FY2024 Weather Program Office Research Programs

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NOTICE OF FUNDING OPPORTUNITY

EXECUTIVE SUMMARY

Federal Agency Name(s): Oceanic and Atmospheric Research (OAR), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce

Funding Opportunity Title: FY2024 Weather Program Office Research Programs

Announcement Type: Initial

Funding Opportunity Number: NOAA-OAR-WPO-2024-2008082

Federal Assistance Listings Number: 11.459, Weather and Air Quality Research

Dates: For each of the two competitions within this Fiscal Year 2024 funding opportunity, full applications must be received by 5:00 pm Eastern Time (ET) on November 16, 2023. Applications received after this deadline will not be considered. Pre-proposal Letters of Intent (LOIs) are strongly encouraged for potential applicants to all competitions and must be received by 5:00 pm ET on September 19, 2023 in order to receive a pre-proposal review. Award decisions are expected in May 2024. Financial awards for both competitions will be a maximum of two years in length and are recommended to begin in August 2024, as described in Section II.B “Project/Award Period.”

Funding Opportunity Description: NOAA’s Weather Program Office (WPO, wpo.noaa.gov/nofo) is soliciting proposals for two grant competitions from this notification, valued at approximately $2.0 million per year as follows: 1) Climate Testbed (CTB), and 2) Fire Weather.

In alignment with the Weather Research and Forecasting Innovation Act of 2017 (Public Law 115-25), this funding opportunity will allow NOAA to support new weather, water, and earth system observing and forecasting applications, including improved analysis techniques, better statistical or dynamic forecast models and techniques, and communication of that information to better inform the public. In particular, projects are sought that are responsive to the priorities articulated in the Science Advisory Board's 2021 Priorities for Weather Research Report (https://sab.noaa.gov/wp-content/uploads/2021/12/PWR-Report_Final_12-9-21.pdf).

For the purposes of NOAA-funded projects, the maturity of projects is broadly classified using Readiness Levels (RLs), as adopted by NOAA and other federal agencies. The numerical RL scale from 1 to 9 is designed to track project maturity across a progressive spectrum from

research to development to demonstration to deployment. Some competitions and science priorities in this announcement may target research at a specific maturity level and restrict proposals to specific RL ranges. Additional information can be found in the Program Objectives (Section I.A) and Priorities (Section I.B), and definitions of RLs can be found in the NOFO Information Sheets accompanying this announcement.

NOAA, OAR, and WPO encourage applicants and awardees to write their proposals and perform their work in a manner consistent with NOAA's core values, including those on diversity, inclusion, accessibility, civil rights, and scientific integrity. Promoting diversity and inclusion improves creativity, productivity, and the vitality of the weather and water research community in which WPO engages.

Included under the 'Related Documents' tab of this announcement are several information sheets as well as external forms required to be submitted with proposals. If there is any conflicting information between the NOFO announcement and the attached Information Sheets, then the NOFO announcement takes priority and should be followed over any external attachments.

FULL ANNOUNCEMENT TEXT

I. Funding Opportunity Description

A. Program Objective

1. Climate Testbed (CTB)

WPO, in partnership with NOAA National Weather Service's (NWS) Climate Prediction Center (CPC) and Environmental Modeling Center (EMC), is soliciting proposals from the external community to advance NOAA's operational subseasonal-to-seasonal (two weeks to two years; S2S) prediction capabilities via the NOAA Climate Test Bed (CTB).

The portfolio will prioritize capabilities that enhance operational prediction systems, products, or research that aims to transition to operations, with a preference toward activities that enhance or improve precipitation outlooks and service delivery. Proposed ideas that begin at RL 6-to-7 (i.e., projects in the demonstration stage) and have a high potential for eventual transition to operations (i.e., RL 8) after the two-year funding period will be prioritized (please see Appendix A for RL definitions). Projects that are estimated to conclude at or below RL 6 may still apply; however, they should consider additional funding sources from other grants or programs at the end of the two-year CTB funding period. Engagement with the Earth Prediction Innovation Center (EPIC) and program is also strongly encouraged.

For additional program information on CTB and this competition, please refer to the supplemental Information Sheet for the CTB competition in the grant package associated with this announcement at https://www.grants.gov.

2. Fire Weather

WPO invites research and development proposals to improve fire weather forecast information and delivery. This opportunity will support new research into the coupled Unified Forecast System (UFS) for the short-term fire-atmosphere modeling systems. WPO collaborates with NOAA's OAR Laboratories, NOAA's National Weather Service (NWS), NOAA's National Environmental Satellite, Data, and Information Service (NESDIS), and emergency managers from across the fire weather community. WPO, through collaboration with partners, aims to develop and improve impact-based decision support tools, products, and models, to provide timely and accurate guidance to safeguard lives and property, and manage downstream air quality impacts.

The increase in frequency of drought and hot-dry-windy conditions over the last several decades, combined with the continued expansion into the wildfire-urban interface region, has led to a marked increase in the number of acres burned by hazardous wildfires. The number of wildfires and the acres burned are projected to increase as the climate warms, with profound changes to certain ecosystems. Wildfires threaten forest and grasslands, housing and communities, aquatic and soil ecosystems, and air quality both near to and far from the fires, and ultimately costs the Nation billions of dollars a year when accounting for the local costs of damage to buildings, communities, and the downstream impacts on human health associated with smoke and poor air quality.

Project selections will balance among the topics listed below as needed to advance a robust fire modeling forecast system. Model development projects must focus on the next generation UFS, particularly the regional system (Rapid Refresh Forecast System; RRFS) or the Warn on Forecast (WoF) system to model fire-weather and smoke for short time-scales (hours to days). The geographic focus should be on the Continental United States (CONUS), including Alaska. Fire weather forecast product development may work with multi-model ensemble systems, including the UFS as one member.

Collaborations are strongly encouraged with appropriate NOAA Laboratories and Centers as detailed in the supplemental Information Sheet (which can be found under the ‘Related Documents’ tab of this announcement on grants.gov) for the Fire Weather competition. Engagement with the Earth Prediction Innovation Center (EPIC) and program is also strongly encouraged. We encourage projects to engage with EPIC to the extent practicable, to develop high-quality, well tested, well documented software using continuous integration and delivery methods. EPIC projects may also perform developments in-cloud High-performance computing (HPC) and budget for cloud time in the proposals. See the EPIC website (https://wpo.noaa.gov/Programs/EPIC) and the supplemental Information Sheet for the Fire Weather competition for further information on the EPIC program and how to engage.

B. Program Priorities

NOAA’s highest priorities for each of the two separate competitions funded through this announcement are identified below. Applicants for a given competition below should clearly indicate and address in their proposal one or more of the associated priorities for that specific competition. Proposals not directly associated with one or more of these priorities are discouraged.

1. Climate Testbed

Specific priorities targeted for transition to operations by the Climate Testbed encompass the following items:

CTB-1: Improvements to data assimilation (DA) systems that support short-range climate monitoring and prediction, with a focus on ocean, sea ice, and land data assimilation using the Joint Effort for Data-Assimilation Integration (JEDI) if possible, while also contributing to the coupled Global Data Assimilation System (GDAS) developed for GFS/GEFS/SFS. Projects targeting evaluation or enhancements to current DA systems toward a more strongly coupled DA system may also be considered, depending on the readiness level (RL). Additional desirable advancements are enhancements to methods used to create reanalyses, or enhancements to existing reanalysis datasets, that improve current climate monitoring and prediction products, including drought monitoring/prediction.

CTB-2: Developmental activities to accelerate the Seasonal Forecast System (SFS), the S2S portion of the Unified Forecast System (UFS). Proposed activities may include testing and evaluation of the SFS physics, coupling and components, particularly with the goal of diagnosing prediction/predictability of phenomena manifesting at S2S timescales; mathematical methods for process level diagnostics and verifications as related to climate-scale modes of variability (such as Madden-Julian Oscillation, North Atlantic Oscillation, Quasi-Biennial Oscillation, El Nino-Southern Oscillation, etc.).

CTB-3: Method improvements used to make S2S outlooks, including model post-processing via innovative statistical techniques and applications of existing statistical techniques (possibly AI/ML methods). Model and outlook diagnostic and verification tools, particularly those compatible with or extending the enhanced Model Evaluation Tools (METplus), those that help diagnose process problems, and those that fill UFS verification and validation (V&V) gaps are encouraged. These techniques should be applicable to existing operational NOAA numerical models and ensemble modeling suites, such as those included in North American Multi-Model Ensemble (NMME), or possibly to NOAA’s operational outlooks. Ideally, projects supporting concepts such as multi-model combinations, extraction of information above currently employed methods, and future ensembling strategies by informing optimization strategies are particularly encouraged to apply. The development of innovative products that meet a new/unique, validated stakeholder need could also be considered a favorable attribute of a proposal; applicants should reach out directly to either modeling center regarding such needs.

2. Fire Weather

WPO invites proposals that address one or more of the priorities below; each LOI and proposal must specify the primary priorities to be addressed.

Fire weather forecast system projects will develop components related to a next generation coupled wildfire-weather UFS that leads to improved forecasts of fire behavior and smoke. Developments may be new initiatives, or improvements of the fire-weather model system and parameterizations, coupling between the fire and meteorology, improving data assimilation, improving the fire sources, model testing and evaluation (verification or validation), improving software quality, or computational performance, including:

FW-1: Evolution of an active fire including interactions between terrestrial, fire, and atmospheric conditions and composition;

FW-2: Smoke transport, evolution, and interaction with meteorology;

FW-3: Data assimilation of atmospheric and terrestrial conditions needed for all stages of fire weather forecasts;

FW-4: New or improved physics parameterizations to simulate fire heat, moisture flux, and emission of trace gasses and particles;

FW-5: Fire weather forecast system testing, verification, and predictability, including developing fire weather system verification datasets, success metrics, and tools for any or all stages of fire conditions and evolution.

C. Program Authority

Public Law 115-25 Weather Research and Forecasting Innovation Act of 2017, 15 U.S.C. 8512(c).

II. Award Information

A. Funding Availability

The total available funding and total per-project (or per-project-per-year) funding limits for each project under each competition are identified below and vary by competition. These estimates are based on either actual or anticipated NOAA funding availability. For the case of collaborative multi-institution projects, the amounts identified below are per-project (or annual project total) amounts and not per-institution amounts. Please confirm that the requested funding amounts in your application's budget satisfy these stated maximum limits before submitting your application to a particular competition. Any proposal that exceeds the stated per-project or per-project-per-year funding limit below for the competition to which it is submitted will be rejected and not reviewed. For information on the maximum project time period for each competition, please see Section II.B "Project/Award Period."

Funds allocated for each competition may be altered depending on the number and quality of proposals submitted within each competition, and federal funding appropriations. Funding of any proposal is contingent upon the availability of these NOAA funds. "M" refers to millions of U.S. dollars. "K" refers to thousands of U.S. dollars.

1. Climate Testbed (CTB)
Approximate total award funding per year: $1.0 M
Expected number of funded projects: 1–2
Maximum funding limit per project per year: $300 K

2. Fire Weather
Approximate total award funding per year: $1.0 M
Expected number of funded projects: 2–3
Maximum funding limit per project per year: $350 K

B. Project/Award Period

The maximum time period of awards is 2 years. Any proposal that exceeds the stated duration for the competition to which it is submitted will be rejected and not reviewed. The recommended project start date for all programs is August 1, 2024. Applicants are advised to use this date as the project start date in their proposal.

Maximum Award Length: 2 years
Start Date: August 1, 2024

The formal award is subject to the availability of funds. It is possible that NOAA may delay the start of some awards due to circumstances that would prevent the formal award by

the start date defined by the Principal Investigator (PI) in the proposal package. In these instances, the PI will be informed of any schedule revisions. In the event of a lapse in government appropriations, assume that there is no change to the regularly scheduled start date unless a revised schedule has been announced.

C. Type of Funding Instrument

The funding instrument for these awards will be either a grant or a cooperative agreement. If it is proposed or anticipated that NOAA employees will be substantially involved in the research or implementation of the project, the funding instrument will be a cooperative agreement. Examples of substantial involvement may include, but are not limited to, collaboration between NOAA scientists and a recipient scientist or contemplation by NOAA of detailing federal personnel to work on proposed projects. NOAA will make decisions regarding the use of a cooperative agreement or grant on a case-by-case basis based on the nature of the work proposed in the application package. All awards that fund projects intending to utilize one of NOAA's testbeds are expected to be awarded as a cooperative agreement due to the planned involvement of NOAA staff in the testbed demonstration testing. Funding for contractual arrangements for services and products for delivery to NOAA is not available under this announcement.

Approved funding allocated for collaborators at federal NOAA institutions shall be awarded by an intra-agency fund transfer. Inter-Agency Agreement (IAA) fund transfers to non-NOAA federal agencies are not permitted under the funding opportunities in this notice. See section III.A for more details.

For collaborative projects involving investigators from multiple, separate institutions requesting federal assistance, separate awards will be issued to each institution that submits an approved proposal for those projects.

III. Eligibility Information

A. Eligible Applicants

Applicants are responsible for ensuring that they are eligible for the competition for

which they are applying. If any applicants requesting funding are ineligible, the application(s) will be rejected without review.

Eligible applicants are from:

-U.S. institutions of higher education, including in U.S. Territories;
-Cooperative Institutes;
-U.S.-based commercial organizations;
-State, local and Indian tribal governments in the U.S.; and
-U.S. non-profit organizations.

No foreign (based outside of the U.S.) applicants may request funding.

Applicability to Federal Employees and Contractors: Federal employees may serve as co-PIs or co-Investigators (co-Is) but their salary costs are ineligible expenses to be covered by awards from this NOFO. Any NOAA Federal applicant is required to partner with one or more eligible non-federal institution(s) who would submit the application for the competition through Grants.gov per instructions in Section IV.G “Other Submission Requirements.” Eligibility also depends on the statutory authority that permits NOAA to fund the proposed activity. For the purposes of this funding announcement, contractors for the Federal government have the same eligibility restrictions as Federal employees.

Costs incurred by NOAA federal collaborators are eligible for funding through this NOFO only if they fit into one of the categories listed below. Further details are provided in the attached NOFO Information Sheet.

-Allowed: NOAA federal collaborator travel is only eligible in critical project-dependent cases, not including conference or workshop travel.
-Allowed: NOAA Federal funding may also cover project-critical equipment, indirect (overhead) costs for NOAA affiliate institutions, infrastructure, and testbed-related costs.
-NOT Allowed: Any other direct funding for federal institutions, including employee salaries or other costs not listed as eligible in Section III.A, will not be considered as part of this funding opportunity.

All funded investigators must assure and verify, if requested, that they will not be allocated for greater than 100% of their annual employment time should their proposal be selected for funding. NOAA will verify this requirement if the proposal is recommended for funding.

B. Cost Sharing or Matching Requirement

No cost sharing is required under this announcement.

C. Other Criteria that Affect Eligibility

None.

IV. Application and Submission Information

A. Address to Request Application Package

Application packages for full proposals are available at: https://www.grants.gov/web/grants/applicants/apply-for-grants.html. There is no similar official application package for Letters of Intent (LOI) other than the requirements identified below in Section IV.B.2.

B. Content and Form of Application

Applicants to all competitions are required to submit a full application and are strongly encouraged to submit an LOI. Failure to adhere to the instructions in this section (IV.B.) will result in application packages being rejected without review. Some helpful resources for applicants can be found at this website: wpo.noaa.gov/nofo.

1. Special Information

MULTI-INSTITUTION PROPOSALS. For joint projects involving applications from multiple institutions, a PI must be identified for each institution submitting an application. All applications for that project must have the same title and identify the same Lead PI, co-PIs, and co-Is on the applications' title page. The designated Lead PI and their associated institution will then be responsible for additional documents as described in Section IV.B.3.

For collaborative proposals that include multiple applications, each partner or PI institution wishing to receive funds directly from NOAA is responsible for submitting to Grants.gov separate proposal packages with identical project titles, title pages, project

narratives, and project start dates. If any non-federal institution proposed to receive funding directly from NOAA as part of a multi-institution collaborative project fails to submit a full application package, then all partner proposals may be rejected without review, unless a subaward agreement has been arranged. Federal institutions may not submit an application.

All external proposal package components must be identical among all separate proposal submissions to Grants.gov for a multi-institution collaborative project, with two exceptions: 1) each institution's separate budget information tables and budget justification (which will apply only to their own institution's portion of the collaborative project and not the budgets for any other funded institution); and 2) any other institution-specific documents. Each identical title page must list all funded and unfunded investigators and their institutional affiliation(s), even if from a separate funded institution, for a given joint project.

SUBAWARDS. If a subaward agreement has been arranged with their funded co-PIs such that the full award amount will be distributed directly from NOAA to one institution, then only one application package must be submitted (by the Lead-PI's institution) to Grants.gov. Any institutions receiving funding through a subaward by another institution and not directly from NOAA should not submit an application package. However, the subaward should be clearly listed in the full application package's budget narrative immediately below the budget table (Section IV.B.3.n).

REQUIREMENTS FOR NOAA FEDERAL COLLABORATORS. Any NOAA federal employee listed as a co-PI, co-I, or collaborator on the title page of a proposal (if eligible) must have provided explicit pre-approval to the PI to be identified as a contributor to the proposed project. Proposals including a federal collaborator should include a signed letter of support or a completed Collaboration Form, depending on whether the federal collaborator is requesting funding.

If a federal collaborator is requesting funding:
-a signed letter of support is required, and
-a Collaboration Form is optional.

If a federal collaborator is NOT requesting funding:
-a Collaboration Form is required, and
-a letter of support is optional.

This applies to all unique collaborating federal institutions (including NOAA Centers, Laboratories, and Testbeds). Only one letter and/or Collaboration Form is required from each institution on each proposal. For multi-institution proposals, the letter(s) and/or

Collaboration Form(s) only need to be submitted with the Lead-PI’s application. Further details are provided in the NOFO Information Sheet attached under the 'Related Documents' tab of this announcement.

Letters of support should be signed by the NOAA collaborating organization’s director outlining their funding request or other nature of collaboration. Federal collaborator costs should be included in the budget summary on each application’s title page and be identified in the Lead-PI institution’s budget summary and budget justification described in Section IV.B.3. However, federal institution costs should not be included in the non-federal PI’s SF-424 budget documents.

If institutional indirect (overhead) charges are included in the budget, the applicant must have an approved negotiated Indirect Cost Rate Agreement and must include it as a part of the application package. Any NOAA Laboratory overhead costs at this pre-agreed-upon rate (such as those required of affiliated NOAA Cooperative Institutes) may be requested as part of the proposal’s budget.

All funding requested by a federal institution, to cover overhead or otherwise, will count against the maximum total project cost as specified for the competition (Section II.A), and the proposed project-total cost must not exceed that limit. Requested costs for federal collaborators (excluding indirect overhead costs) must not exceed 20% of the project total cost. The request for these funds will be considered by the WPO Program Manager and, if approved, will be provided directly to the NOAA organization if the proposal is selected. If this proposed funding is not properly and clearly documented, the application may be rejected without review.

2. Letter of Intent (LOI)

Prior to submitting a full application package (proposal) for the competitions identified in this announcement, all PIs are strongly encouraged (but not required) to submit a pre-application to NOAA in the form of an LOI for each planned project. Only one LOI should be submitted by the Lead PI for multi-institution projects. The LOI should provide a concise description of the proposed work and a summary budget table. There is no limit to the number of unique LOIs that may be submitted by a single applicant.

The purpose of the LOI process is to provide information to potential applicants on the merits and value of their proposed project to the competition in advance of preparing a full application. Full applications will be encouraged only for LOIs deemed to be high in merit

and value. Applicants who have not been encouraged may still submit a full application. While LOIs are strongly encouraged, applicants are not required to submit them and may submit a full application even if they did not submit an LOI.

LOIs will be reviewed by WPO against the Program Objectives and Priorities of the relevant funding competition to assess potential value of the proposed research to NOAA and/or other targeted partners in the weather enterprise. PIs will be provided, upon request, a short synthesis of the factors from the review that led to the recommendation.

Each LOI should be submitted through a form at the following address: https://tinyurl.com/FY24WPOCompetition, or by email to oar.wpo.nofocompetition@noaa.gov, by the deadline specified in Section IV.D below. The LOI should concisely describe the proposed work and a statement regarding its relevance to the targeted competition. The LOI should be no more than two pages in length and should include the items listed below. If these items are not included, the LOI is submitted late, or the LOI exceeds two pages, the LOI may not be considered:

(a) Proposal Title;
(b) The name(s) of all PI(s), co-PIs, and investigators, as well as each of their home institution(s);
(c) The NOFO competition to which the proposal is applying, and that competition's priority(ies) the proposed work will address;
(d) Planned products/outputs;
(e)Planned impacts/benefits/outcomes;
(f) Planned methodology and timelines;
(g) The proposed starting and ending Readiness Levels (RL), any proposed use of a NOAA Testbed or Proving Ground, HPC resources, and whether a NOAA Transition Plan has been developed for earlier work on this topic;
(h) Potential operational, commercial, or other end-user adopter(s) of the project outputs; and
(i) A simple budget table to summarize the funding allocation.

3. Full Application Package

FORMAT. All pages should be single-spaced and set in 12-point font with one-inch margins on 8 ½ x 11 inch paper. The proposal should be submitted as a PDF file. It must be dated and display page numbers.

The full application package (proposal) must include the following items that are described below:

-PROJECT NARRATIVE (14 pages plus Other Attachments)
- -Title Page
- -Abstract page
- -Problem/Opportunity Statement
- -Products/Outputs
- -Impacts/Benefits/Outcomes
- -Schedule
- -Methods and Activities
- -Outreach and Education
- -Diversity and Inclusion
- -Data Management Plan
- -Curricula Vitae (CV)
- -Current and Pending Support
- -Other Attachments (see section IV.B.3.(m))

-BUDGET
- -Budget table
- -Budget justification

-STANDARD FORMS
- -Standard Form 424 - Application for Federal Assistance
- -Standard Form 424A - Budget Information - Non-Construction Programs
- -Standard Form 424B - Assurances - Non-Construction Program
- -Form CD-511 - Certifications Regarding Lobbying
- -Standard Form LLL - Disclosure of Lobbying Activities

PROJECT NARRATIVE: (14 pages plus additional attachments)

The project narrative shall not exceed 14 pages, including Sections IV.B.3.(a–i) below (including the title page, abstract, and figures). All other required attachments identified in Section IV.B.3.j–o are not included in this 14 page limitation (i.e., the Data Management Plan, Curricula Vitae (CVs), reference list, Underserved Groups Information Request, Letters of Support, Collaboration Forms, and Budget). For project narratives that exceed 14 pages, only the first 14 pages will be reviewed.

For a multi-institution project, each institution is required to submit an identical project narrative clearly describing the work contributions of each funded investigator.

The Project Narrative must contain the following elements:

a) TITLE PAGE (one page): Provide the following information: each PI, co-PI, and investigator as well as each respective institutional representative by full name, title, organization, telephone number, email address; the mailing address for the institution's PI; the total requested funds for each annual period for the project as a whole, and for each individual institution (including each internal federal and external non-federal institution), including indirect costs; and the competition to which it is being submitted.
For a multi-institution proposal, each institution's respective application must include the names of all institutions along with their PI information and total requested funding for each annual period for each institution on the title page. If the requested information does not fit onto a single title page with reasonable effort, then a second title page that does not count against the proposal page limit may be added. Additional information, including examples, can be found in the NOFO Information Sheet.

b) ABSTRACT (one page): The abstract must appear on a separate page and include the proposal title and the names of all PIs, co-PIs, investigators, and collaborators, and their affiliation(s). The abstract text must contain a brief, plain-language summary of the proposed work including:
-primary project products/outputs;
-intended impacts/benefits/outcomes, including who will use the outputs and how they will (or may) be applied;
-the NOFO competition to which the proposal is applying and the relevance to that competition's priority(ies); and
-the total funds requested by the proposal.

c) PROBLEM/OPPORTUNITY STATEMENT: Identify the problem and/or the opportunity and its relevance to one or more of the competition's science priorities identified in Section I.B. Please reference only priorities listed under the specific competition to which you are applying. If appropriate, concisely cite results from prior relevant research and/or previously-funded NOAA projects that contributed to the proposed research concept, and if applicable, provide the NOAA project award number, title, and period of performance for any previously-funded NOAA projects performed either by you or other researchers. Indicate if a NOAA Transition Plan has been developed for earlier work on this topic.

d) PROJECT PRODUCTS/OUTPUTS: Identify the primary planned products/outputs. Provide the current/starting and target/project-completion readiness level (RL) with an explanation of how each level was determined.

Any project outputs or products other than those required for standard progress reporting are not considered project deliverables but should still be described as key planned outputs. More information can be found under Funding Restrictions (Section IV.F).

e) PROJECT IMPACTS/BENEFITS/OUTCOMES: Identify the planned impacts/benefits/outcomes. Identify which specific weather enterprise group or organization is expected to be the ultimate recipient(s) and beneficiary(ies) and/or end users of these project outcomes (e.g., local weather or river forecast offices, a national operational forecast center, community code repository, a state mesonet, a commercial organization). Provide any metrics or success indicators as appropriate.

f) SCHEDULE: Provide a table or chart with a schedule for completing key milestones, products, and expected progression of or iteration through RLs.

g) METHODS AND ACTIVITIES: Concisely describe the key activities and methods that will be conducted to successfully complete the project. This may include information on model frameworks, simulations, HPC availability, data collection, analysis, collaborations needed (including needed operational collaborations for transition), and necessary travel (associated with data collection, project meetings, testbed planning meetings, testbed experiments, and the presentation of results at scientific conferences as appropriate). Applicants are encouraged to consider contingencies in the event of scenarios that restrict travel or completion of other project activities, such as those resulting from the COVID-19 pandemic.

If applicable, the methods section should also include information on:

-Institutional Review Board (IRB): Applicants submitting proposals that involve the use of human subjects should state so clearly in their Methods, and also include appropriate milestones in the schedule for completion of the IRB process. If the recipient seeks agency assistance conducting or sponsoring any collection of information, the recipient must obtain Office of Management and Budget (OMB) clearance. Additional information about requirements for the inclusion of human subjects, including applicability to focus groups and testbed experiments, can be found in the NOFO Information Sheet;

-High-performance computing (HPC): The availability of HPC the project has access to ensure success; and

-Use of Testbeds: Any proposed testing in one of the NOAA Testbeds or Proving Grounds.

h) OUTREACH AND EDUCATION: Describe how the project team plans to share

project progress and results with the scientific community and/or general public, including but not limited to, publications, presentations, website, hosting workshops, developing training materials, code repository, or other engagement activities. Also describe any activities that promote the education and field experience of undergraduate and graduate students, and/or provide opportunities to share with students and K–12 educators, as well as any educational scholarship or internship opportunities presented by this project.

i) DIVERSITY, EQUITY, INCLUSION, ACCESSIBILITY (DEIA): In accordance with Executive Order 13985, which mandates a comprehensive federal approach to advance equity for all and support for underserved communities, WPO recognizes that it has a particular and unique opportunity to support NOAA's commitment to diversity and inclusion by taking an intentional step that encourages program applicants to consider diversity and inclusion as part of their scientific projects. This action has the potential to make an impact on not only the diversity and inclusion in science at NOAA, but also beyond the agency. In this section, articulate how the proposed project broadens the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.) including, but not limited to, how the project advances the organization or institution's commitment to diversity and advances full participation of women, persons with disabilities, underrepresented minorities in science, technology, engineering, and mathematics (STEM) and other underrepresented populations in STEM. Underserved or underrepresented populations are defined as populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life. A strong DEIA statement communicates that creating and fostering a diverse and inclusive workforce is a priority for the applicant and their institution. Proposals should include, and will be evaluated on (among other criteria; see Section V.A), specifics of ongoing or planned project activities that encourage diversity, accessibility, and an inclusive research environment, including, but not limited to:

-utilization of educational and research partnerships with institutions serving minority and underrepresented populations (such as Historically Black Colleges and Universities, Tribal Colleges and Universities, Minority Serving Institutions, NOAA Cooperative Science Centers, and institutions that work in underserved communities; Minority Serving Institution is defined and qualifications are listed in the NOFO Information Sheet);

-utilization of collaborative programs seeking diversity in science, technology, engineering, and mathematics (STEM);

involvement with existing education and outreach programs (e.g., the NOAA Educational Partnership Program);

-the provision of accommodations and modifications to ensure equal access to employment and participation in activities for people with disabilities, the reduction or elimination of physical and attitudinal barriers to equitable opportunities, a commitment to ensuring that individuals with disabilities can independently access every outward-facing and internal activity or electronic space, and the pursuit of best practices such as universal design;

-project team or individual training, such as for awareness and prevention of sexual assault and sexual harassment (SASH); and

-any other initiatives that build the capacity of and foster a diverse and inclusive research team and environment.

j) DATA AND/OR SOFTWARE MANAGEMENT PLANS: Proposals submitted in response to this announcement must include a Data Management Plan with details on how data collected in the project will be made publicly available. See Section VI.B., Administrative and National Policy Requirements, below for additional information on what the plan should contain. Also refer to your institution’s data storing and sharing policies and regulations. In addition, if software is developed as part of the proposal, a separate Software Management Plan is required, as described in Section VI.B. The Data Management Plan and/or Software Management Plan do not count towards the 14-page proposal limit.

k) CURRICULA VITAE (CV): A CV of 3 pages or less for all PIs, co-PIs, and co-Is listed on the title page must be included in the full application package. The CV should include a reference list of all publications and conference presentations relevant to the proposed work within at least the last three years, and if applicable, the investigator’s Open Researcher and Contributor Identification (ORCID). CVs are not required for collaborator partners. The CVs included in the full application package do not count towards the 14-page proposal limit.

l) CURRENT AND PENDING SUPPORT: Each PI, co-PI, and co-I requesting funding support must submit a current and pending support list that includes project title, supporting agency, funding start and end months, investigator months, total dollar value and duration. Amounts requested as part of the current proposal must be included as pending support. The current and pending support lists provided in the full application package do not count towards the 14-page proposal limit.

m) OTHER ATTACHMENTS: Additional attachments described below do not count towards the 14-page count defined above. The 14-page count only applies to Sections IV.B.3.(a–i).

i. Underserved Groups Information Request (Voluntary): NOAA will not provide collected underserved groups information to reviewers for any purpose, including evaluation, and will not consider underserved groups information during selection. Information collected from applicants will be used to measure WPO's progress on nurturing a diverse scientific research community. On the Underserved Groups Information Request Form (attached under the 'Related Documents' tab of this announcement), please provide the following information for all named collaborators on your proposal (OMB approved for PRA under DOC generic clearance information collections, 0690- 0030 and 0690-0035).

Do you or any named investigators on this proposal identify with any of the following groups that the federal government, in Executive Order 13985, has identified as underserved? Please list all that apply.

a) Black
b) Latino
c) Indigenous and/or Native American
d) Asian American
e) Pacific Islander
f) Other person of color
g) Members of religious minorities
h) Lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons
i) Persons with disabilities
j) Persons who live in rural areas
k) Persons otherwise adversely affected by persistent poverty or inequality
l) No, I do not identify with any of these groups

ii. Letters of Support (Required if applicable): In addition to any letters supporting funding requests by federal collaborators, optional Letters of Support from key stakeholders or potential operational end-users may be included to help document the relevance of the project to the NOFO priorities and potential pathways for transition.

iii. Documentation of NOAA Collaboration Form (Required if applicable): If NOAA unfunded collaboration is proposed, a NOAA Collaboration Form is required from the relevant NOAA Director. The form should indicate specific NOAA staff, laboratory, HPC, testbed, or other resources the project is leveraging.

vi. National Environmental Policy Act (NEPA): This announcement does not require any NEPA questions to be answered as part of the application. A NEPA evaluation will be completed after project selection. The applicant(s) may be required to answer additional NEPA-related questions if NOAA needs additional information beyond what is

described in the proposal package. For additional information on NEPA, see section VI.B.

n) BUDGET: In addition to the title page, budget table, and SF-424A Budget Information Form, each individual proposal must include a Budget section that includes a full Budget Table and Budget Justification. The information in the Budget Table, Budget Justification, and SF-424A Budget Information form must be consistent. Unlike the title page, neither the Budget Table in this section nor the SF-424A should include budget information for PIs or co-Is at other institutions who may be contributing to a joint project. The Budget Narrative must include:

(1) a detailed itemized budget table organized by year; and

(2) a budget justification that demonstrates the cost is appropriate. This budget summary should include the PI's scientific and technical support staff salaries and fringe benefits, facility requirements, computing and communications, supplies, and travel. Only include the funding requested by the institution submitting the proposal. The information in this table must exactly match the SF-424A.

For multi-institution projects, each institution should provide its own budget table, justification, and SF-424A in its application. The multi-institution project's Lead PI should include an additional, separate summary budget table in their application with a breakout of the budget for all partners on the multi-institution project in addition to the detailed budget for their own institution. Total funding requested by other institutions (including any federal institutions) must be included in the budget summary table on the title page (see Section IV.B.3). Any subaward agreements should be clearly identified in the budget justification and listed immediately below the budget table.

If indirect charges are included in the budget, the applicant must have an approved negotiated Indirect Cost Rate Agreement and must include it as a part of the application package. Materials, equipment, and travel expenses are not appropriate to classify as indirect costs. If an applicant has not previously established an indirect cost rate with a federal agency they may choose to negotiate a rate with the Department of Commerce or use the de minimis indirect cost rate of 10% of Modified Total Direct Cost (MTDC; as allowable under 2 C.F.R. §200.414). The negotiation and approval of a rate is subject to the procedures required by NOAA and the Department of Commerce Standard Terms and Conditions Section B.06. The NOAA contact for indirect or facilities and administrative costs is:

Raishan Adams, Grants Officer
NOAA Grants Management Division
raishan.adams@noaa.gov

o) STANDARD FORMS: The full application package includes the information described above as well as the required federal forms:

(1) Standard Form 424 - Application for Federal Assistance
(2) Standard Form 424A - Budget Information - Non-Construction Programs
(3) Standard Form 424B - Assurances - Non-Construction Program
(4) Form CD-511 - Certifications Regarding Lobbying
(5) Standard Form LLL - Disclosure of Lobbying Activities

Applicants must use the Standard Form SF-424A Budget Information-Non Construction Programs that is contained in the standard NOAA Grants and Cooperative Agreement Package. Pay careful attention to show the yearly budget breakout on page 1A of the SF 424A for multi-year proposals.

C. Unique Entity Identifier and System for Award Management (SAM)

The Unique Entity Identifier (UEI) has replaced the DUNS number and is now the primary means of identifying entities registered for federal awards government-wide in the System for Award Management (SAM), which may be accessed online at https://www.sam.gov. The UEI is important for enhancing the quality of information available to the public as required by the Federal Funding Accountability and Transparency Act (31 U.S.C. 6101 note). If your entity is already registered in SAM, it has been assigned a UEI and is viewable in SAM. While the UEI is assigned by and viewable within SAM, applicants can also find it listed under their organization profile in Grants.gov.

To apply through Grants.gov, users will be able to download a copy of the application package, complete it offline, and then upload and submit the application via the Grants.gov site. If an applicant has problems downloading the application forms from Grants.gov, contact Customer Support at 1-800-518-4726 or support@grants.gov.

Additional information about SAM registration and submitting through Grants.gov can be found attached to this announcement in Grants.gov.

D. Submission Dates and Times

LOI due date: September 19, 2023
Expected NOAA response date on LOIs: October 19, 2023
Full application package due date: November 16, 2023

In the event of a lapse in government appropriations or other extenuating circumstances that may preclude NOAA from executing the competitions in a timely manner, assume that there is no change to the regularly scheduled deadlines in this section unless a revised deadline has been announced and published on Grants.gov.

i) LETTERS OF INTENT (LOI)

LOIs are optional (although strongly encouraged) and the feedback from WPO is non-binding.

In order to receive feedback, the LOI must be received by NOAA by completing the submission form at https://tinyurl.com/FY24WPOCompetition. Alternatively, LOIs may be submitted via email at oar.wpo.nofocompetition@noaa.gov no later than 5:00 p.m. Eastern Time (ET) on September 19, 2023. LOIs should be submitted as PDF documents. If applicants do not receive a confirmation of receipt within 24 hours of submitting their LOI, it is recommended that they contact the WPO competitions email address and appropriate Program Manager (Section VII) to confirm receipt of their LOI. NOAA determines whether an LOI has been submitted before the deadline by the date and time on the form submission or email. If an LOI is received after the deadline, it will not be reviewed. However, PIs are still permitted to submit an application package. On or about October 19, 2023, applicants submitting an LOI will receive an email from NOAA encouraging or discouraging proposal submission.

ii) FULL APPLICATION PACKAGES

Full application packages for all competitions must be submitted via Grants.gov no later than 5:00 p.m. Eastern Time (ET) on November 16, 2023. Applications received after that time or via other means (including email) will be rejected without review. The date and time receipt indication from Grants.gov will be the basis of determining acceptance for review processing by NOAA.

Applicants are strongly encouraged to not wait until the application deadline date to begin the application process through Grants.gov. Please also consider the amount of time required by your institutional representative to process and submit your application. Plan your time accordingly to avoid being disqualified for a late submission.

E. Intergovernmental Review

Applications under this program are not subject to Executive Order 12372, "Intergovernmental Review of Federal Programs".

F. Funding Restrictions

i) Multiple Proposals. Applicants may submit proposals to multiple competitions if the proposals are on different topics and the Lead PI is eligible for each competition. However, duplicate work with different federally funded projects is not permitted. If NOAA determines identical or predominantly identical proposals have been submitted to more than one competition, the one that was first submitted to Grants.gov will be accepted by NOAA for consideration, and all others will be rejected without review. NOAA funding decisions for any given submitted proposal must not be contingent upon funding decisions of any other separate submitted proposal unless it is clearly identifiable as part of a multi-institution project.

ii) Federal Costs. NOAA will not fund federal salary costs for federal government employees (NOAA or otherwise) who may propose to serve as a PI, co-PI, co-I, or collaborator. Other eligible costs for federal NOAA collaborators are listed in Section IV.B. Funds for these approved costs will be transferred directly to the federal employee's organization through an intra-agency fund transfer within NOAA (see Section II.C). Requested costs for federal collaborators (excluding indirect overhead costs) must not exceed 20% of the project total cost.

iii) Deliverables. NOAA cannot fund nor accept any award deliverables that would be more appropriately funded through a procurement mechanism. However, NOAA may possibly pursue such follow-on contract mechanisms with the recipient after the award ends if the project is successful and follow-on contractual work is warranted. Any proposed transitions to NOAA cannot be completed using funds awarded through this NOFO; as a result, please include planned transitions to NOAA as follow-on work and not as a deliverable for this award.

iv) Multi-Year Projects. Funding beyond the first year will be dependent upon satisfactory performance and the continued availability of funds. NOAA is not responsible for proposal preparation costs.

G. Other Submission Requirements

Full application packages should be submitted online at grants.gov. Additional submission information can be found in Section IV.D of this NOFO.

V. Application Review Information

A. Evaluation Criteria

1. Relevance of Proposed Project to Program Goals (Relevance, Impact and Stakeholder Support) (30 points)

Reviewers will consider the following questions:

1. Relevance and alignment with competition priority(ies)
   a. How clearly defined is the problem and/or opportunity?
   b. How aligned is the proposal with a competition's priority(ies)?
   c. How appropriate for the competition is the proposal's expected Readiness Level (RL) progression, given the competition's designated RL range?

2. Potential impact/benefit/outcomes
   a. How relevant to the competition's desired outcomes are the project outputs/products?
   b. How impactful or beneficial would this project's outcomes be, if successful?

3. Stakeholder support and/or involvement
   a. How robust is the proposed collaboration with operational stakeholders and/or potential adopters (i.e. operational Co-PI, collaborator, Letters of Support, NOAA Collaborator Acknowledgement Form(s), existing Transition Plans, Testbed involvement)? This question should be addressed with a focus on quality over quantity of collaboration. This means that having a large number of the examples provided above does not always indicate a robust collaboration.

2. Technical or Scientific Merit (Technical/Scientific Merit and Project Design) (30 points)

This criterion assesses if the proposal is well-designed, technically sound and/or innovative. Reviewers will consider the following questions:

1. Technical /Scientific Merit
    a. How rigorous are the proposed methods and solutions?
    b. How much does the proposed project improve technology, knowledge, or methods and advance the field of study?
2. Project Design
    a. How well-defined are the proposed project milestones, outputs, and timeline?
    b. How achievable are the proposed methods and solutions, given the project milestones and timeline?

3. Qualifications of Applicants (Applicant(s) Qualifications and Collaborative Environment) (14 points)

This criterion assesses whether the research team possesses the necessary experience, education, training, facilities, collaboration environment, and administrative resources to accomplish the proposed project. Reviewers will consider the following questions:

1. Research Team Qualifications
    a. How will the research team's experience, education, training, facilities, and/or resources help accomplish the project?
    b. How effectively has the research team demonstrated the ability or potential to conduct successful research, development, and/or transition?
    c. How effectively has the research team demonstrated the ability or potential to publish peer reviewed articles and/or otherwise present or disseminate their research findings in professional and/or outreach settings?
2. Collaborative Environment
    a. How effective are proposed collaboration efforts and partnerships, and are they sufficient to accomplish the proposed project goals?

4. Project Costs (10 points)

This criterion evaluates the budget (considering both financial and time costs) to determine if it is realistic, efficient, and aligns with project needs and proposed timeline. Reviewers will consider the following questions:

1. How reasonable, realistic, allocable, and necessary are the requested costs, and do

they align with project outputs/products, outcomes/benefits, and time period (assuming that institutional costs such as projected salary increases are set by institutions and not controlled by the applicants)?

2. How reasonable are the proposed staffing resources, and are they sufficient to successfully complete the proposed work?

3. How impactful are the potential benefits relative to the cost?

4. How cost efficient is the proposed project?

5. Outreach and Education (8 points)

This criterion assesses whether the project provides a focused and effective education and outreach strategy. Reviewers will consider the following questions:

1. How well does the proposed project engage in knowledge sharing activities with the scientific community and/or the weather enterprise? Examples include hosting or attending a workshop, developing training materials, etc.

2. How well does the proposal describe the management of data in the Data Management Plan? This includes data storage during the project, plans for sharing and public availability of data at the conclusion of the project (with specific mention of locations), and the format of data, metadata, and documentation that will be provided with publicly available data.

3. How well does the proposed project engage, build relationships, iterate, and co-produce knowledge, materials, or initiatives with target groups, relevant decision-makers, practitioners, underserved populations, and/or the general public? This might include: hosting workshops, developing training materials, developing a website, engaging with K–12 educators and students, etc.

4. How well does the project proposal incorporate student involvement and engagement? This might include training, mentoring, scholarship, paid internship and/or development opportunities for students throughout their educational career.

6. Diversity, Equity, Inclusion and Accessibility (8 points).

This criterion assesses the project's compliance with NOAA's policy on diversity, equity, inclusion, and accessibility (DEIA), as defined in Section IV.B.2.i (as well as on NOAA's official website https://www.noaa.gov/organization/inclusion-and-civil-rights/diversity-and-inclusion), and its potential broader impact on DEIA. Reviewers will consider the following questions:

1. How strong is the potential of the project outputs and outcomes to directly benefit

one or more traditionally underserved and/or vulnerable populations?

2. How strong is the potential of this project to broaden the participation of one or more traditionally underserved and/or vulnerable populations? The definition of underserved populations can be found in Section IV.B.

3. How well does the proposed work advance DEIA through the outputs of their project? Examples include, but are not limited to: easy-to-use tools or products, new community engagement approaches, incorporating social science and evaluation capacity.

4. How well does the research team prioritize and advocate for DEIA throughout the proposed project? This could include how DEIA principles are interwoven into their work culture, their research group, their community, their institution, or in the preparation of the proposal.

5. How well does the proposal provide accommodations and modifications to foster an inclusive and safe environment and ensure equal access to employment and participation in activities for people with disabilities.

B. Review and Selection Process

Once a full application package has been received, an administrative review will first be conducted to determine compliance with all submission requirements, completeness of the application, and general responsiveness to the NOAA priorities in Section I.B. If all requirements are satisfied and the application is responsive to at least one of the NOAA priorities, the application will move to the next stage of review. If not, the application will be rejected, and the PIs will be notified.

Independent peer reviews consisting of at least three subject matter experts per proposal who may be Federal and non-Federal Government employees will evaluate all compliant applications (proposals) using the evaluation criteria specified above in Section V.A. All proposals within each competition category pool will then be competed and ranked against each other, according to the average of the reviewer scores. These final scores for each application will be used to determine the rank order of the proposals for each of the competitions. Final selections will be based on rank order and Selection Factors described below in Section V.C.

Any application considered for funding may be required to address issues raised in the evaluation of the application by the reviewers, program officer, and/or a selecting official before a selection recommendation decision is made, before an award is made.

The WPO Director is the designated Selection Official for all competitions in this

announcement and will make the final selection recommendations to the NOAA Grants Officer.

C. Selection Factors

The merit review ratings shall provide a rank order to the selecting official for final funding recommendations. The selecting official shall recommend awards in the rank order of the review unless the applications are justified to be selected out of rank order based upon one or more of the following factors:

1. Availability of funding.

2. Balance/distribution of funds:
   a. Geographically;
   b. By type of institutions;
   c. By type of partners;
   d. By research areas; and/or
   e. By project types.

3. Whether this project duplicates other projects funded or considered for funding by NOAA or other federal agencies.

4. Program priorities and policy factors.

5. Applicant's prior award performance.

6. Partnerships and/or participation of targeted groups.

7. Adequacy of information necessary for NOAA staff to make a NEPA determination and draft necessary documentation before recommendations for funding are made to the Grants Officer.

D. Anticipated Announcement and Award Dates

Applications should use the recommended date defined in Section II.B for a given competition as the start date for their proposed project. Review of applications will occur during the 2–3 months following the full application due date. WPO anticipates that funding

recommendation decisions on applications will be made in May 2024. Such decisions are contingent upon the final FY 2024 appropriation to NOAA by Congress and the final allocation of funds to OAR by NOAA and actions by the NOAA Grants Officer. NOAA's Grants Management Division will normally make formal award offers approximately one month before the planned start date for each of the competitions (listed in Section II.B). Significant Congressional funding delays after the fiscal year begins, or delays in NOAA's processing of awards, may result in delays in the dates of both award recommendation decisions and the awards themselves and could result in award offers not being distributed until after the proposed project start dates.

VI. Award Administration Information

A. Award Notices

Applicants will receive notification from WPO that their application has either been recommended or not recommended for funding to the NOAA Grants Management Division immediately after completion of the review process. All applicants will receive their average scores for their application and overarching reviewer comments. Notices of recommendation for funding are not an authorization to initiate the project. Official notification of funding of the award, signed by a NOAA Grants Officer, will come typically two to three months later if approved and is the only official document that authorizes the project to begin.

B. Administrative and National Policy Requirements

UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS. Through 2 C.F.R. § 1327.101, the Department of Commerce adopted Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 C.F.R. Part 200, which applies to awards in this program. Refer to http://go.usa.gov/SBYh and http://go.usa.gov/SBg4.

DOC TERMS AND CONDITIONS. Successful applicants who accept a NOAA award under this solicitation will be bound by Department of Commerce Financial Assistance Standard Terms and Conditions. This document will be provided in the award package in NOAA's Grants Online system at http://www.ago.noaa.gov and at http://go.usa.gov/hKbj.

LIMITATION OF LIABILITY. Funding for programs listed in this notice is contingent

upon the availability of continuing Congressional appropriations. Applicants are hereby given notice that funds have not yet been appropriated for the programs listed in this notice. In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs. Publication of this announcement does not oblige NOAA to award any specific project or to obligate any available funds.

REVIEW OF RISK. After applications are proposed for funding by the Selecting Official, the Grants Office will perform administrative reviews, including an assessment of risk posed by the applicant under 2 C.F.R. 200.206. These may include assessments of the financial stability of an applicant and the quality of the applicant's management systems, history of performance, and the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-federal entities. Special conditions that address any risks determined to exist may be applied. Applicants may submit comments to the System for Award Management (SAM), formerly Federal Awardee Performance and Integrity Information System (FAPIIS) about any information included in the system about their organization for consideration by the awarding agency.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA). If recommended for funding, applicants whose proposed projects may have an environmental impact will be asked to furnish sufficient information to assist NOAA in assessing the potential environmental consequences of supporting the project. NOAA must analyze the potential environmental impacts, as required by the National Environmental Policy Act (NEPA), for each project which seeks NOAA funding.
Detailed information on NEPA can be found at the following NOAA NEPA website: http://www.nepa.noaa.gov/, including our NOAA Administrative order 216-6A for NEPA, http://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_216/216-6A.html and the Council on Environmental Quality implementation regulations.

If needed by NOAA for NEPA assessment, applicants will be asked to provide detailed information on the activities to be conducted, locations, sites, species, and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems). In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting an environmental assessment if NOAA determines an assessment is required.

Applicants will also be required to cooperate with NOAA in identifying feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. The failure

to do so shall be grounds for not selecting an application. In some cases if additional information is required after an application is selected, funds can be withheld by the Grants Officer under a special award condition requiring the recipient to submit additional environmental compliance information sufficient to enable NOAA to make an assessment on any impacts that a project may have on the environment.

MINORITY SERVING INSTITUTIONS. The Department of Commerce/National Oceanic and Atmospheric Administration (DOC/NOAA) is strongly committed to increasing the participation of Minority Serving Institutions, i.e., Historically Black Colleges and Universities, Hispanic-serving institutions, Tribal colleges and universities, Alaskan Native and Native Hawaiian institutions, and institutions that work in underserved communities. Minority Serving Institution is defined and qualifications are listed in the NOFO Information Sheet.

DATA MANAGEMENT AND SHARING PLAN.

1. As stated in NOAA's directive on data sharing (https://nosc.noaa.gov/EDMC/PD.DSP.php), environmental data, including socio-economic data, collected or created under NOAA grants or cooperative agreements must be made discoverable by and accessible to the general public, in a timely fashion (typically within two years), free of charge or at no more than the cost of reproduction, unless an exemption is granted by the NOAA Program. Data must be available in at least one machine-readable format, preferably a widely-used or open-standard format, and should also be accompanied by machine-readable documentation (metadata), preferably based on widely used or international standards. It is recommended that data are stored in a widely-used online data archiving platform or repository.

2. Proposals submitted in response to this Announcement must include a Data Management Plan of up to two pages describing how these requirements will be satisfied. The contents of the Data Management Plan (or absence thereof), and past performance regarding such plans, will be considered as part of proposal review. A typical plan should include:
-descriptions of the types of data and information expected to be created during the course of the project;
-procedures for storing collected data during the project;
-the tentative location of shared data; the tentative date by which data will be shared;
-the standards to be used for data/metadata format and content;
-methods for providing data access; approximate total volume of data to be collected; and
-prior experience in making such data accessible.

The costs of data preparation, accessibility, or archiving may be included in the proposal budget unless otherwise stated in the Guidance. Accepted submission of data to the NOAA National Centers for Environmental Information (NCEI) is one way to satisfy data sharing requirements; however, NCEI is not obligated to accept all submissions and may charge a fee, particularly for large or unusual datasets. Other data archiving platforms are available to PIs for data publishing and sharing, including (but not limited to) Converge/DesignSafe-CI and Harvard Dataverse. The sharing of data collection instruments is also highly recommended, if appropriate and if the chosen data platforms allow the submission of methodological instrument(s) in addition to the data.

3. NOAA may, at its own discretion, make publicly visible the Data Management Plan from funded proposals, or use information from the Data Management Plan to produce a formal metadata record and include that metadata in a Catalog to indicate the pending availability of new data.

4. Applicants are hereby advised that the final pre-publication manuscripts of scholarly articles produced entirely or primarily with NOAA funding will be required to be submitted to the NOAA Institutional Repository after acceptance, and no later than upon publication. Such manuscripts shall be made publicly available by NOAA one year after publication by the journal.

SOFTWARE MANAGEMENT AND SHARING PLAN. As stated in NOAA's Science Advisory Board Open Data/Open Science Subcommittee Report, proposals should consider the following two open science guidelines:
- In general, software developed by NOAA and NOAA supported projects should be open source with a permissive license that encourages engagement and reuse.
- In general, research by NOAA and NOAA supported projects should be accessible and reproducible.

The definitions of open-source software and reproducible research are given by the National Academy of Science study on Open-Source Software (NASEM 2018) for broadening the engagement with the open science community.

For research relevant to the UFS, a competitive proposal must commit to software development approaches in accordance with UFS and EPIC best practices described in the following documents.

UFS Weather Model Code Development: https://github.com/ufs-community/ufs-weather-model/wiki/Making-code-changes-in-the-UFS-weather-model-and-its-subcomponents

UFS Short-Range Weather (SRW) App Contributor’s Guide: https://ufs-srweather-app.readthedocs.io/en/develop/

The Software Management Plan should also describe how the project will make newly developed software freely available and publicly accessible.

FREEDOM OF INFORMATION ACT (FOIA). In the event that an application contains information or data that you do not want disclosed prior to award for purposes other than the evaluation of the application, mark each page containing such information or data with the words "Privileged, Confidential, Commercial, or Financial Information - Limited Use" at the top of the page to assist NOAA in making disclosure determinations. DOC regulations implementing the Freedom of Information Act (FOIA), 5 U.S.C 552, are found at 15 C.F.R. Part 4, which sets forth rules for DOC to make requested materials, information, and records publicly available under FOIA. The contents of funded applications may be subject to requests for release under FOIA. Based on information provided by the applicant, the confidentiality of the content of funded applications will be maintained to the maximum extent permitted by law.

PAPERWORK REDUCTION ACT (PRA) – This notification involves collection-of-information requirements subject to the Paperwork Reduction Act (PRA). Use of Standard Forms 424, 424A, 424B, and SF-LLL and CD-346 has been approved by the Office of Management and Budget (OMB) under control numbers 0348-0043, 0348-0044, 0348-0040, and 0348-0046 and 0605-0001. Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of PRA unless that collection of information displays a currently valid OMB control number.

SEXUAL HARASSMENT, OTHER FORMS of HARASSMENT, or SEXUAL ASSAULT. WPO will not tolerate sexual harassment, other forms of harassment or sexual assault within the agency, at awardee organizations, or anywhere WPO-funded science and education are conducted. As a primary funding agency of fundamental and applied science research in the U.S., WPO is committed to promoting safe, productive research and education environments for current and future scientists and engineers. WPO considers the PI and any co-PI(s) identified on a WPO award to be in positions of trust. The PI and all award personnel must comport themselves in a responsible and accountable manner during the performance of award activities whether at the grantee organization, online, or conducted outside the organization, such as at field sites, or facilities, or during conferences and workshops.

Organizations that receive WPO funds are responsible for fully investigating complaints and for compliance with federal non-discrimination laws, regulations and executive orders. WPO expects all research organizations to establish and maintain clear and unambiguous standards of behavior to ensure harassment-free workplaces wherever science is conducted. A community effort is essential to eliminate sexual and other forms of harassment in science and to build a scientific workspace where people can learn, grow and thrive. For more information on NOAA's workplace and conduct expectations of financial award recipients, see https://www.noaa.gov/organization/acquisition-grants/noaa-workplace-harassment-training-for-contractors-and-financial.

C. Reporting

Award recipients will be required to submit project performance (technical) and financial reports via NOAA's Grants Online system. Performance reports must follow a content template and guidance provided by WPO. PIs of multi-institution projects should provide an identical report from each of the separate collaborating institutions clearly identifying the work performed by each institution. All reports will be submitted on a semi-annual schedule and must be submitted no later than 30 days following the end of each 6-month period from the start date of the award. The comprehensive final report is due 120 days after the award expiration. Copies of all submitted reports will become the property of the U.S. Government.

As part of WPO's commitment to sharing research results and other accomplishments, it is anticipated that final project reports and interim progress reports will be shared publicly. Grantees must mark personally/organizationally identifying information, confidential/proprietary technology, processes, and/or financial information in these reports. Performance reporting guidance will be provided for funded projects.

While not required, project teams are encouraged to increase project and program visibility by publicly sharing progress and results throughout the course of the project. For example, a locally-hosted website could be developed to display examples of product output. These visibility endeavors should be included in NOAA progress reports.

All dissemination of results, including publications and written or oral presentations, supported by this funding opportunity should acknowledge WPO and the specific program supporting the project. Publications and written or oral presentations should be noted in project progress reports and the project final report.

The Federal Funding Accountability and Transparency Act, 31 U.S.C. 6101, includes a requirement for awardees of applicable federal grants to report information about first-tier

subawards and executive compensation under federal assistance awards. All awardees of applicable grants and cooperative agreements are required to report to the Federal Subaward Reporting System (FSRS) available at https://www.fsrs.gov/ on all subawards over $25,000. Refer to 2 CFR Parts 170.

VII. Agency Contacts

For general questions about this announcement, please contact WPO at oar.wpo.nofocompetition@noaa.gov.

For specific questions about a specific competition, please contact the appropriate Federal Program Manager below:
Climate Testbed: Jordan Dale (jordan.dale@noaa.gov; 240.475.7182)
Fire Weather: Lingyan Xin (lingyan.xin@noaa.gov, 240.624.0141)

VIII. Other Information

For additional information about the FY24 WPO Funding Opportunity, please see the attached Information Sheets and our website: wpo.noaa.gov/nofo.