

# NATURE-BASED SOLUTIONS RESOURCES



NOAA encourages communities to incorporate nature-based solutions into their planning efforts to help reduce impacts from coastal hazards. Nature-based solutions, also referred to as green infrastructure, use existing natural areas and engineered solutions that mimic natural processes to minimize flooding, erosion, and runoff.

View a list of Digital Coast resources on the reverse of this page.

Learn more: [coast.noaa.gov/digitalcoast/topics/green-infrastructure.html](https://coast.noaa.gov/digitalcoast/topics/green-infrastructure.html)

Additional benefits include:

- Recreational opportunities
- Wildlife habitat
- Cleaner water
- Cultural services

## UNDERSTAND THE ISSUE

### Coastal Flood Exposure Mapper

Map people, places, and natural resources exposed to coastal flooding. Use the information to start community conversations about risk reduction strategies.

[coast.noaa.gov/digitalcoast/tools/flood-exposure.html](https://coast.noaa.gov/digitalcoast/tools/flood-exposure.html)

### Sea Level Rise Viewer

Use the “marsh migration” tab to see how wetlands in your area are impacted by sea level rise. Watch the tutorial to see how to get the most out of this powerful information resource.

[coast.noaa.gov/digitalcoast/tools/slr.html](https://coast.noaa.gov/digitalcoast/tools/slr.html)

### Lake Level Viewer (U.S. Great Lakes)

View lake level changes in the Great Lakes to see potential shoreline and coastal impacts to help make land use decisions.

[coast.noaa.gov/digitalcoast/tools/llv.html](https://coast.noaa.gov/digitalcoast/tools/llv.html)

### Land Cover Atlas

Use land cover data (available for download) to map natural areas and explore the atlas to see how it’s changed over time.

[coast.noaa.gov/digitalcoast/tools/lca.html](https://coast.noaa.gov/digitalcoast/tools/lca.html)

## LEARN THE BASICS

### Nature-Based Solutions for Coastal Hazards: The Basics

Learn an approach to identifying your community’s coastal hazard issues, how nature can help reduce impacts, and nature-based solutions that provide critical benefits.

[coast.noaa.gov/digitalcoast/training/nbs-basics.html](https://coast.noaa.gov/digitalcoast/training/nbs-basics.html)

### Nature-Based Solutions for Coastal Hazards

Attend in-person or virtual training to discuss nature-based solutions important in your community and implementation steps, and hear from local experts in the field.

[coast.noaa.gov/digitalcoast/training/green.html](https://coast.noaa.gov/digitalcoast/training/green.html)

### Nature-Based Solutions: Benefits, Costs, and Economic Assessments

Use these three quick references to gain information about green infrastructure practices and benefits, installation and maintenance costs, and tips for assessing the costs and benefits.

[coast.noaa.gov/digitalcoast/training/gi-practices-and-benefits.html](https://coast.noaa.gov/digitalcoast/training/gi-practices-and-benefits.html)

### Green Infrastructure Protective Services

Watch a short animation describing the protective benefits of green infrastructure. This is a useful outreach tool.

[coast.noaa.gov/digitalcoast/training/gi-animation.html](https://coast.noaa.gov/digitalcoast/training/gi-animation.html)

### Measures for Shoreline Stabilization

Get information on a continuum of green to gray shoreline stabilization techniques that can help reduce coastal risks.

[coast.noaa.gov/digitalcoast/training/living-shorelines.html](https://coast.noaa.gov/digitalcoast/training/living-shorelines.html)

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### Green Infrastructure Effectiveness Database

Discover literature documenting the effectiveness, as well as cost and benefits, of various green infrastructure techniques.

[coast.noaa.gov/digitalcoast/training/gi-database.html](https://coast.noaa.gov/digitalcoast/training/gi-database.html)

### Green Infrastructure Mapping Guide

Use this guide to develop a GIS work plan to prioritize nature-based solutions (green infrastructure).

[coast.noaa.gov/digitalcoast/training/gi-mapping.html](https://coast.noaa.gov/digitalcoast/training/gi-mapping.html)

### Assessing Green Infrastructure Costs and Benefits

Discover this six-step process for analyzing green infrastructure techniques in terms of cost versus benefits.

[coast.noaa.gov/digitalcoast/training/gi-cost-benefit.html](https://coast.noaa.gov/digitalcoast/training/gi-cost-benefit.html)

## LEARN FROM OTHERS

### Advancing Coastal Resilience through Nature-Based Solutions

Participate in webinars (or access recordings and associated resources) that bring experts together to discuss ideas, approaches, successes, and challenges in implementing nature-based solutions.

[coast.noaa.gov/digitalcoast/training/advancing-coastal-resilience-webinars.html](https://coast.noaa.gov/digitalcoast/training/advancing-coastal-resilience-webinars.html)

### Funding and Financing Coastal Resilience

Participate in webinars (or access recordings and associated resources) to hear from the experts who demystify this complex topic by sharing traditional and emerging approaches, project examples, and lessons learned.

[coast.noaa.gov/digitalcoast/training/funding-webinars.html](https://coast.noaa.gov/digitalcoast/training/funding-webinars.html)

### Nature-Based Solutions Case Studies

Explore case studies on the Digital Coast Academy to learn how others have used these solutions to reduce coastal hazard impacts.

[coast.noaa.gov/digitalcoast/training/home.html](https://coast.noaa.gov/digitalcoast/training/home.html)