



The Georgia Sea Grant College Program

Request for Research Proposals FY2018-2020

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I. Introduction

The Georgia Sea Grant College Program supports integrated research and extension projects that improve the understanding, wise-use and stewardship of Georgia coastal and marine resources. We are seeking to fund original and innovative research that has public relevance and is aligned with one or more of our four focus areas:

- 1) Healthy Coastal Ecosystems,
- 2) Sustainable Fisheries and Aquaculture,
- 3) Resilient Communities and Economies and
- 4) Environmental Literacy and Workforce Development.

To learn more about these four focus areas, we strongly encourage you to read the DRAFT 2018-2021 Georgia Sea Grant Strategic Plan Executive Summary <http://gacoast.uga.edu/research/funding/sea-grant-request-proposal/>

The overarching goal of our research program is to support *outcome oriented* research projects that span broad areas of natural, physical, social, behavioral and economic sciences and engineering. We aim to make research investments that will generate substantial social, economic or environmental impact in Georgia. Investigators are encouraged to integrate social science approaches, economics and the use of information technology into the research where appropriate. Some form of educational training, outreach, and/or dissemination of research results (beyond publication in peer-reviewed journals) is required for every research project.

We have approximately \$400,000 per year allocated for research projects. We anticipate funding a total of 6-8 grants with a maximum budget of \$75,000 per year for two years (including indirect costs, if any).

In addition, we have allocated nearly \$93,000 per year for two years for our new *Graduate Research Traineeship* program. Our traineeship program includes a stipend that offers qualified graduate students the opportunity to work with principal investigators (PI) on Sea Grant funded research projects. The traineeship stipend does not cover tuition and fees. Sea Grant funded research projects provide training in the students' major fields, and often provide material for dissertation and theses. The trainees work closely with faculty conducting Sea Grant research to formulate methodology and conduct scientific research. A Sea Grant trainee is expected to work as an investigator (not simply a research technician or laboratory helper) on the research project.

The total number of grants awarded by Georgia Sea Grant for the FY2018-2020 funding cycle will depend on the number and types of meritorious applications submitted in response to this notice. Based on the project scope and budget of all applications selected for awards, the actual award amounts may differ from the funds requested by the applicant.

Any eligible applicant may submit no more than two applications as PI or co-PI.

II. Georgia Sea Grant's Merit Review Process

Merit Review Principles

(i) Needs Assessment

Through our strategic planning process, we have identified a list of research priorities under each of our four focus areas. Please refer to our DRAFT 2018-2021 Strategic Plan Executive Summary for more details (link above).

Healthy Coastal Ecosystems (HCE)

- Develop new models, tools and technologies to demonstrate the value and function of healthy ecosystems, as well as the factors and practices that affect them.
- Develop new models, tools and technologies to demonstrate the economic and ecological importance of sustaining critical habitats, biodiversity, ecosystem services and wildlife corridors.
- Develop new models, tools and technologies to understand the impacts of habitat alteration and loss of ecosystem function in coastal environments and watersheds.
- Develop actionable information on the effectiveness of habitat enhancement, ecosystem restoration, nonpoint source pollution control, green infrastructure, low impact development and living shoreline planning and design initiatives.
- Develop new models, tools and technologies to improve the effectiveness of remediation and restoration of impaired habitats and identify new restoration approaches and technologies.

Sustainable Fisheries and Aquaculture (SFA)

- Develop new models, tools and technologies to identify and respond to emerging issues that threaten the health and sustainability of Georgia's seafood supply.
- Develop and test new models, tools and technologies to help Georgia's seafood industry market their products and maximize profits.
- Develop and test new models, tools and technologies to enhance the expansion and diversification of Georgia's molluscan shellfish aquaculture industry.
- Develop actionable information to support sustainable and resilient working waterfronts and marine-dependent businesses.

Resilient Communities and Economies (RCE)

- Develop new models, tools and technologies to help communities assess their vulnerability to climate-related hazards, such as shoreline erosion, flooding, drought and salt-water intrusion, man-made disasters and development.
- Develop new models, tools and technologies to inform comprehensive planning and adaptive management strategies.
- Develop and test new methods to inform coastal citizens about the connection between economic growth and resource protection, translate science on coastal hazards and increase awareness about coastal hazard mitigation measures.
- Determine how freshwater management policies, regulations, and socio-economic factors affect the relationship between sustainable coastal communities and healthy coastal ecosystems.
- Conduct research on population growth, land use changes and climate change to inform water use governance.
- Develop new models, tools and technologies to understand and visualize coastal hazards and disasters and assess interconnections with at-risk communities.
- Develop actionable information to assist keystone businesses, local governments and the public in planning for weather-related disasters in order to build resilience, improve communication and facilitate recovery.

Environment Literacy and Workforce Development (ELWD)

- Develop innovative learning methods to engage public in community planning processes for adaptive management to changing conditions.
- Develop innovative learning techniques to increase environmental literacy among stakeholders, including how ecosystem change affects economic, social, and cultural values, as well as implications for conservation and management.

(ii) Outcome-Oriented Research

We define outcome-oriented research as research that provides quantifiable evidence for impacts that stimulate learning (awareness, knowledge, skills, motivations), action (behavior change, practice, decisions, policies) and/or consequences (social, economic, environmental, etc.) in Georgia.

Each year, Georgia Sea Grant goes through a rigorous evaluation by the National Sea Grant Office (NSGO). The goal of this evaluation is to ensure the greatest benefit for all the federal and state investments. NSGO evaluates Georgia Sea Grant's progress relative to its Strategic Plan and targeted Performance Review Panels' evaluation. We monitor and track the progress of our funded research projects using Progress and Annual Reports and submit these reports to NSGO for evaluation using the Sea Grant *Planning, Implementation and Evaluation Resource (PIER)* system. Information that we collect includes the project funding, investigator, institution, abstract, partners and any impacts and accomplishments. These impacts and accomplishments showcase how our funded research is benefitting our ocean, coastal and marine resources.

According to the NSGO, *accomplishments* are the key actions, activities or products resulting from Sea Grant funded research. They may not yet be quantifiable, but they are no less important; perhaps this project laid the foundation for key behavioral changes within a community or resulted in an important targeted committee - the Sea Grant network records these under accomplishments. An *impact* is a summary of verifiable economic, societal, and/or environmental benefits of Sea Grant's funded research. Sometimes projects take years for true objective and measurable impacts.

We encourage you to visit the NSGO website for a list of Impacts and Accomplishments produced as a result of Georgia Sea Grant funded research <http://seagrants.noaa.gov/WhatWeDo/ImpactsandAccomplishments.aspx>

Georgia Sea Grant funded research projects must produce one or more of the following outcomes. Please refer to our 2018-2021 Strategic Plan for more details.

- Peer-reviewed and other publications. (Refer to Appendix A for more details.)
- K-12 students reached. (Refer to Appendix C for detailed definitions.)
- K-12 curricula developed and adopted by formal and informal educators. (Refer to Appendix C for detailed definitions.)
- Students engaged in research and scientific careers. (Refer to Appendix C for detailed definitions.)
- Educational programs and products developed.
- Ecosystems and habitats protected, enhanced or restored. (Refer to Appendix C for detailed definitions.)
- Tools, technologies and/or information services developed.
- Impact on policy- and/or decision-making.
- Impact on regulatory action.
- Impact on planning.
- Impact on mapping.
- Impact on resource management, business, and/or industry. (Refer to Appendix C for detailed definitions.)
- Ecosystem-based approaches developed. (Refer to Appendix C for detailed definitions.)
- Jobs/businesses created or retained. (Refer to Appendix C for detailed definitions.)
- Market and non-market economic impacts. (Refer to Appendix C for detailed definitions.)
- Volunteer engagement.

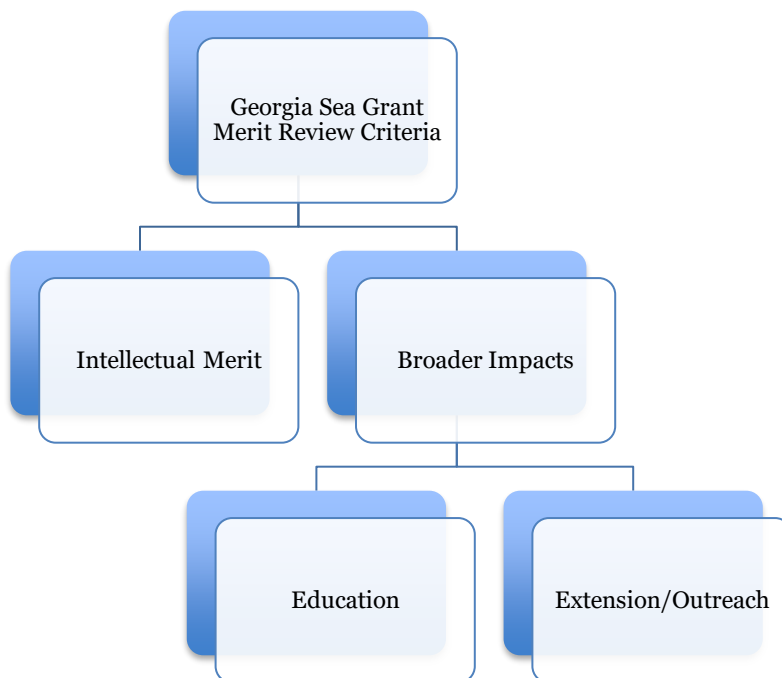
(iii) Integrating Research and Extension

One of Georgia Sea Grant's most enduring contributions is the *extension* of our scientific research to the coastal communities through education and outreach. We leverage cutting edge scientific research with extension to engage the public, educate the next cadre of scientists, and help Georgia coastal communities make sound decisions about weather, water and climate related issues that they face in their lives. All of our funded research projects must have extension, education and/or outreach components.

Merit Review Criteria

To maintain the highest quality, integrity and relevance of Georgia Sea Grant funded research, we have modeled the core values of our merit review process after the National Science Foundation’s gold standard of scientific review. The primary goal of Georgia Sea Grant’s merit review process is to ensure that all proposals are evaluated in a transparent, objective and rigorous manner.

Similar to the National Science Foundation, Georgia Sea Grant merit review includes two criteria – Intellectual Merit and Broader Impacts. Broader Impacts is further divided into two sub-categories: education and extension/outreach. Both criteria are to be given full consideration during the review and decision-making process; each criterion is necessary but neither, by itself, is sufficient.



The intellectual merit criterion encompasses the potential to advance knowledge and understanding within its own field or across different fields. The broader impacts criterion encompasses the potential to prepare the next cadre of scientists by engaging students in education and/or research; and the potential to advance societal outcomes by outreach and extension activities.

Merit Review Process

All pre-proposals that are submitted in response to Georgia Sea Grant’s FY2018-2020 request for proposals will undergo review by a panel composed of technical experts, stakeholders and Advisory Board members. Fully developed proposals that are submitted in response to encouragement from the pre-proposal process will be subjected to peer review. Following the completion of the peer review process, Georgia Sea Grant will convene a technical review panel that is capable of interpreting peer reviews within the fields of specialty in which proposals are under consideration. The technical review panel will rank the proposals on the basis of overall quality and advise Georgia Sea Grant on which proposals should be considered for funding. The technical review panel will operate under procedures to avoid conflict of interest and will include Georgia Sea Grant’s NSGO program officer. Prior to notifying proposers of the outcome of the proposal process, the director of Georgia Sea Grant will inform the NSGO of Georgia Sea Grant’s intended decisions and document the corresponding rationale for the record. Once the NSGO has approved the decision-making process, Georgia Sea Grant will notify all proposers of the decisions regarding the proposals. Records of the proposal and decision-making process, including peer reviews and technical reviews, will be maintained for audit.

Selection of Reviewers

Georgia Sea Grant strives to ensure selection of experts who can provide us with proper information needed to make a funding decision. Selection of reviewers is based on the following criteria.

- Specialized knowledge of the science and engineering subfields involved in the proposals to be reviewed to evaluate competence, intellectual merit, and utility of the proposed activity.
- Broader or generalized knowledge of the science and engineering subfields involved in the proposals to be reviewed to evaluate the broader impacts of the proposed activity.
- Broad knowledge of the infrastructure of the science and engineering enterprise, and its educational activities, to evaluate the contributions to broader impacts.
- Broad knowledge of environmental issues and research needs in Georgia.
- Broad knowledge of Strategic Plan to establish relevance of the proposed research activity in achieving the goals and objectives of the plan.
- To the extent possible, diverse representation within the review group, including but not limited to, reviewer diversity, type of organization represented, age distribution and geographic balance.

Pre-proposal Phase

Administrative Review

Upon receiving the pre-proposal, Georgia Sea Grant conducts an administrative review to ensure completeness and conformance with the pre-proposal submission requirements. Adherence to guidelines is strictly enforced. If the proposal does not adhere to the instructions in the solicitation, then Georgia Sea Grant may return the pre-proposal without review. If the proposal is complete and conforms to the pre-proposal submission requirements, then the proposal is forwarded for technical review.

Panel Review

The review panel will be comprised of subject matter experts, extension specialists and members from the Advisory Board. Based on the panel recommendations, Georgia Sea Grant will communicate the decision to *Invite/Do Not Invite* full proposals via eSG. The reviewers' comments (blinded) will be made available to the PIs. There will be no rebuttal or response process. ***We anticipate inviting between 10 to 20 pre-proposals for development into full proposals.***

Full Proposal Phase

Peer Review

After undergoing administrative review, all full proposals will go through a standard review process by at least three out-of-state scholars in a particular field to evaluate the scientific merit of the proposal and to ensure the reliability of the material being presented. Full proposals submitted in response to this solicitation will be reviewed by Ad hoc Review. Each reviewer will complete a summary rating and accompanying narrative. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the PIs using eSeaGrant (eSG). The proposers will be allowed to rebut, answer questions raised or clarify the doubts.

Technical Panel Review

Technical review panel will be composed of out-of-state subject matter experts and extension specialists. Each proposal will be assigned to one primary reviewer and one secondary reviewer. During the technical panel review meeting, the primary reviewer will take the lead in summarizing the assigned proposal, discussing its merits, and offering the perspectives of peer reviewers. The secondary reviewer will cover additional viewpoints not mentioned by the primary panelist. The proposal will then be open for discussion and anyone on the panel can join in. A scribe will be assigned for each proposal and will be responsible for taking notes and summarizing the comments made by the primary and secondary reviewers and other panelists. After the discussion, the panel will come to a consensus about the strengths/weaknesses and ranking of the proposal. The maximum time allotted for the discussion of each proposal

will be 15 minutes. The panel will be asked to formulate a recommendation to either support or decline each proposal. Panel comments (blinded) will be made available to the PIs using eSG. There will be no rebuttal or response process after the technical panel review. Based on the panel recommendations, Georgia Sea Grant will communicate the decision to *accepted for funding/not accepted for funding* to all investigators whose full proposals were reviewed by the technical panel. ***We anticipate funding between 6-8 full proposals for our FY2018-2020 funding cycle.***

III. Important Dates

January 22	GASG Request for Pre-proposals released
February 17	Pre-proposal Webinar
March 15	Pre-proposals due to GASG
May 1	Pre-proposal Review Panel
May 15	Invitation for Full Proposals
June 1	Prospective Researchers Workshop and Research Symposium
July 3	Full Proposals due to GASG
August 15	Full Proposal Review Panel
September 1	Funding Notification

IV. Duration of the Project

Proposed projects should be for a 24-month duration and should focus on outcomes that can be achieved during this period. The award will begin on February 1, 2018 and terminate on January 31, 2020. Award recipients may request a no-cost extension of up to 6 months, if additional time beyond the established expiration date is required to assure adequate completion of the original scope of work within the funds already made available. Under such circumstances, a formal request must be submitted to Georgia Sea Grant via email. The request must explain the need for the extension and a plan to use the unexpended balance. The research plan should not change the approved statement of work of the original proposal.

V. Who May Submit a Proposal

- Universities and colleges: Georgia universities, and two- and four-year colleges (including community-colleges) acting on behalf of their faculty members.
- Nonprofit, non-academic institutions: Independent museums, observatories, research laboratories, professional societies, and similar organizations in Georgia that are directly associated with educational or research activities.

VI. How to Submit a Proposal

Georgia Sea Grant uses a web-based system called eSeaGrant (eSG) that allows preparation, submission, and management of proposals online. Mandatory registration is required before the pre-proposal submission process. **Proposals that are not submitted via eSG will not be considered.**

Prior to submitting an application, the principal investigator (PI) must complete a one-time registration process in the eSG. It can take as long as 2 weeks to complete the registration process so it is critical to begin as soon as possible before the pre-proposal due date.

Instructions on how to register to use the system and how to upload your proposal to the eSG system are available here <http://gacoast.uga.edu/research/funding/sea-grant-request-proposal/>

The submission process involves two steps: (1) investigators must submit a pre-proposal by 5:00 PM ET on March 15, 2017; and (2) investigators whose pre-proposals are encouraged to be developed for full proposal submission will be invited to submit a full proposal by 5:00 PM ET on July 3, 2017.

No proposals will be accepted after the proposal deadline.

VII. Proposal Submission, Review, and Award Preparation Process

Pre-Proposal Phase

Pre-Proposal Submission Process

Submission of preliminary proposal (pre-proposal) is **required** to be eligible for a full proposal submission. Pre-proposals must be submitted using the eSG system. All pre-proposals will be subjected to administrative review. Pre-proposals that are not compliant with the guidelines may be returned without review. It is the investigator's responsibility to ensure that the proposal is compliant with all applicable guidelines. For collaborative proposals, only the lead institution should submit the proposal. All other collaborators should be indicated in the list of personnel in the project description.

Pre-proposals must be single-spaced or double spaced with 1-inch margins, written in 12 point, Times New Roman, and must contain the following items, arranged in the order listed, and strictly adhere to the specified page limitations. Figures and tables are included in the applicable page limitations. References are not included.

- **Investigator Information:** Biographical Sketches (**two-page limit** for each) should be included for each person listed on the cover sheet. It should include the individual's expertise as it relates to the proposed research, professional preparation, professional appointments, five relevant publications and up to five synergistic activities. Advisors, advisees and collaborators should not be listed on this document.
- **Project Summary:** Provide an overview of the proposed research, addressing separately the intellectual merit and broader impacts (engagement, education and outreach). The summary should be written in third person, informative to those working in the same or related field(s), and understandable to a scientifically literate audience. The summary should not exceed **250 words**. Preliminary proposals that do not contain a project summary, including an overview and separate statements for intellectual merit and broader impacts will be returned without review.
- **Project Narrative:** The pre-proposal narrative should not exceed **two pages**.
 - What is the research problem, issue, need or hypothesis requiring this work?
 - What is the significance of the proposed research?
 - What is the project's relevance to the Georgia Sea Grant program goals as outlined in the Strategic Plan?
 - What is the conceptual framework or objectives of the proposed research?
 - What will be methodology used? Include theoretical studies, laboratory analyses and/or fieldwork, etc.
 - What is the economical, social or environmental impact of the proposed research?
 - Has an education and/or an outreach plan been considered?
 - Who will use and benefit from your research? How will the results be made available to the user?
- **Graduate Trainee:** Please indicate whether or not you require a graduate student trainee on your research project. No other explanation is required at this stage.
- **References:** Limit references to a **single page**.
- **Budget:** An estimate of the total funding that will be requested by year is required at the pre-proposal phase. Project costs should not include stipend requested for graduate research trainees.

No other items, appendices, letters of support or supplementary documents are permitted for preliminary proposals. Only acrobat (PDF) documents are accepted, and page numbers must be included.

PRE-PROPOSAL REVIEW CRITERIA			
INTELLECTUAL MERIT	Project Narrative	The proposed research project provides a clear overview of the project to be undertaken with Georgia Sea Grant funding. It states the purpose of the project, identifies a research need that it addresses, provides a brief background of topic, lays the objectives, describes scientific methodology, defines expected outcomes and any future applications of the proposed research.	0-30
	Need	The applicant identifies a research need, describes the benefits and elaborates on how the proposed research would directly or indirectly result in the listed benefits.	0-10
	Relevance to Strategic Plan	The proposed research addresses one or more of four focus areas and the goals and objectives of Georgia Sea Grant’s strategic plan.	0-10
	Significance of the proposed research	The proposed research benefits the ocean, coast or marine issues that are relevant to Georgia. The applicant outlines how the research project contributes to advancing scientific knowledge, and associated economic, social or environmental impact(s).	0-20
BROADER IMPACTS	Education	The proposed research project engages undergraduate and/or graduate students in scientific research. Alternatively, the proposed research engages PreK-12 teachers or informal educators in research activities.	0-15
	Outreach	The proposed research project has a substantial and proactive outreach component. The applicant lists the outreach activities that will occur, who will be engaged and how will the effort be proactive.	0-15

Full-Proposal Phase

Full Proposal Submission Process

Full proposals will be accepted from any PI who has submitted a pre-proposal, however priority will be given to pre-proposals that have been encouraged by Georgia Sea Grant to be developed into full proposal. The full proposal should not deviate substantially from the pre-proposal in the scope of the project or the list of personnel. Proposals submitted in response to this solicitation via eSG should be prepared and submitted in accordance with the instructions given below.

All full proposals will be subjected to administrative review. Full-proposals that are not compliant with the guidelines may be returned without review. It is the investigator’s responsibility to ensure that the proposal is compliant with all applicable guidelines. For collaborative proposals, only the lead institution should submit the proposal. All other collaborators should be indicated in the list of personnel in the project description.

Full proposals must be **single-spaced** with **1-inch margins**, written in **12 point, Times New Roman**, and must contain the following items, arranged in the order listed, and strictly adhere to the specified page limitations. Figures and tables are included in the applicable page limitations. References are not included.

- **Investigator Information:** Investigator information is carried over from preliminary proposal stage and updated to reflect changes in senior personnel
- **Project Summary:** Each proposal must contain a summary of the proposed project not more than **one page** in length. The project summary consists of an overview of the proposed research activity, a statement on the intellectual merit of the proposed activity, statement on the education and outreach components of the proposed activity. The overview includes a description of the research need that will be addressed if the proposal were funded, identification of Georgia Sea Grant's focus area(s), and a statement of objectives and methods that will be employed to conduct research. The statement on intellectual merit should describe the potential of the proposed activity to advance knowledge. The statement on broader impacts should describe the potential of the proposed activity to benefit Georgia, its coastal communities, and contribute to the achievement of specific, desired, societal outcomes.
- **Project Description:** The project statement should be limited to **12 pages** in length. It should provide a clear statement of work that will be undertaken and must include: research need, objectives for the period of the proposed research and expected significance, relevance to 2018-2021 Strategic Plan and on or more of Sea Grant's four focus areas; and relation to the present state of knowledge in the field. The project description should outline the general plan of work; including broad design of research, education, and outreach activities to be undertaken; and clear methodology and procedures.
- Project description should include the following information.
 - **Rationale:** What is the proposed research? What is the problem or issue that the proposed research will address? Why should Georgia Sea Grant invest in the proposed project?
 - **Scientific or Professional Merit:** How will the proposed research advance the state of the science or discipline? How will the proposed research be implemented? Which methods will be used in the proposed research?
 - **Innovativeness:** How is the proposed research unique? How does the proposed research activity lead to innovative solutions to a research need that is being addressed?
 - **Qualifications and Past Records of Investigators:** Are the investigators qualified by education, training and experience to execute the proposed research? Do they have any record of achievement with previous funding?
 - **Relationship to Sea Grant Priorities:** What is the project's relevance to the Georgia Sea Grant program goals as outlined in the Strategic Plan?
 - **Programmatic Justification:** What benefits (societal/economic/environmental) could accrue if the project is successful? How does the proposed research contribute to, or is an essential or complementary unit to other projects?
 - **Education:** How does the proposed research engage undergraduate and/or graduate students in scholarly or research work? Are there any formal (P-12) or informal educators involved in the proposed research? How are they involved?
 - **User Relationships:** Who will use and benefit from your research? Are the users engaged in developing the proposal? How will the results be made available to the user?
- **References Cited:** Reference information is required and should include the name of all authors (in the same sequence that they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. The list of references should be limited to **three** pages. These pages are outside of the 12-page project description.
- **Biographical Sketches:** Biographical Sketches (**two-page limit** for each) should be included for each person listed on the cover sheet. It should include the individual's expertise as it relates to the proposed research, professional preparation, professional appointments, five relevant publications and up to five synergistic activities. Advisors, advisees and collaborators should not be listed on this document.
- **Budget Requirements:** At the full proposal stage, target budgets should be no greater than \$150,000 (full award amount for 2 years) in direct and indirect costs combined. The applicable indirect cost rate(s), negotiated by the organization with the cognizant negotiating agency, must be used in computing indirect costs for a proposal. The amount above, \$150,000, does not include the required matching funds provided by the PI. There is mandatory cost-sharing. For every two federal dollars received by a PI, one dollar in non-federal cost-sharing is required. Institutional cost-sharing may be one of two forms: in-kind contributions or matching funds. In-kind contributions are defined under federal

guidelines as "contributions other than cash." While they usually add real value to a project, they do not require an actual cash outlay. Some examples of in-kind contributions are effort (existing salaries and benefits of investigators and others working on the proposed project and paid from non-federal sources), indirect costs not charged to the sponsor, third-party contributions and donated labor, materials, equipment, supplies, ship-time, and services. Matching funds are actual cash contributions.

Graduate Research Traineeships

Georgia Sea Grant strives to identify qualified graduate students in all disciplines displaying evidence of high-levels of motivation and the capability to pursue ocean-related research. Under the supervision of their faculty advisors, graduate trainees are engaged in Sea Grant funded research projects that advance the goals and objectives outlined in our strategic plan. Sea Grant graduate research traineeship stipends if requested, must not be included in project costs. A Sea Grant Research Trainee is a full-time registered graduate student who is working towards an advanced degree related to marine, ocean or coastal sciences. Typically, to justify inclusion of a traineeship, the project will provide the trainee with the basis of a thesis/dissertation. The traineeship stipend does not cover graduate student tuition and fees. The traineeship stipend, graduate student tuition or fees are not subject to indirect costs per Federal Regulation 15CFR917.11.

Special Information and Supplementary Documentation

Data Management Plan

All NOAA funded research projects, data and information collected and/or created under NOAA grants and cooperative agreements must be made visible, accessible, and independently understandable to general users, free of charge or at minimal cost, in a timely manner, except where limited by law, regulation, policy or by security requirements.

The requirement has two parts: (1) environmental data generated by a research project must be made available after a reasonable period of exclusive use, and (2) the grant proposal must describe the plan to make the data available.

All applicants are required to complete a one-page Data Management Plan" (DMP) in their full proposal (see Appendix D for more details). Funds may be allocated for data management activities. The DMP is not part of the 12-page project description. Even if no data will be produced, a DMP is required that states: "No data are expected to be produced from this project." Data Management Plans are not required at the pre-proposal stage.

In collaborative proposals, involving sub-awards, the lead PI is responsible for the DMP of the entire project. The lead PI may assign different roles and responsibilities to co-PIs with respect to the management of data. The lead PI is also responsible to provide a contingency plan for management of data in case of departure of key personnel from the project. The lead PI is also responsible for reporting in the Annual and Final Reports on the data management, preservation and access for the whole project.

DMPs will be considered during the merit review process.

After an award has been made, implementation of DMP will be monitored through the annual and final report process. PIs will be required to provide information on the data produced during the award period, where the data is being deposited, and how the data will be disseminated for long-term public access.

Failure to comply with DMP during and after the award may lead to ineligibility for future funding.

Data Repositories

Investigators may use any resource to deposit and archive their research related data. Although this list is not exhaustive, yet some useful websites are as follows.

<https://data.gulfresearchinitiative.org/>
<http://www.nodc.noaa.gov/argo/>
<http://www.esrl.noaa.gov/psd/repository>

NEPA Requirement

NEPA requires that Federal agencies consider the environmental impacts of major Federal actions significantly affecting the quality of the human environment. If a proposed project might have an environmental impact, the proposal should furnish sufficient information to assist Foundation officials in assessing the environmental consequences of supporting the project. Georgia Sea Grant will determine:

the adequacy of the information submitted;
whether or not additional information is needed; and
whether or not an environmental assessment or environmental impact statement will be necessary.

Support Letters

Letters of support from collaborating institutions, contributors of in-kind or matching funds, and organizations that will benefit from project results may be included.

FULL-PROPOSAL PEER REVIEW CRITERIA			
INTELLECTUAL MERIT	Rationale	The degree to which the proposed research activity addresses an important issue or problem in development, use, or management of ocean, marine or coastal resources	0-10
	Scientific or Professional Merit	The degree to which the proposed research activity will advance the state of science or discipline through the use and extension of state-of-the-art scientific methods.	0-30
	Innovativeness	The degree to which new approaches to solving problems and exploiting opportunities in resource management or development, or in public outreach on such issues will be employed; alternatively, the degree to which the proposed research activity will focus on new types of important or potentially important resources and issues.	0-10
	Professional Qualifications of the Investigators	The degree to which investigators are qualified by education, training, and/or experience to execute the proposed activity; record of achievement with previous funding.	0-5
	Responsiveness to Georgia Sea Grant Priorities	The degree to which the proposed research activity relates to priorities described in Georgia Sea Grant's Strategic Plan.	0-10
	Programmatic Value	The degree to which the proposed research activity will contribute, as an essential or complementary unit to other projects, to reaching the objectives of a sub-program in a state, regional, inter-institutional or national sea grant program or the degree to which it addresses the needs of important state, regional, or national constituencies.	0-5
BROADER IMPACTS	Education	The degree to which the proposed research activity will engage P-12 teachers or students, undergraduate and/or graduate students in scholarly or research activities.	0-15
	User Relationship and Outreach	The degree to which users or potential users of the results of the proposed activity have been brought into the planning of the activity, will be brought into the execution of the research activity, or will be kept apprised of progress and results.	0-15

Award Processing

Business Review

All proposals that are recommended for funding undergo a review by Georgia Sea Grant Fiscal Officer for business, financial and policy implications and the processing and issuance of a grant.

Award Finalized

Notification of the award is made to all lead PIs who submitted the full proposal via email. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the PI.

A Georgia Sea Grant award consists of (i) the award letter which includes any special provisions applicable to the award and any numbered amendments thereto; (ii) an itemized budget, on which Georgia Sea Grant has based its support; (iii) the proposal referenced in the award letter; and (iv) any applicable award conditions.

Reporting Requirements

Georgia Sea Grant adheres to the highest ethical standards in conducting research, and expects substantial outcomes from supported research projects. All outcomes should be submitted for peer-reviewed publications with authorship that accurately reflects the contributions of each participant on the research project. Georgia Sea Grant expects timely dissemination of research results, data-sharing, and access to samples, collections or other supporting materials that are created or gathered during the research process.

For all Sea Grant funded projects, the lead PI is required to submit an annual project report or final project report. These reports collect information about project participants, research activities, outcomes, publications, tools and technology developed, management and decision-making processes influenced, education products and programs developed, and other products and contributions, which are critical to Georgia Sea Grant's Annual Performance evaluation.

All progress related to Georgia Sea Grant funded research projects must be submitted to Sea Grant using eSG. Within 90 days after expiration of a grant, the PI is also required to submit a final project report. Failure to provide the required annual or final project report data jeopardizes continued funding.

For more details about Georgia Sea Grant reporting process and procedures, please refer to appendix B.

VIII. Program Contacts

- For questions about application submission, review and approval process; the eSG system, please contact associate director, Dr. Mona Behl: mbehl@uga.edu
- For questions about Marine Extension and Georgia Sea Grant, please contact director, Dr. Mark Risse at mrisse@uga.edu

Appendix A

Sea Grant Publication Type Definitions/Guidelines for Researchers

The end product of scientific and engineering research is information, and Sea Grant research results are not realized until they are available to users in the marine community. To further the use and development of marine and coastal resources, NOAA encourages wide dissemination of the results of Sea Grant research and other activities. A major part of that dissemination occurs in the form of publications and other communications documents and products aimed at Sea Grant's various audiences. [From the Green Book guidelines]

A bona fide Sea Grant publication meets the following criteria:

- (1) It is presented in the form and through the medium or media most appropriate to the subject and to the audience(s);
- (2) It is sponsored entirely, or in part, by a Sea Grant program;
- (3) It is intended for widespread public dissemination; and
- (4) It can be defined by one of the publication categories below.

Publication Categories:

1. **Peer-Reviewed Reprints** include journal articles that have undergone a thorough peer-review process. Book chapters, proceedings papers, and periodical articles that have been peer-reviewed also fall under this category. These refereed documents are subject to rigorous peer-review and are usually written by the investigators for use by other scientists. Their quality is generally high and they represent an important scholarly contribution to the wise use and development of marine resources. However, their usefulness to lay audiences may be limited in this form. "Advance online", or "online first" copies may be submitted instead of waiting for the reprint from the print journal, providing a DOI number is supplied and that it is the final, corrected paper.
2. **Non-peer-reviewed Reprints** include reprints from books, conference proceedings, periodicals and other sources, which are not peer-reviewed, but written by Sea Grant investigators and reprinted for distribution. These may include chapters, conference/workshop paper/poster presentations, newsletter articles, or any other reprint that appears in a document (print or electronic) intended for public distribution. While many of these are peer-edited, they have not been subjected to the rigorous peer-review process that most journal reprints and other scholarly articles undergo.

Please note: Full papers (or, in the case of presentations, a full paper, PowerPoint or video presentation link) are required, except in cases where only an abstract is published in the proceedings or other conference results document. Abstracts from a conference program intended only for conference attendees should not be submitted.

3. **Books & Monographs** vary from scholarly books, on specific subjects, to syntheses of entire research. They may be published by the Sea Grant programs, university presses, or commercial publishers and represent major investments of time and money. Their usefulness varies by subject, rigor of review, quality of editing and production, and method of distribution. Many grantees arrange for publication of books through their university presses which produce and market the works through special agreements.
4. **Technical Reports, Surveys** are usually more detailed than journal articles and written by the investigators who did the work. Their potential usefulness varies with the subject, rigor of review, quality of writing and editing, and method of distribution. Surveys are detailed works that analyze, evaluate, or critically examine a subject or situation.

5. **Conference, Symposia or Workshop Proceedings & Summaries** are records, proceedings, summaries, or highlights of professional symposia, conferences, webinars or meetings. Their quality is controlled by the choice of topics and speakers, and their usefulness depends upon promptness of publication, adequate distribution, and content. Individual papers and posters presented at these events are included under the peer-reviewed and non-peer-reviewed reprint categories.

Please note: Investigators do not need to send flyers, web announcements or other promotional tools that publicize conferences and other events. However, if a website is used initially to market an event, but is later used to post presentations and power points from the conference, then this website could be submitted as the conference record.

6. **Brochures, Fact Sheets, Posters, Reports, Research Summaries** include research summary documents, reports, and products that convey information on specific issues, topics or research highlights to the public. These are designed for particular user groups, may be quite specialized, and are readable by non-scientists and the general public. They may be written and produced by the project investigator, and/or communications staff. These documents are frequently based on Sea Grant research but are not limited to this source.

Please note: Brochures, posters, etc. that are produced to advertise or promote other Sea Grant documents/websites should not be submitted.

7. **Maps, Charts, Atlases** are representations, usually on a flat surface, of a hydrographic feature or area. They are occasionally produced by Sea Grant staff for boaters, researchers and others in order to provide specific information (such as the location of an artificial reef, etc.). Charts are often used to provide tidal current information and may serve as navigation aids.
8. **Educational Documents** may encompass a variety of materials such as curricula, study guides, lesson plans, posters, laboratory guides, videos and other classroom resources. These are generally designed for teachers and/or students and usually for designated grade levels. Documents and other products related to marine/ocean-related careers and career development are also included in this category.

Please note: Individual lesson plans designed for a particular class are not required unless your program plans to distribute them in some format (handbook, CD, website, etc.) to a larger audience beyond that classroom.

9. **Handbooks/Manuals/Guides** represent concise reference documents that provide specific information about a particular subject or place or instructions on how to accomplish a particular task or identify fish/animals (e.g. *Guide to Marine Mammals*).
10. **Theses, Dissertations** are funded regularly by Sea Grant programs. Ph.D. dissertations may be available from the library of the institution at which the degree was earned or from commercial services such as University Microfilms International. Master's theses are generally on file at the department in which the student did the research or in the granting university's library. An abstract of each thesis/dissertation, along with the PDF of the entire work should be made available.
11. **Topical Websites, Blog Sites** refer to specialty websites and blogs related to particular subject areas or topics. Programs should submit a hardcopy of the home page, along with the URL, when the site is first established. Because these sites are expected to evolve as they are updated and new information is gathered, they only need to be resubmitted following a major upgrade.

Please note: General program websites are not required as part of the distribution. Also, if changes are made to any URL, please notify the NSGL so that the link can be updated in the NSGL database.

12. **Other** includes those documents and products intended for public distribution that don't quite fit into other categories. These include, but are not limited to, patents, radio scripts and other items, such as certain types of displays/exhibits.

The following do not meet the criteria outlined above and should not be submitted:

- Proof, draft, preprint, or in-press copies: please wait for the final published print or online version (*if it doesn't get officially published it could possibly be reformatted into a technical or white paper if you still wish to distribute*)
- Conference exhibits/displays, billboards (*unless, however, the program intends to further distribute it afterward or make it available to loan, rent or purchase*)
- Minor updates/revisions of topical websites (*only major updates/revisions or complete redesigns should be submitted and will receive a new NSGL document number*)
- An article that only mentions or reports on Sea Grant research, but is not written, produced or affiliated with Sea Grant (*an example would be a newspaper article that reports on SG research or a SG researcher*)
- Papers written for a class assignment, unless the research was funded by Sea Grant (*such as in the case of theses and dissertations*)

Appendix B

Acknowledgment and Disclaimer Statements

An acknowledgment of support and disclaimer **must** appear in all publications and products (copyrighted or not) that were developed with support from the Georgia Sea Grant College Program.

Publications include, but are not limited to, peer reviewed journal articles, non-peer reviewed journal articles, reports, surveys, power point presentations, books and monographs, theses and dissertations, handbooks/guides/manuals, maps/charts/atlas, technical/blog sites, program management reports, etc.

Acknowledgement of Support Statement:

Publication supported in part by an Institutional Grant (NAxxOARxxxxxxx) to the Georgia Sea Grant College Program from the National Sea Grant Office, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Except for articles or papers published in scientific, technical or professional journals, the following disclaimer **must** also be included.

Disclaimer Statement:

All views, opinions, findings, conclusions, and recommendations expressed in this material are those of the author(s) and do not necessarily reflect the opinions of the Georgia Sea Grant College Program or the National Oceanic and Atmospheric Administration.

Georgia Sea Grant **must** also be acknowledged during oral talks, interviews, and discussions. Please refer to the following sample script.

Sample Script:

“We would like to thank Georgia Sea Grant College Program for supporting our work.”

Appendix C

Glossary of Terms

(Source: 2018-2021 National Performance Measure and Metrics Document, National Sea Grant College Program)

Coastal habitats include ocean, coastal, and Great Lakes habitats as defined in the Sea Grant legislation. Linear measures should either be converted to acres for this measure or reported as impacts or accomplishments. Indirect protection, enhancement, or restoration (e.g., through policy changes, fish stock enhancement, or habitat located downstream) should be highlighted in impacts or accomplishments, but not included in this measure.

Industry personnel include wild and cultured fishery participants, processors, and retailers. **Practices** include techniques, technologies and best management practices adopted. **Fisheries sustainability and seafood safety** refers to any combination of the ability of the ecosystem to remain diverse and productive; the social, cultural, and economic resilience of the fishing community; personal or crew safety; and quality and safety of the seafood product. Interactions with industry personnel should result in a behavioral change. Thus, conferences, social media, or handouts on fishing practices should not count unless there is evidence of behavioral change.

Communities refer to cities, towns, villages, or census designated places. **Sustainable economic and environmental development practices and policies** consist of actions by decision makers to support “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development).

Resiliency practices are those that increase the capacity of a community exposed to hazards to (1) absorb impacts while maintaining an acceptable level of functioning; (2) reduce the amount of time and financial resources needed to return to full level of functioning; or (3) adapt to future risks by learning from past disasters and adopting risk reduction measures. For this measure, the county of the community should also be reported to meet NOAA requirements.

Formal education refers to classroom-based education (e.g, K-12 and post-secondary education), whereas **informal** education takes place outside the classroom and is often site-based (e.g., at aquaria, science centers, mass media or workshops). NOAA defines an **environmentally literate** person as someone who has a fundamental understanding of the systems of the natural world, the relationships and interactions between the living and non-living environment, and has the ability to understand and utilize scientific evidence to make informed decisions regarding environmental issues. **Workforce development** describes programs and products designed to prepare individuals for entry into or advancement within an industry.

Ecosystem-based management is an integrated approach to studying and managing the resources of an entire ecosystem. This approach considers the cumulative impacts from various sources and the balance of conflicting uses. This includes the application of technology to coastal resource management through synthesis, integration, training, and the development of new management tools. The key here is to account for tools and services utilized and applied by managers and others. Publications, websites, social media, webinars, and other communication products should only be reported as developed except when there is evidence of behavior change – downloads alone do not indicate use. Series of products (e.g. newsletters) that were developed or used should only be reported as one product per year.

A **job** may include traditional employment, fellowships, internships, postdocs, or pursuit of an advanced degree.

A **job created** is a new position created and filled as a result of Sea Grant activities. An existing position that is filled with a Sea Grant-trained applicant should not be reported in this measure.

A **job sustained** is an existing, filled position that is sustained as a direct result of Sea Grant activities. A job cannot be reported as both created and sustained in the same year.

A **business created** is a new firm that was created as result of Sea Grant activities.

A **business sustained** is a previously existing firm that is sustained as a direct result of Sea Grant activities. A business cannot be reported as both created and sustained in the same year.

Market impacts: the amount of money that will be saved (e.g., through technological efficiencies) or generated (e.g., through sales) as a result of Sea Grant activities.

Non-market impacts: Ecosystem service valuation methods have the potential to provide information that can be used to demonstrate the direct and indirect economic impacts of different nonmarket goods and services. The estimation of non-market economic impacts can assist managers with decision making, as well as increase the public's general understanding of the economic importance and value of habitats. A number of valuation techniques have been developed to estimate the economic value of non-market ecosystem services, including value transfer, household production functions, hedonic analysis, travel cost and contingent valuation methodologies. A toolkit is available on the Sea Grant Social Science Website:

(<http://seagrants.noaa.gov/WhatWeDo/SocialScience/SocialScienceToolsandReports.aspx>).

The **home institution** is the institution to which the Sea Grant Director reports. It includes any centers or departments within that institution. When a proposal has multiple co-PIs, one individual should be considered the project leader, and the individual's institution determines where to report the proposal.

New students: Students who have not previously been counted and are supported by Sea Grant.

Continuing students: Students who were previously counted and are still supported by Sea Grant.

Graduate or Professional Degrees Awarded: The number of degrees awarded to students who received full or partial support from Sea Grant.

The graduate student categories are broken into M.A./M.S. and Ph.D. All other degree-seeking students supported by Sea Grant (such as J.D. or post-graduate students) should be counted under "Other Sea Grant supported professional degree students".

Engaged means that the individuals are actively participating in the program.

Informal education takes place outside the classroom and is often site-based (e.g., at aquaria, science centers, mass media or workshops)

Appendix D

Sea Grant Data Management Plan Form: *Proposal Submission Phase*

Title of the Proposal (required answer):

Name of the lead PI (required answer): Sea Grant requires that the lead PI serve as the data steward.

Contact Information (required answer):

Dataset Description(s) (required answer): What data will the dataset(s) contain? This includes descriptive details on data types, inclusion of metadata, data format(s), collection times / date ranges, etc. What name(s), if any, will be designated to the dataset(s)?

Do you agree to release all data no later than 2 years after the end-date of the project? (required answer):

Issues (required answer): Are there any legal, access, retention, etc. issues anticipated for the dataset? If yes, please explain.

Data Size: What will be the estimated size of the dataset? Please report estimated number of MB, GB, TB, etc., collected.

Data Format: What format will the dataset utilize? (i.e., Excel file, model code, audio/video recording, etc.)

Ownership (required answer): Who will own the dataset, if not the lead PI?

Post-Processing: What post-processing, QA/QC will this dataset undergo? Who will be responsible for performing this post-processing and QA/QC to prepare the dataset for its deposition into a repository?

Preservation Plan (required answer): What data repositories will be used to host the dataset? If none, how will the data be preserved?

Products: Will any information or data products be developed from this dataset? How will the related costs be supported? Which organization(s) will be producing these products?

Other Comments: Are there any additional comments related to the data that will results from your Sea Grant-funded study?

Sea Grant Data Management Form: *Project Completion Phase*

Date Submitted (required answer):

Title of the Proposal (required answer):

Name of the lead PI (required answer): Sea Grant requires that the lead PI serve as the data steward.

Contact Information (required answer):

Dataset Description(s) (required answer): What data do the dataset(s) contain? This includes details on data type, format, collection times / date range, etc. What name(s), if any, will be designated to the dataset(s)?

Issues: Are there any legal, access, retention, etc. issues existing for the dataset(s) (i.e.; IRB restrictions)?

Data Size: What is the estimated size of the dataset? Please report estimated number of MB, GB, TB, etc., collected.

Data Format: What format(s) do(es) the dataset(s) utilize? (i.e., Excel file, model code, audio/video recording, etc.)

Ownership (required answer): Who owns the data, if not the lead PI?

Post-Processing: What post-processing, QA/QC has this data undergone? What organizations performed this post-processing and QA/QC to prepare the data for its deposition into a repository?

Preservation Plan (required answer): What data repositories were used to host the dataset? If none, how was the data preserved? Please provide URL for any data repositories that were used to preserve this data and any necessary information needed to extract the data.

Keywords (required answer): Please provide a list of terms used to query the database.

Release Date (required answer): When will this dataset be available to the public? Reminder: the release date must be no later than 2 years after the end of the project.

Products (required answer): Have any information or data products been developed from this dataset? Which organization(s) produced these products? Please provide a location for any products that were produced as a result of this project.

Preferred Data and Product Citations (required answer): How to reference data, publications, or any other project outcomes?

Other Comments: Are there any additional comments related to the data that you produced with your Sea Grant funding?