rows per page:
100
1–8 of 8

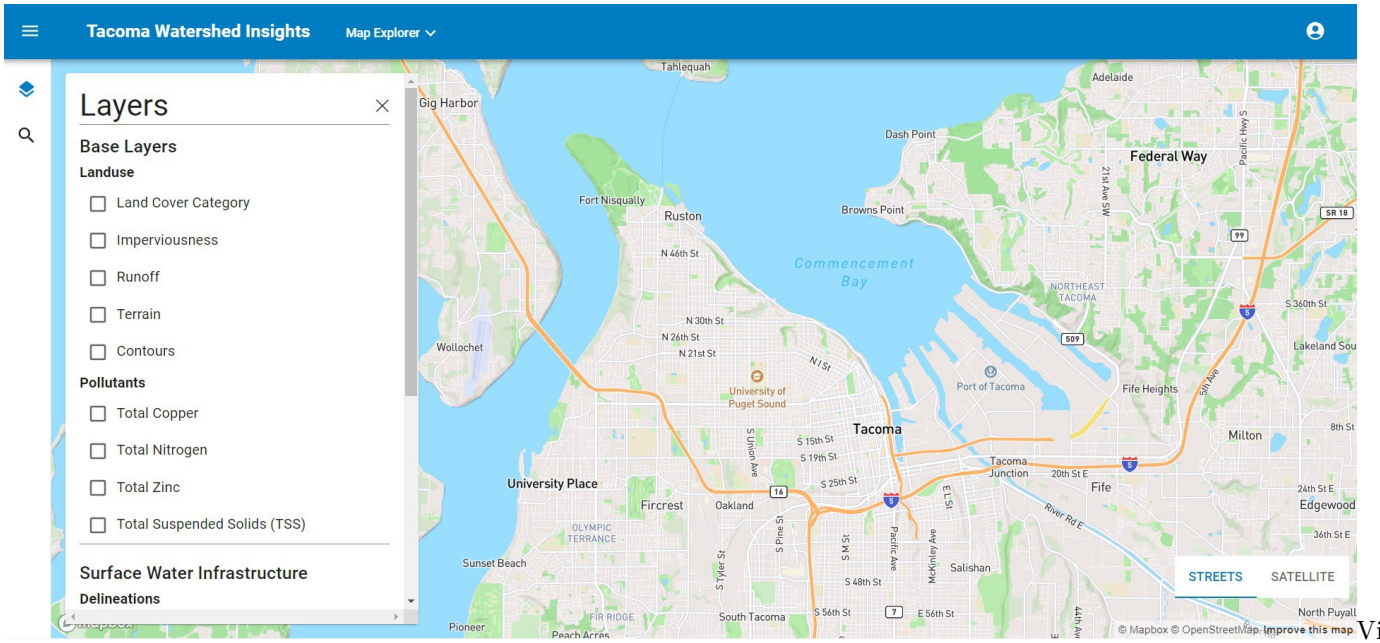
- Ask a User Admin to change your role
- Click on Profile
- Click Manage Users
- Click the pen to edit
- Select Role
- Save or cancel


Tacoma Watershed Insights
Home
Austin Orr
aorr@geosyntec.com
Profile
Manage Users
Settings
Logout
Cost Settings
Variable
Value
Actions
discount_rate
0.042
inflation_rate
0.022
planning_horizon_yrs
50
cost_basis_year
2023
Rows per page:
100
1–4 of 4

Cost Module Settings

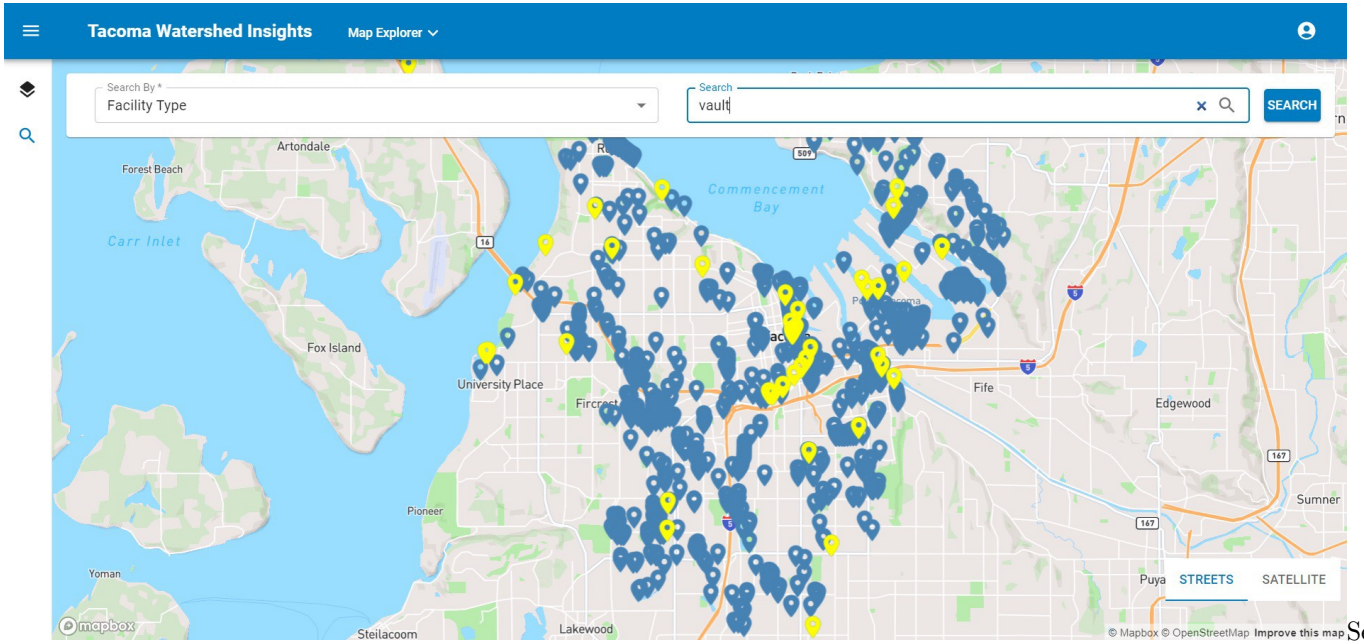
Modify Global Settings

Map Explorer



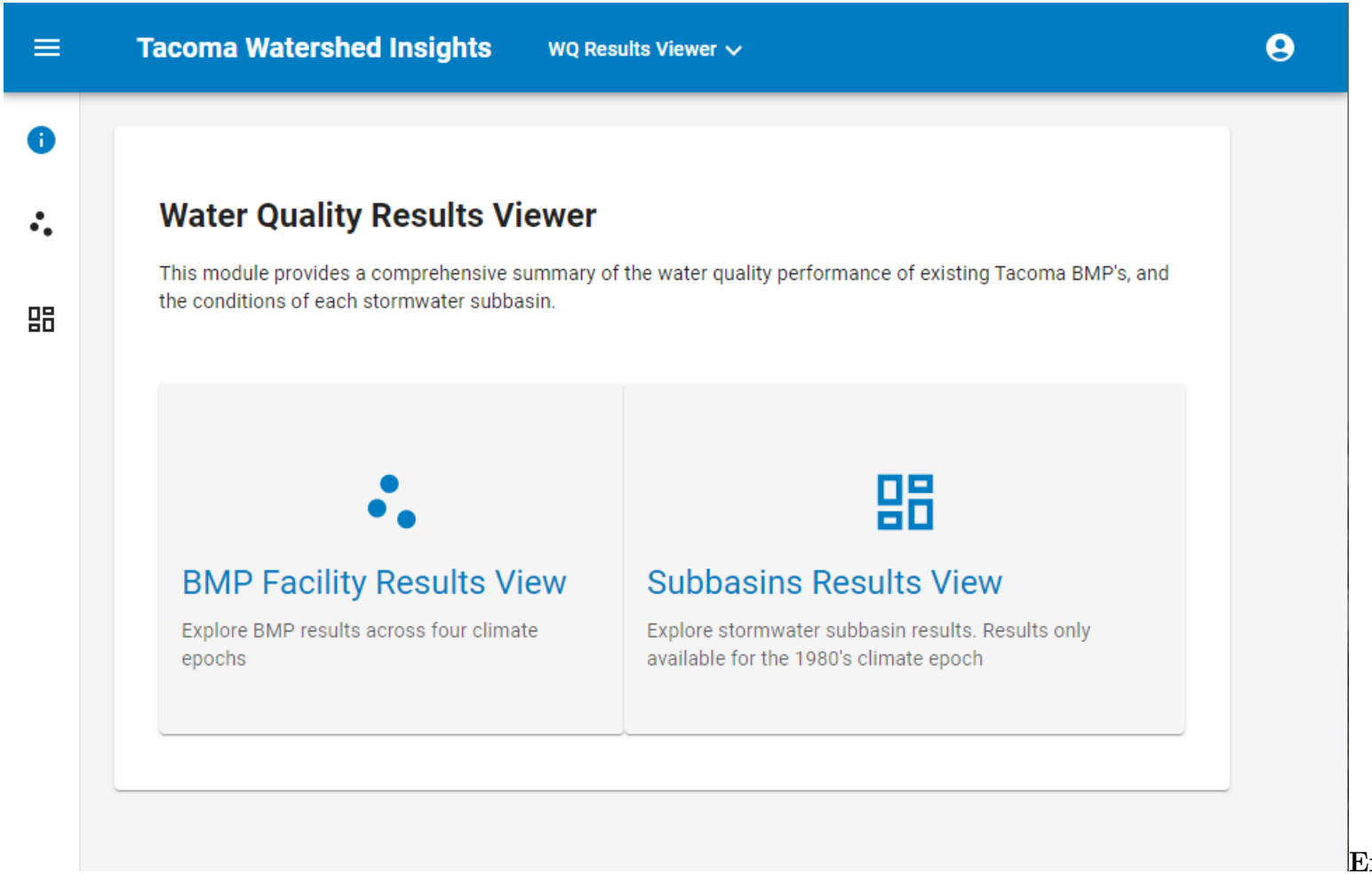
Visualize Existing Infrastructure and Conditions

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

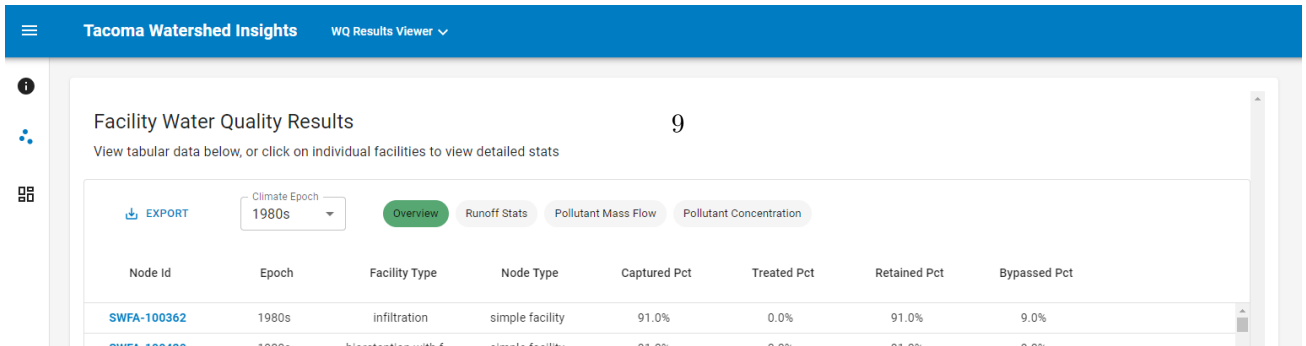


Search by Facility Type

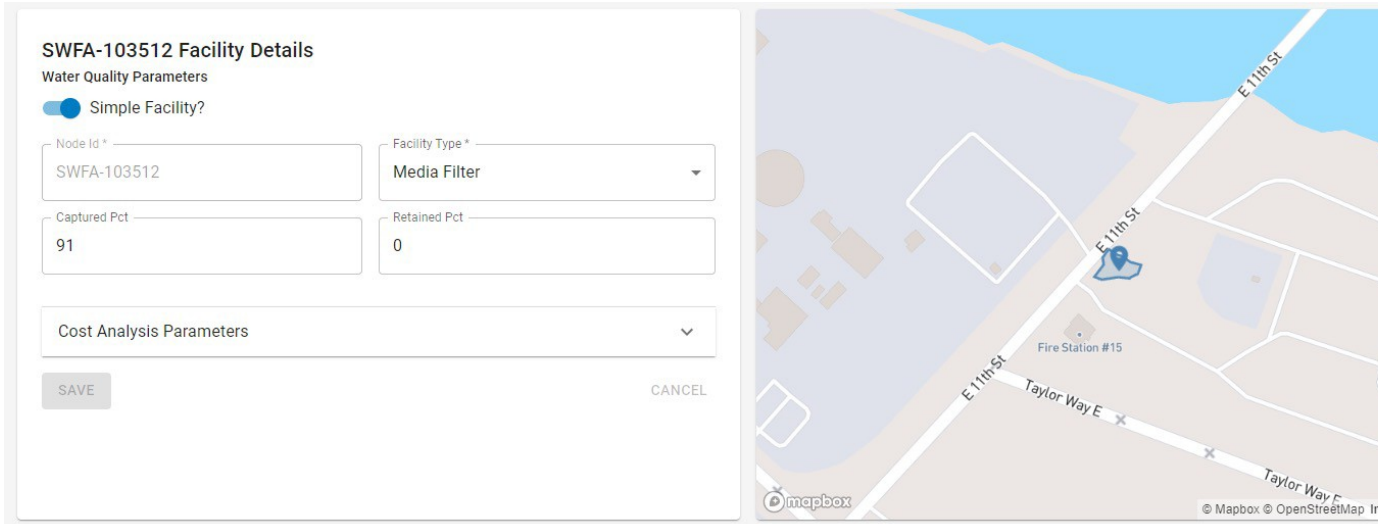
Results Reviewer

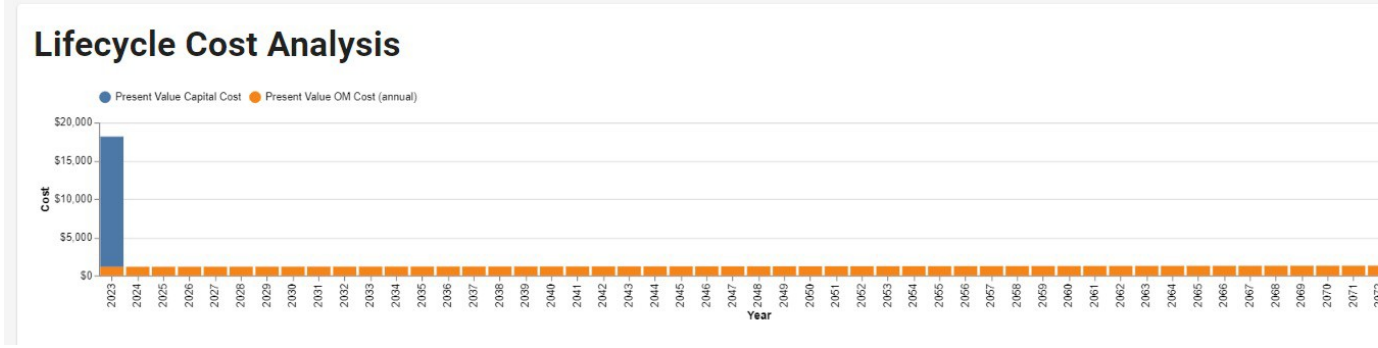


Explore WQ Performance at Facilities and Subbasins



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





Drill down to individual BMPs

SWFA-103512 Facility Details

Water Quality Parameters

Simple Facility?

Node Id *: SWFA-103512

Facility Type *: Media Filter

Tributary Area Tc Min: 5

Offline Diversion Rate Cfs: 0

Total Volume Cuft *: 1000

Area Sqft *: 200

Media Filtration Rate Inhr *: 4

Cost Analysis Parameters

Capital Cost: 17000

Capital Cost Basis Year: 2023

Om Cost Per Yr: 1150

Om Cost Basis Year: 2023

Install Year:

Replacement Cost:

Lifespan Yrs:

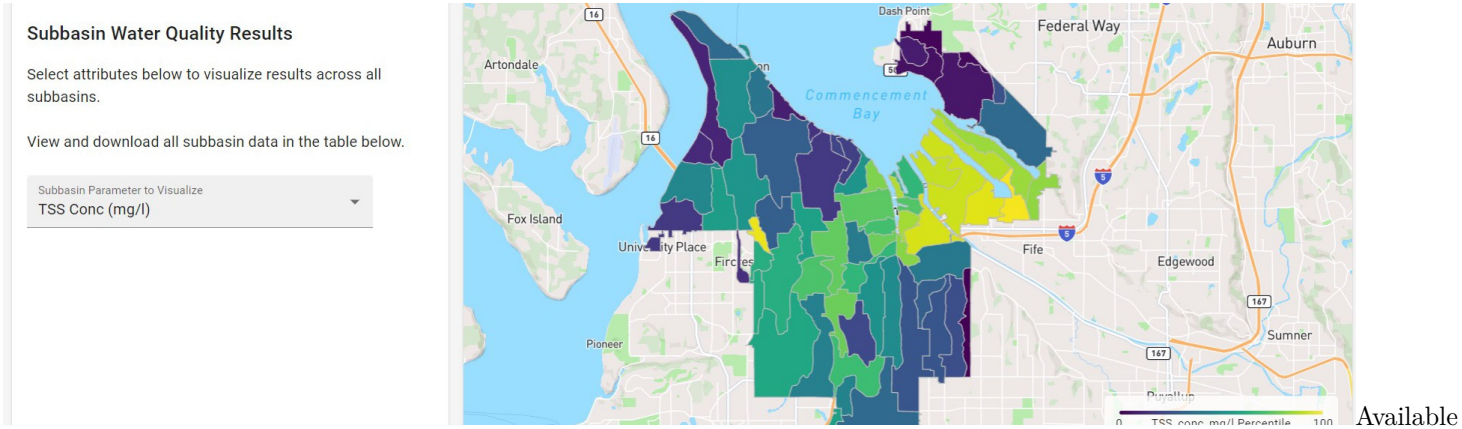
KING COUNTY COST ESTIMATOR TOOL

SAVE CANCEL

Create BMPs with Detailed Performance and Cost Attributes

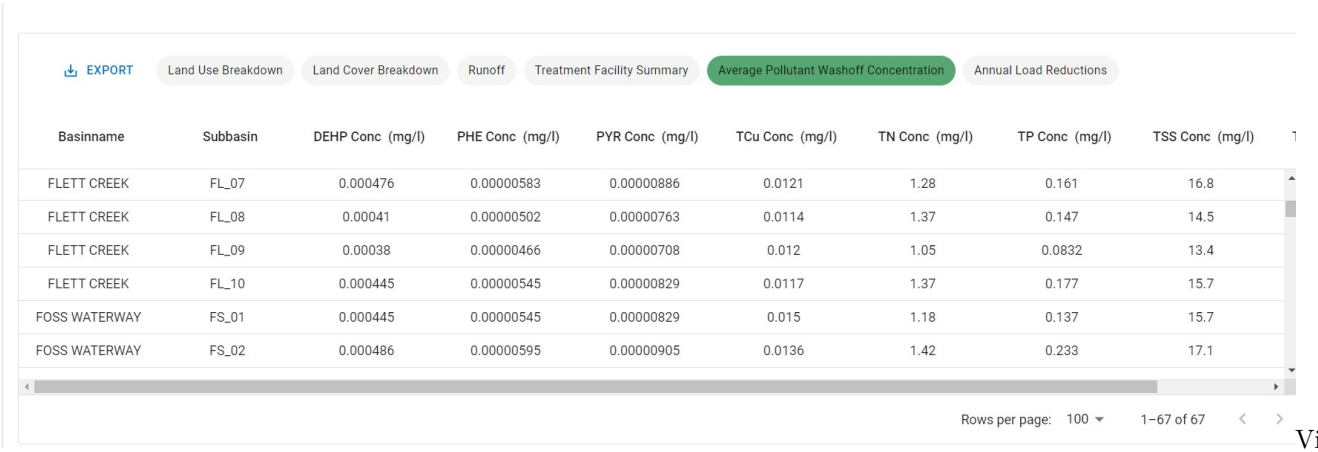
- Toggle between 'simple' facilities driven by percentage based capture and treatment stats to ones based on physical attributes
- Add cost data that allows for capital and O&M costs to be amortized over the lifespan of the facility

Visualize Subbasin Attributes

- 

Available Parameters:

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



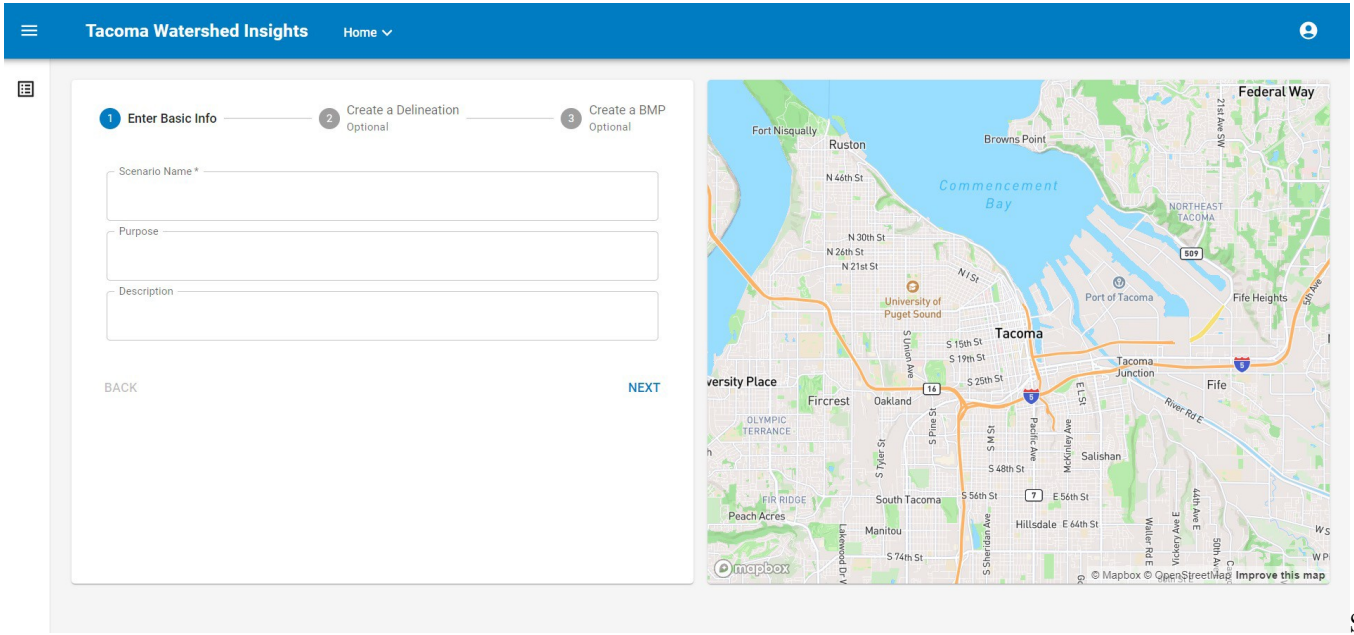
Visualize Subbasin Attributes

- View and download tabular results

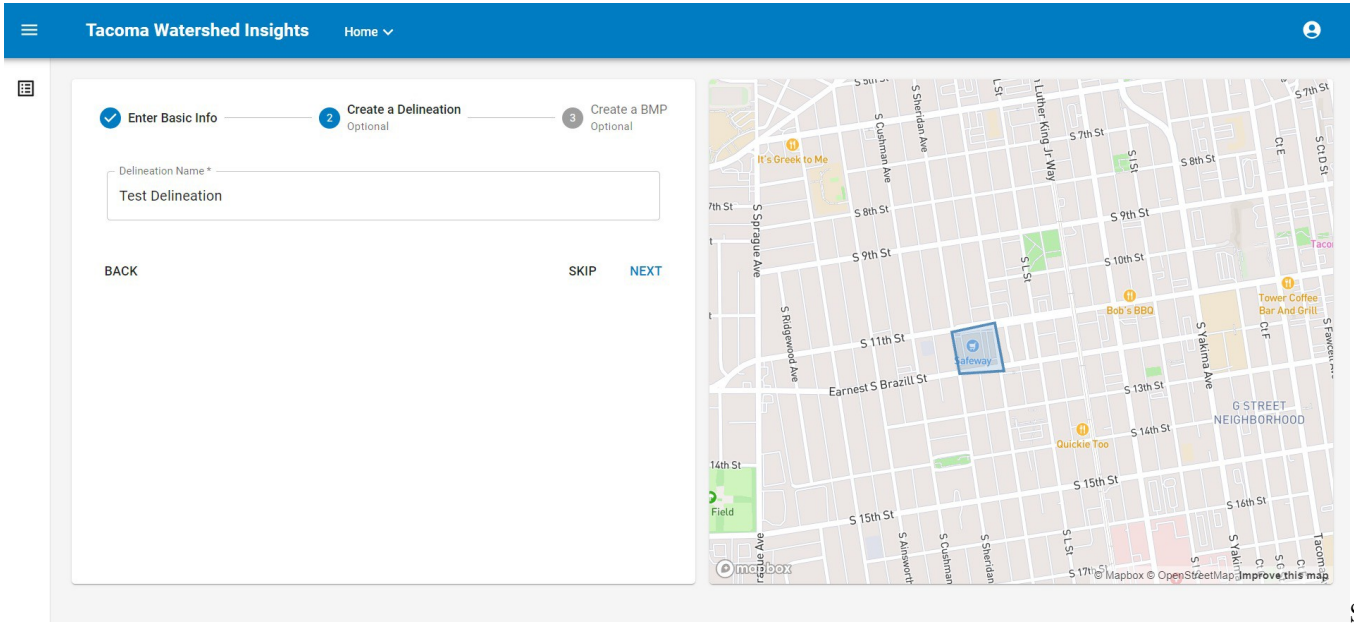
Scenario Builder

Purpose and Process

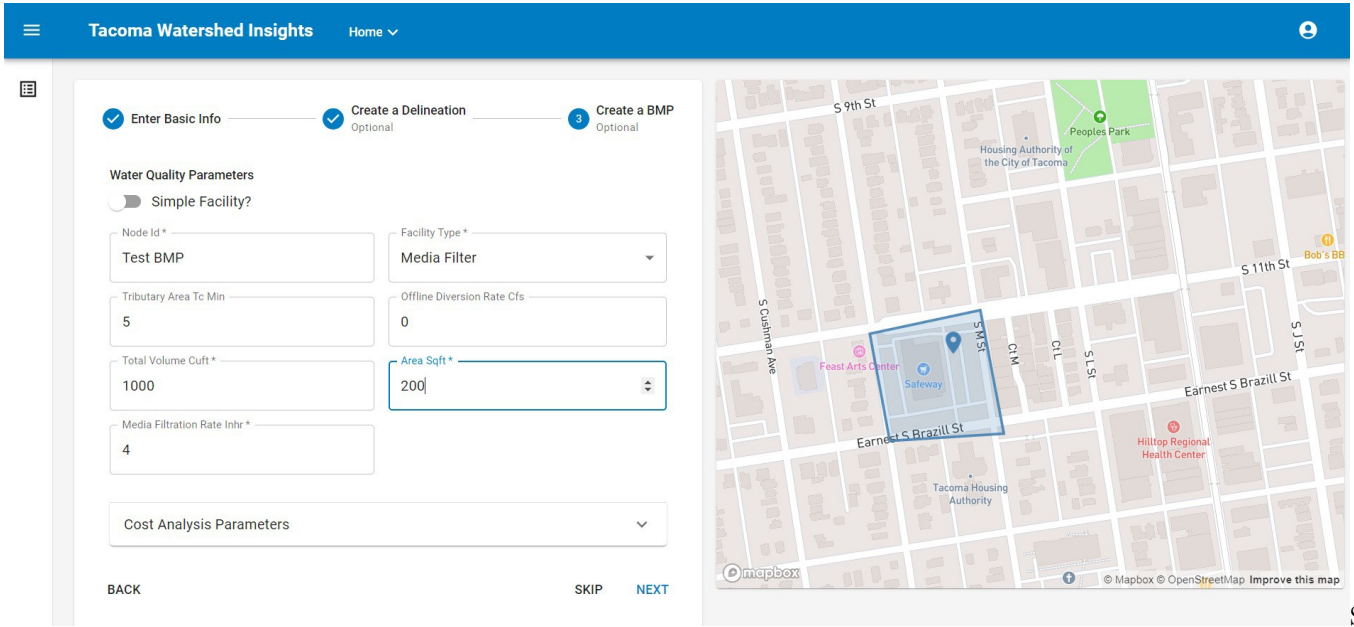
- Allows users to model a proposed single BMP facility with an upstream delineation
- Scenarios can be designed incrementally (facility/delineation can be added after creation)
- WQ results can be generated after scenario creation and future edits



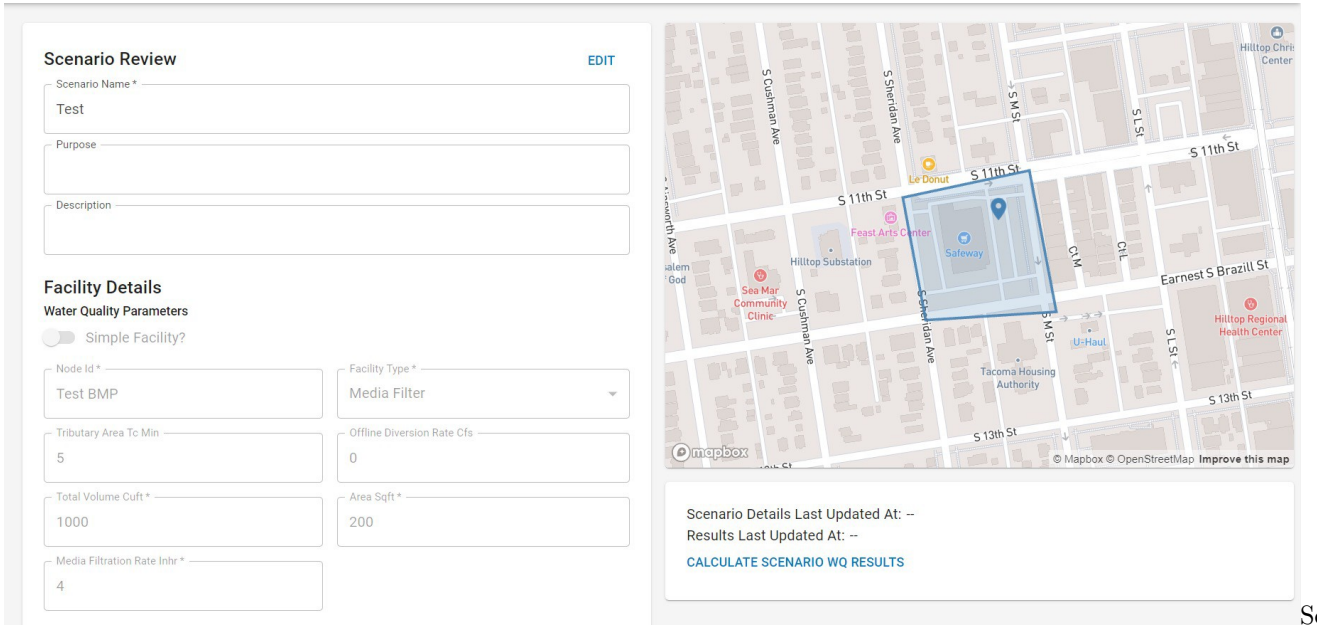
Scenario Design Process



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

Tacoma Watershed Insights Prioritize Watersheds

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

0

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

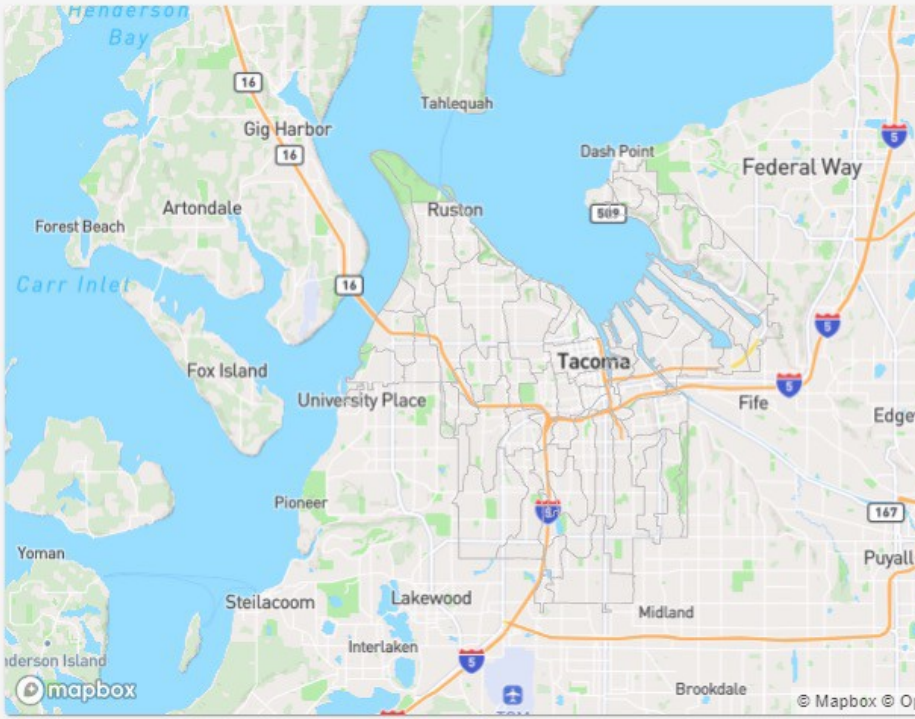
0

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)



Submit a set of priorities to view and download results

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

https://dev.tacomawatersheds.com/api/rest/tmnt_facility/token/9ddba26a-79a8-412f-b06f-4eebd2405457?f=json&limit=1000000&o

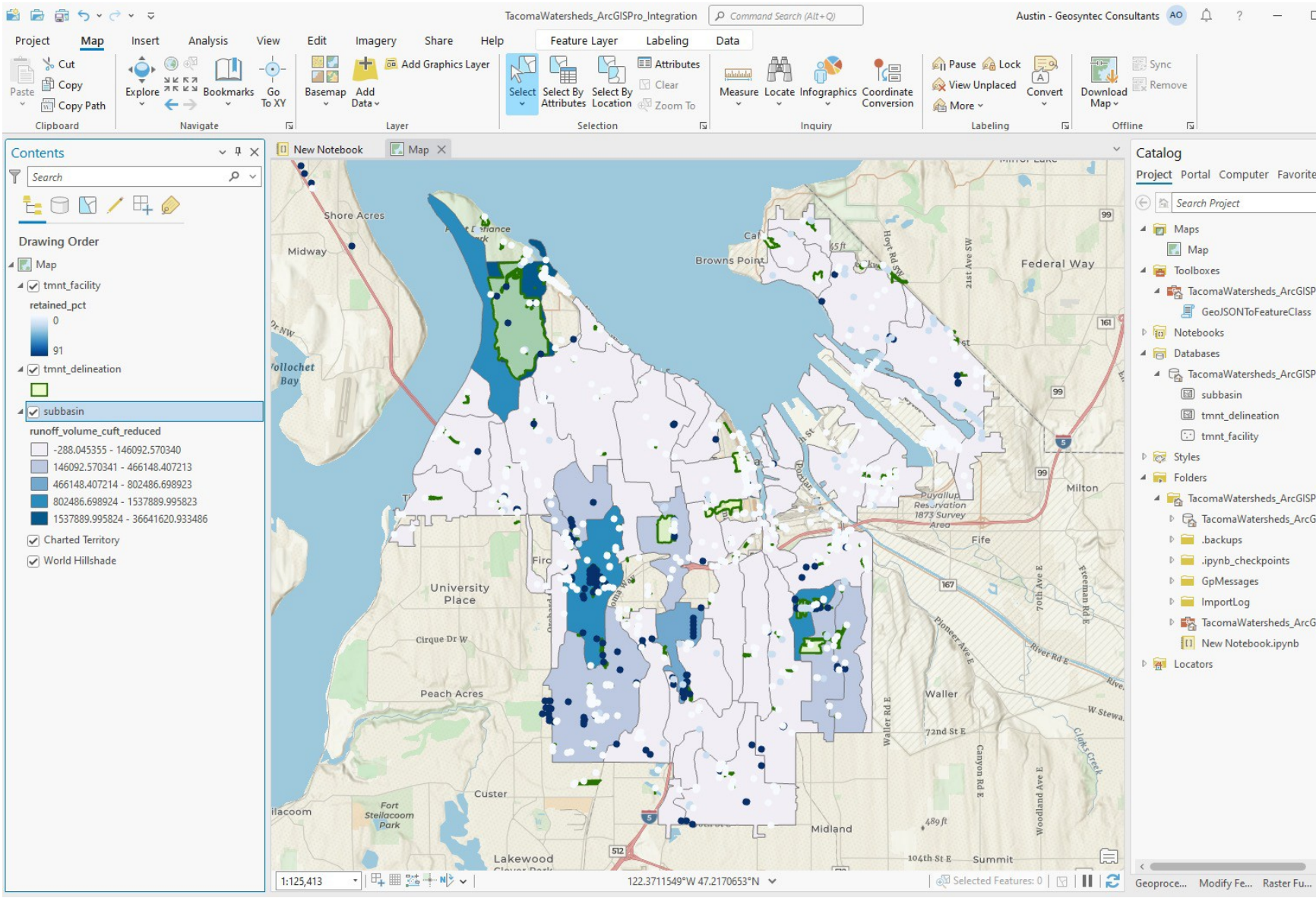
Get attributes or geojson for all tmnt facilities.
f: str (optional, default=json, [json, geojson]) Format of response data
limit: int (optional, default=1e6) Number of records to return
offset: int (optional, default=0) Start from index

https://dev.tacomawatersheds.com/api/rest/tmnt_facility/{altid}/token/9ddba26a-79a8-412f-b06f-4eebd2405457

Get attributes for tmnt facility with given altid.

https://dev.tacomawatersheds.com/api/rest/tmnt_delineation/token/9ddba26a-79a8-412f-b06f-4eebd2405457?f=json&limit=10000

Get attributes for all delineations.
f: str (optional, default=json, [json, geojson]) Format of response data
limit: int (optional, default=1e6) Number of records to return


TacomaWatersheds_ArcGISPro_Integration
Command Search (Alt+Q)
Austin - Geosyntec Consultants
Project
Map
Insert
Analysis
View
Edit
Imagery
Share
Help
Feature Layer
Labeling
Data
Cut
Copy
Copy Path
Paste
Clipboard
Explore
Bookmarks
Go To XY
Navigate
Basemap
Add Data
Add Graphics Layer
Layer
Select
Select By Attributes
Select By Location
Attributes
Clear
Zoom To
Selection
Measure
Locate
Infographics
Coordinate Conversion
Inquiry
Pause
Lock
View Unplaced
More
Convert
Labeling
Download Map
Sync
Remove
Offline
Contents
Search
Drawing Order
Map
tmnt_facility
retained_pct
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91
tmnt_delineation
subbasin
runoff_volume_cuft_reduced
-288.045355 - 146092.570340
146092.570341 - 466148.407213
466148.407214 - 802486.698923
802486.698924 - 1537889.995823
1537889.995824 - 36641620.933486
Charted Territory
World Hillshade
New Notebook
Map
Shore Acres
Midway
Browns Point
Federal Way
Milton
Fife
University Place
Cirque Dr W
Peach Acres
Waller
Custer
Midland
Lakewood
Summit
Fort Steilacoom Park
Puyallup Reservation 1873 Survey Area
Catalog
Project
Portal
Computer
Favorite
Search Project
Maps
Map
Toolboxes
TacomaWatersheds_ArcGISP
GeoJSONToFeatureClass
Notebooks
Databases
TacomaWatersheds_ArcGISP
subbasin
tmnt_delineation
tmnt_facility
Styles
Folders
TacomaWatersheds_ArcGISP
TacomaWatersheds_ArcG
.backups
.ipynb_checkpoints
GpMessages
ImportLog
TacomaWatersheds_ArcG
New Notebook.ipynb
Locators
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122.3711549°W 47.2170653°N
Selected Features: 0
Geoproce...
Modify Fe...
Raster Fu...