

Sustaining Academic Networks and Integration with Management: Part of Sea Grant's DNA



Image: asean.usmission.gov



Texas • Louisiana • Florida
Mississippi-Alabama

Mississippi-Alabama Sea Grant Consortium

Southern Association of Marine Laboratories

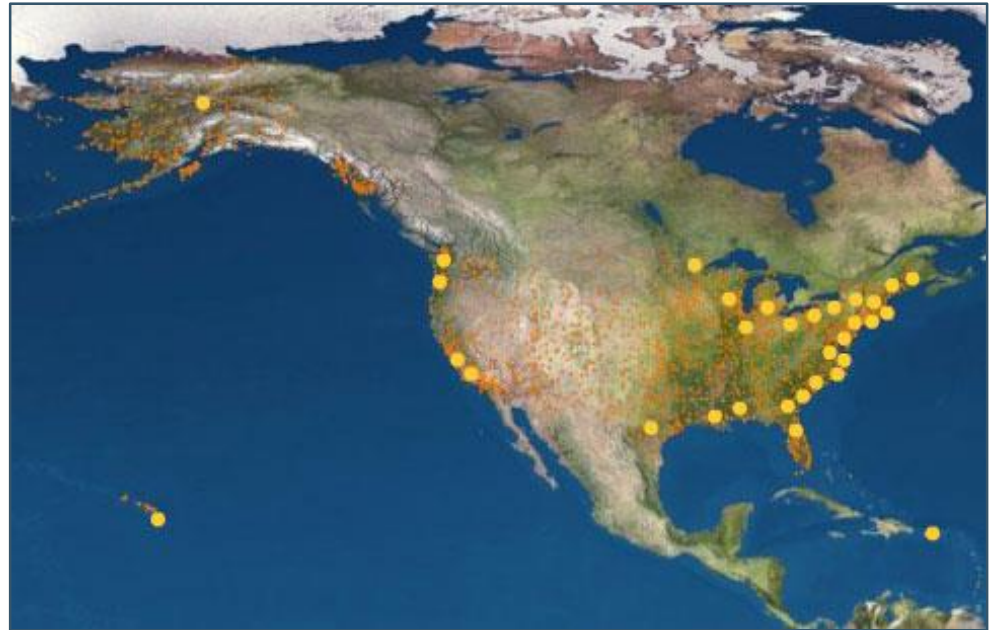
Annual Meeting

May 5-7, 2019



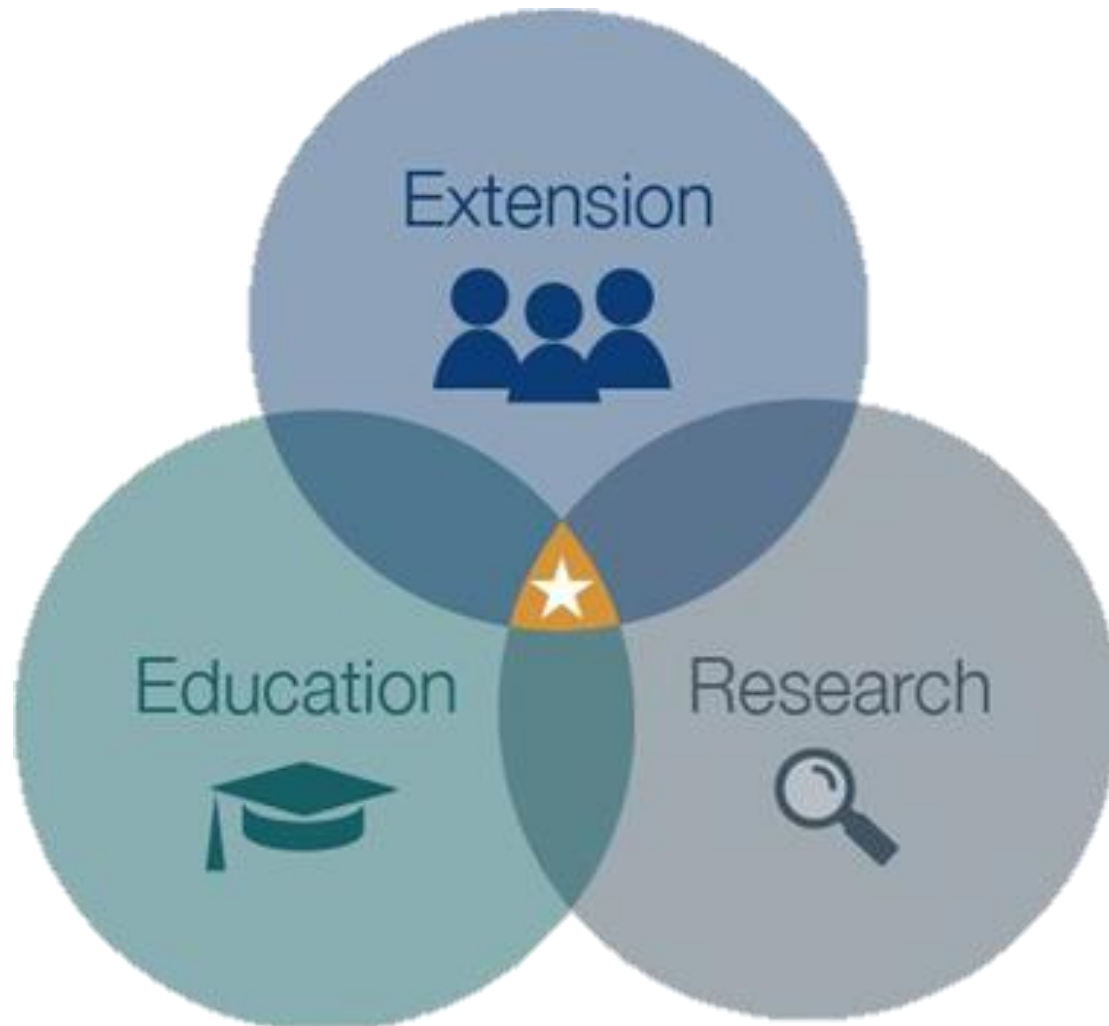
Sea Grant

- **University-based program**
- **Partially supported by NOAA and states**
- **A national network**
- **Four focus areas**



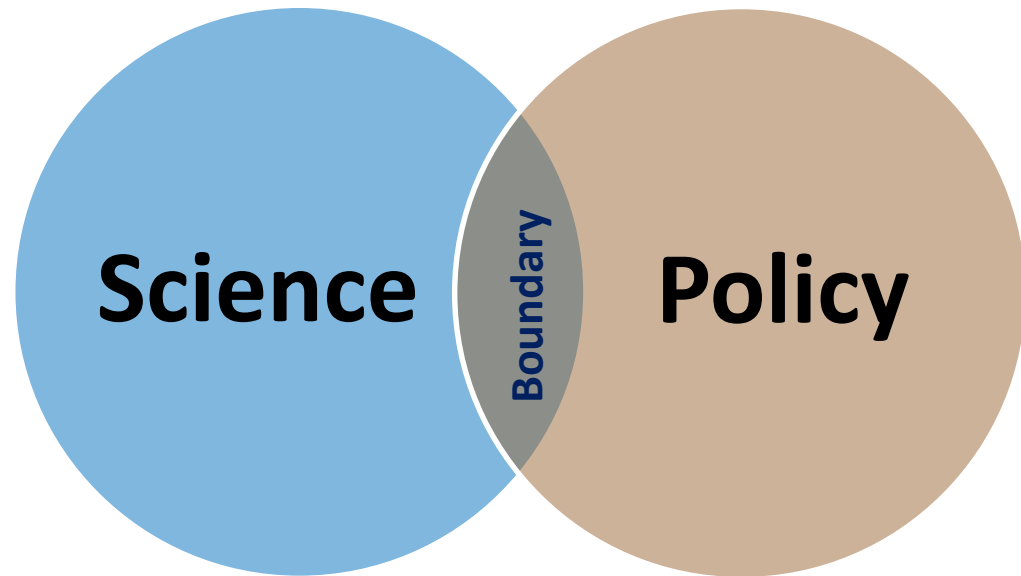
Science Serving America's Coasts

The Model



Boundary Organization

- **Formal structures that create linkages across boundaries**
- **Neutral, impartial, and credible**
- **Requires trust**



Boundary Organization Traits

Translation

- Speak multiple languages
 - Science
 - Policy

Dual Accountability

- Accountable to **producers** and **users** of knowledge by cultivating relationships

Co-production of Information

- Value added when producers and users collaborate

Based on Relationships

Energy and Environment

The Deepwater Horizon spill may have caused ‘irreversible’ damage to Gulf Coast marshes

“Is there any validity to this?”

6 years after BP oil spill, tar balls continue to wash onto AL beaches

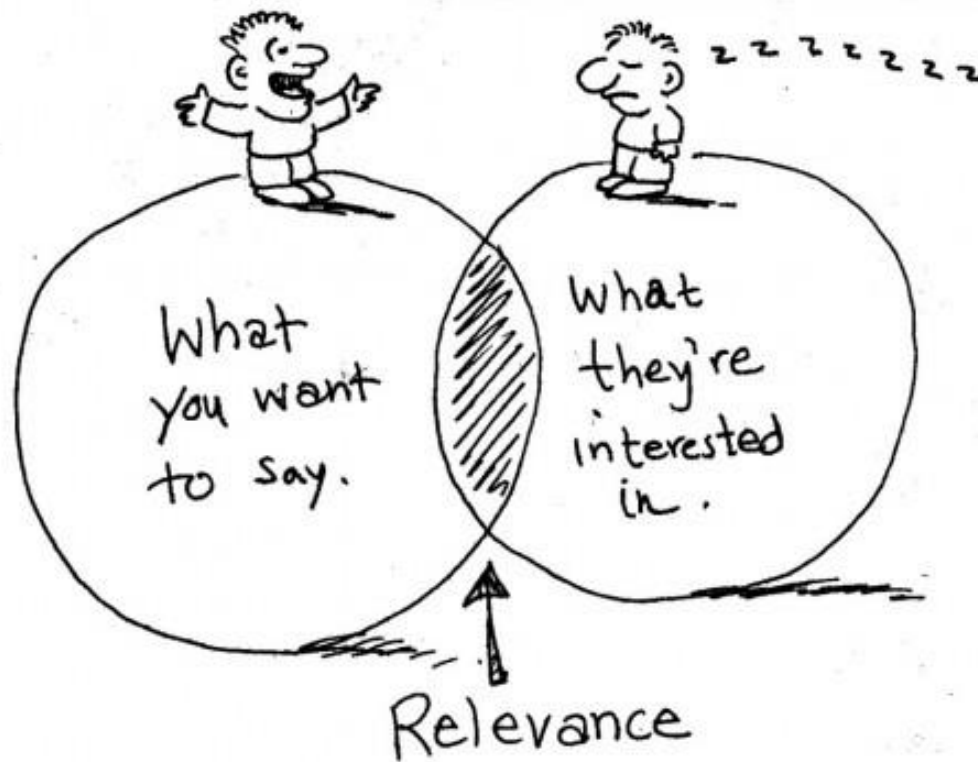
Published: Thursday, May 12th 2016, 8:50 am CST
Updated: Monday, May 16th 2016, 3:58 am CST

By Sally Pitts, Anchor / Reporter [CONNECT](#)

“You need to read this. I'm not sure if a response is necessary, especially if the facts quoted are correct. Are they?”

Needs Based Planning

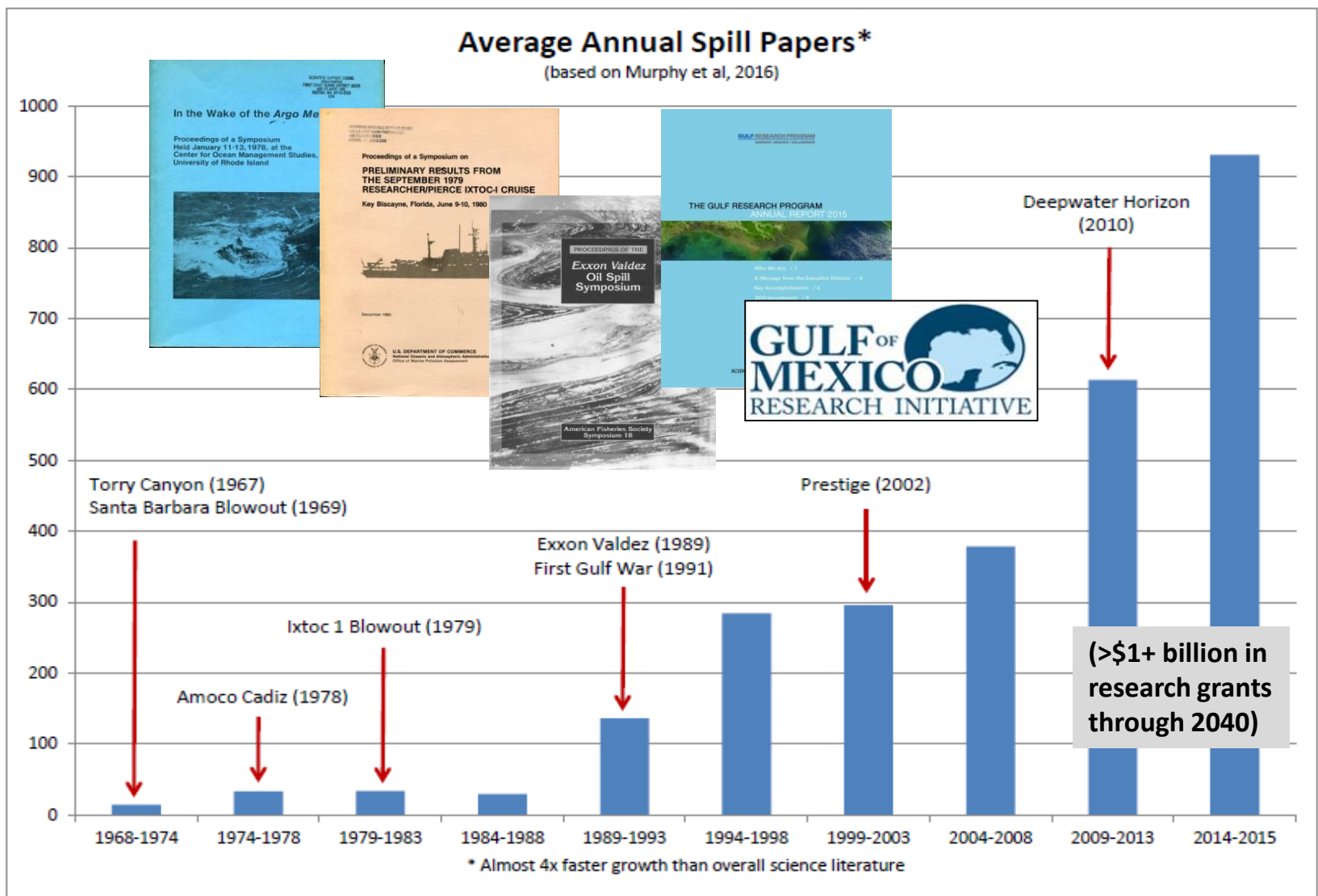
- Scientifically meritorious projects
- Relevancy review



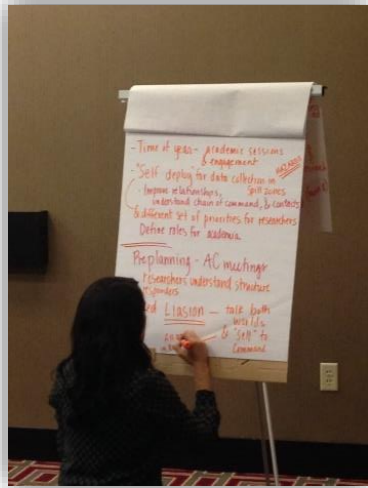
Case I: Technological Disasters

The Fire Hose

(Graphic credit: NOAA OR&R)



Needs, Research and then Application



Deepwater Horizon Oil Spill Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement
 FEBRUARY 2016

GoMRI-sponsored Special Section Articles

Microbial Dynamics Following the Macondo Oil Well Blowout across Gulf of Mexico Environments

BARBARA R. ZETZ, ANDREA B. THOMAS, AND J. R. E. COLETTA

The Macondo blowout resulted in a large-scale oil spill in 2010 that is estimated to have spilled 200 million gallons of oil into the Gulf of Mexico. The spill had significant impacts on the environment, including the death of many marine animals and the closure of many fishing areas. This special section of articles provides a comprehensive overview of the microbial dynamics following the Macondo oil well blowout across Gulf of Mexico environments. The articles discuss the impact of the spill on the microbial community structure and function, the role of oil-degrading bacteria, and the potential for bioremediation. The authors also discuss the challenges of studying microbial dynamics in the field and the need for improved methods and techniques.

Highlights: Review the marine ecosystem's natural response to the spill; the role of oil-degrading bacteria; the impact of the spill on the microbial community structure and function; the potential for bioremediation.

Keywords: Microbial dynamics; oil spill; Gulf of Mexico; Macondo; bioremediation.



Environmental Science and Technology

Surface Evolution of the Deepwater Horizon Oil Spill Patch: Combined Effects of Circulation and Wind-Induced Drift

Yan He, Fei Wang, Yueshan Li, Xianjun Li, Chen X. Tang, Liang Zhang, and Robert M. Joyce

Abstract: The surface evolution of the Deepwater Horizon oil spill patch is investigated using satellite remote sensing and numerical modeling. The results show that the patch evolved from a single core to a multi-core structure over time, primarily due to the combined effects of ocean circulation and wind-induced drift. The patch's size and shape changed significantly, and it eventually dispersed into smaller patches across the Gulf of Mexico. The findings provide valuable insights into the transport and fate of oil spills in the open ocean.

Keywords: Oil spill; Deepwater Horizon; satellite remote sensing; ocean circulation; wind-induced drift.

OIL SPILL SCIENCE
 SEA GRANT PROGRAMS OF THE GULF OF MEXICO

THE SEA GRANT AND GOMRI PARTNERSHIP
 The National Ocean Service (NOOS) and the Gulf of Mexico Research Consortium (GoMRI) have entered into a partnership to support the Deepwater Horizon Oil Spill Research and Restoration Program. This partnership aims to advance the science of oil spill response and restoration in the Gulf of Mexico.

TOP 5 FREQUENTLY ASKED QUESTIONS ABOUT THE DEEPWATER HORIZON OIL SPILL
 Emily Moring-Douglass, Monica Wilson, Lenora Graham, Chris Holt, Stephen Semper, and Colton Savin

This outreach publication addresses the five most common questions that tourists have surrounding how the oil was cleaned up, where the oil moved in the environment, and the ecological and health impacts of the spill.

In April 2010, the Deepwater Horizon (DWH) oil spill occurred about 60 miles off the coast of Louisiana, spilling 272 million gallons of oil into the Gulf of Mexico. Roughly 1.8 million gallons of oil were spilled into the Gulf of Mexico. The spill had significant impacts on the environment, including the death of many marine animals and the closure of many fishing areas. This publication provides answers to the most frequently asked questions about the spill.

QUESTION #1: Is Gulf of Mexico oil safe to eat?
 The DWH oil spill left some concerns about eating fish caught from the spill. Ongoing monitoring has confirmed that fish caught from the spill are safe to eat.



Sustained Engagement

OIL SPILL SCIENCE
SEA GRANT PROGRAMS OF THE GULF OF MEXICO

THE SEA GRANT AND COMET PARTNERSHIP
The release of the Great Escalator increased the pressure on state and Great Lakes resources to work to create a sustainable economy and environment. There are 10 university-based Sea Grant programs throughout the continental U.S. These programs are currently supported by the National Oceanic and Atmospheric Administration and the teams to which the program are attached.

In the immediate aftermath of the Deepwater Horizon spill, BP committed \$200 million over a 10-year period to create the Gulf of Mexico Research Initiative, or GOMRI. It is an innovative research program that studies the effects of significant incidents on the environment and public health, as well as develop improved spill mitigation, oil detection, characterization and remediation technologies. GOMRI is led by an industry and academic 20-member research board.

The Sea Grant of Gulf of Mexico research centers identified the need to create a research center funded by GOMRI and other, but only one center was awarded research to research.

TOP 5 FREQUENTLY ASKED QUESTIONS ABOUT THE DEEPWATER HORIZON OIL SPILL
Emily Mung-Douglas, Monica Wilson, Larissa Graham, Chris Nole, Stephen Sampler, and Colton Smith

This outreach publication addresses the five most common questions that tourists have surrounding how oil was cleaned up, where the oil moved in the environment, and the ecological and health impacts of the spill.

In April 2010, the Deepwater Horizon (DWH) oil spill occurred about 50 miles offshore of Louisiana. Approximately 172 million gallons of oil entered the Gulf of Mexico. Roughly 1.8 million gallons of the dispersant Corexit 9500A and 8500A (referred to as Corexit in this document) were used to break-up the oil to reduce the amount of oil reaching the shoreline.

QUESTION #1: Is Gulf seafood safe?
The DWH oil spill left some concerns with consumers about eating Gulf seafood. Ongoing monitoring has shown that seafood harvested from waters that open to fishing is safe to eat.

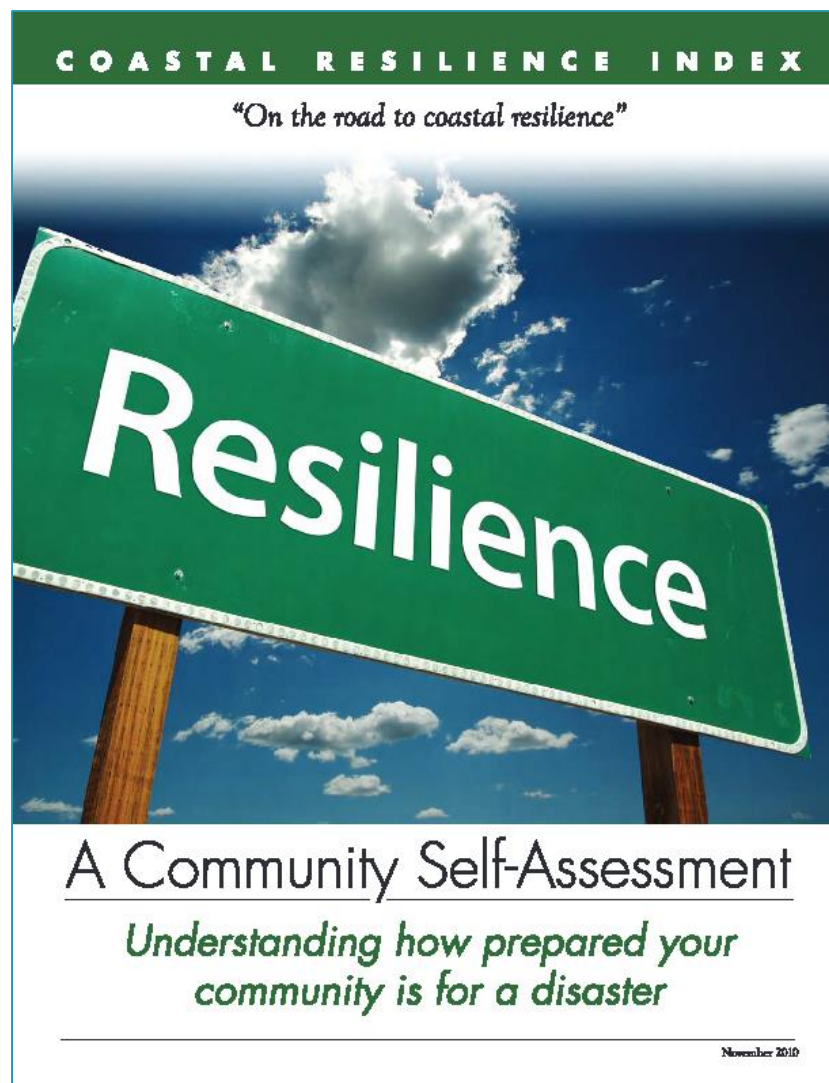
Fishing of oil slick at the site of the Deepwater Horizon oil spill.

Sea Grant
GULF OF MEXICO
http://gulfsea.grant.ku.edu



Case II: Natural Disasters

Community Resilience Index



Use of CRI

- **Used in at least 55 communities in Gulf of Mexico region**
- **Addressing needs through small grant programs**
- **Trained more than 117 facilitators**
- **Used in other regions and countries**
 - New England, Pacific Islands, Mexico, Bangladesh)

Additional Resilience Indices

FISHERIES RESILIENCE INDEX



A Business Self-Assessment

Understanding How Prepared
Your Business is for a Disaster



"On the road to fisheries resilience"

TOURISM RESILIENCE INDEX



A Business Self-Assessment

Understanding How Prepared
Your Business is for a Disaster



"On the road to tourism resilience"

PORTS RESILIENCE INDEX



A Port Management Self-Assessment

Understanding How Prepared Your
Port Organization is for a Disaster



"Navigating to port resilience"

**“Build a bridge of trust
that will hold the weight of truth.”**



More information

masgc.org

gulfseagrant.org

Backup slides

Extension



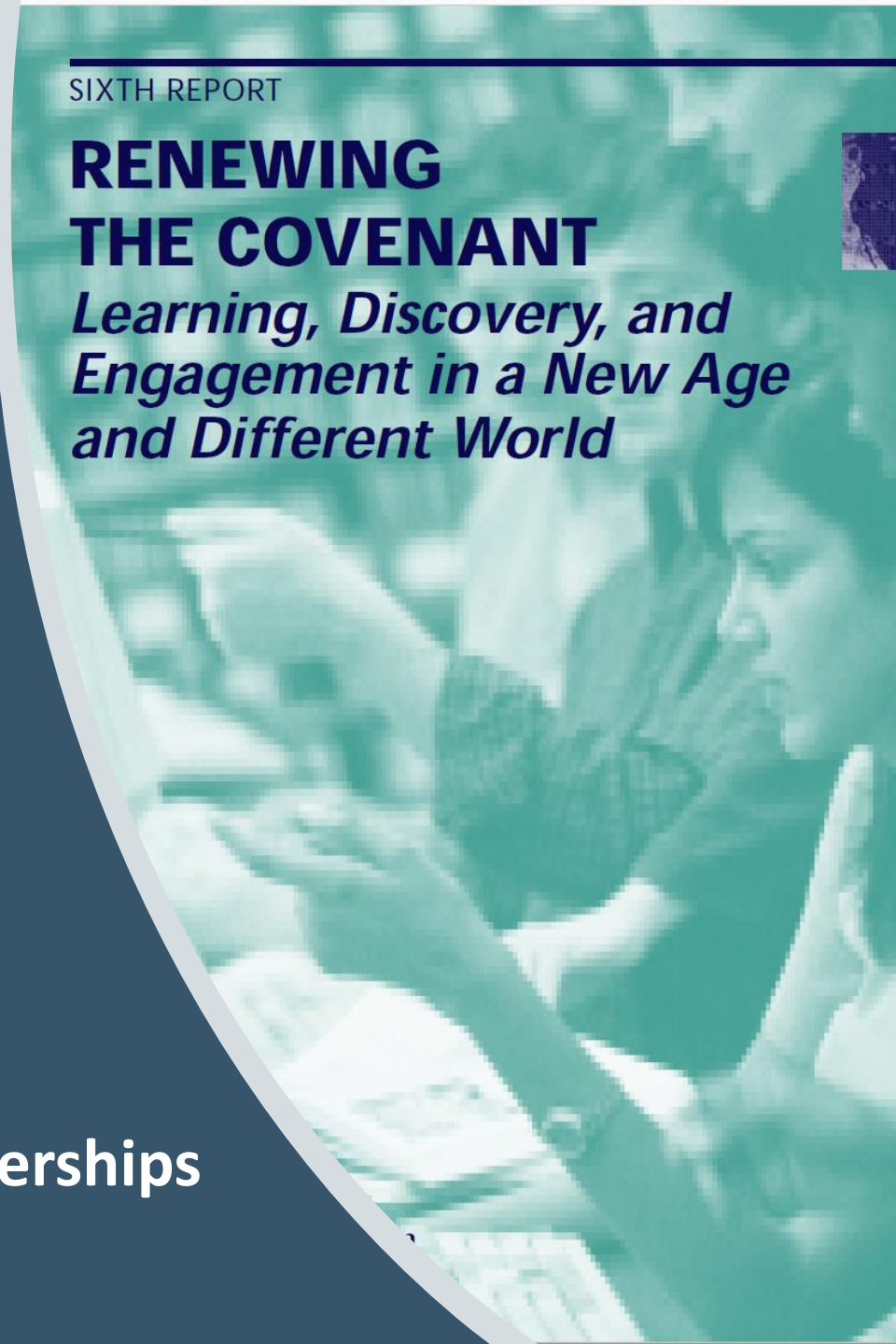
The Engaged Institution

- Responsive
- Respect for partners
- Academic neutrality
- Accessible
- Integration
- Coordination
- Resource (invest in) partnerships

SIXTH REPORT

RENEWING THE COVENANT

*Learning, Discovery, and
Engagement in a New Age
and Different World*



Case III: Research to Application

Integrated into Response

- **Regional Response Team 6 created a liaison position for Sea Grant to serve in incident command**
- **Sea Grant participates in oil spill drills and exercises**
- **Sea Grant presents at and provide publications for oil spill response trainings**

Reaching Broader Audiences



Audubon Aquarium
of the Americas
A Facility of Audubon Nature Institute



Driving Priorities: Developing the RFP



Mississippi-Alabama
Sea Grant Consortium
2018-21 Strategic Plan



- **Strategic Plan**
- **Industry and Agency
Advisory Council**



Initial Pilots

Florida

- Ft. Myers Beach
- Marco Island
- Sarasota
- Cedar Key
- Steinhatchee



Alabama

- Orange Beach
- Gulf Shores
- Dauphin Island
- Bayou La Batre



Mississippi

- Pascagoula
- Ocean Springs
- Biloxi
- Pass Christian



Louisiana

- St. Tammany Parish
- Cameron Parish



Texas

- Port Arthur



Transforming: Results to Application

- **Pre-award match-making**
 - Research PI
 - EOE professional with expertise in focus area
- **Develop EOE plan**
- **Separate pool of resources**
- **Activities extend research to application**
- **EOE continues beyond life of research project**