Coastal Resilience 2.0: Decision Support and Nature-based Solutions in the TBRPC Area

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Coastal Resilience

Approach

ASSESS RISK

IDENTIFY SOLUTIONS

TAKE ACTION

MEASURE EFFECTIVENESS
Coastal Resilience is a program led by The Nature Conservancy to examine nature’s role in reducing coastal flood risk. The program consists of an approach, a web mapping tool, and a network of practitioners around the world supporting hazard mitigation and climate adaptation planning.
COASTAL RESILIENCE WEB APPS

An innovative web-mapping tool designed to engage key stakeholders and provide decision support in identifying nature-based adaptation and risk mitigation solutions.

Contact us at coastalresilience@tnc.org
Discover the tool at maps.coastalresilience.org | Follow us @CoastResilience
Coastal Resilience

Waves decreased with healthy coastal habitats.

- Wave Height
- Coral Reefs
- Underwater Structures
- Mangroves

Waves with degraded coastal habitats.

- Wave Height
- Coral Reefs
- Mangroves

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Hardened infrastructure has its place and may be the best choice for shoreline protection in some circumstances.

However, nature-based solutions should be considered at the design phase and as retrofits. There are many opportunities to enhance coastal ecosystems.

Nature-based solutions have many advantages:
• Cheaper to build and maintain
• Longer design life/self-sustaining
• Co-benefits
  • Water purification
  • Fish and wildlife habitat
  • Carbon sequestration, etc.
Exposure is based on a hazard index developed for each 1 km of shoreline which incorporates the protective role of ecosystems.
Ruskin Area Close Up
Forested wetlands transitions with SLR
1 meter scenario

Year 2025 (present condition)

Projected increase in mangrove extent with SLR

Year 2100
Expected Future Damages in 2030: $29 billion (US) in total expected damages in the future (including increase from both economic growth and climate change) representing a 14% increase relative to expected damages in 2010.
Oyster Reef Restoration

Benefit/cost ratio for avoided damages from present to 2050 is 118.83 with a total amount of $156 billion (US) in damages averted.