

Lake Ontario Inundation WebMap Tutorial

For use with the Coastal Resilience Index or as a standalone tool

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1. Introduction

This tutorial will guide you through how to make inundation maps for your community either as part of the New York Sea Grant's (NYSG) Coastal Resilience Index (CRI) or as a standalone exercise. The goal is to visualize inundation at different lake levels to bring awareness to infrastructure and services that may be at risk. Using this tutorial, you will be able to generate a series of maps for your community with the following predetermined lake levels scenarios:

- 247.3 ft: The upper limit of the 4-foot range for Plan 1958 DD
- 249 ft: Benchmark water level (approximate peak water level from 2017)
- 249.5 ft: Future water level scenario
- 250 ft: Future water level scenario

Note that the water levels are based on elevation data and do not account for wind-driven effects. These materials were developed by New York Sea Grant for Lake Ontario coastal communities.

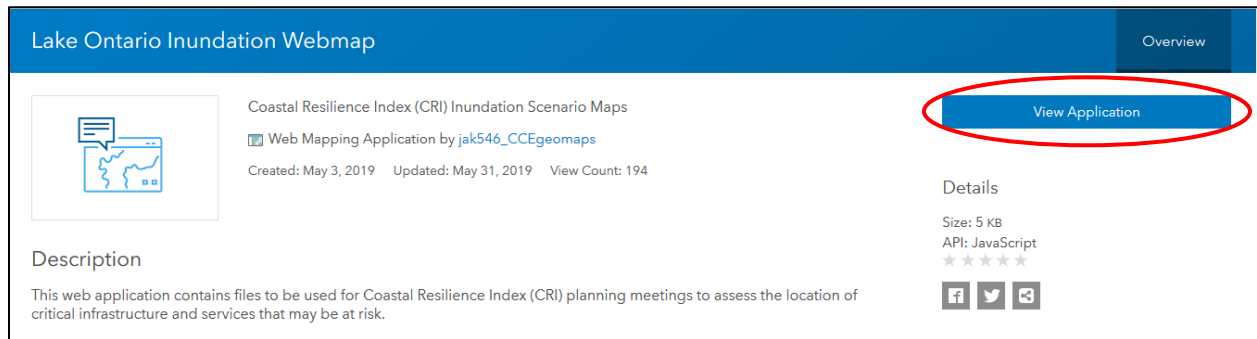
Disclaimer: The data and maps in this tool illustrate the scale of potential flooding or land exposure at a given water level, not the exact location. They do not account for erosion, subsidence, or future construction. Water levels are shown as they would appear during calm conditions (excludes wind-driven changes in water levels). The data, maps, and information provided should be used only as a screening-level tool for management decisions. As with all remotely sensed data, all features should be verified with a site visit. The data and maps in this tool are provided "as is," without warranty to their performance, merchantable state, or fitness for any particular purpose. The entire risk associated with the results and performance of these data is assumed by the user. This tool should be used strictly as a planning reference tool and not for navigation, permitting, or other legal purposes.

1a. What you need

- A computer
- Internet connection
- A printer (optional)

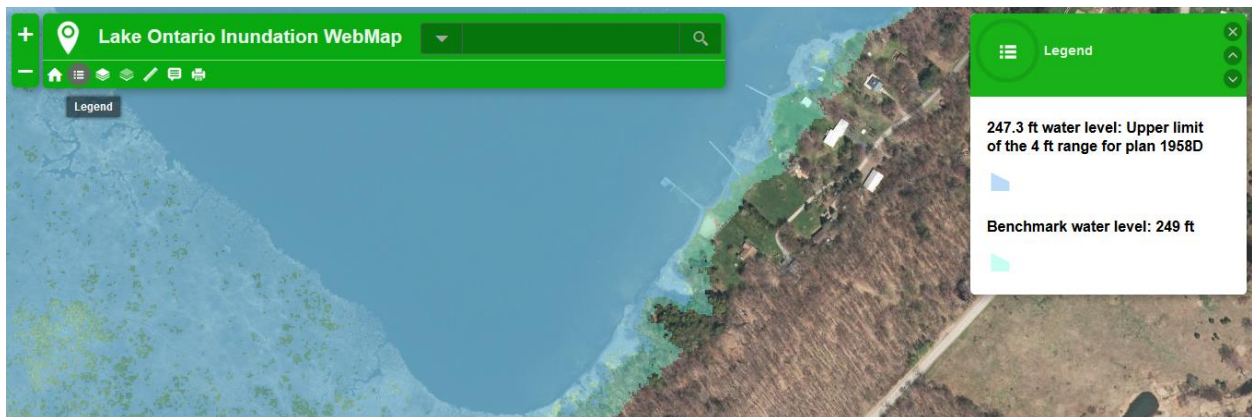
2. Access the WebMap

1. Navigate to the New York Sea Grant New York Sea Grant Inundation Mapping Tools web page:
<https://seagrantsunysb.edu/articles/r/12972>
2. Select the [Lake Ontario Web Mapping Application](#) listed under “Lake Ontario Tools”
3. Select “View Application” in the top right of your screen.



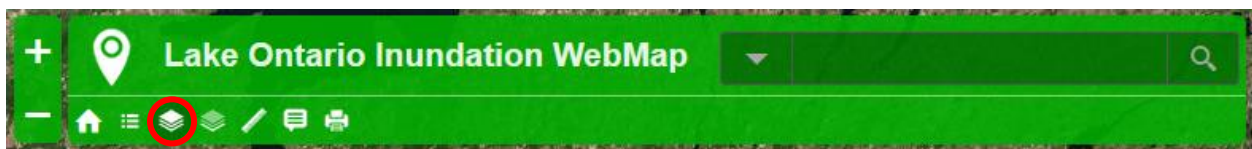
3. Explore WebMap

After opening the application, you will see a view of Lake Ontario. Similar to other online mapping services (google maps, etc.). Zoom to your community and/or areas of interest. The different water levels are displayed as different “layers” in the map legend to the left of the screen. You will need to zoom into to nearly county-level in order for the layers to become active (clickable) and the layers will likely take some time to load completely.

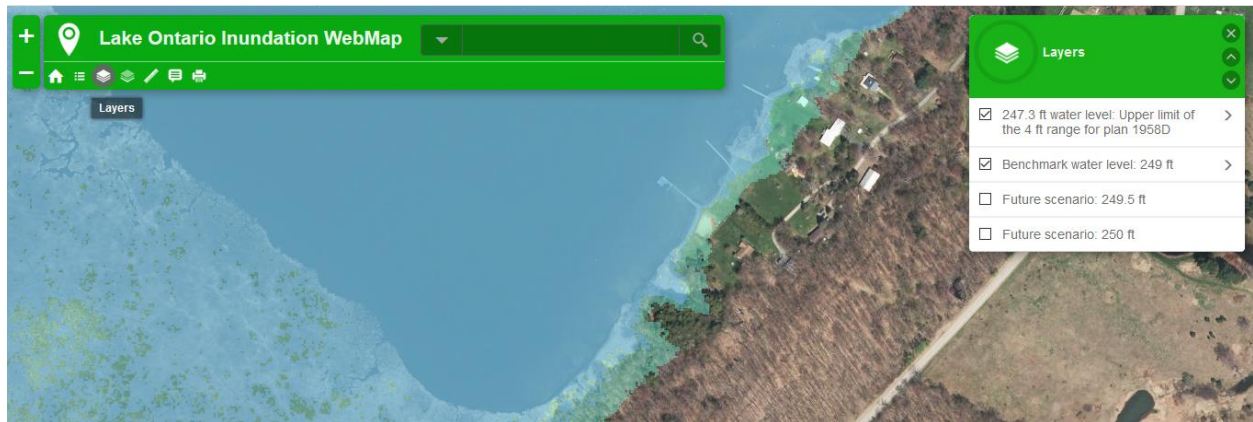


3a. Add/Remove Layers

Select the **Layers** button on the Toolbar (circled below).

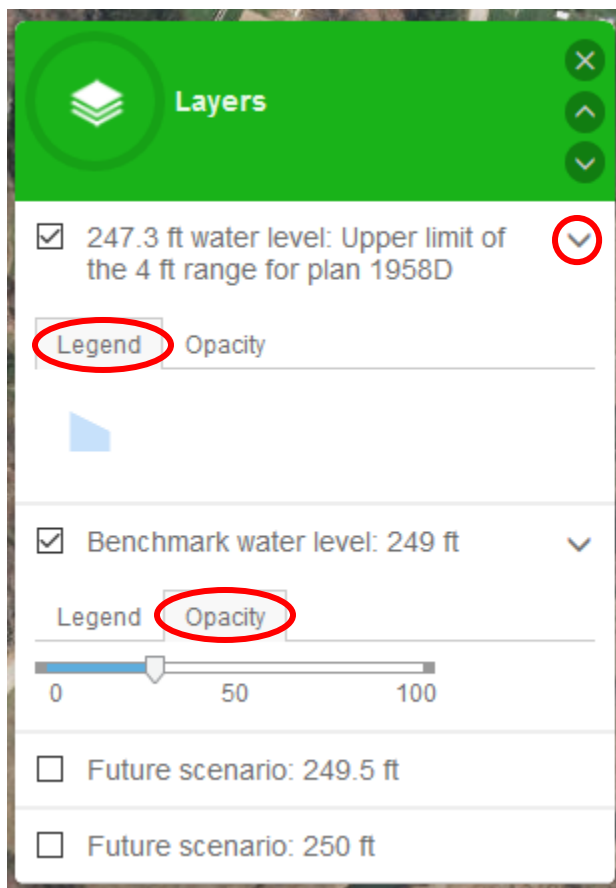


The Layers menu will appear to the right of the screen, replacing the legend. There, you can toggle inundation layers on and off by selecting the checkbox next to the layer.



View Legend in “Layers View” & Change Opacity:

Select the arrow (>) to the right of the layer name to reveal the **Legend** and **Opacity** tabs. Adjust the opacity as needed using the slider bar.



3b. Considering Critical Infrastructure and Facilities and Different Lake Level Scenarios

Create maps for your community by zooming in to areas where critical infrastructure and facilities are located. Display the different **Inundation Layers** individually and/or together. The sample list of critical infrastructure and facilities below is a sample taken from the NYSG CRI, and is provided as an example of an application for this map tool.

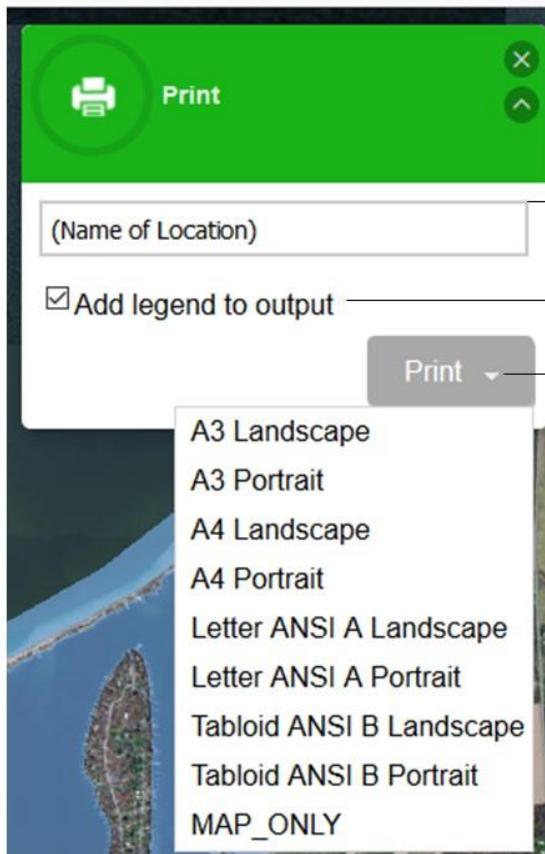
Critical Infrastructure
Wastewater treatment
Storm drains
Power grid
Public water supply
Transportation/evacuation routes
Large-scale shoreline protection (i.e. breakwater, breakwall, etc.)
Places of mass gathering (i.e. fairgrounds, shopping center, etc.)
Critical Facilities
Municipal Hall
Municipal Department of Public Works
Critical record storage
Fuel stations
Police station or other law enforcement buildings
Jail, Fire Station(s)/Emergency Medical Service
Communications main office or substations
Emergency Operation Center
Access to areas suitable for disaster response staging & access to points of distribution
Evacuation shelters
Hospitals
Vulnerable populations
Hazardous materials facilities
Private industries with hazardous materials
Abandoned, deteriorated, or underused sites and buildings.

4. Export/Print Maps

Select the **Print** button on the Toolbar, circled below



Follow steps 1-4, below to add custom title (below as “Name of Location”), legend, and save/print your maps.



1. Type the name of the location
Example: "Sodus Bay, near pier"

2. Check the box for **Add legend to output**

3. Select the dropdown arrow next to "Print" to select the size of the PDF output.

- For an **11x17** sized map, select **Tabloid ANSI B Landscape** (or Portrait)
- For an **8.5x11** sized map, select **Letter ANSI A Landscape** (or Portrait)

4. Once the map is created, a link will appear that says **Printout**. Select the link. Map will open in a new tab in browser. **Download** and **Save** map to local drive before printing.

Example of exported webmap:

