Actionable Science in the Gulf of Mexico: Connecting Researchers and Resource Managers

National Conference on Ecosystem Restoration

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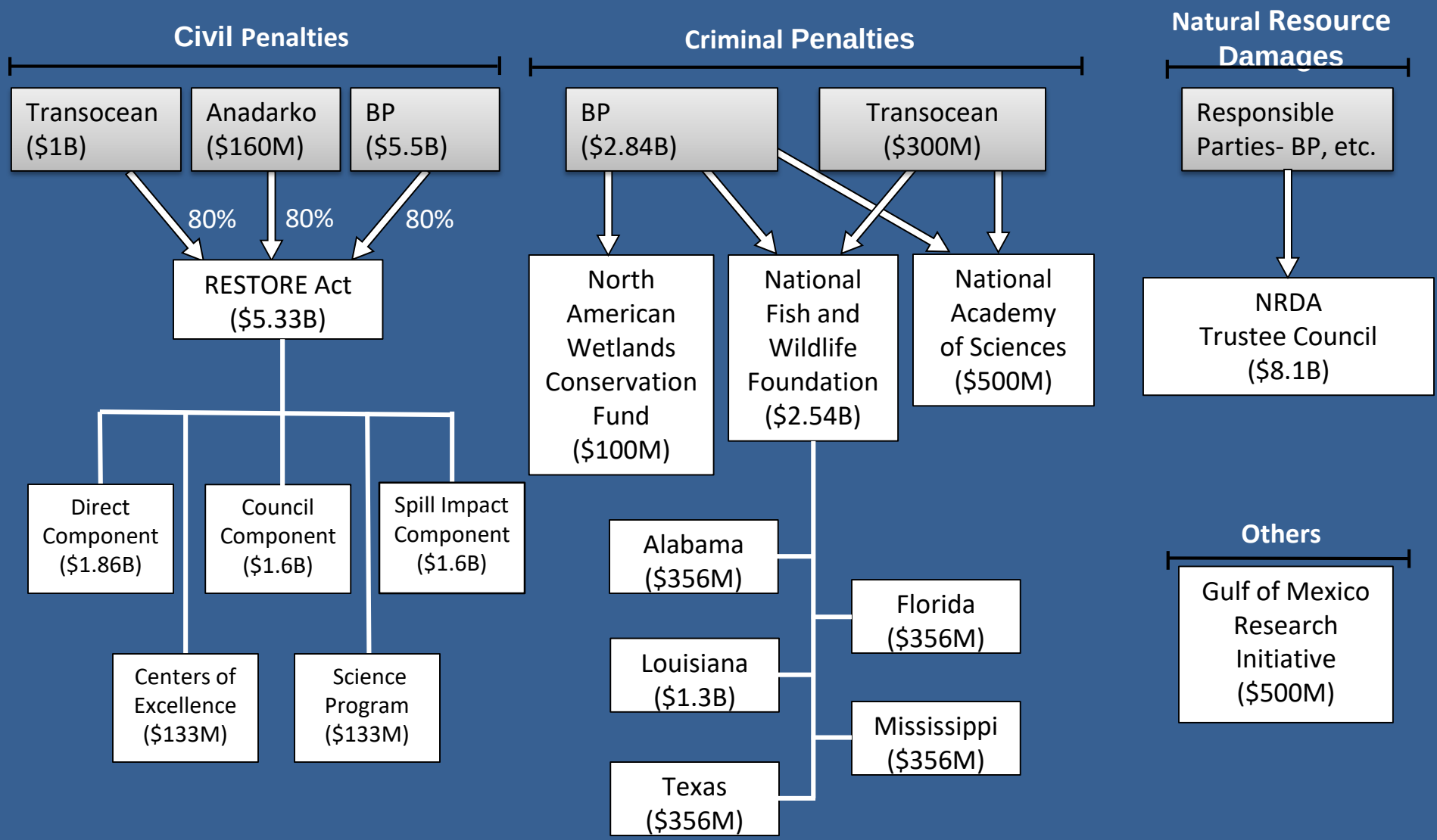
Outline

- Science Program Overview
- 2015 Projects
- 2017 Projects
- Case Studies
- Current Funding Opportunity

Deepwater Horizon Gulf Science and Restoration Initiatives



Program Overview

Mission: To carry out research, observation, and monitoring to support the long-term sustainability of the ecosystem, fish stocks, fish habitat, and the recreational, commercial, and charter-fishing industry in the Gulf of Mexico.

Outcomes

- The Gulf of Mexico ecosystem is understood in an integrative, holistic manner.
- Management of, and restoration activities within, the Gulf of Mexico ecosystem is guided by this ecosystem understanding.

Our Approach

- Emphasize connections within the ecosystem
- Prioritize application
- Build and strengthen relationships
  - A community of researchers and resource managers committed to working together

Our Approach

- How…
  - So far, competitively awarded cooperative agreements
- Who…
  - So far, institutions of higher education; non-profit institutions; federal, territorial, state, local, and tribal governments; and for-profit organizations
- Where…
  - Gulf of Mexico or on a process, habitat, or species with a direct, significant, and quantifiable impact on the Gulf of Mexico

Our Funding Competitions

- Driven by resource manager needs and capacity of research community
- Link to management is key
  - Relate to issues managers face
  - End user input and involvement
  - Approach for transfer and use of findings and products
- Review panels that include resource managers and researchers

Managing Our Awards

- Technical monitors
- Reporting on science and application
- Engagement with additional end users

2015 Projects

Assessment of indicators, modeling, and observing

- Indicators and assessment framework for ecosystem services
- Inventory of ecosystem indicators for five common habitats
- Observing systems and ecosystem management
- Assessing ecosystem modeling
- Identifying ecological hotspots
- Cooperative monitoring program for spawning aggregations
- Impact of Mississippi River on oceanography and ecology

2017 Projects

Living Coastal and Marine Resources

Tools

- Living shoreline siting
- Fisheries ecosystem models
- Local coastal planning
- Mobile Bay monitoring
- Oyster planning
- Red snapper management strategy evaluation (MSE

Research

- Bluefin tuna larvae
- Bryde's whales
- Deepwater corals
- Dolphin tags
- Marsh food webs
- Migratory birds
- Oyster contaminants
- Sargassum
- Turtlegrass and nekton

Fish Spawning Aggregations

Lead Investigator: Brad Erisman (berisman@utexas.edu)
The University of Texas at Austin

Co-investigators and collaborators from LGL Ecological Research Associates, Inc. and Texas A&M University, NOAA, Florida Fish and Wildlife Conservation Commission, and The Nature Conservancy.

Technical Monitor: Nick Farmer (NOAA NMFS)

<u>Accomplishments</u>

- Compiled and synthesized information for Gulf of Mexico reef fish species known or likely to form spawning aggregations
- Convened a workshop to solicit feedback
- Created online data portal to share the information (http://geo.gcoos.org/restore/)
- Working with the fishing community, developed a community-based approach fro future monitoring and research

Resources

Species Profiles

Spawning Seasons

Life History and Spawning Behavior

Cooperative Monitoring Protocol

Fisheries and Management

FSA Map

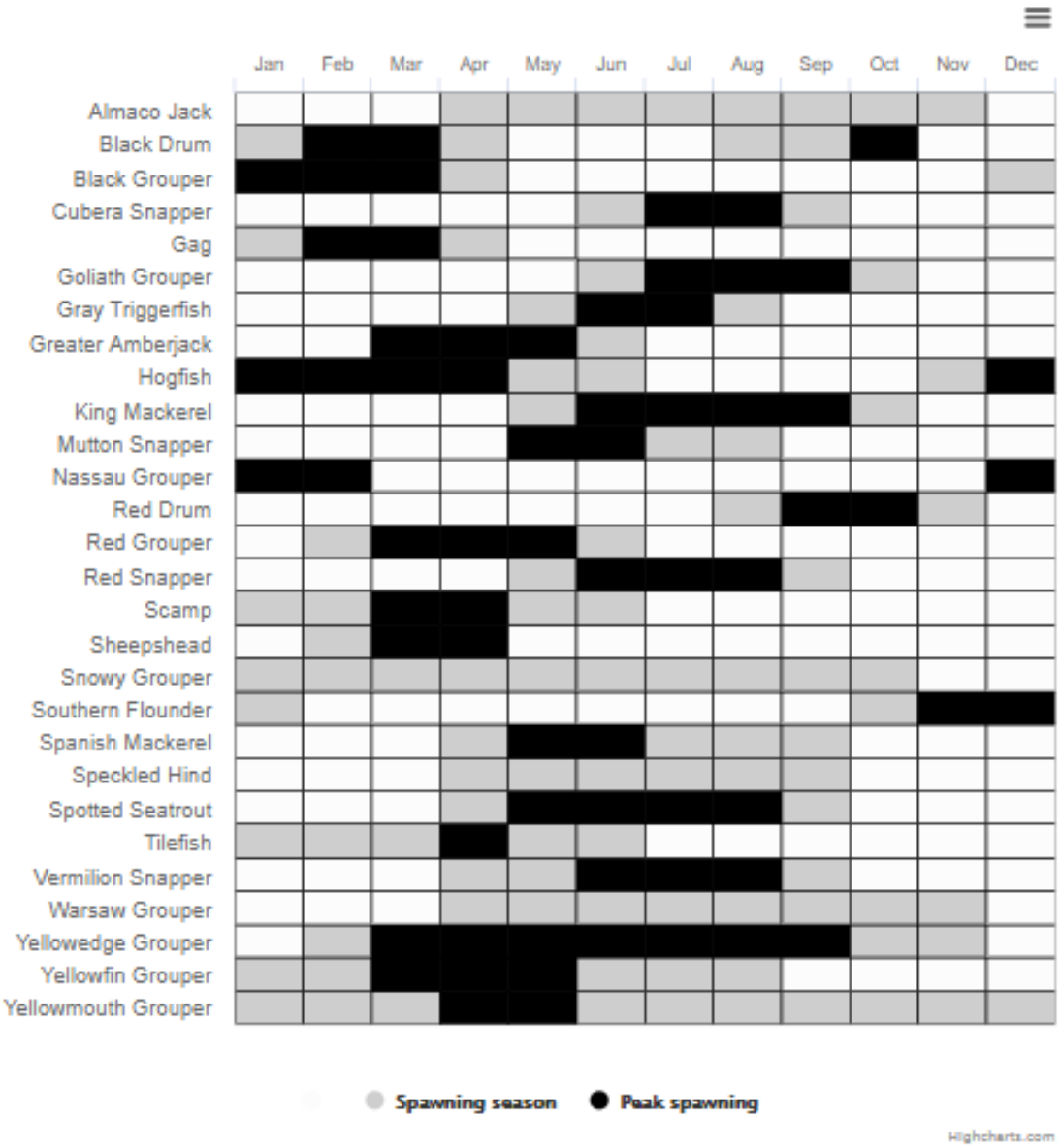
Reports and Publications

Methods

References

Data list

Partners



(Click here to download the full dataset in Excel file with notes, metadata, and references included)

Suggested Citation for Data set

Ecosystem Indicators

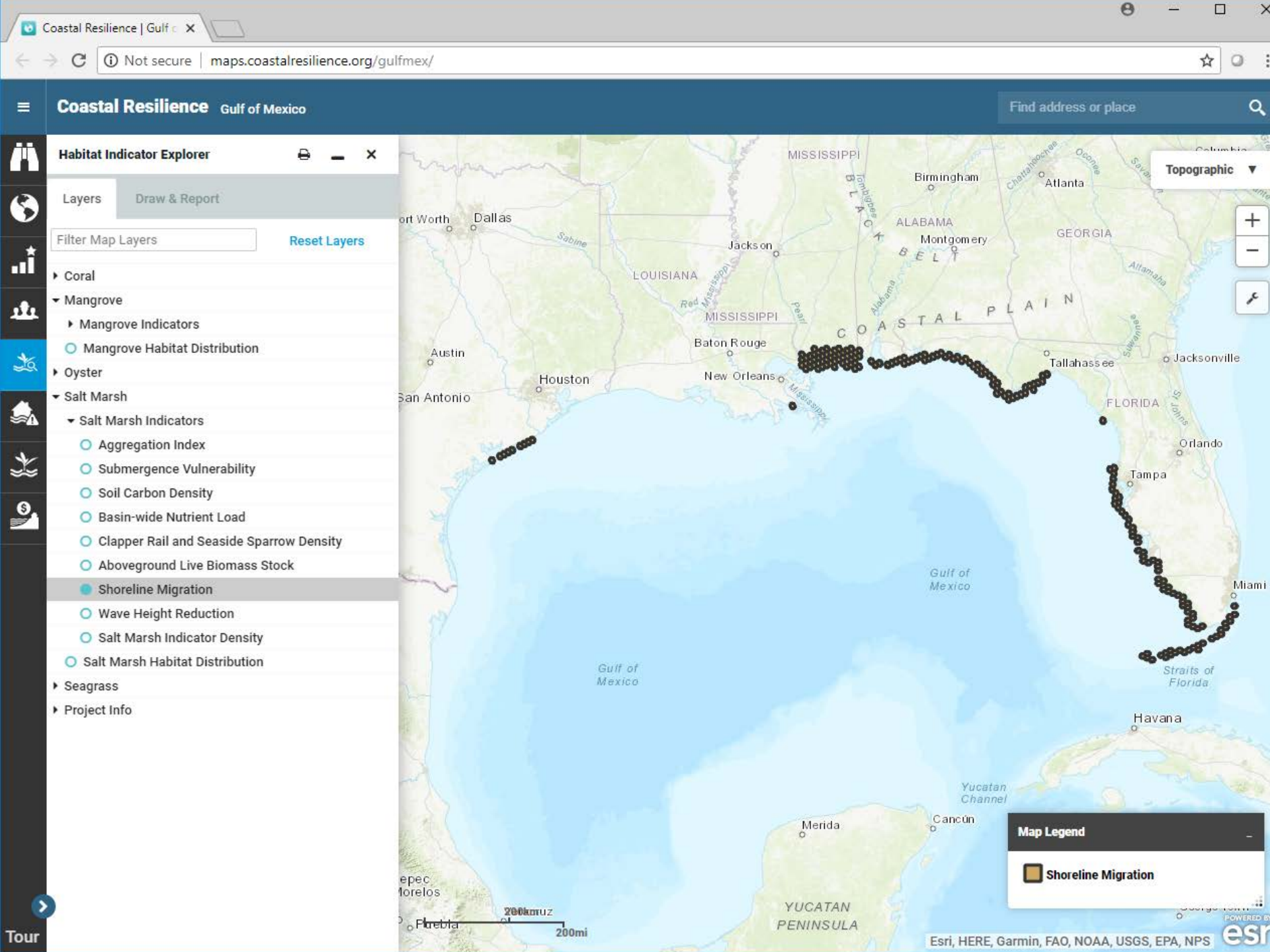
Lead Investigator: Kathy Goodin (kathy_goodin@natureserve.org)
NatureServe

Co-investigators from NatureServe, The University of Texas at Austin, U.S. Geological Survey, Florida Fish and Wildlife Conservation Commission, Ocean Conservancy, and The Nature Conservancy.

Technical Monitor: Becky Allee (NOAA NOS)

<u>Accomplishments</u>

- Developed conceptual models for five key habitats (salt marsh, mangrove, seagrass, oyster beds/reefs, and coral reefs) across the Gulf of Mexico
- Derived cost-effective biological and socioeconomic indicators
- Conducted workshops where experts evaluated the indicators
- Inventoried and mapped where the indicators have been collected by existing monitoring programs


Coastal Resilience | Gulf
Not secure
maps.coastalresilience.org/gulfmex/
Coastal Resilience
Gulf of Mexico
Find address or place
Habitat Indicator Explorer
Layers
Draw & Report
Filter Map Layers
Reset Layers
Coral
Mangrove
Mangrove Indicators
Mangrove Habitat Distribution
Oyster
Salt Marsh
Salt Marsh Indicators
Aggregation Index
Submergence Vulnerability
Soil Carbon Density
Basin-wide Nutrient Load
Clapper Rail and Seaside Sparrow Density
Aboveground Live Biomass Stock
Shoreline Migration
Wave Height Reduction
Salt Marsh Indicator Density
Salt Marsh Habitat Distribution
Seagrass
Project Info
Topographic
MISSISSIPPI
ALABAMA
GEORGIA
LOUISIANA
COASTAL PLAIN
BLACK BELT
Birmingham
Atlanta
Montgomery
Jackson
Dallas
Fort Worth
Austin
San Antonio
Houston
Baton Rouge
New Orleans
Tallahassee
Jacksonville
FLORIDA
Orlando
Tampa
Miami
Gulf of Mexico
Straits of Florida
Havana
Yucatan Channel
Cancún
Merida
YUCATAN PENINSULA
Map Legend
Shoreline Migration
200mi
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS
Tour

Open Funding Opportunity Overview

- Identify, track, understand, and/or predict **trends and variability** in living coastal and marine resources and the **processes** driving them
- Three areas of emphasis
  - **Multiple species**
  - **Weather and/or climate impacts**
  - **Economic activity**
- Link to management is key
- Long-term, integrated projects
  - $15M now (5 year awards)
  - $15M later (5 year renewals)
- Open competition

Contact Information

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