

# UConn Climate Corps: Climate Adaptation Projects in Communities

Sustainability & Resilience Week Connecticut  
September 26, 2024

UConn Center for Land Use Education and Research (CLEAR) &  
Connecticut Sea Grant

# Welcome!

---



## Sustainability & Resiliency Week

UConn Environment Corps: A University-wide Partnership

CLEAR Webinar Series

View upcoming webinars and events at [clear.uconn.edu/webinars/](https://clear.uconn.edu/webinars/)

Connecticut's first [Sustainability and Resiliency Week](#)

Sept 22 – 29, 2024

Check out more events here: [events.ct.gov/Sustainability-and-Resiliency-Week/events](https://events.ct.gov/Sustainability-and-Resiliency-Week/events)

# Introducing Our Panel

---



**Juliana  
Barrett**

CT Sea Grant,  
CLEAR,  
Climate Corps  
Program  
Founder



**Sarah  
Schechter**

CT Sea Grant,  
Climate Corps  
Alum



**Maggie  
Favretti**

Director -  
Alliance for  
the Mystic  
River  
Watershed,  
Community  
Partner



**Paige Booth**  
Climate Corps  
Alum /  
Teaching  
Assistant



**Erin Heslop**  
Climate Corps  
Alum



**Chris Fan**  
Climate Corps  
Alum

# The Environment Corps

## Bridging the “Capacity Gap” with student power

*It's not that we don't take climate change seriously, it's that small towns are faced with sinking budgets, and have a number of statutory mandates they have to satisfy.*

**Local official (from Boyer et al. 2017)**

- Environmental Studies
- Environmental Sciences
- Environmental Engineering
- Center for Land Use Education & Research
- Connecticut Sea Grant College Program



# Environment Corps Program History



*Climate: 7 years*

*Brownfields: 6 years*

*Stormwater: 5 years*



# E-Corps partners

## 5 Departments

- Dept of Extension
- Dept. of Geography
- Dept. of Natural Resources & the Env.
- Dept. of Civil & Env. Eng.
- Dept. of Curriculum & Instruction

## 4 Schools/Colleges

- CAHNR
- School of Engineering
- Neag School of Education
- CLAS

## 3 Environmental Programs

- Environmental Studies Program
- Environmental Sciences Program
- Environmental Engineering Program

## University Admin

- Office of the Provost

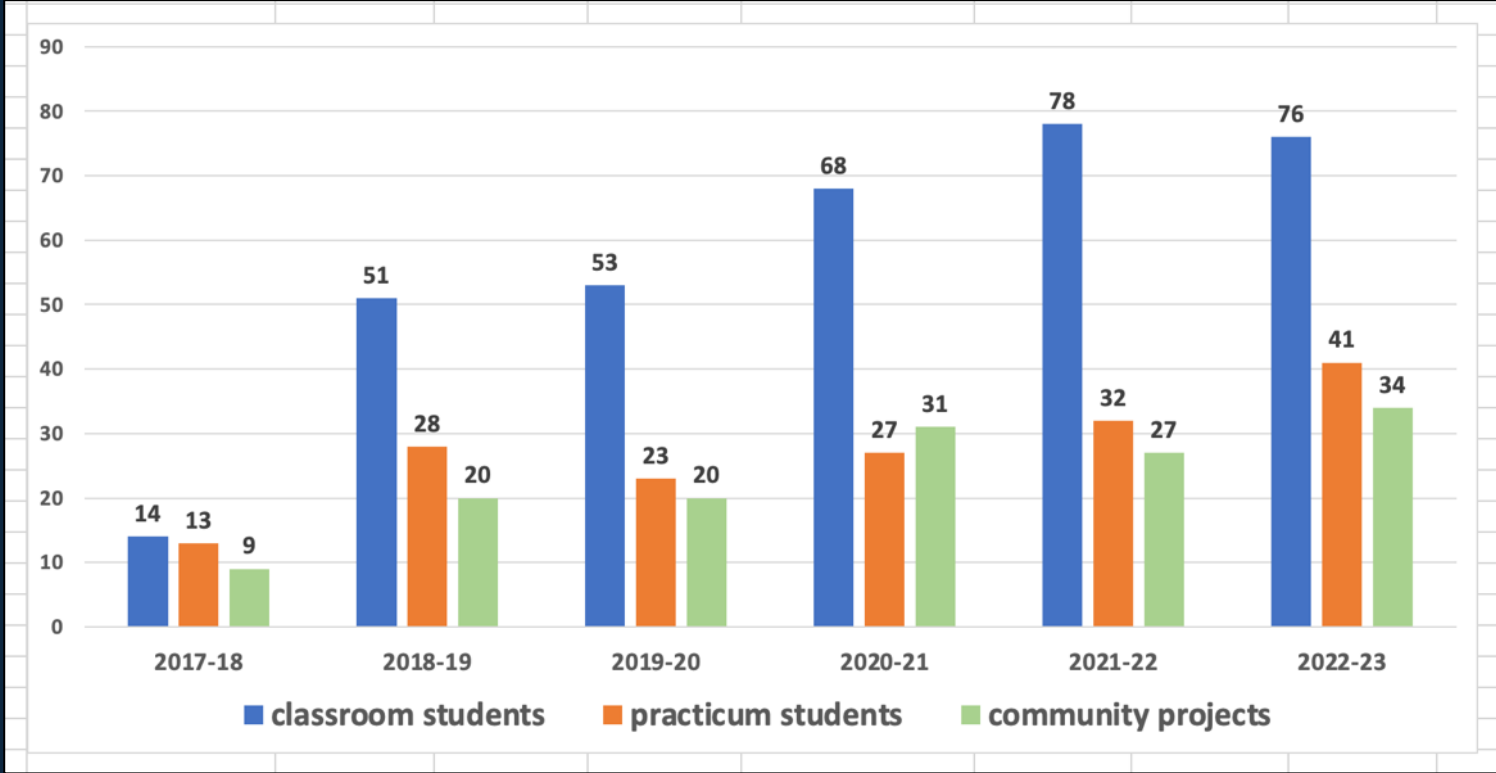
## 4 Univ Centers

- CLEAR
- Institute of the Environment
- CETL
- CT Sea Grant



## By the Numbers

<b>TOTALS since inception</b>	
all students	603
classroom students	408
practicum students	195
CC students	239
BC students	255
SWC students	109
community projects*	180



We have evaluation data for both students and community partners.

# FROM ECORPS STUDENT TO UCONN EMPLOYEE

---

Sarah Schechter (she/her)





**UCONN**

**B.A. Environmental Studies and Anthropology  
Minor in Geography**



**MESM- Environmental Policy and  
Management  
Cert. Science Writing and Rhetoric  
Cert. GIS and Remote Sensing**



**Long Island  
Sound Study**

A Partnership to Restore  
and Protect the Sound

**Assistant Extension Educator - Sustainable  
and Resilient Communities**

# Climate Corps

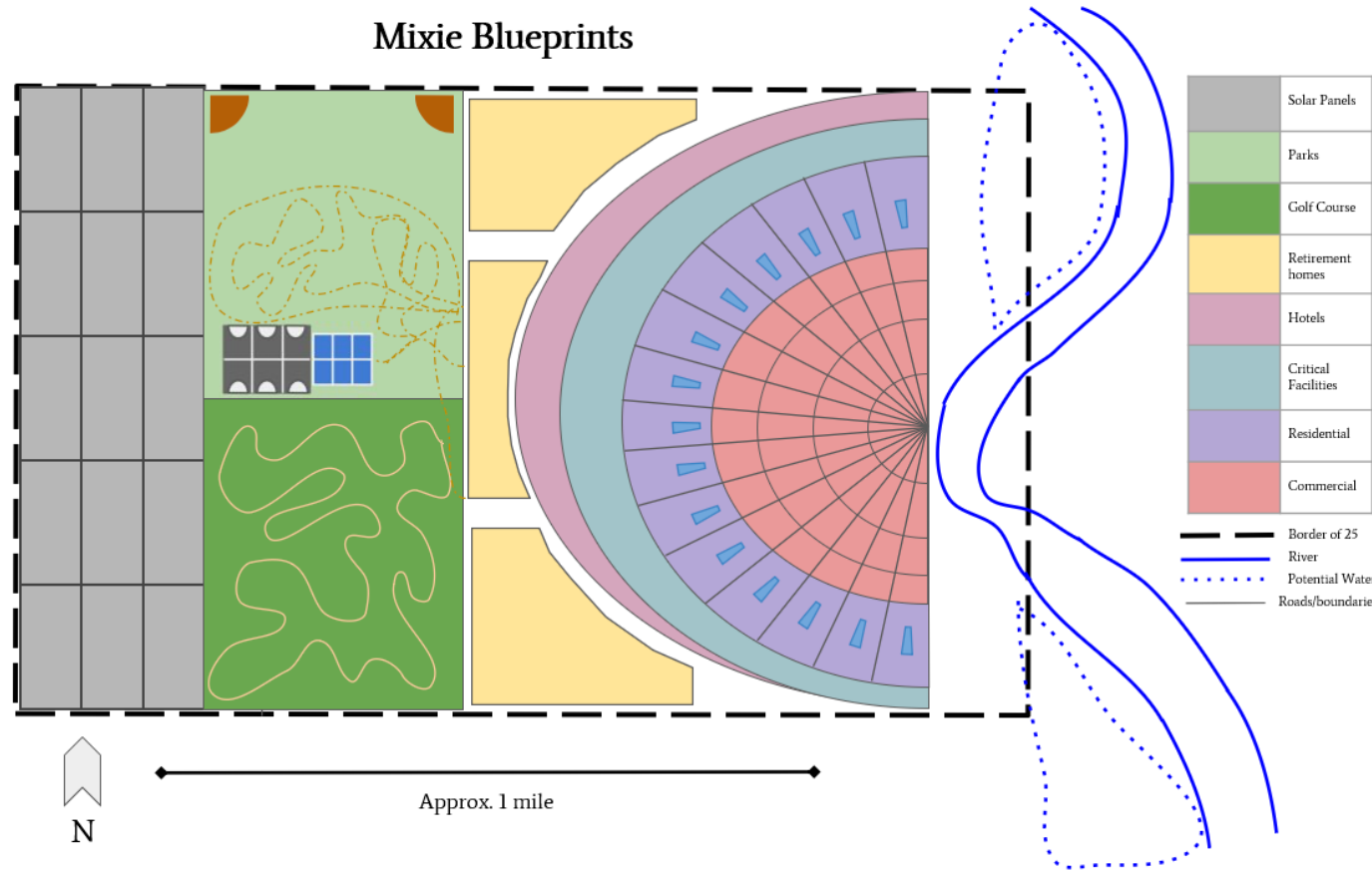
---



## Sea Level Rise Simulation: Miami Beach-Central

- Consider how four-feet of sea level rise (SLR) will impact Miami Beach-Central.
- Identify short-term and long-term impacts of primary and secondary effects of SLR.
- Determine a plan of action for the community

## Mixie Blueprints



## Sea Level Rise Simulation: Miami Beach-Central

- Relocation to Dixie County, Florida.
- Incorporated green infrastructure, renewable energy sources, and bike stations.
- Developed infrastructure with a “community-based” mindset

# Climate Corps

---

## Independent Study: Connecticut Department of Energy and Environmental Protection

CRS Class	Credit Points (cT)	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000–4,499	40%	10%
3	3,500–3,999	35%	10%
4	3,000–3,499	30%	10%
5	2,500–2,999	25%	10%
6	2,000–2,499	20%	10%
7	1,500–1,999	15%	5%
8	1,000–1,499	10%	5%
9	500–999	5%	5%
10	0–499	0	0

SFHA - Special Flood Hazard Area

- Compile resources on the National Flood Insurance Program's Community Rating System to be shared with Connecticut municipal officials and residents.
- Community Rating System Goals:
  - Reduce flood damage to insurable property.
  - Strengthen and support the insurance aspects of the NFIP.
  - Encourage a comprehensive approach to floodplain management.

# Climate Resilience Training Modules

## Overview

The purpose of these online video modules is to provide current information and resources on subjects related to climate resilience for both coastal and inland communities in Connecticut for local decision makers, municipal officials and other interested groups. Through short (10 to 15 minute) videos, commission members will learn about natural hazards and climate change and impacts in Connecticut geared at providing information that is useful for decision making at the local level.

## Videos



**FLOODING**

WATCH VIDEO

*This module introduces different types of flooding and offers long-term planning solutions and near-term adaptation methods to limit future damage and allow those impacted by flooding to recover more quickly.*



**CLIMATE CHANGE IN CONNECTICUT**

WATCH VIDEO

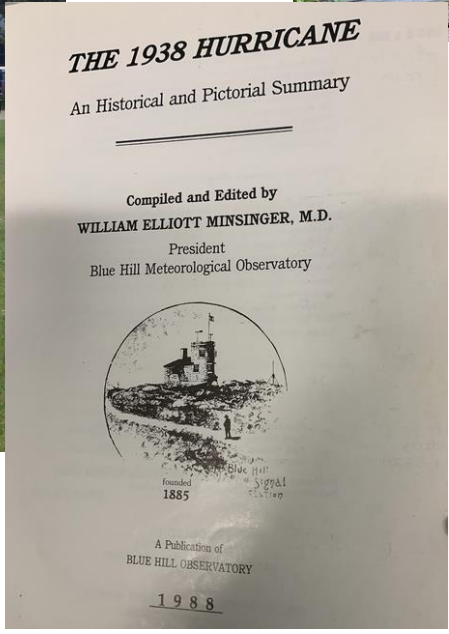
*This module presents an overview of climate change in Connecticut, highlighting impacts that are already or projected to occur in our state.*



**LEGAL ISSUES & FLOOD RESILIENCE**

WATCH VIDEO

*This module aims to help viewers recognize the planning and zoning interests related to flooding, describe actions they can take to reduce liability related to planning and zoning decisions, and identify key resources for further information.*



# Planning for Every Tomorrow: Connecticut's Past, Present, and Future Responses to Climate Change

[Sarah Schechter](#)

Follow

# Stormwater Corps

---



## Developing a Background in Stormwater Infrastructure Practices

- Experiment with permeable pavement materials
- Take the UConn Storrs Campus Green Infrastructure Tour
- Learn how to identify a watershed.



# Stormwater Corps

---



## Independent Study: Town of Groton and Town of Windsor Locks

- Performed site visits at areas of concern indicated by the towns.
- Measured square footage of impervious cover of each “drainage area”.
- Calculated the number of gallons of water expected fall at each site.
- Determined potential green infrastructure solutions.

## Key

**Red - Option 1: Large Garden with Riprap Channel**

28,740 Square Feet

**Brown + Yellow - Option 2: Front Parking Stalls**

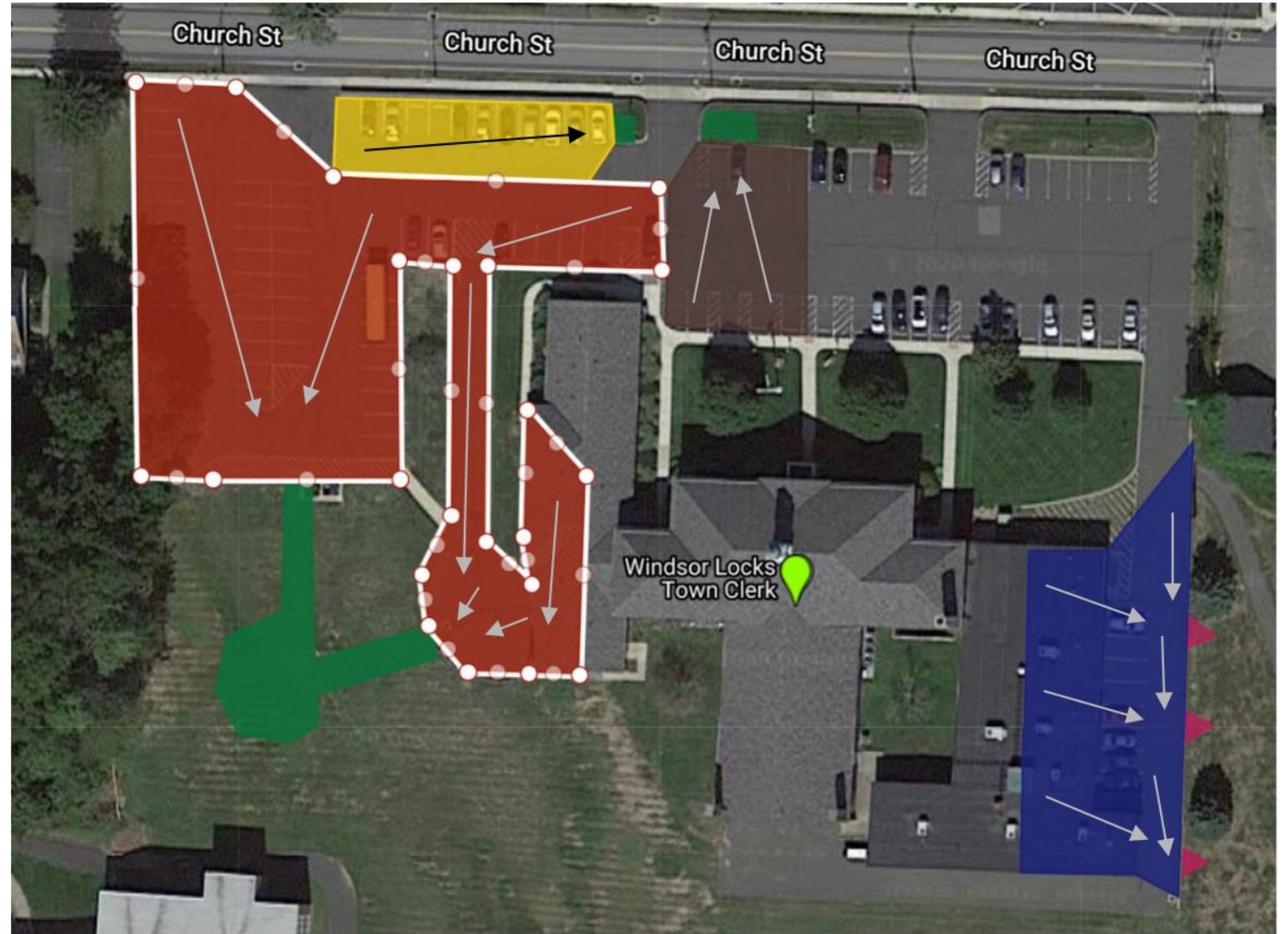
9,364 Square Feet

**Blue - Option 3: Back Parking Area**

13,531 Square Feet

**Green - Rain Garden**

**Pink - Tree Box Filters**





# DEVELOPING RELEVANT SKILLS

## THINK OUTSIDE OF THE BOX

Sometimes you need to expand your focus to find the best solution

## CONSIDER THE PAST

Look at how historical actions that can influence future responses

## COMMUNITY PERSPECTIVES COUNT

Reach out to a range of community members

## BUILD STRONG PARTNERSHIPS

Work with existing networks and establish new connections

# Collaborative Learning, Planning, and Civic Action



**11,000 Years of Pequot Care**

**Waterways Connect**

**Euro-Separation:**

**400 years of farm waste**

**400 years of sewage and garbage**

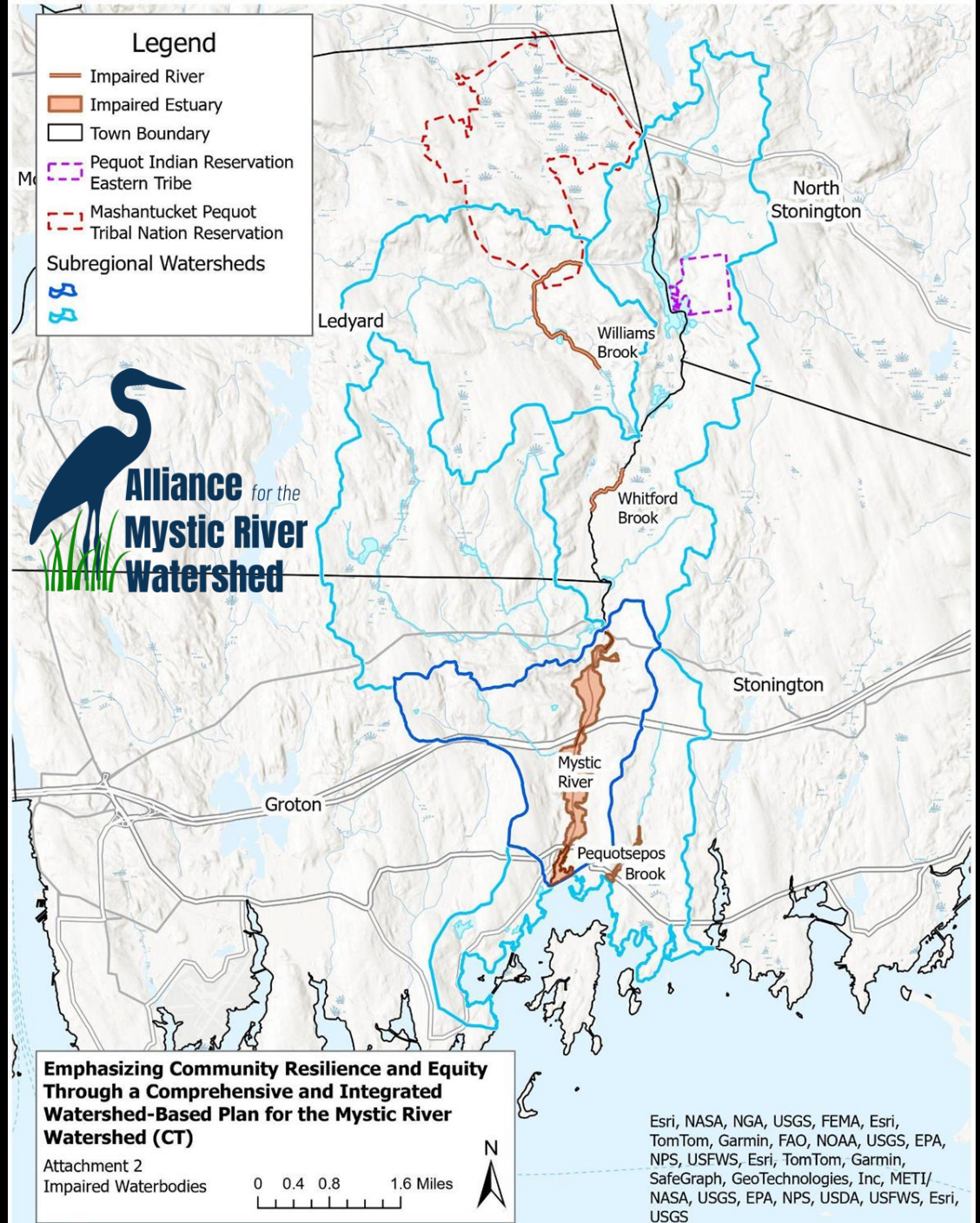
**200 years of industrial waste**

**50 years of Clean Water Act**

**Reuniting to care for the whole**

To help continue this conversation

[www.alliancemrw.org](http://www.alliancemrw.org)





**August 15**

**Join Us to...**



**What do you think is worth fighting for?**

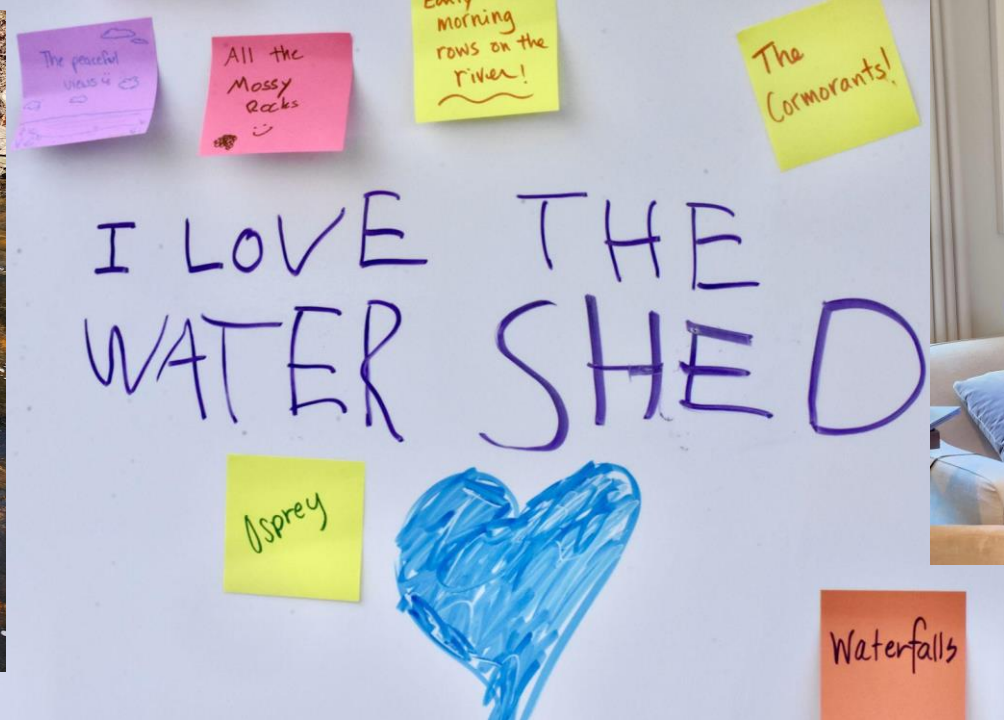
Fecal Bacteria-free water in our communities?

The health and honoring of ancestral lands and waters?

Seeqanamâhs and oysters flourishing in our waters again?

Connecting with the land to sustain cultural traditions:

dancing, music, language, medicine, food



# MYSTIC RIVER WATERSHED RESILIENCE ACTION PLAN

## 1 A Living Repository of Data

Accessible and explained data: numerical, graphic, and narrative, about water quality, land use, and the flora, fauna, and weather changes in the watershed.



## 2 Coordinated Ecological Improvement

Identifies areas of concern, sets out goals and methods for achieving them. Lays out a coordinated response for ecological emergencies.



## 3 Coordinated Climate Risk Reduction

No jurisdiction, Nation, home, or business can take on climate threats alone. Commits all stakeholders to work together to adapt and innovate. Sets out Horizon Points to navigate toward.



## 4 Equity and Justice

Seeks to rectify injustices and hold ourselves accountable to moving forward together in equitable, open, and culturally sensitive ways.

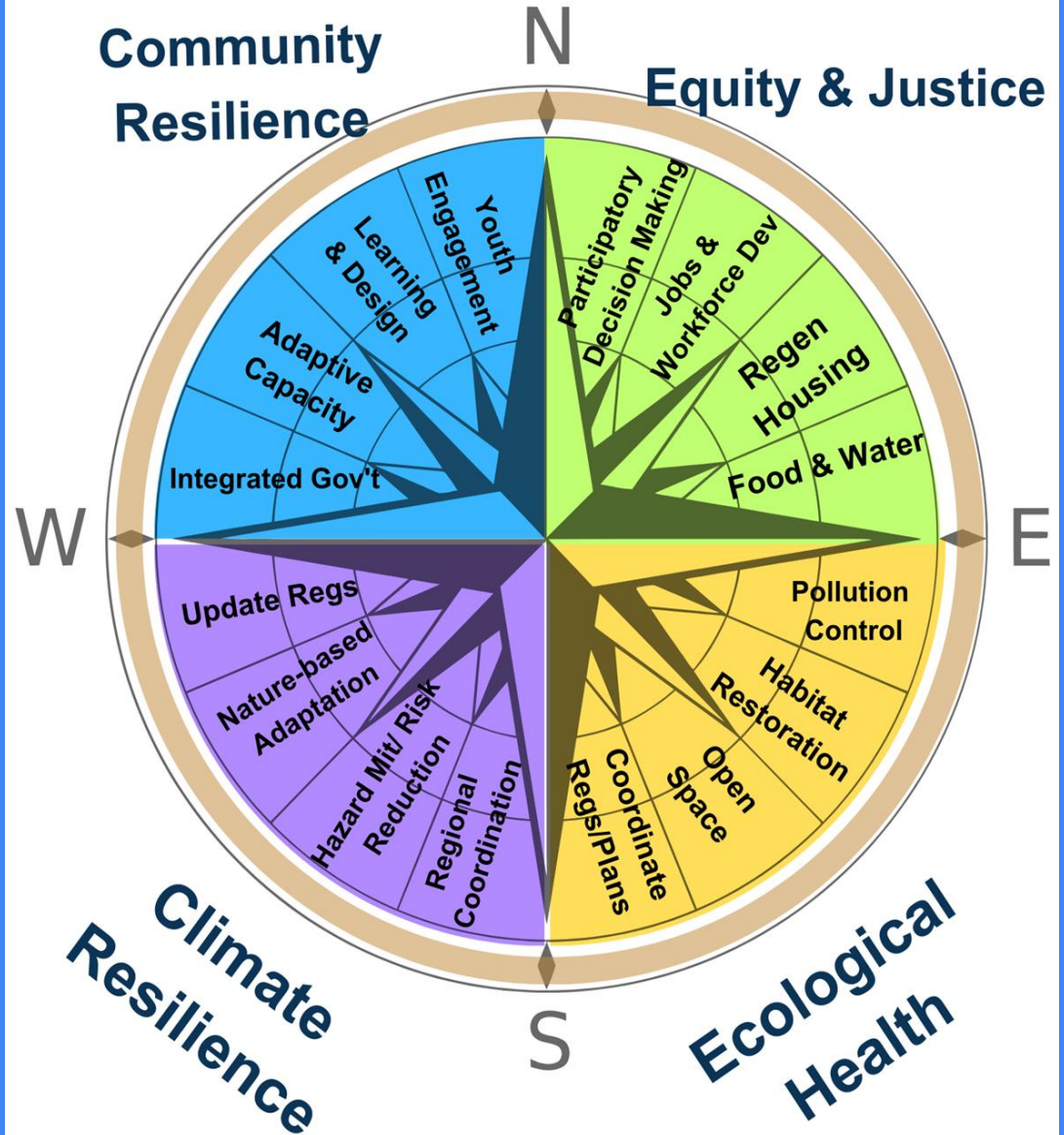


## 5 Community Ownership

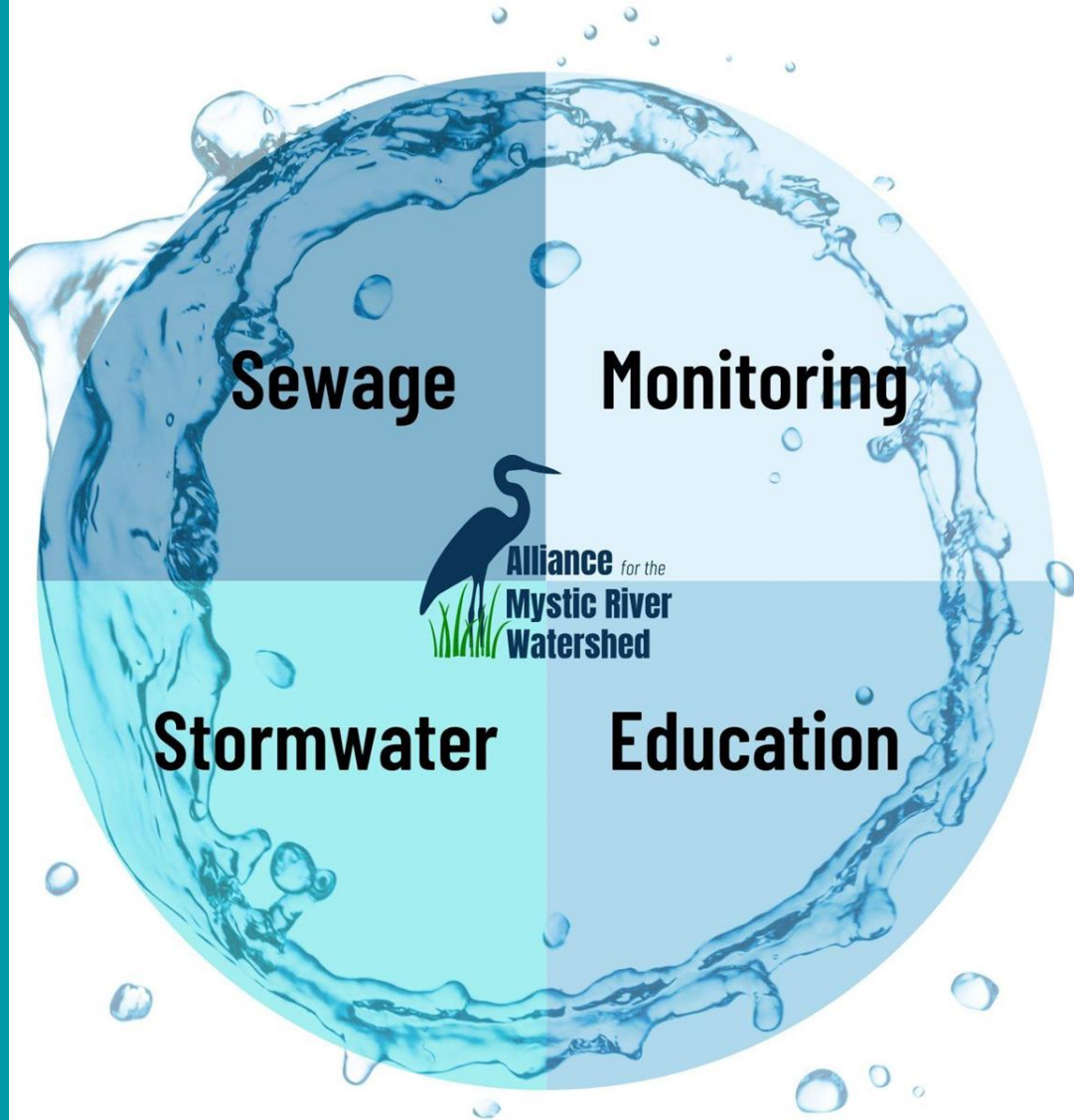
The WRAP is a living outcome of the Participatory Resilience Cycle: from caring to learning to imagining to co-design, implementation, and caring even more...



# Alliance for the Mystic River Watershed: Compass for Thriving



# Water Quality Working Group



# Alliance Youth Council





# 2024 Climate Corps Project~ Paige Booth

Climate Vulnerability Assessment and Resilience  
Business Coalition in Mystic, CT





# Introduction

- Partnered with the Alliance for the Mystic River Watershed.
- Overall goal: Perform research, draft a CVA, and then talk to communities, specifically people who work or own businesses in the Mystic area, and let them voice their concerns.
- End goal: Plan a design clinic where the people can come together to discuss common issues, brainstorm solutions, and build the Alliance's Resilient Business Coalition.



Left, Gravel Street normally. Right, Gravel Street flooded after heavy rain

# Interviews

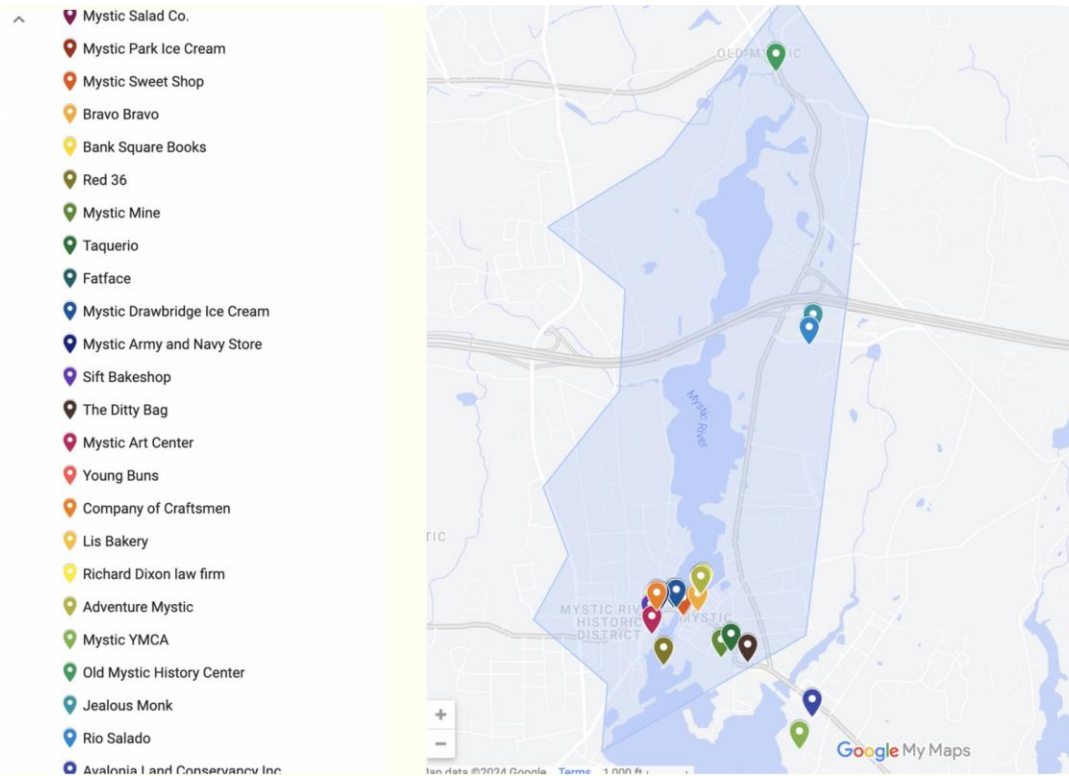
- I reached out to over 20 businesses in the Mystic area.

## Example Questions:

- Have you experienced any of the following within the last year: downpours, clogged drains, tidal flooding including high tides and king high tides, heavy precipitation, stormwater flooding, coastal storms, algal blooms, drought, or increased need to use air conditioners?
- If you have been in the business for multiple years, have you noticed an increase in these events? If so elaborate.
- Are you aware of the hazards and risks that may occur because of climate change in your area?
- Would you be interested in joining our Resilient Business Coalition and participating in a brainstorming and resilience session?



# Results

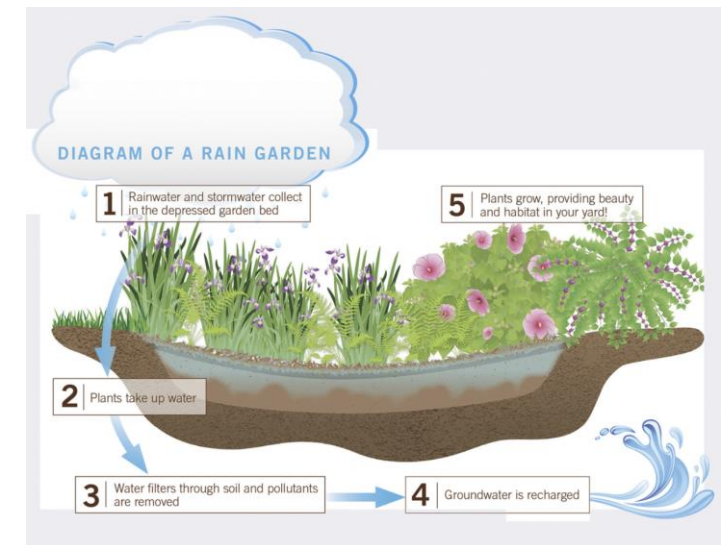


Interactive business map

- The largest concern for Mystic businesses is flooding. Every business mentioned flooding in the Downtown Mystic area.
- Half of the business representatives stated that they have noticed increased flooding over the last year.
- 5+ businesses talked about how the flooding has affected their business directly, and one business owner stated she could see the effects on her business's profits.
- The owner of one Mystic business explained how the flooding was getting so bad that she is expecting to have to relocate her businesses eventually.
- Another major issue: extreme heat. One long-term employee recalled a time when a patron entered their store on a hot summer day and was exhibiting signs of heat stress. The employee expects these events to increase as global warming.

# Recommendations

- Pervious Pavers On Gravel Street: Pervious pavers reduce runoff by allowing water infiltration in spaces between the pavers. This is a pricy option but could benefit multiple businesses.
- Stormwater downspout disconnection and rain garden constructions: Disconnection of downspouts on businesses will reduce the amount of water that makes its way to the Mystic River.
- Bill Writing: A proposal could be written that allows businesses in Mystic to get compensated if they partake in sustainable practices, such as installing solar power or avoiding single-use plastics. This bill example is more of a mitigation strategy, but if more people with their own unique knowledge and expertise help then a bill related to adaptation may be created.



## HOW TO STAY OPEN IN HIGH WATER:

### A Resilient Business Challenge

The Alliance for the Mystic River Watershed invites you to join us for an evening of brainstorming and problem-solving. Through statements from local business owners and employees, the issues that many Mystic businesses face have been revealed. The biggest one is flooding which affects access to local businesses. Come meet people who share your concerns and begin to come up with tangible solutions. Refreshments will be provided.

If you plan to come, we challenge you to bring with you a friend or colleague. Everyone brings their own unique experiences and ideas!

For more information, email  
[paige.booth@uconn.edu](mailto:paige.booth@uconn.edu).



↑ Scan to RSVP!! ↑

**Wednesday, April 24th**  
**7 pm**  
**The Mystic Seaport Museum's**  
**Masin Room**

# Next Steps and Reflections

- Hold multiple Resilience business coalition meetings where each meeting more steps can be made to help businesses become more resilient.
- Create some way for businesses apart of the coalition to show off what they're doing so more will be likely to join. Essentially, make it more "official".
- There is room for more collaboration, possibly with people higher up in the town or state governments. Do this again with businesses within other watersheds to spread awareness.

# Building a Survey

Erin Heslop

# Overview

**The goal:** Determine what type of observations should be included in the app for southeastern Connecticut. What observations make the most sense for the Mystic River Watershed?

1. Researched climate change in Connecticut to decipher what data should be collected
2. Created the survey
3. Created the website

# Goal of the Survey

- Climate data lacks everyday observations.
- Citizens who are experiencing climate change impacts don't have a place to share their observations or questions.



# The Survey

- Sea Level rise
- Precipitation
- Temperature
- Snowfall
- Water quality
- Growing Patterns
- Animal Sightings
- Plant Sightings
- Pests
- Other

[Link to the Survey!](#)

# Website

- [Link to Website](#)

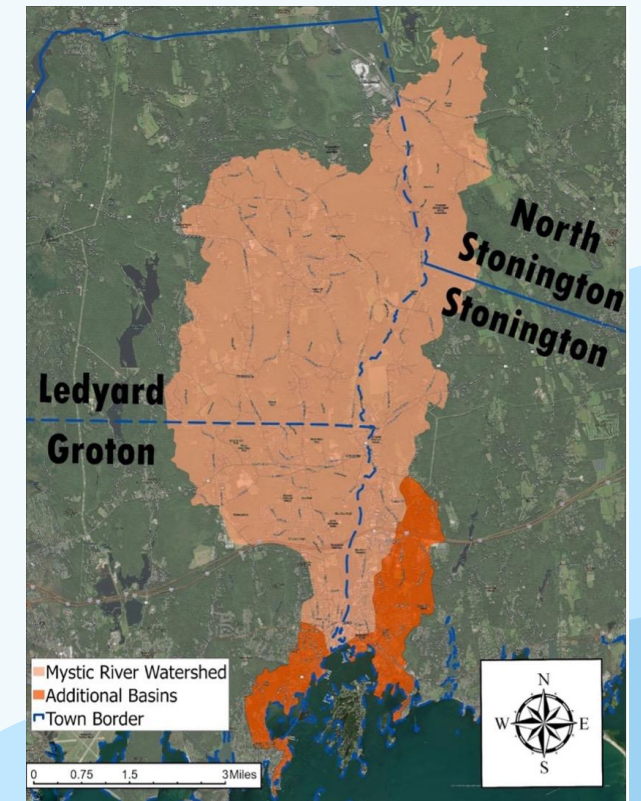
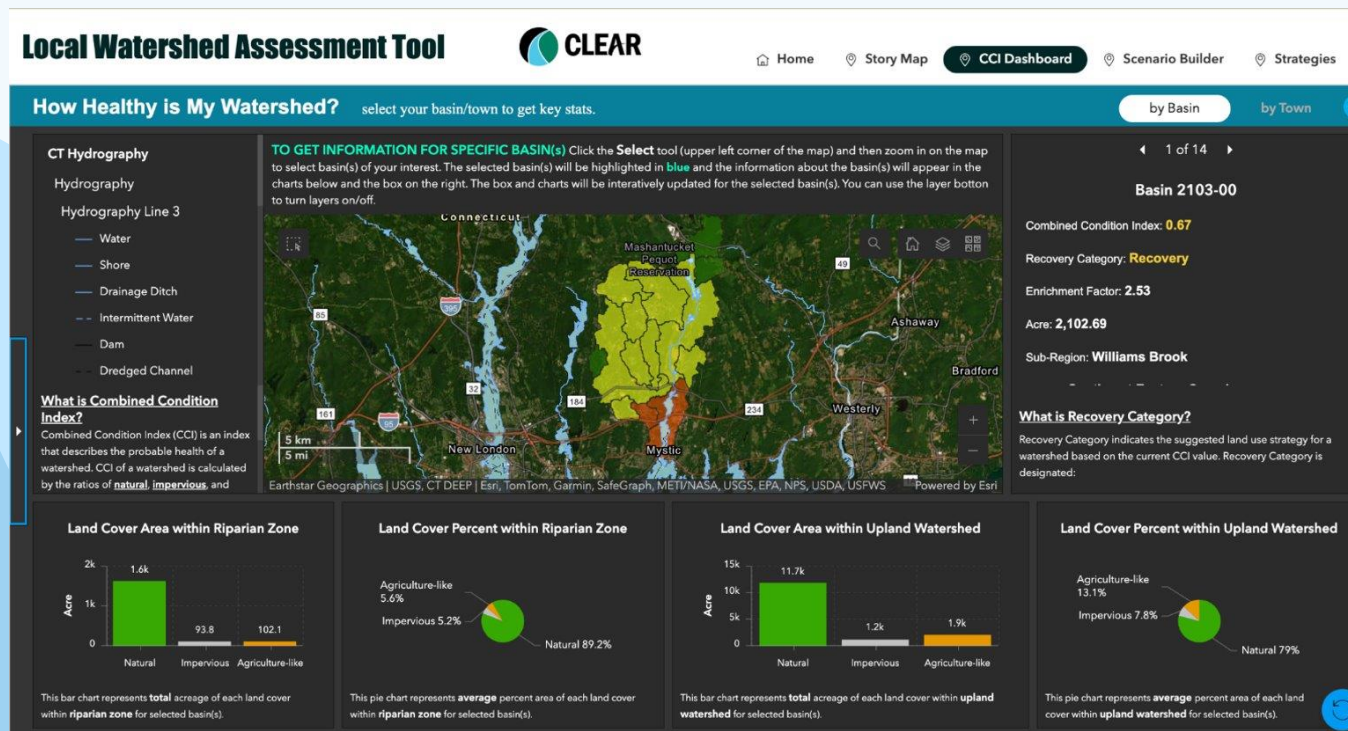


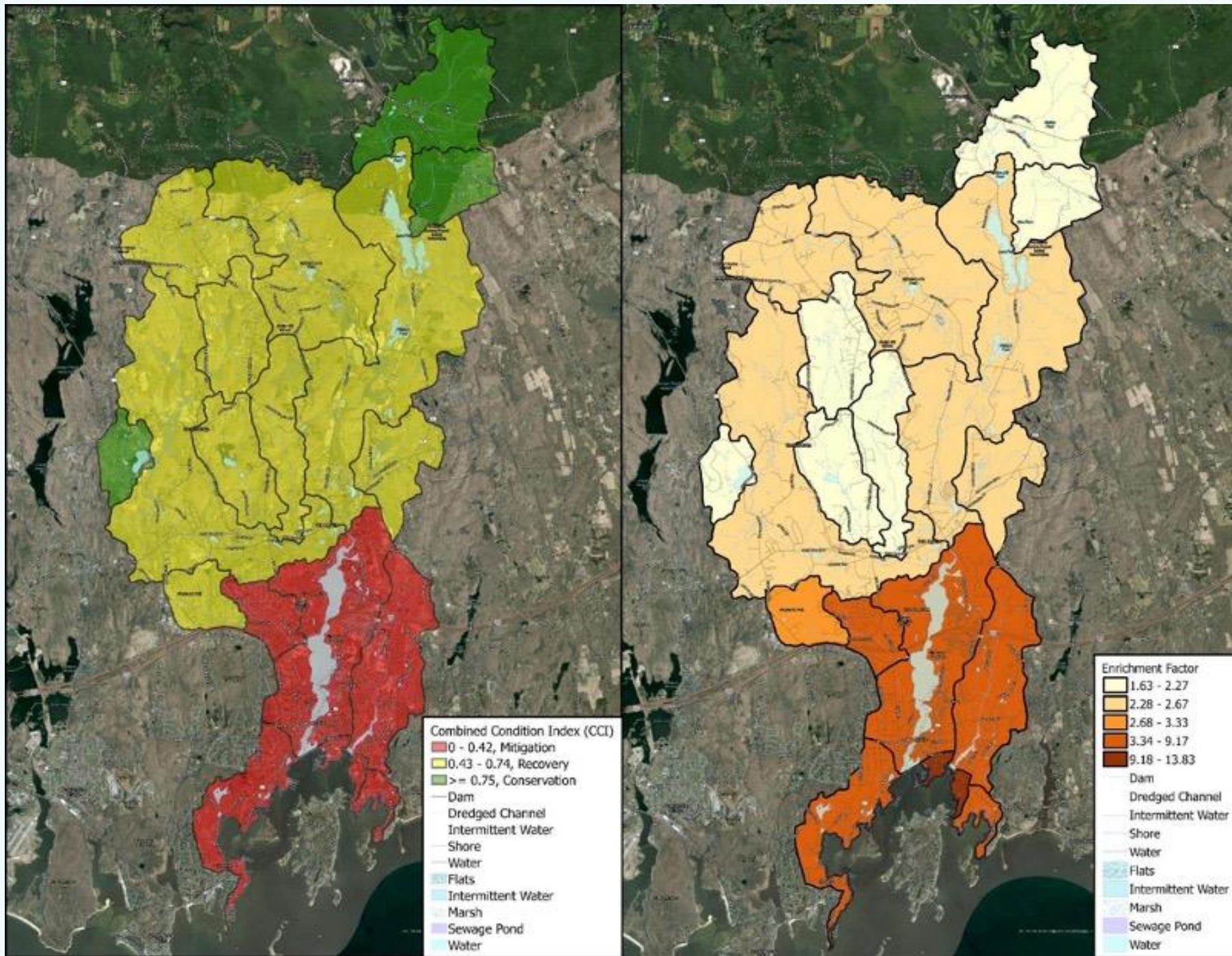
# **Analysis of Water Quality and Land Use Dynamics within Connecticut's Mystic River Watershed**

**Christopher Fan  
UConn Climate Corps - Spring 2024**

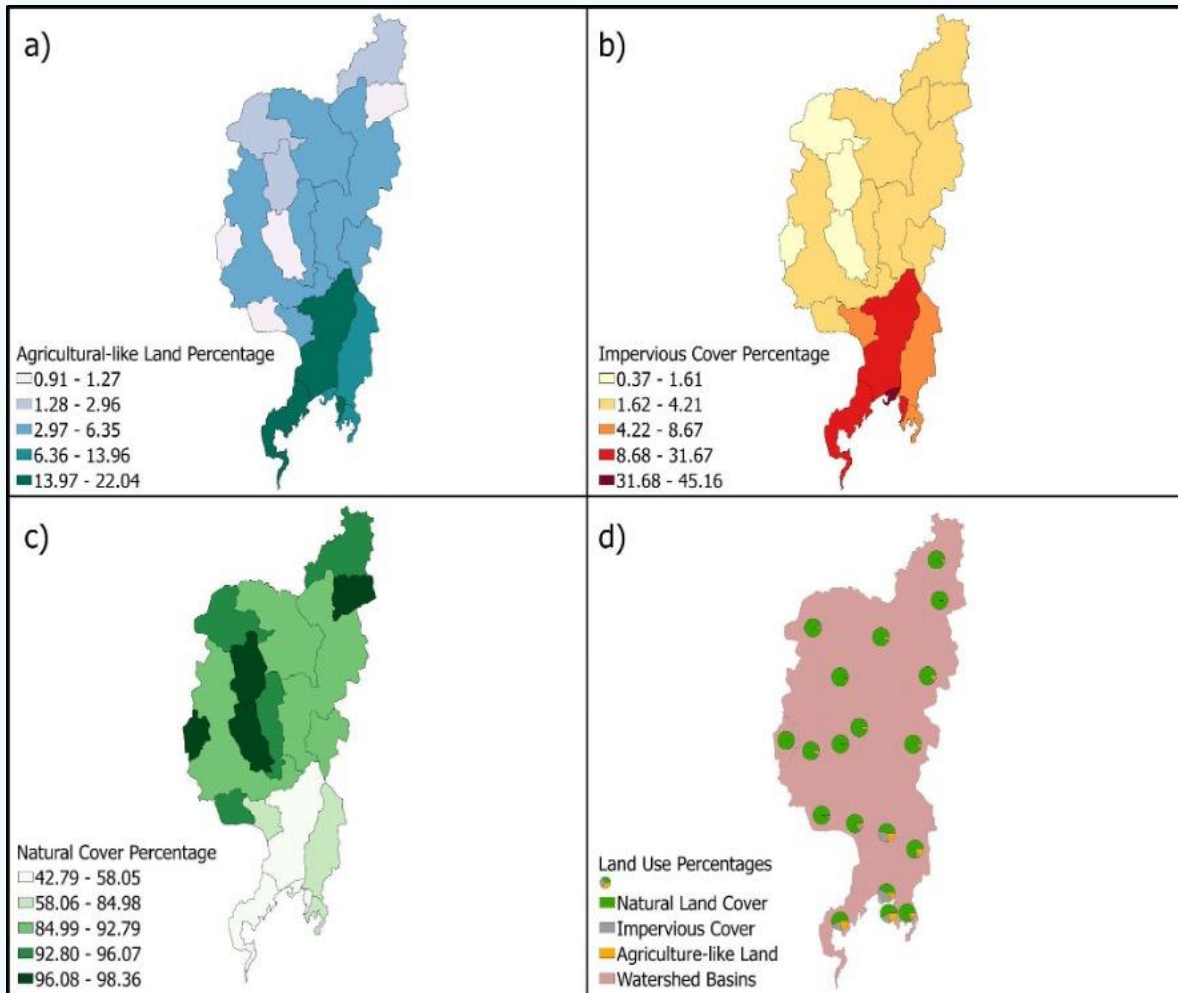
# Overview of Project

- Examine land use patterns and water quality dynamics in the Mystic River Watershed
- Utilize UConn CLEAR watershed assessment tool to observe spatial patterns of land use within the watershed



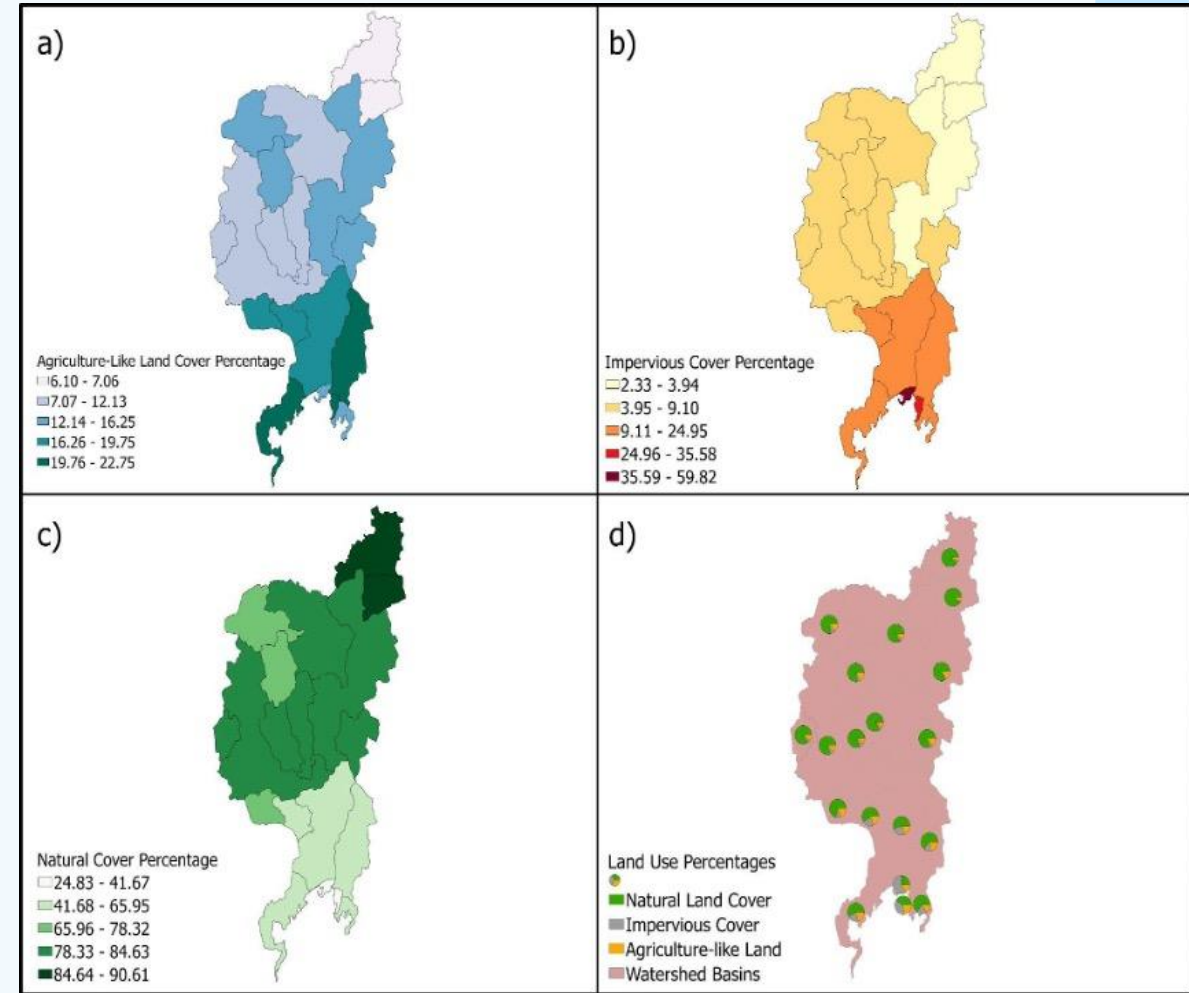


# Riparian Zone



Land Use Distribution within Riparian Zones (a) Agriculture-like land. (b) Impervious Cover. (c) Natural Land. (d) Percentage of land use in each basin.

# Upland Watershed



Land Use Distribution within Upland Watershed (a) Agriculture-like land. (b) Impervious Cover. (c) Natural Land. (d) Percentage of land use in each basin.

## Results and Conclusion

- **Prominent pattern of higher concentrations of agricultural-like and impervious cover land uses south of CT-184 highway.**
- **Concerning environmental impact observed in yellow and red basins by human development, emphasizing need for restoration measures in riparian zone.**
- **Land uses such as agriculture and urbanization significantly affect the watershed.**
- **Conservation efforts and sustainable land management strategies are vital.**

# Questions?

---

- Please ask questions in the “Q&A” section, or “raise your hand” in Zoom
- Before you go! Please respond to this participant survey from CT Sustainability and Resilience Week
- <https://forms.office.com/g/eUY6HgVLvw>

