The National Academies of SCIENCES ENGINEERING MEDICINE

GULF RESEARCH PROGRAM

REQUEST FOR APPLICATIONS

Understanding Gulf Ocean Systems Grants 1

Topic: Studies and Observations to Inform the Loop Current Campaign

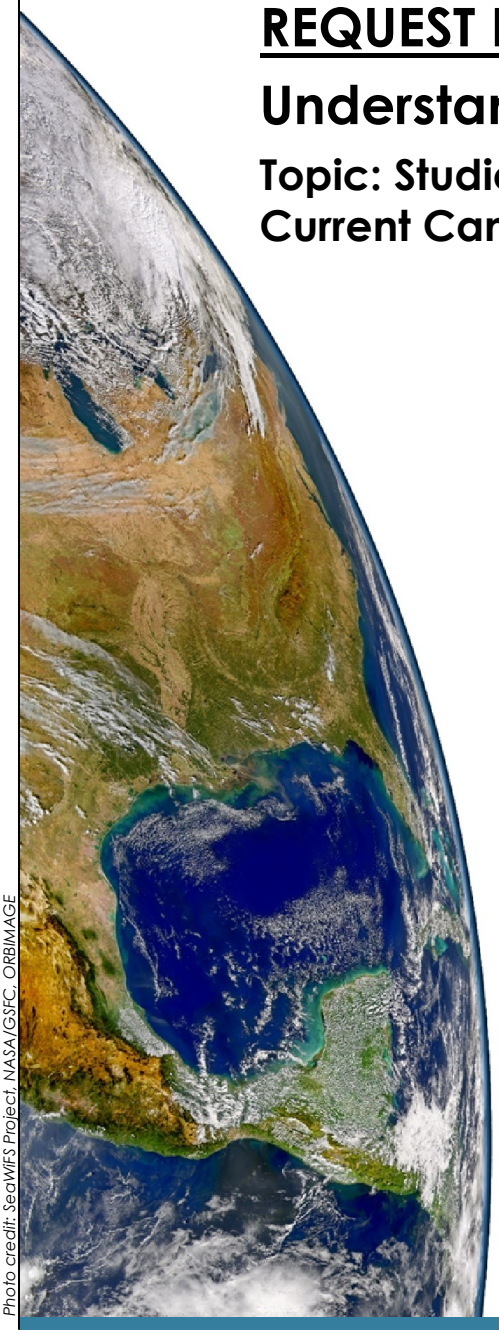

Photo credit: SeaWiFS Project, NASA/GSFC, ORBIMAGE

KEY DATES & INFORMATION	
AWARD INFORMATION	
Total Funding Available: $10 million	
Award Duration: Up to 24 months	
APPLICATIONS	
February 27, 2018:	Online application submission opens
April 25, 2018:	Applications due by 5:00 pm Eastern Time
AWARD SELECTION AND NOTIFICATION	
Summer-Fall 2018	

Version 1.1—Issued on 02/27/2018
(Check if an updated version of this RFA has been issued at http://www.nas.edu/gulf/grants/ugos-1.)

TABLE OF CONTENTS

GENERAL INFORMATION

About the Gulf Research Program

The Gulf Research Program is an independent, science-based program founded in 2013, as part of legal settlements with the companies involved in the 2010 *Deepwater Horizon* disaster. It seeks to enhance offshore energy system safety and protect human health and the environment by catalyzing advances in science, practice, and capacity to generate long-term benefits for the Gulf of Mexico region and the nation. The program has $500 million for use over 30 years to fund grants, fellowships, and other activities in the areas of research and development, education and training, and monitoring and synthesis. The program is a division of the National Academies of Sciences, Engineering, and Medicine—a private, nonprofit organization with a 150-year history as an independent advisor to the Nation on issues of science, engineering, and medicine.

Contact Information

Address: Gulf Research Program National Academies of Sciences, Engineering and Medicine 500 Fifth Street, NW Washington, DC 20001	**Web**: http://www.nas.edu/gulf **Email (General):** gulfprogram@nas.edu **Email (Grants):** gulfgrants@nas.edu **Email (Fellowships):** gulffellowships@nas.edu

Learn More

- About the Gulf Research Program: Visit http://www.nas.edu/gulf.
- Sign up for e-updates to receive the most current information about activities and funding opportunities.
- About this Funding Opportunity: Submit questions about this opportunity to gulfgrants@nas.edu. All information contained in this document is also available online at http://www.nas.edu/gulf/grants/ugos-1.

Online Application System: https://gulfresearchprogram.fluidreview.com

Important Version Information and Revision Notes

Version 1.1 (02/27/18).: Updated required attachments (p.9) to include “Current and Pending Support form”.

KEY DATES

Application:	February 27, 2018: Online application submission opens **April 25, 2018, 5:00 pm ET: Deadline for submission of applications**

AWARD INFORMATION

Total Amount Available:	$10 million
Award Duration:	Grants will be awarded to support projects up to 24 months in length.
Estimated # of Awards:	To be determined. Resources made available under this funding opportunity will depend on the quality of proposals received and the budgets proposed by successful applicants. The Gulf Research Program reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation.
Award Notification:	Summer-Fall 2018

ELIGIBILITY

The Gulf Research Program welcomes applications from all types of U.S. organizations, excluding federal agencies, on behalf of qualified individuals. The applying organization will be referred to as the "applicant" hereafter. The individuals who will lead the proposed project will be referred to as "project directors" hereafter.

Project directors usually initiate applications that are officially submitted by their employing organizations (the applicant). When initiating an application, the project director typically is responsible for ensuring the application meets all the requirements outlined by the Gulf Research Program as well as any requirements set by the employing organizations.

The Gulf Research Program requires applicants to adhere to the following:

- Proposed activities that are part of a broader, existing effort or "project" may be eligible if the proposal clearly demonstrates that the funding request is for activities that would not otherwise occur.
- Activities currently under consideration for funding from other sources are eligible. If an intent to award letter is issued, the applicant must certify, at that time, that the other funding sources were not obtained.
- U.S. organizations (excluding federal agencies) that have a valid federal tax ID number are eligible to apply.

Please note:

1. U.S. organizations may partner with international organizations – a U.S. organization must be the applicant, but applicants may include key personnel from, and subawards to, non-U.S. organizations. Please note that legal restrictions may prohibit transactions, including subawards, between U.S. entities and entities within certain foreign countries.
2. U.S. federal agencies are not eligible to receive GRP funding as applicants or subawardees, although they may be collaborators. Any proposed collaboration with a U.S. federal agency should not involve any transfer of GRP funding to the agency and must be in compliance with all applicable federal statutes and regulations and will be reviewed on a case-by-case basis to determine if this requirement is met.
3. Unlike most other Gulf Research Program grant opportunities, Understanding Gulf Ocean Systems Grants 1 does not have a specified limit to the number of applications an individual may be named on as project director and/or key personnel.

PURPOSE

The Gulf Research Program seeks to support activities that will supply new observations, analyses, and modeling needed to advance our understanding of Loop Current dynamics for the purpose of improving predictive skills of the Loop Current and associated eddies, referred to as the Loop Current System (LCS). This solicitation is the first of several funding opportunities for a research campaign aimed at improving understanding and prediction skills of the LCS. Proposed observations, analyses, and modeling should specifically address recommendations for near-term activities identified in the consensus report Understanding and Predicting the Gulf of Mexico Loop Current: Critical Gaps and Recommendations, released in January 2018. These near-term activities can be started or accomplished without extensive planning and are meant to either jumpstart or inform the design of a long-term (10-yr), integrative program.

CONTEXT

The LCS is the dominant physical process in Gulf of Mexico waters. Oceanographic parameters within the Gulf basin, from coastal ecosystems to the deep abyss, are affected by the position, and duration at a given position, of the Loop Current and associated eddies. Understanding the dynamics driving the LCS is a significant first step towards achieving a long-term outcome of improved understanding of the complexity of the Gulf of Mexico as a system, which is critical to the Gulf Research Program's vision.

The National Academies of Sciences, Engineering, and Medicine produce expert consensus reports that identify research needs, opportunities, or challenges for advancing science and ensuring the application of science to address real-world problems. The National Academies' 2018 report Understanding and Predicting the Gulf of Mexico Loop Current: Critical Gaps and Recommendations identifies a suite of complementary observations, analyses, and modeling efforts intended to provide critical information about the LCS to help promote safer offshore operations, better understand the Gulf's complex oceanographic systems, facilitate disaster response, help protect coastal communities, protect and manage ecological resources, and predict and forecast weather and climate impacts. Expected to take about 10-12 years and estimated to cost between $100 million and $125 million, the recommended campaign is intended to increase understanding of the dynamics of the LCS and thereby improve prediction skills of the Loop Current's behavior.

The report provides 30 recommendations for elements of the research campaign that include both near-term and long-term (decadal length) activities. These activities are divided into observational components, technology enhancements, analyses and theory, and data assimilation and numerical modeling techniques needed to provide critical information about the LCS. The recommendations are intended to help guide future funding investments by the Gulf Research Program of the National Academies of Sciences, Engineering, and Medicine, as well as federal U.S. agencies, Mexican and Cuban oceanographic organizations, industry, research institutions, and other ocean science sponsors.

APPLICATIONS SOUGHT

The report Understanding and Predicting the Gulf of Mexico Loop Current: Critical Gaps and Recommendations identified several specific observations and studies as foundational activities that should start in the near-term while the more comprehensive campaign is being organized. We seek applications for projects that directly respond to specific report recommendations categorized under the headings below. As indicated below, refer to specific recommendations in the report for additional details. If an applicant wishes to respond to more than one of the topic headings below, they must submit an application for each topic separately.

1. **High Frequency (HF) Radar (with range capability of ~150-200km):** Provide new, real-time data for model assimilation and validation, and to better understand the evolution of the LCS, by procuring, installing and/or operating for 2 years (with an opportunity for extension of up to another 10 years):
    - At least three multi-static HF radar systems from fixed platforms in the northeastern most areas of oil and gas operations. (Refer to Recommendation 3)
    - At least three new HF radar systems covering the general Florida Straits outflow region. (Refer to Recommendation 10)
    - At least two HF radar systems in the inflow area, one looking north (from the Cozumel Island area) and at least one looking across the inflow from the upper Yucatan Peninsula. (Refer to Recommendation 11)

Please note:

1. An applicant can respond to one or more of the above sub-bullets in a single application.
2. The GRP requires observational data be available widely and publicly; for this reason, we encourage the applicant to collaborate with the IOOS Regional Associations and the NOAA IOOS HF radar Data Assembly Center (DAC) in all installations and operations to ensure established procedure and protocols are followed for integrating quality data into the IOOS system.

2. **Pressure and Current Meters:** Procure field array of 20 to 25 deep sensors that measure bottom pressure and integrated currents from near bottom to the surface and deploy them in a coherent sub-array for process-understanding and/or feature-mapping in the deep eastern Gulf where the extended Loop Current can be found (generally, 25°-28° North Latitude, 85°-91° West Longitude) for 2 years (with an opportunity for extension of up to another 10 years). It is intended that this field array be extended (during future funding opportunities) with an additional 20 to 25 bottom mounted instruments to complete a laterally correlated ~60 km spacing in the LCS area (25°-28° North Latitude, 85°-91° West Longitude); proposed array designs should be compatible with this longer term recommendation for an expanded array. For this near term observation field program, applications should not include near real-time data retrieval; rather, a data retrieval plan should be proposed that will inform the Gulf Research Program about the value of such observation systems and inform the design of a more fully populated array of instruments for the main decade-long campaign. A separate near-term task (see Topic 6, below) is to examine data communications options that may make near real-time data capture for such instruments affordable. (Refer to Recommendation 6)

3. **Mooring Arrays - Campeche Bank, Yucatan Channel, and Florida Straits:** Three mooring arrays, currently operated by CICESE (Centro de Investigación Científica y de Educación Superior de Ensenada [Center for Scientific Research and Higher Education at Ensenada]), are located in critical areas for better understanding Loop Current dynamics; the arrays are located across the Campeche Bank, across the Yucatan Channel, and across the Florida Straits. The funding for these arrays expires in June of 2018. Three tasks are included as near-term recommendations in association with these existing mooring arrays:
    - Extend operations of the mooring arrays (including procurement of equipment, as needed) beyond June 2018 (for the next two years, with the opportunity for extension up to an additional 10 years) with appropriate data sharing from the moorings in both Mexico and Cuba.
    - Establish an agreement to gain access to the ocean dynamics data recovered from these moorings from the time period 2011-to-present.
    - As appropriate, analyze archived data to explore effects of bathymetry on LCS behavior, inflow analysis, and outflow analysis.

    (Refer to Recommendations 8, 9 and 12)

Please note: An applicant can respond to part, one, or more of the above sub-bullets in a single application.

4. **Pressure Point Mooring:** Procure, deploy, and operate a single-point, real-time, ocean dynamics mooring that, minimally, measures temperature, salinity, and currents at discrete depths for 2 years (with opportunity for extension of up to another 10 years) at the shelf break region, just to the northwest of the Dry Tortugas to confirm times when the Loop Current is driving the West Florida Shelf circulation, a phenomenon hypothesized to also be controlling the Loop Current itself. (Refer to Recommendation 15)

5. **Profilers:** Procure and operate a new set of ocean dynamics-instrumented profilers (e.g., Argo operated in 0-2000 m) in active areas of the LCS. This recommendation (Recommendation 4) was not designated as a "near-term priority" in the consensus report; however, it is included in this solicitation as a profiler fleet would provide immediate valuable input into the larger campaign development.

6. **Communications Network:** Determine the feasibility of a data communications network (e.g., acoustics or fiber optics) that might be adopted to gather and/or communicate data from bottom mounted instruments and provide near-real time data to the surface in an affordable manner. Consideration of docking solutions and/or deep acoustic data communication network nodes for interoperability with autonomous surface and/or underwater vehicles in the design is encouraged. (Refer to Recommendations 16, 17 and 19)

7. **Data Compilation:** Digitally compile, analyze, and make publicly accessible physical oceanographic data from Gulf of Mexico field studies from ~ 2002 to 2017 (refer to Recommendation 27). The objective of this activity is to produce a climatology-like data set to help prioritize the process studies necessary to improve understanding, simulation, and prediction of the LCS. Secondly, the database should inform criteria and constraints useful in design of future field observations and numerical modeling efforts.

   Key oceanographic variables include temperature, salinity, conductivity, sea surface height, and current velocity at the ocean surface and throughout the full water-column. Instrument platforms include acoustic Doppler current profilers, single point current meters, ship and air deployed expendable sensors (e.g., expendable bathythermographs [XBT]), CTD [conductivity, temperature, and depth], autonomous underwater vehicles, high-frequency radar, underwater buoyancy gliders, Lagrangian drifters, moored current meters, surface buoys, benthic platforms).

   The database should conform to standard oceanographic archival practice for formatting and metadata using guidance from the NOAA National Centers for Environmental Information (NCEI), NOAA IOOS-QARTOD, and other oceanographic data centers. Data sources include but are not limited to federal sources such as BOEM, BSEE, NOAA,)as well as the offshore oil and gas industry, academic institutions, the Gulf of Mexico Research Initiative, and other state, local, and federal agencies, and data available from neighboring Gulf nations.

8. **Numerical Modeling:** Review leading federal and academic Gulf prediction systems to test their performance and sensitivity in resolving both surface and subsurface circulation. The analyses should provide valuable insights into physical processes and dynamics of the LCS. For this funding opportunity, the use of available simulations is encouraged to better inform the campaign's final design of the operational forecast system. Recommendation 22 describes this model comparison activity more fully and presents three notional phases. The goal of this comparison is to determine which features in each model are giving the best results, especially in view of the availability of large sets of data during the immediate post-Deepwater Horizon period.

APPLICATIONS GUIDELINES

Required:

- **Responsiveness to consensus report:** Applications should directly respond to the recommendations from the report Understanding and Predicting the Gulf of Mexico Loop Current: Critical Gaps and Recommendations, which are referenced in the "Applications Sought" section above. It is expected that applicants will refer to the consensus recommendations and associated text and fulfill the minimum requirements described therein.
- **Compatibility:** Proposed plans should be compatible with extension and expansion into the planned decadal campaign. This solicitation is in support of 2-year projects; however, many of the observational recommendations are intended to be sustained for an additional 10 years of operation. Observational applications will undergo a mid-term review (after 1 year of operations); successful review may result in an initial extension through a 5-year contract with possibility for a second 5-year extension.
- **Data management:** Applications should include an extensive data management component that, at minimum, meets requirements of the Gulf Research Program's data management policy. In addition, applicants responding to observational components of this RFA should include a plan for releasing data to the public within 6 months of collection, which is an expedited time frame from standard Gulf Research Program data management requirements, or in real-time, as applicable.

Optional:

- **Leveraging of resources:** Unlike most other Gulf Research Program grant opportunities, Understanding Gulf Ocean Systems Grants 1 permits leveraging private and public resources in the form of in-kind support. Though not mandatory, applicants are strongly encouraged to leverage available resources, such as talent, equipment*, ship time, computational resources, data management, and/or funding from public or private partners.

  *The Bureau of Ocean Energy Management (BOEM) has offered to provide in-kind support to Gulf Research Program grantees receiving awards under this opportunity in the form of access to and use of observational equipment that could assist in the activities described in this RFA. Use of the equipment is available at no cost; however, the grantee would be responsible for transportation costs from the BOEM warehouse to the project location and for returning the equipment to BOEM at the conclusion of the project. We encourage applicants to leverage this resource, as appropriate. A catalogue of available equipment can be found here.

Please note: While this particular funding opportunity along with subsequent opportunities related to the decadal campaign are mainly focused on understanding and predicting the LCS, they are also related to and addressing a larger ocean dynamics challenge. Projects funded through these competitions should provide opportunities for scientists studying other Gulf of Mexico oceanographic and resource processes to leverage Gulf Research Program investments, observation systems, and modeling efforts for some of these other broader purposes. Applicants may include collaborative leveraging as long as it does not detract from the main LCS understanding and prediction goals. Such collaborative intentions should be described in the application.

APPLICATION PREPARATION AND SUBMISSION INSTRUCTIONS

Project directors are advised to review application preparation and submission instructions carefully and submit any questions to gulfgrants@nas.edu well in advance of the submission deadline. Although the Gulf Research Program strives to respond to applicants' questions within 2 business days, the response time depends on the volume of questions received and the complexity of the question asked. The Gulf Research Program does not guarantee that applicants' questions will be answered before submission deadlines. Applicants are advised to submit applications well in advance of the submission deadlines as a precaution against unanticipated delays. Please plan ahead.
Please be advised that the Gulf Research Program expects applicants to have reviewed the Grant Agreement (see

"Grant Terms and Conditions" below) prior to submitting an application to ensure that the applicant is aware of the applicable terms under which the grant is offered. It is the policy of the National Academies of Sciences, Engineering, and Medicine to entertain potential modifications to the Grant Agreement only under the most exceptional circumstances. Rather, successful applicants are strongly encouraged to sign the Grant Agreement as presented.

Application

Applications must be submitted via the online application system . Applications submitted by other means (including mail, fax, or e-mail) will not be considered. It is important that all applications conform to the instructions provided. Conformance is required and will be strictly enforced. The Gulf Research Program may reject, without review, applications that are not consistent with the instructions.

The application must include the following elements:

I. Required Contact Information Form that includes:
   1. Required Information on the:
      a. Applicant
      b. Project director
      c. Authorized organizational representative (AOR)
      d. Grant/contract administrator (if different from AOR)
   2. Optional Information (responses in this section will not be shared with reviewers and will not affect the application evaluation):
      a. Suggestions for reviewers. The suggestions may be considered for the peer review of applications, but the selection of reviewers is the responsibility of the Gulf Research Program.
      b. How did you hear about this funding opportunity?
      c. Demographic information

   CLICK HERE to see sample form.

II. Required Application Form that includes:
   1. Project topic
   2. Project title (up to 15 words)
   3. Total budget
   4. Subaward to FFRDC(s) or UARC(s), if applicable
   5. Key personnel
      - Federal employees as key personnel
      - Name(s), affiliation(s), and expertise of key personnel
   6. Project director's or key personnel's involvement in other applications
      - List the names of key personnel involved in other applications
   7. Project summary (up to 500 words)
   8. Project description (up to 2,000 words)
   9. Implementation plan (up to 2,000 words)
   10. Facilities, equipment and other resources (up to 1,000 words)
   11. Data management plan (up to 1,500 words). Please see the Gulf Research Program's Data Management Policy.
   12. References cited
   13. Budget justification (up to 1,000 words). CLICK HERE to see a sample budget justification.

14. Attachments:
    - Required attachments:
        a. Budget form. CLICK HERE to download form and complete it to provide information on the proposed budget. Please note that in-kind support is permissible for Understanding Gulf Ocean Systems Grants 1.
        b. Resume(s). A resume (limited to two pages for each person) is required for each individual identified as project director and key personnel. CLICK HERE to see additional resume specification. Please combine all resumes into a single PDF before uploading it as an attachment.
        c. Current and Pending Support form: CLICK HERE to download form and complete it to provide information on the current and pending support of the project director, and other key personnel if applicable.
        d. Collaborators and other affiliations: The purpose of this form is to help us eliminate potential conflicts of interest during our reviewer recruitment. CLICK HERE to download form and complete it to provide information on the following (including their current organizational affiliations):
            ◊ All persons who are currently, or who have been collaborators (i.e. an individual with whom you work closely to co-design or conduct a project) or co-authors with the individual on a project, book, article, report, abstract, or paper during the 48 months preceding the submission of the application.
            ◊ The individual's own graduate and postdoctoral advisor(s) and their current organizational affiliations.
            ◊ All persons (including their organizational affiliations) with whom the individual has had an association as a graduate or postdoctoral advisor.
    - Optional attachments:
        a. Equations, Figures and Tables: Applicants may upload a PDF document with a list of equations to support the project description. In addition to the list of equations, applicants may include up to 5 illustrations (for example, figures and tables) in the PDF to support the project description. If the total number of illustrations in the PDF exceeds 5, only the first 5 that appear in the document will be considered in peer review.
        b. Letters of Support: Applicants may upload a PDF document with letters of support from collaborators and stakeholders who will inform, carry out part of, or participate in the proposed project. Please combine all letters of support into a single PDF document before uploading as an attachment.

CLICK HERE to see sample application form.

PEER REVIEW PROCESS

All complete applications will be sent to external reviewers for panel review. The external review panel will evaluate the applications on the basis of the Merit Review Criteria, discuss the merit and all received comments for each application, and rank the applications. The Gulf Research Program will make reasonable efforts to develop a review panel in which external reviewers will not be affiliated with any institution that submitted applications. In any event, external reviewers with conflicts of interest are recused from reviewing or participating in any discussion of applications. Program staff will examine the applications and prepare a grant-funding plan taking into consideration the review panel's ranking of the applications, summaries from the panel discussion, and the program's funding

availability, current portfolio, objectives, and goals. The grant-funding plan will be subject to oversight by a subset of current or former Gulf Research Program Advisory Board members. The Gulf Research Program strives to have current or former Advisory Board members not affiliated with institutions that submitted projects oversee the grant-funding plan and recommend a list of projects for funding. Individual applications and their reviews will not be reviewed by Advisory Board members affiliated with the institution that submitted the applications. Current or former advisory Board members are recused from individual applications involving conflict of interest. The final decision for funding will be made by the Gulf Research Program of the National Academies of Sciences, Engineering, and Medicine.

CLICK HERE to see the Gulf Research Program's conflict of interest and confidentiality policies.

MERIT REVIEW CRITERIA

Applications will be evaluated on the basis of three broad review criteria. The bullets under each criterion are meant to guide proposers in writing their applications and guide peer reviewers on what to consider when judging an application (i.e., the bullets are illustrative and not intended to be all encompassing). Reviewers may raise additional concerns that are not covered by the bullets under each criterion.

- Responsiveness (40%)
    - Is the proposed project responsive to the recommendations made in the consensus report, Understanding and Predicting the Gulf of Mexico Loop Current: Critical Gaps and Recommendations?
        - Specifically, does the proposed project adequately address the research or observational gap identified within the referenced recommendation(s) given that each topic included in the RFA is directly associated with a specific recommendation(s) within the report?
    - Is the proposed project compatible with the 10-year campaign described in "The Campaign" section of Chapter 4 of the report?
- Technical or Scientific Merit (40%)
    - Are the overall strategy, methodology, and analyses scientifically and /or technically valid and appropriate to accomplish the specific aims of the project?
    - Does the application outline an implementation plan that demonstrates the feasibility of the project?
        - Does the implementation plan include a timeline that is reasonable and feasible?
        - Is the role of each collaborator adequately described?
    - Does the application include a data management plan that is appropriate for the scope of work
        - If the application includes real-time data, is there an adequate plan for publically sharing that data in real time or near real-time?Is the budget commensurate with the proposed work?
        - If the application includes collection of data, not proposed in real-time, is there a plan to ensure the data are made available within 6 months of collection?
    - Is the budget commensurate with the proposed work?
- Project Personnel, Institutional Support, and other Resources (20%)
    - How well qualified is the project director, and other project personnel, if applicable, to conduct the proposed activities?
    - Are the disciplines and perspectives represented by the personnel and institutions appropriate for the scope of the project?
    - Does the application demonstrate that the project personnel would have adequate resources (e.g., institutional support, instrumentation, ship time, computational capacity, or international assets), either provided or procured, to conduct the proposed project?

- As applicable, does the project propose to leverage available public or private resources (e.g., instrumentation, computational capacity, ship time, platform accessibility, and national data archiving centers)?

DATA MANAGEMENT POLICY

The Gulf Research Program's Data Management Policy applies to this RFA. All applications submitted to the Gulf Research Program must include a data management plan. The data management plan should describe how the applicant will manage and disseminate program-funded information products (data and other products) in sufficient detail to enable evaluation of the plan during the merit review process. The Gulf Research Program staff will monitor adherence to the proposed data management plan. Please review the Data Management Policy for details, including information on what must be included in the data management plan submitted as part of an application.

MAKING THE AWARD

Selection Notice

When the evaluation of an application is complete, the project directors will be notified that (1) the application has been selected for funding pending contract negotiations, or (2) the application has not been selected. These official notifications will be sent via email to the project director identified on the application. If an application is selected for award, the Gulf Research Program reserves the right to request additional or clarifying information for any reason deemed necessary, including but not limited to indirect cost information or other budget information. Awardees are free to accept or reject the grant agreement as offered.

Award Notice

The Gulf Research Program transmits award notices to organizations via e-mail. The award is not finalized and the National Academies of Sciences, Engineering, and Medicine is not obligated to provide any funding until a signed copy of the award agreement has been received by the Academies.

Grant Periods

Upon receipt of the award notice, the awardee should note the effective date and the expiration date. Effective date is the date specified in the grant notice on or after which expenditures may be charged to the grant. Charging expenditures to the grant prior to the effective date is strictly prohibited. Expiration date is the date specified in the grant notice after which expenditures may not be charged against the grant except to satisfy obligations to pay allowable project costs committed on or before that date. The expiration date is the last day of the month designated.

Once an award is made, the effective date cannot be changed. The expiration date may be changed as a result of approval of a request for a no-cost extension. If approved, the Gulf Research Program will issue an amendment to the grant.

If additional time beyond the performance period and the established expiration date is required to assure adequate completion of the original scope of work within the funds already made available, the awardee may apply for a one-time no-cost extension of up to 6 months. A formal request must be submitted to the Gulf Research Program at least 45 days prior to the expiration date of the grant. The request must explain the need for the extension and include an estimate of the unobligated funds remaining and a plan for their use. This one-time extension will not be approved merely for the purpose of using the unliquidated balances.

POST-AWARD MANAGEMENT

Reporting Requirements

After an award is conferred, the grantee shall provide a semi-annual financial report to the Gulf Research Program to report on grant expenditures to date under the grant. The grantee shall provide an annual written report to the Gulf Research Program to report on activities being carried out under the grant, including but not limited to project accomplishments to date and grant expenditures. Within 30 days of completion of all grant activities, the grantee shall provide in writing a final grant report. The final grant report shall address the original objectives of the project as identified in the grant application, describe any changes in objectives, describe the final project accomplishments, and include a final project accounting of all grant funds.

Data Management

Implementation of the data management plan will be monitored through the annual and final report process. Annual project reports required for all multi-year awards must include an account of ongoing data management and the accessibility (e.g., sharing) of research information products (e.g., digital object identifiers [DOIs] or accession numbers for digital information; citations of relevant publications, conference proceedings, and conference presentations; and other types of dissemination). In addition, the report must articulate any current or foreseeable changes to the original plan. Continued funding for subsequent years of multi-year projects will be contingent upon acceptable performance, which includes adherence to the data management plan.

Final project reports, which are required for all awards, must describe the implementation of the data management plan. They must also clearly describe any changes from the original plan. At a minimum, the final report should include descriptions of the following:

- Data, datasets, and information products produced during the award period.
- Metadata (that describe the project and that describe the data and other information products) produced during the award period.
- Data, other information products, and associated metadata that will be maintained or curated after the award expires.
- Dissemination activities (e.g., publication of results and data, presentation of results and data).
- The curation facility or facilities (e.g., digital repository) where project data and other information products have been deposited or are being curated for long-term management and accessibility.
- Verification that the data and other information products are, or at least will be, widely discoverable and accessible (e.g., DOIs for data and other information products).
- In addition to evaluating the final report descriptions, the Gulf Research Program may review any digital products curated in digital repositories or otherwise curated to ensure that they are properly preserved, documented, and accessible.

Scientific Integrity

A fundamental purpose of the Gulf Research Program is to facilitate the advancement of knowledge and the application of the science to address challenges relevant to the Program's mission. All activities of the Gulf Research Program will be conducted to meet the highest standards of scientific integrity. All grantees have a responsibility to use the funds wisely. To continue the emphasis on scientific integrity throughout the award period, the Gulf Research Program will ask all researchers, trainees, and fellows to comply with professional standards as defined by the National Academies of Sciences, Engineering, and Medicine report *On Being A Scientist: A Guide to Responsible Conduct in Research*.

GRANT TERMS AND CONDITIONS

Please be advised that the Gulf Research Program expects applicants to have reviewed the Grant Agreement prior to submitting an application to ensure that the applicant is aware of the applicable terms under which the grant is offered. It is the policy of National Academies of Sciences, Engineering, and Medicine to entertain potential modifications to the Grant Agreement only under the most exceptional circumstances. Rather, successful applicants are strongly encouraged to sign the Grant Agreement as presented.

CLICK HERE to view a sample grant agreement if the applicant is a public institution.
CLICK HERE to view a sample agreement if the applicant is a private institution.

URLs FOR IMPORTANT HYPERLINKS

Below are shortened web addresses that will take you to the destination of important hyperlinks present in this document if you are viewing it in hard copy. Enter the URLs into a browser exactly as they appear, including letter case.

- GRP online application system: http://bit.ly/grp-appsystem
- Sign up for e-updates: http://bit.ly/2n1gXh1
- Understanding and Predicting the Gulf of Mexico Loop Current: Gaps and Recommendations: http://bit.ly/2t4V9FN
- Data Management Policy: http://bit.ly/2CLt19T
- Bureau of Ocean Energy Management (BOEM) Equipment Catalogue: http://bit.ly/2sXmB8f
- Sample Contact Information Form: http://bit.ly/2FCxHCp
- Sample Application Form: http://bit.ly/2FyGoxv
- Sample Budget Justification Form: http://bit.ly/2CmAHUl
- Budget Template: http://bit.ly/2BS9ec4
- Resume Specifications: http://bit.ly/2EVqyM7
- Current and Pending Support: http://bit.ly/2mjeN8j
- Collaborators: http://bit.ly/2ClNKpl
- GRP Conflict of Interest and Confidentiality Policies: http://bit.ly/2sXhSDj
- On Being A Scientist: https://www.nap.edu/catalog/12192
- Sample Grant Agreement—Public Institution: http://bit.ly/2HQsw2o
- Sample Grant Agreement—Private Institution: http://bit.ly/2F4VgG6

QUESTIONS?

Send questions about the grants to gulfgrants@nas.edu.