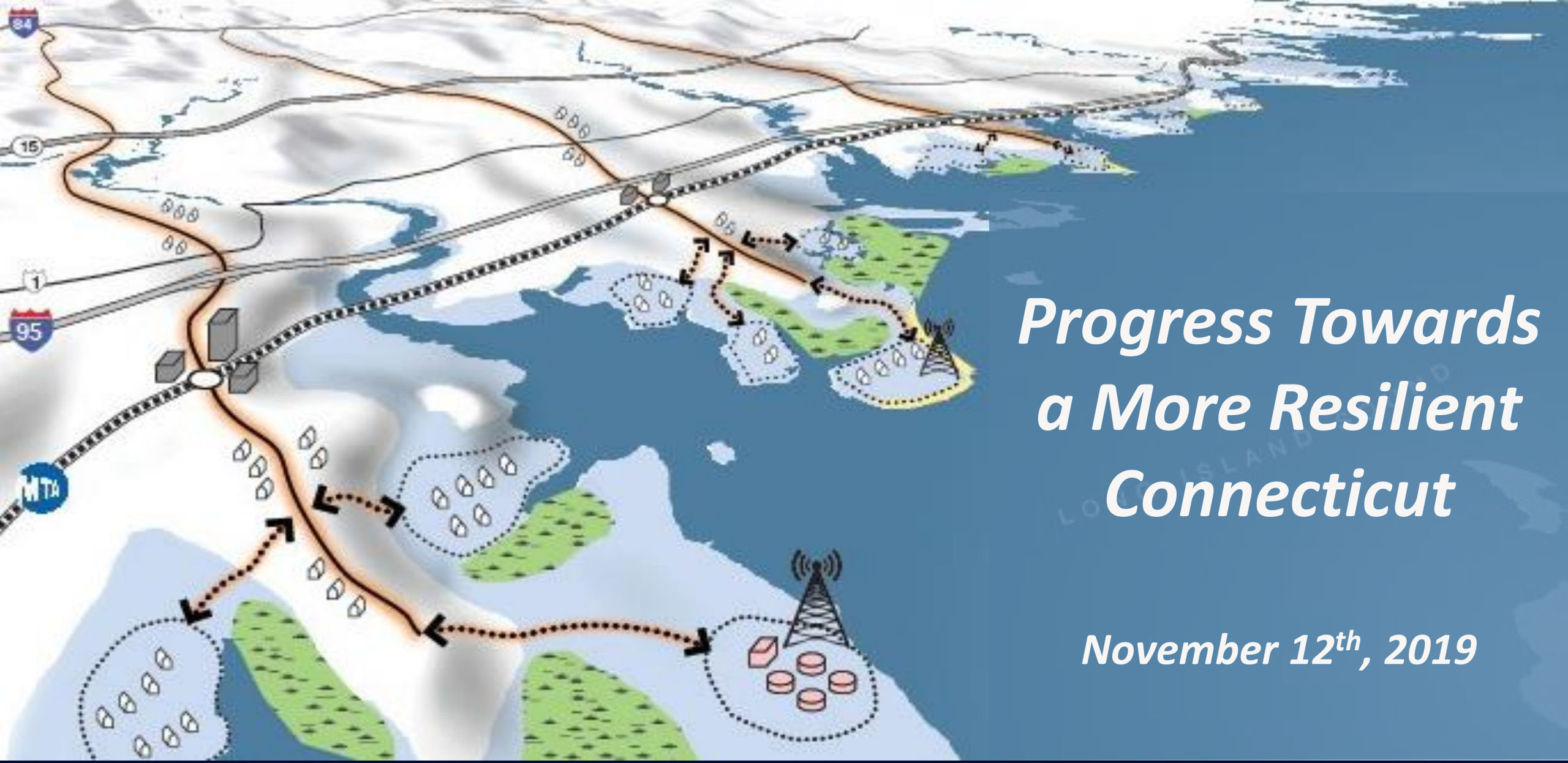

Progress Towards a More Resilient Connecticut

November 12th, 2019

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CONNECTICUT ENERGY ENVIRONMENT

HUD NDRC

RESILIENT BRIDGEPORT

$46M

- **Coastal Flood Defense System**
- **Resilience Center**
- **Energy Study**
- **Floodplain Design Guidelines**

Resilient Connecticut

$8.3M

- **Regional Resilience Planning**
- **Technical Support & Capacity Building**
- **Pilot Projects in Fairfield & New Haven Counties**

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Long-term Vision for Establishing Resilient Communities

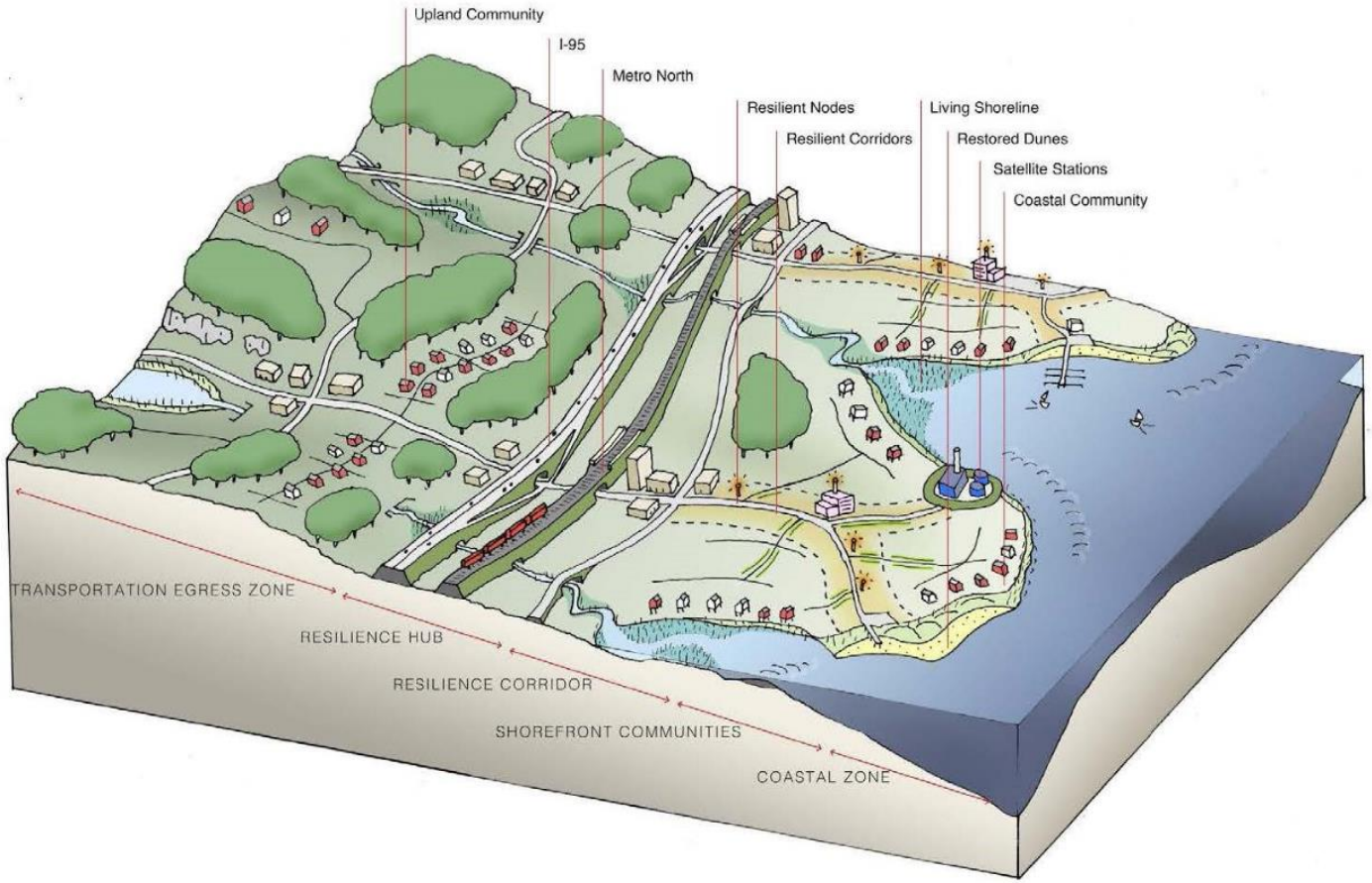
- Focus community development around transit (resilient TOD)
- Create corridors resilient to climate change (resilient corridors)
- Create opportunities for affordable housing, preserving and enhancing the quality of life for existing affordable communities
- Develop energy, economic, and social resilience
- Increase transit connectivity
- Adapt structures and critical infrastructure in the flood zone to withstand occasional flooding
- Protect communities through healthy buffering ecosystems, where critical services, infrastructure, and transport hubs are located on safer, higher ground, and where strong connections exist between the two

RESILIENT BRIDGEPORT

Rebuild by Design
$10M
"pilot project must reduce risk to public housing in the City's South End"
- Stormwater management
- Elevated Street for dry egress

Resilient Bridgeport
$46M
- Coastal Flood Defense System
- Resilience Center
- Energy Study
- Floodplain Design Guidelines

Resilient Connecticut



- Identify projects that towns can't address alone
- Assess regional infrastructure challenges & opportunities
- Identify "resilience corridors" & resilient TOD opportunities
- Develop implementable plans & pilot projects with broad co-benefits

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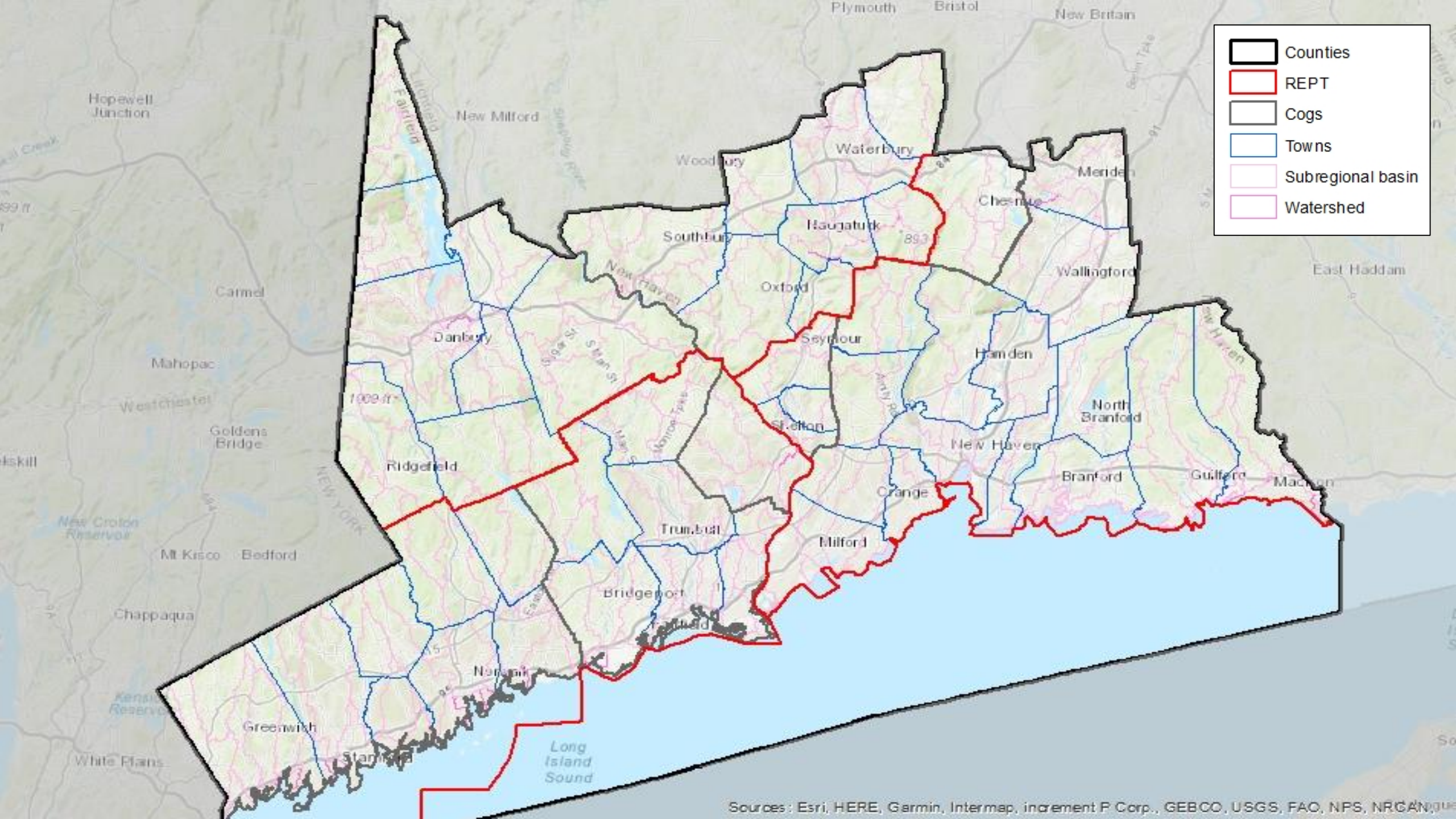

Counties
REPT
Cogs
Towns
Subregional basin
Watershed
Plymouth
Bristol
New Britain
Hopewell Junction
New Milford
Waterbury
Meriden
Cheshire
Naugatuck
Southbury
Oxford
Wallingford
East Haddam
Carmel
Danbury
Seymour
Hamden
Mahopac
Sherton
North Branford
New Haven
Ridgefield
Branford
Guilford
Orange
Trumbull
Milford
Bridgeport
Mt Kisco
Bedford
Chappaqua
Norwalk
Greenwich
Stamford
White Plains
Long Island Sound
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN,

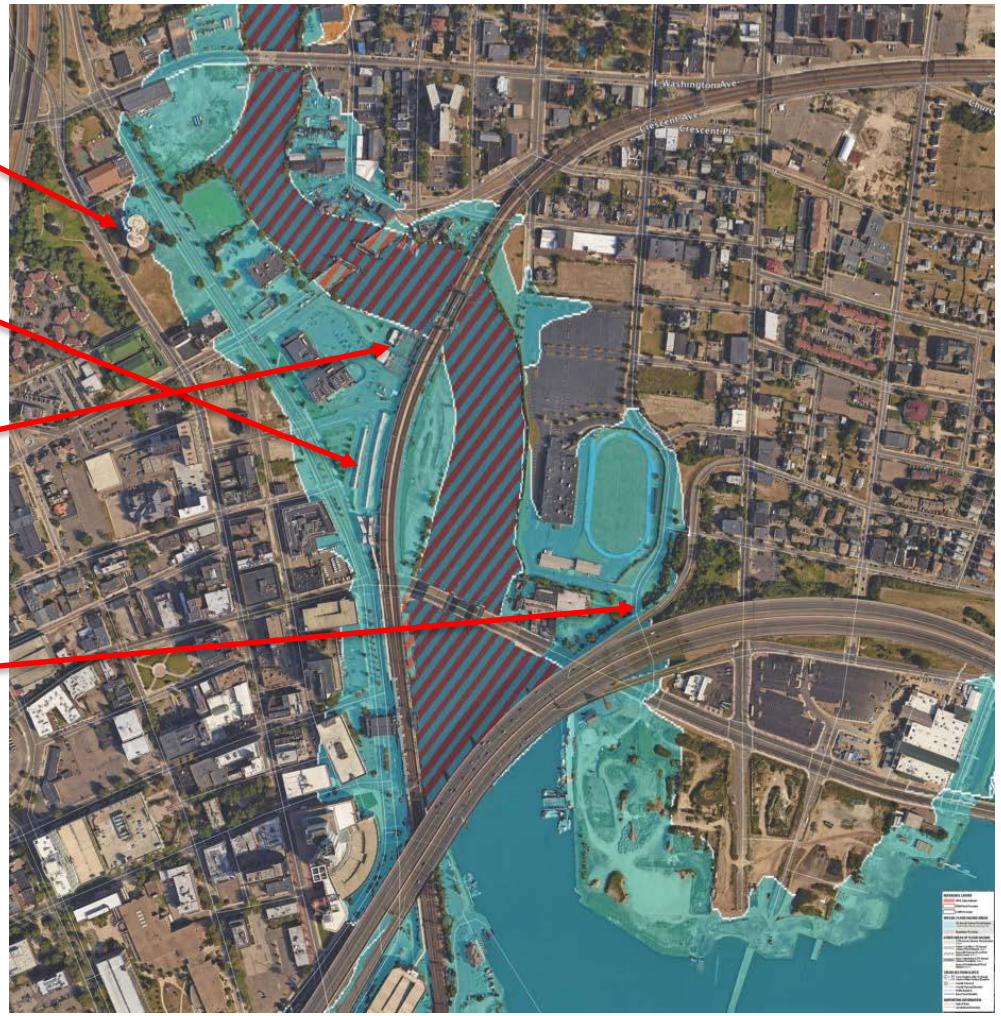
Overlapping Systems

Public Housing

Multimodal Transportation Hub

Utility Sub-station

State managed roads with local egress pinch points



"Zones of Shared Risk"

areas of land with groups of people who face common challenges. This can include the houses, land, infrastructure, hydrology, ecology, and social elements.

More frequent road flooding, disrupts business, e.g. RT 146

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Resilient Connecticut

Planning

- Resilient Connecticut Planning Framework
- Regional Resilience Planning
- Implementation Planning for Pilot Projects

Technical Support

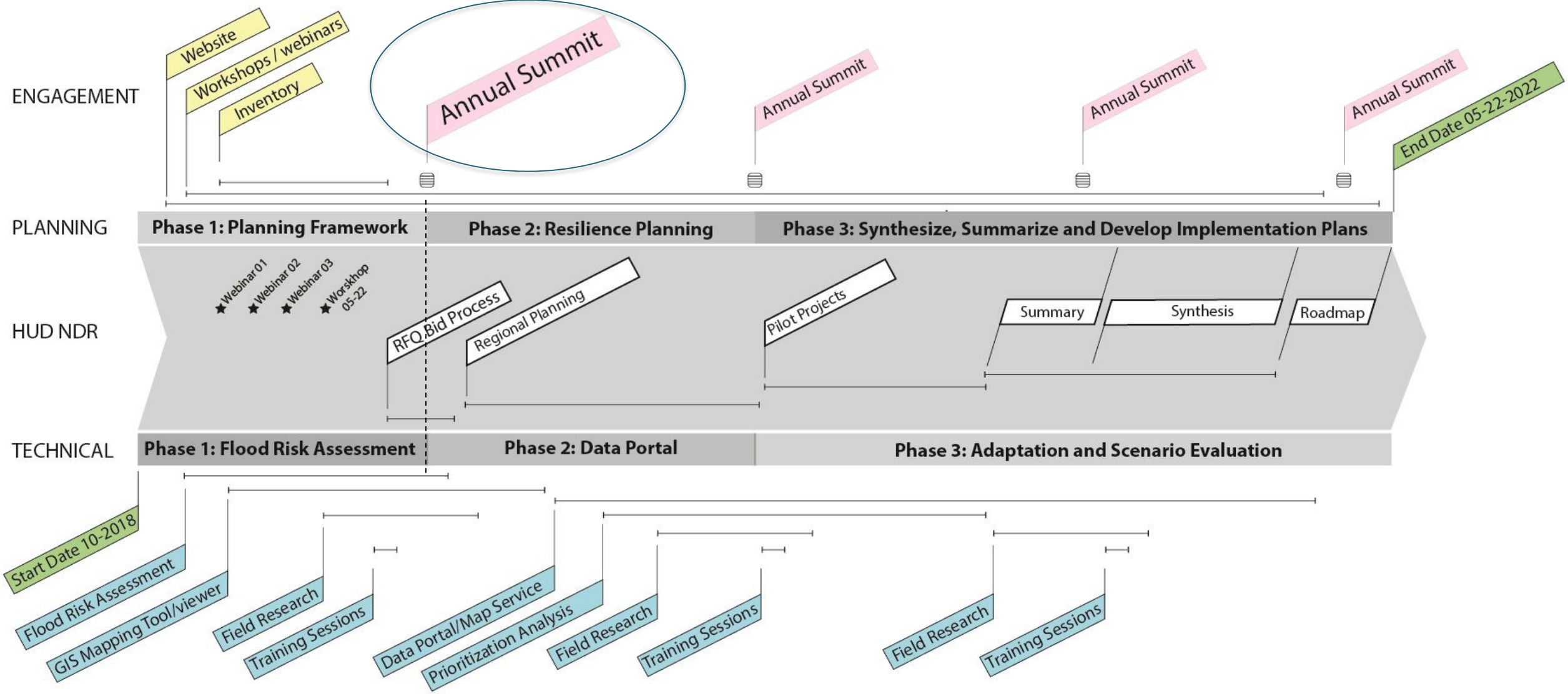
- Flood Risk and Vulnerability Assessment
- Climate Impact Modeling
- Adaptation Option Evaluation & Data Collection

Capacity Building

- Applied Field Research
- Climate Impacts to Public Health in CT
- Economics & Cost/Benefit Development
- Legal & Policy Recommendations

Engagement

- Resilient Connecticut Annual Summit
- Monthly Webinar Series
- Resilient Connecticut Collaborative and Working Groups
- Workshop Series



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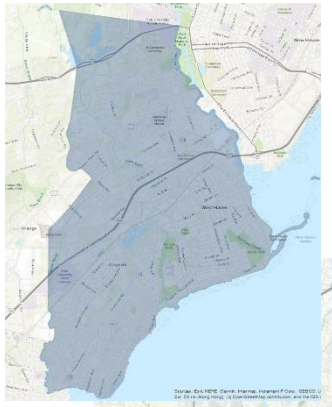
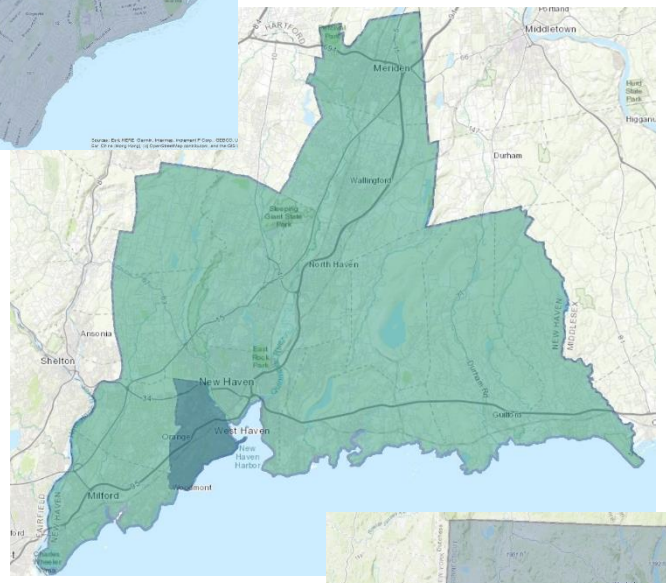


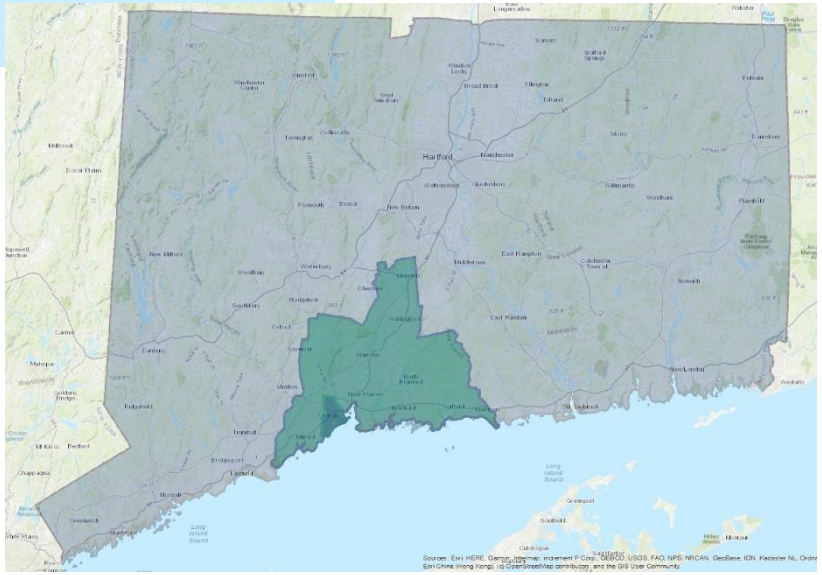
- Plan of Conservation & Development
- Natural Hazard Mitigation Plan
- Coastal Zone Management

MUNICIPAL



- Plan of Conservation & Development (regional)
- Natural Hazard Mitigation Plan (multi-jurisdictional)
- Metropolitan Transportation Plan (Long-range Transportation Plan)
- Transportation Improvement Plan/Regional Transportation Plan
- Comprehensive Economic Development Strategy

REGIONAL



- Plan of Conservation & Development (entire state)
- Statewide Transportation Improvement Plan
- Long-range Transportation Plan
- Natural Hazard Mitigation Plan (entire state)
- Coastal Zone Management Program

STATE

Community Development Block Grants-Disaster Recovery Program

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	A	B	C	D	E	F	G
1	**Fairfield County**	**Coastal Resilience Plan**	**Plan of Conservation and Development**	**Municipal Natural Hazard Mitigation Plan**	**COG Natural Hazard Mitigation Plan**	**Floodplain Management Plan**	**The Nature Conservancy Regional Framework**
2	Bethel		2007	2015			
3	Bridgeport	2016	2019 (draft)		Metro COG - 2014	2016 (stormwater management plan)	2016
4	Brookfield		2015	2014			
5	Danbury		2013	2017			
6	Darien		2016		WestCOG - 2016		
7	Easton		2018		Metro COG - 2014		
8	Fairfield		2016		Metro COG - 2014	2014 (Metro COG Hazard Mitigation Plan)	2016
9	Greenwich	2013	2009		WestCOG - 2016		
10	Monroe		2010		Metro COG - 2014		
11	New Canaan		2014		WestCOG - 2016		
12	New Fairfield		2014	2011			
13	Newtown		2014	2015			
14	Norwalk	2018	2019		WestCOG - 2016		
15	Shelton		2017				
16	Sherman		2013	2017			
17	Stamford	2018	2014 (master plan)		WestCOG - 2016		
18	Stratford	2016	2014		Metro COG - 2014		2016
19	Redding		2008	2015			
20	Ridgefield		2010	2015			
21	Trumbull		2014		Metro COG - 2014		
22	Weston		2017		WestCOG - 2016		
23	Westport		2017		WestCOG - 2016	2016 (West COG Hazard Mitigation Plan)	
24	Wilton		2019		WestCOG - 2016		

Resilient Connecticut Workshop Summary

May 22, 2019
UConn Stamford Campus
Stamford, Connecticut

https://resilientconnecticut.uconn.edu/wp-content/uploads/sites/2761/2019/05/Workshop-summary-final_May-22-2019.pdf

How has CT been planning for climate change?

Session A
State and regional scale resilience planning case studies

Session B
Municipal scale issues and coastal resilience plans, challenges, and barriers – case studies from New Haven and Fairfield Counties

Session C
Breakout Sessions – facilitated discussion for input and feedback on a Connecticut resilience planning framework

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Resilient Connecticut Planning Framework

1. Set the Stage – Establish Project Partnerships, Goals and Regional Scope Informing Locations and Scales
2. Apply Robust Science and Technical Analysis to Planning
3. Develop Adaptation Scenarios Through Inclusive and Participatory Engagement and Effective Planning
4. Enact Equitable & Informed Prioritization of Pilot Projects
5. Develop Funding, Policy, Implementation and Monitoring Strategies with Recommendations for a Statewide Resilience Roadmap

Connecticut Physical Climate Science Assessment Report (PCSAR)

Observed trends and projections of temperature and precipitation

August 2019

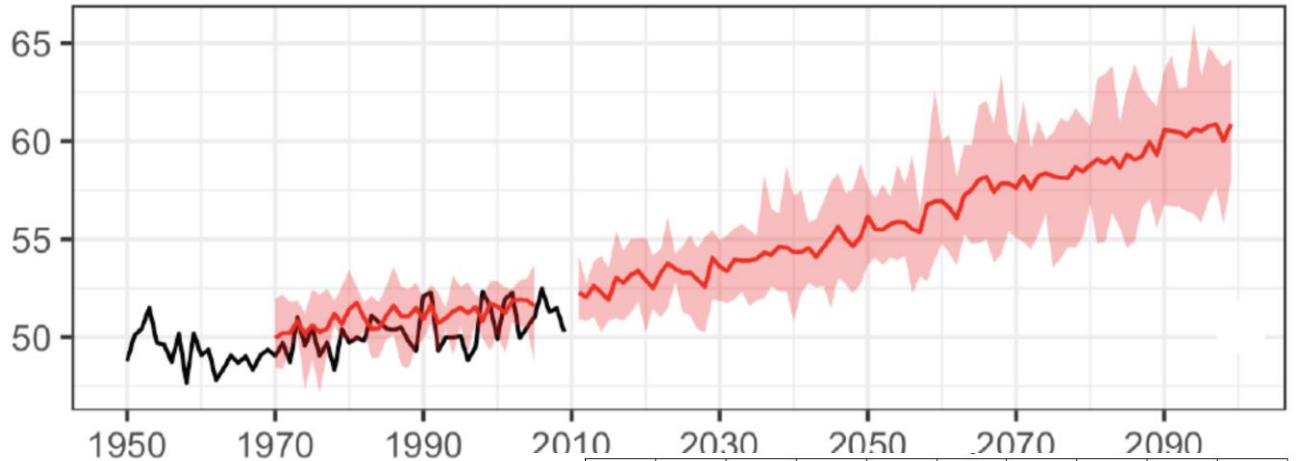
CIRCA Connecticut Institute for Resilience and Climate Adaptation

UCONN ASG University of Connecticut Atmospheric Sciences Group

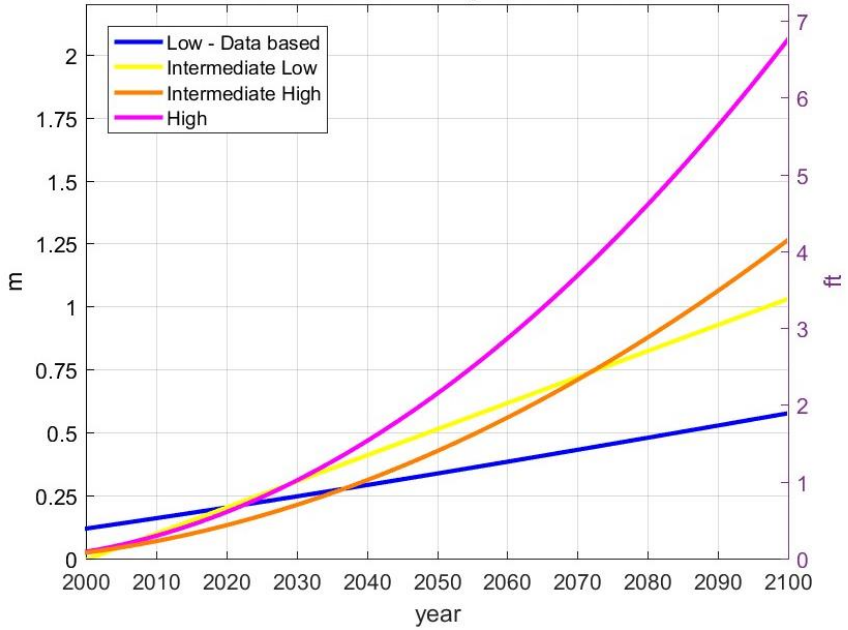
Sponsored by a grant from the Connecticut Institute for Resilience and Climate Adaptation (CIRCA).

CIRCA is a partnership between the University of Connecticut and the State of Connecticut Department of Energy and Environmental Protection. More information can be found at: www.circa.uconn.edu

Measurements and model projections (with no CO_2 reductions) of annual mean temperature in CT – CIRCA's PSCAR report (Seth et al, 2019)



Plan for:
Sea level rise UP TO 20 inches (0.5m) by 2050
Air warming UP TO 5°F (3°C) by 2050



Four projections of annual mean sea level at the CT shore – CIRCA's Sea Level Rise Report (O'Donnell, 2018)

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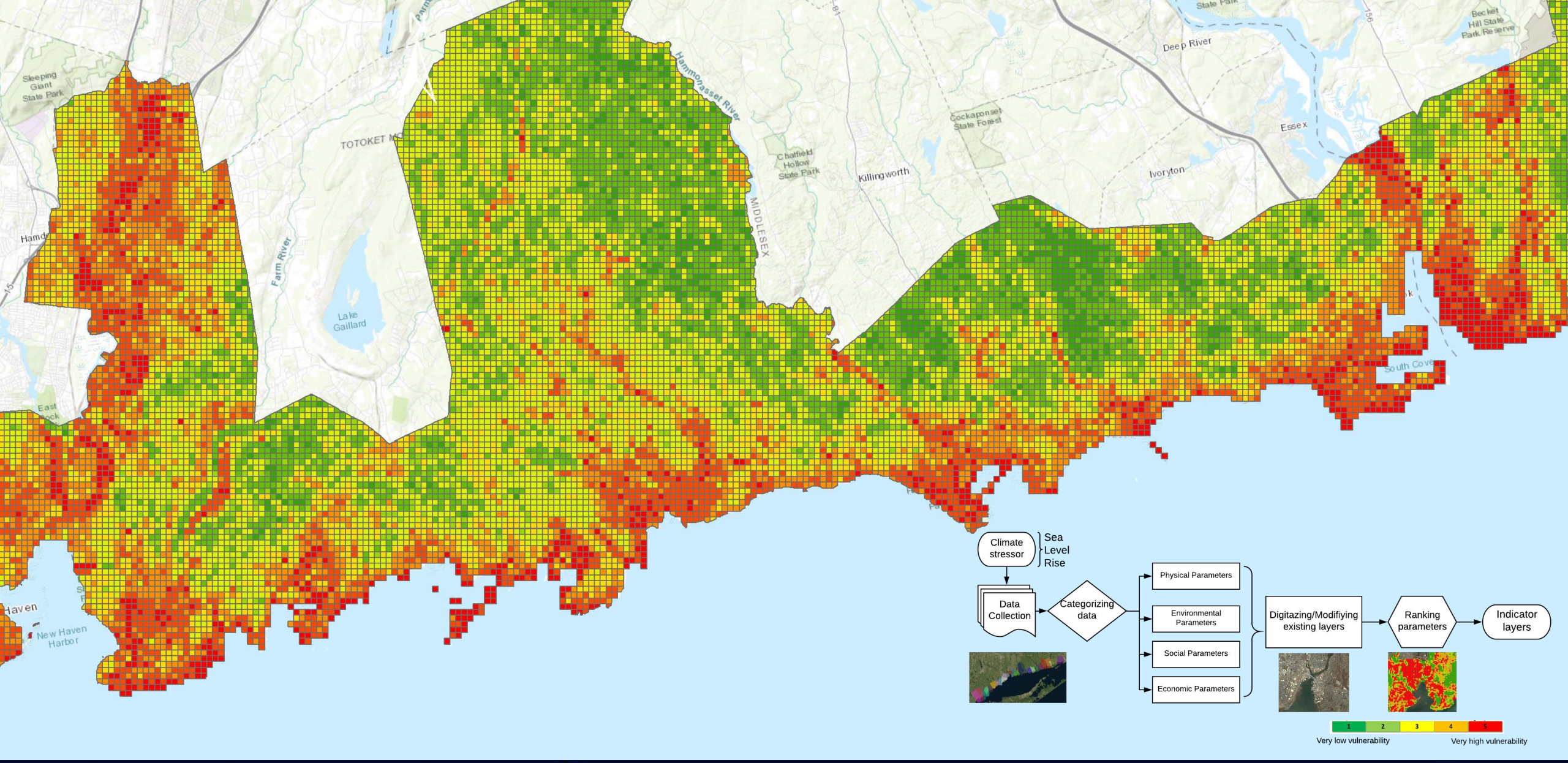

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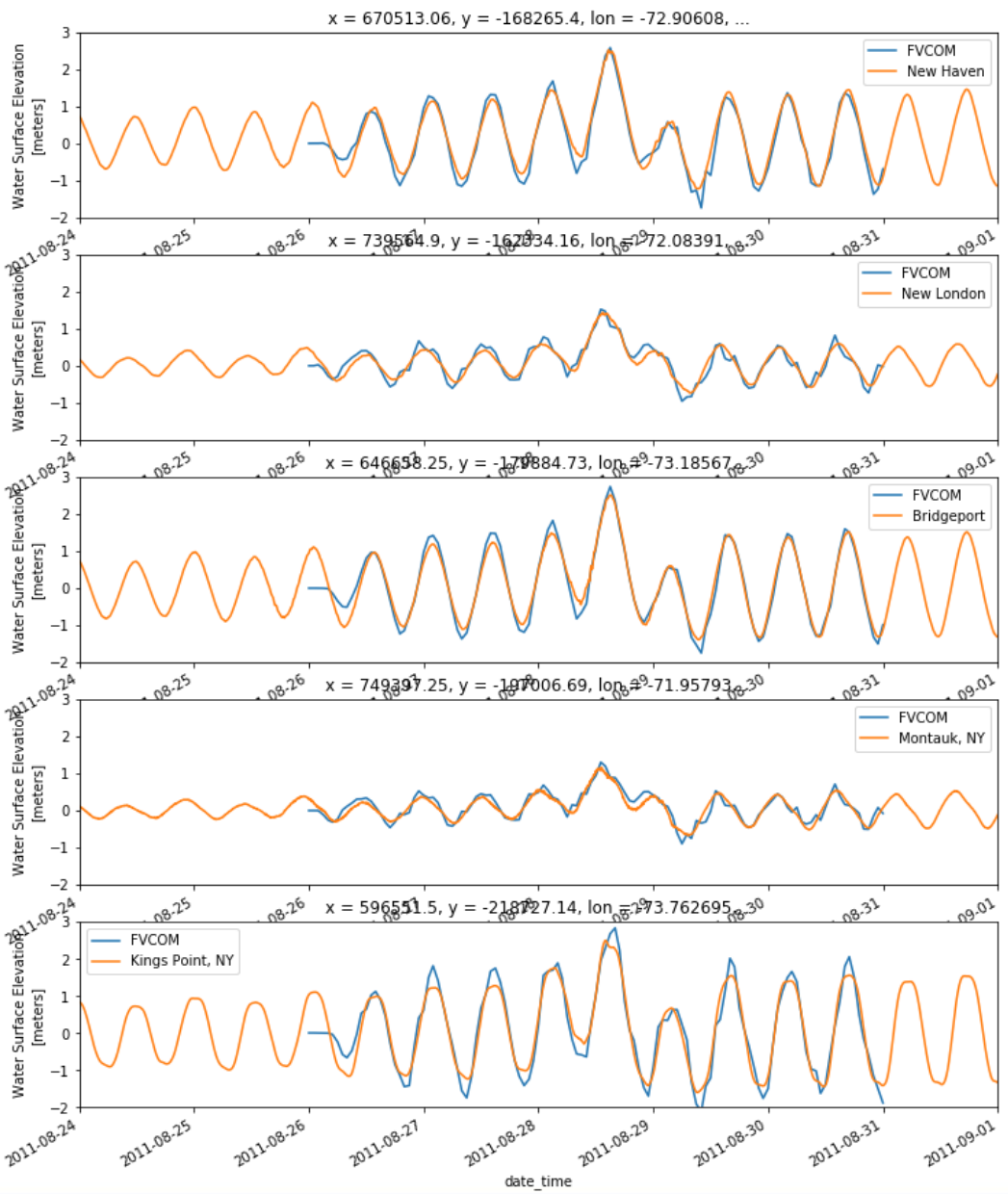

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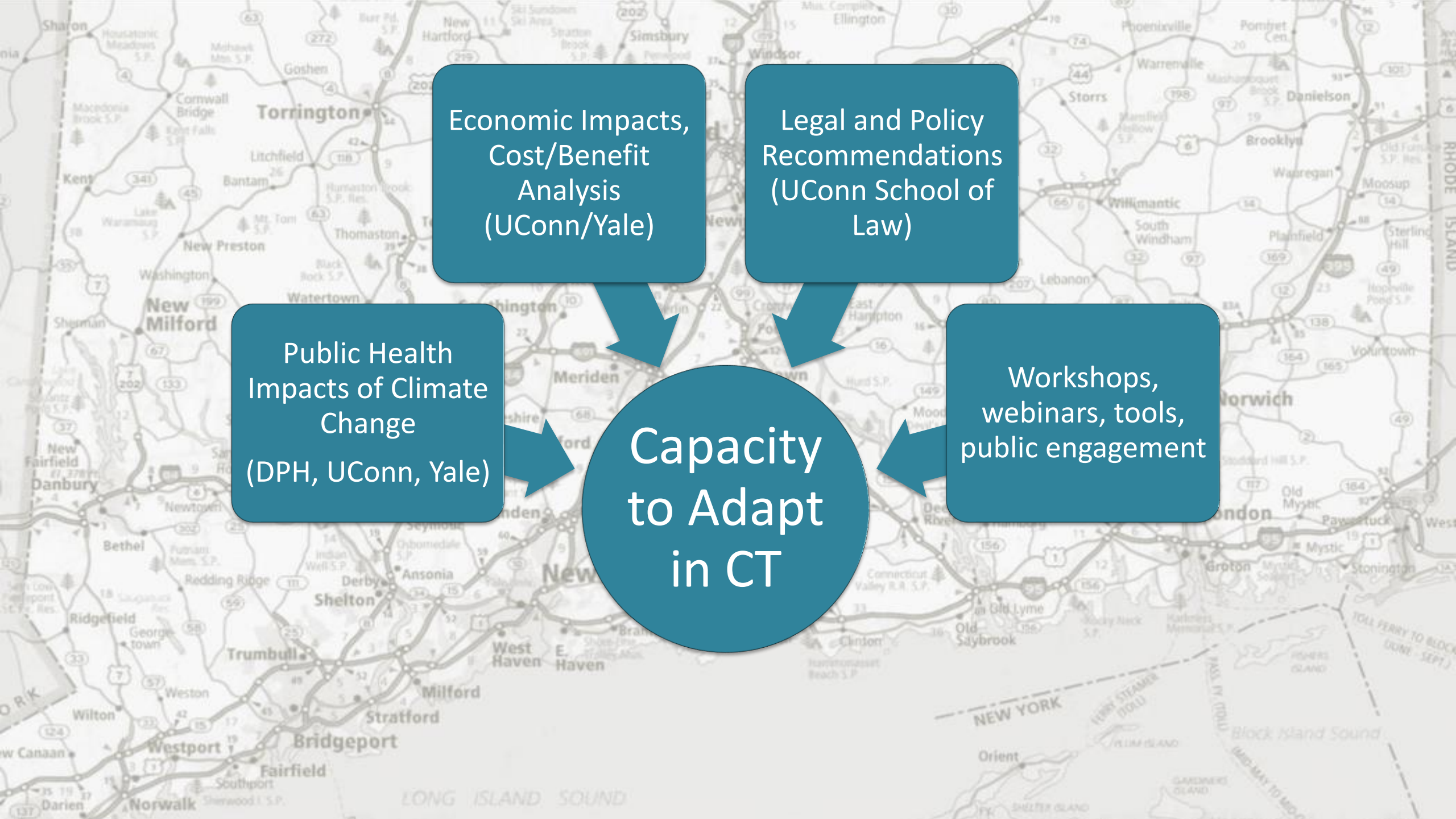
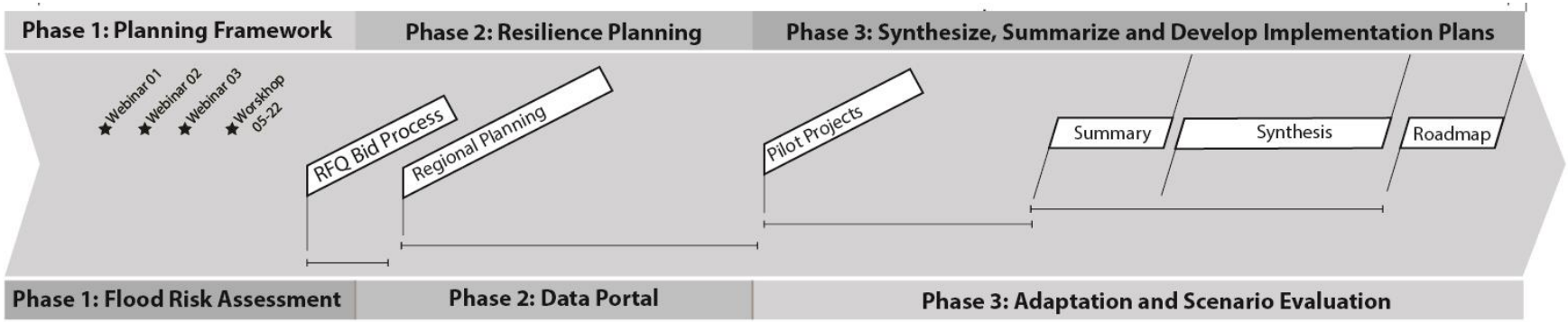
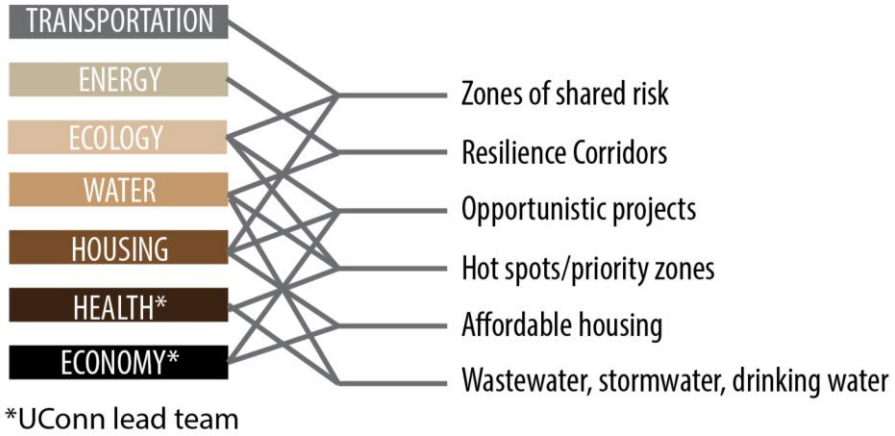

Economic Impacts, Cost/Benefit Analysis (UConn/Yale)
Legal and Policy Recommendations (UConn School of Law)
Public Health Impacts of Climate Change
(DPH, UConn, Yale)
Capacity to Adapt in CT
Workshops, webinars, tools, public engagement



Phase II: January 2020 – December 2020

- ❑ Regional Analysis
- ❑ Regional Engagement



*UConn lead team

Phase III: January 2021 – May 2022

- ❑ Develop Pilot Projects
- ❑ Implementation Planning

Rebuild by Design Illustrative plan of South End showing catalytic development potential and NDRC Projects

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Conclusions

- Climate Change Adaptation is a process that will take decades (at least)
- Let’s work together!
- Implementation requires coordination of resources from federal, state, municipal and individuals.

Thank You!

Resilientconnecticut.uconn.edu

johntruscinski@uconn.edu

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