

NGI Call for Letters of Intent and Proposals Year 4



September 23, 2008 (V2.0)

Northern Gulf Institute Request for Letters of Intent and Proposals (Year 4)

Summary: The Northern Gulf Institute (NGI) is soliciting Year-4 Letters of Intent (LOIs) and proposals that pertain to and will advance collaboration within the northern Gulf of Mexico. The purpose of NGI collaborative research is to:

1. Support the best innovative science and technology research in the four NGI Research Theme areas that will benefit the northern Gulf of Mexico region,
2. Advance NOAA's mission to understand and predict changes in Earth's environment and provide environmental stewardship of the Nation, and
3. Establish strong collaborations between NOAA and NGI scientists.

During Year 4 emphasis is being placed on supporting the Gulf of Mexico Alliance (GOMA) Priority Task Teams. GOMA is in the final stages of preparing its Action Plan #2. Information concerning the GOMA plan can be found in a condensed version in attachment 1 to this document and on their working web page¹ as presented at the 4th Annual Gulf of Mexico Alliance Implementation & Integration Workshop.

Other Gulf of Mexico research needs are being identified by the ongoing Sea Grant Gulf of Mexico Research Plan Strategic Planning Process. An extract from an early draft of the results of the Sea Grant study is attachment 2 to this document. The Sea Grant draft document is intended for use in your LOI and Proposal development only and it should not be referenced in any other document without first contacting Steve Sempier, GOM Regional Research Planning Coordinator, Mississippi-Alabama Sea Grant Consortium (stephen.sempier@usm.edu or 228-818-8830).

NOAA's Gulf Coast Service Center at Stennis Space Center has recently produced a report, *Gulf Coast Services Center (NOAA) Needs Assessment*², documenting operational and research needs of the region.

A general discussion of these and other regional research needs can be found in the NGI Science, Education, and Research Management Plan

Addresses: Letters of Intent, Proposals and budgets should be submitted via e-mail as a **Microsoft Word document (LOIs and Proposal)** and an **Excel (Budget)** to the NGI Program Office, care of Michael Carron (228/6883228), mcarron@ngi.msstate.edu, and copy to stroud@ngi.msstate.edu by the target dates given in the next section. Cover letters and signature pages should be in a PDF document.

¹ http://www2.nos.noaa.gov/gomex/past_events/

² www.csc.noaa.gov/bins/products/GoMexNA_FINAL_1-21-08.doc

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First, second, and third year research spanned up to three years and were renewed on an annual basis after a thorough and successful progress review and the availability of funds. This RFP calls for new Year-4 proposals. Proposals can be for 1 or 2 years. The target percentage of the total NGI budget for each is 60% for 2-year proposals and 40% for 1-year proposals.

Important Dates: LOIs should be submitted to the NGI Program Office no later than October 8, 2008. Proposals must be submitted to the NGI Program Office no later than February 15, 2009.

Funding Availability: Proposers should work with the NGI Fellow³ at their institution to understand the target budget for their year-4 project. Final selection will consider funding levels and periods to allow for more proposal selections in Year 5.

Eligibility: Eligible applicants are faculty and research scientists at the five member academic institutions of the NGI and NOAA researchers. Pursuant to the terms of NGI Grant Award, approximately 25% of the NGI funding will be NOAA PI-led research and outreach. Collaboration on proposals can be from other academic institutions or federal or state agencies, as well as private companies and non-profit organizations. Collaboration with investigators outside of NOAA and the five NGI academic partner institutions will be treated as subcontractors of the principal or lead investigators.

Submission Requirements for Letters of Intent (LOIs):

LOIs must contain the name and contact information of the lead investigator from each collaborating institution/organization, a short description of the proposed research (limited to 2 pages), and a high-level budget estimate for each of the institutions or organizations.

Submission Requirements for Proposals: The guidelines for preparation of proposals provided below are mandatory (except where otherwise noted). Brevity will assist reviewers and Institute staff in dealing effectively with proposals. Therefore, the **Project Description (Section 5) may not exceed 10 pages**. Visual materials, including charts, graphs, maps, photographs and other pictorial presentations are included in the 10-page limitation. Appendix A to the proposal, a graphic showing the location of the project does not count against the 10 page limitation. PIs are cautioned that the project description must be self-contained and that URLs that provide information related to the proposal should not be used because 1) the information could circumvent page limitations, 2) the reviewers are under no obligation to view the sites, and 3) the sites could be altered or abolished between the time of submission and the time of review. Failure to adhere to these guidelines will result in proposals being returned without review.

³ <http://www.northerngulfinstitute.org/about/fellows.php>

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Format for NGI Project Proposals (Yr 4)

Explanatory comments and examples are in Italics

1.0 Title of Project

The title of the project must be brief, scientifically or technically valid, intelligible to a scientifically or technically literate reader and suitable for use in the public press. The NGI Program office may edit the title of a project prior to making an award.

Example:

Investigating material exchange between the marsh and channel along an estuarine gradient (If accepted, an NGI File Number will be assigned.)

2.0 Principal, Lead and Co-Investigators

For each project proposed, list one Principal Investigator. If multiple institutions or agencies, list one Lead Investigator for each institution. List all other responsible co-investigators.

For each investigator, provide:

Name
Institution
Address
Phone number(s)
Email address

3.0 Project Summary

The proposal must contain a summary of the proposed activity suitable for publication, not more than one page in length. It should not be an abstract of the proposal, but rather a self-contained description of the activity that would result if the proposal were funded. The summary should be written in the third person and include a statement of objectives and methods to be employed. It must clearly address in separate statements (within the one-page summary):

- The intellectual merit of the proposed activity; and*
- The broader impacts resulting from the proposed activity.*

It should be informative to other persons working in the same or related fields and, insofar as possible, understandable to a scientifically or technically literate lay reader.

4.0 Project duration

1 or 2 years.

5.0 Project Description

The Project Description should provide a clear statement of the work to be undertaken and must include: objectives for the period of the proposed work and expected significance;

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relation to longer-term goals of the PI's project; and relation to the present state of knowledge in the field, to work in progress by the PI under other support and to work in progress elsewhere. The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of experimental methods and procedures and plans for preservation, documentation, and sharing of data, samples, physical collections, curriculum materials and a discussion of how the results and products of this research will be made available to other researchers and the public. The location and geographic scope of the project shall be included in the description and a graphic should be included as appendix A, to the proposal, if appropriate.

6. Level of Collaboration

With whom and how will the project collaborate and in what ways (i.e., cooperative research linkages, involvement of prospective users in the project)? Collaboration among NGI institutions, NOAA research and line organizations, other federal and state agencies (EPA, NASA, USGS, COE, etc.), and the Northern Gulf community is recommended. Collaborators do not necessarily have to be funded by this project. When developing a joint proposal (including funding) between university and university or university and NOAA, specify the roles each organization will play and separate budget items by university and NOAA (see the sample budget) in appendix B to the proposal.

7. Current Research

a. Demonstrate that you and your collaborators have the experience and expertise to perform the proposed research.

b. Provide short resume of principal investigator and co-investigators in appendix C to the proposal.

8. Facilities and Equipment

Give a short description of the facilities and equipment available to this project and facilities and equipment proposed to be funded by this project.

9. Budget Justification

For budget example, see Appendix B. Follow the NOAA Budget Guidelines⁴ in developing your budget and budget justification.

10. Milestones (by quarter)

11. Permits *If your proposed research requires a permit please list and certify that the appropriate documents have been submitted to the governing authorities. **If you proposal does not require a permit simply enter, "No permits required."***

Examples of possible required permits:

- Human Subjects – Internal Review Board (IRB)

⁴ <http://www.ago.noaa.gov/grants/BUDGTGUD.PDF>

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- *Animal Use – Institutional Animal Use and Care Committee (IACUC)*

12. Conflict of Interest *Certify that there are no conflicts of interest with this project.*

Appendix A to the Proposal: Graphic of proposed project location, if applicable.

Appendix B to the proposal: Sample Budget

Project No.	<i>(Leave Blank)</i>								
Organization:									
PI:									
Title:									
				University	University	University	NOAA	NOAA	NOAA
Labor				Salary	%effort	Budget	Salary	%effort	Budget
	Senior Personnel			\$0	0%	\$0	\$0	0%	\$0
	Senior Personnel			\$0	0%	\$0	\$0	0%	\$0
	Senior Personnel			\$0	0%	\$0	\$0	0%	\$0
	Senior Personnel			\$0	0%	\$0	\$0	0%	\$0
	Senior Personnel			\$0	0%	\$0	\$0	0%	\$0
	Senior Personnel			\$0	0%	\$0	\$0	0%	\$0
	Senior Personnel			\$0	0%	\$0	\$0	0%	\$0
	Graduate Students			\$0	0%	\$0	\$0	0%	\$0
	Student Labor						\$0		\$0
Total Labor							\$0		\$0
Fringe Benefits			fringe rate				\$0		\$0
			0%				\$0		\$0
			0%				\$0		\$0
		Tuition	0 /month				\$0		\$0
Travel							\$0		\$0
Supplies							\$0		\$0
Contractuals							\$0		\$0
	Workshop Arrangements (Food, Lodging)						\$0		\$0
	Miscellaneous						\$0		\$0
Subcontracts							\$0		\$0
Permanent Equipment							\$0		\$0
Total Direct Costs							\$0		\$0
F&A							\$0		\$0
Total							\$0		\$0
Total Project Cost (University+NOAA)									

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Appendix C to the Proposal. Other supporting documents

C.1 Resumes of Principal Investigator, Lead Investigators and all responsible co-investigators.

C.2 Other documents.

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GOMA II Draft Action Items

Habitat Conservation & Restoration Team: Proposal for Action Plan #2

H-1: Continue development of the HCRT partnership structure

H-2: Address specific policy and scientific issues regarding habitat conservation & restoration

- Develop and promote in funding, policy, permitting and regulatory change recommendations
- Advocate for the advancement of state of restoration and conservation science and science-based management tools

H-3: Continue to develop and facilitate the Gulf Regional Sediment Management Master Plan

- Complete draft GRSMMP
- Recommend changes to the Federal Standard
- Promote the implementation of RSM in all GOM USACE Districts

H-4: Facilitate public-private partnerships to support habitat restoration and conservation efforts

H-5: Support policy and economic incentives that promote stewardship, conservation and

Coastal Community Resilience Proposal for Action Plan #2

R-1: Risk and resilience assessment (natural/physical, built, and social environment)

R-2: Risk and resilience communication at local, state, regional levels (e.g. clearinghouse, workshops and planning groups, handbooks)

R-3: Risk and resilience management (e.g. resilience index, culture/heritage documentation, smart and sustainable development)

Managing Nutrient Inputs and Reducing Impacts to Coastal Ecosystems Proposal for Action Plan #2

NIR-1: Characterization of Nutrients and Nutrient Impacts to Coastal Ecosystems in the Gulf of Mexico

NIR-2: Coordinate Efforts to Support State Development of Nutrient Criteria for Gulf of Mexico Coastal Waters and Estuaries

NIR-3: Reduce Excess Nitrogen and Phosphorus Inputs to Gulf of Mexico Coastal Waters and Estuaries

NIR-4: Increase Regional Coordination to Reduce Hypoxia in Gulf of Mexico Coastal Waters and Estuaries

Ecosystem Integration and Assessment Team Proposal for Action Plan #2

EIA-1: Develop a Gulf of Mexico Ocean and Coastal Mapping Master Plan.

- Partners currently include the USACOE, US Naval Oceanographic office, NOAA NOS. This activity will be lead through the Joint Airborne Lidar Bathymetry Technical Service Center located in MS.
- Will include the identification of ongoing Federal, State and other mapping programs.

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Attachment 1
(DRAFT)

Attachment 1
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- Develop a strategy to meet the gap requirements.
 - Federal partners will include USGS, HRI, EPA Gulf Breeze, NOAA
- EIA-2: Enhance and broaden the Priority Habitat and Information System to provide public access and delivery of current and historic local, state and federal Gulf of Mexico environmental data.
- NOAA Grant to HRI to provide support to each of the 5 Gulf States to identify and input data into PHINS.
 - Hold semi-annual workshops to further identify data gaps and provide training to the States on PHINS data input and management.
 - This grant will also develop and implement a strategy for viewing bathymetry and topography and provide travel to Mexico for the semi-annual meetings
- EIA-3: Finalize and implement the Coastal and Marine Ecological Classification Standard.
- Accomplishments include improved compatibility with NWI and NVC classifications and an updated glossary of habitat terms.
 - Phase II plans will include:
 - Finalize classes for Benthic, GeoForms and Water columns components
 - Complete Red Fish Bay, TX and MS Coast Oyster Bed Demo classification projects.
 - Improve data from demo projects to include continued work with GAME, REDM and PHINS to identify best way to incorporate CMECS terms.
- EIA-4: Determine the Value of Ecological and Socioeconomic Services within the Gulf of Mexico.
- New grant with EPA/GMPO –Pilot Project for Mustang Island, TX
 - Tasks include creating a map using habitat data available. Determining what the ecological services of those map units are and then working with resource economists to value those services, using a socio-economic perspective.
- EIA-5: Produce an Emergent Wetlands Status and Trends Report and Geospatial Data Set.

Water Quality Proposal for Action Plan #2

WQ-1: Harmful Algal Bloom Draft Actions

- Improve technologies for detection of harmful algal blooms and toxins, and identify environmental conditions promoting blooms.
- Improve the capabilities of Gulf-wide monitoring networks to provide the bloom information needed for local coastal managers to minimize HAB effects. Recognize that HAB events may be significant at both local and Gulf-wide scales.
- Develop methods and technologies that prevent, control, or mitigate harmful algal blooms and their impacts.
- Better understand harmful algal bloom effects on human health.
- Increase communication among those involved in harmful algal bloom-related monitoring and decision-making and provide training opportunities to improve management of resources.

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WQ2: Human Disease Draft Actions

- Improve the methods used to identify areas that are impaired by pathogens and to track sources of the pathogens.
- Improve our understanding of the risks to human health of different sources of pathogens, including survival in ambient conditions.
- Provide Coastal Managers with information to make better-informed human-health and resource-management decisions.
- Better understand Vibrio-bacteria ecology and human-health risks.

WQ3: Contaminant Reduction Draft Actions

- Identify the source of the mercury that ends up in Gulf of Mexico seafood.
- Identify contaminants for which there is a strong potential for accumulation in seafood and screen for their presence in Gulf of Mexico seafood.
- Communicate information to fishermen, seafood distributors, and the public about how to safely deal with mercury and other seafood contaminants having potential human-health effects.

WQ4: Water-Quality Monitoring Draft Actions

- Collect and manage information about water-quality monitoring programs across the Gulf of Mexico.
- Make water-quality data collected across the Gulf of Mexico comparable in support of Gulf Alliance actions.
- Develop a coordinated water-quality monitoring network for the Gulf of Mexico based on existing monitoring and that provides sufficient information to properly manage resources.
- Improve data-delivery tools to get information to resource managers.
- Develop management tools that inform decision makers about existing water-quality conditions and potential changes that could result from coastal land-use decisions.
- Improve the knowledge base needed to properly manage or reduce nutrients in coastal waters (in collaboration with other Teams)
- Improve the understanding of ambient dissolved-oxygen concentrations and their effect on living resources (in collaboration with Nutrients Team)
- Identify specific wastewater and stormwater disposal alternatives which would benefit coastal ecosystems and human uses.
- Encourage the placement of restoration projects to maximize the benefit to water quality.

Environmental Education Proposal for Action Plan #2

ED-1 Galvanize local communities to protect the Gulf of Mexico through education programs and projects.

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Attachment 1
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- ED-2 Conduct public awareness activities for the Gulf of Mexico.
- ED-3 Galvanize the K-20 community to elevate environmental literacy for the purpose of creating a future informed citizenry that engages in action for the health and welfare of the Gulf and connected ecosystems.
- ED-4 Utilize economic value for the Gulf in targeted environmental communications.

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(DRAFT) Excerpts from the Sea Grant: Priority Gulf of Mexico Research Needs Analysis I: Highest Ranked Topic Areas for the Gulf of Mexico

Analysis and Results

GMRP organizers examined the top 10 ranked priorities from each of the workshops and combined similar workshop priorities under one heading, which was called a research topic. Thirty-four research topics were identified. Next, the survey comments were reviewed and linked to related research topics. Research topics were analyzed based on workshop and survey results. The highest ranked research topic were determined according to the following criteria: if they were ranked in the top 10 at more than one workshop, workshop participants ranked it in the top 5 highest priorities, was in the top 5 most mentioned survey comments, and linked to an ORPP research priority that was rated in the top 5 by survey respondents. Research topics were considered a very high priority if they fit three or more of the aforementioned criteria. After this analysis was complete there were 6 research topic areas that met the criteria (Table 5). The specific descriptions of these top 6 research topic areas are included in Table 6 and the descriptions of the topic areas are based on the workshop priorities that originally supported the topic area.

Table 5. The top 6 Gulf of Mexico Research topic areas based on workshop and survey results

Research Topic Area*	Workshop Results		Survey Results	
	Ranked in the top 10 at two or more workshops	Ranked in the top 5 by workshop participants	Top 5 most mentioned in comments	Top 5 rated underlying ORPP RP
Freshwater Input and Hydrology	✓	✓	✓	✓
Connectivity of Habitats and Habitats to Resources	✓	✓	✓	✓
Water Quality and Nutrients	✓	✓	✓	✓
Sea Level Change, Subsidence, and Storm Surge	✓	✓	✓	
Ecosystem Health Indicators	✓	✓		✓
Sediment Management and River Diversion		✓	✓	✓

*The specific descriptions of the topic areas were used to create this table but have been removed and listed below in order to make the table more readable.

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Table 6. Specific research needs that comprised the highest rated research topic areas

Freshwater Input and Hydrology

- Research the effects of freshwater input on ecosystems including the impacts of reduced freshwater input on benthic communities, trophic interactions, fisheries, emergent coastal habitats, sediment transport, and erosion
- Study the effects of saltwater intrusion, salinity change, and temperature change on shifting ecosystems and expanding species range, invasive species, and fisheries productivity
- Examine the impacts and changes in the timing, amount, and type of water (ground water versus surface water) that enter coastal systems and determine the hydrologic requirements of healthy marsh ecosystems
- Research how current building and permitting practices effect freshwater inflow, upstream impoundments reduce inflow, causeways impact hydrology, and freshwater input influences flow time, and examine how human manipulation of the amount and timing of freshwater inflows impacts resources
- Study and project changes in the pattern and quantity (gradient shift) of precipitation and determine the impacts of drought on hydrological processes

Connectivity of Habitats and Habitats to Resources

- Study connections between habitats from watershed to shelf edge and estuaries to offshore banks across the Gulf of Mexico and examine the linkages between these habitats and living marine resources
- Develop system-wide model(s) of these connections for the Gulf of Mexico and include data on forcing functions
- Collect and analyze data to understand connectivity claims to support fisheries management decisions including examining how changes in habitat quality and quantity impact marine organisms
- Understand habitat change over time to determine what is and is not sustainable

Water Quality and Nutrients

- Determine the effects of storm water and waste water management on the environment
- Research the impacts of development, land-use, and land cover on water quality and utilize observation systems to identify strategies to improve water quality
- Study the impacts of nutrients, eutrophication, and coastal hypoxia on ecosystem health and develop models to predict the impacts of non-point source pollution on coastal resources
- Understand the impacts of nutrient loading on harmful algal blooms and on sea grass

Sea Level Change, Subsidence, and Storm Surge

- Understand the processes, effects, trade-offs and relationships of climate change, subsidence, and storm surge on coastal and upland areas over time including changes in ecosystems, hydrology, saltwater intrusion, coastal shorelines, barrier islands, and wetland composition and apply this knowledge in habitat restoration efforts
- Study shoreline change from natural and anthropogenic causes and examine the role of coastal development in inhibiting vertical migration of marshes and other habitats
- Research changes in elevation and coastal flooding vulnerability
- Study public attitude, cultural changes and local governmental approaches to sea level change and examine the impacts of sea level change and storm surge on human health and agriculture

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Ecosystem Health Indicators

- Identify variables needed to develop good indicators of ecosystem health
- Develop better methods to evaluate ecosystem health and define the appropriate metrics for these evaluations

Sediment Management and River Diversion

- Study the impacts of shoaling and sediments on habitats and species and identify the optimal use and allocation of sediment
- Research the effects of river diversions on water quality and marshland populations