



FY27-29 OAP Strategic Prospectus

January 22, 2026

SEC 1.0 FY27-29 OAP OVERVIEW

NOAA Ocean Acidification Program (OAP) operates on 3-year science cycles in an effort to ensure continuity of sustained projects and allow sufficient time to evaluate progress towards achieving science outcomes. This approach provides for a periodic review of the investment portfolio to engage new priority areas and make adjustments to ensure science outputs meet emerging requirements and achieve strategic outcomes. As directed by the Federal Ocean Acidification Research and Monitoring Act (FOARAM) reauthorization through the [CHIPS and Science Act of 2022](#), OAP supports NOAA Ocean and Atmospheric Research's (OAR) mission to conduct research to improve the predictive understanding of the Earth's systems, delivering mission-relevant science results in close partnership with NOAA service line offices. The OAP is also committed to confronting the challenges of a changing planet by advancing scientific discovery to empower all Americans with the tools, services and data necessary to empower industries and fisheries to respond to changing ocean conditions. The proposed investment areas will advance our understanding of the environmental changes and potential species impacts caused by ocean acidification (OA) in conjunction with other ocean stressors and use this information to help prepare coastal communities and ocean industries for those changes. The proposed investment areas presented here are responsive to the NOAA Ocean, Coastal, and Great Lakes Acidification Research Plan: 2020-2029 (henceforth termed NOAA OA Research Plan) that reflects input from NOAA OAR leadership, the OAP Executive Oversight Committee, the NOAA Ocean Acidification Working Group, NOAA researchers and program managers, the OA science community, and interested/affected parties. This NOAA OA Research Plan partitions activities across three broad, intersecting vulnerability domains of environmental change, biological sensitivity, and human dimensions. In particular, this FY27-29 science cycle priorities are informed by remaining gaps identified in [A Mid-Decade Check-In: The NOAA Ocean, Coastal, and Great Lakes Acidification Research Plan 2020-2029](#).

1.1 NOAA OA Research Plan Near-term Priority Science Areas

A Mid-Decade Check-in: The NOAA Ocean, Coastal, and Great Lakes Acidification Research Plan 2020-2029 (henceforth referred to as the Mid-Decade Check-in) identifies opportunities for further investment to implement the research plan in the coming years which OAP will consider in its investment decisions during the FY27-29 cycle. A synthesis of these priorities is bulleted below under the three trifecta areas. Additionally, the OAP will consider further investments in ocean solutions that support the blue ocean economy today and into the future (i.e., research into coastal restoration practices and/or interventions to locally mitigate OA). All projects should be able to clearly articulate the outcomes of their work in terms of how it benefits the blue ocean economy and coastal communities. As some examples, this may include the number of industry folks making use of a forecast, the dollars invested in blue ocean economy jobs, or perhaps the value of an industry benefiting from research or monitoring provided in a digestible and usable format, etc.

Environmental Change

- Augment regional monitoring of OA parameters at the accuracy needed to capture and discern OA changes and trends in ocean, coastal, and estuarine waters, with an emphasis on co-location of physical, chemical, and biological observations.
- Develop and maintain partnerships to sustain, enhance, and streamline the adoption of efficient, fit-for-purpose, cost-effective, calibrated, and robust analytical systems, sensors, and uncrewed technologies for comprehensive observation of the water surface, water column, and benthic environment, crucial for observing environmental change in acidification conditions relevant to NOAA managed resources.
- Develop and deploy decision support products and services that integrate research and operational models, remote sensing, and in situ physical sensing data more effectively, providing valuable information for communities and industries in the blue economy.
- Facilitate ocean acidification data synthesis and product development to ensure environmental data are transformed into products that directly benefit coastal communities and industries reliant on a healthy ocean ecosystem, with active engagement of end users in this process.

Biological Sensitivity

- Advance OA/CO₂ sensitivity experiments, including multi-generational studies, to elucidate underlying physiological mechanisms and the potential for acclimation and adaptation, facilitating predictions of long-term ecosystem impacts in a changing ocean.
- Identify and support the development of biological indicators, leveraging and dovetailing with existing sensitivity research.
- Establish and utilize effective field measures for tracking ecosystem, food-web, and trophic responses.
- Initiate research to address emerging and unforeseen ecosystem changes resulting from OA and multi-stressor interactions, benefiting coastal communities, industries, and leading to the development of potential solutions for a blue ocean economy.

Human Dimensions

- Investigate, model, and forecast the socioeconomic consequences of OA, developing adaptive and interventional strategies to support a robust sustainable blue ocean economy.
- Engage coastal communities and industry through two-way dialogue, communication networks, and co-development of research to ensure OA research is locally responsive and informs awareness of trends.
- Assist communities and industries in developing solutions and/or adaptation to OA impacts and creating decision support tools that benefit coastal communities and economies and can inform management strategies.

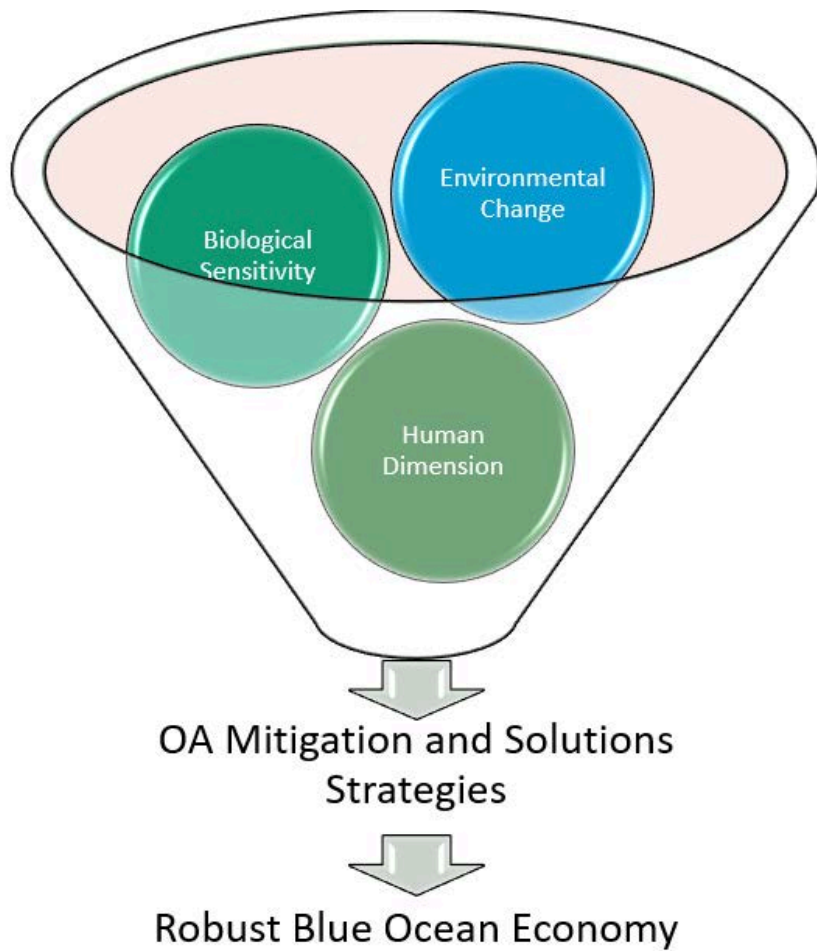


Figure 1. Investments in OA research into Environmental Change, Biological Sensitivity, and Human Dimensions all work towards supporting coastal communities and industries to provide solutions to the impacts of OA that build and maintain a robust blue ocean economy.

1.2 Programmatic Research Investment Categories

DIRECTED ACTIVITIES. Sustained Investments represent the core OAP-funded intramural research and monitoring efforts that are primarily funded through the three-year Sustained Investment Workplans. Broadly, these sustained projects and other directed priorities comprise the activities detailed in SEC 2.0.

INTRAMURAL COMPETITIVE ACTIVITIES. These comprise a NOAA-only competitive suite of funding opportunities that will be advanced by the OAP periodically throughout the 3-year science cycle should funding permit. Targeted opportunities under this investment category are described in SEC 3.0. Unless otherwise specified at the time of the call, only intramural investigators will be afforded an opportunity to apply for these limited resources (e.g. PI must be assigned an active @noaa.gov email address).

DECISION SUPPORT PRODUCTS AND SERVICES. In the FY 27-29 cycle, OAP will maintain investments that provide routine delivery of an OA product specifically for a target end user community, and enhance decision support products and services including models and forecast applications. These products and services may be public facing and are provided to the end user on a specific timeframe as defined in coordination with the user community. Products/Services are provided in a format that is tailored for and in consultation with the intended user community. Projects will conduct outreach on the use of the product, monitor statistics on access/downloads, and/or provide periodic user community surveys. The types of projects under this category can include forecasts, indicators, data/information portals, decision support tools, etc. This investment category is further described in SEC 4.0.

OPEN COMPETITIVE ACTIVITIES. OAP, or NOAA partner-led, Notice of Funding Opportunities (NOFOs) announced to the public to advance NOAA's mission in accordance with the NOAA OA Research Plan and Mid-Decade Check-In. Topics currently engaged and/or being considered for the FY27-29 science cycle are briefly reviewed in SEC 5.0.

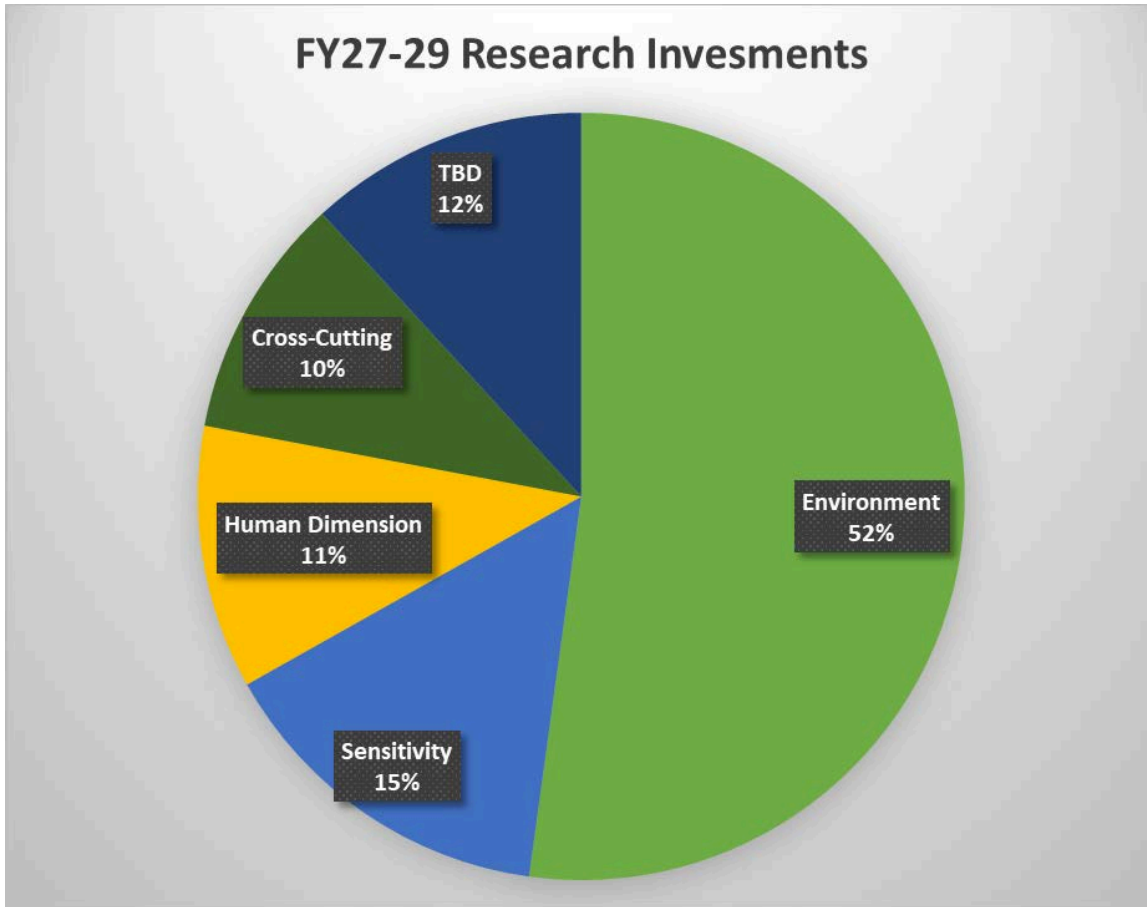


Figure 2. FY27-29 OAP planned Research Investment by thematic areas. Anticipated OAP investments are split between research pertaining to Environment (52%), Sensitivity (15%), Human Dimension (11%), Cross-Cutting (10%), and To Be Determined (12%).

SEC 2.0 FY27-29 OAP DIRECTED ACTIVITIES

OAP directed activities comprise a suite of investment areas that have been determined over past funding cycles, program designated, and/or long-term sustained efforts carried out by either the program office itself, or by the various labs and centers engaged in on-going intramural research and monitoring across the agency and through cooperative agreements (e.g. IOOS, NOAA Cooperative Institutes). Directed activities will comprise the priorities outlined in each thematic area below. OAP will assess the directed activities and intramural competitive activities (SEC 3.0) from the previous funding cycle to determine projects that fill the priorities outlined below and in the NOAA OA Research Plan and Mid-Decade Check-In, the FOARAM Reauthorization 2022, and the NOAA FY22-26 Strategic Plan as well as anticipated budgetary opportunities/constraints and FMC interest to determine directed funding in the FY27-29 cycle.

2.1 Environmental Change

2.1.1. OBSERVING

Overarching Goal, Focus on Efficiency, Data Quality, and End-User Relevance:

In order to continue to be responsive to the OAP congressional directives, FY27-29 will be a cycle period of re-envisioning and efficiency improvements for the observing portfolio. The OAP re-envisioned observing portfolio prioritizes ensuring data quality and relevance, and strategically invests in technologies and partnerships that will best serve its mission and end-users.

Focus Area 1, Optimizing Regional Observing for End Users:

During the FY27-29 funding cycle, the OAP will require additional leverage to sustain the existing NOAA Ocean Acidification Observing Network (NOA-ON) observing design (Priority 1), while seeking to be more responsive to regional needs/requirements (Priority 2).

OAP will prioritize continuity of NOA-ON observing design (Priority 1) where existing observing nodes achieve each of the following:

- are able to constrain water column carbonate chemistry (including achieving subsurface capability where relevant),
- fill an important role as data stewards for end users,
- serve as anchors for the broader OA observing portfolio, and/or
- provide >70% data return and near-real-time data availability of all affiliated sensors that contribute to a fully constrained carbonate system (through direct measure or proxy).

This management includes resources for sensor maintenance, calibration, and validation; partner coordination; data stewardship; materials and supplies; standardization of practices across NOA-ON nodes; and staffing. NOAA labs will continue to receive support for asset replacement costs for the NOA-ON nodes.

Under a new priority theme within the NOA-ON (Priority 2), the OAP will invest in additional, regionally relevant observing systems and data synthesis projects. The OAP will leverage expertise at NOAA labs, IOOS Regional Associations (RAs), and their partners and existing infrastructure in this effort. Observing efforts may include, but aren't limited to, uncrewed system operations, a combination of discrete and continuous sampling regimes at target sites, OA observing via vessels of opportunity, or the expansion of existing programs (e.g., low cost, small moorings) to include OA relevant parameters. Observing regimes will need to demonstrate suitable technological readiness, relevance to regional stakeholder priorities, cost effectiveness, and scientific integrity. Data synthesis efforts should utilize existing OA-relevant data from coastal and estuarine ecosystems. The OAP will support engagement with the public and private sectors as appropriate to execute this vision.

Any NOAA lab execution of this vision will be included in the FMC's sustained investment workplan. A separate call for 3-year workplans for partners to lead traditional NOA-ON moorings (Priority 1) and projects under Priority 2 will occur in fall 2026. Resources will provide for data synthesis and product development, sensor and technology acquisition and installation, observing platform servicing and maintenance, sensor calibration and validation, data stewardship, materials and supplies, standardization of practices across NOA-ON

observing nodes, and staffing. Workplans should clearly outline activities to coordinate with regional stakeholder groups to optimize data use, develop data applications, coordinate sampling, or contribute to regional/state reports.

Focus Area 2, Strategic Coastal OA Ship Surveys:

The OAP will continue to advocate for OAR Office of Marine and Aviation Operations (OMAO) ship time necessary to support coastal OA ship surveys to cover the nation’s coastal large marine ecosystems. Should OMAO ship time not be possible to secure, the OAP will fund and coordinate with OMAO in securing time on a charter vessel to carry out the at-sea work. Should OMAO demonstrate in the coming years an improved capacity to meet the OAR mission requirements, OAP will explore options of returning to a 4 year cycle, appropriations and staffing permitting.

The OAP will provide support to lead the collection of Level 1 core requirements on these ship-based surveys. Supported costs may include cruise preparation and planning, staffing, analysis, and required supplies and materials, post cruise analyses, and data stewardship. Level 1 requirements, outlined in the [OA Cruise Science Priority Guidance](#)¹, include full water column characterization of the carbonate system, oxygen, temperature, salinity, and pressure, as well as nutrients and chlorophyll. Limited, relevant, community-vetted biological indicator observations will remain in the Level 1 requirements in this cycle. Support of any measures beyond these core variables (i.e., Level 2 and 3 priorities) will be assessed via a competitive extramural open call, contingent on funding availability and feasibility (SEC 5.0).

During the FY27-29 science cycle, the cruise cycle will begin to shift to survey each coast once every 5 years. This transition will reach full execution in a future funding cycle. The exact cruise execution will be subject to change pending vessel availability. Based on the best available information at this time, the FY27-29 cycle will include the post-cruise analysis of the 2026 East Coast OA cruise and the planning and execution of its next iteration; the post-cruise analysis of the 2026 West Coast OA cruise and the planning of its next iteration; and the execution and post-cruise analysis of a Gulf of America OA cruise. In cases where NOAA labs are unable to lead a cruise, OAP will open a competitive intramural call for chief scientist and Level 1 measurement sampling (SEC 3.1).

	FY27	FY28	FY29	FY30	FY31	FY32
ECO	Post-Cruise	Plan	Execute	Post-Cruise		
WCO	Post-Cruise		Plan	Execute	Post-Cruise	
GOMECC	Execute	Post-Cruise		Plan	Execute	Post-Cruise

Figure 3. Anticipated cruise cycle for FY27-32, subject to change pending ship availability.

¹
<https://oceanacidification.noaa.gov/sites/oap-redesign/Documents/Funding%20Opps/OA%20Cruise%20Science%20Priority%20Guidance.pdf?ver=2023-05-04-100350-237>

Focus Area 3, Enhancement of Collaborative and Regional Ship-Based Surveys: Investments in FY27-29 will prioritize leveraging of existing surveys including the fisheries surveys such as EcoMon and coral reef studies under NCRMP, opportunities to enhance temporal and spatial coverage of Alaskan waters, and opportunities to enhance NOAA-ON implementation, including through operation of instruments installed on NOAA Ships and other ships of opportunity. In Alaskan waters, surveys should be pursued in partnership with regional NOAA Fisheries cruises, other NOAA programs, or external partners to achieve the necessary core measurements allowing for enhanced coverage of the full water column, as resources permit. Project leads are encouraged to continue coordination with end users of the data produced by all enhanced ship-based surveys. Costs may include staffing, analysis, data reduction and QC, required supplies and materials, and data stewardship.

Focus Area 4, Supporting Great Lakes Monitoring (with consideration for network design changes):

OAP will continue to support GLERL's long-term, intra-agency monitoring program in the Great Lakes using fixed time-series. Alterations to the observing system design could be adopted for the Great Lakes where scientifically appropriate (i.e. changes improving data quality, filling key research gaps, or being responsive to end users) and/or where cost efficiencies could be realized. Long-term assets should continue to be governed by objective analysis demonstrating how the time-series data will best inform regional modeling design and/or user needs.

Focus Area 5, Continued Support for Coral Reef Conservation Program (CRCP) Monitoring: OAP will continue its support of OA research and monitoring efforts in support of the Coral Reef Conservation Program (CRCP) National Coral Reef Monitoring Program (NCRMP) in partnership with AOML (Atlantic) and the PIFSC (Pacific). This project monitors changes to coral reef carbonate chemistry over time at U.S.-affiliated coral reef sites. These measurements, in conjunction with ecological metrics measured as part of the broader NCRMP, inform data synthesis, assimilation, and distribution as part of the regular reporting. OAP supports the processing, analysis, and data stewardship of dissolved inorganic carbon (DIC) and total alkalinity (TA) water measurements at Class 0, I, II, and III climate monitoring sites (as defined by the NCRMP) in coral reef areas of the U.S. Atlantic and Pacific regions. OAP will also continue to advocate for additional sea days for the Pacific Island surveys to allow for expanded OA requirements and process studies to better inform the predictive modeling capabilities.

2.1.2. NUMERICAL MODELING

OAP's modeling strategy will follow two complementary focus areas. Continuous support for existing research models will ensure high-level scientific investigation is sustained and prioritized under this investment category, while also exploring a new initiative for transitioning community-based models to NOAA operational forecast systems (OA2O) prioritized under the Decision Support Products and Services investment category (see SEC 4.0). OA2O will use a software-engineering-based, agile approach to accelerate the transition of mature research models to operations. This dual approach creates a synergistic research-to-operations-to-research (R2O2R) pipeline where research models can be quickly and efficiently integrated into a unified operational framework, the latter fueling questions for new research projects, opening new pathways for more effective funding.

The OA2O initiative will develop and deploy a unified numerical modeling and product delivery infrastructure, not a single-model mandate. It is designed to be a community platform that supports multiple models, consistent with the NOAA Unified Forecast System (UFS) framework. Rather than replacing regional systems with a single modeling approach, this software architecture provides the shared tools to better integrate local, high-resolution scales (<2 km), to regional- and larger-scale systems. The unified infrastructure allows for preservation of the original numerical approaches and architecture of each system, while ensuring they can work together to improve data processing, integration, model validation and product delivery.

2.2 Biological/Ecological Sensitivity

OAP will continue to support ecosystem and species sensitivity experimental work throughout the agency including NOAA Fisheries Science Centers (FSCs), Laboratories, etc. However, where in past years these investments were made through the sustained workplan call, these investments will be shifting to the Intramural Competitive Investment category. See SEC 3.1 for further details.

2.3 Human Dimensions

OAP will continue to support research examining adaptation to and developing solutions to the socioecological and economic consequences of OA by building community and industry resilience to changing ocean conditions. This includes socioeconomic forecasting using experimentally informed bioeconomic modeling efforts that are being carried out at FSCs. OAP will also sustain its investments towards the Coastal Acidification Networks (CANs) and investment in the [OA Information Exchange](#). To the extent possible, providing "technical assistance" to vulnerable communities in the development of OA mitigation plans is a priority per FOARAM reauthorization.

2.4 Cross Cutting

2.4.1 DATA MANAGEMENT

OAP continues its support of the NCEI ocean carbon and acidification data system (OCADS) to ensure all data collected from OAP investments are properly archived and made easily accessible for use towards improved assessments of marine ecosystem vulnerability, and better forecasting capabilities, in accordance with the NOAA Plan for Public Access to Research Results (PARR)² and the NOAA Data Management Handbook³. This includes dedicated support for data acquisition, quality assurance, and management of rich metadata, application of controlled vocabularies, long-term archival and stable data citation, as well as online data-discovery and access services. Maintenance of existing data synthesis and retrieval efforts are encouraged as resources permit but any additional resources beyond the available funding target communicated in the FMC guidance will need to be advanced as part of the open-call (SEC 3.1). Recognizing that data management structure inside NOAA is evolving at the moment, requirements and data management may need to change accordingly during the FY27-29 cycle.

² <https://repository.library.noaa.gov/view/noaa/10169>

³ <https://sites.google.com/noaa.gov/noaa-data/handbook>

In addition to data flow, OAP supports data infrastructure maintenance (e.g., data submission and access interfaces, websites, etc.), controlled vocabulary creation, and metadata and data templates developments.

2.4.2 REFERENCE MATERIALS

Accurate measurements of the inorganic carbon system are critical for detection and assessment of OA in both the global open ocean and coastal systems. Best practices for measurements of total dissolved inorganic carbon (DIC) and total alkalinity (TA) require use of certified reference materials (CRMs) to obtain high-quality data that can be compared between laboratories and throughout time. To expand and diversify capacity to produce CRMs, OAP will continue support for RM production at NOAA for use by NOAA laboratories and affiliated partners.

2.4.3 INTERLABORATORY COMPARISON

To ensure continuity and scientific integrity of the observing and experimental investments, OAP will also support inter-laboratory comparisons of carbonate chemistry sample analysis. OAP will support the efforts of different laboratories to test the same samples and then compare the results with the goal of evaluating the reliability of test results, validate analytical methods, and determine the uncertainty of results across all the NOAA labs supported by OAP investments, and to labs supported by OAP outside of NOAA should resources allow. Results from interlaboratory comparisons will be presented in aggregate to keep all individual lab details confidential. Only aggregate details, and not individual lab information, will be released publicly. Pending available resources, OAP is also interested in exploring a similar initiative for a Winkler intercomparison study.

SEC 3.0 FY27-29 OAP INTRAMURAL COMPETITIVE ACTIVITIES

3.1 NOAA INTRAMURAL OPEN CALL FOR PROPOSALS

In conjunction with the directed announcement for intramural workplans, an intramural open call for two-page letters of intent will be released agency-wide to pursue projects within NOAA for strategic investment responsive to the NOAA OA Research Plan and particularly filling research gaps identified in the Mid-Decade Check-In. During the FY27-29 science cycle, a target portion of this call, that is consistent with the amount of funds OAP has invested historically in sensitivity research, will be partitioned to explicitly execute biological sensitivity research. This investment will prioritize ecologically or commercially important marine species with likely sensitivity to OA with priority emphasis on economically significant calcareous species (crabs, mollusks, corals, bioeroders), commercially important fish species that NOAA manages, and species that are key trophic links for fisheries and protected species. Lab, field, or modeling projects investigating regionally relevant indicator species would qualify for this partitioning as well. Particular emphasis should be placed on characterizing physiological and energetic costs or acclimation capacity associated with OA under multi-stressor conditions to develop improved population and ecosystem models that better inform biological research.

SEC 4.0 FY27-29 DECISION SUPPORT PRODUCTS AND SERVICES

Initially launched under the FY24-26 cycle as “Routine Product Delivery” and re-envisioned for the FY27-29 cycle, this category of investments supports the development of capabilities and delivery of products and services that support decision making in coastal communities and industries. This category of investments will support the development of data assimilation and numerical modeling capabilities for forecasting services, specifically aiming to transition community-based ocean acidification research models to NOAA's operational ocean forecasting infrastructure, thereby increasing system reliability, expanding product availability, and broadening stakeholder and user bases. It will also include data dissemination of services (e.g. models) and products (e.g. portals and information exchanges). These efforts will be supported through either 3-year Workplans provided as part of a directed Decision Support Products and Services Request for Workplans, or via incorporation into the Sustained Activities Workplans under Directed Activities (SEC 2.0).

Products and Services are developed and disseminated in formats that are tailored for applications defined in consultation with the intended user community. Projects will conduct outreach on the use of the product/service, monitor statistics on access/downloads, and/or provide periodic user community surveys. The types of projects under this category can include forecasts, indicators, data portals, decision support tools, and other informational products. Examples could include seasonal forecasts of OA conditions in the Pacific Northwest, forecasts in the Chesapeake Bay, or the continuation of the Ocean Acidification Information Exchange, etc.

This investment category leverages the funding opportunities for operational-ready models to be developed under OAP's Modeling Efforts (see SEC 2.1.2). By creating this support structure coordinating innovative research, routine product delivery, and operational systems, OAP ensures that the significant investment across in model development yields tangible, reliable products that consistently serve end user needs, thereby maximizing the return on our program activities and establishing an effective decision support products and services framework.

This category focuses on turning research into reliable, routine products for coastal communities. Our scope includes a wide range of management needs, from short-term seasonal forecasts to longer-term, 5–20 year data-based projections. These products are co-designed with community stakeholders to ensure they are fit-for-purpose. By better linking our research and development teams, we ensure that decision support tools are built on validated data and meet specific regional requirements.

4.1 Routine Delivery of Regional Forecasts

OAP will also continue supporting regional biogeochemical forecast modeling efforts where success has been suitably demonstrated towards meeting user requirements detailed in the NOAA OA Research Plan. Efforts will be encouraged to leverage GFDL advancements and maximize the use of observational data tailored to improve model performance, through close coordination with observing teams. Modeling efforts should maximize the utilization of observing datasets and coordinate with the observational teams to ensure observations are tailored to improve model performance.

4.2 Maintenance of Information Portals and Exchanges

The OAP will continue to support information sharing mechanisms (e.g. portals, information exchanges, etc.) where clear end user relevance has been proven. These products support the sharing of information across the OA community of practice.

4.3 OA2O

The OA2O initiative will be advanced to accelerate the transition of community-based biogeochemical (BGC) and ocean acidification (OA) research models to NOAA's operational ocean forecasting infrastructure, ideally within a one-to-three-year timeframe. This initiative aims to increase system reliability, expand product availability, and broaden stakeholder and user bases by adapting existing community BGC and OA research models to a flexible software infrastructure that leverages NOAA's operational hydrodynamic systems. The new framework will be implemented using an Agile framework to ensure high-quality products are developed rapidly and are readily available for integration into existing operational systems, supporting decision services for vital sectors like fisheries, aquaculture, and coastal management.

SEC 5.0 FY27-29 OPEN COMPETITIVE ACTIVITIES

The OAP competitive portfolio includes multi-year competitive grants and contracts awarded to successful proposals responsive to targeted NOFOs (Notice of Funding Opportunity) developed by or in partnership with the OAP. Wherever appropriate, the OAP will seek out funding partners, ideally partners with grant-making capacity, personnel, and funds to leverage. Investigators from NOAA laboratories and science centers as well as academic institutions, industry, and NGOs will be eligible to compete for funding, and external participants will be encouraged to collaborate with NOAA PIs and, as appropriate, make substantial use of OAP sustained investments.

SEC 6.0 FY27-29 OAP POLICIES

OAP is committed to ensuring fair and equitable policies that foster transparency, optimize cost efficiencies, ensure a mutual vested interest between the program and executing offices, promote NOAA's culture of scientific excellence and integrity (NAO 202-735D), and adhere to NOAA's Plan for Public Access to Research Results (PARR). The following policies will be in effect for the FY27-29 period and remain in effect until explicitly modified or retracted by the OAP.

6.1 Embracing an Ethical, Welcoming, and Supportive Environment

At OAP, we recognize that our work benefits from our staff, interested/affected parties, and the public we serve. We strive to create an ethical and welcoming work environment so that all community members are able to contribute and thrive. We have the responsibility of supporting work that will better prepare society to respond to ocean change, and we acknowledge that our goals can only be fully realized by encouraging interdisciplinary representation in that work. Wherever appropriate, the OAP encourages supporting early career development to sustain a long-term career force into the future.

6.2 Scientific Integrity Policy

Consistent with EO 14303, it is the policy of OAP to maintain a culture of scientific integrity. Production of data collections and research results should be objective and not influenced by financial interests or affiliations. Scientific or technological findings should not be suppressed or altered. OAP funded efforts are expected to adhere to high standards of ethical conduct. In addition, any data synthesis effort using data collected by an OAP funded effort is encouraged to suitably acknowledge the data collection researcher(s) in their synthesis product.

6.3 Intellectual Property Policy

OAP intellectual property policy requires that any PIs developing manuscripts or other relevant products with OAP funds ensure that all project co-investigators (as designated at time of proposal submission) are aware of the product being developed and be given the opportunity to serve as co-authors. As such, all project co-investigators on OAP funded projects must be notified by the lead author prior to the submission of any manuscript or other products.

We expect that users of data generated as a result of OAP funded projects will: a) Acknowledge the contribution of data providers and investigators in the form of invitation to co-authorship, reference to relevant scientific articles by data providers or by naming data providers in the acknowledgements. We recognize that co-authorship is only justified in cases involving intellectual contribution to the key findings of a publication and that provision of data on its own does not necessarily merit co-authorship but acknowledgment is warranted; and b) Include in the acknowledgements the use of NOAA OAP-funded data, the associated DOI, and where appropriate the project identifier.

6.4 Data Management Policy

All OAP funded PIs agree to comply with the White House Executive Order – Making Open and Machine Readable the New Default for Government Information (2013), NOAA Plan for Increasing Public Access to Research Results (2015), and the NOAA Data Management Handbook (2024) and adhere to the following:

1. All data generated from NOAA OAP-funded projects shall be sent to the National Centers for Environmental Information (NCEI) under the Ocean Carbon and Acidification Data System (OCADS), unless a pre-approved alternative has been provided by the program office:
<https://www.ncei.noaa.gov/products/ocean-carbon-acidification-data-system>.
2. Investigators are required to fill out the NCEI rich OA metadata form to document the data in detail using the Scientific Data Information System (SDIS):
<https://data.pmel.noaa.gov/sdig/oap/Dashboard/OAPUploadDashboard.html>.
3. The deadline to have your data published at NCEI is the soonest of three scenarios a) no later than time of publication, b) two years after data are collected, c) two years after original⁴ end date of a project.
4. Data must be PUBLISHED and ACCESSIBLE before the above deadline. It normally takes up to one month to publish a dataset at NCEI, but when multiple datasets are submitted around the deadline, long delays can occur. For that reason, we recommend that you submit your data to NCEI early to avoid delays. It's recommended that you share your data with NCEI as soon as a peer-reviewed publication is accepted.
5. It is required to work with NCEI staff and answer any questions they may have in a timely manner to get your dataset published.
6. While NCEI is charged with assisting data submission, it is the PI's responsibility to meet the above data management requirements.
7. Past data management performance will be used for consideration of future OAP funding opportunities.

6.5 Publications

The NOAA Publications Policy requires inclusion in the NOAA Institutional Repository (IR) of any document in a NOAA series as described in NOAA Administrative Order 201-32G that is produced after Oct 1, 2015, intended for public distribution, and includes the presentation or discussion of research. Examples of this category include these four (4) NOAA series:

1. NOAA professional papers
2. NOAA atlases
3. NOAA technical reports
4. NOAA technical memorandums

NOAA-authored and NOAA-funded journal articles published after Oct. 1, 2015 must be submitted as well. Journal article submissions should consist of the final, peer-reviewed but

⁴ Not including any extensions or follow-on funding

pre-publication manuscript. In cases where the NOAA Central and Regional Libraries have permission to post the published version, the NOAA Institutional Repository will make these available after an embargo period of no more than one year.

Additionally, please note that the OAP should be acknowledged for their financial support of any publication. The exact language for this acknowledgement can be flexible provided that: 1) The NOAA Ocean Acidification Program is explicitly referenced and 2) OAPs ROR ([02bf4816](#)) is included.

Finally, a reminder that any paper with a NOAA person in the author list must complete an internal NOAA review prior to submission to a journal for review.