New York State Department of Environmental Conservation
and New York Sea Grant

New York Ocean Action Plan Call for Research 2019-2021
Specifically Addressing Portions of the New York Ocean Action Plan (OAP)

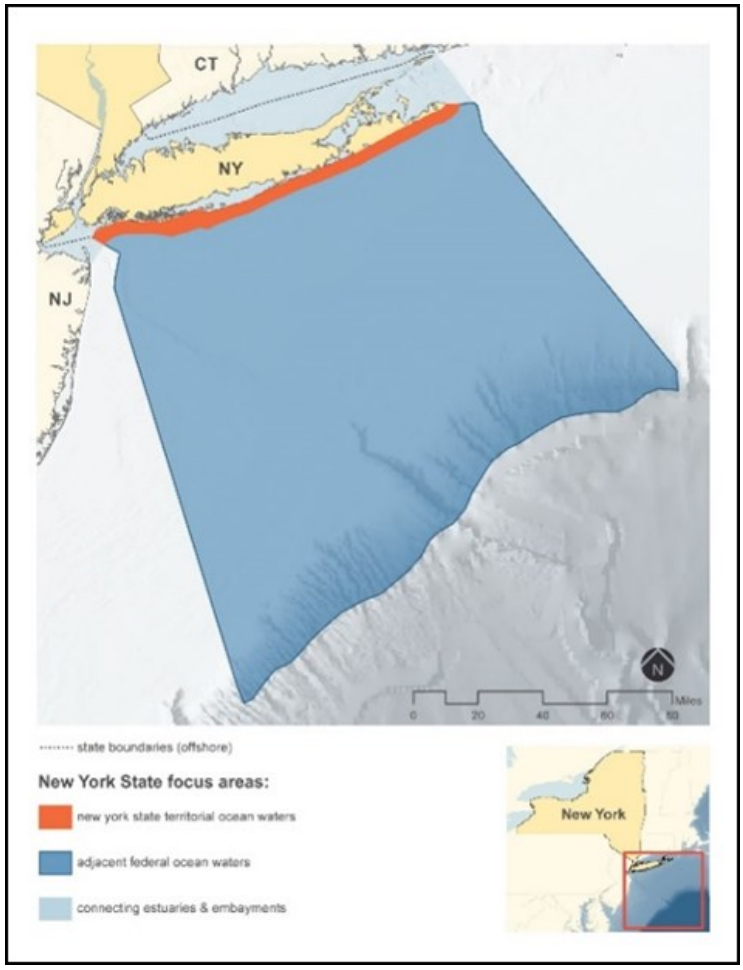
INVITING PRE-PROPOSALS FOR RESEARCH

Pre-Proposal Submission Deadline: 4:30 PM Monday, April 16, 2018

Anticipated Funds: approximately $650,000 over 2 years for projects beginning in 2019

Introduction:

New York State has made increased funding available through the Environmental Protection Fund to support the restoration, conservation, resiliency and sustainable use of New York's ocean ecosystem. Through collaboration with municipal, regional and federal government agencies, scientific and academic partners, industry, the public and other ocean stakeholders, the State has begun the implementation of the New York State Ocean Action Plan (OAP). The geographic scope of the OAP mirrors that described in the New York State Offshore Atlantic Ocean Study of 2013 and includes portions of the New York Bight from the inshore state waters of the state Marine District (0-3nm from shore) and offshore federal waters out to the outer continental shelf (OCS) break from New York Harbor to Montauk Point (see map below).



Previously, much of marine research focus has been on human impacts on our embayments and estuaries resulting in a lack of data and information on New York's long-understudied inshore and offshore *ocean* waters. Thus, a key element of the OAP is to conduct dedicated research to inform long-term monitoring programs and improve science-based understanding of how interrelated components of the *ocean ecosystem* function off New York's coast. This call identifies prioritized research topics that will enable the State to synthesize what is known about the current-status of the ocean ecosystem, understand the interdependence between inshore and offshore systems, and to identify the potential cumulative human impacts that threaten its integrity and resiliency. Information derived from this research will be used to directly support management activities undertaken under the OAP to coordinate state, federal, and tribal partnerships in adaptively managing new uses of the ocean planning area. This research will serve as a foundation for further refinement and improvement of the plan itself in implementing Actions to achieve the state's goals to conserve ocean resources.

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I. Background

The New York State Ocean Action Plan, (OAP) released on January 23, 2017, is the State's first-ever comprehensive 10-year blueprint to guide the protection and conservation of New York's ocean resources. The Plan provides a framework for an integrated, adaptive approach to management that addresses the increased man-made stressors that threaten the ecological integrity of the ocean ecosystem off New York, contributing to the destruction of important marine habitat, loss of marine biodiversity and impaired waterways. Drawing on input and feedback from the public and a variety of ocean stakeholders, the OAP seeks to promote restoration, conservation, resiliency and sustainable use of New York's ocean ecosystem by using the best available information for New York State to make sound management decisions on ocean issues, new uses, and the changing environment. Establishing ecological assessment criteria to monitor effectiveness of actions taken, and incorporating new information gained from expanded or new research and monitoring programs, will allow for coordinated and measurable management actions on ocean issues.

There is widespread concern that the structure and function of marine ecosystems are being adversely impacted by human activities. Research will assist in defining the relationship between human use of the ocean and the natural processes that drive the offshore environment. To achieve New York's goals for the ecological integrity of the ocean ecosystem and the goods and services it provides, we must first explore the questions and collect data needed to inform future decisions on how we use the ocean environment. Maritime commerce, commercial and recreational fishing, tourism and other recreational business are vital components to New York's economy that rely heavily on the health of the State's ocean and estuarine ecosystems. Understanding the current baseline-conditions of the ocean ecosystem (and how these are changing) is a key factor as new and traditional uses of the offshore area expand with new technologies and new resources. Goals One and Three of the state OAP aim to ensure the ecological integrity of the ocean ecosystem while increasing the resiliency of these resources associated with human induced impacts including climate change. It is imperative to measure environmental changes occurring with ocean ecosystems to understand the scope of climate change in the New York Bight, as well as the new uses designed to reduce those impacts, such as renewable energy in the ocean. Ocean acidification, fisheries dynamics, the effects of renewable energy on wildlife, and understanding trophic interactions with the ocean are among some of the areas where targeted research will enable better ocean resource management decisions.

The OAP calls for an integrated and adaptive approach where ocean management decisions are informed by the best available science. This call defines the initial topical research priorities to OAP implementation. As a partner in the OAP Research Program with the New York State Department of Environmental Conservation (NYSDEC), New York Sea Grant (NYSG) is experienced and qualified to help fund and administer research to better fulfill the OAP vision. New York Sea Grant is part of a national network that constitutes NOAA's National Sea Grant College Program. NYSG is a cooperative program of the State University of New York (SUNY) and Cornell University, with its main administrative offices located at Stony Brook University and extension offices located throughout the state. In a time of accelerating economic, environmental, and scientific developments, NYSG's mission is to serve as an important partner in helping New York's diverse coastal communities respond to rapid economic and environmental changes. NYSG has been funding research on issues of critical importance to New

York's coastal communities and stakeholders for nearly fifty years. Sea Grant is partnering with NYSDEC in administering this Call.

II. Ocean Action Plan Topics for this Call

In this Call, NYSG invites pre-proposals describing research projects that support one or more of the specific management areas listed below. Note that research in many disciplines (e.g., biology, chemistry, geology, physical oceanography, engineering and the social sciences) will be necessary to effectively address these topics and a diversity of approaches is anticipated.

Of the **sixty-one related Actions in the OAP**, many projects are underway to address ecosystem health assessment and monitoring. Action topics requiring further investigation, particularly found within the first and third goals of the plan, have been prioritized by the DEC. Examples include, and are not limited to:

- *Investigate the impacts of ocean acidification on shellfish, crustaceans, fish, or zooplankton in the New York Bight and possible connections to oceanic eutrophication.* Ocean acidification (OA), resulting from increased anthropogenic carbon dioxide emissions over the last several decades, is expected to have profound adverse effects on marine organisms and disrupt entire ocean ecosystems. The OAP identifies the need for further evaluation of OA in state waters to improve New York's understanding of the factors potentially affecting recruitment success and long-term sustainability of fisheries and aquaculture.

- *Examine predator-prey dynamics within foraging hotspots located in New York Bight.* The abundance of large whales in the inshore ocean habitat has been significantly increasing over the past few years resulting in numerous out-of-habitat and stranding events. At the same time, the menhaden fish population has exploded in these areas and may provide a connection to the presence of large whales vising our waters. This is one example of how a better understanding of different trophic linkages and trends in biomass flow is essential for evaluating the stability of ecological community structure and can be used to assess how certain marine species respond to environmental change.

- *Identify possible species regimes shifts of marine life occurring in the New York Bight with an increase in global temperatures.* While past fisheries collapses have occurred due to past fishing practices, recovery of certain species have been hindered due to a lack of critical information not yet fully considered in current management plans and stock assessments, such as top down, ecosystem and trophic processes. Additionally, climate change is likely making it harder for depleted species to recover from overfishing due to a fluctuation on timing of prey availability and changes in sea temperature. Incorporating this data into ecosystem models will be important for ultimately developing sustainable fishery management strategies.

- *Assess the effectiveness of BMPs and other measures used to mitigate adverse effects of anthropogenic sources of underwater noise and electromagnetic frequency (EMF) on marine mammals and commercially and recreationally important finfish*. To combat effects of climate change, New York is currently focused on incorporating offshore wind (OSW) energy into its electrical grid. While renewable energy resources such as offshore wind have substantial environmental benefits over traditional methods of energy production, the impacts of proposed

offshore energy generation and transmission facilities on marine wildlife, and the critical habitats they depend on, must be further studied. With an increase in wind farms, particularly in the New York Bight, solid science-based information will be needed to best site turbines, cables, and other energy infrastructure. Understanding how the construction and operation of offshore wind energy areas is an important part of offshore planning.

- *Assess protected avian species use of and migration paths through the New York Bight*. Seabirds are key components of marine ecosystems and are considered indicators of ocean health. Investigating seabird abundance and distribution is important to inform decisions regarding offshore planning and to guide the development of mitigation measures for minimizing the impacts of ocean-based activities on seabirds.

The aim of this Call is to support scientific research to address the OAP priority research topics particularly surrounding baseline-conditions, environmental changes due to climate change, and renewable energy development. Developmental work on new methods, models, tools and techniques also qualifies under this call. State-of-knowledge synthesis efforts may also be proposed. The project must show an understanding of what constitutes necessary and sufficient information for responsible decision-making or for applied use, and will be expected to generate such. A project must have sufficient intellectual content (theoretical basis, or hypothesis testing) to make it appropriate for university research.

The need, significance, products, usability, target audience (beyond other academics) and expected impact for and of the research must be clearly anticipated and described as well as be clearly linked to issues identified in the OAP (to be used as a resource document). ***These will be key factors in the review process.***

NYSG encourages multi-disciplinary and multi-investigator research. NYSG is also interested in helping to foster new research talent, and encourages submissions from young investigators and others who have not previously received NYSG funding. The development of future scientist and decision-makers through student education is also important to NYSG, and investigators are encouraged to involve graduate and/or undergraduate students in the conduct of their projects.

Efforts inappropriate for funding under this Call include those directed solely toward monitoring or surveys, or that are merely demonstration projects. Expansion of understanding solely for its own sake is also considered inappropriate for this Call.

III. General Information About Pre-Proposal Submission

A. Who is Eligible to Submit:

Faculty at academic institutions are the main targets and recipients of NYSG's research funds. Nevertheless, proposals from other groups may be accepted and approved for funding, too. Eligible groups are listed below in order of preference for funding under this Call:

1. Researchers at universities and colleges.
2. Researchers at other not-for-profit research institutions.

3. Researchers who are personnel of not-for-profit organizations.
4. Researchers at for-profit institutions or companies (with limits).

Important Notes: All proposals submitted under this Call must be **led** by an eligible researcher with his or her primary professional base in New York State. Co-PI's from other states are acceptable. Federal employees may participate in projects as collaborators, but they may not be included in the budget. Federal employees and institutions are *not* eligible for compensation or budget items of any sort, and their contributions to the proposed research cannot be used as a source of cost-share. Graduate students cannot be included as PIs.

B. Duration of Proposed Work:
Funding under this call will be available for the period January 1, 2019 – December 31, 2020 period. As a rule, projects requiring two years of funding are preferred, although projects of shorter duration are acceptable when they are strongly justified. Quarterly progress reports must be submitted during the funding period. A draft final report for review and a final report at completion are required. .

C. Budget Size (total of indirect plus direct costs):
The total budget request (direct + indirect costs) for a project may not exceed $100,000 in any project year. Budget estimates in pre-proposal submissions are expected to be realistic. A substantial increase in the final budget request will be viewed negatively and likely will result in either rejection of the project or budget cuts without changes in the scope of work.

D. Cost-Share Requirement:
Match funding is not a requirement of awards made under this research program.

E. Limit on Salary Requests:
Principal and associate investigators with appointments providing nine (9) or more months of support annually are generally not allowed to receive more than two (2) months' total salary from NYSG per year. Other eligible principal and associate investigators will generally be allowed to receive only up to six (6) months' salary from NYSG per year. These limits may be relaxed under exceptional circumstances, with prior approval from NYSG. Under all circumstances, the amount of salary support requested or provided as cost-share must be warranted by the effort needed to conduct the project.

F. Data Management/Sharing Plan:
NOAA regulations require that data and information collected and/or created under NOAA (including Sea Grant) grants must be made visible, accessible, and independently understandable to general users, free of charge or at minimal cost, in a timely manner (typically no later than two years after the data are collected or created), except where limited by law, regulation, policy or by security requirements. Further, all data generated by research funded through this Call must be provided to the NYSDEC Division of Marine Resources (DMR).

The requirement has two basic parts: (1) environmental and socio-economic data generated by a grant 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.

To comply with this requirement, in NYSG's full proposal stage, the principal investigator must include a data management plan that describes how the project's data and metadata will be made available to others and must be provided to the NYSDEC DMR directly after the project. Deposition of data in standard data archives (e.g., by discipline) or in available university archives is encouraged. This requirement for data archiving is in addition to the expected publication of research results in peer-reviewed journals. The proposed plan will be reviewed for compliance with NOAA requirements. If funds are needed for this task, they may be included in the project pre-proposal and full proposal budgets.

G. What and When to Submit:

A PC-readable Pre-proposal Submission Form (see Section VII) ***must be received by the deadline of 4:30 pm EST on April 16, 2018*** at NYSG's electronic submission web site: www.NYSGProposal.org Click on "New York Ocean Action Plan Research Call for 2019-2021" under "Current Funding Opportunities" and follow all directions for electronic submission. At the pre-proposal stage, signatures of principal investigators or campus officials are not required. Submissions via email or hard copy are not accepted.

Do *not* include information or materials supplemental to the Pre-proposal Submission Form (e.g., full budget, appendices, letters of support, etc.). Such materials will be discarded without review.

Important notes about pre-proposal submission:
Submissions that do not include the required information will lose rating points (see Section VII for Instructions).

- Double-check your Pre-proposal Submission Form file before uploading it at the submission web site to make sure it is PC-readable and that it is your final version. *It must be in the form of a single pdf file.* You will receive an auto-receipt from the web site confirming your submission, but this is not an indication that your file is readable.
- We recommend submission via a PC at your university office, with a current version of Firefox, or Google Chrome web browser installed.
- If you have trouble with submission through www.NYSGProposal.org, call NYSG(631-632-6906) to explain the problem. We will try to help, but cannot guarantee that we can solve your problem. In any case, unless the web site becomes inoperable, it is *your* responsibility to use equipment that will allow you to meet the deadline. Email submissions or by mail are not accepted.
- All submissions will be checked in the order they are received and any that are unreadable will be rejected. The lead investigator will be notified about this by email from a NYSG staff person. However, for submissions that are posted on April 16, NYSG cannot guarantee that this check and notification will take place before the 4:30 PM deadline.
- Any submission after the deadline of 4:30 PM on April 16, 2018 will be rejected and its lead investigator so notified. Please be sure to watch the website's clock! Even if you are on the website before the deadline, if your file is not submitted by 4:30 PM, it will be rejected.

There are no exceptions to these conditions, so ***early submission is very strongly advised***. The official time stamp on the submission is provided by the website's server.

IV. The Review Process

Pre-proposals submitted to NYSG in response to this Call will be reviewed and evaluated by a Panel comprising NYSG and DEC staff. The following criteria will be used in this process:

- How well the project fits the information and requirements of Section II (0 to +5)
- Likelihood that the approach will be successful (0 to +2)
- Expected products and anticipated impact(s) from the results (0 to +5)
- Information missing from any of the Sections 1 through 9 (0 to -1, per section)
- Other programmatic considerations

Only authors of the most highly-rated pre-proposals will be encouraged to submit full proposals. After the pre-proposals submitted before the above deadline have been reviewed/rated/ranked, about twice as many full proposals as are likely to be eventually funded will be solicited. While anyone submitting a pre-proposal is permitted to submit a full proposal, non-solicited proposals have a low chance of success.

Full proposals will be subject to mail peer review and a special Technical Review Panel. Full proposals funded will be selected primarily on the basis of the following criteria: responsiveness to the conditions and priorities outlined in this Call; significance of the specific problem or opportunity; scientific or technical merit of the project, including also the professional qualifications of investigators and appropriateness of the budget request and match; expected products and anticipated impact(s) from the results; and other programmatic value. Performance and accomplishments with previous NYSG funding will be considered also, if applicable.

V. Call Timeline

March 5, 2018	Call for pre-proposals released
April 16, 4:30 pm	Deadline for pre-proposals (must use NYSG submission web site)
May 11	NYSG encourages selected PIs to write full proposals
June 25, 4:30 pm	Deadline for full proposals with all authorized signatures (must use NYSG submission web site)
August 20	PIs receive masked peer reviews for response
August 31	Deadline for PI responses to reviews
September 21	NYSG notifies all investigators of funding decisions
January 1, 2019	Anticipated funding begins for new projects

VI. New York Sea Grant Staff

Research Administration (at Stony Brook University)

William Wise, Director (631-632-6905, *william.wise@stonybrook.edu)*

JeanAnn Johnston, Fiscal Officer (631-632-6908, *jean.johnston@stonybrook.edu*)

Lane Smith, Research Program Coordinator (631-632-9780, *lane.smith@stonybrook.edu)*

VII. Pre-Proposal Submission Form Instructions

Be sure to use the format and provide the information as described below (Tip: use the blank Word template found in the Related Links box). **Every Section (1-9) and all of the information specified within it is required.** Submissions that do not include all of this information will lose rating points. Use all-around margins of 1" and a font and size consisting of #12 Times New Roman.

Pre-proposal Submission to the NY Ocean Action Plan Research Call for 2019-2021
Date:_____

1. **LAST NAMES OF PRINCIPAL INVESTIGATORS: (**e.g., Smith / Doe / Jones)

2. **BRIEF PROJECT TITLE:**

3. **INVESTIGATOR(S):** List all principal (PI), co-principal (Co-PI), and associate (AI) investigators, including name, mailing address, telephone, and email for each. *Also* indicate eligibility category (#1, 2, 3, or 4) from the Call's Section III.A for each. The primary professional base of the lead investigator must in New York State. Students and NYSG staff cannot have PI, Co-PI, or AI status.

4. **PROJECT TOPIC**: Briefly describe the topic area of this project using Section II as a guide.

5. **BUDGET: Totals of direct plus indirect costs.**

A. Estimated Request for Funds from New York Sea Grant
Year One $_____ Year Two $_____ Total Request $_____

Note: Funding for awards made under the Ocean Action Plan Research Program will be provided by the Research Foundation for SUNY at Stony Brook University. Applicants should prepare the pre-proposal budget assuming an Indirect Cost Rate (Modified Total Direct Costs) of 18%, with no on- or off-campus disparity.

B. Data Management Plan: Indicate your recognition that an acceptable data management/sharing plan will be required as part of a full proposal, that compliance with the plan will be required if the project is funded, and that the preproposal's budget estimate provides for this. _____Yes.

6. BRIEF DESCRIPTION OF PROJECT: Starting on a *new* page, **use no more than two pages** with the following a-c headings to describe your proposed project. Anything beyond two pages (or estimated to be beyond, if margins or font are incorrect) will be discarded prior to review.

a) **STATEMENT OF THE ISSUE AND OBJECTIVES:** Explain the how the research you propose will address the topic you have chosen from Section II. Present the overall objectives of your proposed study, with a statement of the hypothesis(es) to be tested if applicable. Or, if this is model development, clearly state the intent.

b) **APPROACH:** Very briefly describe the general approach to be used in accomplishing the objectives.

c) **EXPECTED PRODUCTS AND ANTICIPATED IMPACT(S):** Explain what products (techniques, tools, models, and scientific information) are expected to result from this project, who will use them, and what their anticipated impact(s) will be within New York and elsewhere. *This is one of the most important sections of your submission!*

7. LITERATURE CITED: Present the full citations for any work referenced under Section 6, where they may be labeled as (1), (2,3), etc. The space required for Section 7 is not counted under the 2-page maximum for Section 6. If no references are used in Section 6, state "none".

8. CVs: Provide a Curriculum Vita for each listed investigator (Principal Investigator, Co-Principal Investigator, Associate Investigator) with 2 page maximum per person, using the format required by NSF. Contact NYSG if you need instructions.

9. POSSIBLE PEER REVIEWERS: Starting on a new page, list the names and affiliations of up to four out-of-state individuals of national standing and pertinent expertise who we might ask to provide peer reviews of your submission. Do ***not*** include individuals with whom you have worked or collaborated within the last 4 years or who would be considered to have a professional or personal conflict of interest. We may or may not use these individuals, so do not contact them yourself. You may also request for certain individuals not be asked to review your proposal.

The information for Section 9 is for internal NYSG use only. Like Sections 1 through 8, omitting this section will cause your submission to lose rating points.