

Resilience Evaluation and Needs Assessment (RENA) Process

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Outline

Project Overview

Process

Resources

Project Overview



But first: what are our goals?

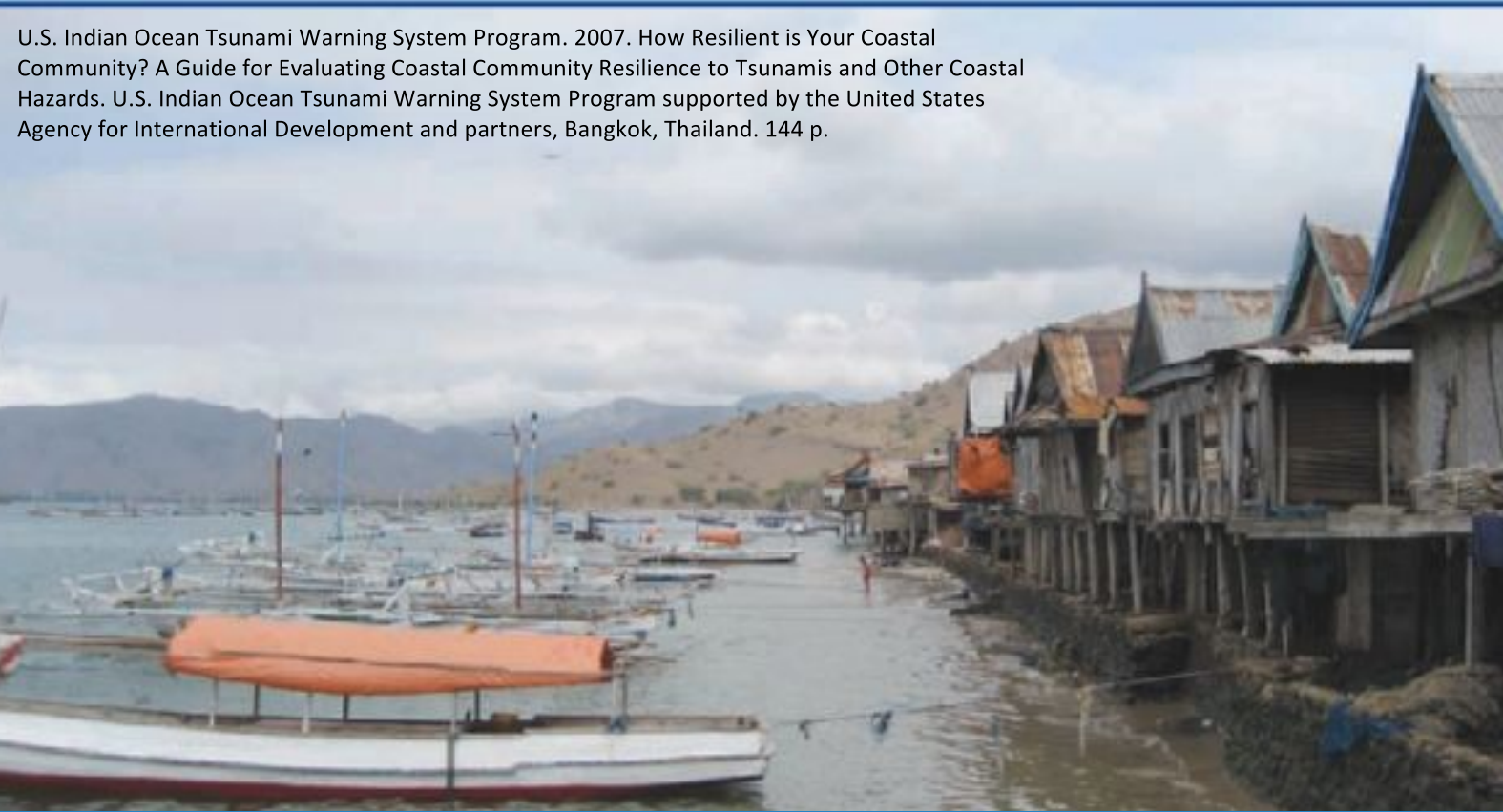
- 1) to **increase staff and resident awareness** of the community's vulnerabilities to coastal hazards; and
- 2) to **assist in resilience-building** through planning and project identification.

Five-Year Plan

HOW RESILIENT IS YOUR COASTAL COMMUNITY?

A GUIDE FOR EVALUATING COASTAL COMMUNITY RESILIENCE TO TSUNAMIS AND OTHER HAZARDS

U.S. Indian Ocean Tsunami Warning System Program. 2007. How Resilient is Your Coastal Community? A Guide for Evaluating Coastal Community Resilience to Tsunamis and Other Coastal Hazards. U.S. Indian Ocean Tsunami Warning System Program supported by the United States Agency for International Development and partners, Bangkok, Thailand. 144 p.



CALIFORNIA ADAPTATION PLANNING GUIDE



PLANNING FOR ADAPTIVE COMMUNITIES

Source: California Natural Resources Agency. 2012.

http://resources.ca.gov/docs/climate/01APG_Planning_for_Adaptive_Communities.pdf



Two-Year Pilot Process



Our Process



Step-by-step plan

- 1) Regional survey
- 2) Community selection
- 3) Initial meeting
- 4) Asset mapping
- 5) Town staff input
- 6) Resident input
- 7) Modeling
- 8) Hotspot identification & prioritization
- 9) Project identification

1. Regional survey

- Purpose
- Demographics
- Most common challenges
- Needs to address challenges
- Local-level resilience efforts
 - Only 56% of communities have conducted formal risk or vulnerability assessments

2. Community selection



View of waterfront complexes in Pine Knoll Shores. Source: Realtor.com.



Aerial View of Hatteras. Source: SeaWorthy Gallery, Hatteras, NC.



Aerial View of Edenton. Source: [Karl Bowden and Frogview Photography](#).



Town of Duck. Source: Village Reality.



3. Initial meeting

- Information on hazards, demographics, and needs
- List of stakeholders
- Timeline

4. Asset mapping



- Physical and social vulnerabilities
 - Community-specific
 - Paper-to-GIS
 - Multiple revisions
- *Note: it is possible to do this project without the use of GIS. Planners can use paper maps to conduct their community vulnerability assessment.



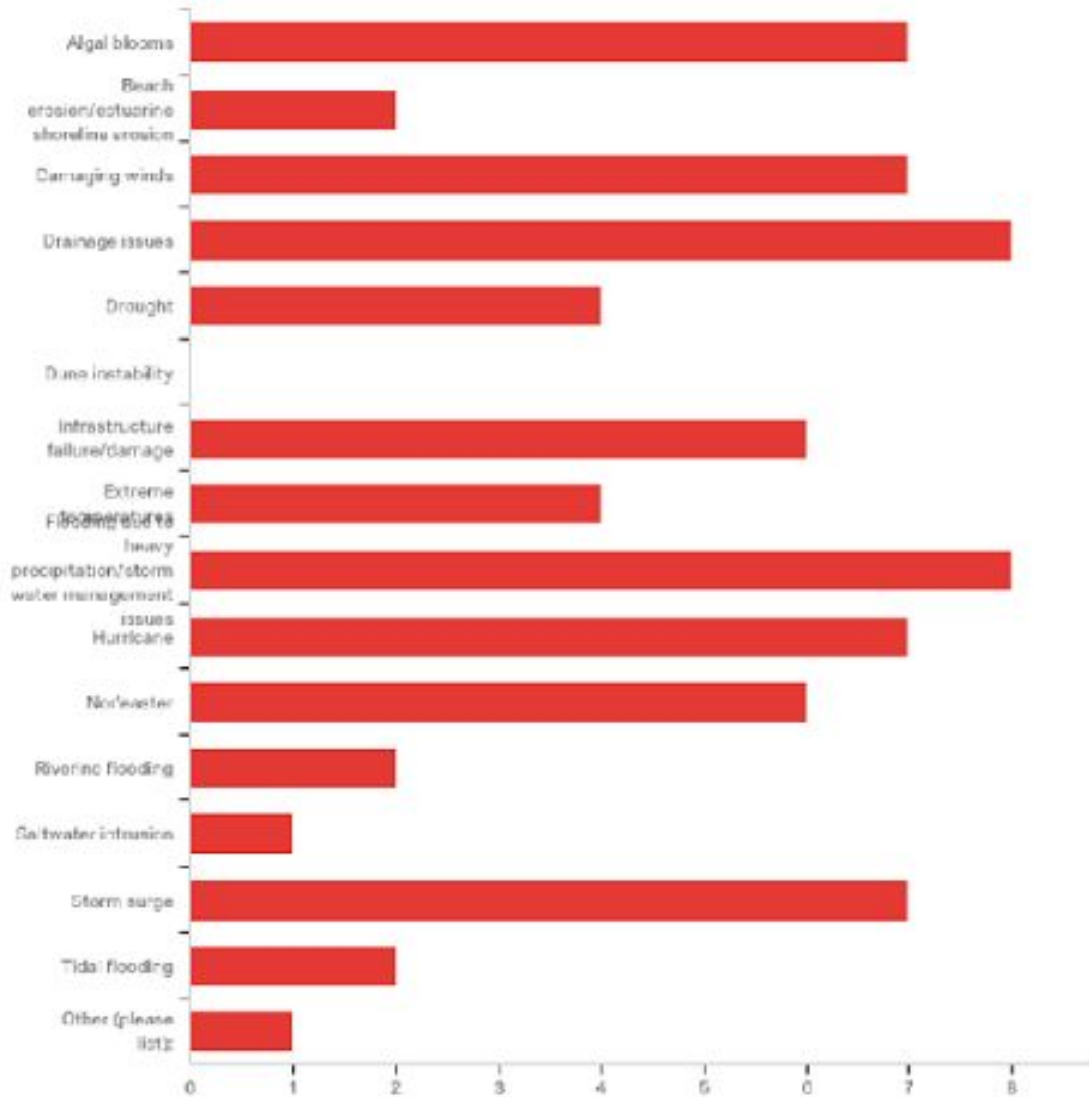
Legend

- TownBoundary_Edenton
- Physical Vulnerabilities**
 - Commerce
 - Community Assistance
 - Critical Facilities
 - Cultural Resources
 - Environmental
 - Fishing/Boating Facilities
 - Flooding
 - Government
 - Recreation
 - Utilities
- Social Vulnerabilities**
 - Redevelopment
 - Retirement Community
- NHDWaterbody**
 - Lake/Pond
 - Swamp/Marsh
 - Reservoir

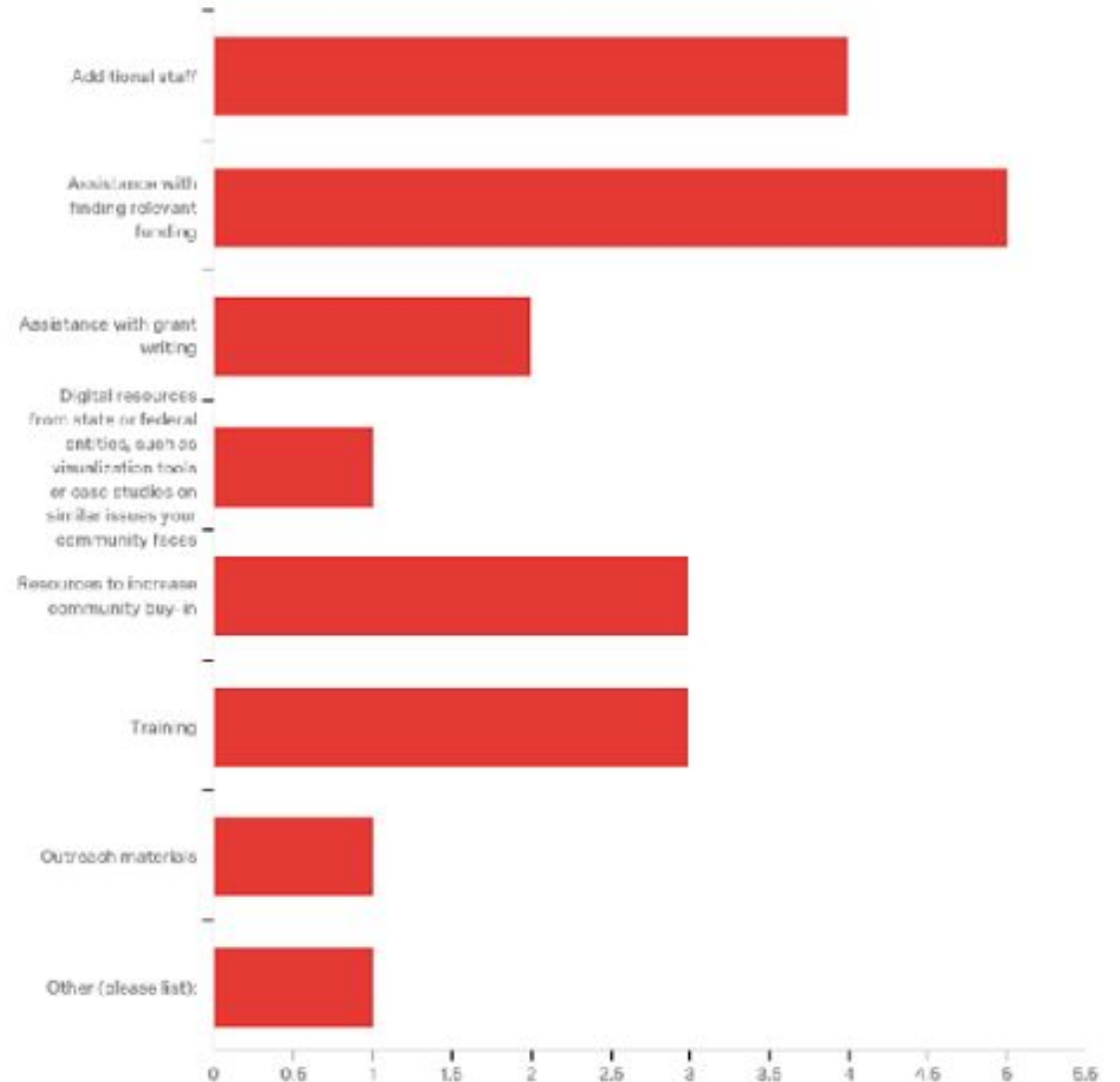


5. Town staff input

4. - Please check all the issues you are aware of [redacted] has faced in the last 10 years:



14. - In your experience, what does the [redacted] need in terms of tools and resources to better address our environmental issues?

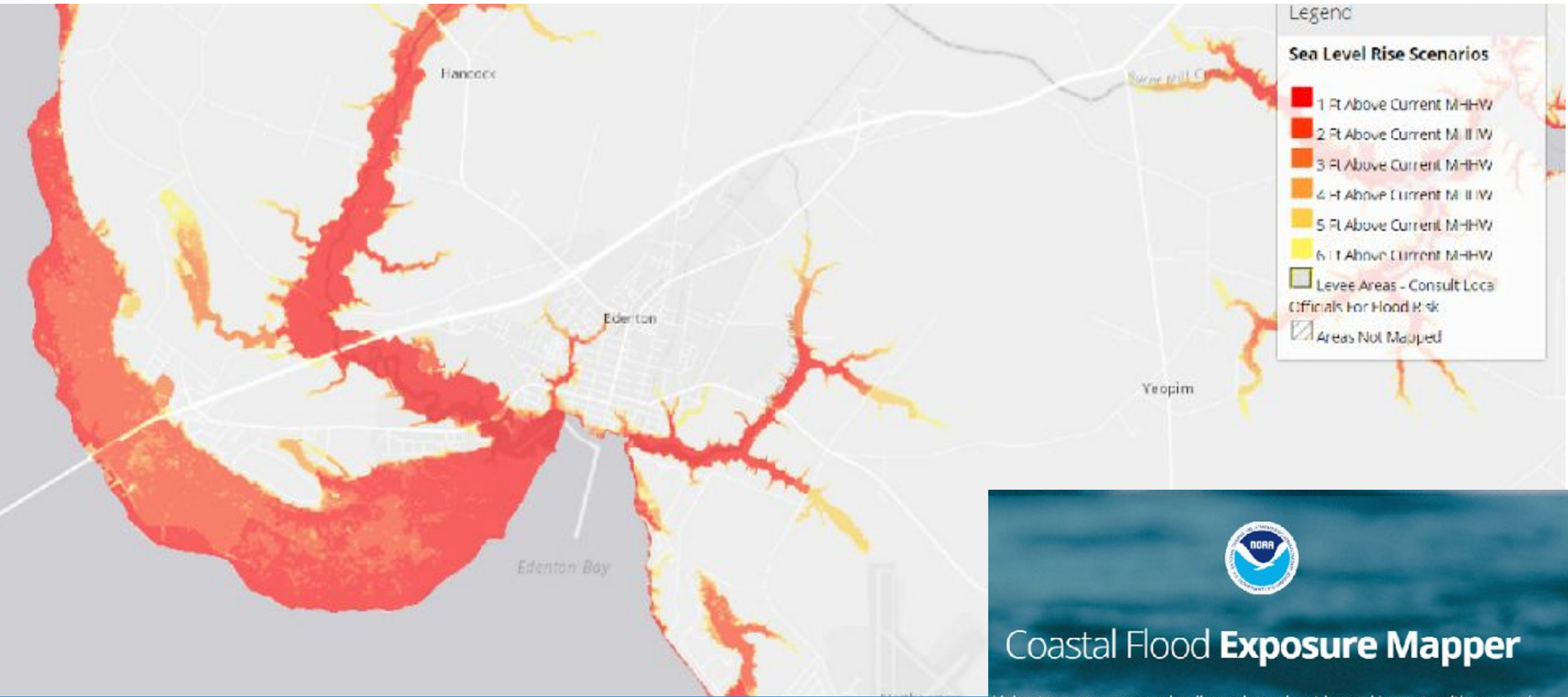




6. Resident Input

- Facilitated workshops or public meetings
- Surveying
- Informal interviews and focus groups

7. Modeling



8. Hotspot identification & prioritization



9. Project identification

Edenton example: if commerce center is prioritized



HELP ME CHOOSE

Hazard Types

- Coastal Erosion
- Tidal Flooding
- Coastal Flooding
- Riverine Erosion
- Riverine Flooding
- Stormwater Flooding



Scale

- Community
- Neighborhood
- Site

Cost

- \$
- \$\$
- \$\$\$
- \$\$\$\$



Open Space Preservation through Land Acquisition

Coastal Erosion Riverine Flooding Riverine Erosion Coastal Flooding Stormwater Flooding Tidal Flooding

This strategy focuses on the public acquisition of undeveloped land to lessen



Rain Gardens

Coastal Erosion Riverine Flooding Riverine Erosion Coastal Flooding Stormwater Flooding Tidal Flooding

Rain gardens are planted basins, which have several key purposes including, increasing



Green Roofs

Coastal Erosion Riverine Flooding Riverine Erosion Coastal Flooding Stormwater Flooding Tidal Flooding

A green roof is a contained vegetated space that is built on top



Green Parking Lots

Coastal Erosion Riverine Flooding Riverine Erosion Coastal Flooding Stormwater Flooding Tidal Flooding

Green parking lots incorporate permeable or semi-permeable paving and porous design techniques...



Daylighting Rivers and Streams

Coastal Erosion Riverine Flooding Riverine Erosion Coastal Flooding Stormwater Flooding Tidal Flooding

Daylighting rivers or streams is the process of removing obstructions (such as...



Bioswales

Coastal Erosion Riverine Flooding Riverine Erosion Coastal Flooding Stormwater Flooding Tidal Flooding

Bioswales are an aesthetically-pleasing alternative to concrete gutters and storm sewers, employing...

Model Resources

- U.S. Climate Resilience Toolkit – Tools Resource Page:
<https://toolkit.climate.gov/tools>
- Community based vulnerability assessment guide:
<http://www.mdcinc.org/sites/default/files/resources/Community%20Based%20Vulnerability%20Assessment.pdf>
- Naturally resilient communities:
http://nrcsolutions.org/strategies/?fwp_hazards=coastal

Thank you!
Any questions?

You can contact me for additional information or with questions at monica.gregory@ncdenr.gov.

