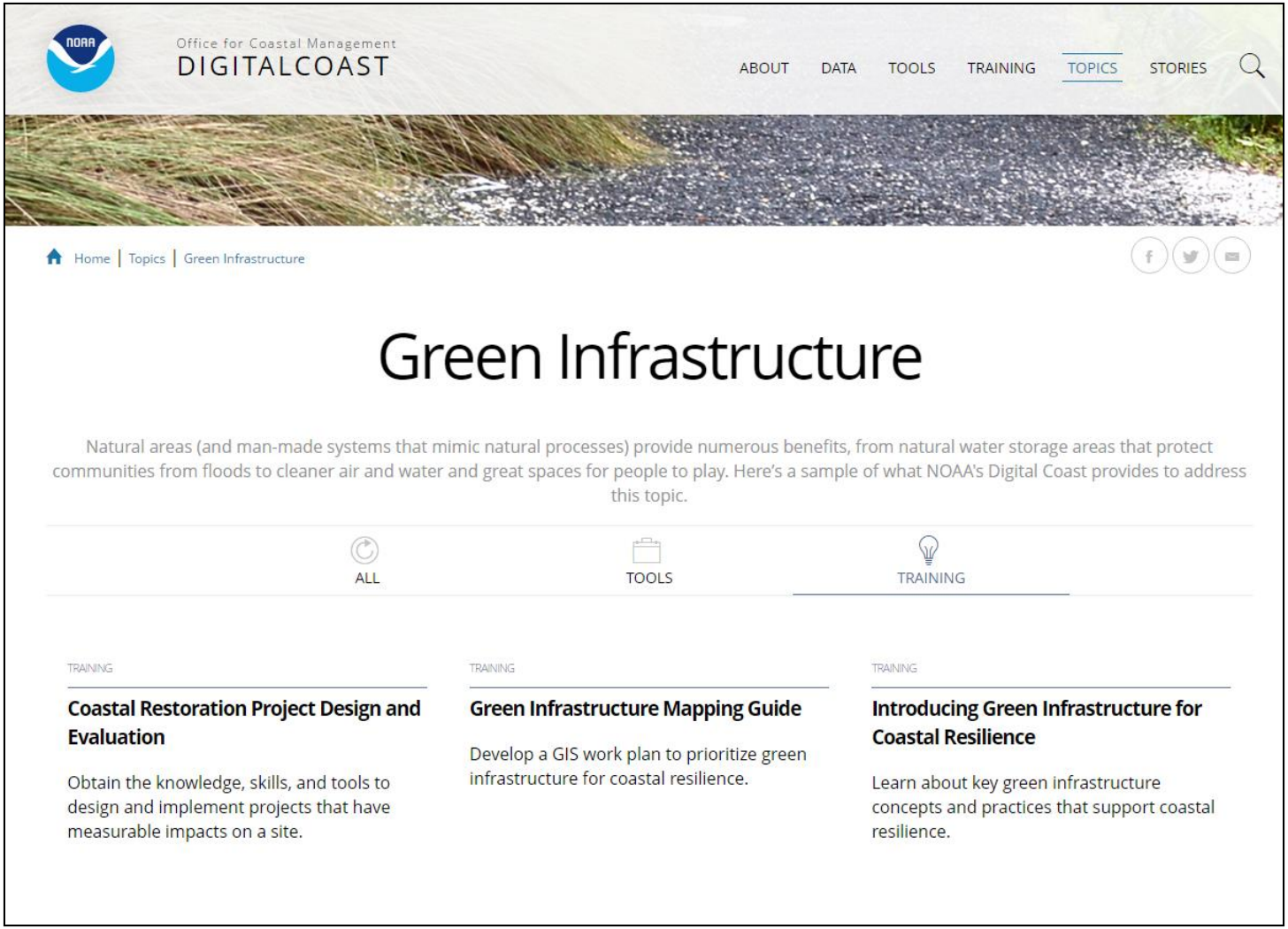
Going from Opportunistic to Strategic Green Infrastructure

Agenda:

- Background on green infrastructure practices for hazards resilience
- Demonstrations and highlights:
  - *Guide for Considering Climate Change in Coastal Conservation* (and Upcoming "How To")
  - Green Infrastructure Mapping Guide
  - *Green Infrastructure Costs and Benefits for Flood Reduction*
  - Natural and Structural Measures for Shoreline Stabilization
  - Green Infrastructure Protective Services Animation
- Questions

Find Products Here



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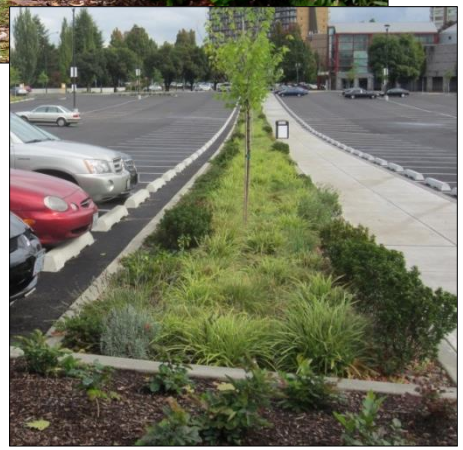
What is Green Infrastructure?

Landscape



Community and Site

Shoreline

Why Green Infrastructure?

Coastal Flood Exposure Mapper

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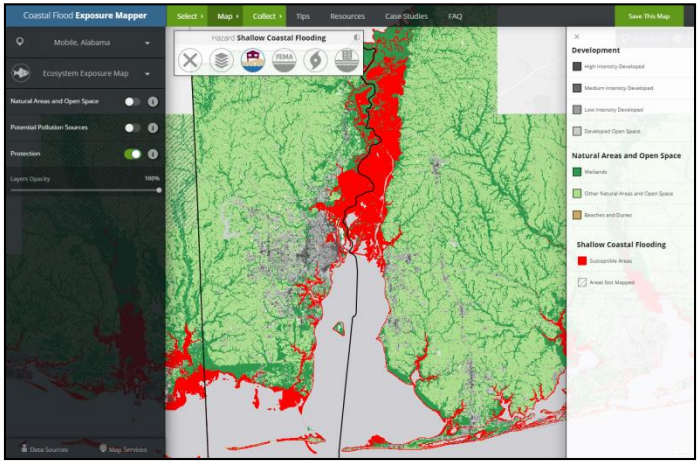
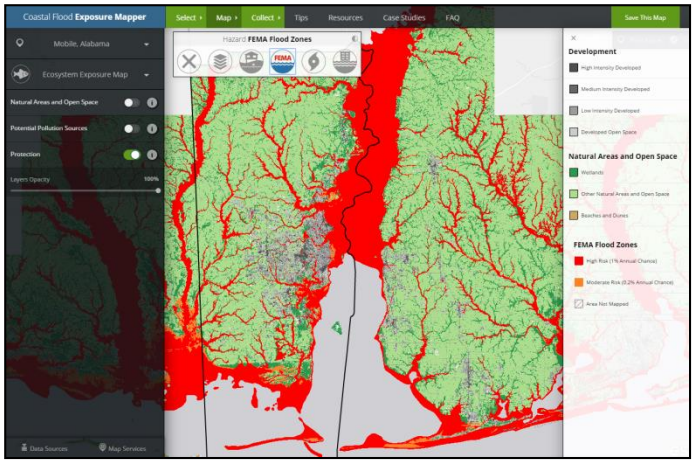
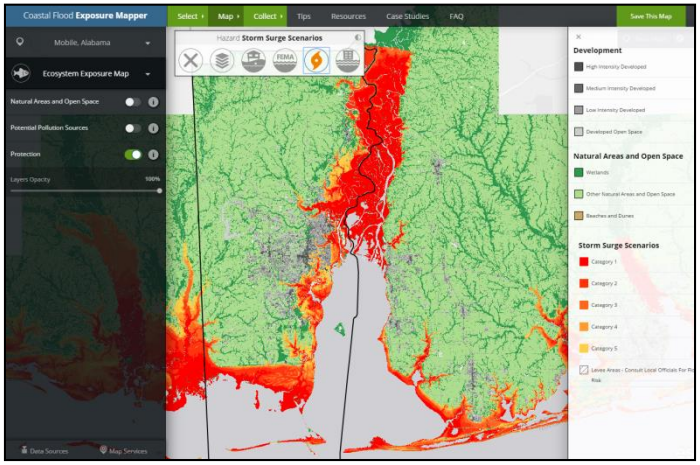


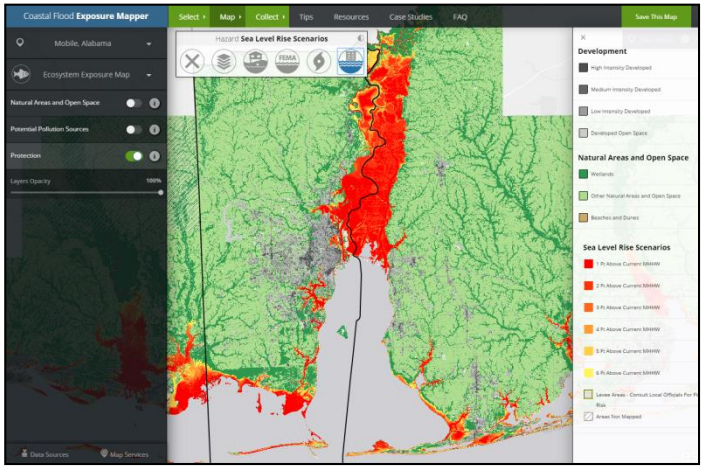
Shallow Coastal Flooding



Flood Zones



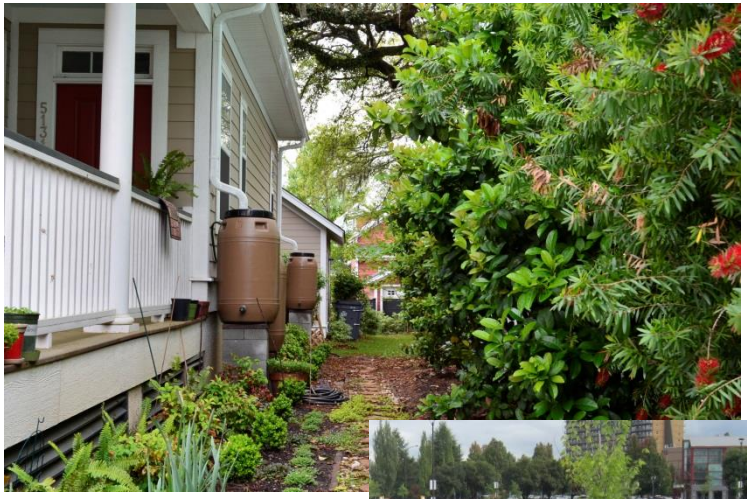
Storm Surge



Sea Level Rise

Green Infrastructure Approaches and Resources

Landscape

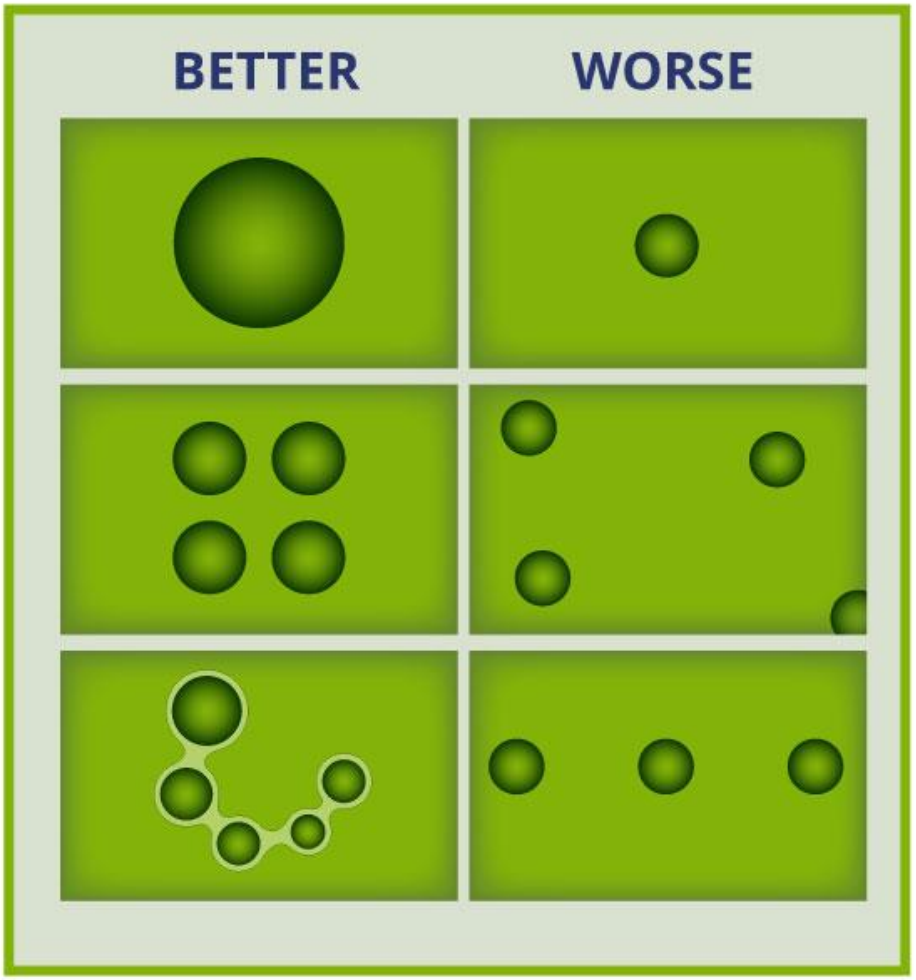


Community and Site

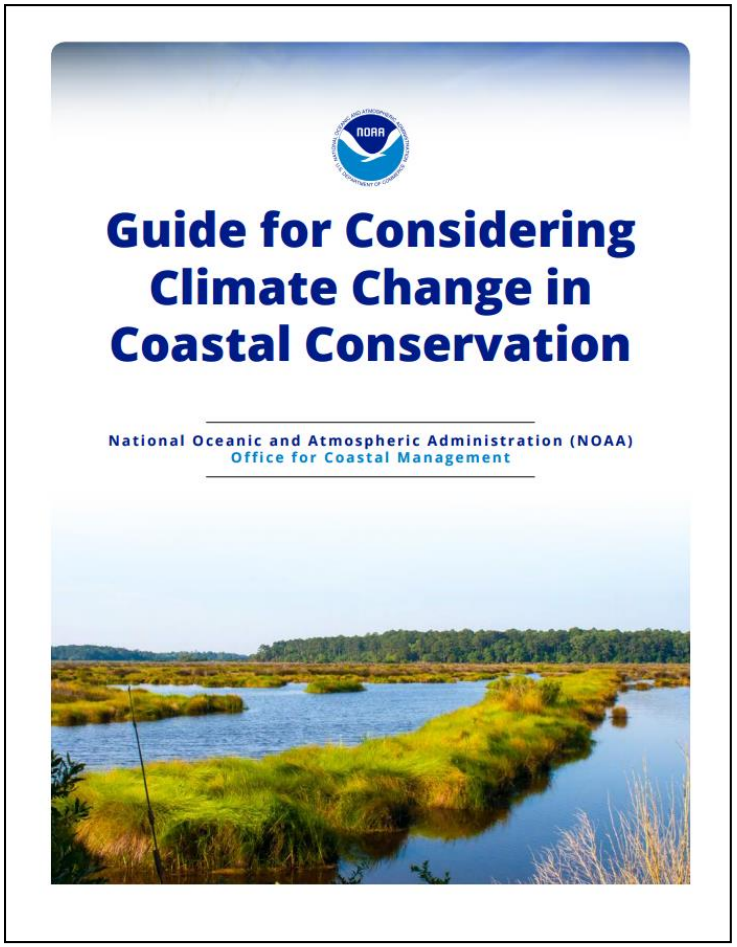
Shoreline

Landscape Conservation

- Area
- Proximity
- Connectivity
- Buffer



Guide for Considering Climate Change in Coastal Conservation



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Guide for Considering Climate Change in Coastal Conservation

Six Steps

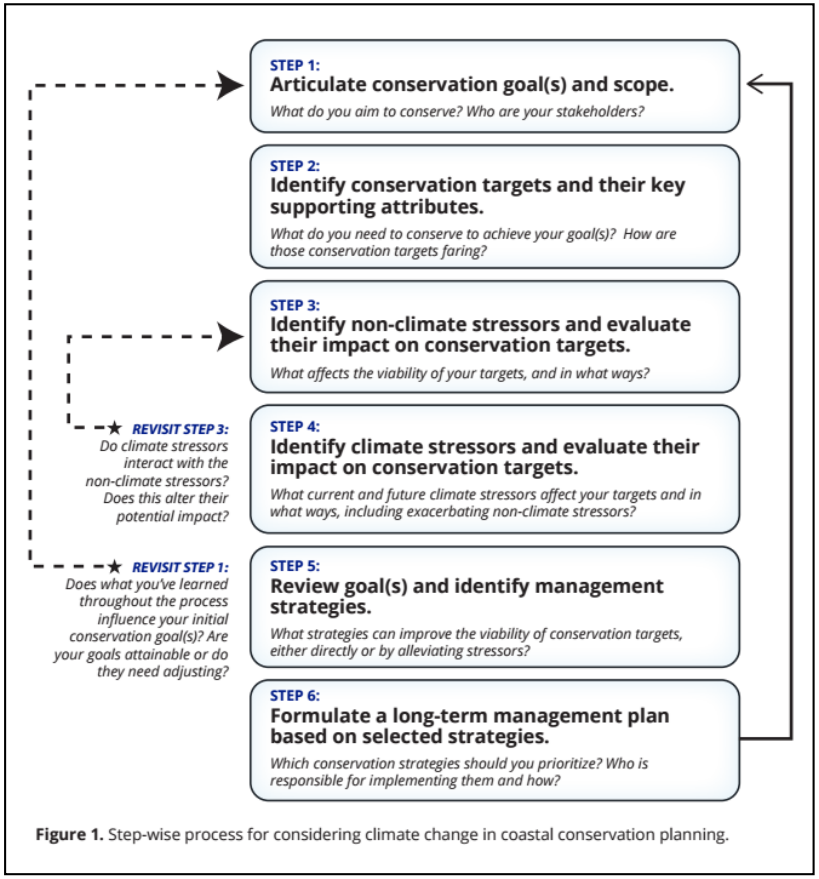

Figure 1. Step-wise process for considering climate change in coastal conservation planning.

Conceptual Model

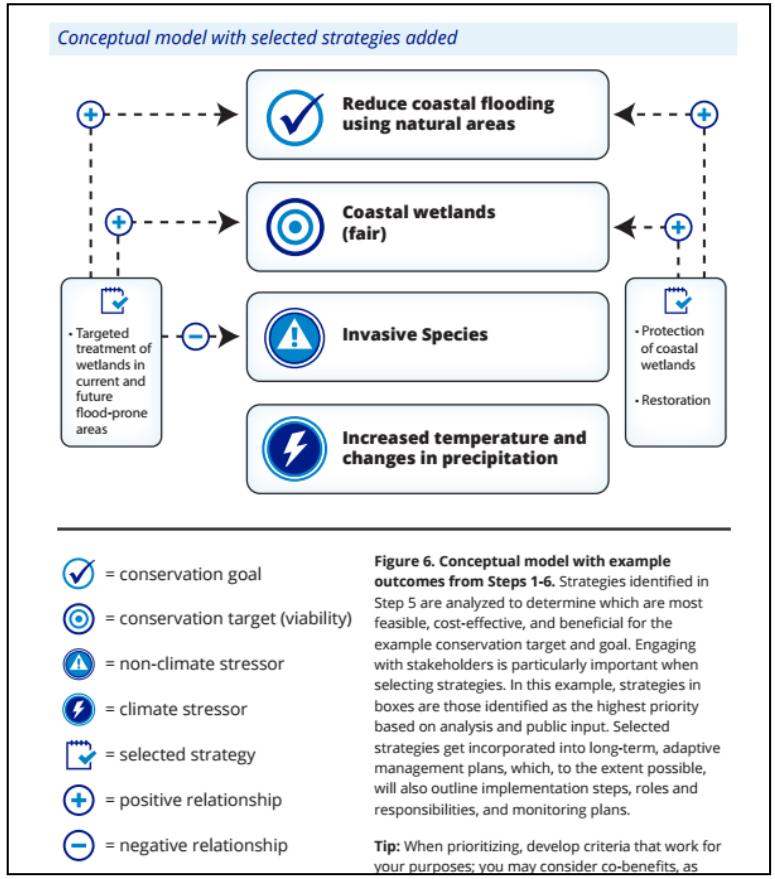

Figure 6. Conceptual model with example outcomes from Steps 1-6. Strategies identified in Step 5 are analyzed to determine which are most feasible, cost-effective, and beneficial for the example conservation target and goal. Engaging with stakeholders is particularly important when selecting strategies. In this example, strategies in boxes are those identified as the highest priority based on analysis and public input. Selected strategies get incorporated into long-term, adaptive management plans, which, to the extent possible, will also outline implementation steps, roles and responsibilities, and monitoring plans.

Tip: When prioritizing, develop criteria that work for your purposes; you may consider co-benefits, as

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Green Infrastructure Mapping Guide

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Community and Site Approaches

Low Impact Development Practices

Bioretention (Infiltration and Filtering)

- Rain gardens
- Bioswales
- Stormwater planters

Green Roofs (Storage and Evapotranspiration)

- Blue roofs
- Cisterns

Permeable Pavements (Infiltration)

- Porous asphalt or concrete
- Grass or gravel pavers
- Pavers

Community and Site Approaches

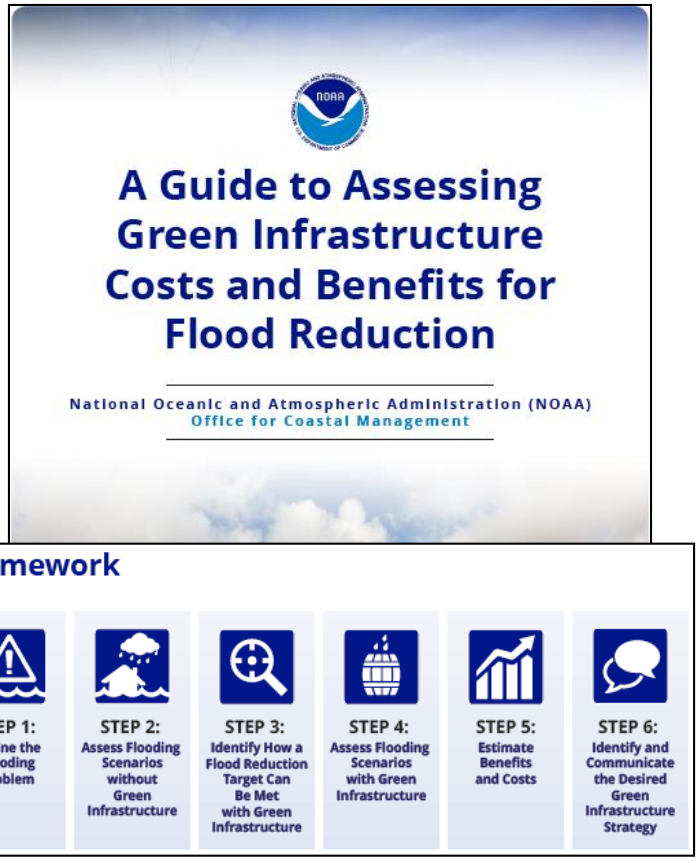
Green Streets

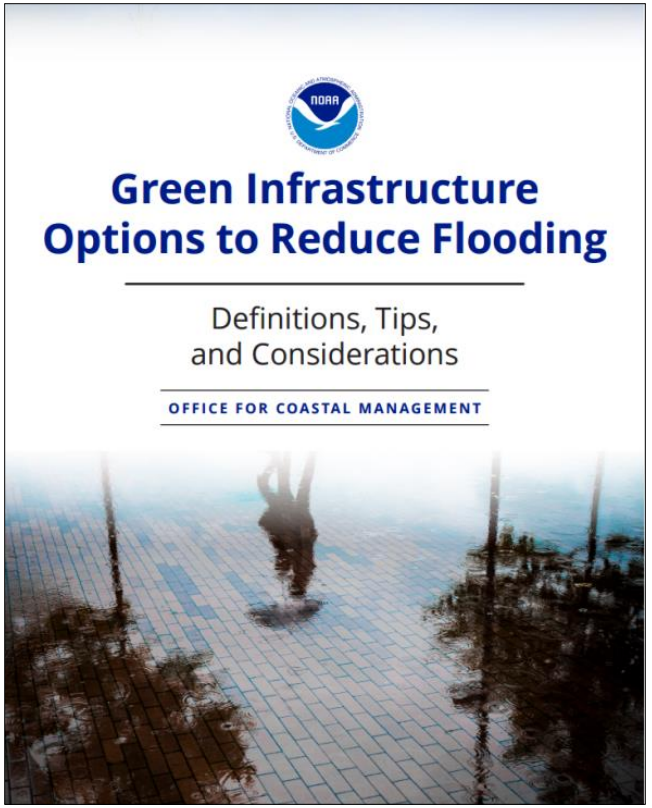
- Key linking component in green infrastructure network
- Design dependent on local conditions but generally includes

  Alternative street widths
  Swales
  Bioretention
  Permeable pavements

- Provides multiple benefits

Green Infrastructure Costs and Benefits for Flood Reduction





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Shoreline Approaches

Natural

Dunes and Beaches

- Break offshore waves
- Attenuate wave energy
- Slow inland water transfer

Salt Marshes, Wetlands, Vegetation, Submerged Aquatic Vegetation

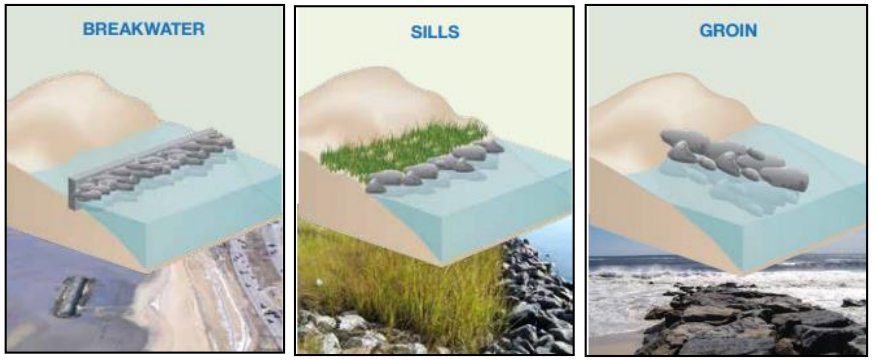
- Break offshore waves
- Attenuate wave energy
- Slow inland water transfer
- Increase infiltration

Oysters and Coral Reefs

- Break offshore waves
- Attenuate wave energy
- Slow inland water transfer

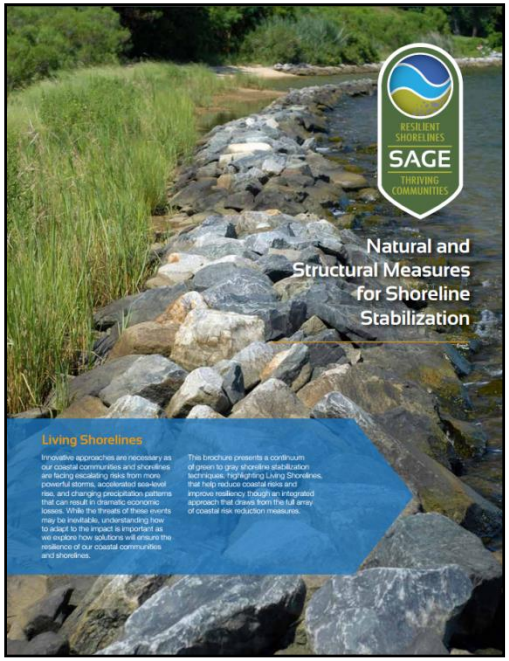
Shoreline Approaches

Hybrid



- Blends both nature-based and structural approaches
- Dissipates wave energy from structural practices
- Ecosystem service benefits from nature-based practices

Natural and Structural Measures for Shoreline Stabilization



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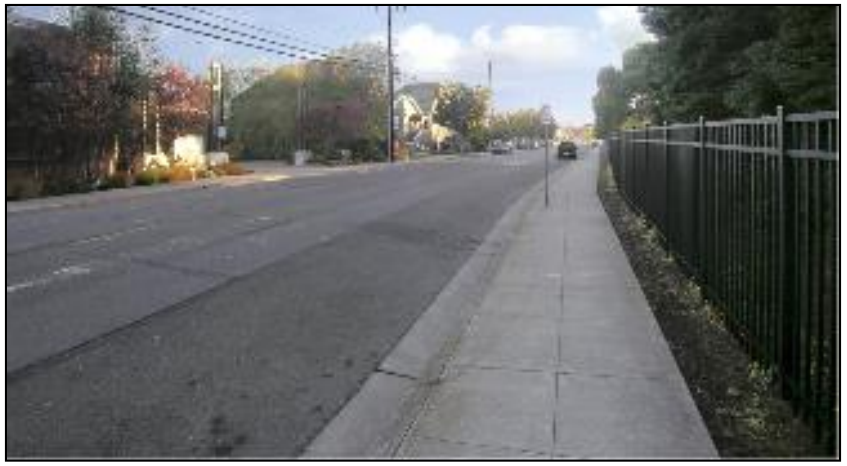
Engaging Stakeholders

- Make it local
- Offer solutions
- Use visualizations



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Green Infrastructure Protective Services Animation

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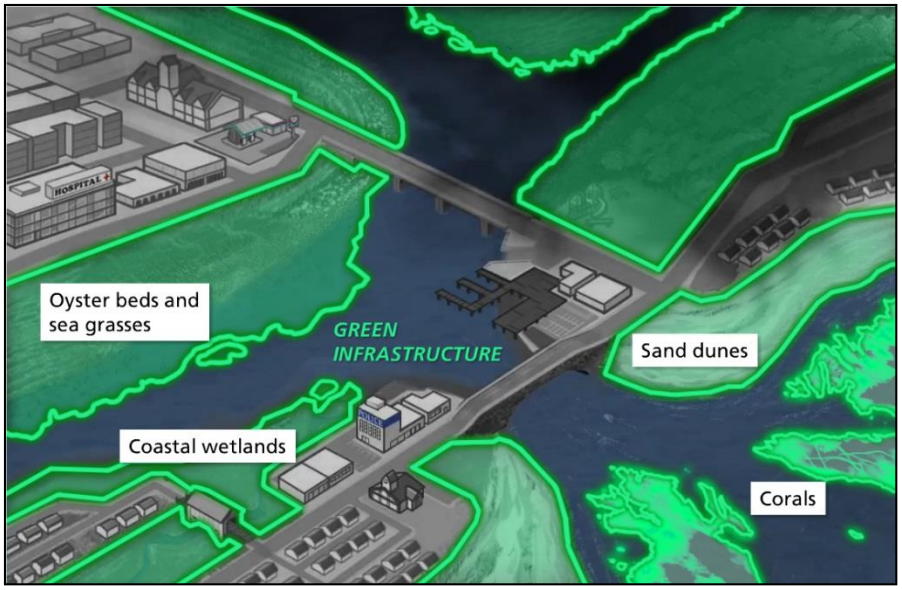

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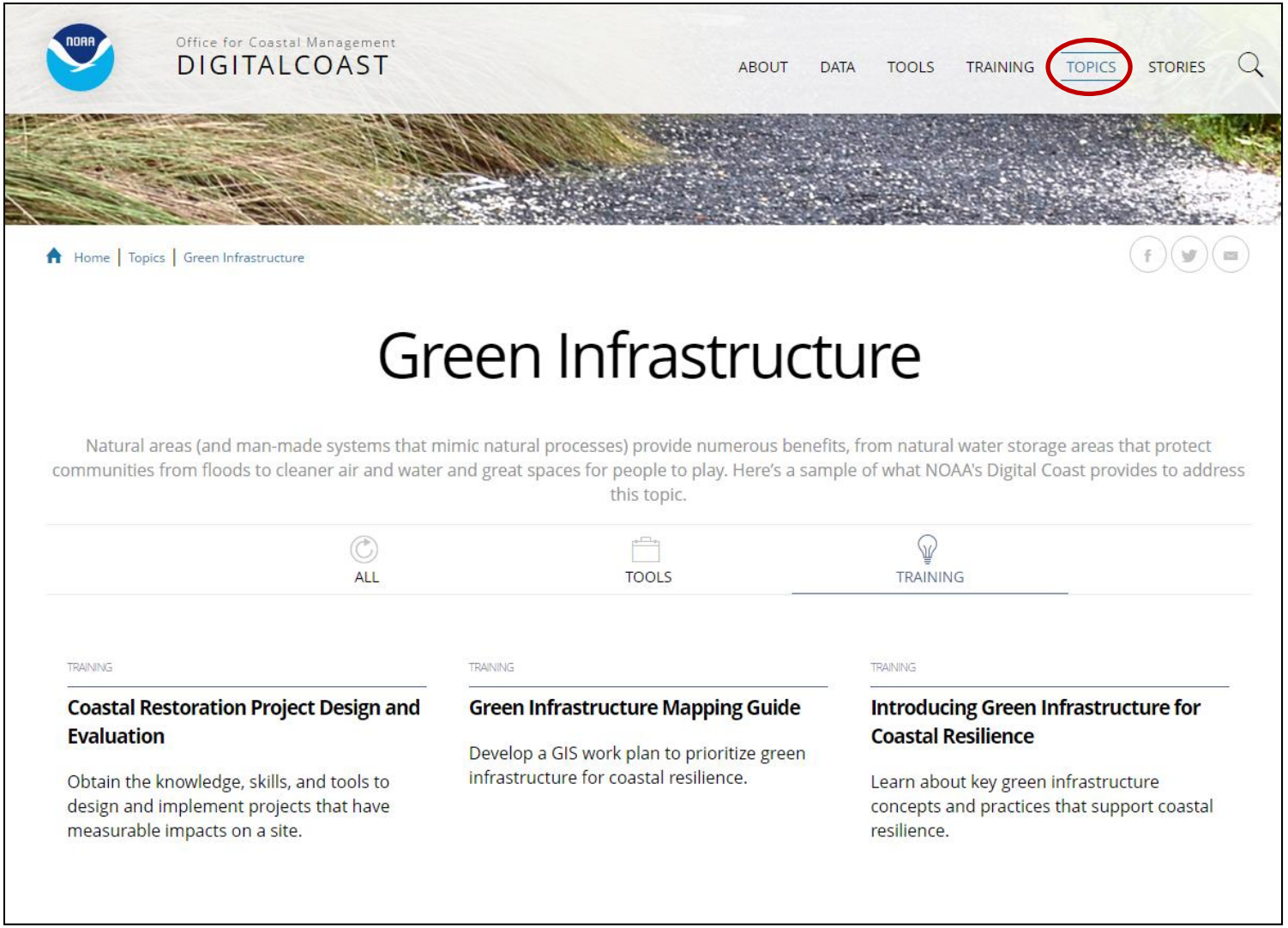

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Questions?

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