

# GRIIDC: Research Consortia Data Manager Roles & Responsibilities

The mission of the Gulf of Mexico Research Initiative Information and Data Cooperative (GRIIDC) is to ensure a data and information legacy that promotes continual scientific discovery and public awareness of the Gulf of Mexico ecosystem. In support of this mission, the Gulf of Mexico Research Initiative (GoMRI) Administrative Unit (AU) has directed GRIIDC to design a data management system (DMS) to house data produced through GoMRI funded research projects.

Through GoMRI RFP I and RFP IV, Research Consortia (RC) were formed to address major research themes. Each RC is required to designate a data manager who will participate in the GRIIDC Advisory Committee and the RC is required to develop a comprehensive data management plan. The roles and responsibilities of a data manager will ultimately be defined by their Research Consortium (RC). This document provides guidance for typical tasks and responsibilities that data managers are responsible for. This document also describes how GRIIDC will support data managers in fulfilling their responsibilities. This document does not provide an exhaustive list of roles and responsibilities of data managers.

## Introduction

All RC funded through GoMRI are required to designate a data manager; however, having a data manager does not absolve other members of the RC from having data management responsibilities. GoMRI funded researchers, including research scientists, laboratory technicians, graduate students and post-doctoral fellows, will have different responsibilities for data management based on their project roles.

These responsibilities should be clearly defined in the RC data management plan to ensure all parties involved in data management are aware of their responsibilities and have the skill and knowledge needed to fulfill these responsibilities. Examples of roles in data management include:

- Data collector
- Data creator
- Data analyst
- Database designer
- IT staff responsible for backup and/or storage
- Staff responsible for running scientific instruments
- Computer programmer

## Section 1: Researcher Responsibility

Table 2 describes some of the common responsibilities that researchers have for data management and provides a few suggested high-level activities data managers could perform to support researchers.

These suggested supporting activities are not exhaustive and data managers should work with members of their RC to determine how they can best assist researchers.

**Table 1: Common researcher responsibilities for data management and high-level activities data managers can perform to support researchers.**

<b>Researcher Responsibility</b>	<b>Data Manager Support</b>
Plan to manage data	<ul style="list-style-type: none"> <li>• Support PIs in answering questions in the GRIIDC data management plan checklist</li> <li>• Provide template for PIs to answer common data management plan questions</li> <li>• Provide training on data management planning to PIs</li> <li>• Provide training on data management best practices to researchers</li> </ul>
Collect, generate and acquire data	<ul style="list-style-type: none"> <li>• Provide advice and guidance on how to organize data during collection/generation/acquisition processes</li> <li>• Create templates to help organize data during collection/generation/acquisition processes (e.g., templates for data collection during field research)</li> <li>• Ensure that researchers collect, record and organize information that will be required to complete metadata records</li> <li>• Assist researchers in implementing data management best practices for their data and projects</li> </ul>
Organize data	<ul style="list-style-type: none"> <li>• Provide advice and guidance to assist in data organization, including file and folder organization</li> <li>• Create templates to assist with data organization</li> </ul>
Identify a dataset within the GRIIDC DMS	<ul style="list-style-type: none"> <li>• Provide training to teach PIs to use the GRIIDC DMS</li> <li>• Assist in the creation of Dataset Information Forms</li> </ul>
Submit datasets to the GRIIDC DMS	<ul style="list-style-type: none"> <li>• Provide training to PIs to use the DMS</li> <li>• Provide training on creation of single dataset file</li> <li>• Provide training to upload large files to DMS</li> <li>• Assist researchers in the submission of datasets to the GRIIDC DMS</li> </ul>

One of the primary skills that data managers need to support researchers is effective communication skills. Effective communication can be facilitated by establishing clear channels of communication for researchers to use and data managers can strengthen relationships with researchers by responding to inquiries in a timely manner. RC all hands meetings provide a forum for data management discussions and regular RC data management meetings are encouraged.

## **Section 2: RC Data Manager Responsibility**

Data managers will have roles beyond training and advising researchers within the RC. GRIIDC will provide support for common activities, including training researchers and data managers. Table 3 lists some common responsibilities of data managers and how GRIIDC will provide support for these data manager responsibilities.

**Table 2: Common responsibilities of GoMRI RC data managers, description of the responsibility and notes on how GRIIDC may support data managers to fulfill these responsibilities.**

<b>Data Manager Responsibility</b>	<b>Description</b>	<b>GRIIDC Support</b>
Preparing and maintaining RC data management plan	Consulting with RC Principal Investigators, RC researchers, and GRIIDC, the data manager will prepare the data management plan. The data management plan will outline what data will be collected, how this data will be organized and managed, and who is responsible for different data management tasks. The RC data manager should update the data management plan to reflect the most accurate and current information available, on a scheduled basis	<ul style="list-style-type: none"> <li>• GRIIDC DMP checklist</li> <li>• DMPTool Online</li> <li>• GRIIDC data management best practices document</li> <li>• Review and approve the DMP</li> </ul>
Advising researchers	The data manager is responsible for advising researchers within the RC the best way to manage their specific data collections. The data manager may need to consult with other researchers in the discipline or develop working groups within the RC to address specific data management issues	<ul style="list-style-type: none"> <li>• GRIIDC data management best practices document</li> <li>• GRIIDC AC meetings provide a forum for discussing data management issues</li> <li>• GRIIDC develops working groups, when needed, to address common issues</li> <li>• GRIIDC has subject matter experts available to answer discipline-specific data management questions.</li> </ul>
Create, document and implement data backup policy	The data manager will develop strategies to ensure that researchers are regularly backing up data and provide training to implement the strategy, if required.	<ul style="list-style-type: none"> <li>• GRIIDC staff can provide advice on data backup strategies.</li> </ul>
Training researchers	The data manager will make researchers aware of GRIIDC training sessions and resources and will provide additional training, as needed, to researchers to use the GRIIDC DMS, with support of GRIIDC.	<ul style="list-style-type: none"> <li>• GRIIDC offers periodic training sessions via web conferencing.</li> <li>• GRIIDC produces user manuals that data managers can access for their own purposes.</li> <li>• GRIIDC will offer data manager train-the-trainer training</li> </ul>
Developing templates for organizing data	Occasionally, researchers will require template(s) be made to assist in managing and organizing data and	<ul style="list-style-type: none"> <li>• GRIIDC data management best practices guide</li> </ul>

	metadata. These templates are often associated with common data collection activities, such as cruises. Data managers should develop or be consulted during the creation of these templates to ensure that data and metadata are managed appropriately.	<ul style="list-style-type: none"> <li>• GRIIDC has subject matter experts available to provide support for template development</li> </ul>
Tracking researcher and overall RC progress	The data manager will track researcher and RC dataset identification and submission to GRIIDC using the GRIIDC website to ensure RC compliance with GoMRI data policies.	<ul style="list-style-type: none"> <li>• GRIIDC Dataset Monitoring page</li> <li>• GRIIDC will provide training to use the Dataset Monitoring page</li> </ul>
Reporting to RC management	The data manager will report on dataset identification and submission progress to RC management	<ul style="list-style-type: none"> <li>• GRIIDC website monitoring page features the ability to produce PDF reports</li> </ul>
Participating in the GRIIDC Advisory Committee	The data manager is a member of the GRIIDC Advisory Committee. The GRIIDC Advisory Committee provides advice and feedback on the development and implementation of the GoMRI Scientific Database and provides a forum for GRIIDC to consult on policies and strategic issues. Data managers participate in monthly meetings and may be asked to participate in working groups related to specific data management issues.	<ul style="list-style-type: none"> <li>• GRIIDC provides logistical and administrative support for the GRIIDC Advisory Committee.</li> </ul>

The list of responsibilities of data managers provided in Table 2 is not exhaustive. Duties of data manager will vary by RC and GRIIDC may not be able to provide support for all data manager activities.

### Section 3: Data Manager Support to GRIIDC

The relationship between GRIIDC and data managers is reciprocal. In addition to GRIIDC assisting data managers as they fulfill their responsibilities, data managers can provide support to GRIIDC to help GRIIDC fulfill its mission. There are three main ways that data managers may support GRIIDC. First, data managers are members of the GRIIDC Advisory Committee. The role of the GRIIDC Advisory Committee is to provide advice and feedback to GRIIDC on the development and implementation of the GRIIDC data management system. Additionally, the AC provides a forum for GRIIDC to consult on policies and strategic issues that relate to the work of GRIIDC. The roles and responsibilities of the GRIIDC Advisory Committee can be found in the GRIIDC AC Terms of Reference. Data managers are important members of the advisory committee, providing practical guidance on current data management issues and concerns.

The second role of data managers is to act as a liaison between GRIIDC and researchers. In this capacity data managers should be prepared to present information from GRIIDC to their RC, including data sharing procedures and policies. Likewise, data managers should be able to communicate with GRIIDC about any issues or challenges that researchers are encountering while using the GRIIDC DMS or managing data.

Finally, data managers can support GRIIDC in cultivating a culture of data sharing in the Gulf of Mexico scientific community. GRIIDC has developed a communication framework, a document used to manage and coordinate communication within GRIIDC and between GRIIDC and external stakeholders. This document includes goals, objectives, guiding principles and key messages to be used when communicating about GRIIDC. Data managers are encouraged to disseminate the key messages contained in the framework when appropriate. Additionally, by providing the researchers with tools and training that make data easy to share, data managers will be supporting the goals and objectives of the communication framework.