

The National Academies of
SCIENCES • ENGINEERING • MEDICINE



GULF RESEARCH PROGRAM

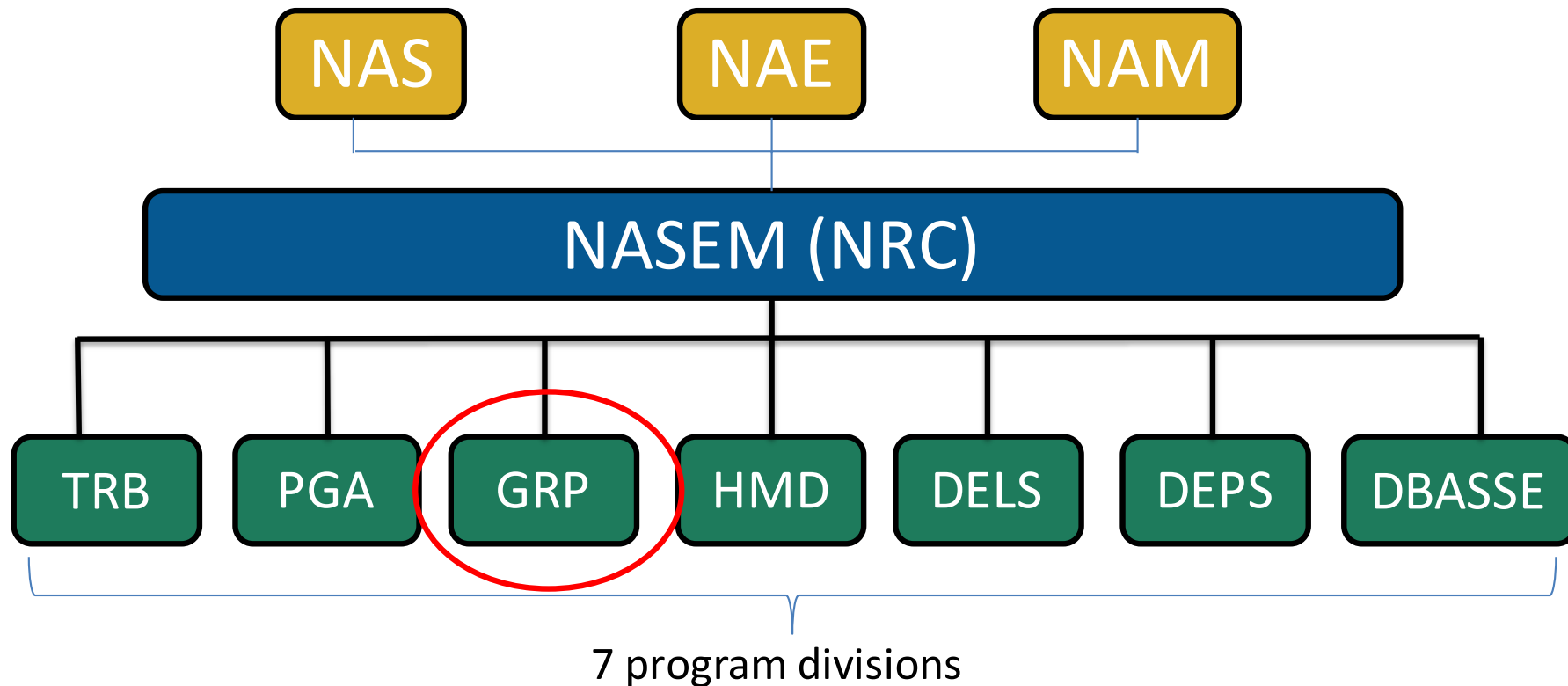
Introduction to the Gulf Research Program



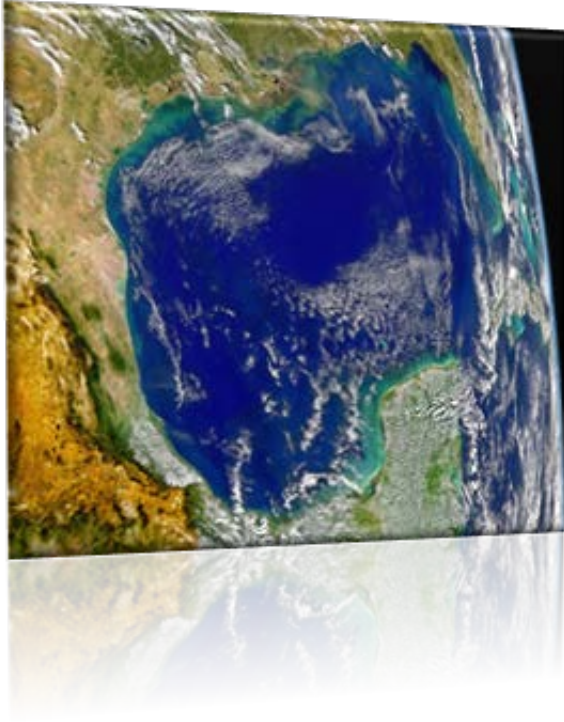
Gulf Research Program: Our Mandate

- Stewards of a **\$500 million endowment** from the Deepwater Horizon Oil Spill Criminal Settlement.
- **Charge:** “...establish a **program focused on human health and environmental protection** including issues relating to offshore drilling and hydrocarbon production and transportation in the Gulf of Mexico and on the United States’ outer continental shelf.”
- **Timeframe:** 30 years (2013-2043).
- **Purpose:** **carry out studies, projects, and other activities** in the public interest **that enhance** offshore safety, environmental protection, and **human health and community resilience**.
- **How:** The manner in which the studies, projects, and other activities are to be conducted will be **determined solely by NAS**.

How GRP Fits into NASEM

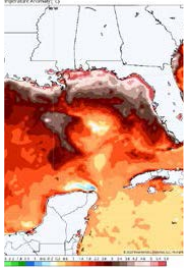


Where does the GRP Work?



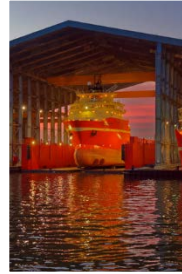
The GRP focuses its work on the Gulf of Mexico and other outer continental shelves of the United States where there is hydrocarbon production, and on their coastal zones. Where appropriate, this work may extend farther inland or into adjacent seas.

The Context of the GRP



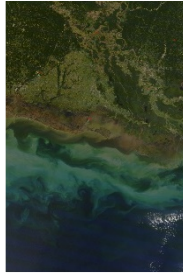
Transitions in Climate

- Changing climate within the Gulf of Mexico region



Transitions in Energy

- Shifting energy sources and uses



Transitions in the Gulf Coast

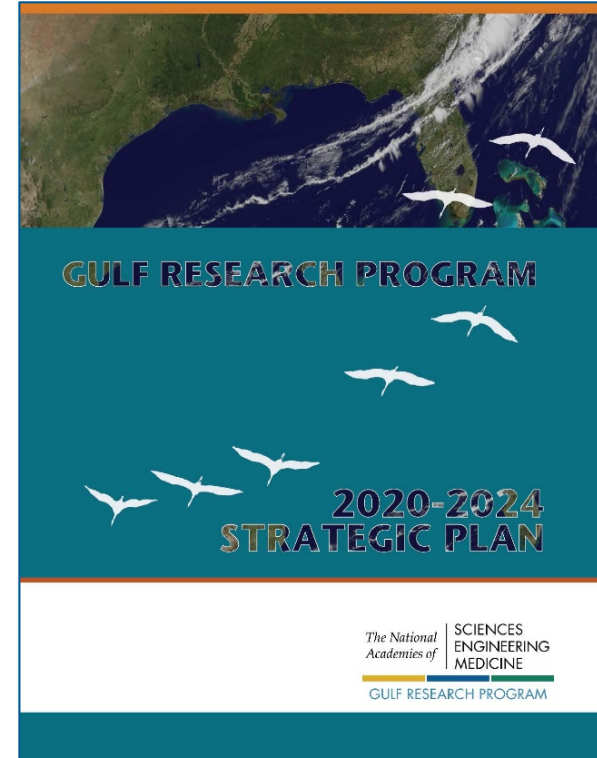
Transformations of human-natural systems

How will these transitions impact human health, livelihoods, social networks, culture, economies, etc.?

GRP Strategic Plan

Vision: A more safe, resilient, and sustainable future for the Gulf and all those who call the region home.

Mission: “Develop, translate, and apply science, engineering, and medical knowledge to enhance **offshore energy safety**, **environmental protection and stewardship**, and **human health and community resilience** in the Gulf region in ways that empower its citizens.”



GRP Division Committee

GRP EXECUTIVE OFFICE

Communications

Administration

Program Evaluation

Finance

GRP Program Boards

**OFFSHORE
ENERGY SAFETY**

**HEALTH &
RESILIENCE**

ENVIRONMENT

EDUCATION

DATA

Integrating Initiative #1 - Offshore Situation Room

Integrating Initiative #2 - Enhancing Community Resilience

Integrating Initiative #3 - Understanding Gulf Ocean Systems

Integrating Initiative #4 - Gulf Scholars Program

Integrating Initiative #5 - Data Fellowship Program

Integrating Initiative #6 - Consensus Study Series on Monitoring the Gulf for Progress and Change

Offshore Energy Safety

Lower the systemic risk and the likelihood of a catastrophic event and lessen the severity of consequences associated with offshore energy operations overall.

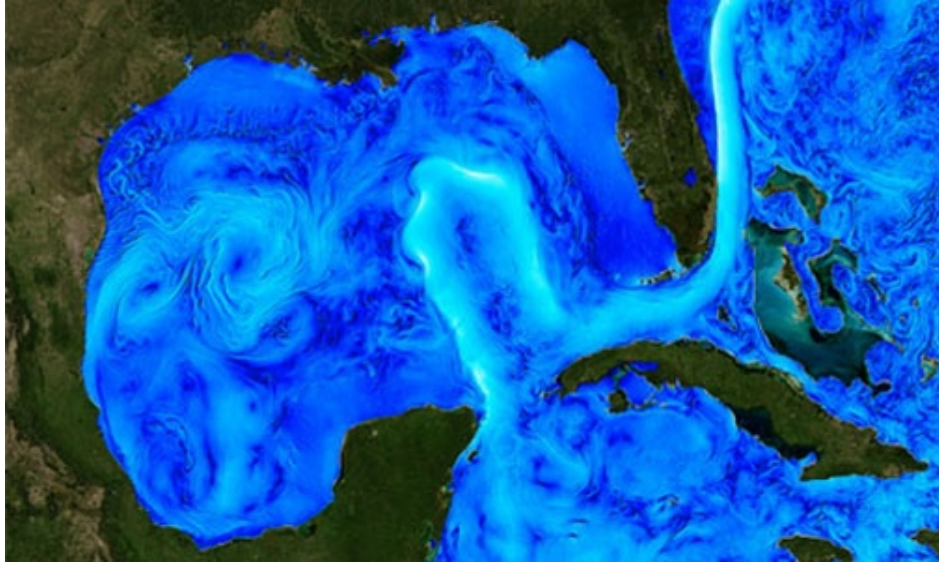


Health and Community Resilience

- **Reduce inequities** in health and community resilience
- **Advance research and practice** in health and community resilience
- **Build capacity** of communities to: 1) address the impacts of climate change and disasters on at-risk communities, and 2) sustain their disaster and climate resilience efforts.



Environmental Protection and Stewardship: Understanding Gulf Ocean Systems



- Dominant influence of the Loop Current and its eddies
- Improving forecasting while advancing understanding
- Safety of deepwater drilling and production
- Rapid intensification of tropical storms
- Sea-level variations
- Managing fisheries, the Dead Zone, harmful algal blooms, etc.

NASA: Photo from Space Station

Gulf Sea Level Variation and Rise & Mississippi River Delta Transitions



Education and Engagement

- Early Career Fellows
- Science Policy Fellows
- Gulf Scholars Program



Data, Analytics and Impact

Goal: Inform decision-making by identifying and making data, GRP program outcomes, and the best available scientific information accessible in the Gulf of Mexico region

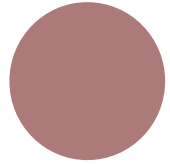
Objectives

- Identify critical data needs and useable resources through collaboration with Gulf partners.
- Support data discovery, integration, and synthesis activities within and across GRP program areas.
- Provide continuous program evaluation working with program leaders across the GRP and ensure program outcomes and impacts are communicated and shared.
- Ensure data produced through the GRP's activities and investments are made publicly available and adhere to findable, accessible, interoperable, and reproducible data principles to the fullest extent possible.

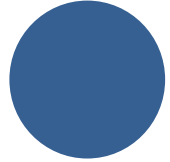


Gulf Futures

Gulf Futures (preliminary)



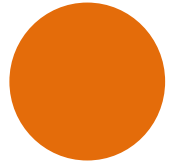
Cultivating and Retaining Talent in the Gulf Region



Safe, net-zero energy production for the Nation



Advancing Equity for a Climate Resilient Future



Living with a Dynamic Mississippi River Delta

Thank you!

The Gulf Health and Resilience Unit



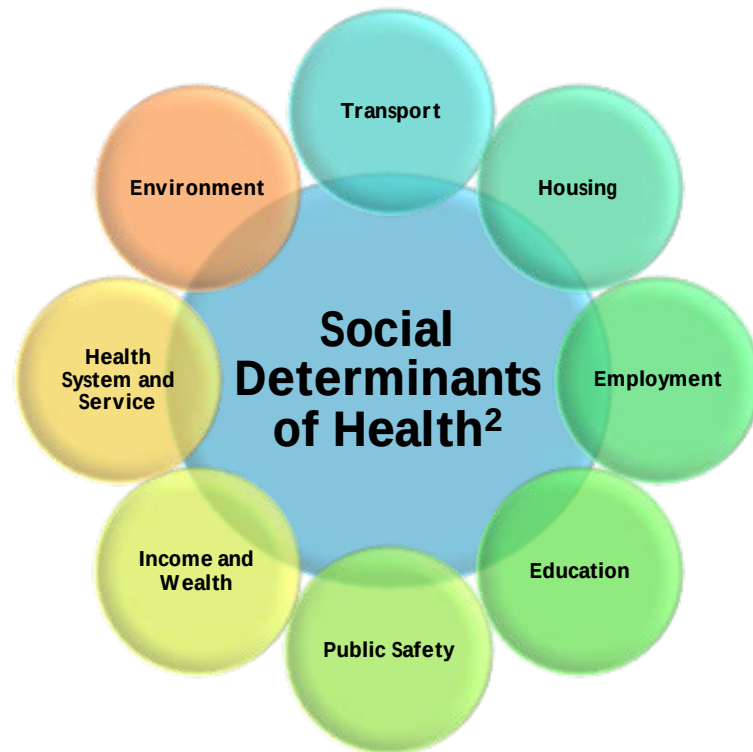
Gulf Health and Resilience Unit

Goal: Advance equity in health and climate resilience efforts in the GRP region.

Objectives

- Support equity-driven research and practice that address the impacts of climate change and disasters on health and community resilience.
- Elevate community priorities and promote community participation in health equity and resilience-building.
- Build the capacity of communities to: 1) address the impacts of climate change and disasters on at-risk communities; and 2) sustain their disaster and climate resilience efforts.

Health and Resilience Programmatic Frameworks



¹ From [Building and Measuring Community Resilience: Actions for Communities and the Gulf Research Program](#) (2019)

² From National Academy of Medicine Culture of Health Program's [Communities in Action: Pathways to Health Equity Conceptual Model](#)

Gulf Health and Resilience

- **Climate change is a threat multiplier** and driver of compound disasters.
 - Climate change will continue to impact and displace communities.
 - Climate impacts exacerbate inequities.
 - Climate adaptation is means-based.
- **Compound disasters** have complex social and community health impacts that are not well understood.
- **At-risk populations are disproportionately impacted by disasters** hindering their ability to adequately prepare for, respond to, recover from, and mitigate climate impacts and other disasters.
- There is a **disconnect between science and data** and policy and decision-making.

Gulf Health and Resilience Unit: Two Main Efforts

- **Gulf Health and Resilience Board**
 - Overseen by the Gulf Health and Resilience Board (GHRB)
 - Purpose: Supports research and projects that develop approaches and solutions that **advance science and understanding** in health and community resilience.
- **Enhancing Community Resilience (EnCoRe) Initiative**
 - Overseen by a Standing Committee
 - Purpose: A concerted community engagement program that **applies science** in select communities to support local health and community resilience efforts.

GHRB Projects

Funding Opportunities

- Strengthening Partnerships and Engaging Networks: Leveraging **Communities of Practice** to Build Equity into Local Efforts
- Building the Next Generation of STEMM Leaders in the Field of **Environmental Justice**

Other Projects

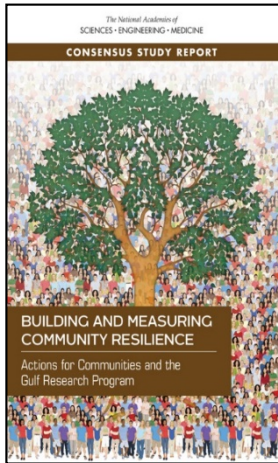
- **Compounding Disasters** in Gulf Coast Communities, 2020-2021: Impacts, Findings, and Lessons Learned (*consensus study*)
- **Thriving Communities** Webinar Series

Projects in Development

- Identifying the complexity of challenges and approaches to **managed retreat** of Gulf Coast communities (workshop series and consensus study)
- **Mental health** consequences of disasters

Enhancing Community Resilience (EnCoRe)

A **long-term, multi-year community engagement program** that will partner directly with select communities across the Gulf states to build and enhance health and community resilience at the local level.

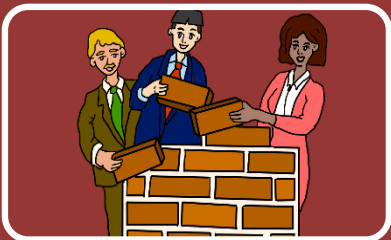


Recommendation 5. The Gulf Research Program should ***develop a major, coordinated initiative around building or enhancing community resilience*** in communities across the Gulf region.

Recommendation 6. For each community in the Gulf Research Program (GRP) community resilience initiative, the GRP should develop and employ a community resilience framework that includes:

1. community engagement to engender buy-in around resilience priorities, goals, and leadership;
2. resilience across multiple community capitals;
3. measures and ways to track progress that are useful to decision makers;
4. investments in resilience that result in multiple benefits.

EnCoRe Community Engagement



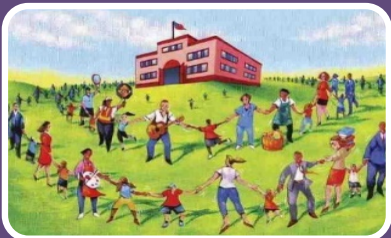
Relationships and Partnerships

- **Build, strengthen, and facilitate relationships and networks** among diverse stakeholders within and across communities.
- **Partner with local stakeholders** through on-the-ground community engagement.



Supporting Local Efforts

- **Elevate the priorities of underserved communities** as fundamental to community resilience.
- **Build local capacity** to achieve desired health and resilience outcomes, as defined by the community.
- **Support local scientific, academic, and community-building efforts** that improve



Working with Communities

- **Enhance health and community resilience** at the local level through the six community capitals and the social determinants of health.
- **Measure health and community resilience** to track progress over time.
- **Equip the next-generation** with the experiences, knowledge, and tools they'll need to become future leaders of their communities.

EnCoRe Projects

Funding Opportunities

- Using **Data to Develop Equitable Outcomes** or Solutions to Climate Hazards and Other Disasters
- Innovative **Community Engagement Methods**

Other Projects

- **Community Engagement in Southeast Texas** to enhance community capacity and resilience to floods
- **Multi-stakeholder Collaboration** to Build Resilience in Gulf Coast Communities (*in development*)





Thank You