



From Response to Coordinated Research
Established 2011

www.gulfresearchinitiative.org

After the Deepwater Horizon oil spill...



Credit: AP Photo/Charlie Riedel

GoMRI is not part of the Natural Resource Damage Assessment, the Clean Water Act Penalties, the National Academy's Gulf Research Program, or the National Fish and Wildlife Foundation's Gulf Environmental Benefit Fund.

GoMRI was established as a broad, independent 10-year research program.



Credit: SAUL LOEB/AFP/Getty Images

Research Board

- Rita Colwell – UMD & JHU
- Margaret Leinen – SIO
- Debra Benoit – Nicholls State
- Peter Brewer – MBARI
- Richard Dodge – NOVA SE
- John Farrington – WHOI
- Kenneth Halanych – Auburn
- David Halpern – NASA
- William Hogarth – FIO
- Cecilie Mauritzen - NIVA
- Raymond Orbach – Tx Austin
- Jürgen Rullkötter – University of Oldenburg, Germany
- David Shaw – MSU
- Rick Shaw – LSU
- John Shepherd –University of Southampton, UK
- Bob Shipp – South Alabama
- Burton Singer – Florida
- Ciro Sumaya – Texas A&M
- Dennis Wiesenburg – USM
- Dana Yoerger – WHOI
- Michael Carron – GOMA PD*
- Charles Wilson – GOMA CSO*

**Ex Officio*

Mission and Goal

MISSION: to implement an independent research program that will

- (1) Study the effects of the *Deepwater Horizon* incident and the potential associated impact of this and similar incidents on the environment and public health and
- (2) Develop improvements for spill mitigation, oil detection and characterization, and advanced remediation technologies.

GOAL: to improve society's ability to understand, respond to and mitigate the impacts of petroleum pollution and related stressors of the marine and coastal ecosystems

Research Themes

1. **PHYSICAL DISTRIBUTION**, dispersion, and dissolution of petroleum, its constituents, and associated contaminants under the action of physical oceanographic processes, air-sea interactions, and tropical storms
2. **CHEMICAL EVOLUTION and BIOLOGICAL DEGRADATION** of the petroleum/dispersant system and subsequent interactions with coastal, open-ocean, and deep-water ecosystems
3. **ENVIRONMENTAL EFFECTS** of the petroleum/dispersant system on the sea floor, water column, coastal waters, beach sediment, wetlands, marshes and organisms, and the science of ecosystem recovery
4. **TECHNOLOGY DEVELOPMENTS** for improved response, mitigation, detection, characterization, and remediation associated with oil spills and gas releases
5. **PUBLIC HEALTH** impacts of oil spills including behavioral, socioeconomic, environmental risk assessment, community capacity, and other population health considerations and issues

Scientific Integrity

- GoMRI uses National Science Board peer evaluation protocols to select funded research
- Independent reviews are comprised of scientific peers not affiliated with institutions who lead proposed projects to avoid conflict of interest in the selection of funded research
- All reviewers sign conflict of interest and non-disclosure statements
- Individual researchers will comply with professional standards as defined by the National Academies of Science
- All GoMRI-funded researchers conduct independent and objective work with no influence from BP
- Researchers independently publish their results in peer-reviewed scientific journals with no requirement for BP approval

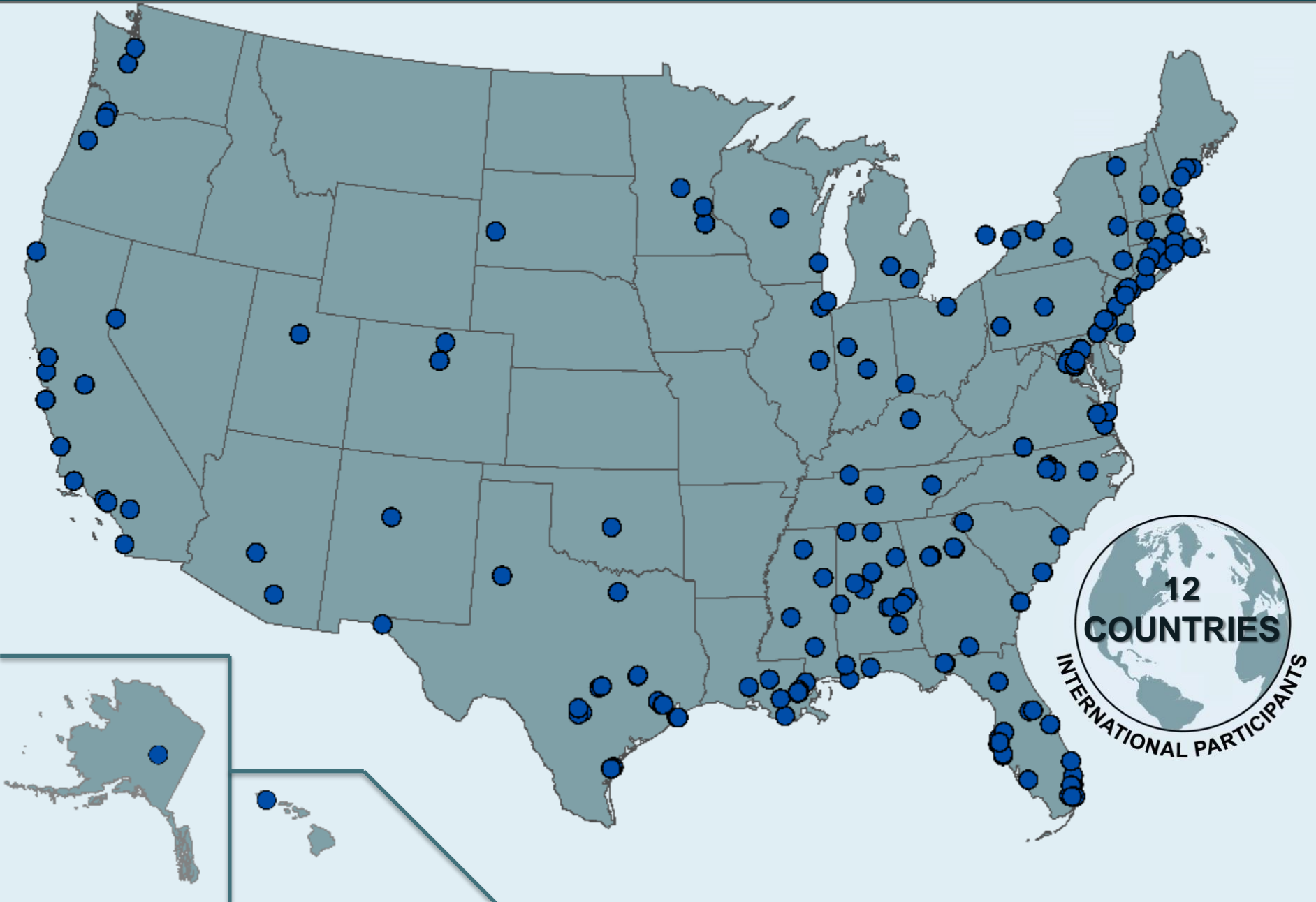
Funded Research to Date = \$353.6M

- Alternating RFPs for consortia (> 3 institutions) and small research teams (1-4 investigators).
- 41 states
- 240 academic institutions
- 16 countries

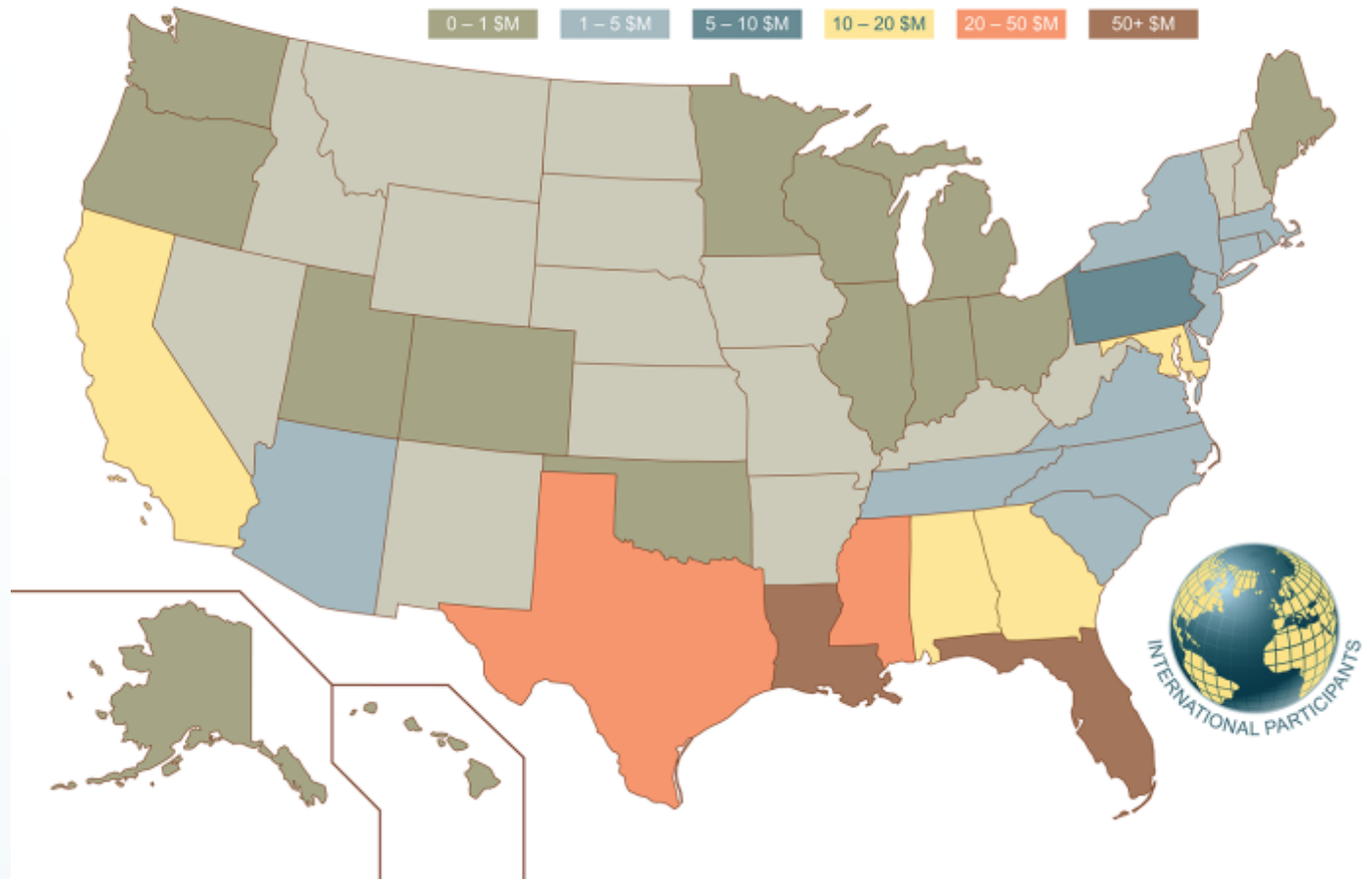
As of Jan 2016:

- >637 scientific peer-reviewed publications
- >2300 scientific presentations and posters
- > 3200 scientists
- ~800 graduate students

Grants Distribution



Grants Distribution



Word Cloud RFP I , II and IV Proposals



Top Journals

- *Environmental Science & Technology*
- *Marine Pollution Bulletin*
- *Deep Sea Research II – Topical Studies in Oceanography*
- *PLoS ONE*
- *Langmuir*
- *Ocean Modeling*
- *Energy & Fuels*
- *Journal of Geophysical Research – Oceans*
- *Bioscience*
- *Geophysical Research Letters*

Published Science – Food Web



**Methane-Eating Bacteria Contributed
to Carbon Entering Food Web**



**Concurrent Rise and Fall of Fish
Lesions and Oil Contamination**

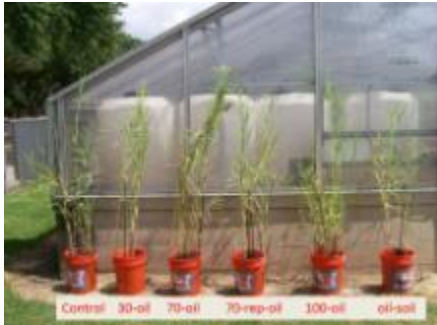


**PAHs in Mississippi Seafood Below
Levels of Concern**

Published Science – Marshes



Recovery and Loss in Oiled Louisiana Marshes



Mix of Resilience and Vulnerability of Oiled Marsh Grass



Decades-Long Persistence of Harmful Hydrocarbons in Marshes

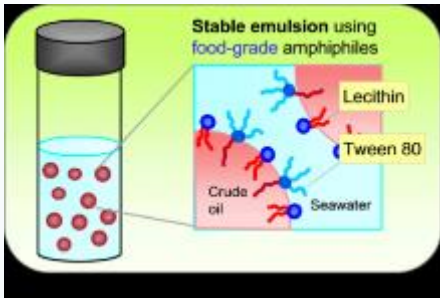
Published Science – Dispersants



Study Finds Ecofriendly Clay Delivers and Improves Oil Spill Treating Agents



Carbon Black Particles as an Alternative or Supplement for Oil Dispersants



Efficient Food-Grade Emulsifier as Dispersant Alternative

Published Science – Beaches

Lingering Presence of Hydrocarbons along the Alabama Shoreline

Study Extends Precise Analysis of Oxygenated Products in Weathered Oil

Dispersants Can Move Hydrocarbons Faster and Deeper into Gulf Sand



Collaborative Science Community

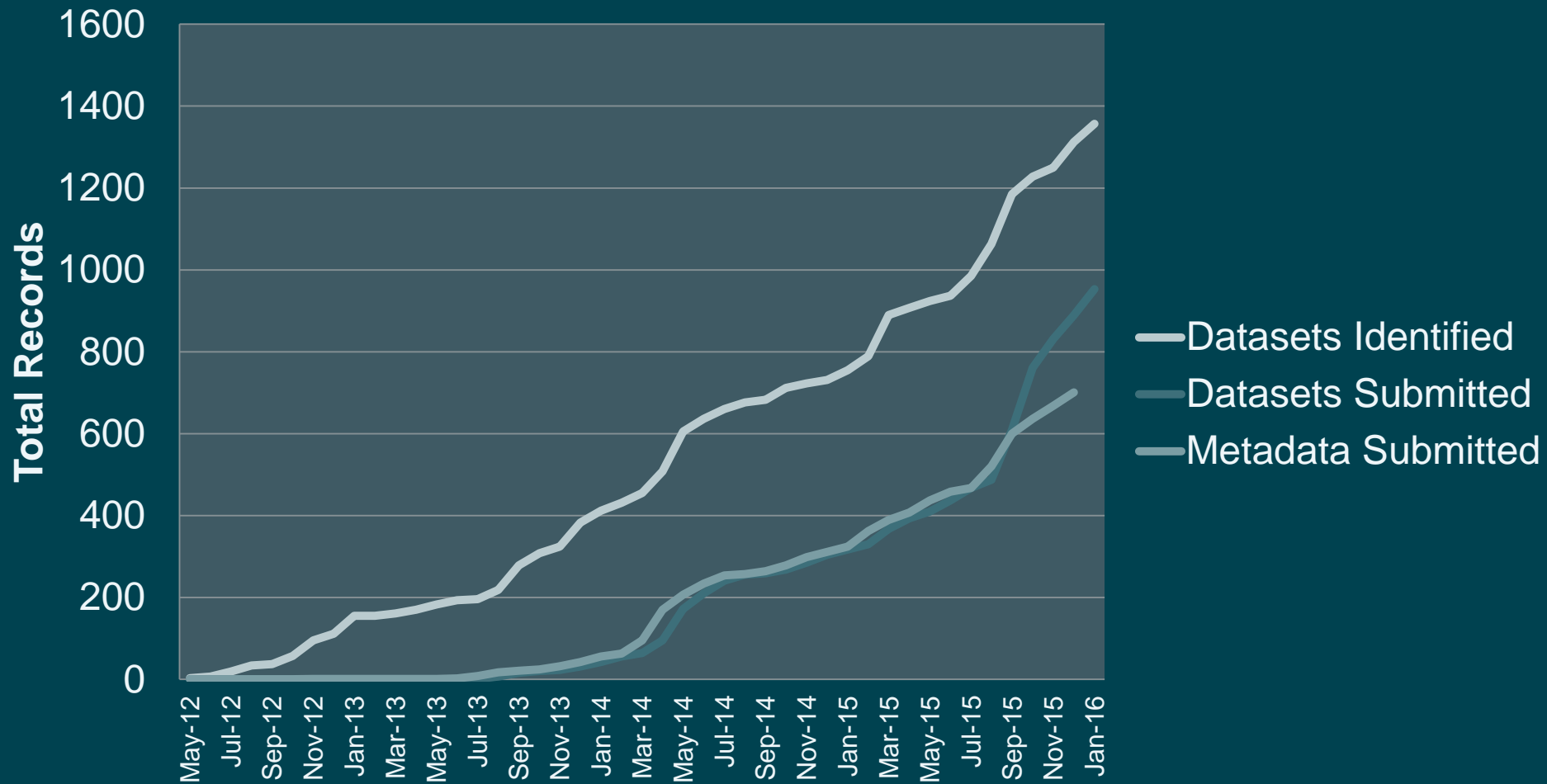
- **GoMRI Network of Scientists**
 - Hercules Gas Blowout
 - Galveston Bay Oil Spill
- **Multi-Consortia Expert Teams**
 - Hydrocarbon Inter-calibration Experiment
 - Marine Oil Snow and Sedimentation and Flocculate Accumulation Workshop
 - Dispersants Forum Workshop



Gulf of Mexico Research Initiative Information & Data Cooperative

- **GRIIDC mission: to ensure a data and information legacy that promotes continual scientific discovery and public awareness of the Gulf of Mexico ecosystem.**
- **GRIIDC maintains the scientific datasets resulting from GoMRI-funded research and assists researchers with data archiving and data interoperability among GoMRI and other datasets.**

Data Records Submitted to GRIIDC





953
DATASETS



288
INSTITUTIONS



242
PROJECTS



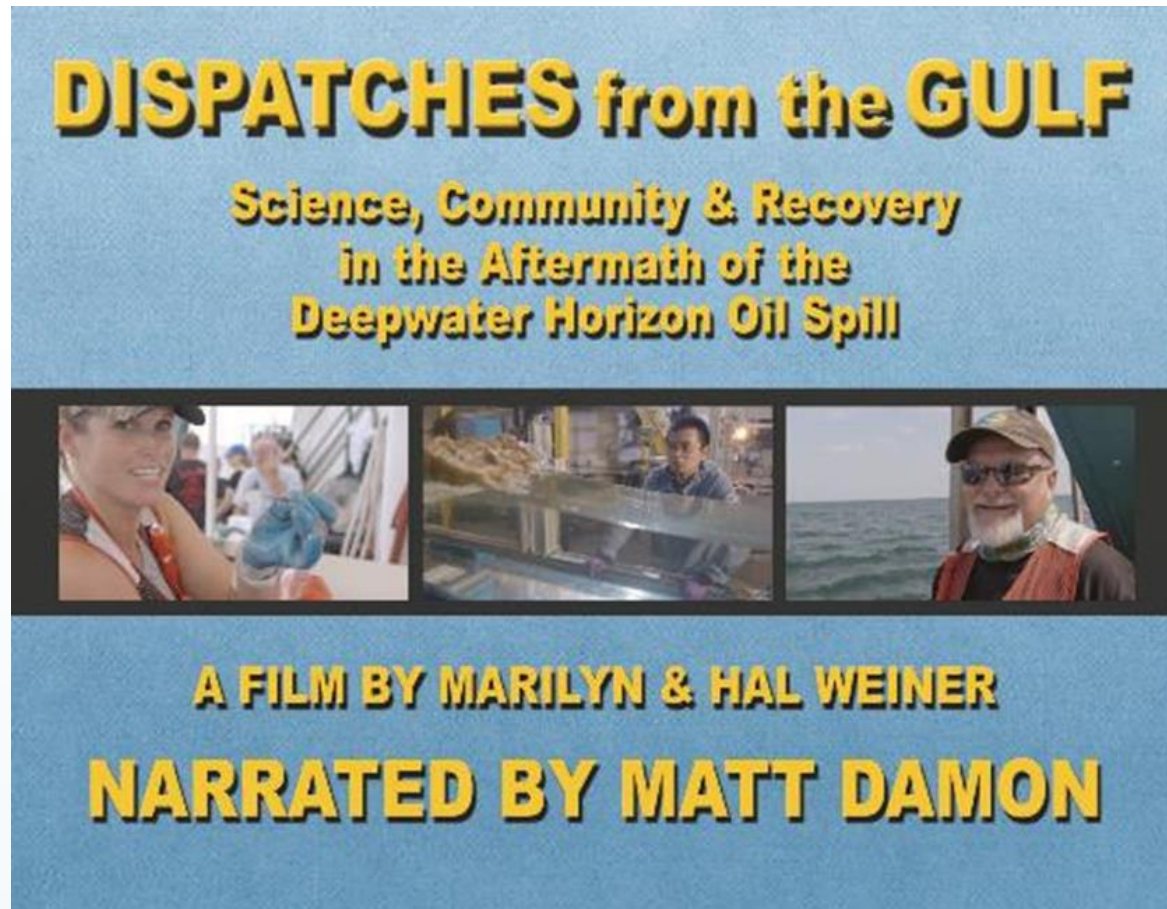
3241
RESEARCHERS

Education & Outreach

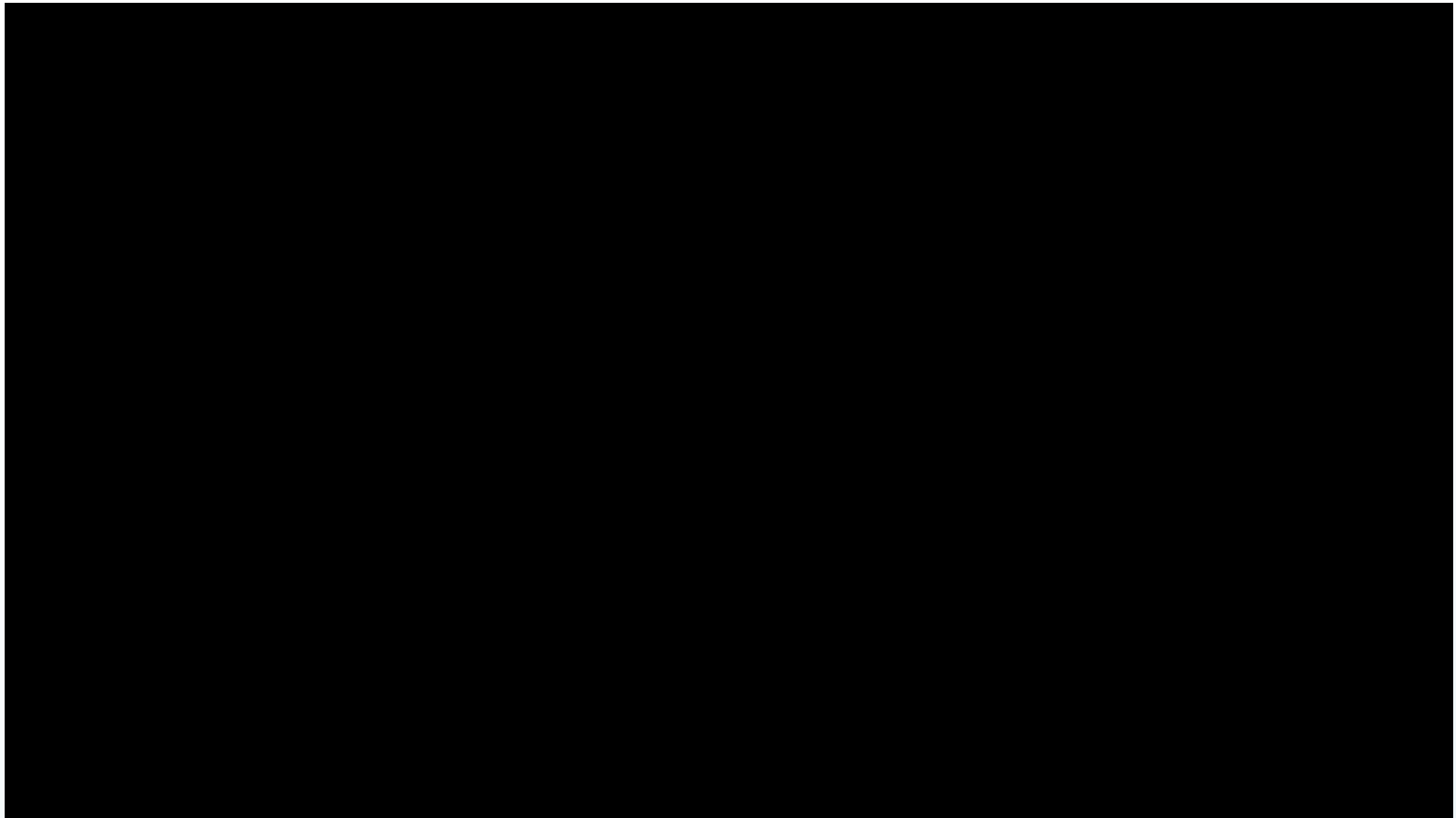
- Next Generation Scientists
- Science Conventions & Public Events
- Website Stories, Newsletters, eNews
- Media Events, Documentaries, Podcasts
- Sea Grant, Smithsonian Ocean Portal, Screenscope



Smithsonian Debut March 25, 2016



Smithsonian Debut March 25, 2016





2016 Gulf of Mexico

Oil Spill & Ecosystem
Science Conference

February 1-4, 2016 • Marriott Tampa Waterside, Tampa, Florida



GULF RESEARCH PROGRAM
INNOVATE | EDUCATE | COLLABORATE



GOMURC
GULF OF MEXICO UNIVERSITY RESEARCH COLLABORATIVE



GULF OF
MEXICO
RESEARCH INITIATIVE