

Tompkins County  
Water Resources Council  
July 15, 2024

# Flood Watch NY: Documenting Local Floods through Community Science





# New York Sea Grant

Jess Kuonen

Hudson Estuary Resilience  
Specialist



Cornell University



The State University  
of New York



NYSG office locations and Hudson River Estuary Watershed in blue

# MyCoast NY Outreach Team



## New York Sea Grant

- Jess Kuonen, *Estuary Resilience Specialist* - **Hudson River Estuary**
- Kathleen Fallon, *Coastal Processes Specialist* - **Long Island**
- Hannah Eisler Burnett, *Coastal Resilience Specialist* - **Jamaica Bay/ NYC**
- Lilli Genovesi, *Outreach Coordinator* - **Long Island Sound (NYC/Westchester)**

## NYS Water Resources Institute

- Kristen Hychka, *Research and Outreach Specialist*, **Ithaca (Cornell)**
- Rewa Phansalkar, *Research and Outreach Specialist*, **Ithaca (Cornell)**

[www.mycoast.org/ny](http://www.mycoast.org/ny)

MyCoast:

# New York

## Help document New York's changing water levels and weather impacts

The MyCoast New York portal is used to collect and analyze photos of changing water levels, shorelines, and hazardous weather impacts across New York's varied coasts and water bodies. Photos are linked to real-time environmental conditions to create reports that help stakeholders like government agencies, business owners, and residents understand our changing environment and make informed decisions.



**Flood Watch**

Tracking Flooding Across the State



**Storm Reporter**

Documenting Storm Damage



[www.mycoast.org/ny](http://www.mycoast.org/ny)

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\*\*\*In NY, MyCoast can be used inland and statewide.  
Not just for the coast!\*\*\*



**Flood Watch**

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# How it Works

1



## You Add Your Picture or Report

Take your picture via our mobile app (below) or submit it via your browser when you get back to your computer.

2



## We Fetch Background Data

Our servers retrieve weather and tidal information to add context to your photo.

3



## Your Report Informs Decisions

Coastal leaders and groups can use your data to make better decisions.

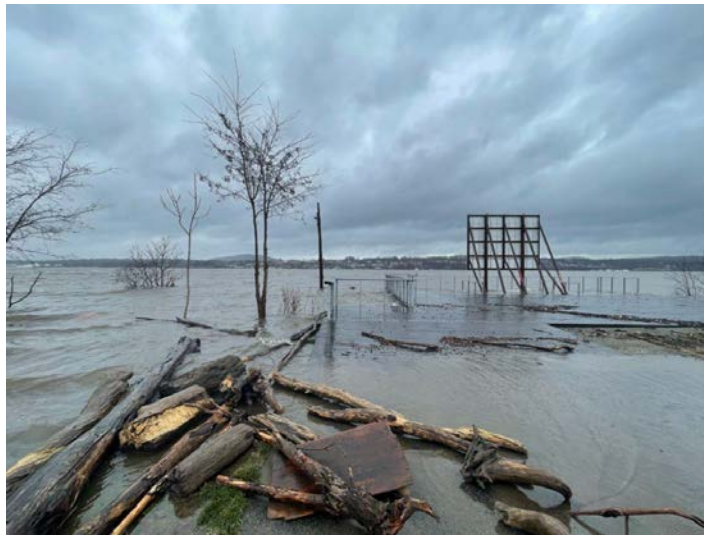


# Why document floods?

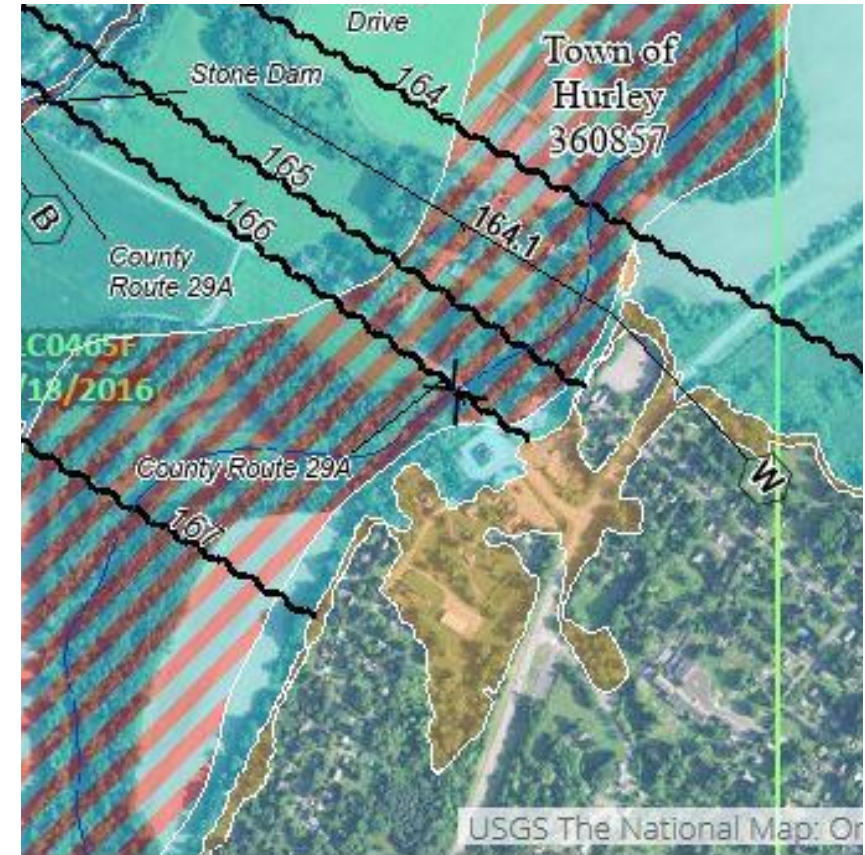
- Storms and floods are increasing in frequency and severity
- Lack of documentation during and after weather events



Edgemere, NY  
<https://mycoast.org/reports/103950>



Beacon, NY  
<https://mycoast.org/reports/101081>



- Current data used for decisions doesn't consider climate change
- Photos can complement these data



# Photos as data

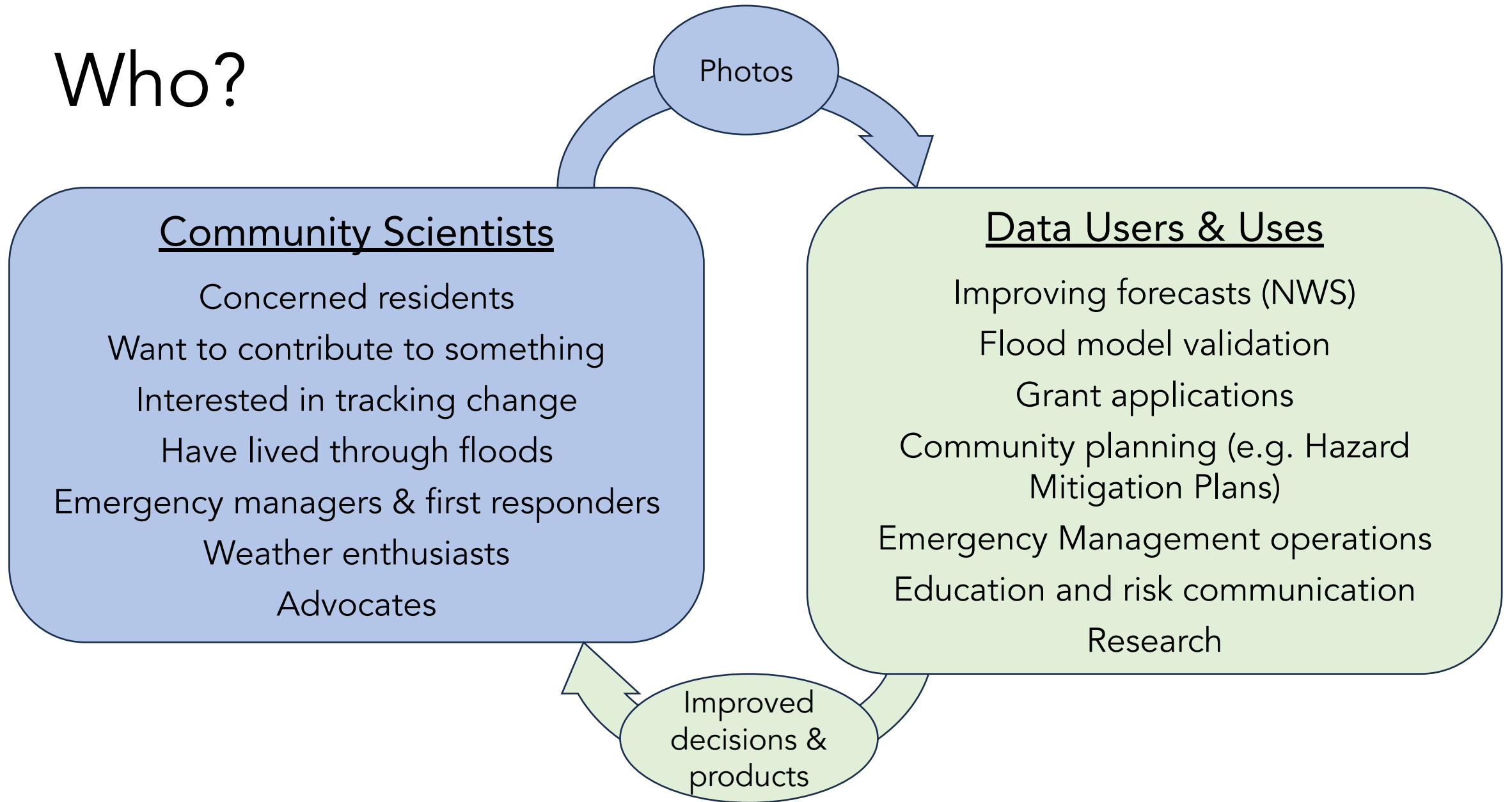
- Hyperlocal data
- All models have limitations
- “A picture is worth 1000 words”
- *Value of engaging community members*



“This section of Springtown Road, located within the 1% annual flood zone along the Wallkill River, was inundated 5 times in the past 2 years.”

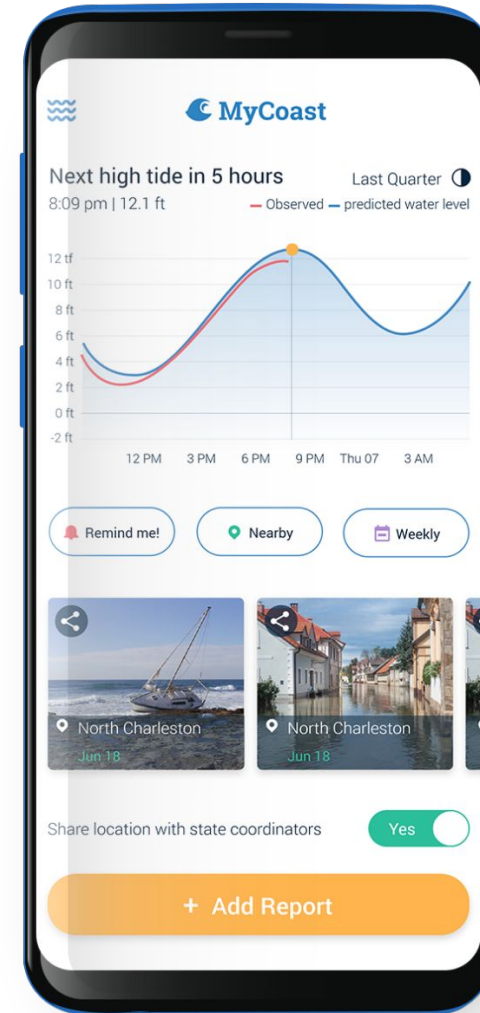


# Who?



# Become a MyCoast / Flood Watch NY volunteer

1. Download the MyCoast app or visit [MyCoast.org/ny](https://MyCoast.org/ny)
2. Register
3. Snap photo
4. Submit photo report





# Flood Watch Report



## Tracking flooding across the state

- Flooding - water on land that is normally dry
- Many different causes and types
  - river, ice jam, runoff, stormwater, ag drainage failure, high tide, storm surge, local waves, high water, groundwater



Blocked storm drain



High water event



Tidal flooding

# Storm Reporter Report



Documenting damage after a storm

- Damage from wind, water, ice, snow
- Damage to infrastructure, natural environment, etc.



Damage to bridge



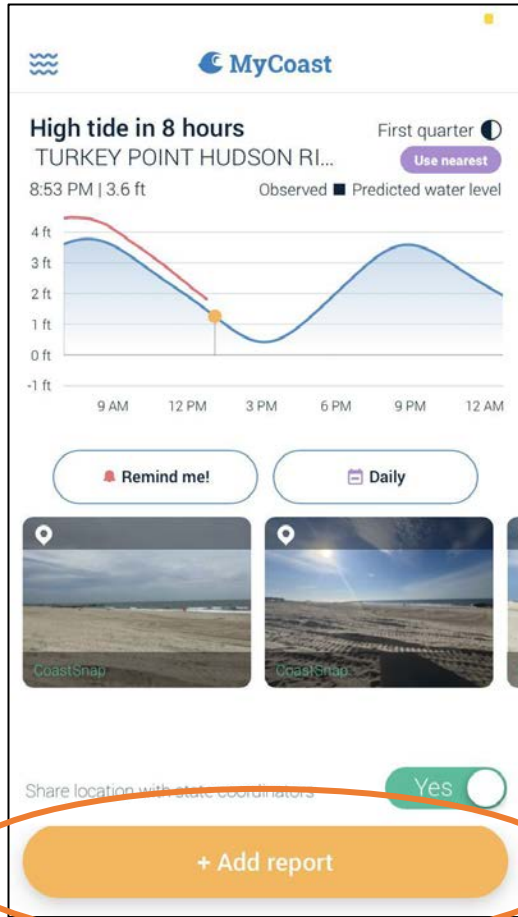
Downed trees & powerlines (be careful)



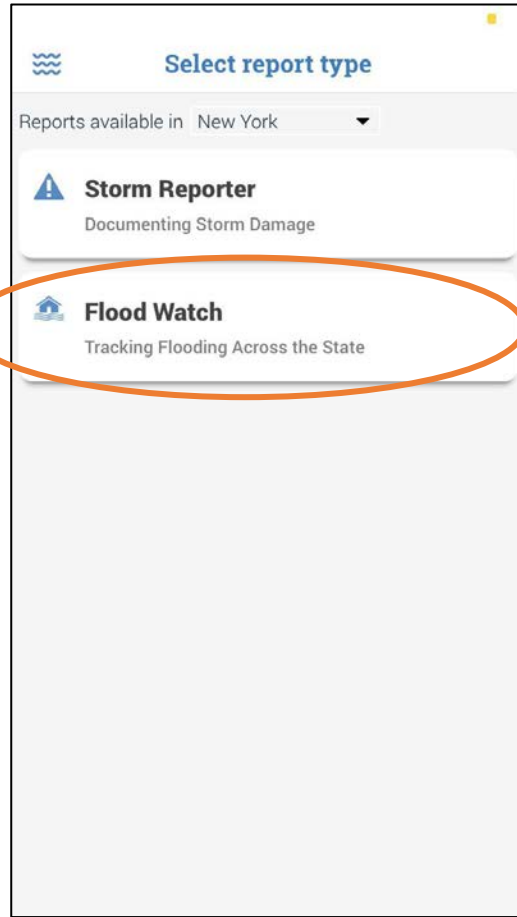
Impassable roads due to floodwater



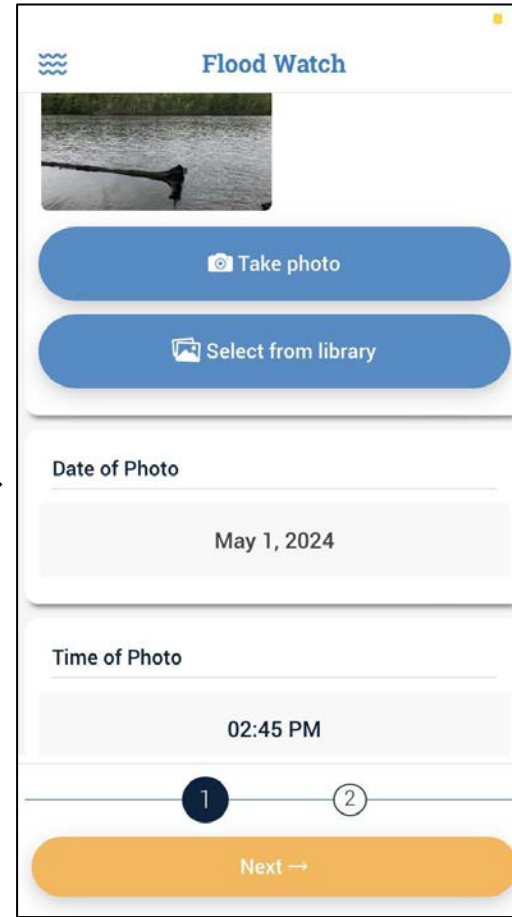
# How to upload a photo



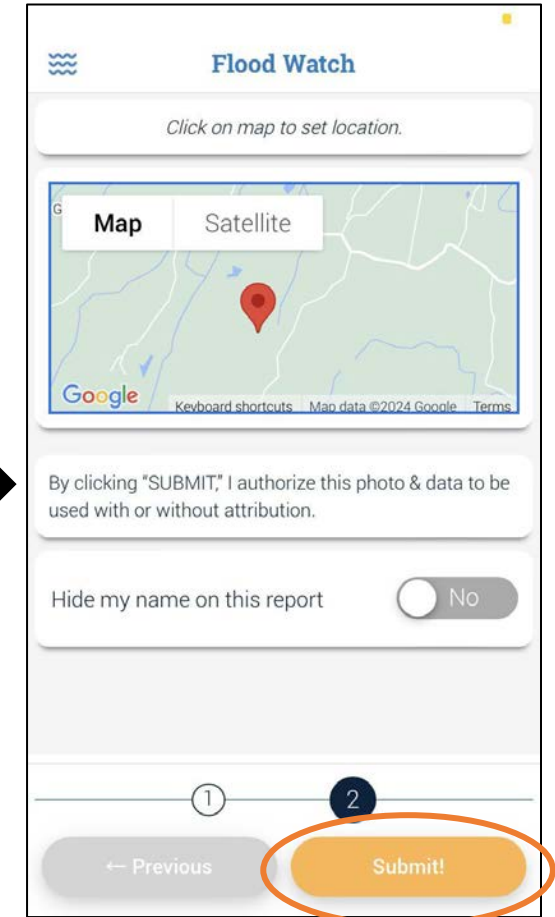
Select: + Add Report



Select: Report type



Upload/take photo,  
check date/time, add  
additional info, Next



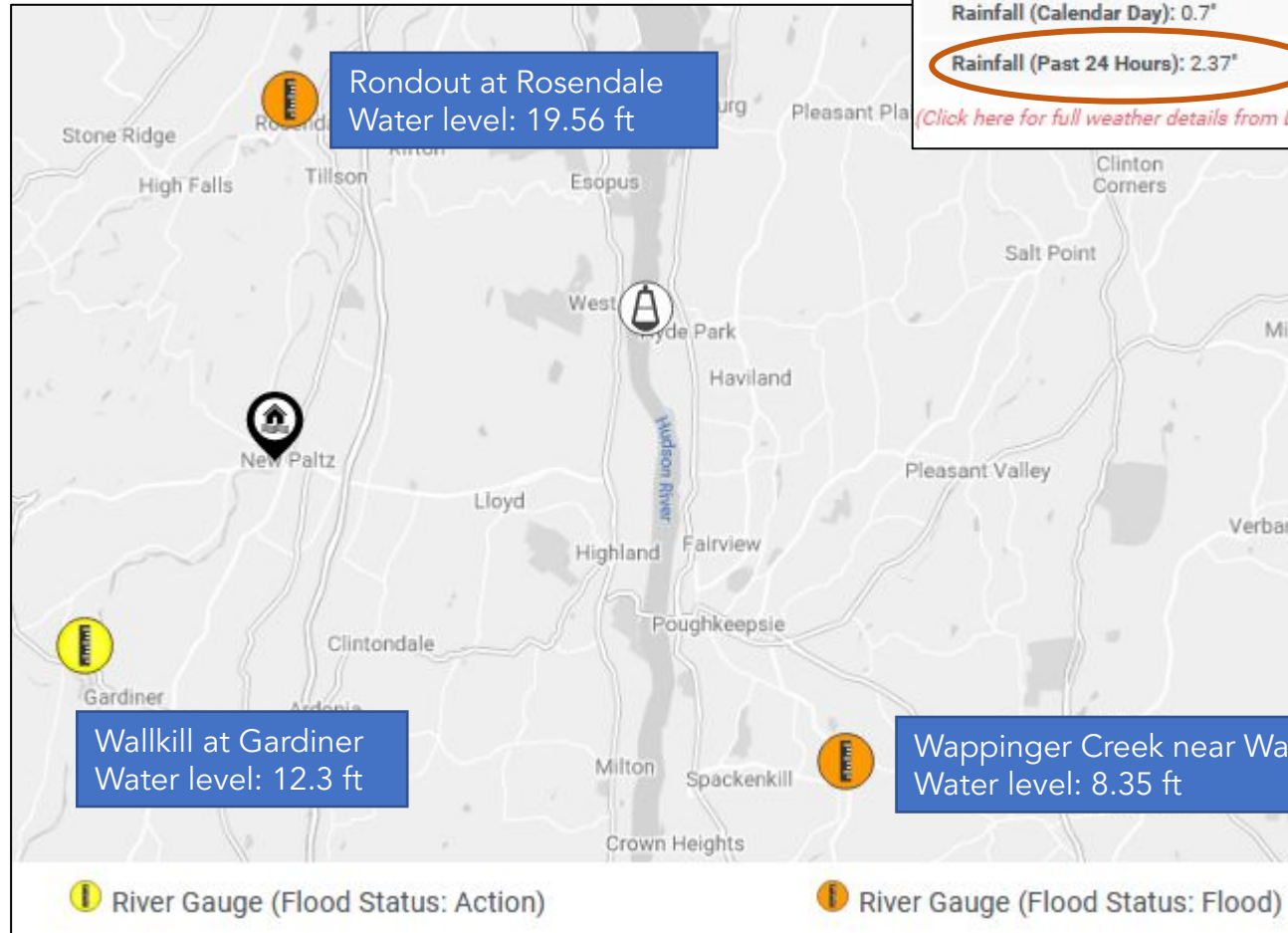
Check location, Submit!

# Photos linked to nearby weather and USGS river gauge



<https://mycoast.org/reports/95822>

Location: Route 299 & Springtown Rd, New Paltz  
Date/time: 4/8/2022 10:43 am



## Weather Overview



Wind Speed: 7.1 MPH

Wind Direction: W (272°)

Temperature: 54°F

Rainfall (Calendar Day): 0.7"

Rainfall (Past 24 Hours): 2.37"

[\(Click here for full weather details from DarkSky\)](#)



# Access reports on website

MyCoast NY MyCoast Flood Watch Storm Reporter CoastSnap **Search Reports** Download App My Account More...

Map Satellite

**Filter Reports**

Flood Watch, Storm

All Flooding Causes

Greene County

All Communities

Damage Reported?

All Reporters

Start date

End date

7

**Cairo, NY (Catskill Creek Cairo-Leeds-Catskill)**  
Storm | December 18, 2023 at 3:31 pm | Tracey Testo-Smith

**Palenville, NY (Palenville)**  
Flood Watch | December 18, 2023 at 12:03 pm | Nick D

**Palenville, NY (Palenville)**  
Flood Watch | December 18, 2023 at 10:47 am | Nick D

Download These Reports











Internal-Only  
 Public  
 Public and Featured  
Delete

Internal-Only  
 Public  
 Public and Featured  
Delete

Internal-Only  
 Public  
 Public and Featured  
Delete

# Bulk Download MyCoast Photos & Data

Images

-  22293-22294.jpg JPG File
-  22293-22295.jpg JPG File
-  22293-22296.jpg JPG File
-  22513-22514.jpg JPG File
-  22513-22515.jpg JPG File
-  22513-22516.jpg JPG File
-  22513-22517.jpg JPG File
-  22513-22518.jpg JPG File
-  26412-26413.jpg JPG File
-  26579-26580.jpg JPG File

CSV

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
ID #	reportType	photo_date	photo_time	from_devic	AuthorName	AuthorEmail	URL	images	location_lo	location_la	geo_admin	geo_admin	geo_localit	geo_neight	geo_route	weather_te	weather_wi	weather_wi	weather_cc	TideDataO	TideDat
144882	Storm	12/18/2023	3:31 PM	iOS 16.6.1			https://myc	https://rep	-74.0123	42.32068	NY	Greene Co	Cairo	Frank Hitc	Frank Hitc	44	10.4	271	2.376	https://tide	https://
143455	Flood Watch	12/18/2023	12:03 PM	iOS 17.1.2			https://myc	https://rep	-74.0042	42.19423	NY	Greene Co	Palenville	Pennsylvar	Pennsylvar	53	15	280	2.289	https://tide	https://
143326	Flood Watch	12/18/2023	10:47 AM	iOS 17.1.2			https://myc	https://rep	-74.0042	42.19421	NY	Greene Co	Palenville	Pennsylvar	Pennsylvar	54.9	13.9	220	2.23	https://tide	https://
101415	Storm	12/23/2022	3:17 PM	iOS 16.1.1			https://myc	https://rep	-73.7969	42.35249	NY	Greene Co	Coxsackie	Reed St	Reed St	34.6	16.4	257	1.115	https://tide	https://
104651	Flood Watch	12/23/2022	2:24 PM				https://myc	https://rep	-73.79	42.463641	NY	Greene Co	New Baltin	NY-144	NY-144	45.8	12	158	1.112	https://tide	https://
100337	Flood Watch	12/23/2022	12:27 PM	Android 10			https://myc	https://rep	-73.8554	42.21089	NY	Greene Co	Catskill	Main St	Main St	47.3	15.4	167	1.18	https://tide	https://
100334	Flood Watch	12/23/2022	12:24 PM	Android 10			https://myc	https://rep	-73.8543	42.21045	NY	Greene Co	Catskill	Main St	Main St	47.3	15.3	167	1.18	https://tide	https://

AU	AV	AW	AX	AY	AZ	BA	BB
guessCause	cause-other	whatFlooded	flooded-other	guessDepth	road_damage_detail	response_damage	
Overland flooding (Nearby waterbody)		Roads/streets		4			
Rainfall (Water pooling from direct rainfall)		Lawns/vegetation		0			
					Impacted, but passable	None	
Overland flooding (Nearby waterbody)	high tide from Hudson River	Other	Flood plain south of Hannacroix Creek, west of Hudson River. Swamp forest and meadow.				
Overland flooding (Nearby waterbody)	Storm surge	Roads/streets		0			
Overland flooding (Nearby waterbody)	Storm surge	Roads/streets		0			



# Resources

- Flyer
- Factsheet
- Newsletters
- Recordings



## MyCoast New York Resources

MyCoast New York flyer

MyCoast New York fact sheet

MyCoast New York July 2023 Newsletter

# Rebranding for inland communities

## Flood Watch New York VOLUNTEERS NEEDED!

Help document flooding and storm damage

Flood Watch New York is a program that collects and analyzes crowd-sourced photos of flooding and hazardous weather impacts across New York's varied coasts and waterbodies through the MyCoast NY tool.

Photos are linked to real-time environmental conditions to create reports that help emergency managers, local planners, residents, and state agencies understand our changing environment and make informed decisions.



**REPORT TYPES**



**FLOOD WATCH -**  
Tracking flooding  
across the state



**STORM REPORTER -**  
Documenting damage  
after the storm

Download the **MyCoast app** or visit **MyCoast.org/ny**

DOWNLOAD



REGISTER



SNAP PHOTO



+ ADD REPORT





Need more info?  
Contact Jessica Kuonen,  
jak546@cornell.edu







## Documenting Local Flooding and Storm Impacts Through Community Science

A flooded road next to the Walkkill River after a heavy rain event on 4/30/2023. Storm drain backup.

Extreme weather events can lead to hazards that put lives and property at risk. Floods are the costliest natural hazard in New York followed by wind, snow storm, tornado, ice storm, and coastal hazards<sup>1</sup>. According to New York State climate projections, the frequency of extreme weather events will continue to increase<sup>2</sup>.

**A picture is worth a thousand words**  
During and after flood and storm events, many residents take photos to record damage where they live with their mobile phones, often sharing them on social media. Photos play an important role in documenting extreme events and impacts at the local level and can be used in communication and visualization of future events.

The **MyCoast New York** portal is used to collect and view photos of flooding, changing shorelines, and hazardous weather impacts across New York's varied coasts and waterbodies.

Photos are linked to real-time environmental conditions to create reports that help stakeholders like government agencies, business owners, and residents understand our changing environment and make informed decisions.


Photo reports submitted by volunteers can be accessed by everyone at [MyCoast.org/ny](http://MyCoast.org/ny). Use the 'Search Reports' page to view photos by location map, report type, or other filters.

**SAFETY IS A PRIORITY**




Volunteers should follow local safety precautions advised by authorities and take photos once it is safe to do so.

**Use the Flood Watch and Storm Reporter tools to document how your community is impacted by weather and climate change.**


References: <sup>1</sup><https://mitigation.avallabs.org/hazards/>; <sup>2</sup><https://www.nysenda.ny.gov/clmaid>



Need more info?  
Contact Jessica Kuonen,  
jak546@cornell.edu






## Report Types




**FLOOD WATCH -**  
Tracking flooding across the state

Flooding can occur anywhere for a number of reasons. Use Flood Watch to capture flooding and impacts in your community. Some common types of flooding include: river, ice jam, runoff, urban stormwater failure, agricultural drainage failure, high tide, storm surge, local wave action, and high water in lakes and ponds.




**STORM REPORTER -**  
Documenting damage after the storm

New York experiences heavy downpours, high winds, tropical storms, nor'easters, and lake-effect. Use Storm Reporter to capture damage and impacts to infrastructure, the natural environment, and your community.




## How to start:


DOWNLOAD




REGISTER



SNAP PHOTO



+ ADD REPORT



Download the **MyCoast app** or visit **MyCoast.org/ny**

## Frequently Asked Questions

**Can I contribute photos from non-coastal locations?**  
Yes. All New Yorkers are impacted by flooding and hazardous weather. Flood Watch and Storm Reporter can be used to document inland flooding and photos will be linked to the relevant data based on location.

**What are data sources for environmental data?**

1. Weather: VisualCrossing
2. Tidal gauge & lake level: NOAA Tides and Currents
3. River gauge: USGS

**Can I upload photos I took in the past?**  
Yes. If your photo has date, time, and location data, these fields will be automatically populated. If not, you can manually enter the information. It is best to upload photos with geolocation to ensure accuracy of data.

**What happens to my photo once I submit it?**  
Once you submit a photo report, it will be linked with environmental data and posted to the MyCoast NY website. Your photo will be viewable to the public alongside your name, unless you choose to post it anonymously. From there, your photos may be viewed and used by others in a variety of ways. Your photo report will be part of the public domain.

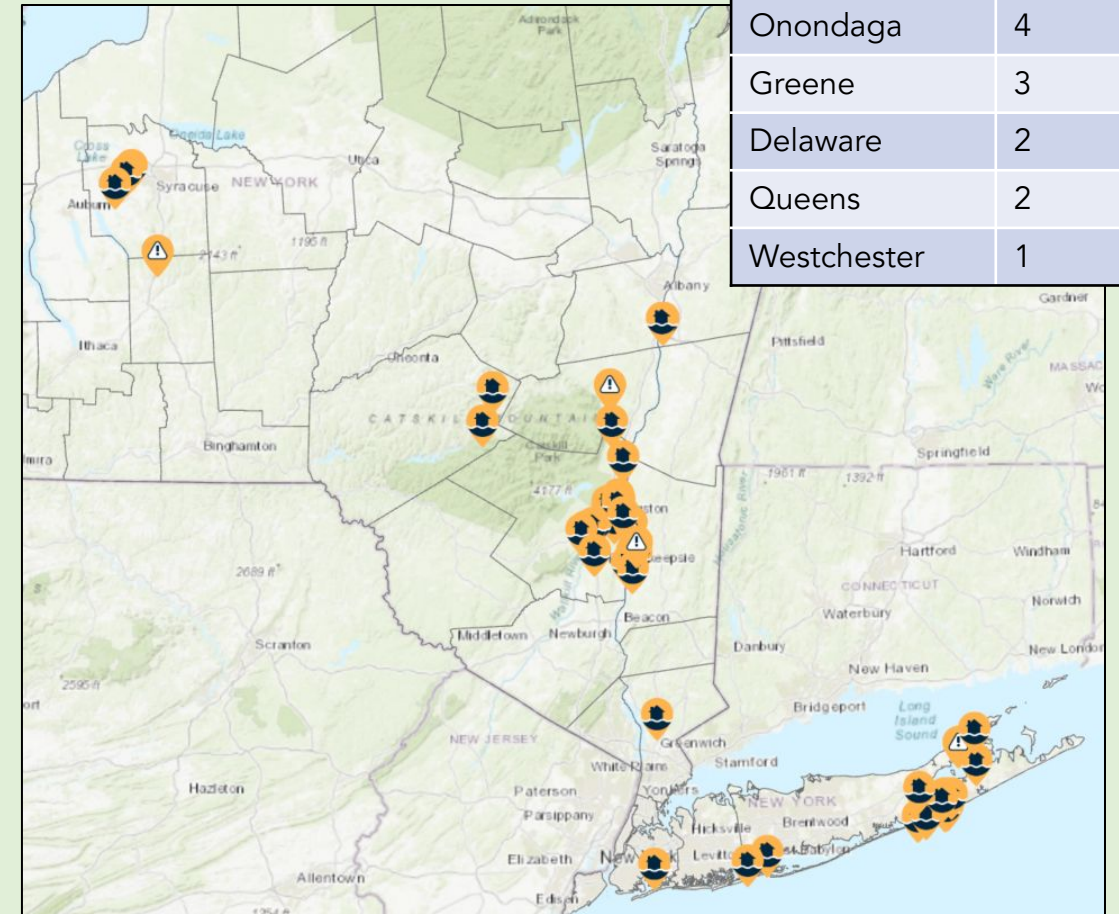
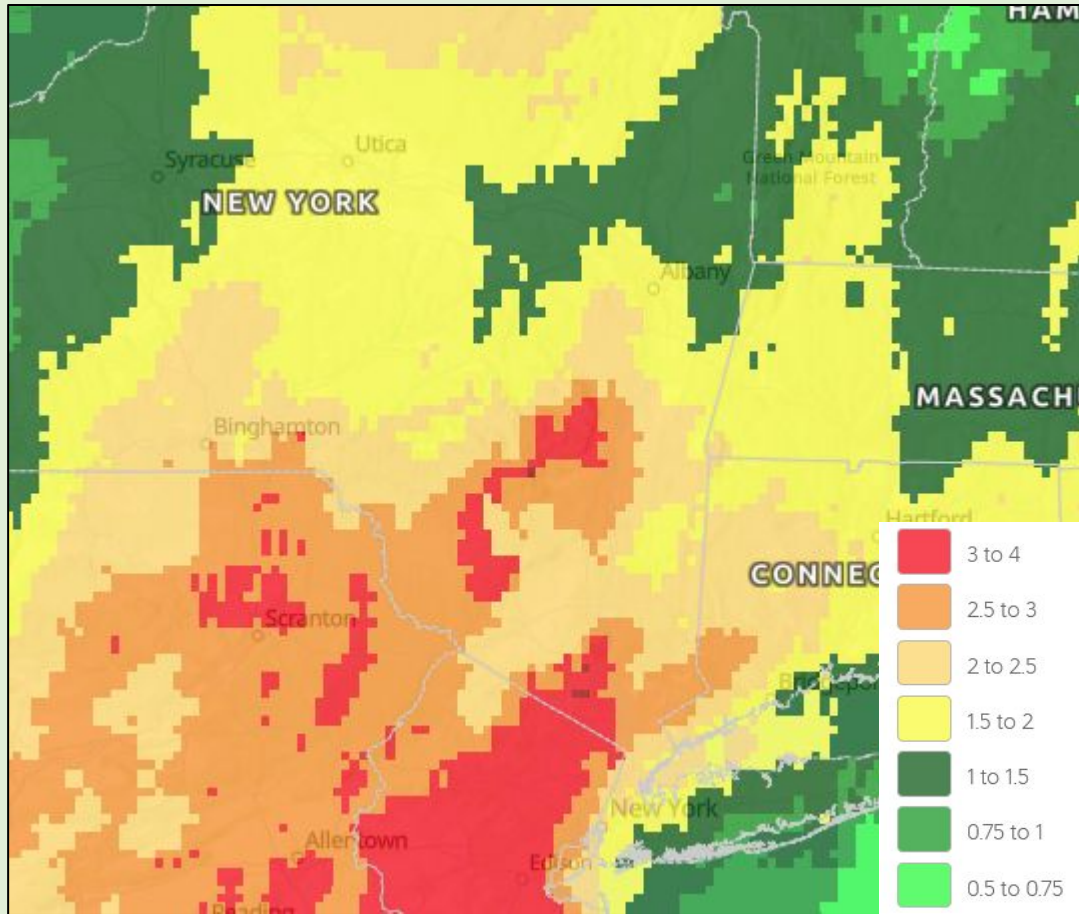
New York's Sea Grant Extension Program provides Equal Program and Equal Employment Opportunities in association with Cornell Cooperative Extension, U.S. Department of Agriculture and U.S. Department of Commerce and cooperating County Cooperative Extension Associations.

New York Sea Grant is part of a nationwide network of 34 university-based programs working with coastal communities through the National Oceanic and Atmospheric Administration (NOAA). Sea Grant research and outreach programs promote better understanding, conservation, and use of America's coastal resources. Sea Grant is funded in New York through SUNY and Cornell University and federally through NOAA.



What are we seeing?

# Documenting the storm: December 18, 2023



County	# Reports
Dutchess	29
Suffolk	24
Ulster	17
Albany	8
Onondaga	4
Greene	3
Delaware	2
Queens	2
Westchester	1

Observed 1-day precipitation estimate in inches (12/18/2023)  
National Water Prediction Service, NOAA

90 MyCoast photo reports were submitted: 12/17-12/19/23



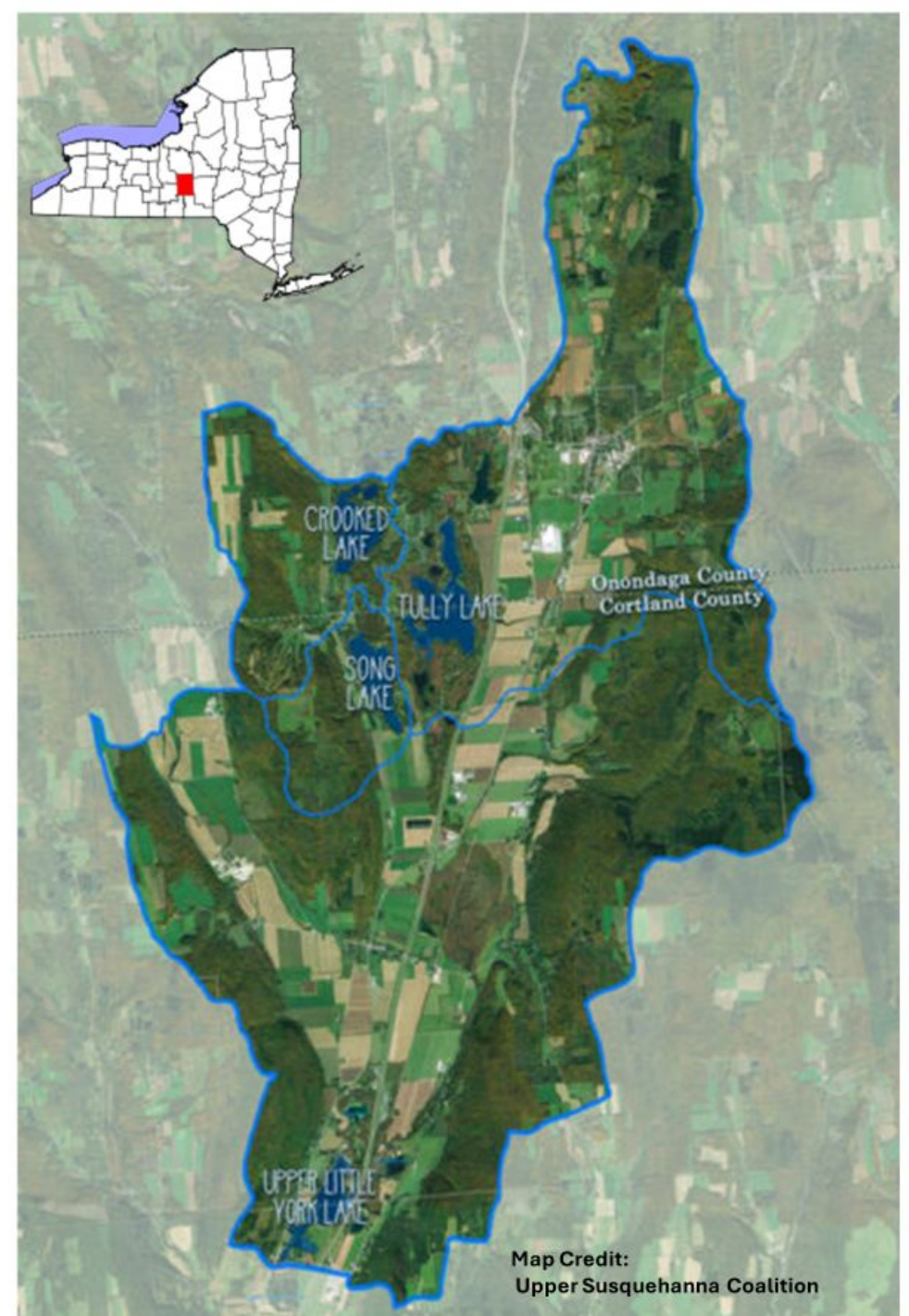
# Volunteer highlight: Cortland Onondaga Federation of Kettle Lakes Association

Using MyCoast as a data repository in support of Storm Response Plan





Counties: Cortland & Onondaga  
Municipalities: Tully, Preble, Homer, & Little York



Map Credit:  
Upper Susquehanna Coalition



**Table 9.35-4. Potential Flood Losses to Critical Facilities**

Name	Type	Exposure		Potential Loss from 1% Flood Event		Addressed by Proposed Action
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	
Verizon Facility	Major Communication Facility	X	X	-	-	V. Tully-4
WEP Tully Sewage Treatment Plant	Waste Water Treatment Plant	X	X	0%	0%	-

Source: FEMA 2016, SOCPA 2018

The village noted that the Sewage Treatment Plant is protected from flooding.



WEATHER

## Tully slammed by rain. State of emergency declared after sewage plant floods

Updated: Mar. 06, 2023, 4:40 p.m. | Published: Aug. 18, 2021, 7:29 a.m.

Syracuse.com

Tully, N.Y. – The village of Tully was hit with nearly 4 inches of rain last night, causing a creek to overflow and flood the wastewater treatment plant



<https://spectrumlocalnews.com/nys/central-ny/news/2021/08/18/flooding-triggers-state-of-emergency-in-tully>

42.794404395486296, -76.10633416737238 Community Drive



# Kettle Lakes Storm Response Team

- **MISSION: support neighbors with addressing the growing number of significant storm events that result in runoff and flooding through prevention, mitigation, and immediate response**
- **ACTIONS:**
  - Strategic tree planting
  - Developed clearinghouse for information on storm event response, and recovery
  - Survey of impacts
  - Collect photo documentation

I started using the MyCoast App in the summer of 2023, and was immediately impressed with how **easy it was to upload pictures** of some of the significant storm runoff events that we have had in our Central New York kettle lakes community.

It was **quick, user friendly, and it accurately located each photo** using geolocations- even those from a massive hailstorm event from back in 2011.

At our annual meeting, residents decided that we are all going to begin thinking about more about high water levels, and **using the MyCoast App as a data repository** to look at trends, both in flood water levels, locations, and proximity to tributaries.

It might give us **ideas to mitigate in the future**. What a great way of keeping **track of growing frequency and severity of storm** info MyCoast is. I was happy to share it with my lake Association members.

**Colleen Zawadzki,**

President/Tully Lake Property Owners Association

COFOLKLA



# Municipal websites



The screenshot displays the website for the Incorporated Village of Bayville. The header includes the village seal, the name "The Incorporated Village of Bayville", the phone number (516) 628-1439, and a "Sign Up For Our Email List" button. A navigation menu contains links for "ABOUT", "RESOURCES", "FORMS", "SERVICES", "WATER", "NEWS", "REPORTS", "CONTACT US", and "MS4". A search icon is also present. The "SERVICES" page is active, with a sidebar menu listing "Services", "Requirements for Bayville Beach Parking Permits", "Repetitive Loss Area Analysis", and "Sanitation & Recycling". The main content area features a "Flood Readiness" section with the following text:

## SERVICES

### Flood Readiness

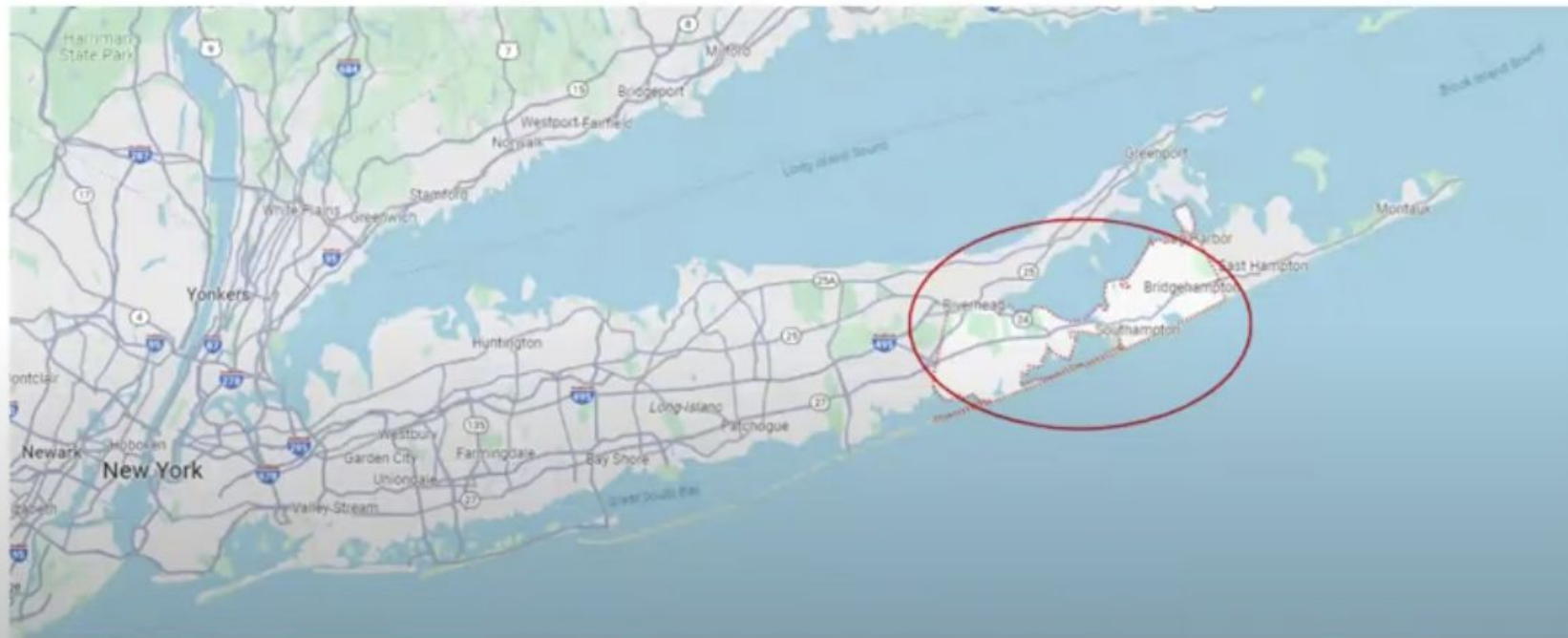
The [MyCoast New York Portal](#) Can Be Used To Document Flooding In Our Community

An application to document flooding throughout the state of New York has been developed by the [New York Sea Grant](#) and [NYS Water Resources Institute](#). The [MyCoast New York Portal](#) is used to collect and analyze photos of flooding, changing shorelines and hazardous weather impacts across New York's various coasts and waterbodies. Reports developed from this flooding documentation can be beneficial for emergency managers, local planners, residents, and state agencies to understand our changing environment and the impacts of flooding on every New York community.



# MyCoast User

Ryan J. Murphy, Emergency Manager for Town of Southampton









Storm surge flooding along Coxsackie waterfront (12/23/2022)  
<https://mycoast.org/reports/101415>

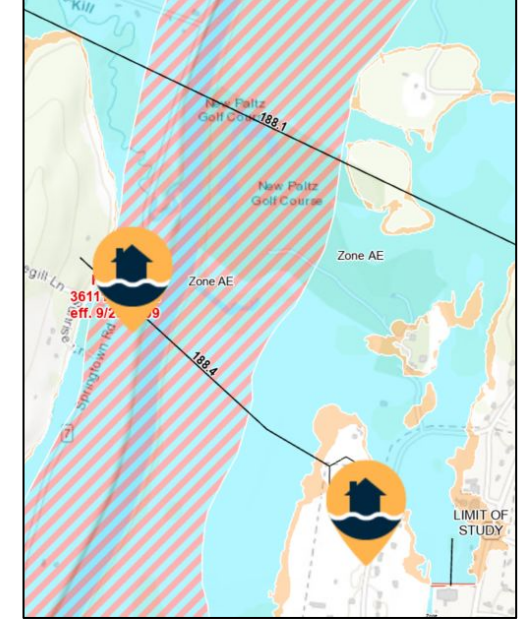
## Challenges and limitations of the tool

- The name: MyCoast NY
- Shows tide chart as soon as you open the app
- Can't search photo reports easily through the app
- No cell/wifi in many areas
- Environmental data
  - As the crow flies
  - Accurate?



# Next steps for the program

- Funding secured through June 2026 (2 years)
- Data will be added to NYS GIS Gateway!
- Upcoming virtual meetings:
  - Quarterly forum with MyCoast NY community
  - Fall series: Linking photos to state programs and planning processes
- Packaging data for communities, decision makers, etc.
- Continue to explore partnerships while promoting use
  - NYS Division of Homeland Security and Emergency Services Hazard Mitigation Planning
  - Municipal Historians of Tompkins Co



# Thank you! Questions?

Visit  
[Mycoast.org/ny](https://mycoast.org/ny)

Get in touch!  
Jess Kuonen  
New York Sea Grant  
[jak546@cornell.edu](mailto:jak546@cornell.edu)

