



Establishing a Gulf of Mexico
Data Cooperative

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Mission of GoMRI

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.

Funded Research to Date

- Year One Block Grants - \$45M, 149 Projects (closing)
- Summer 2011 Bridge Grants (RFP III) - \$1.5M, 17 Projects (completed)
- Year 2-4 Consortia Grants (RFP I) - \$110M, 8 Consortia (closing)
- Year 3-5 Investigator Grants (RFP II) - \$18.5M, 19 projects (in progress)
- Year 5-7 Consortia Grants (RFP IV) - \$140M, 12 Consortia (just started)

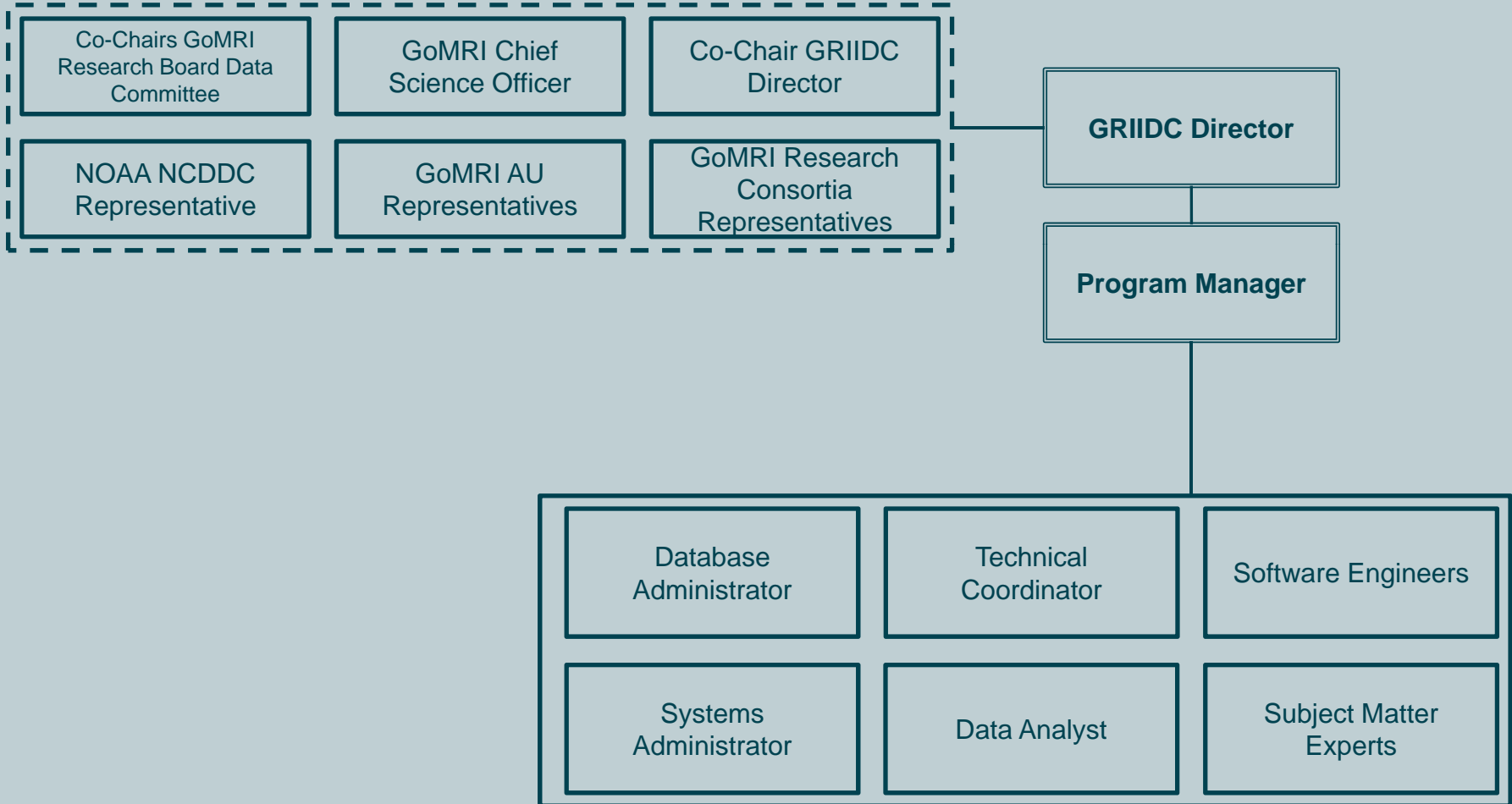
- As of April 2015
 - 2,730 researchers at 241 institutions in 41 states and 16 countries

Mission of GRIIDC

To ensure a data and information legacy that promotes continual scientific discovery and public awareness of the Gulf of Mexico ecosystem.

GRIIDC Organization

GRIIDC Advisory Committee



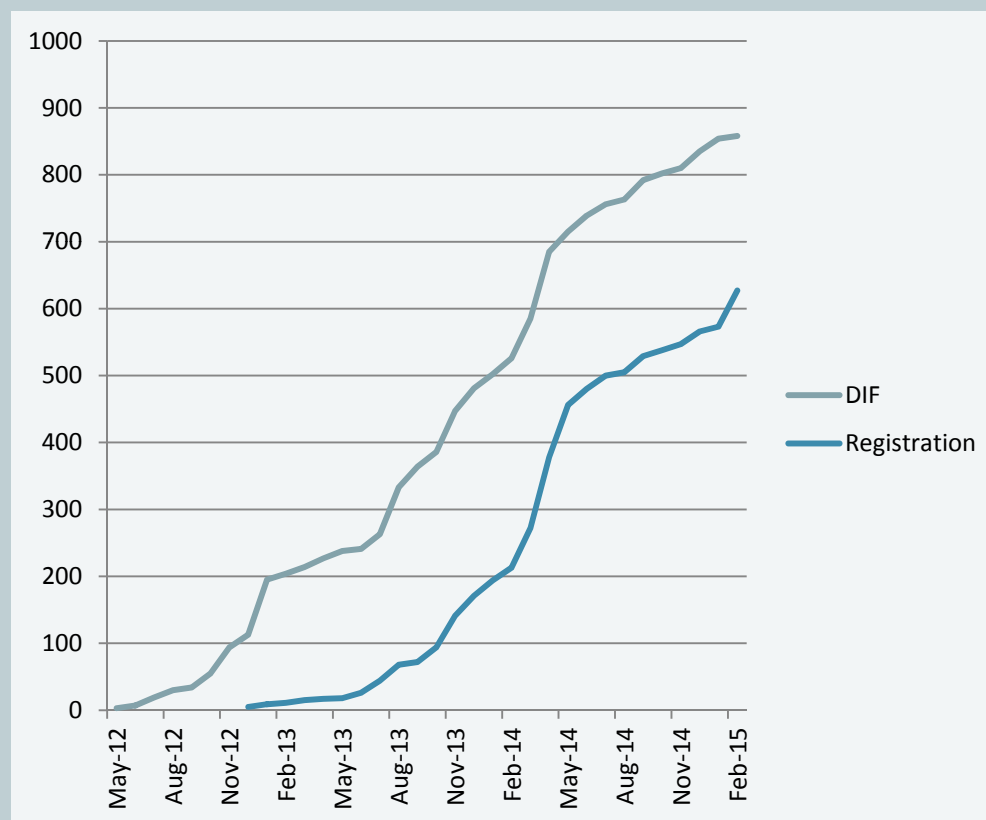
GoMRI Research Database

Summary Statistics of Holdings

(as of February 17, 2015)

Item	Count
Datasets identified	858
Datasets registered	627
DOIs issued	110
Projects	219
Researchers	2,751
Institutions	249
Countries	17

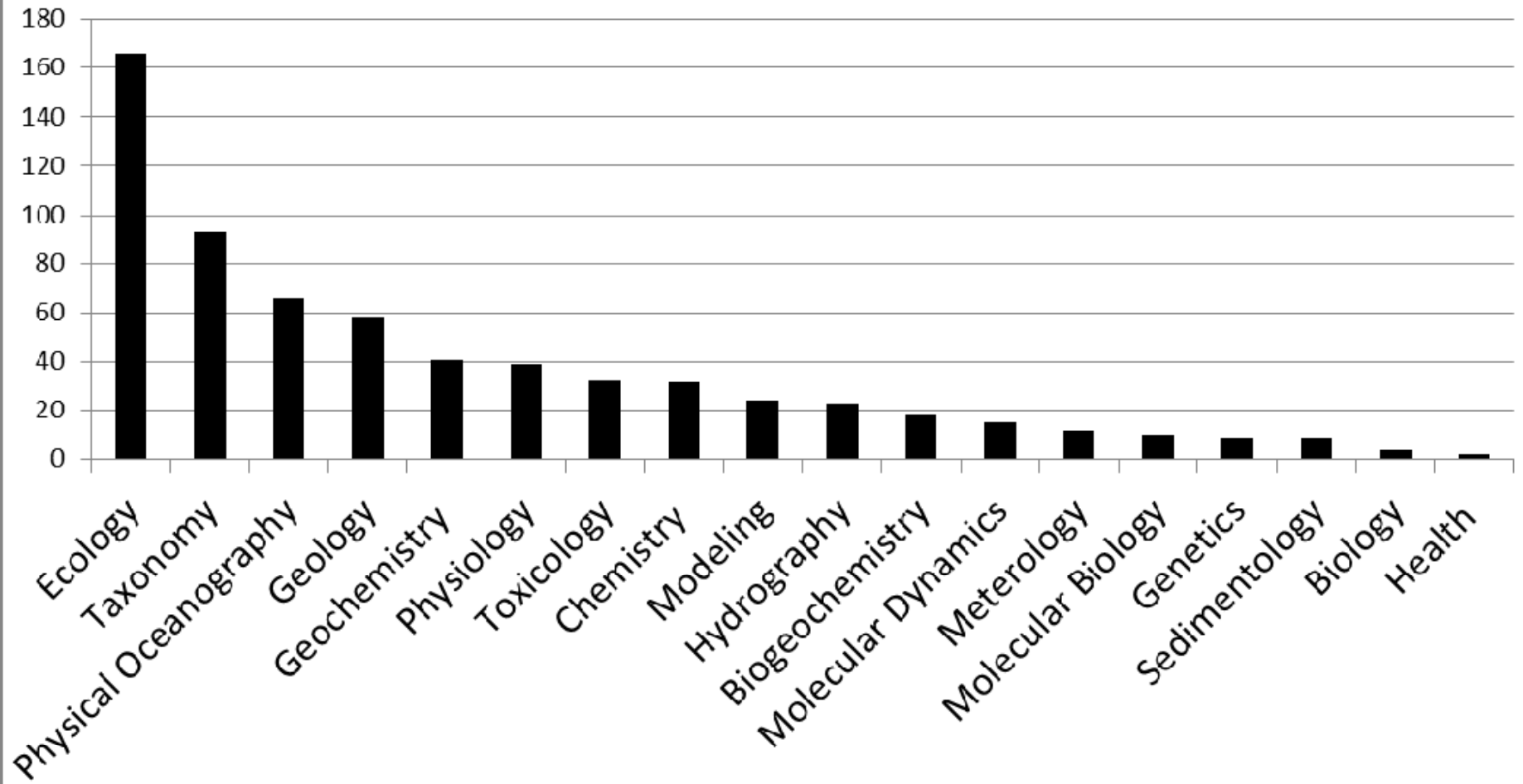
Records by Month



(more at: <https://data.gulfresearchinitiative.org/stats/>)

Dataset Types

Discipline Keywords



GoMRI Data Sharing Policies

Data and metadata must be submitted to GRIIDC and made fully accessible to the public...

- no later than publication of results
- if scientific publication is not expected within 12 months of data being collected then no later than 12 months after collection
- in most cases standard oceanographic data can and should be submitted with very short time delay.

Why Share?



Some Scientific Communities Share Better than Others

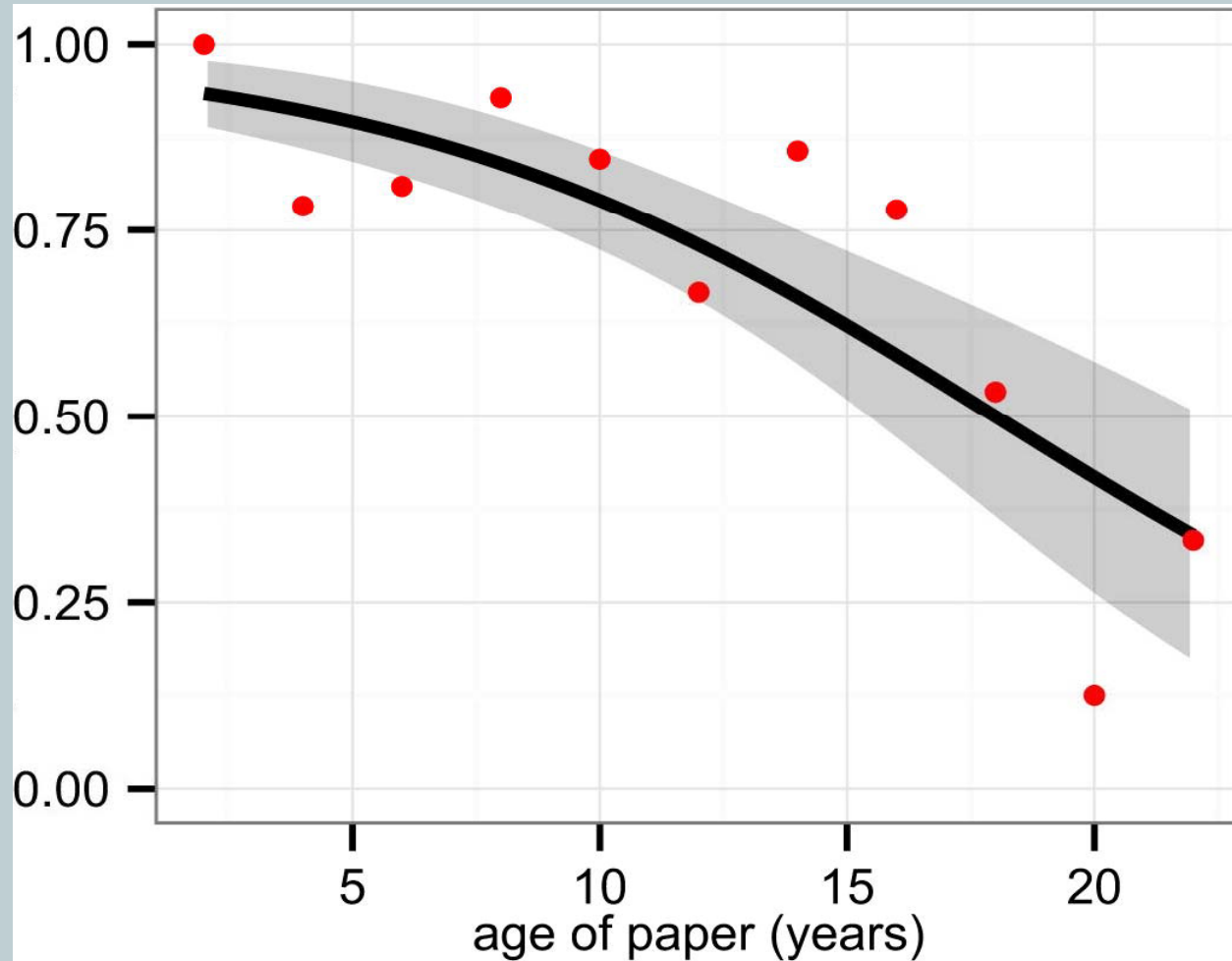
- Emory University survey of researchers
 - Researchers who share data with outsiders:
 - Medical sciences.....25%
 - Social sciences.....30%
 - Arts and humanities.....35%
 - Basic sciences.....55% includes natural sciences, field&lab studies
- Separate survey of University of Oxford researchers...56% *would* share

From Akers and Doty, 2013 (Emory Study) and Wilson, Jeffreys, Patrick, Rumsey, 2013 (Oxford Study)



Data Longevity

Predicted probability data exist given data holders provided useful reply to a request



Major Causes of Reduced Data Availability with Time

- General data loss
- Old storage media - Media deteriorates with time as well
- Ability to generate useful metadata decreases with time

Effective Data Sharing Occurs Early in Research

- Allows data acquisition planning and collaboration
- Improved metadata
- End product review more effective

Impediments to Sharing Data

- No credit for sharing – the major reason expressed in Emory and Oxford surveys
- Cost – 10 to 15% of research budget
- Time - How much time does it really take?
- Expertise



Motivating Sharing



- Required by funders
- Open data required at time of publication
- Academic institutions – count datasets in promotion review
- Data repositories create usable tools for submission, discovery, and citation

GoMRI is Developing a Data Sharing Culture

- Providing an efficient service (GRIIDC)
 - Training and outreach
- Providing Credit
 - Assigning Digital Object Identifiers (DOI) to datasets
 - Stories
- Providing data-use statistics
- Public monitoring matrix
- Sharing required before publishing
- Sharing tied to funding

GRIIDC Data Management Workflow

1. Develop Data Management Plan
 - a) Dataset Information Form (DIF)
- Collect and Generate Data!
2. Register and Submit Dataset
3. Data package review
4. Create Metadata
5. Submit Metadata
6. Data Package Review with Metadata
7. Request DOI
8. Issue DOI

GRIIDC Homepage

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on the environment and public health.



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Ensuring a Data Legacy



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626

DATASETS



250

INSTITUTIONS



219

PROJECTS



2,751

RESEARCHERS

GRIIDC Data Stories, News, & Updates

Showcasing how sharing data benefits the scientific
community & data management activities in the Gulf of
Mexico.



GRIIDC Data Discovery

Report Issue Suggest Improvement

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Filter Clear/Show All

Available (347)	Available with Restrictions (81)	Unavailable, Pending Review (110)	Unavailable & Expected Soon (318)
	Carmichael, Ruth. 2015. <u>Biological and chemical data of oil-derived elements being assimilated by oysters due to the Deepwater Horizon Oil Spill collected in Alabama and Mississippi coastal waters (NODC Accession 0118498)</u> . Recovery: Sentinel Macrofauna. [Show Details]		
	Grubbs, Dean. 2015. <u>AP-1307 LonglineTrap</u> . Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C). [Show Details] [Size: 695.5 KB]		
	Grubbs, Dean. 2015. <u>AP-1312 LonglineTrap</u> . Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C). [Show Details] [Size: 646.2 KB]		
	Grubbs, Dean. 2015. <u>AP-1401 LonglineTrap</u> . Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C). [Show Details] [Size: 29.8 KB]		
	Grubbs, Dean. 2015. <u>SAB-1201 LonglineTrap</u> . Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C). [Show Details] [Size: 454.2 KB]		
	Grubbs, Dean. 2015. <u>WB-1118 LonglineTrap</u> . Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C). [Show Details] [Size: 916.5 KB]		
	Grubbs, Dean. 2015. <u>WB-1204 LonglineTrap</u> . Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C). [Show Details] [Size: 38.4 KB]		
	Grubbs, Dean. 2015. <u>WB-1215 LonglineTrap</u> . Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C). [Show Details] [Size: 1 MB]		

- Filter by: Research Award ▾
- Year 5-7 Consortia Grants (RFP-IV)
 - Year 3-5 Investigator Grants (RFP-II)
 - Year 2-4 Consortia Grants (RFP-I)
 - Center for Integrated Modeling and Analysis of Gulf Ecosystems (C-IMAGE)
 - Coastal Waters Consortium (CWC)
 - Consortium for Advanced Research on Transport of Hydrocarbon in the Environment (CARTHE)
 - Consortium for the Molecular Engineering of Dispersant Systems (C-MEDS)
 - Deepsea to Coast Connectivity in the Eastern Gulf of Mexico (DEEP-C)
 - Dispersion Research on Oil: Physics and Plankton Studies (DROPPS)

GRIIDC Dataset Landing Page

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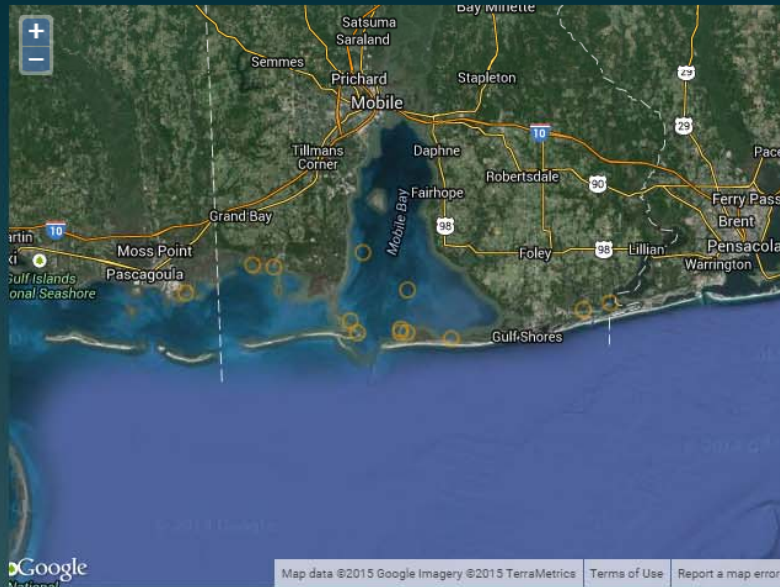
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on the environment and public health.



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Biological and chemical data of oil-derived elements being assimilated by oysters due to the Deepwater Horizon Oil Spill collected in Alabama and Mississippi coastal waters (NODC Accession 0118498)



UDI:

Y1.x027.000:0001

Dataset Originator:

Carmichael, Ruth

Point of Contact:

Carmichael, Ruth
Dauphin Island Sea Lab (DISL)

rcarmichael@disl.org

Identified	Registered	Metadata	Available
✓	✓	✓	✓

[Details](#) [Metadata](#)

GRIIDC Dataset Monitoring

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Dataset Monitoring

List by: **Research Award** ▾

- ⊕ Year 5-7 Consortia Grants (RFP-IV)
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 - Dispersion Research on Oil: Physics and Plankton Studies (DROPPS)
 - Ecosystem Impacts of Oil and Gas Inputs to the Gulf (ECOGIG)
 - Gulf of Mexico Integrated Spill Response Consortium (GISR)
- ⊕ Bridge Grants (RFP-III)
- ⊕ Year-One Block Grants
 - Florida Institute of Oceanography (FIO)
 - Louisiana State University (LSU)
 - The Alabama Marine Environmental Science Consortium (MESAC)
 - The Northern Gulf Institute (NGI)

Datasets for: Year 2-4 Consortia Grants (RFP-I)

Center for Integrated Modeling and Analysis of Gulf Ecosystems (C-IMAGE) Project ID: 135

Funding Source: Year 2-4 Consortia Grants (RFP-I)

Principal Investigator: [Steven Murawski](#) - [University of South Florida](#)

Member Institutions: [Dauphin Island Sea Lab \(DISL\)](#), [Eckerd College](#), [Florida Fish and Wildlife Research Institute](#), [Florida Institute of Oceanography](#), [Mind Open Media](#), [Mote Marine Laboratory](#), [NHL University of Applied Sciences](#), [Pennsylvania State University](#), [Pensacola High School](#), [Research Association Berlin eV](#), [Technical University of Hamburg](#), [Texas A&M University](#), [University of Calgary](#), [University of California San Diego](#), [University of Miami](#), [University of South Alabama](#), [University of South Florida](#), [University of West Florida](#), [Van Hall Larenstein University](#), [Wageningen University](#)



Dataset with status: ● Available: 30 ● Registered: 2 ● Identified: 6

Total Datasets: 38

1. Near/Far Field Plume Modeling Task ID: 117

place your mouse over each icon for a description

UDI	Title	Identified	Registered	Metadata	Available
R1.x135.117:0001	Integral Model Results for Nearfield Plume	✓	✗	⊘	⊘
R1.x135.117:0002	Evolution of the Macondo Well Blowout: Simulating the Effects of the Circulation and Synthetic Dispersants on the	✓	✓	✓	✓

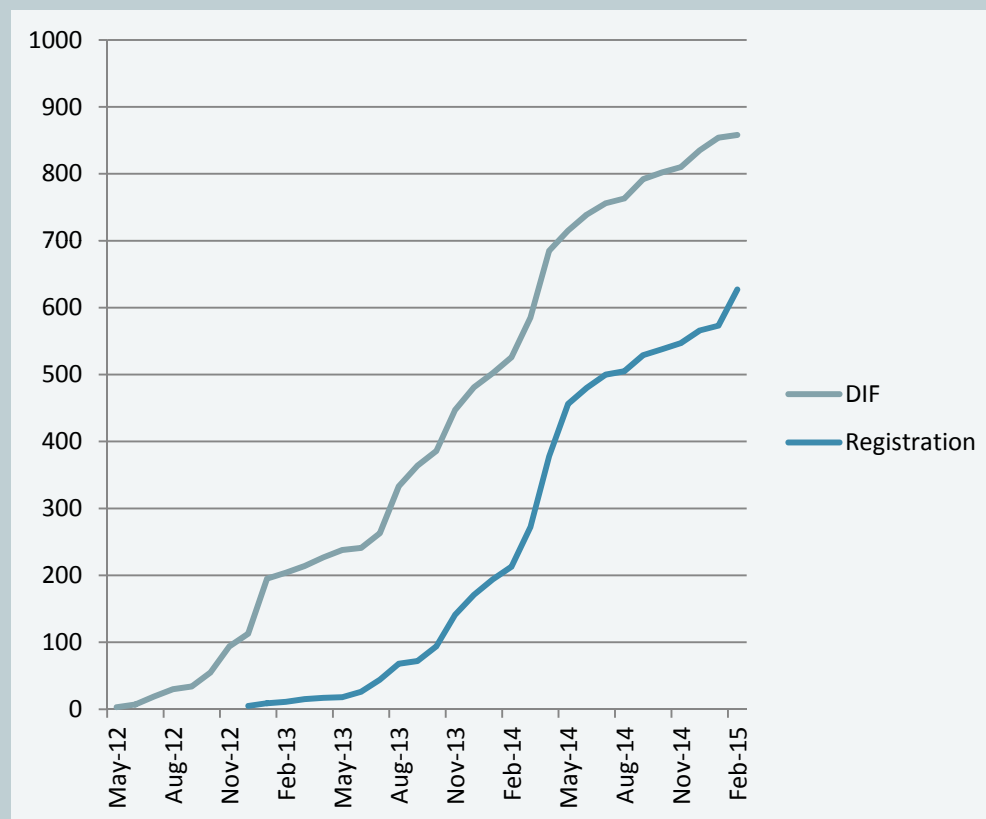
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Summary

- We need to create a broad data sharing culture.
- It is going to cost money, more at first, but perhaps less as the culture develops.
- Future for GRIIDC is to expand beyond GoMRI datasets and develop integration products.