

Introduction to **Model My Watershed[®]**

Part 1: Using Model My Watershed as a mapping tool

Part 2: Simulating water and pollutants from a one day rainfall

Part 3: Simulating water and pollutants over an annual period

ModelMyWatershed.org

Introduction to **Model My Watershed[®]**

Part 1: Using Model My Watershed as a mapping tool

ModelMyWatershed.org

Part 1: Using Model My Watershed as a mapping tool

Explore Human Impacts on Your Watershed

Analyze mapped watershed data, visualize monitoring data, and run model simulations of human impacts on water quality.

Select Area and Analyze

Explore map layers and select your area of interest. Analyze land cover, hydrologic soil groups, permitted point source discharges and other natural and human influenced features.

Monitor My Watershed®

Search for monitoring data in various data repositories. Share your monitoring data to view in WikiWatershed.

Model My Watershed®

Run one of two models to compare impacts of different conservation and development scenarios on water quality. Share your modeling results for others to find, copy, and edit.

Get started →

Jump to location, HUC, or coordinates

Streams

- Continental US Medium Resolution
- Continental US High Resolution
- Delaware River Basin High Resolution

Layers

Streams

- Continental US Medium Resolution Stream Network
- Continental US High Resolution Stream Network
- Delaware River Basin High Resolution Stream Network

Add layers to build your map



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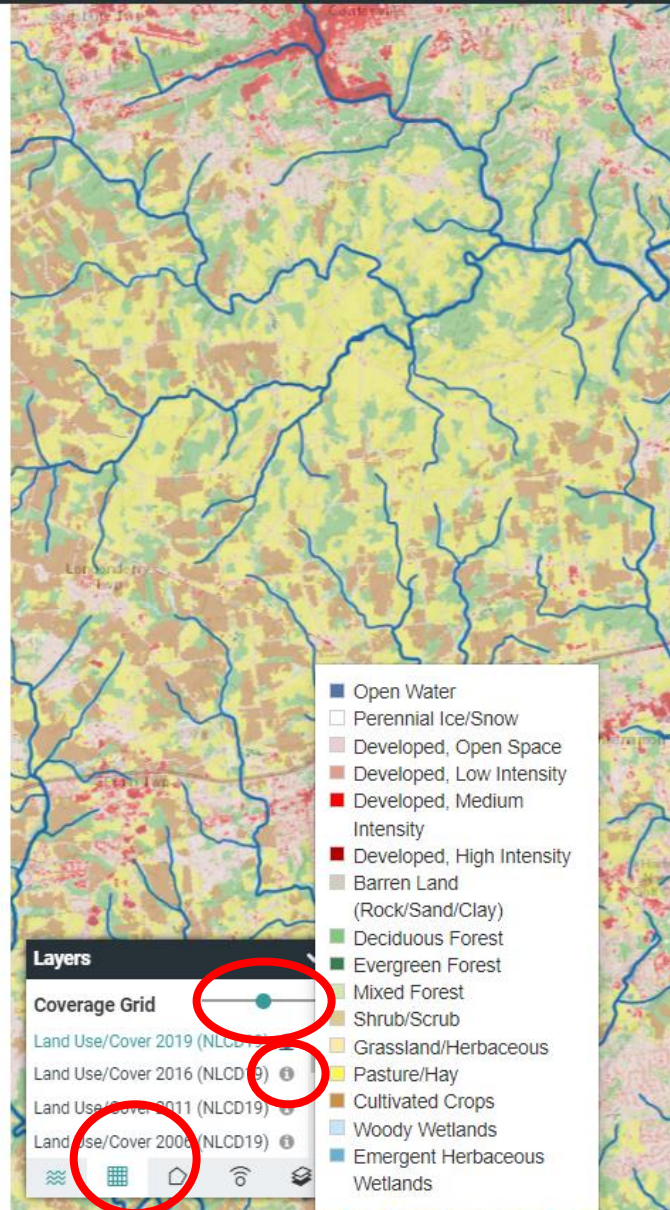
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Get started →



Coverage Grid

- Land Use/Cover 2019
- Land Use/Cover 2016
- Land Use/Cover 2011
- Land Use/Cover 2006
- Land Use/Cover 2001
- Land Use/Cover 2011 (NLCD 2011)
- Hydrologic Soils Groups from GSSURGO
- Elevation
- Slope
- Mean Monthly Precipitation
- Mean Monthly Temperature
- Protected Lands
- Active River Area – NE & Mid-Atlantic
- Delaware River Basin 2011 Urban Baseline
- Delaware River Basin 2100 Urban Centers FX
- Delaware River Basin 2100 Urban Corridors FX
- PA Urbanized Areas and Municipalities

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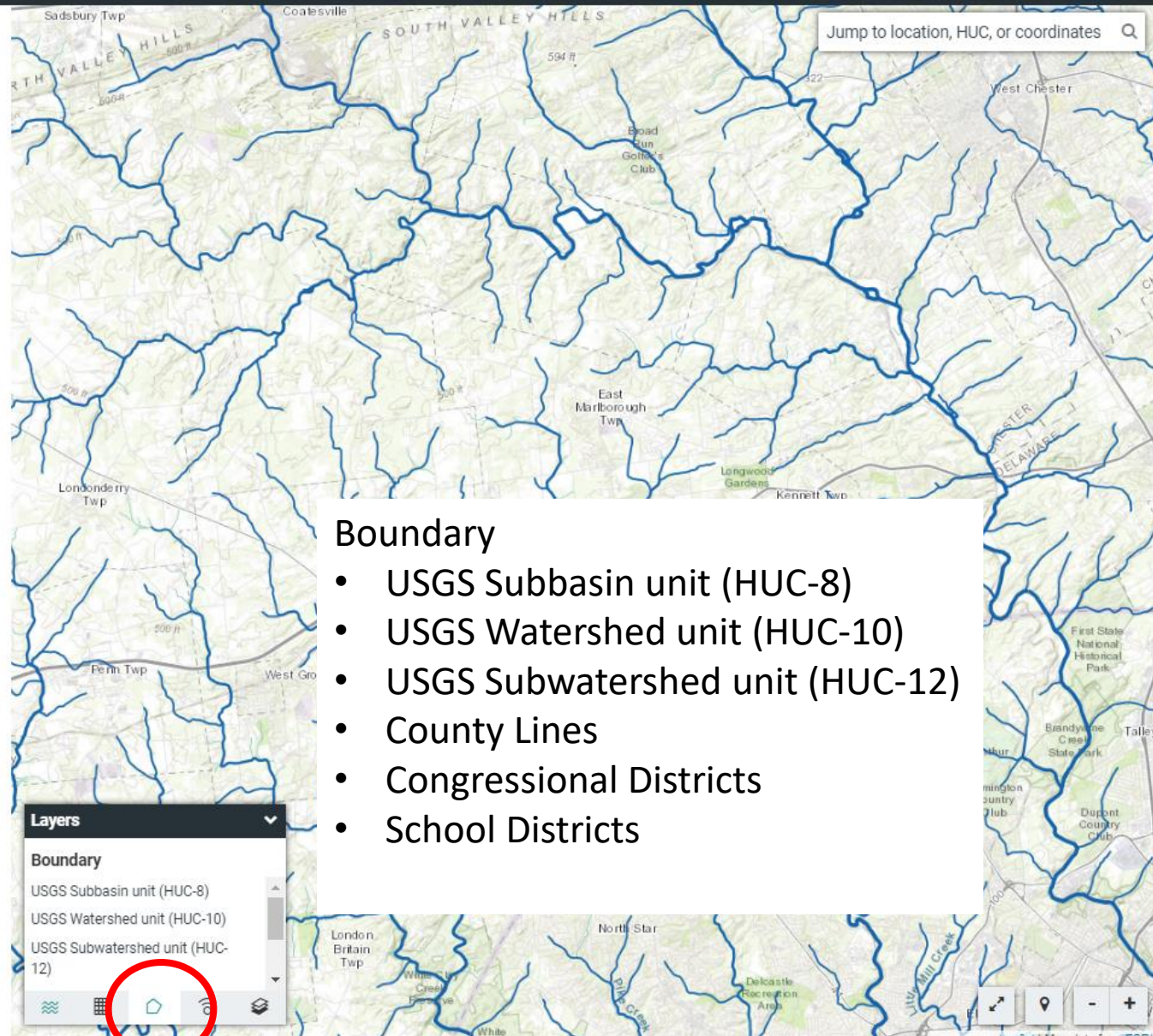
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Get started →



Boundary

- USGS Subbasin unit (HUC-8)
- USGS Watershed unit (HUC-10)
- USGS Subwatershed unit (HUC-12)
- County Lines
- Congressional Districts
- School Districts

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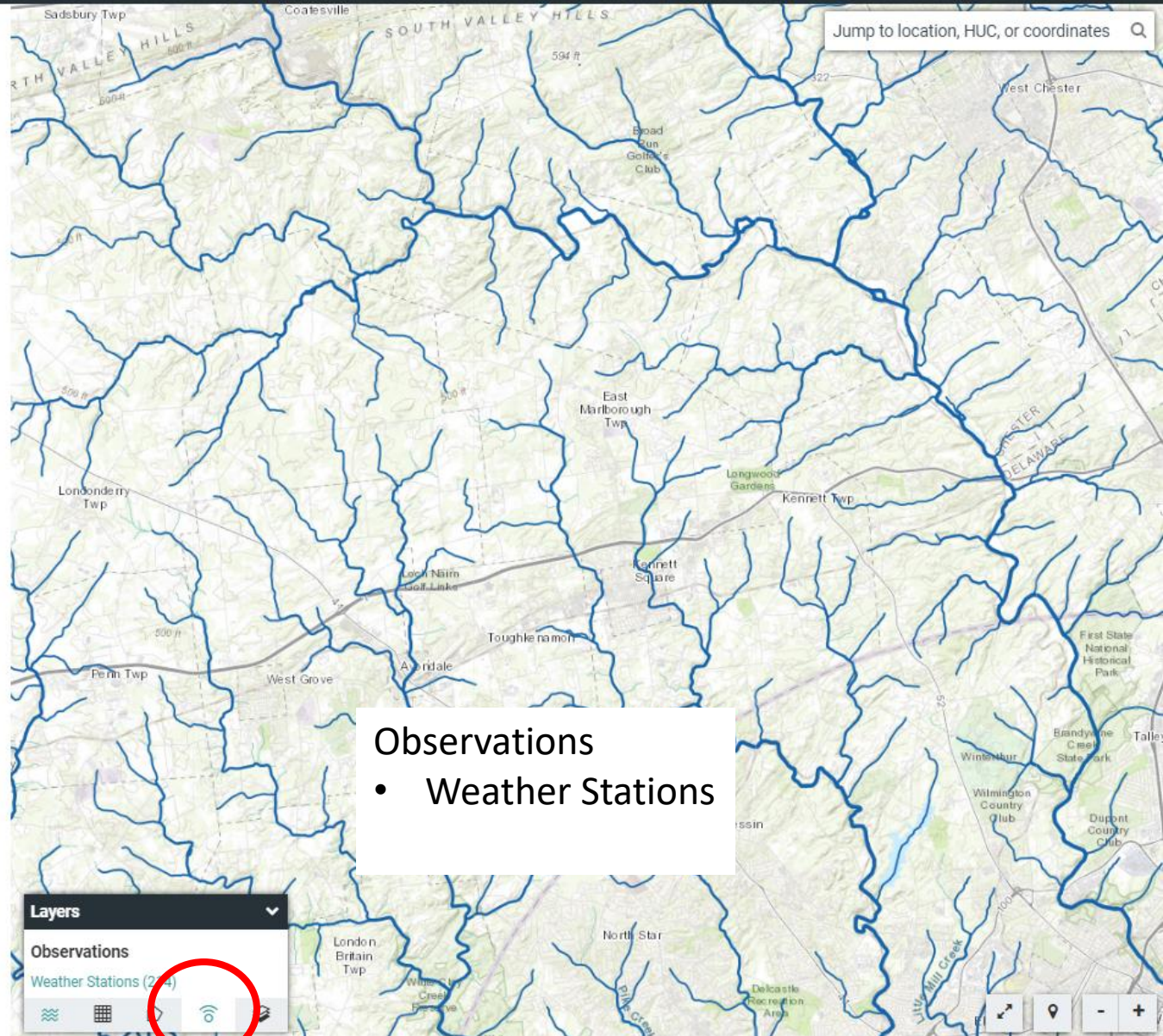
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Get started →



Observations

- Weather Stations

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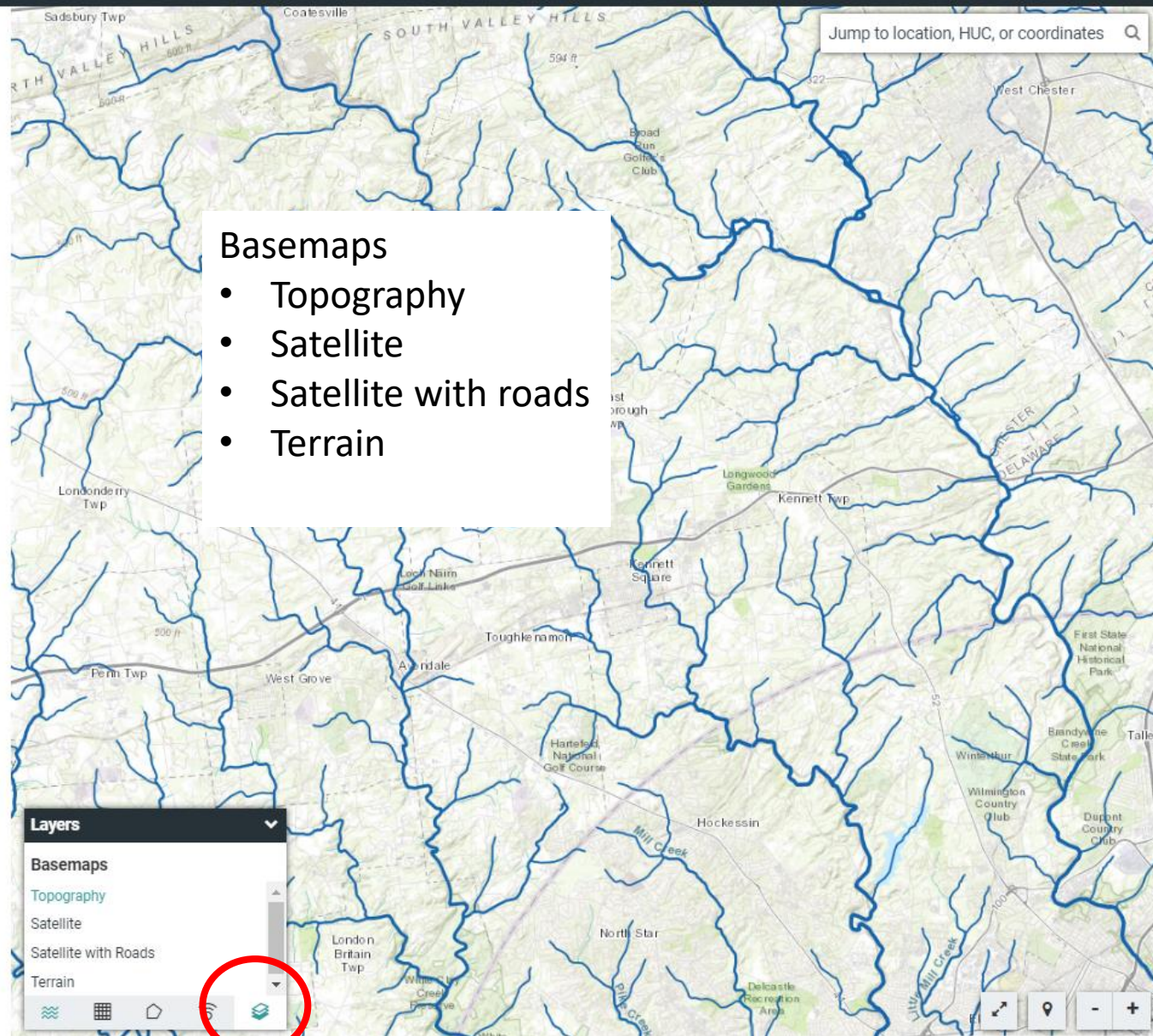
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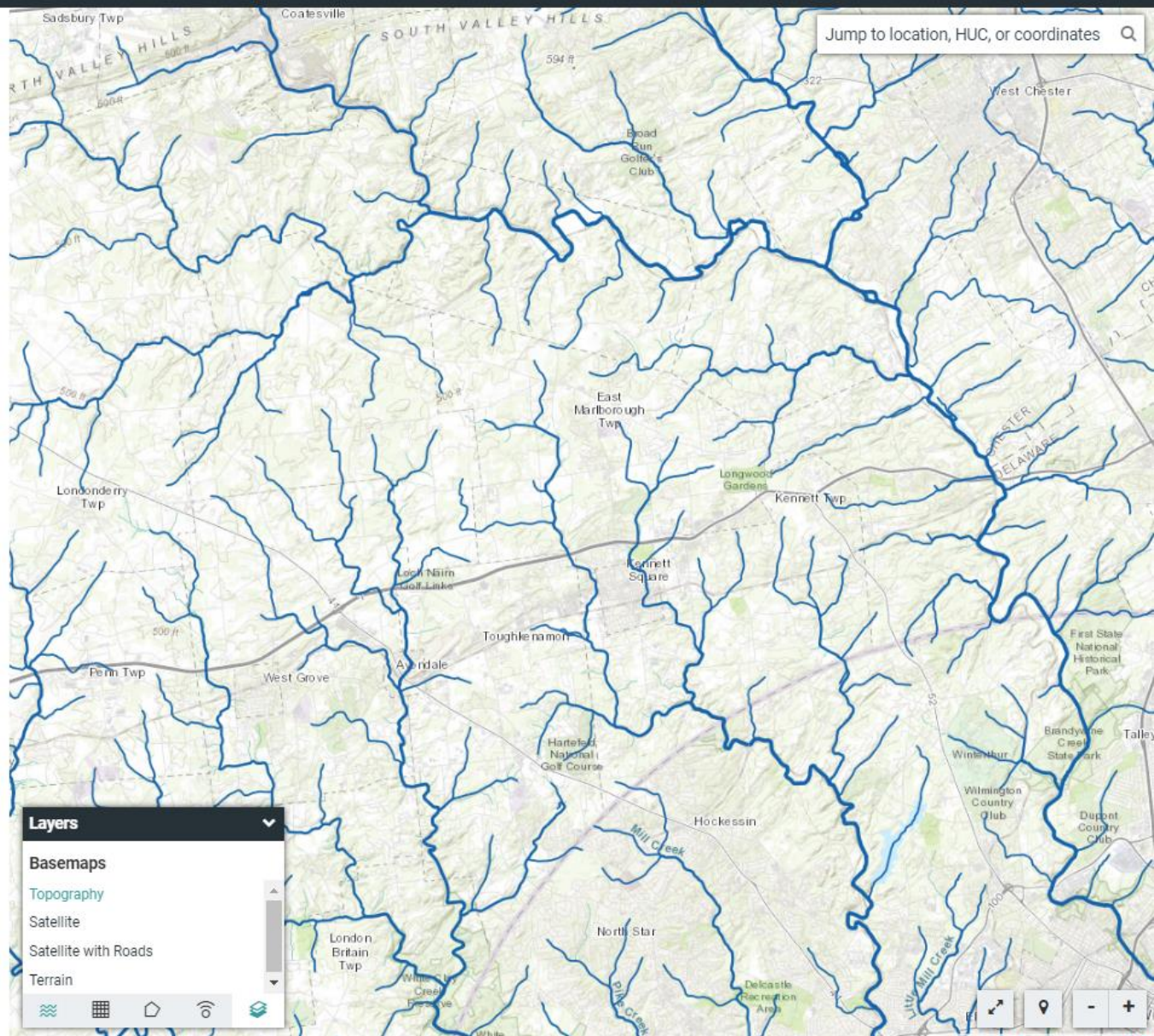
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[Get started →](#)



Select a predefined boundary or delineate a watershed

Select Area

Explore mapped layers, such as streams, land cover, soils, boundaries and observations, using the layer selector in the lower left of the map. See our [documentation on layers](#).

Select an Area of Interest in the continental United States, using the suite of tools below, to analyze the factors that impact water in your area and to begin to model different scenarios of human impacts. Different modeling options for using these tools are described in the technical [documentation](#).

Select boundary

Choose a predefined boundary from several types

Draw area

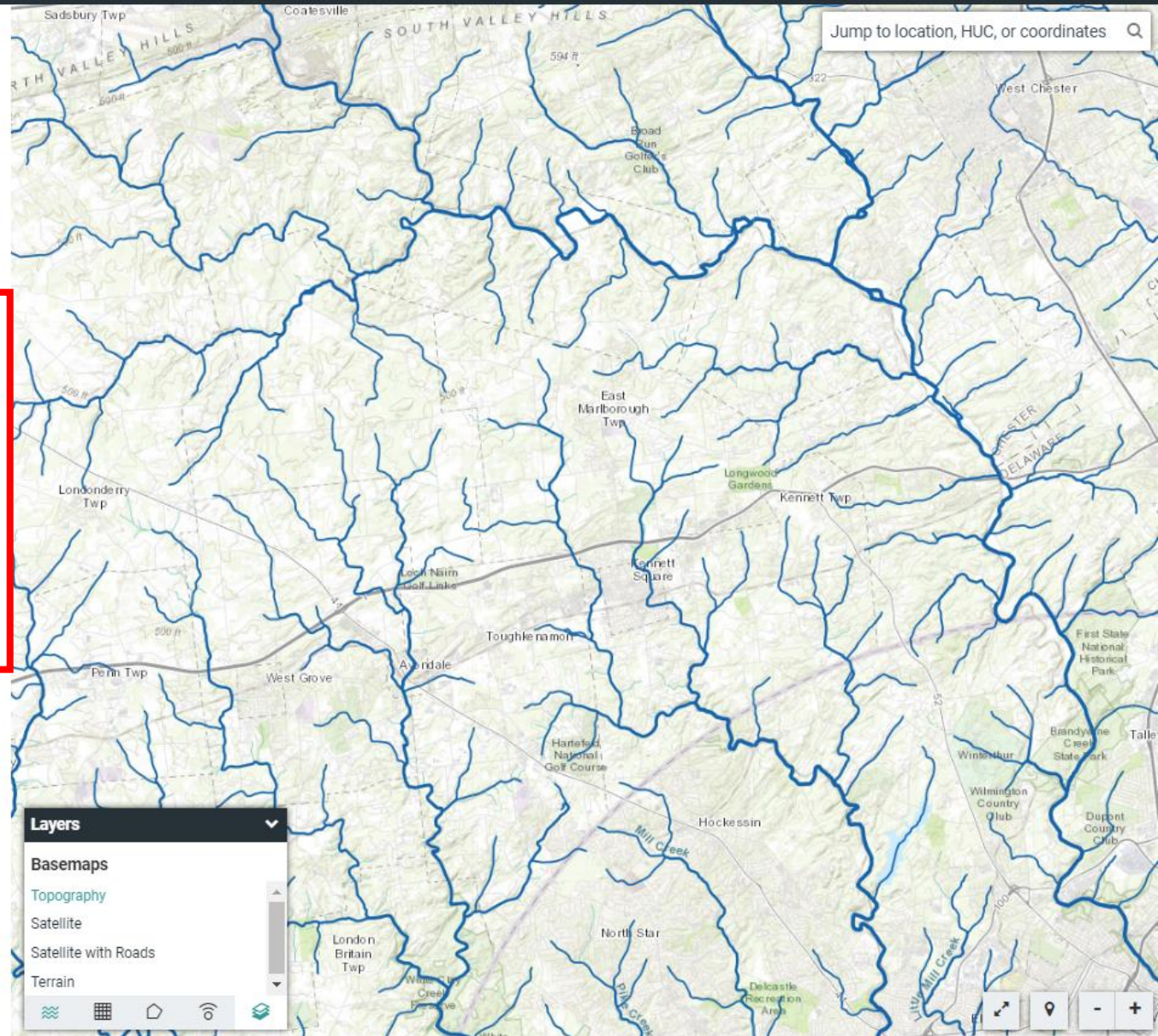
Free draw an area or place a square kilometer

Delineate watershed

Automatically delineate a watershed from any point

Upload file

Upload a polygon for your area



Delineate a watershed yourself at any location

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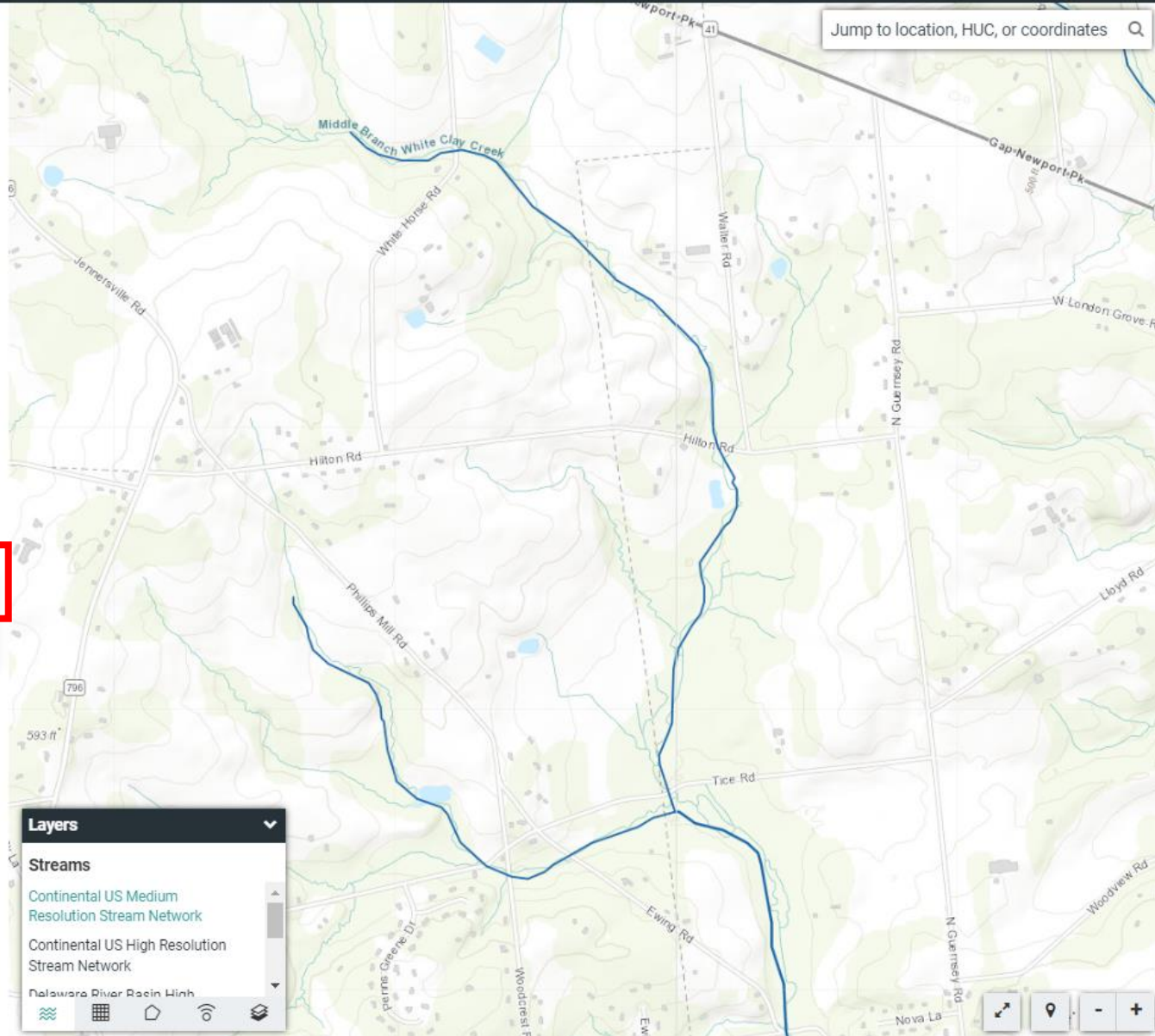
Free draw an area or place a square kilometer

Delineate watershed

Automatically delineate a watershed from any point

Continental US Medium Resolution

Delaware High Resolution



Delineate a watershed yourself at any location

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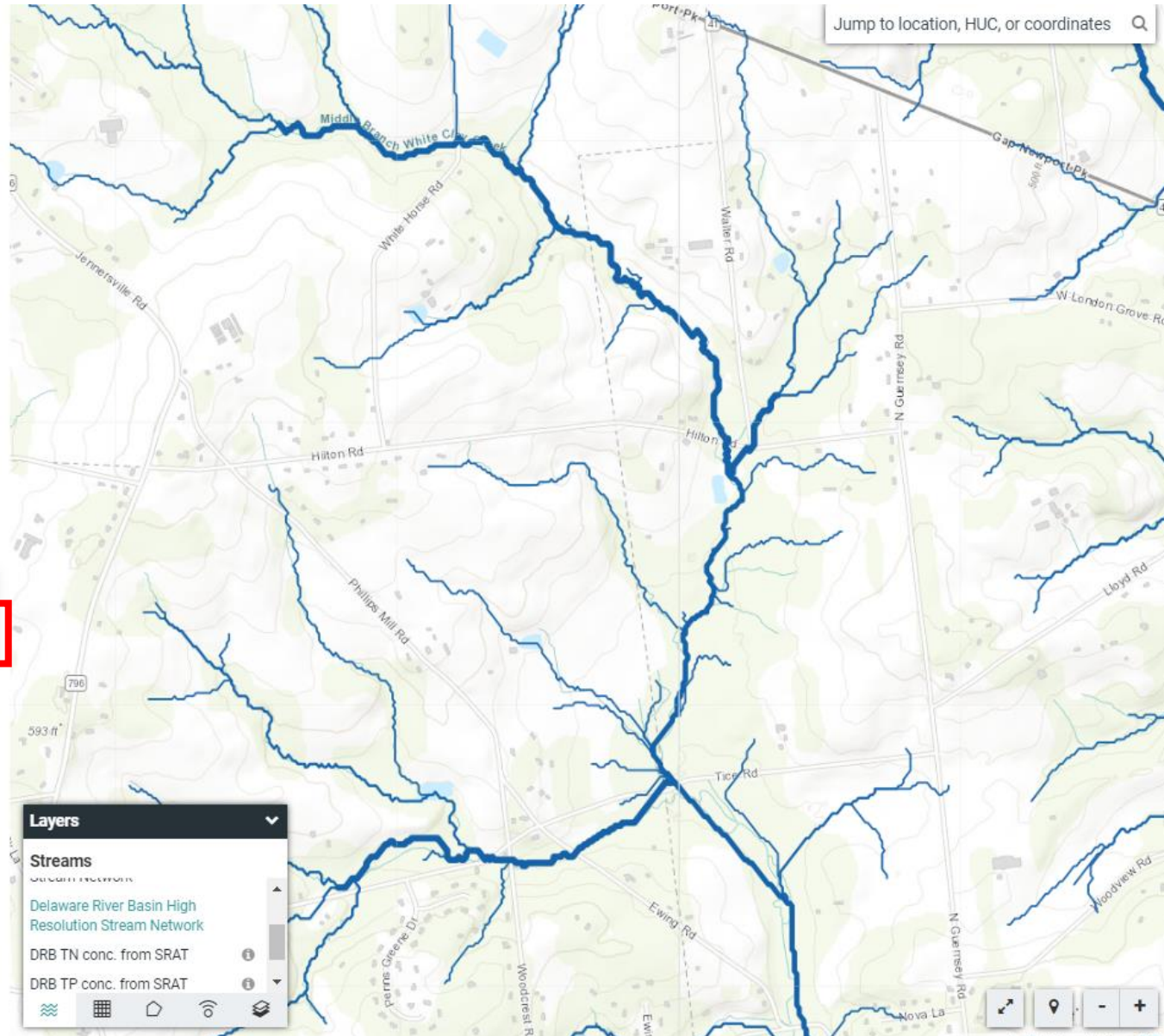
Free draw an area or place a square kilometer

Delineate watershed

Automatically delineate a watershed from any point

Continental US Medium Resolution

Delaware High Resolution



Click on the map to start a delineation

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Select boundary

Choose a predefined boundary from several types

Draw area

Free draw an area or place a square kilometer

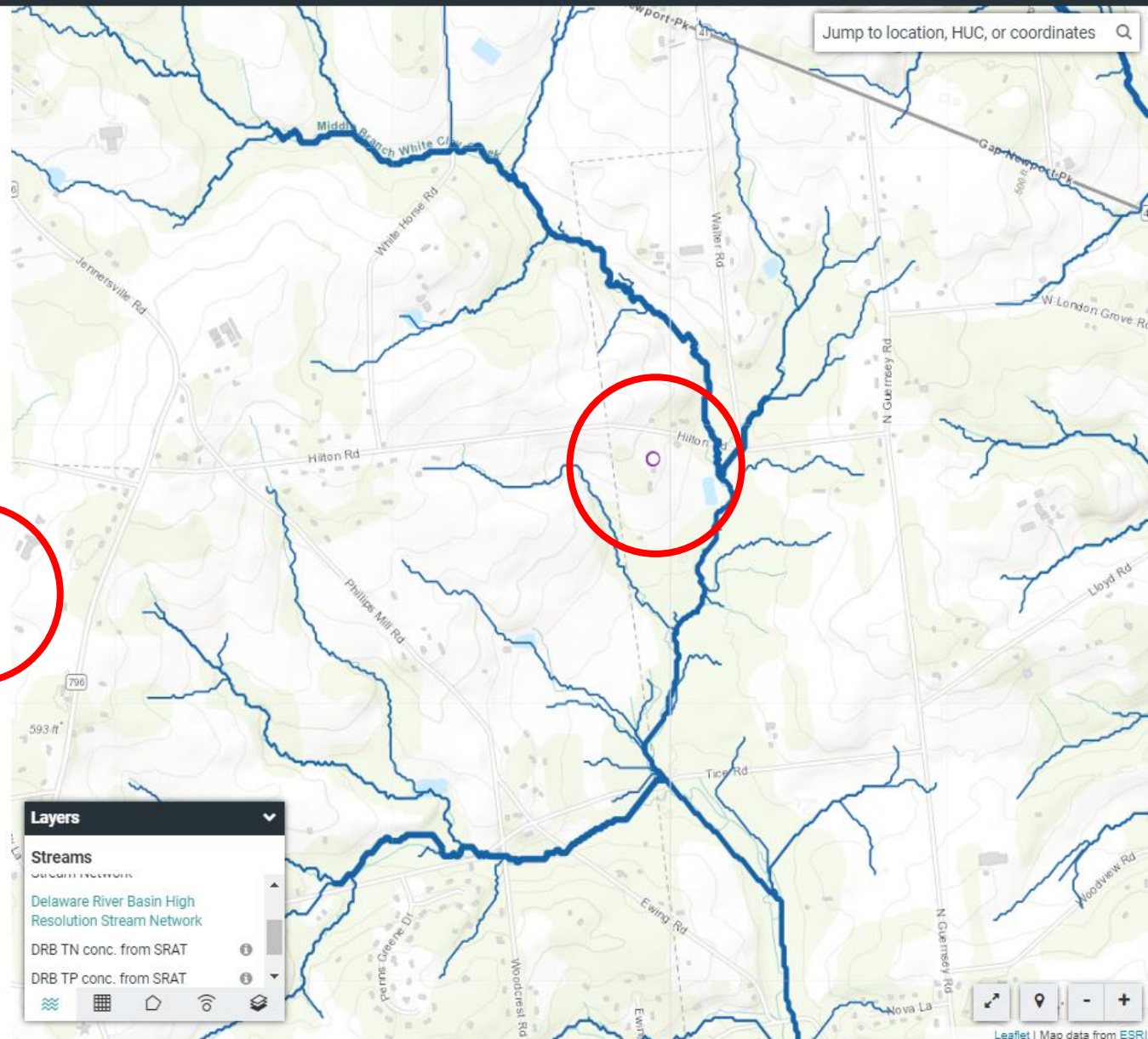
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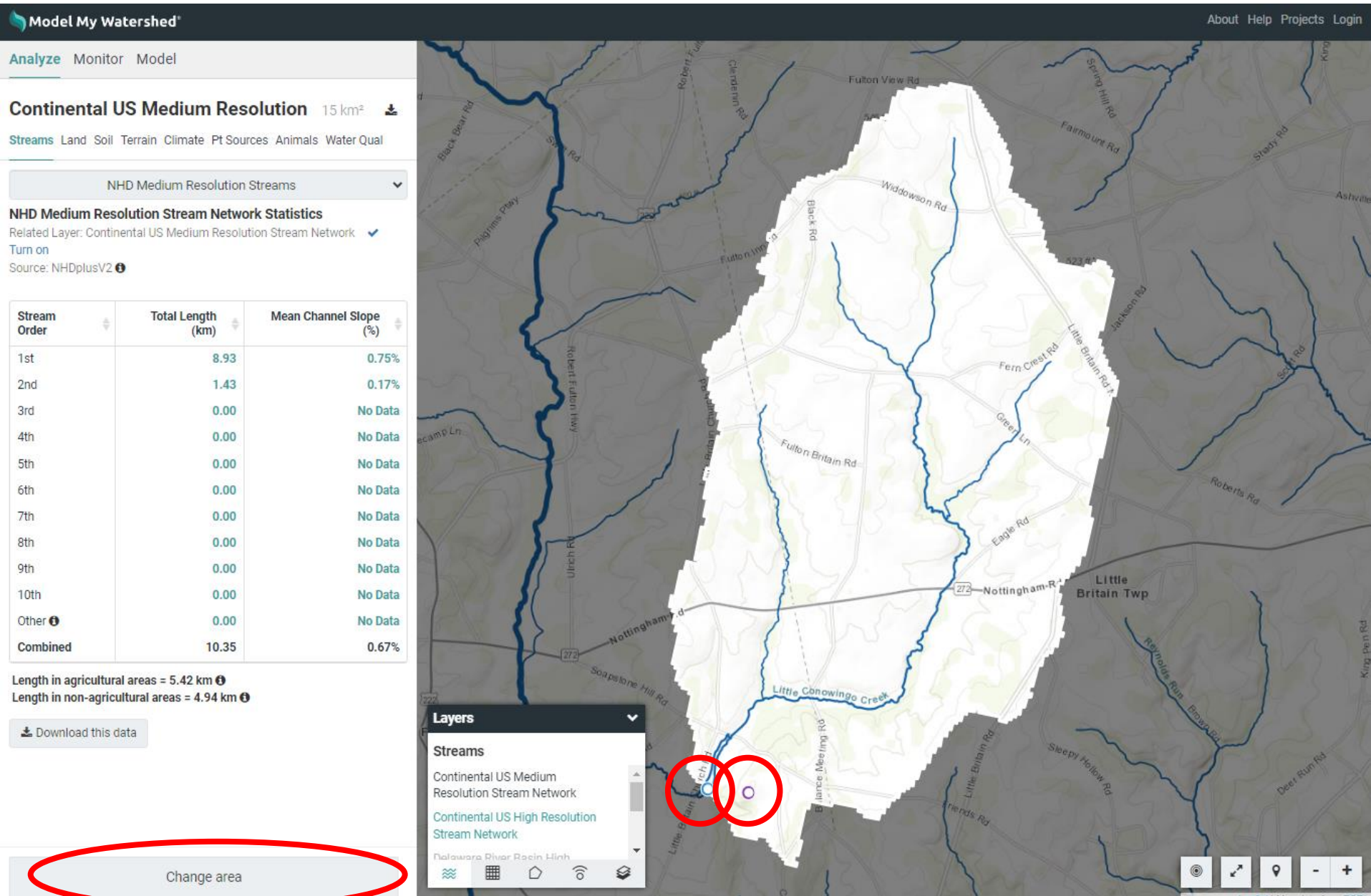
Delaware High Resolution: Click a point to delineate a watershed.

Upload file

Upload a polygon for your area



The nearest stream is used for delineation



Customize your map with layers and view summaries

Model My Watershed About Help Projects Login

Analyze Monitor

Streams | Land | Soil | Terrain | Climate | Pt Sources | Animals | Water Qual

Continental US Medium Resolution 15 km²

Streams Land Soil Terrain Climate Pt Sources Animals Water Qual

NHD Medium Resolution Streams

NHD Medium Resolution Stream Network Statistics

Related Layer: Continental US Medium Resolution Stream Network ✓

Turn on

Source: NHDplusV2 ⓘ

Stream Order	Total Length (km)	Mean Channel Slope (%)
1st	8.93	0.75%
2nd	1.43	0.17%
3rd	0.00	No Data
4th	0.00	No Data
5th	0.00	No Data
6th	0.00	No Data
7th	0.00	No Data
8th	0.00	No Data
9th	0.00	No Data
10th	0.00	No Data
Other ⓘ	0.00	No Data
Combined	10.35	0.67%

Length in agricultural areas = 5.42 km ⓘ

Length in non-agricultural areas = 4.94 km ⓘ

Download this data

Layers

- Streams
 - Continental US Medium Resolution Stream Network
 - Continental US High Resolution Stream Network

Change area

Some summary statistics are interactive

Analyze Monitor Model

Continental US Medium Resolution 15 km²

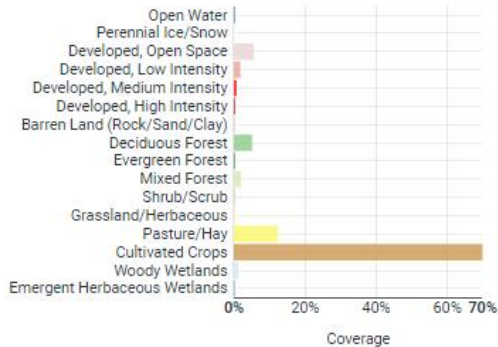
Streams Land Soil Terrain Climate Pt Sources Animals Water Qual

Land Use/Cover 2016 (NLCD19)

Land Use/Cover 2016 (NLCD19)

Related Layer: Land Use/Cover 2016 (NLCD19) ☒ Turn on

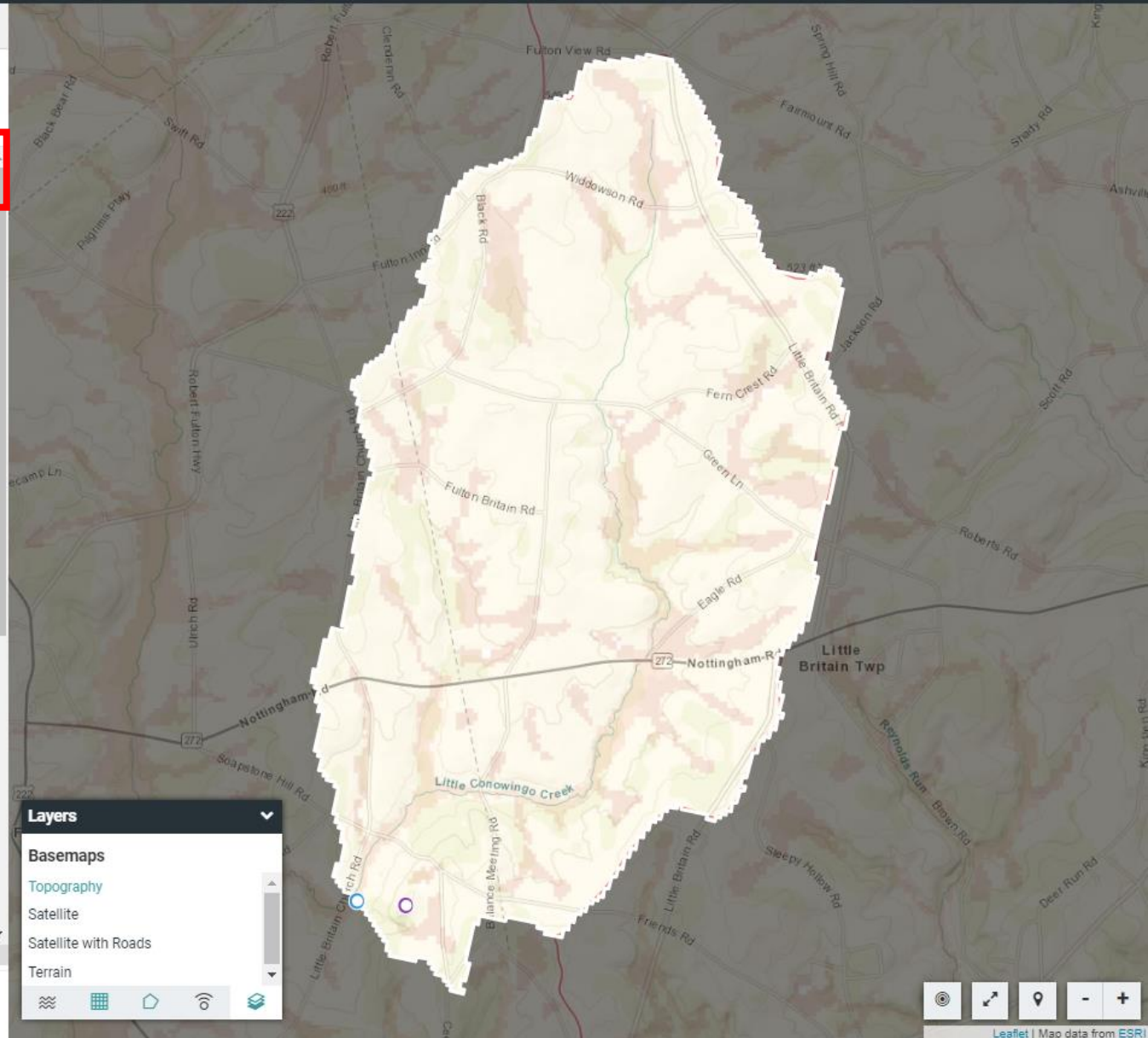
Source: National Land Cover Database (NLCD 2019)



Type	Area (km ²)	Coverage (%)	Active River Area (km ²)
Open Water	0.00	0.03	0.00
Perennial Ice/Snow	0.00	0.00	0.00
Developed, Open Space	0.84	5.66	0.13
Developed, Low Intensity	0.27	1.81	0.03
Developed, Medium Intensity	0.11	0.77	0.01
Developed, High Intensity	0.03	0.17	0.00

Change area

<https://modelmywatershed.org/analyze#land>



Click on 'i' for more information about a statistic

Model My Watershed About Help Projects Login

Analyze Monitor Model

Continental US Medium Resolution 15 km²

Streams Land Soil **Terrain** Climate Pt Sources Animals Water Qual

Terrain Statistics
2 related layers
Source: NHDPlus V2 NEDShot DEM ⓘ

For more information and data sources, see [Model My Watershed Technical Documentation on Coverage Grids](#)

	Elevation (m)	Slope (%)
Average	132.5	3.3
Minimum	101.4	0.0
Maximum	166.5	28.7

Download this data

Layers

- Basemaps
- Topography
- Satellite
- Satellite with Roads
- Terrain

Change area

Introduction to **Model My Watershed[®]**

Part 2: Simulating water and pollutants from a one day rainfall

ModelMyWatershed.org

From the Model tab, select Site Storm Model

Model My Watershed

About Help Projects Login

Analyze Monitor **Model**

East Branch Red Clay Creek, HUC-12 Subwatershed

ID 020402050305 26 km²

Select a Model

Chose one of two models to simulate stormwater runoff and water quality, to create different conservation and development scenarios, and to compare human impacts of these scenarios.

Site Storm Model

Simulates a hypothetical 24-hour storm by a hybrid of SLAMM, TR-55, and EPA's STEP-1 model algorithms. Designed primarily for use with smaller, more developed areas.

Watershed Multi-Year Model

Simulates 30-years of daily data by the GWLF-E (MapShed) model. Designed primarily for use with larger, more rural areas.

Watershed Multi-Year Worksheet

Generates an Excel worksheet using the given urban area of interest, pairing it with the HUC-12s it belongs to. It contains Land, Stream, and Water Quality analyses generated using the Watershed Multi-Year Model for the HUC-12. The worksheet allows for more detailed BMP analyses.

Change area

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Nalawara River Basin Hinh

<https://wikiwatershed.org/help/model-help/>



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Web Tools Advancing Knowledge and Stewardship of Fresh Water

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WikiWatershed is an initiative of [Stroud™ Water Research Center](#). The Stroud Center advances knowledge and stewardship of freshwater systems through global research, education, and watershed restoration.

[Home](#) » [Help Resources](#) » [Model My Watershed Help](#)

Model My Watershed Help

[Model My Watershed](#)® lets users analyze real land use and soil data, model stormwater runoff and water-quality impacts, and compare how different conservation or development scenarios could modify runoff and water quality. Model My Watershed is part of the WikiWatershed Toolkit, an initiative to help citizens, conservation practitioners, municipal decision-makers, researchers, educators, and students advance knowledge and stewardship of fresh water.

Please note! Model My Watershed is a separate website from WikiWatershed. To create a Model My Watershed account, please [follow these directions](#).

Documentation

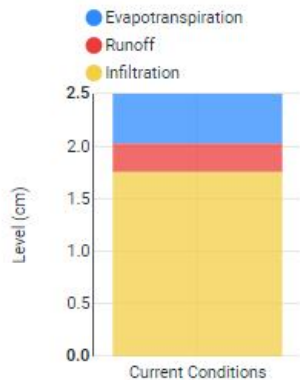
- [Model My Watershed Technical Documentation](#)
- [Model My Watershed Site Storm Model Guide](#)

Current Conditions

Runoff Water Quality

24-hour hypothetical storm event

Simulated by SLAMM and TR-55 model algorithms



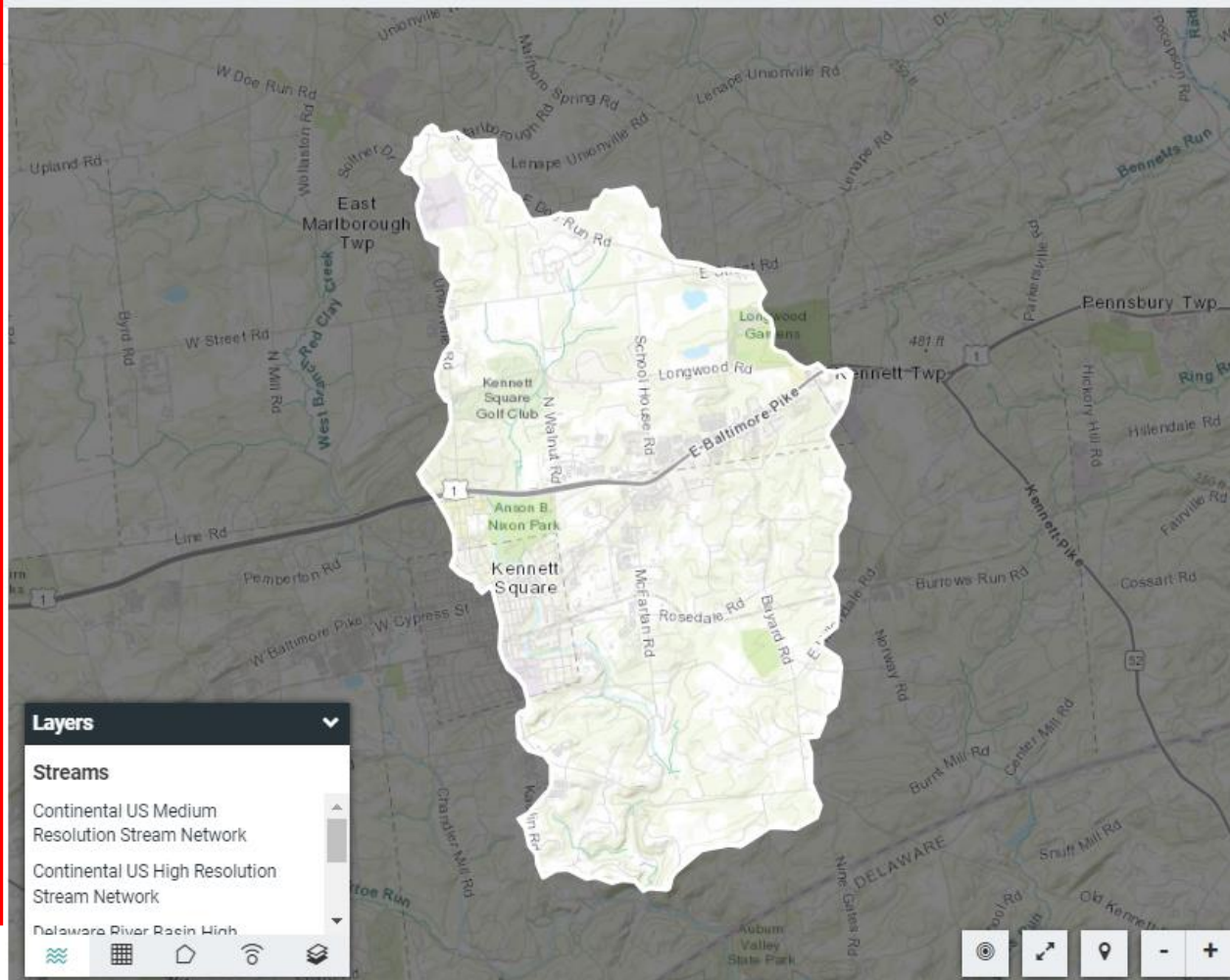
Runoff Partition	Water Depth (cm)	Water Volume (m ³)
Runoff	0.270	70,618.63
Evapotranspiration	0.472	123,270.65
Infiltration	1.758	459,215.18

Explore how land use and soil determine runoff with our [Runoff Simulation](http://wikiwatershed.org/model/). Info and help at <http://wikiwatershed.org/model/>.

Download this data

Precipitation 2.50 cm

+ Add changes to this area



Runoff and Water Quality update on-the-fly

Model My Watershed

About Help Projects Login

Untitled Project

Details

Analyze

Monitor

Model

New Project

Current Conditions

Runoff **Water Quality**

Total loads delivered in a 24-hour hypothetical storm event

Simulated by EPA's STEP-L model algorithms

Total Suspended Solids

Total Nitrogen

Total Phosphorus

Quality Measure	Load (kg)	Loading Rate (kg/ha)	Average Concentration (mg/L)
Total Suspended Solids	8,750.858	3.350	123.9
Total Nitrogen	222.103	0.085	3.1
Total Phosphorus	28.294	0.011	0.4

Download this data

Precipitation 2.50 cm

Add changes to this area

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Hinh

Map

Map controls

<https://modelmywatershed.org/project/#quality>

Change Land Cover and Conservation Practices

Model My Watershed®

About Help Projects Login

Untitled Project ▾

Details

Analyze Monitor **Model**

New Project

New Scenario ▾

+ New scenario

Compare

Land Cover

Conservation Practice

Precipitation 2.50 cm

0 Modifications

Runoff Water Quality

24-hour hypothetical storm event

Simulated by SLAMM and TR-55 model algorithm

Evapotranspiration

Runoff

Infiltration

2.5

2.0

1.5

1.0

0.5

0.0

Modified

Runoff Partition	Water Depth (cm)
Runoff	0.2
Evapotranspiration	0.4
Infiltration	1.7

Explore how land use and soil determine runoff. Info and help at <http://wikiwatershed.org/mod>

Download this data

Open Water

Developed-Open

Developed-Low

Developed-Med

Developed-High

Barren Land

Forest

Shrub/Scrub

Grassland

Pasture/Hay

Crops

Wetlands

Rain Garden

Veg Basin

Porous Paving

Green Roof

No-Till Ag

Cluster Housing

Cultivated Crops

NLCD Class 82: Areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.

No-Till Agriculture

Growing crops or pasture from year to year without tilling or otherwise disturbing the soil, thereby increasing water infiltration, organic matter retention, and nutrient cycling in the soil.

Map

Click to start drawing a shape; double-click to finish

Model My Watershed

About Help Projects Login

Untitled Project

Details

Analyze

Monitor

Model

New Project

New Scenario

+ New scenario

Compare

Land Cover

Conservation Practice

Precipitation

2.50 cm

0 Modifications

Runoff

Water Quality

24-hour hypothetical storm event

Simulated by SLAMM and TR-55 model algorithms

Evapotranspiration

Runoff

Infiltration

2.5

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Download this data

Click to start drawing shape.

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Hinh

You've created a New Scenario, now rename it

Model My Watershed®

About Help Projects Login

Untitled Project ▾ Details

Analyze Monitor **Model**

New Project

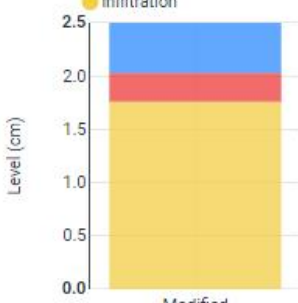
New Scenario ▾ + New scenario Compare

Runoff Water Quality

24-hour hypothetical storm event

Simulated by SLAMM and TR-55 model algorithms

● Evapotranspiration
● Runoff
● Infiltration



Runoff Partition	Water Depth (cm)	Water Volume (m³)
Runoff	0.270	70,409.18
Evapotranspiration	0.471	122,920.78
Infiltration	1.760	459,774.49

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Download this data

Land Cover Conservation Practice Precipitation

2.50 cm 1 Modifications

Conservation Practice	Effective Area
No-Till Agriculture	621,089.39 m²

Effective area represents the area of a modification that is within the area of interest. The area of the modification is reduced further if there are overlapping modifications, with the modification on top taking precedent.

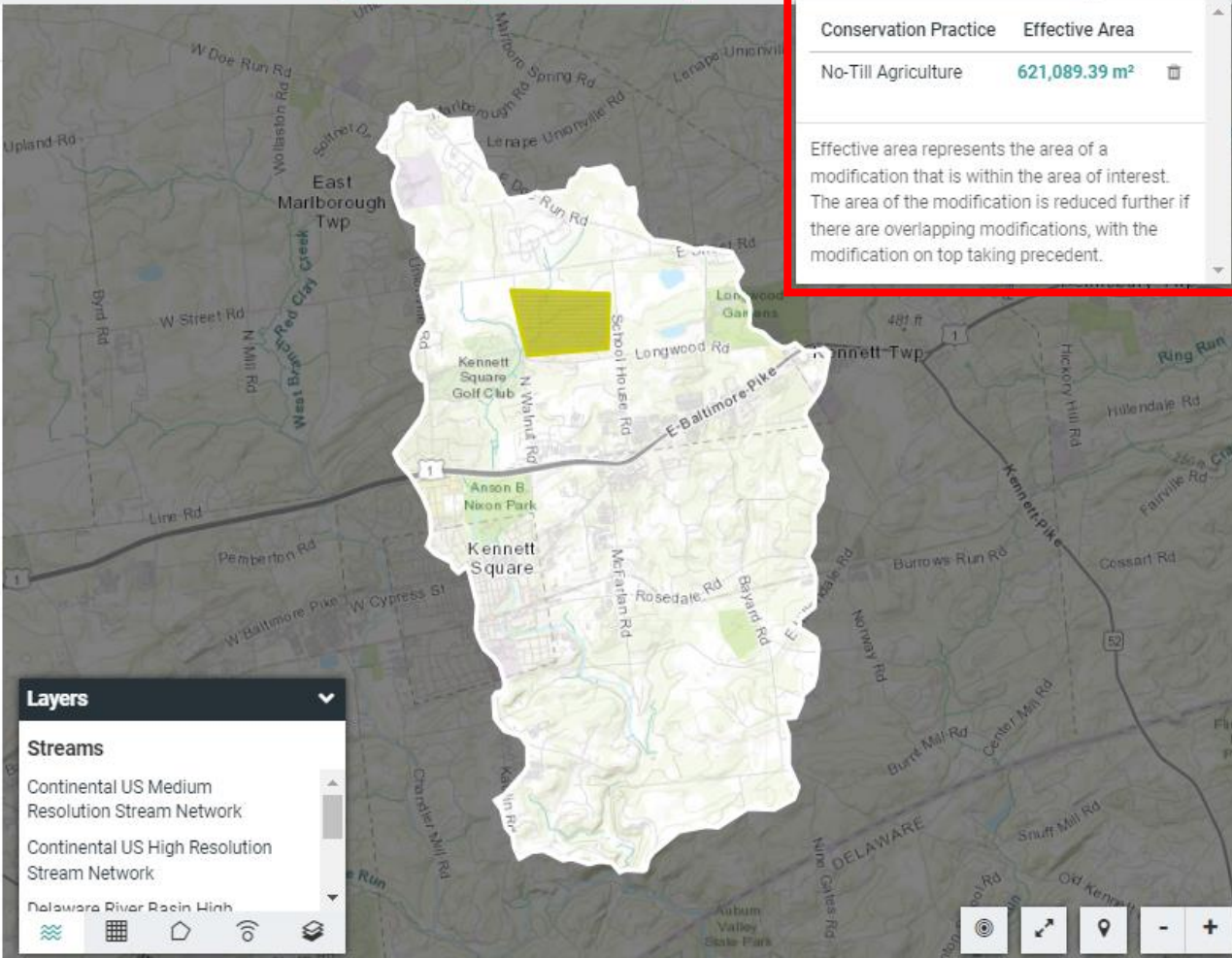
Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin High



You've created a New Scenario, now rename it

Model My Watershed®

About Help Projects Login

Untitled Project ▾ Details

Analyze Monitor **Model**

New Project

New Scenario ▾ + New scenario Compare

Current Conditions

New Scenario ... Duplicate

Simulated by SLAMM and TR-55 model algorithms

Evapotranspiration

Runoff

Infiltration

Level (cm)

Modified

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Download this data

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Nalanda River Basin Hink

Map showing a watershed area with roads, streams, and land use. A yellow rectangle highlights a specific area within the watershed.

Compare your No Till scenario with current conditions

Model My Watershed[®]

About Help Projects Login

Untitled Project ▾

Details

Analyze Monitor **Model**

New Project

No Till ▾

+ New scenario

Compare

Land Cover

Conservation Practice

Precipitation 2.50 cm

1 Modifications

Runoff Water Quality

24-hour hypothetical storm event

Simulated by SLAMM and TR-55 model algorithms

Evapotranspiration

Runoff

Infiltration

Level (cm)

Modified

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Streams

Continental US Medium Resolution Stream Network

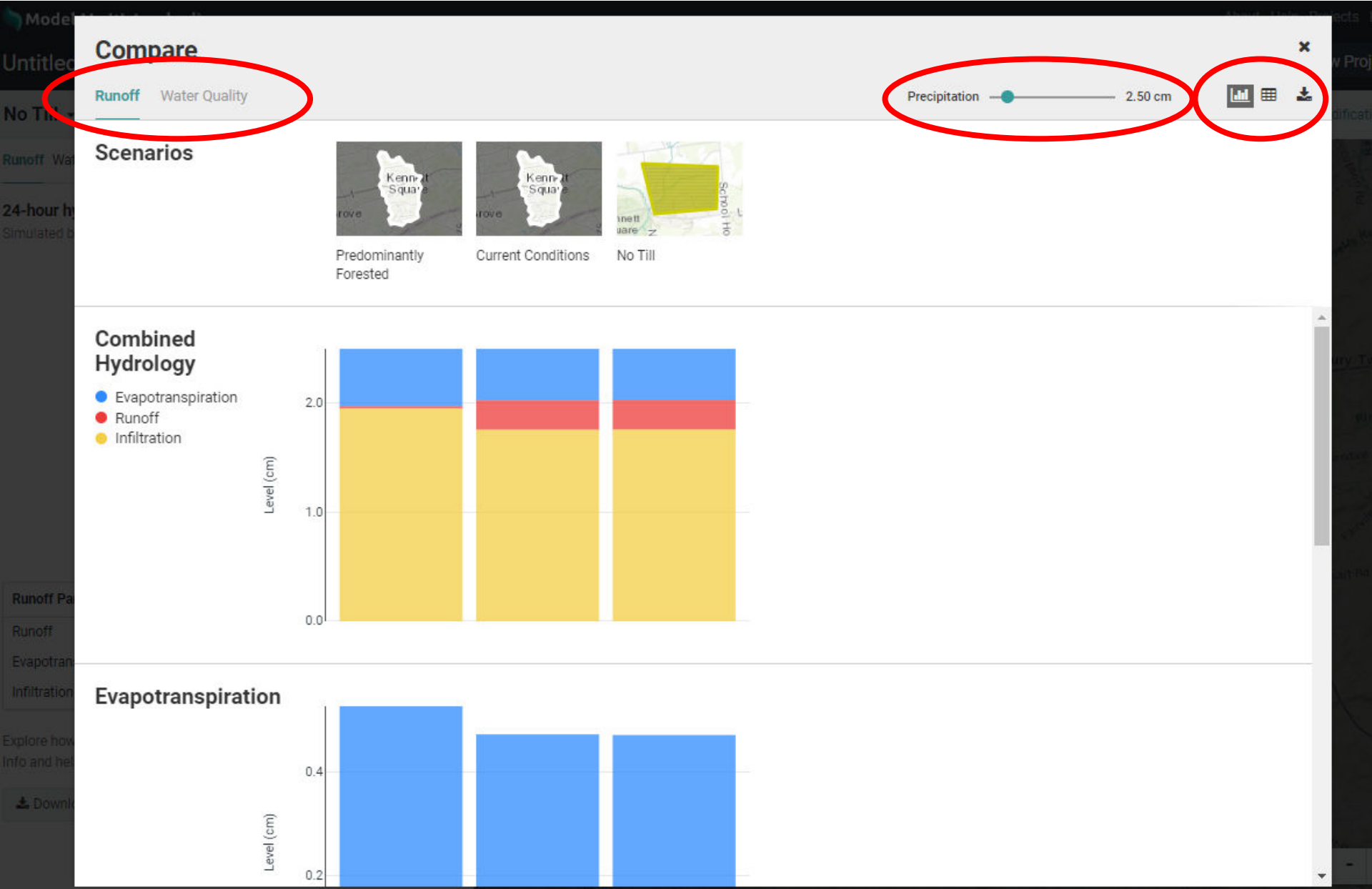
Continental US High Resolution Stream Network

Delaware River Basin

Map

Map controls

Compare your No Till scenario with current conditions



Login, rename your project, and it will be saved

Model My Watershed[®]

About Help Projects Ensign

Untitled Project ▾

Details

Analyze Monitor **Model**

Share New Project

Delete

Rename

My Projects

Scenario ▾

Compare

Land Cover

Conservation Practice

Precipitation

2.50 cm

1 Modifications

24-hour hypothetical storm event

Simulated by SLAMM and TR-55 model algorithms

Evapotranspiration

Runoff

Infiltration

Level (cm)

2.5

2.0

1.5

1.0

0.5

0.0

Modified

Runoff Partition	Water Depth (cm)	Water Volume (m³)
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Download this data

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Hinh

Map

Layers

Map

Layers

Add new modifications or add a new scenario

Model My Watershed[®]

About Help Projects Ensign

Example Project ▾

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Share

New Project

No Till ▾

+ New scenario

Compare

Land Cover

Conservation Practice

Precipitation 2.50 cm

1 Modifications

Runoff

Water Quality

24-hour hypothetical storm event

Simulated by SLAMM and TR-55 model algorithms

Evapotranspiration

Runoff

Infiltration

Level (cm)

2.5

2.0

1.5

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Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Hinh

Map

Map controls

Turn on Link Sharing, copy, and share your project

Model My Watershed[®]

About Help Projects Ensign

Untitled Project ▾ Details

Analyze Monitor Model

Share New Project

No Till ▾ + New scenario Compare

Runoff Water Quality

24-hour hypothetical storm event
Simulated by SLAMM and TR-55 model algorithms

● Evapotranspiration
● Runoff
● Infiltration

Level (cm)

Modified

Runoff Partition Water Depth (cm) Water Volume (m³)

Runoff	0.270	70,409.18
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Explore how land use and soil determine runoff with our Runoff Simulation.
Info and help at <http://wikiwatershed.org/model/>.

Download this data

Share your project

Link Sharing ☒ On

Anyone with this link will be able to view this project.

<https://modelmywatershed.org/project/4t> Copy

HydroShare Export ☐ Off

HydroShare is an online collaboration environment for sharing data, models, and code. When you export to HydroShare, your project will be made public under a [Creative Commons 4.0](#) license.

Done

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Wink

Introduction to **Model My Watershed[®]**

Part 3: Simulating water and pollutants over an annual period

ModelMyWatershed.org

Details allows you to change the model type

Model My Watershed

About Help Projects Ensign

Example Project

Details

Analyze Monitor Model

Share New Project

No Till

New scenario

Area of Interest (Edit)

East Branch Red Clay Creek, HUC-12 Subwatershed

ID 020402050305 26 km²

Model (Edit)

Site Storm Model

Runoff Water Quality

24-hour hypothetical storm

Simulated by SLAMM and TR-55

Evapotranspiration Runoff Infiltration

Level (cm)

Modified

Runoff Partition	Water Depth (cm)	Water Volume (m ³)
Runoff	0.270	70,409.18
Evapotranspiration	0.471	122,920.78
Infiltration	1.760	459,774.49

Explore how land use and soil determine runoff with our Runoff Simulation.

Info and help at <http://wikiwatershed.org/model/>.

Download this data

Land Cover Conservation Practice

Precipitation 2.50 cm 1 Modifications

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Hinh

Map navigation controls

Select the Watershed Multi-Year Model

Analyze Monitor **Model**

East Branch Red Clay Creek, HUC-12

Subwatershed ID 020402050305 26 km²

Select a Model

Chose one of two models to simulate stormwater runoff and water quality, to create different conservation and development scenarios, and to compare human impacts of these scenarios.

Site Storm Model

Simulates a hypothetical 24-hour storm by a hybrid of SLAMM, TR-55, and EPA's STEP-L model algorithms. Designed primarily for use with smaller, more developed areas.

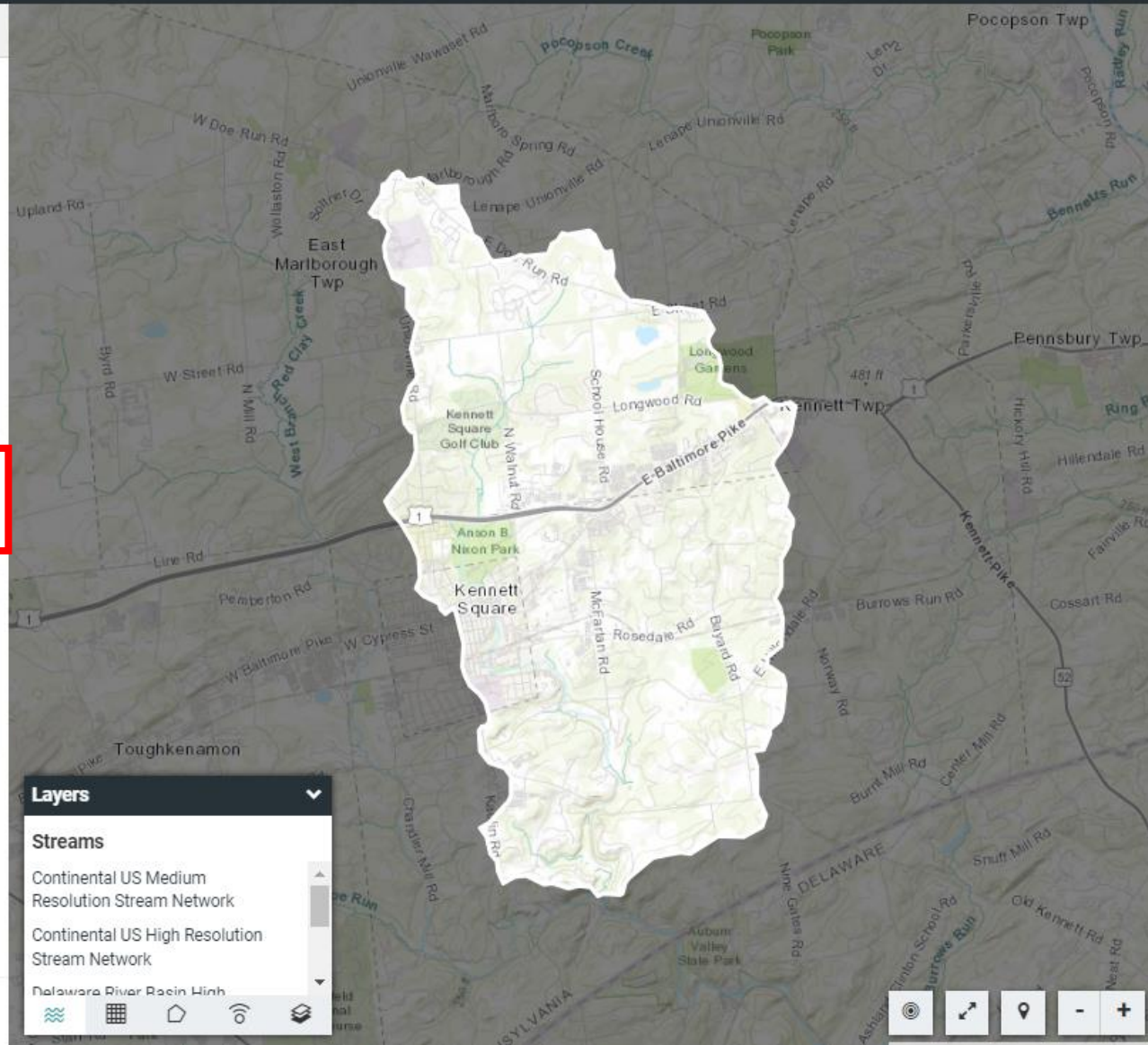
Watershed Multi-Year Model

Simulates 30-years of daily data by the GWLF-E (MapShed) model. Designed primarily for use with larger, more rural areas.

Watershed Multi-Year Worksheet

Generates an Excel worksheet using the given urban area of interest, pairing it with the HUC-12s it belongs to. It contains Land, Stream, and Water Quality analyses generated using the Watershed Multi-Year Model for the HUC-12. The worksheet allows for more detailed BMP analyses.

Change area



Results are the average monthly condition over 30 yrs

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Current Conditions

Export GMS

Hydrology

Water Quality

Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data

Simulated by the GWLF-E (MapShed) model

Stream Flow

Stream Flow

Surface Runoff

Subsurface Flow

Point Src Flow

ET

Precip

Water Depth

4.00

3.00

2.00

1.35

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Month	Stream Flow (cm)	Surface Runoff (cm)	Subsurface Flow (cm)	Point Src Flow (cm)
Jan	6.06	1.11	4.95	0.00
Feb	6.08	1.08	5.00	0.00
Mar	6.78	0.96	5.82	0.00
Apr	5.72	0.21	5.51	0.00

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Delaware River Basin High

Map

Map controls

<https://wikiwatershed.org/help/model-help/>



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Model My Watershed Help



[Model My Watershed](#)® lets users analyze real land use and soil data, model stormwater runoff and water-quality impacts, and compare how different conservation or development scenarios could modify runoff and water quality. Model My Watershed is part of the WikiWatershed Toolkit, an initiative to help citizens, conservation practitioners, municipal decision-makers, researchers, educators, and students advance knowledge and stewardship of fresh water.

Please note! Model My Watershed is a separate website from WikiWatershed. To create a Model My Watershed account, please [follow these directions](#).





Documentation


- [Model My Watershed Technical Documentation](#)

<https://wikiwatershed.org/knowledge-base/water-quantity-and-quality-models/>

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 Search the Knowledge Base...

JUMP TO A SECTION

7.1 Site Storm Model

7.1.1 TR-55 Component

7.1.2 SLAMM Component

7.2 Watershed Multi-Year Model

7. Model Water Quantity and Quality

Last updated on 2023-10-30

There are currently two models to choose from.

1. Predict how water moves through your Area of Interest.
2. Predict the water quality of water running off your Area of Interest.

Look for “i” buttons to find more details

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Add changes to this area

Hydrology

Water Quality

Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

Stream Flow ▾

Stream Flow

Surface Runoff

Subsurface Flow

Point Src Flow

ET

Precip

Water Depth (cm)

4.00

3.00

2.00

1.35

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Month	Stream Flow (cm)	Surface Runoff (cm)	Subsurface Flow (cm)	Point Src Flow (cm)
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Layers ▾

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Map controls

The Water Quality tab contains more results

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Water Quality

Average annual loads from 30-years of daily fluxes

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

View subbasin attenuated results

Sources	Sediment	Total Nitrogen	Total Phosphorus
Total Loads (kg)	1,221,825.6	42,515.6	1,732.7
Loading Rates (kg/ha)	469.27	16.33	0.67
Mean Annual Concentration (mg/L)	102.63	3.57	0.15
Mean Low-Flow Concentration (mg/L)	152.62	4.09	0.30

Mean Flow: 11,904,612 (m³/year) and 0.38 (m³/s)

Download this data

Sources	Sediment (kg)	Total Nitrogen (kg)	Total Phosphorus (kg)
Hay/Pasture	80,150.8	363.8	140.5
Cropland	247,744.9	847.6	281.5
Wooded Areas	1,581.1	30.9	3.0
Wetlands	254.0	30.0	1.8
Open Land	230.0	3.3	0.3

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Note that sources are separated by land use and cover

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Add changes to this area

Hydrology

Water Quality

Average annual loads from 30-years of daily fluxes

Related Layer: Weather Stations used in this model. Turn on

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Simulated by the GWLF-E (MapShed) model ⓘ

View subbasin attenuated results

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Add changes to this area

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Water Quality

Average annual loads from 30-years of daily fluxes

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

View subbasin attenuated results

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Open Land	230.0	3.3	0.3

Layers

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Continental US Medium Resolution Stream Network

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Delaware River Basin Hinh

Map of Watershed

Map showing the watershed boundary and surrounding areas, including roads, water bodies, and land use. The map is titled "Untitled Project" and includes a "Layers" panel on the left.

Add changes to this area

Change land cover and conservation practices

Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. ☒ Turn on

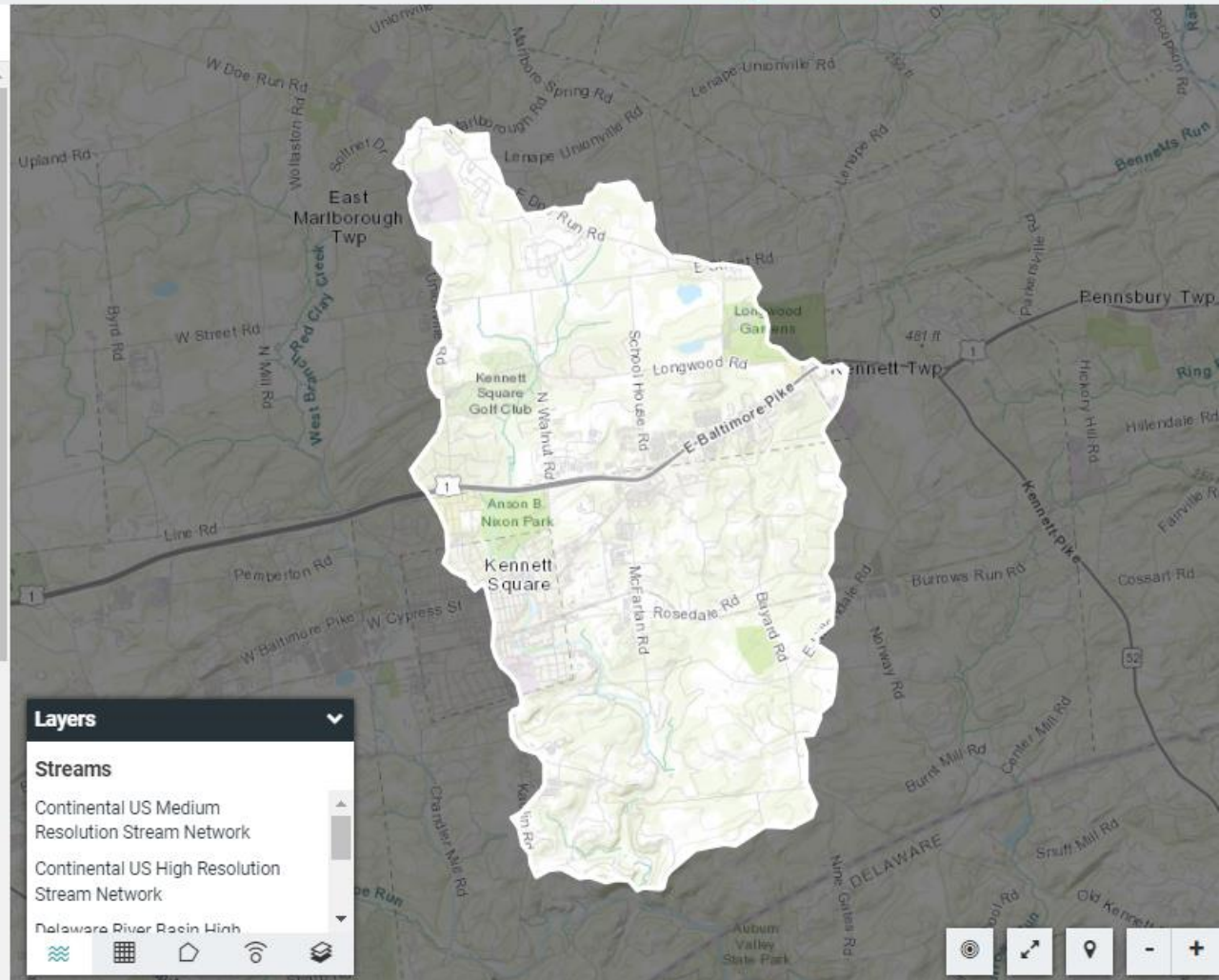
Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

Stream Flow ▾



Month	Stream Flow (cm)	Surface Runoff (cm)	Subsurface Flow (cm)	Point Src Flow (cm)
Jan	6.06	1.11	4.95	0.00
Feb	6.08	1.08	5.00	0.00
Mar	6.78	0.96	5.82	0.00
Apr	5.72	0.21	5.51	0.00



Modify Land Cover using presets or customize them

Model My Watershed

Untitled Project

New Scenario

Hydrology

Water Quality

Average monthly water fluxes (cm) from 30-years of data

Related Layer: Weather Stations used in this model

Weather Source: USEPA National Climate Data

Simulated by the GWLF-E (MapShed) model

Stream Flow

6.78

6.00

5.00

4.00

3.00

2.00

1.35

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Month

Stream Flow (cm)

Surface Runoff (cm)

Subsurface Flow (cm)

Jan

6.06

1.11

4.95

0.00

Feb

6.08

1.08

5.00

0.00

Mar

6.78

0.96

5.82

0.00

Apr

5.72

0.2

5.51

0.00

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Nalaevara River Basin

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Land Cover

Landcover Preset

Land Use/Cover 2011 (NLCD11)

Default

Land Use/Cover 2019 (NLCD19)

NLCD

Land Use/Cover 2016 (NLCD19)

Land Use/Cover 2011 (NLCD19)

Land Use/Cover 2006 (NLCD19)

Land Use/Cover 2001 (NLCD19)

Land Use/Cover 2011 (NLCD11)

Future Simulations

DRB 2100 land forecast (Centers)

DRB 2100 land forecast (Corridors)

Hay / Pasture (ha)

Cropland (ha)

Wooded Areas (ha)

Wetlands (ha)

Open Land (ha)

Barren Areas (ha)

Low-Density Mixed (ha)

Medium-Density Mixed (ha)

High-Density Mixed (ha)

Low-Density Open Space (ha)

6.8

0.6

196.1

124.2

33

665.9

Total: 2,603.6 ha

Cancel

Save

Land Cover

Conservation Practice

Settings

Tillage

Conservation Tillage

Reduced Tillage

Nutrient Management

Streambank Fencing

Streambank Stabilization (Rural)

Surface Water Retention

Infiltration / Bioretention

Future

GMP is to leave some residue from harvested

face to reduce soil erosion. This practice is

ervation Tillage" and "Reduced Tillage"

offers with respect to the amount of residue left

case, it is assumed that ground coverage with

or greater than 60%.

Add Conservation Practices (combine with land cover)

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Hydrology

Water Quality


Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

Stream Flow ▾



Month	Stream Flow (cm)	Surface Runoff (cm)	Subsurface Flow (cm)	Point Src Flow (cm)
Jan	6.06	1.11	4.95	0.00
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Mar	6.78	0.96	5.82	0.00
Apr	5.72	0.21	5.51	0.00

Weather Data

Land Cover

Conservation Practice

Settings

Rural

Cover Crops

No Till Agriculture

Conservation Tillage

Reduced Tillage

Nutrient Management

Livestock Waste Man.

Poultry Waste Man.

Veg Buffer Strips (Rural)

Streambank Fencing

Streambank Stabilization (Rural)

Urban

Veg Buffer Strips (Urban)

Streambank Stabilization (Urban)

Surface Water Retention

Infiltration / Bioretention

Vegetated Buffer Strips (Rural)

Areas of trees and/or grasses planted along streams or lakes that are designed to capture and renovate surface runoff and shallow subsurface flow from agricultural and urban areas via the processes of filtration, infiltration, absorption, adsorption, uptake, denitrification, volatilization, and deposition. A buffer width of 30 m (roughly 100 ft) is assumed.

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Continental US High Resolution Stream Network

Delaware River Basin Hinh

Change the length or area of Conservation Practices

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Water Quality

Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model.

Turn on

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

Stream Flow ▾

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Month	Stream Flow (cm)	Surface Runoff (cm)	Subsurface Flow (cm)	Point Src Flow (cm)
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Apr	5.72	0.21	5.51	0.00

← Veg Buffer Strips (Rural)

Length of streams in ag areas (km) 4.10

Length of streams in watershed (km) 36.30

Length to modify in ag areas (km)

Apply

Layers ▾

Streams

Continental US Medium Resolution Stream Network

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Nalawara River Basin Hinh

Rename your new scenario

Model My Watershed[®]

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Current Conditions

New Scenario

water balance

Related Layer: Weather Stations used in this model.

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

Stream Flow ▾

Share

Duplicate

Delete

Export GMS

Rename

6.76

6.00

5.00

4.00

3.00

2.00

1.32

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Month	Stream Flow (cm)	Surface Runoff (cm)	Subsurface Flow (cm)	Point Src Flow (cm)
Jan	6.01	0.95	5.06	0.00
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Apr	5.78	0.17	5.61	0.00

Layers ▾

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N Delaware River Basin Hink

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Model results update on-the-fly as changes are made

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Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

Stream Flow ▾

Month	Stream Flow (cm)	Surface Runoff (cm)	Subsurface Flow (cm)	Point Src Flow (cm)
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Compare hydrology and water quality graph and tables



Add new scenario, change climate data and settings

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2001 Land Cover plus soil h...

New scenario

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Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data

Simulated by the GWLF-E (MapShed) model

Stream Flow

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Login, rename your project, and share it

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us soil h...

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Rename

My Projects

Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. Turn on

Weather Source: USEPA National Climate Data

Simulated by the GWLF-E (MapShed) model

Stream Flow

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Map

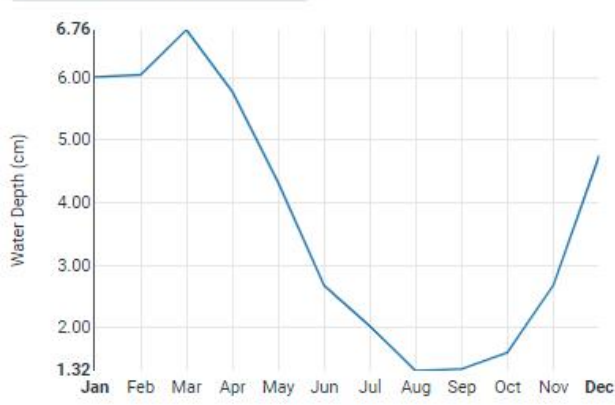
Layers

Streams

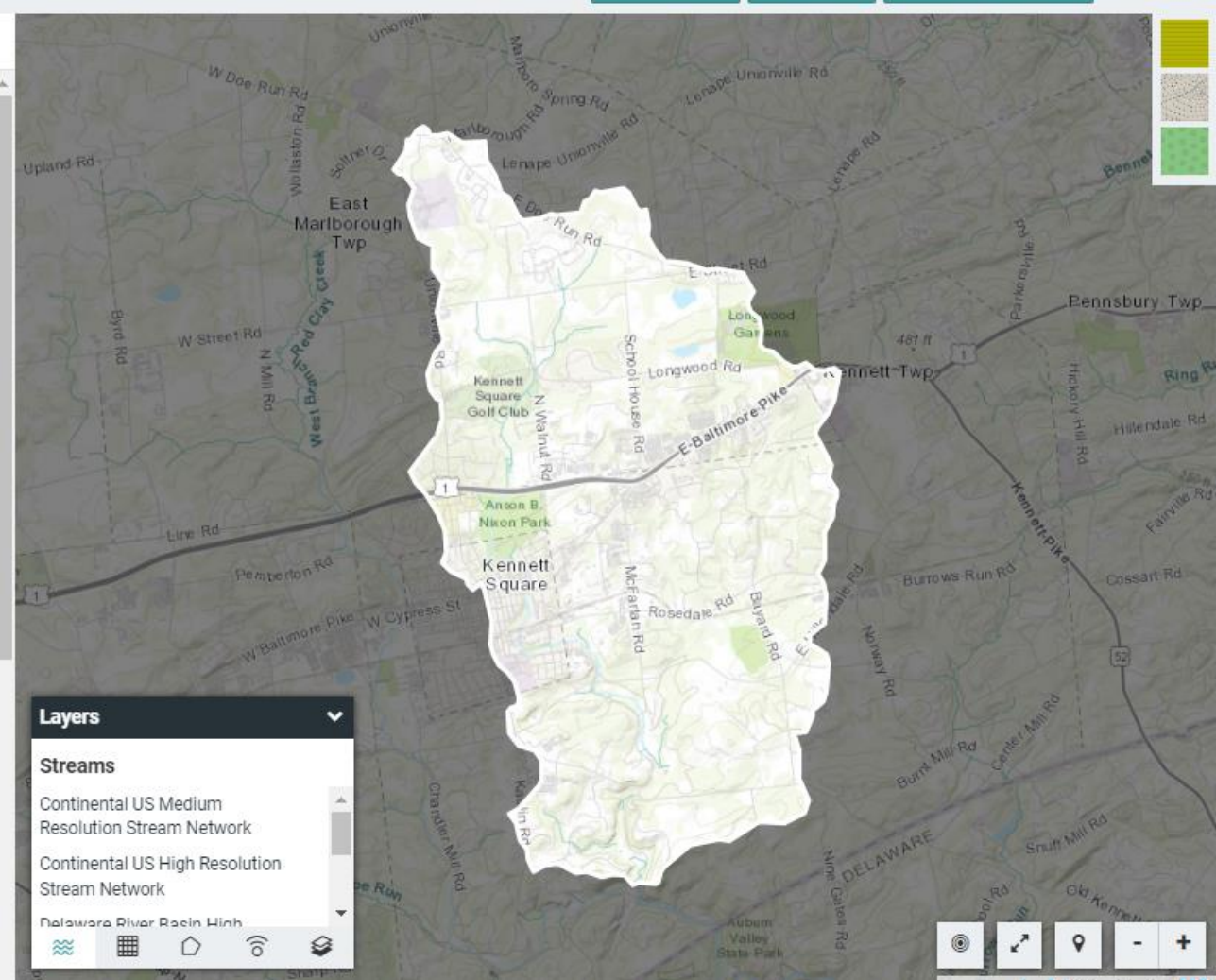
Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Hinh



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



Layers






Streams

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Continental US High Resolution Stream Network

Delaware River Basin Hinh





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Weather Data Land Cover Conservation Practice Settings

2001 Land Cover plus soil h... + New scenario Export GM

Hydrology Water Quality

Average monthly water fluxes (cm) from 30-years of daily water balance

Related Layer: Weather Stations used in this model. ✓ Turn on

Weather Source: USEPA National Climate Data ⓘ

Simulated by the GWLF-E (MapShed) model ⓘ

Stream Flow

Water Depth (cm)


Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

6.76
6.00
5.00
4.00
3.00
2.00
1.32

Share your project

Link Sharing ☒ On

Anyone with this link will be able to view this project

<https://modelmywatershed.org/project/4>  Copy

HydroShare Export ☐ Off

HydroShare is an online collaboration environment for sharing data, models, and code. When you export to HydroShare, your project will be made public under a [Creative Commons 4.0](#) license.

Done

Layers

Streams

Continental US Medium Resolution Stream Network

Continental US High Resolution Stream Network

Delaware River Basin Mtn

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Map navigation controls: Home, Full Screen, Location, Zoom In, Zoom Out

Find all of your projects saved in your user account

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+ Create New Project

Example Project multi-year model

East Branch Red Clay Creek, HUC-12 Subwatershed
(ID 020402050305)
2/15/2024, 1:15:25 PM

RenameShareDelete

Launch Project

Example Project

East Branch Red Clay Creek, HUC-12 Subwatershed
(ID 020402050305)
2/15/2024, 12:57:49 PM

RenameShareDelete

Launch Project

Untitled Project

East Branch White Clay Creek, HUC-12 Subwatershed
(ID 020402050303)
1/24/2024, 10:04:41 AM

RenameShareDelete

Launch Project

Untitled Project

Lower East Branch Brandywine Creek, HUC-12 Subwatershed
(ID 020402050105)
10/27/2023, 10:40:52 AM

RenameShareDelete

Launch Project

MorrisRunNitrogenReduction

Delaware High Resolution
3/16/2023, 4:41:29 PM

RenameShareDelete

Launch Project