

A satellite image of the Gulf of Mexico region, showing the Gulf of Mexico, the Yucatan Peninsula, and parts of North and Central America. The image is oriented vertically, with the Gulf of Mexico in the center. The surrounding landmasses are shown in various shades of green, brown, and tan, indicating different vegetation and terrain types. The Gulf of Mexico is a deep blue color, with some lighter blue areas near the coastlines, possibly indicating shallow waters or coral reefs. The image is set against a dark blue background.

# Gulf Research Program Strategic Plan: An Overview

December 11, 2014

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Kim Waddell, and Maggie Walser

## **GULF RESEARCH PROGRAM**

National Academy of Sciences  
National Academy of Engineering  
Institute of Medicine  
National Research Council



# The National Academy of Sciences



The National Academy of Sciences (NAS) is:

- an independent, nonprofit organization
- established in 1863 by the Lincoln Administration
- to provide independent advice to the Nation on science, engineering, and medicine
- not a government agency



# The National Academies

- “The National Academies” is used to include NAS plus:
  - National Academy of Engineering (NAE - est. 1964)
  - Institute of Medicine (IOM - est. 1970)
  - National Research Council (NRC - est. 1916) (operating arm)
- Intellectual leadership from volunteer experts, chosen for expertise, balance, and objectivity.
- 200+ independent reports/year
- Also research grants, fellowships, workshops, etc.
- More than 7000 volunteer experts every year.



# The Gulf Research Program

- A 30-year, \$500 million program funded by the *Deepwater Horizon* criminal plea agreements
- Directed to operate in three realms:
  - Oil system safety
  - Environment
  - Human health
- Conduct activities in three areas:
  - Research and development
  - Education and training
  - Environmental monitoring



# Penalty Payment Schedule and Implications

The NAS will receive \$500 million between 2013 and 2018 for the Gulf Research Program

	BP payments	Transocean payments
2013	\$5 million	\$2 million
2014	\$15 million	\$7 million
2015	\$45 million	\$21 million
2016	\$80 million	\$60 million
2017	\$90 million	\$60 million
2018	\$115 million	

- The companies are prohibited from having any role
- Funds will be expended within 30 years – ***the program will start small, and evolve quickly to include a range of activities***



# Program Planning – Leadership

**Thomas O. Hunter (Chair)**

Sandia National Laboratories  
(retired)

**Porfirio Alvarez-Torres**

Consortium for the Marine  
Research Institutes for the Gulf of  
Mexico and the Caribbean

**Kim A. Anderson**

Oregon State University

**Elliot L. Atlas**

University of Miami

**Patrick A. Barnes**

BFA Environmental and Limitless  
Vistas

**Donald F. Boesch**

University of Maryland

**J. Ford Brett**

Petroskills, Inc.

**William L. Chameides (NAS)**

Duke University

**Danielle Deane**

The Raben Group

**Bernard D. Goldstein (IOM)**

University of Pittsburgh

**William (Monty) Graham**

University of Southern Mississippi

**Sara J. Graves**

University of Alabama, Huntsville

**Myron P. Gutmann**

University of Colorado

**Anthony H. Knap**

Texas A&M University

**Nancy G. Leveson (NAE)**

Massachusetts Institute of  
Technology

**Jane Lubchenco (NAS)**

Oregon State University

**Michael Macrander**

Shell Oil Company

**Alonzo L. Plough**

Robert Wood Johnson Foundation

**Christopher M. Reddy**

Woods Hole Oceanographic Institution

**Liesel A. Ritchie**

University of Colorado

**Jonathan M. Samet (IOM)**

University of Miami

**Richard Sears**

Stanford University

**LaDon Swann**

Mississippi-Alabama SeaGrant  
Consortium

**Isiah M. Warner**

Louisiana State University

*Thanks to the initial Advisory Group,  
especially Barbara Schaal, chair.*

# Program Planning – Process

## Advisory Group planning process:

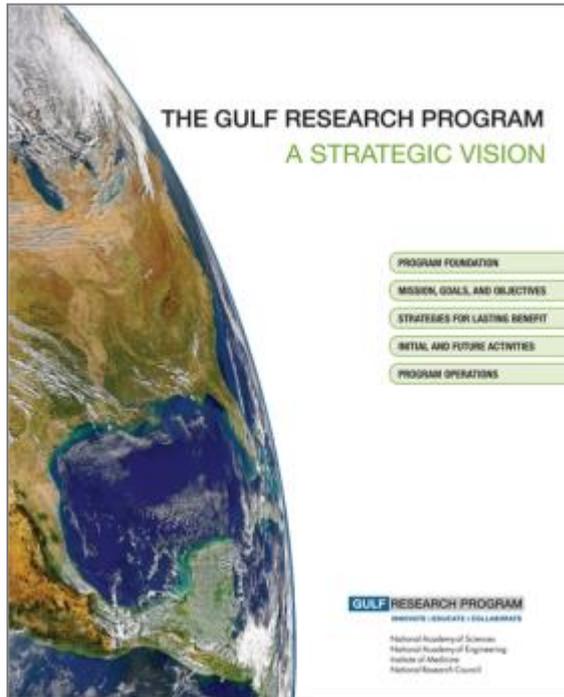
- New Orleans, LA (July 2013)
- Washington, DC (August 2013)
- Mobile, AL (September 2013)
- Thibodaux, LA (September 2013)
- Tallahassee, FL (October 2013)
- Long Beach, MS (November 2013)
- Austin, TX (November 2013)
- Houston, TX (February 2014)
- Tampa, FL (June 2014)
- Two virtual meetings (Oct. & Dec. 2013) w/ 100+ participants
- Numerous outreach opportunities and presentations (>300+ people)
- Concept mapping exercise to incorporate input
- Monthly calls, working groups, etc.



Photo: NOAA

***Learn landscape, establish relationships, define purposes, produce a strategic plan, and design initial activities.***

# Program Mission



... will work to enhance oil system safety and the protection of human health and the environment in the Gulf of Mexico and other U.S. outer continental shelf areas ...

to improve understanding of the region's interconnecting human, environmental, and energy systems and fostering application of these insights to benefit Gulf communities, ecosystems, and the Nation.

*A framework to guide ongoing conversations about Program themes, priorities, and activities*

# Program Goals

## Goal 1:

Foster innovative improvements to safety technologies, safety culture, and environmental protection systems associated with offshore oil and gas development.

## Goal 2:

Improve understanding of the connections between human health and the environment to support the development of healthy and resilient Gulf communities and ecosystems.

## Goal 3:

Advance understanding of the Gulf of Mexico region as a dynamic system with complex, interconnecting human and environmental systems, functions, and processes to inform the protection and restoration of ecosystem services in the Gulf of Mexico.



*Photo: Lophelia II 2012 Expedition,  
NOAA-OER/BOEM*



# Objectives (2015-2020)

- Partner with industry, government, and academia to identify key opportunities to enhance the safety of offshore energy.
- Explore decision support systems for safe and environmentally sustainable offshore oil and gas development, disaster response, remediation.
- Provide research opportunities that improve understanding of how social, economic, and environmental factors influence community vulnerability, recovery, and resilience.
- Support research, long-term observations/monitoring, and information development to advance understanding of environmental conditions, ecosystem services, and community health and well-being in GoM.



# Objectives Continued (2015-2020)

- Support the development of future professionals and leaders—in science, industry, policy, and education—who apply cross-boundary approaches that span oil system safety, environmental resources, and human health.
- Identify opportunities for knowledge transfer between the Gulf of Mexico and other U.S. outer continental shelf regions.
- Support activities to improve understanding and use of scientific information by the public and policy makers.

# Strategies for Lasting Benefit

- Long-term, Cross-boundary Focus
- Science to Advance Understanding
- Science to Serve Community Needs
- Synthesis and Integration
- Coordination and Partnerships
- Leadership and Capacity-Building





# What's Next?



*Photo: NOAA Okeanos Explorer Program, Gulf of Mexico 2014 Expedition*

# 2014-2016 Plans

Begin implementation of “The Gulf Research Program: A Strategic Vision,” including

- Transition from Advisory Group to Advisory Board
- Orientation of new members to ensure smooth transition
- Announced first funding opportunities in early December 2014
- Continue planning major activities
- Continue community interactions (2015 Board Meetings: March 10-11, June 25-26, October 13-14)



*Photo: @iStock*



# Initial R&D Competition: Exploratory Grants

**Small “seed grants” to explore and catalyze innovative ideas, approaches, methodologies, and/or collaborations**

**Announced Dec. 1; LOI Due Jan. 29; Full Applications Due Mar. 30**

- Approaches for Effective Education and Training of Workers in the Offshore Oil and Gas Industry
- Linking Ecosystem Services Related to and Influenced by Oil and Gas Production to Human Health and Wellbeing

**Expected to be announced in 2015 (awarded in 2016):**

- Scenario Planning and Decision Support for Oil-Spill Response
- Connecting Environmental and Health Data for Transdisciplinary research, Monitoring, and Syntheses
- Building Resilience in Human and Environmental Systems



# Initial Education Competition: Fellowships

**First contribution to capacity building in the Gulf**

**to help prepare a future generation of professionals prepared to work at the intersections of oil system safety, environmental resources, and human health and to think holistically about the region's challenges.**

- Three initial activities:
  - ***Early-Career Research Fellowships (Applications Due Feb. 6)***
  - ***Science Policy Fellowships (Applications Due Feb. 6)***
  - ***Christine Mirzayan Science and Technology Policy Graduate Fellowship program***
- Open to a broad range of disciplines, including the social and behavioral sciences, health and medicine, engineering, the earth and life sciences, and relevant interdisciplinary fields.
- Gulf-focused, includes mentoring and professional development; develop a network/cohort over time



# Initial Environmental Monitoring Activity

## **Tapping the Potential of Existing Observation and Monitoring Data through Integration and Synthesis**

A competition for activities that use existing data from physical, biological, and social systems, and show how such information can be used to advance the objectives of the Gulf Research Program.

- Applicants will be challenged to propose hypothesis-driven interdisciplinary activities.
- Applicants will be encouraged to propose activities that integrate data from different disciplines, different sectors (public, private, academic) and take a Gulf-wide, regional approach.
- Proposed activities could include use of existing but previously unavailable data, integrating new data, or analyzing existing data with new methodologies.
- Emphasis on projects that lead toward outputs that inform decision making, translation into human benefits, or other actionable outcomes.

# Expected Challenges

- Strengthening focus
- Investing strategically
- Coordinating, leveraging, and partnering
- Avoiding overlap and duplication
- Supporting data management
- Supporting innovation
- Sustaining engagement and communicating effectively
- Building bridges that facilitate interdisciplinary thinking
- Measuring progress



*Photo: NOAA*



# Contact Information

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To download a copy of our strategic plan, please visit  
[www.nas.edu/gulf/vision](http://www.nas.edu/gulf/vision)

*To register to receive e-updates:*  
[www.nas.edu/gulf](http://www.nas.edu/gulf)