GULF OF MEXICO RESEARCH INITIATIVE

Final Activities/Synthesis

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Deepwater Horizon

Credit: AP Photo/Charlie Riedel

GoMRI is not part of Nat'l Resource Damage Assessment or Clean Water Act Penalties

Credit: SAUL LOEB/AFP/Getty Images

GoMRI is not part of the National Academy of Sciences or RESTORE Science Program or Gulf Restoration Council

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Mission and Goal

MISSION: 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: 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

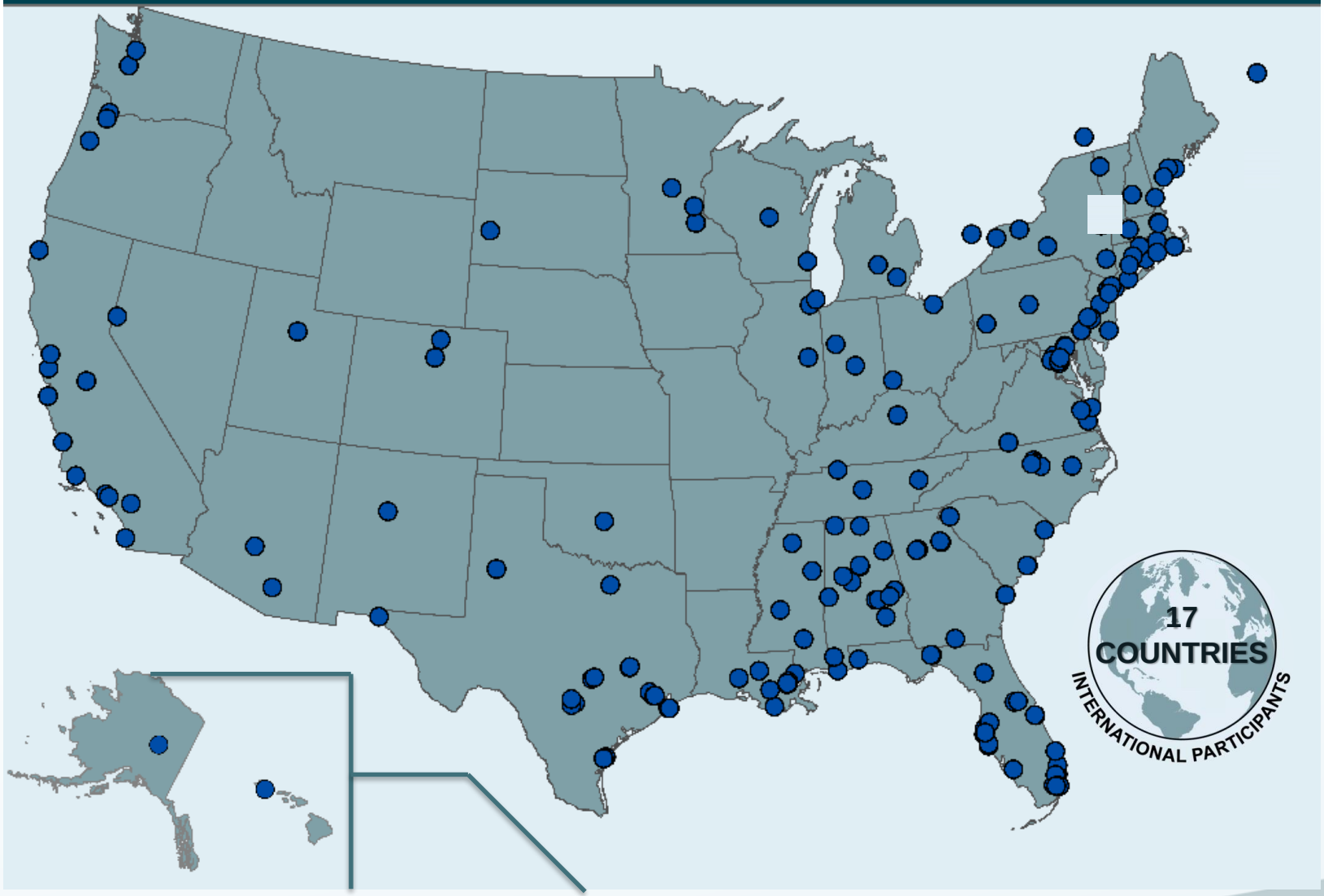
2. **CHEMICAL EVOLUTION and BIOLOGICAL DEGRADATION** of the petroleum/dispersant system and subsequent interactions with coastal, open-ocean, and deep-water ecosystems

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

GoMRI Grants Distribution



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GoMRI Output Statistics

- Ref. Journal Articles, Books and Book Chapters
- Data (GRIIDC)
- Student Supported
- US States/Countries

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Synthesis Workshops

- **Core Area 1 – Plume & Circulation Observations & Modeling**
- **Core Area 2 – Fate of Oil & Weathering: Biological & Physical-Chemical Degradation**
- **Core Area 3 – Ecological/Ecosystem Impacts**
- **Core Area 4 – Human Health and Socioeconomic Impacts**
- **Core Area 5 – Ecosystem Services, Human Health and Socioeconomic Impacts**
- **Core Area 6 – Microbiology, Metagenomics & Bioinformatics**
- **Core Area 7 – Integrated/Linked Modeling System**
- **Core Area 8 – Knowledge Exchange with User Communities: Lessons Learned and Operational Advice**

- **Additional: GoMRI Dispersant Related Research Findings**

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5 Key Questions for GoMRI-Sponsored Workshops

- **What was the state of the science ("baseline") before Deepwater Horizon?**
- **What have we learned? (Critical assessment)**
- **What major gaps in knowledge still exist?**
- **How can we best apply what we have learned? (What will be the impact – how do we make a difference?)**
- **Where do we go from here?**

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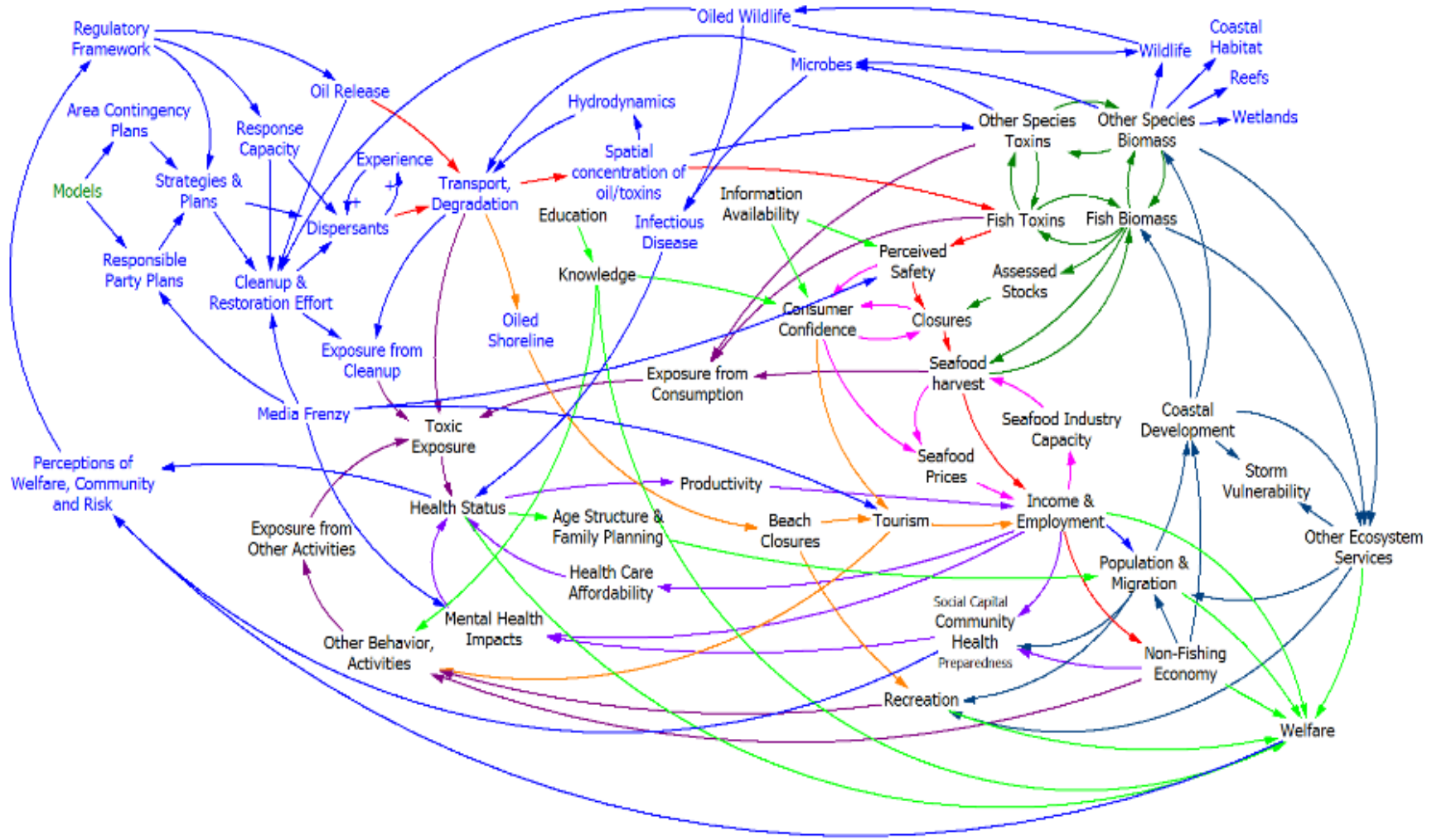
Core 7 Ventana Conceptual Model



Communication & Outreach

- Gulf State Sea Grant Programs
- Gulf of Mexico Alliance
- Website, Newsletters, Social Media
- Media Events, Documentaries, Podcasts
- Smithsonian Ocean Portal, Screenscope

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Sea Grant

gulfseagrant.org/oilspilloutreach

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Data Management
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.**

2020 Gulf of Mexico Oil Spill & Ecosystem Science Conference

One Gulf
Healthy Ecosystems, Healthy Communities

February 3 - 7, 2020 in Tampa Florida

Sponsors and Partners

GoMRI, NAS(Gulf of Mexico Program), NOAA, EPA, BOEM, GOMURC, GOMA, COL

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Questions? Comments?

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