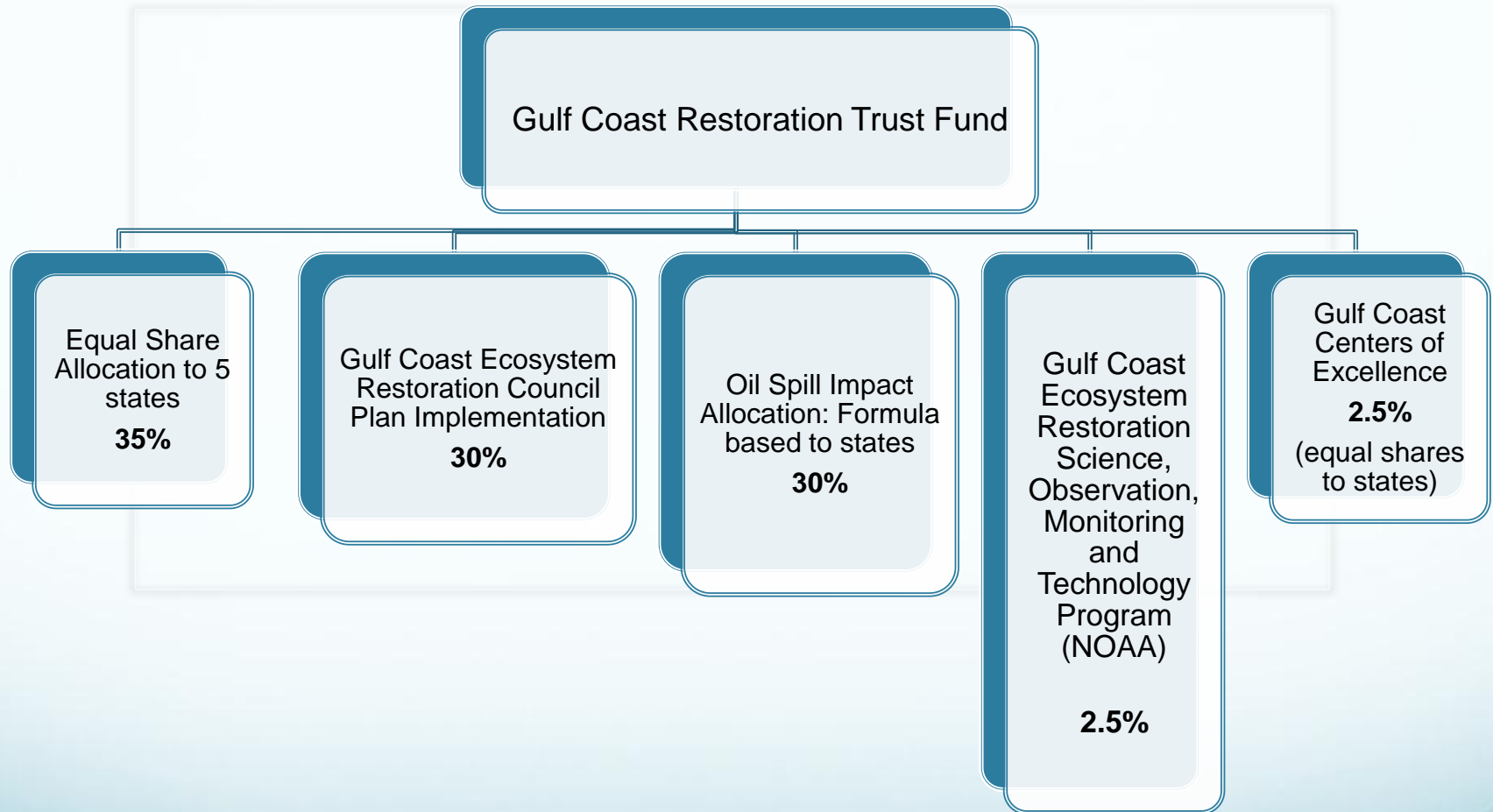


# The Center for Gulf Studies (CGS) *A Mississippi Research Center of Excellence (CoE)*

Led by The University of Southern Mississippi



# RESTORE\* Act Funding Allocations



*Slide courtesy of GoMURC*

# The Five RESTORE Disciplines for the Centers of Excellence

1. Coastal and deltaic sustainability, restoration, and protection, including solutions and technology that allow citizens to live in a safe and sustainable manner in a coastal delta in the Gulf region
2. Coastal fisheries and wildlife ecosystem research and monitoring in the Gulf Coast region
3. Offshore energy development, including research and technology, to improve the sustainable and safe development of energy resources in the GoM
4. Sustainable and resilient growth, economic and commercial development in the Gulf Coast region
5. Comprehensive observation, monitoring, and mapping



# CGS Mission

*The Center for Gulf Studies (CGS), a partnership of Mississippi research universities, seeks sound, comprehensive science and technology-based understanding of chronic and acute stressors, both anthropogenic and natural, on the dynamic and productive waters and habitats of the northern Gulf of Mexico and seeks to facilitate sustainable use of the Gulf's important resources.*

# CGS Approach

## **RESTORE Discipline: Comprehensive observation, monitoring, and mapping of the Gulf of Mexico**

Development of a vertically-structured observing system, including:

- Adaptive and deployable platforms, sensors, and mapping systems to improve studies, monitoring and forecasts;
- A breadth of spatial and temporal scales;
- Exploratory approaches using observing and mapping platforms to identify and characterize novel biotechnologies;
- Event-driven impacts such as storms, earthquakes, and oil spills; and
- Data processing strategies, visualization tools and data products.



# CGS Approach

## **RESTORE Discipline: Coastal fisheries and wildlife ecosystem research and monitoring in the Gulf Coast Region**

Development and application of new, integrated ocean monitoring and observing technologies and data processing strategies for improved ecosystem knowledge and prediction:

- Comprehensive understanding of the productive northern Gulf ecosystem
- Watershed-to-deep Gulf
- Supporting development of integrative computational tools used in coastal resource management strategies

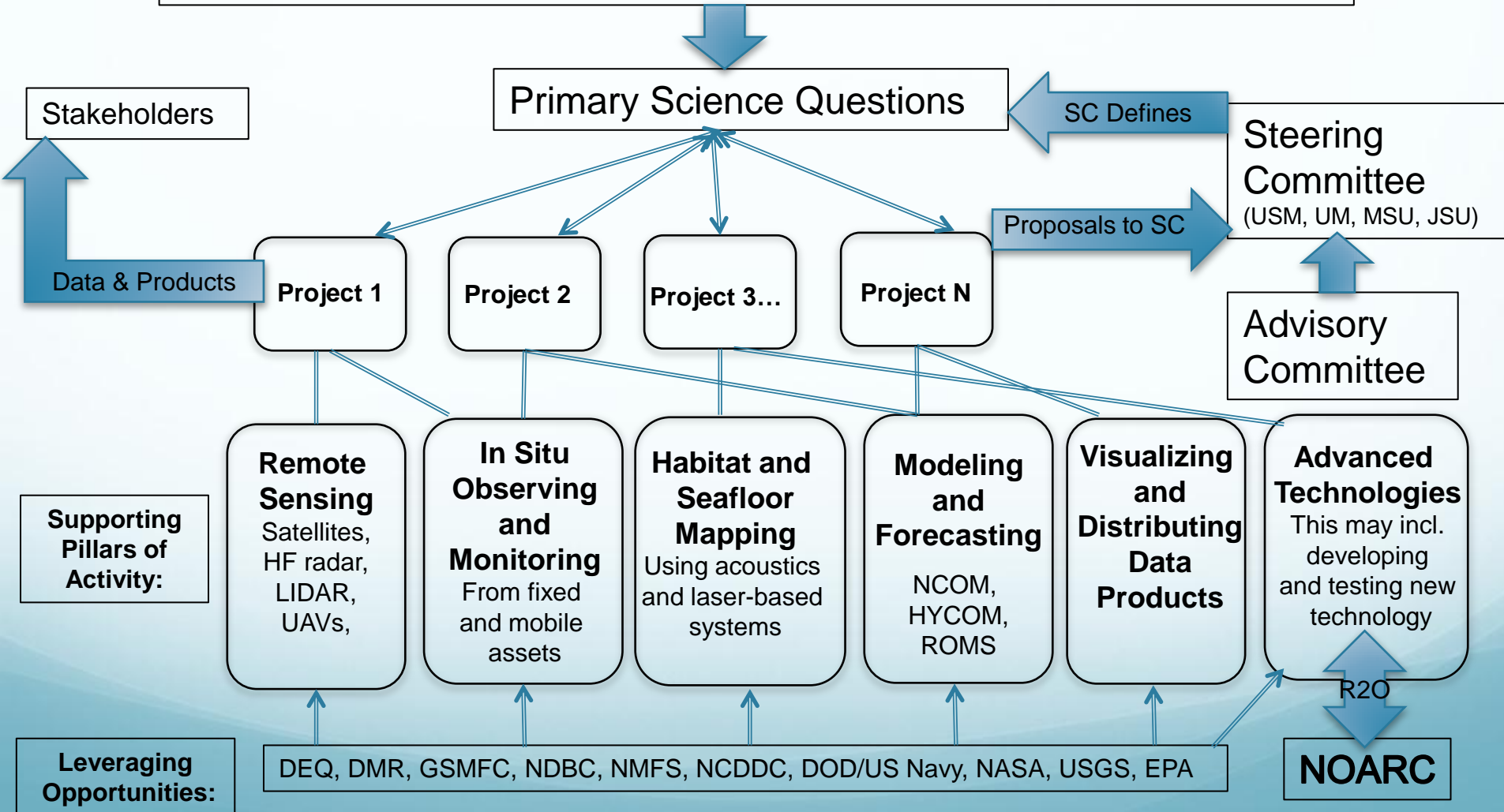
# CGS Approach

## **RESTORE Discipline: Offshore energy development, including research and technology to improve the sustainable and safe development of energy resources in the Gulf of Mexico**

- Development of unmanned and bottom-mounted deep observatory network to map and monitor communities and resources
- High-resolution seafloor mapping and photo-imaging of deepwater habitats, including sub-bottom profiling at oil seeps and gas hydrate locations
- Deployment of portable observatories for long-term in situ geochemical and microbial studies

# Center for Gulf Studies

Purpose: To establish a comprehensive observing, monitoring, and mapping program to understand and forecast ecosystem dynamics in the northern Gulf of Mexico





# Example Pillars of Activity

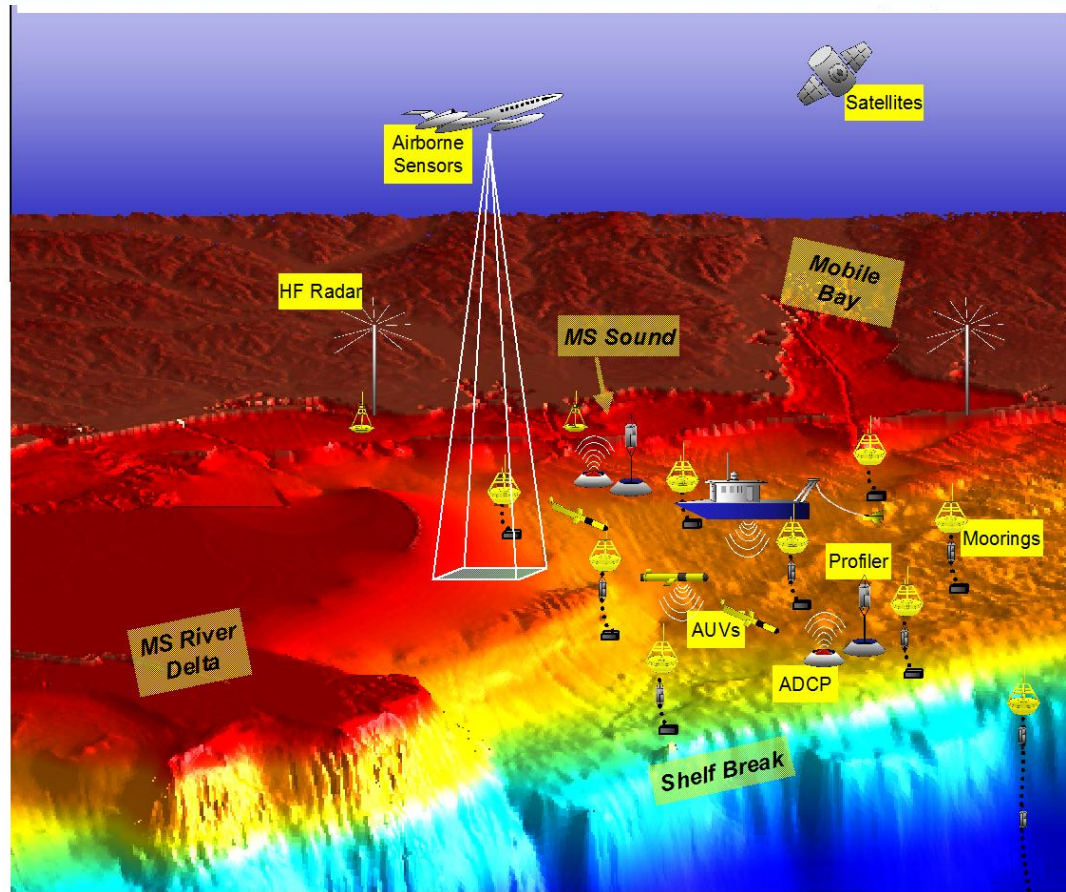


Image by Dr. Steven Lohrenz

# Leveraging Opportunities

- NOAA, NASA, US Navy, EPA, and USGS (all co-located at Stennis)
- Mississippi State Programs – Department of Environmental Quality, Department of Marine Resources, Mississippi Gulf of Mexico Commission
- Gulf-wide observing programs, such as Gulf of Mexico Coastal Ocean Observing System (GCOOS)
- Gulf-wide collaborations, such as Gulf of Mexico Alliance (GoMA)
- Other RESTORE activities, such as those funded through the Gulf Restoration Council, NOAA, the State of Mississippi, and the other States' Centers of Excellence
- National Ocean Applications Research Center (NOARC)
- Other University Consortia, such as GoMURC, and GoMRI Consortia

# Economic Impact

- Partner with NOARC to serve as the University-based research branch to conduct NOARC's research and development on new advanced technologies
- Work with economic development and technology transfer agencies such as Mississippi Development Authority (MDA), Mississippi Enterprise for Technology (MSET), the USM Business and Innovation Assistance Center (USM-BIAC), and the Mississippi State University Extension Service (MSU-ES) to transition research technologies into economic development
- Collaborate with existing and start-up marine technology companies working to develop or refine ocean technology products in the working research environment of CGS
- Develop marine technical training curricula through University, Community College and private sector partnerships

# Your ideas?

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