Shoreline Preservation Task Force

Meeting

October 3, 2012

Adam Whelchel, Ph.D.

The Nature Conservancy

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NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

NASA
Goddard Institute for Space Studies
New York, N.Y.

PACE LAW SCHOOL
PACE UNIVERSITY

The Nature Conservancy

50 years in Connecticut

3,500 staff – 50 states & 34 Countries

1 million members

Science-based & Solution Driven

Coastal Resilience Program

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Objective: To help People and Nature adapt to hazards and impacts of coastal change.

Goals:

- **Visualize Impacts and Risk**
- **Develop Science, Tools, Demonstrations**
- **Proactive Planning vs. Crisis Management**
- **19 Municipalities and five RPOs**

Overview…

- The Issue
- Planning and Tools
- Needs and Opportunity

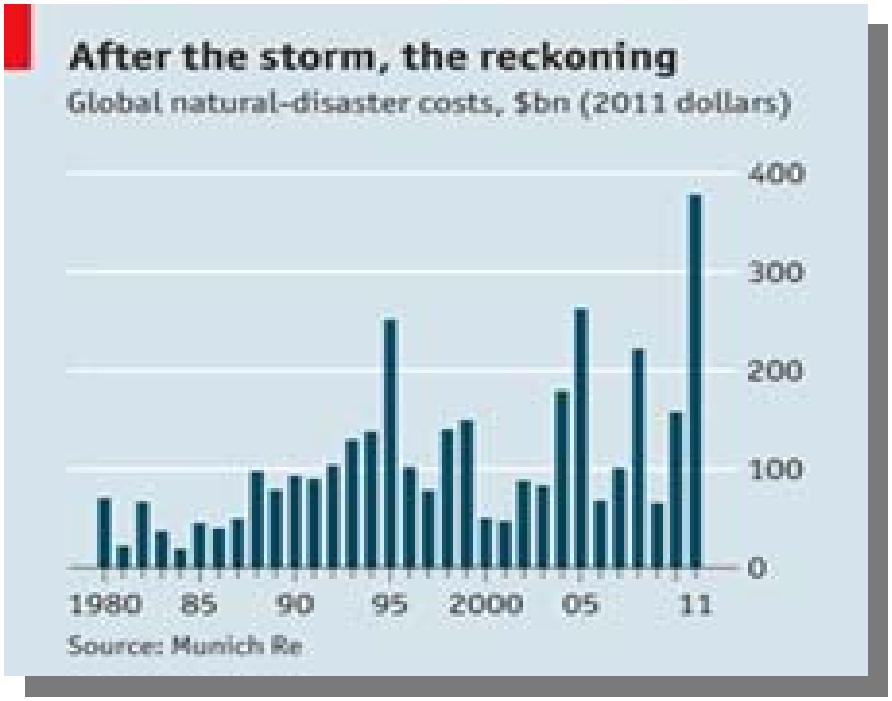
NWS

Larger Context

NOAA

A question of "<u>when</u>" and "<u>how much</u>".

Globally Natural Disasters at all-time high



United States

- $573.6 B - $11.5 B/year
- 4 M properties - $710 B
- $527 B – insured assets today

Sources: Munich Re, Gall et al. 2011, CoreLogic 2012, FEMA 2012

What are the Hazards?

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"A Category 3 Hurricane is the most probable, worst-cast disaster scenario facing the state."
CT Hazard Mitigation Plan, 2010

Flooding

Wind

CAT-3 Hurricane (www.coastalresilience.org)

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Stamford

Bridgeport

New Haven

State of Connecticut:
Growing Vulnerability and Cost

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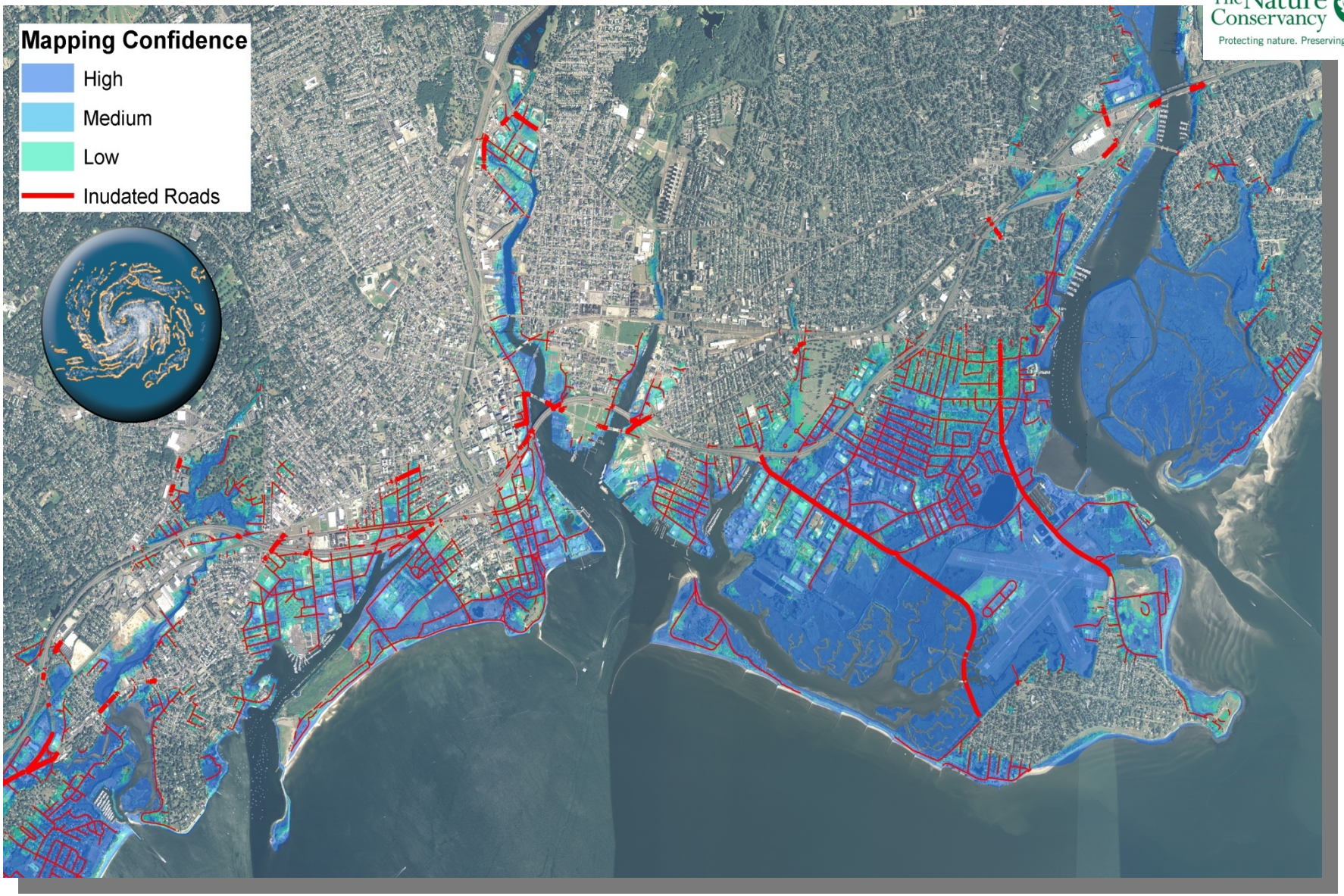
CAT-3 Today

- ✓ 44,500 acres flooded
- ✓ 645 miles of roads
- ✓ 131 miles of rail
- ✓ 5 Rail Stations
- ✓ 10 Airports
- ✓ 13 WWT Facilities
- ✓ 14 Schools

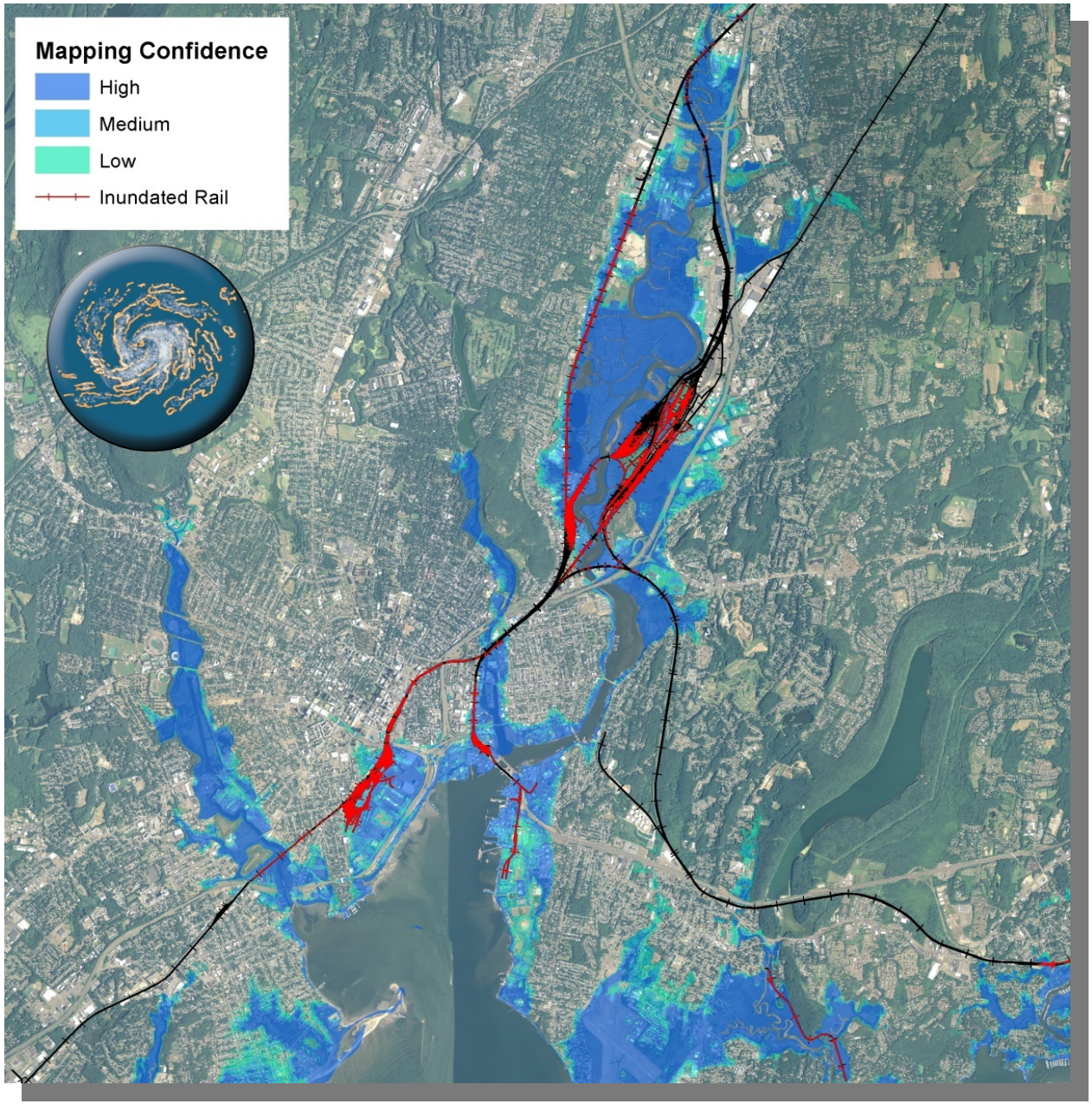
CAT-5 Today – 46,312 properties at $18 B (CoreLogic 2012)

Source: The Nature Conservancy



CAT-3 Greater Bridgeport Region, CT

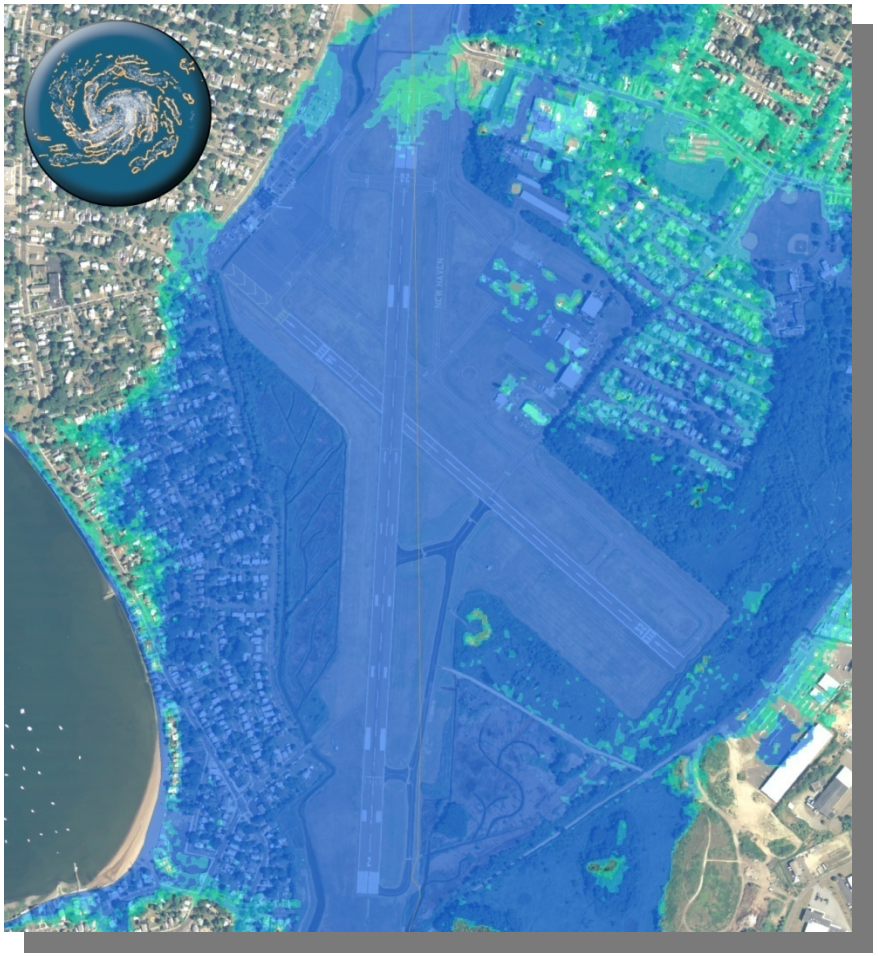
Source: The Nature Conservancy



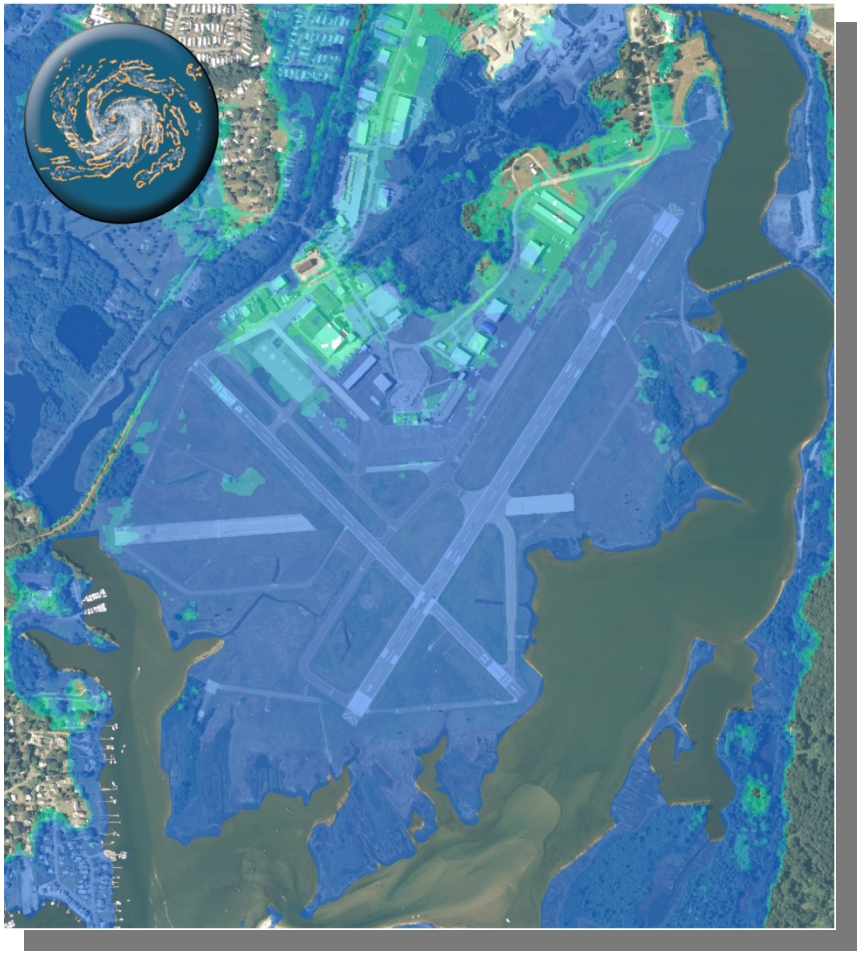
CAT-3 New Haven, CT

Source: The Nature Conservancy

CAT-3 Hurricane



Tweed Airport
East Haven, CT



Groton-New London
Airport

Source: The Nature Conservancy

Overview…

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Coastal Resilience: New York & Connecticut

Program Steps:

- **Raise <u>Awareness</u>**
- **Determine <u>Risk</u>**
- **Define <u>Choices</u>**
- **Take <u>Actions</u>**

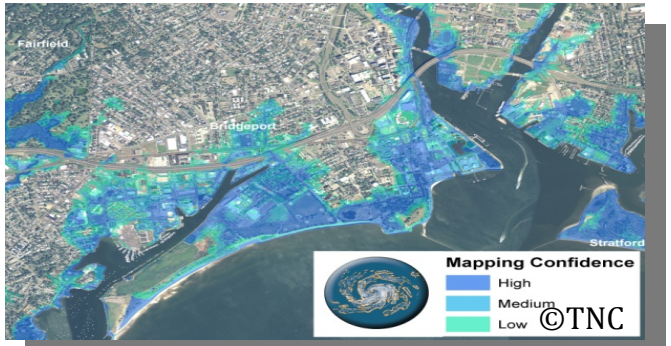
NOAA Coastal Services Center

Giny Fullam

Proactive Planning & Mitigation
vs.
Crisis Management

Comprehensive and Community Driven

CT Post



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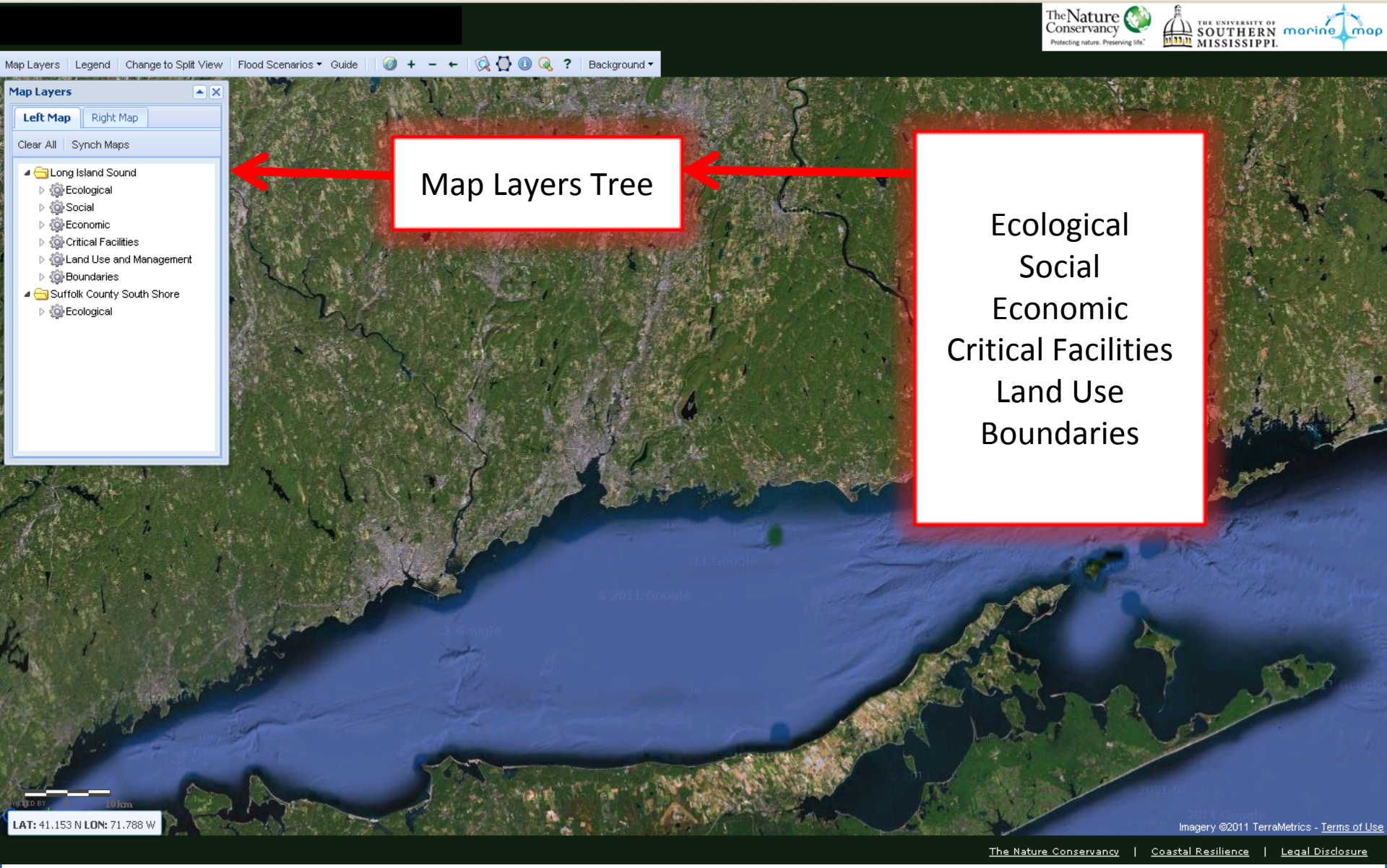
Coastal Resilience (www.coastalresilience.org)

With <u>more complete information and a planning process</u>, people can make <u>more informed decisions</u> to improve Connecticut's future.

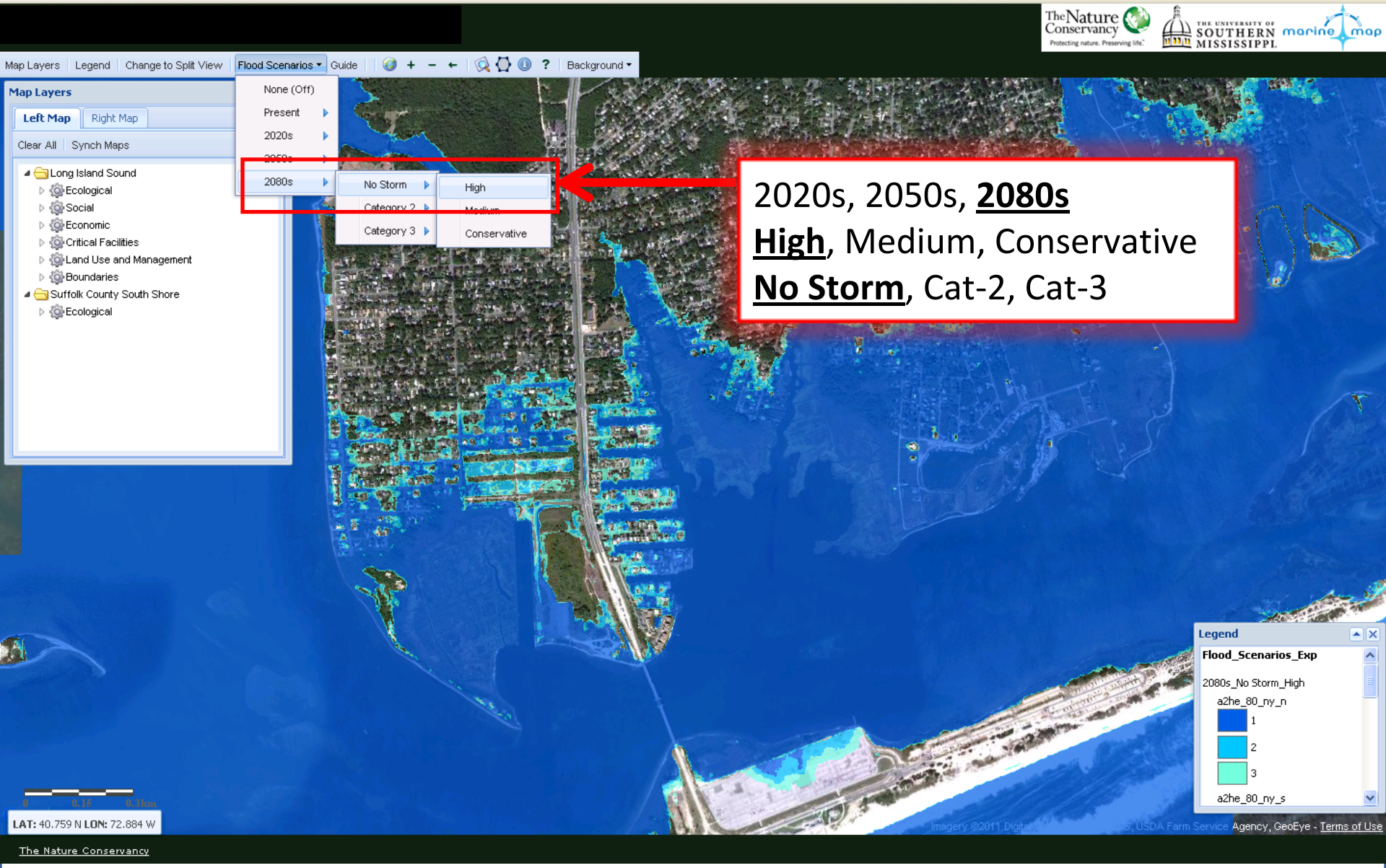
Coastal Resilience: New York and Connecticut

www.coastalresilience.org

a tool with a lot of relevant data



storm surge and sea level rise scenarios



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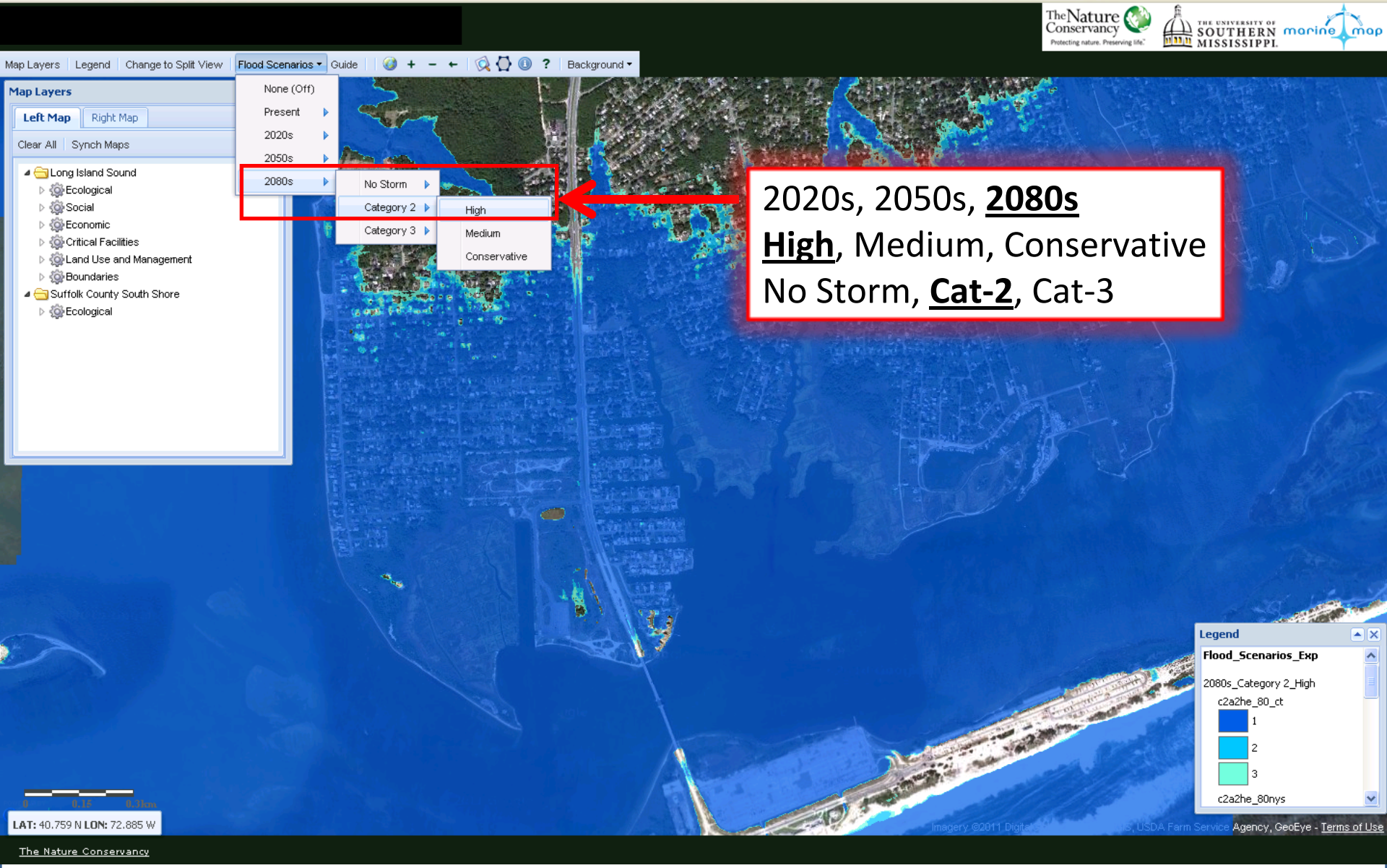

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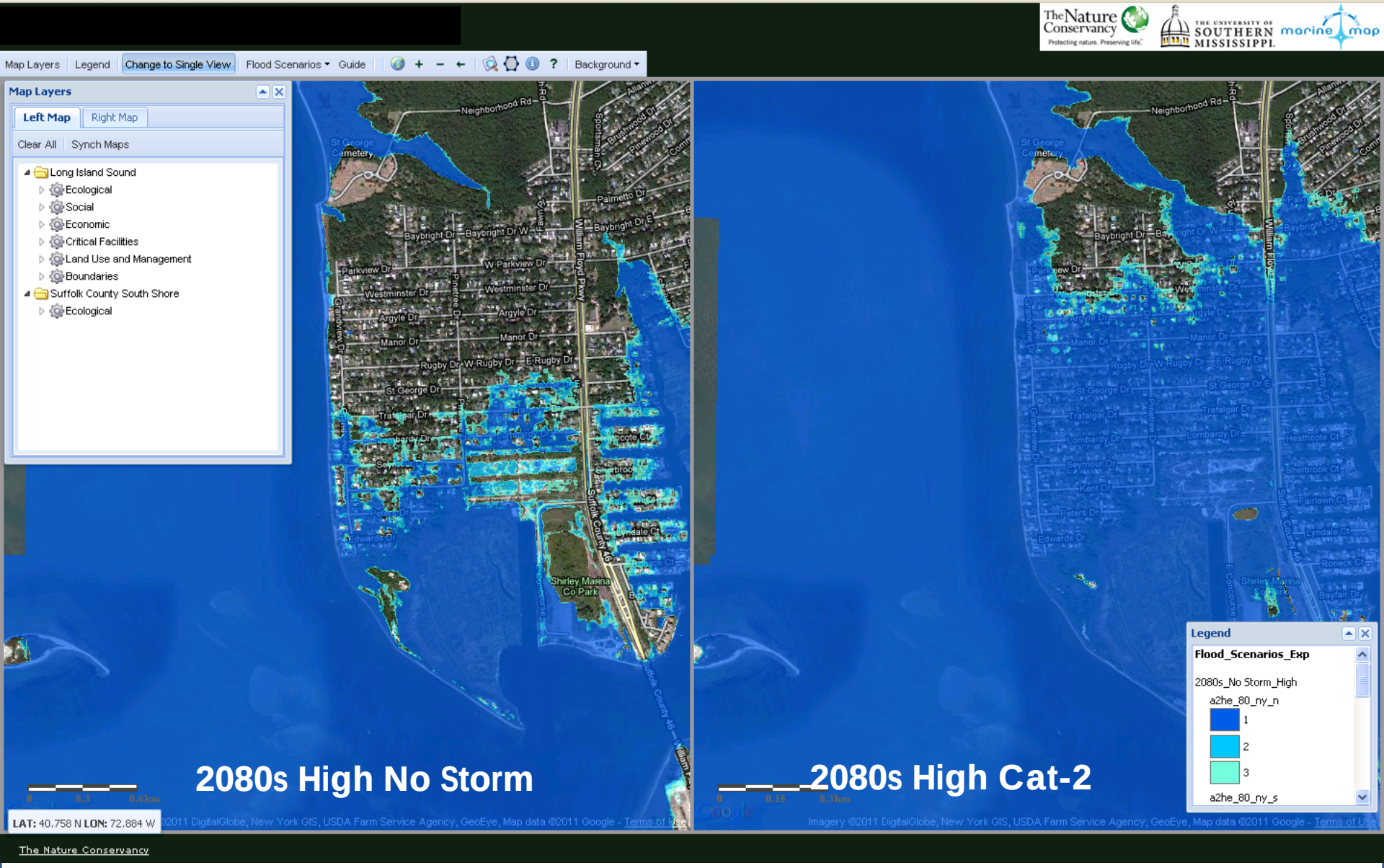
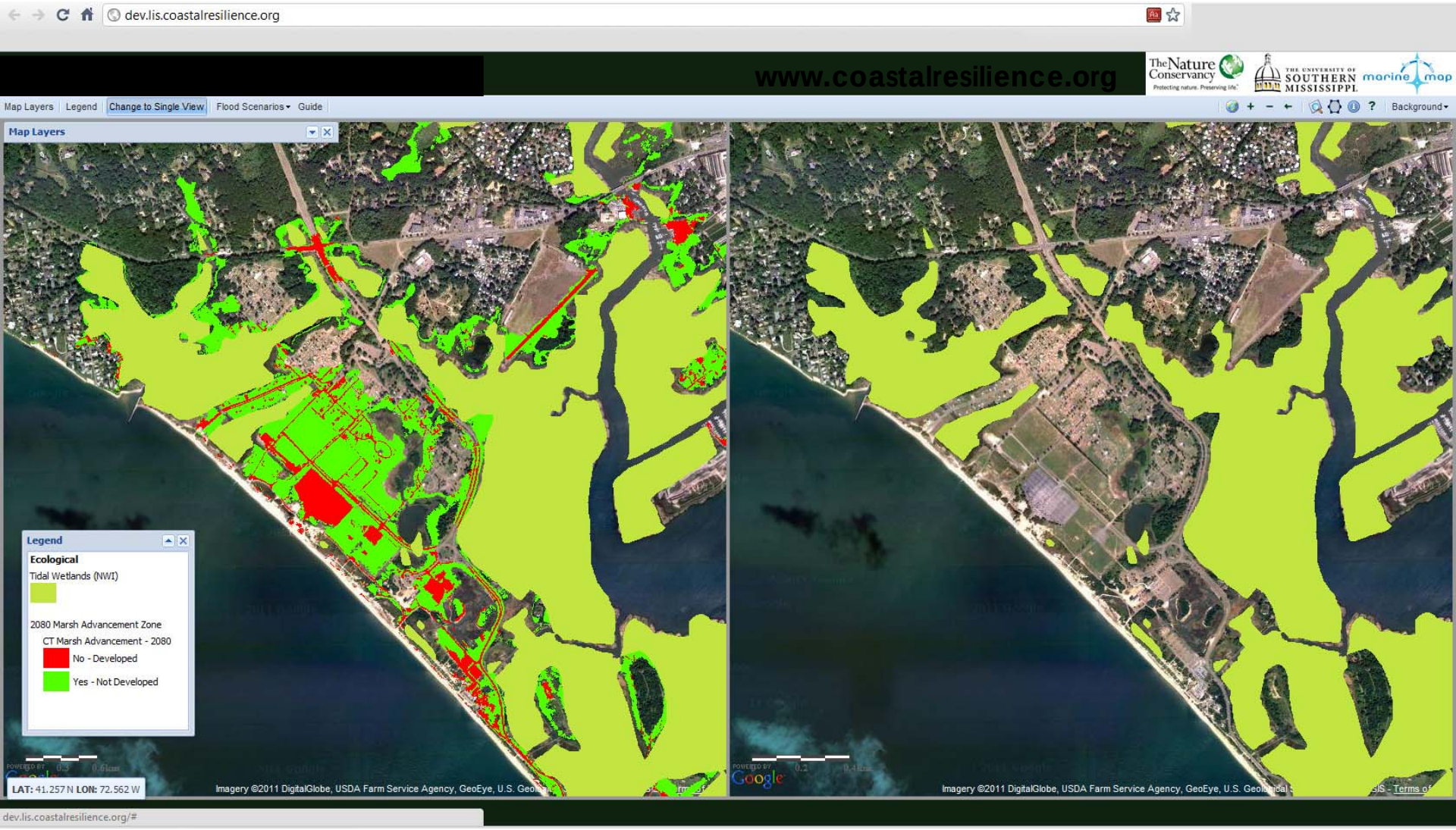


Natural Resource and Community Protection



Advancement Zones

www.coastalresilience.org

Overview…

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Coastal Resilience: New York & Connecticut

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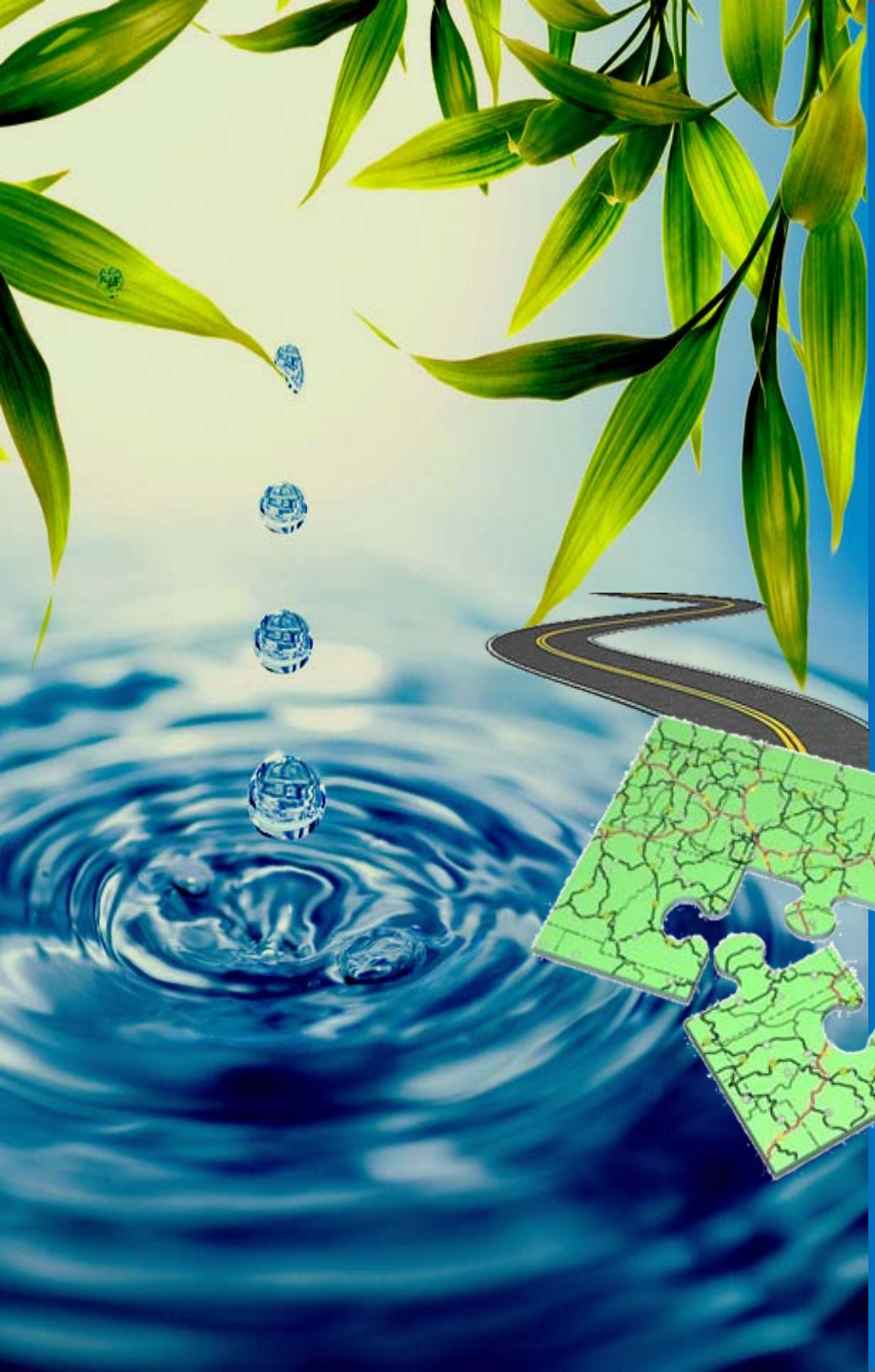
NOAA Coastal Services Center



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Roadmap for Adapting to Coastal Risk

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Risk Matrix
Risk Map

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- **City of Bridgeport**
  - Emergency Management, Planning Economic Development, Public Facilities, Finance, Health & Social Services, Utilities, Land Use, Environmental Health, Sustainability, Parks, Data
- **Business Community**
- **Education**
- **Environmental Consultants**
- **Federal/State Agencies**
- **Congressional Representation**

green PARK CITY bridgeport, CT

GBRC Greater Bridgeport Regional Council

CLEAN AIR COOL PLANET

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Determine Risk

Vulnerability

- Infrastructure: Age & Capacity
- Evacuation: “at-risk” communities
- Social Services: medical, shelters, elderly
- Natural Resources/Recreation losses

Strengths

- Interdepartmental coordination
- Social networks & services
- Natural resources (protection)
- Building codes & Infrastructure Investments

NWS

CT Post

CT Post

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Choices to Actions

Infrastructure

- Risk planning: re/development & infrastructure
- Water systems: retention, infiltration, separation
- Policy: building codes, zoning, incentives

Environmental

- Low Impact Development/Green Infra.
- Preserve Open Space, Wetlands, Buffers

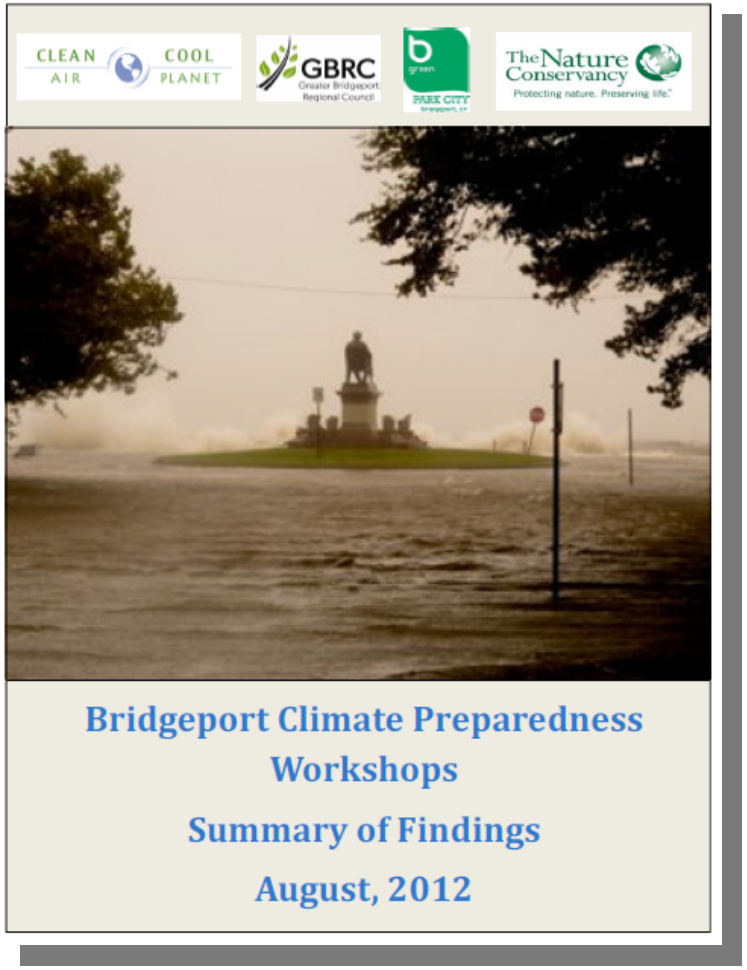
Social

- Sheltering capacity & preparedness
- Resources: power, food/water, healthcare

NOAA

Giny Fullam

Climate Preparedness in Bridgeport



CLEAN AIR COOL PLANET

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Needs and Opportunities

- Continuance of the Task Force
- Assist/Support Planning & Action in Municipals/RPOs
- Integrate Natural Resources
- Broaden Expertise (Legal and Engineering)
- Federal Partnerships & Programs
  - FEMA's Community Rating System
- Inter-department Coordination/Collaboration

Inter-department Coordination/Collaboration

- OPM – Office of Policy and Management
- DPH – Dept. of Public Health
- DOT – Dept. of Transportation
- DEEP – Dept. of Energy and Environmental Protection
- DECD – Dept. of Economic and Community Development
- DCS – Dept. of Construction Services
- CHFA – Connecticut Housing Finance Authority
- CDA – Connecticut Development Authority
- DSS – Dept. of Social Services
- DESPP – Dept. of Emergency Services and Public Protection
- DI – Dept. of Insurance

"Efficiencies and Avoided Costs"

NOAA

NWS

Take Home: Its About Proactive Risk Reduction and Comprehensive Planning

Not only existing development and transit but future economic growth and redevelopment

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Pre-disaster planning and mitigation is in fact post-storm prevention

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- ❑ Coastal natural resources can be a cost effective part of the solution

- ❑ Optimism: Proactive planning and response increases our flexibility & avoids future costs

Sue Vilanova

Visualizing impacts, planning wisely for the future, making smart choices today

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Click on Geography
then New York & Connecticut

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