

## FY2025 Weather Program Office Research Programs

### 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: FY2025 Weather Program Office Research Programs Announcement

Type: Initial

Funding Opportunity Number: NOAA-OAR-WPO-2025-28603

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

Funding Opportunity Website: [wpo.noaa.gov/nofo](https://wpo.noaa.gov/nofo)

***IMPORTANT NOTE: Applicants will need an eRA Commons Account PRIOR to full application submission. Registration for an eRA Commons account can take up to 10 business days. It is recommended to start this process six weeks before the application deadline to allow ample time for registration.***

**Letter of Intent (LOI) Submission Date:** Pre-proposal Letters of Intent (LOIs) are strongly encouraged for potential applicants and must be received by 5:00 pm ET on October 2, 2024 in order to receive a pre-proposal review.

**Full Application Submission Date:** Full applications must be received by 5:00 pm Eastern Time (ET) on December 2, 2024. Applications received after this deadline will not be considered. Award notifications are expected by June 2025. Financial awards for this competition will be for a maximum of three years in length. Estimated award start dates and further details are described in Section II.B “Project/Award Period.”

Funding Opportunity Description:

NOAA’s Weather Program Office (WPO, [wpo.noaa.gov/nofo](https://wpo.noaa.gov/nofo)) is soliciting proposals for the Air Quality Research and Forecasting (AQRF) grant competition from this funding opportunity notification. The program competition's approximate total award funding per year is \$1,050,000.00.

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, development of calibrated, probabilistic forecasts, and communication of that information to better inform the public. In particular, this NOFO will seek projects 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](https://sab.noaa.gov/wp-content/uploads/2021/12/PWR-Report_Final_12-9-21.pdf)) as well as the National Weather Service's strategic priority to advance probabilistic forecasting and decision support services (<https://www.weather.gov/media/wrn/NWS-2023-Strategic-Plan.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 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 WPO FY25 General Information Sheet (herein referred to as the "General Information Sheet") 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. Further information can be found at <https://www.noaa.gov/organization/inclusion-and-civil-rights/diversity-and-inclusion> and <https://research.noaa.gov/wp-content/uploads/2023/05/FinalDraft-OAR-DEI-StrategicPlan-07Sep2021.docx.pdf>.

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

### I. Funding Opportunity Description

#### A. Air Quality Research & Forecasting (AQRF) Program Objectives

Air quality has improved significantly in recent decades following passage of the Clean Air Act in 1970. Yet, there are still many areas of the country exposed to unhealthy levels of air pollutants harming human health and damaging sensitive ecosystems. Notable examples during recent years include smoke emissions due to numerous wildland fires over large parts of western North America and high surface ozone episodes during heat waves across the eastern United States. To help the nation mitigate these impacts, NOAA works with the Environmental Protection Agency (EPA), state and local air quality agencies, academia, and the private sector to provide atmospheric composition and air quality forecast capabilities for the Nation through the National Air Quality Forecasting Capability (NAQFC).

The current NOAA operational science improvement needs for air quality predictions include: 1) improving emissions modeling (e.g. wildland fire smoke and dust, and timely updates of anthropogenic sources), meteorology (e.g. planetary boundary layer (PBL) height, cloudiness, and vertical transport), and initialization of atmospheric composition concentrations (model state) and emissions using coupled data assimilation (DA); 2) incorporating feedbacks of atmospheric composition on atmospheric physics and meteorological DA through coupled modeling and DA; and 3) improving computational efficiency of atmospheric composition transport, gas-phase chemistry, DA and prediction. Increased collaboration is desired in building the coupled UFS, with shared community atmospheric chemistry components, that NOAA uses for operational air quality applications and for operational weather applications.

Projects appropriate for this competition range from Readiness Level (RL) 5 to RL 8 and have the potential to transition to operations at either NOAA or the weather enterprise within the next 3 to 5 years. The NOAA Readiness Levels are defined in the General Information Sheet.

For additional AQRF Program information, please review the supplemental Information Sheet for the AQRF competition in the package associated with this announcement at <https://www.grants.gov>.

#### B. Air Quality Research & Forecasting (AQRF) Program Priorities

Air quality forecasting involves the use of science and technology to predict the concentration of air pollution in the atmosphere for a given location and time. Projects that have the potential to improve both air quality prediction and research by incorporating scientific advances in chemistry modeling and inputs from the latest pollutant emission datasets will be considered. Applicants to this competition should clearly identify and address one or more of the following priorities in their proposal.

**Priority AQRF-1:** Development and evaluation of high-resolution (1-3 km) air quality forecast

capabilities that are consistent with NOAA weather forecast models at these resolutions, including two-way coupled models that capture air quality-weather interactions. In addition, this priority encourages work focusing on representation of local phenomena such as fine-scale processes in coastal regions, over complex terrain, or in urban areas, especially those that take advantage of recent air quality field experiments.

**Priority AQRF-2:** Evaluate the National Air Quality Forecast Capability (NAQFC) system consisting of the UFS-based regional model coupled with an online Environmental Protection Agency (EPA) chemistry model for both the warm and cool seasons for likely occurrence of poor air quality episodes. Investigation to identify the key variables dictating AQ forecast (ozone and PM<sub>2.5</sub>) performance at the gray zone to cloud permitting weather model resolutions are encouraged. Process-oriented evaluations to investigate the causes of model biases in different assumptions/parameterizations, especially over complex terrains/water-land interface/urban areas with poor air quality.

**Priority AQRF-3:** Improved spatial and temporal estimates of anthropogenic and natural pollutant emissions, including smoke from wildland fires and small fires and other potential sources of model biases, using NOAA satellite remote sensing and other data sources and through improved representation of emission physics coupled to the land surface model.

**Priority AQRF-4:** Explore and quantify the potential value of ensemble model approaches, post processing and artificial intelligence to NOAA's operational air quality forecasting guidance.

**Priority AQRF-5:** Improved model accuracy using data assimilation of remotely-sensed products or in-situ observations, including emissions update through coupled data assimilation.

**Priority AQRF-6:** Development of verification software, methods, and techniques to ensure AQ forecast capabilities are performing to standards.

**Priority AQRF-7:** Optimizing chemistry processes to increase the computational efficiency, including but not limited to applying AI/ML methods to chemistry that can lead to a reduced number of species to be advected or limiting vertical layers to carry out chemical processes. Prioritizing chemical mechanisms based on relative impacts on prediction of essential NAQFC forecast fields.

## 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 this competition are identified below. These estimates are based on either actual or anticipated NOAA funding availability, and may not divide evenly depending on project submissions. 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 this competition. Any proposal that exceeds the stated per-project or per-project-per-year funding limit for this competition will be rejected and not reviewed.

Funds allocated for this competition may be altered depending on the number and quality of proposals submitted within this 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.

#### Air Quality Research and Forecast (AQRF)

Anticipated total AQRF competition funding per year: \$1.05M

Expected number of funded projects: 3 projects

Maximum funding limit per project per year: \$350K

In the event of a lapse in government appropriations, any changes to this published timeline will be posted to [Grants.gov](https://www.grants.gov). Pre-award spending is authorized 90 days prior to the start date of the award. However, all costs incurred before NOAA makes the award are at the recipient's risk (i.e., NOAA is not required to reimburse such costs if for any reason the recipient does not receive an award or if the award is less than anticipated and inadequate to cover such costs).

#### B. Project/Award Period

The maximum time period of awards and recommended project start date for this competition are outlined below. Any proposal that exceeds the stated project award period will be rejected and not reviewed. Applicants are advised to use the recommended award start date in their project schedule and other planning materials in their proposal.

#### Air Quality Research and Forecast (AQRF)

Maximum Award Length: 3 years

Start Date: August 1, 2025

#### 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 use one or more 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 using the Line Office Funds Transfer or the Direct Cite Process. Inter-Agency Agreement (IAA) fund transfers to non-NOAA federal agencies, or non-NOAA Federally Funded R&D Centers (FFRDCs) that are not legally authorized to receive financial assistance awards, are not permitted under the funding opportunities in this notice. See Section III.A for more details. Non-NOAA federal collaborators are permitted to partner with eligible applicants as unfunded collaborators.

For multi-institutional proposals involving investigators from separate institutions, awards for federal assistance will be issued to each separate institution that submits an approved proposal.

### III. Eligibility Information

#### A. Eligible Applicants

Applicants are responsible for ensuring that they are eligible for this competition and identify with the appropriate title listed hereafter. The following entities are eligible and encouraged to participate in this funding opportunity, in conjunction with the Weather Program office: any public or private corporation, partnership, or other association or entity or any State, political subdivision of a State, Tribal government or agency or officer thereof. Non-NOAA federal agencies and their personnel are not permitted to receive federal funding under this competition; however, federal scientists and other employees can serve as uncompensated partners or co-Principal Investigators on applications. Federal labs and offices can also make available specialized expertise, facilities or equipment to applicants but cannot be compensated under this competition for their use, nor can the value of such assets be used as a match. If any applicants requesting funding are ineligible, the application(s) will be rejected without review.

To be eligible to apply or receive an award, applicant organizations must complete and maintain three system registrations and access to include: SAM.gov, Grants.gov, and eRA Commons. For each, the complete registration process can take 4 to 6 weeks, so applicants must begin this activity as soon as possible and well before the proposal due date. For more information on how to meet these registration and application submission requirements without errors, we advise all to carefully review relevant eRA Applicant and Grantee Training modules:

<https://www.commerce.gov/ocio/programs/gems/applicant-and-grantee-training>. Additionally, we advise that all applicants carefully read "Additional Application Package Forms" within the "Full Proposal Required Elements" section below.

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

**Applicability to Federal Employees and Federal Contractors:** Federal employees (hereafter referred to as “federal collaborator(s)”) may serve as co-Principal Investigators (co-PIs) or co-Investigators (co-Is) but their salary costs are ineligible expenses to be covered by awards from this NOFO. NOAA Federal applicants are 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.K “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, prospective PIs that are also employed as federal contractors 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 General Information Sheet.

- Allowed: NOAA federal collaborator travel is only eligible in critical project-dependent cases. Other allowable expenses include project-critical equipment, indirect costs for NOAA affiliate institutions, infrastructure, and testbed-related costs.
- NOT Allowed: Conference and workshop travel. 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.E.

### B. Content and Form of Application

Applicants are required to submit a full application and are strongly encouraged to submit an LOI. Applications must adhere to the provisions under the "Full Proposal Required Elements" section below. Failure to adhere to these provisions may result in a delay in award processing or rejection of the application, based on the extent of the noncompliance. Some helpful resources for applicants can be found at this website: <http://wpo.noaa.gov/nofo>.

### C. Personally Identifiable Information (PII)

The submitting applicant must redact all PII in the application materials prior to final submission to grants.gov. PII that must be redacted from the application includes, but is not limited to, social security number, date of birth, student identification number (from transcripts) or other information which if lost, compromised, or disclosed without authorization, could result in harm, embarrassment, inconvenience, or unfairness to an individual.

### D. Special Information

#### 1. 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 pages. The designated Lead PI and their associated institution will then be responsible for additional documents as described in Section IV.D.3.

For multi-institutional proposals that include multiple applications, each partner or PI institution wishing to receive funds directly from NOAA is responsible for submitting to Grants.gov a separate proposal package 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. Federal institutions may not submit an application; please refer to the section below for NOAA Federal Collaborators.

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.

#### 2. SUBAWARDS

If a subaward agreement has been arranged with the 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 justification immediately below the budget table (Section IV.D.3.n).

### 3. 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 co-PI, co-I, or collaborator who is requesting funding should include a signed Request for NOAA Federal Support (see Section III.A for a list of allowable and non-allowable expenses).

Request for NOAA Federal Support for Federal collaborator's funding request(s) should be signed by the NOAA collaborating organization's Director outlining the funding request(s). Additionally, 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.D.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 eligible funding requested by a NOAA 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 NOAA 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.

#### E. Letter of Intent (LOI)

**Letter of Intent (LOI) Submission Date:** Pre-proposal Letters of Intent (LOIs) are strongly encouraged for potential applicants and must be received by 5:00 pm ET on October 2, 2024 in order to receive a pre-proposal review. Letters of Intent should include the following information listed below. For further information please reference Section IV.

Prior to submitting a full application package (proposal) for the competition identified in this announcement, all PIs are strongly encouraged (but not required) to submit an LOI for each planned project. Only one LOI should be submitted by the Lead PI for multi-institution projects. 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 twofold: 1) to provide the funding agency with a description of the projects that PIs are considering submitting for funding, and 2) to inform potential applicants whether their proposed project aligns with the competition objectives and priorities. Full applications will be encouraged only for LOIs deemed to be most aligned with program objectives and priorities. 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 this funding competition to assess potential value of the proposed research and relevance to stated program goals. PIs will be provided a concise summary of the review that led to the non-binding recommendation.

Each LOI should be submitted through the smartsheet form at the following address: <https://tinyurl.com/FY25WPOCompetition>, or by email to [oar.wpo.nofocompetition@noaa.gov](mailto:oar.wpo.nofocompetition@noaa.gov)

The LOI should include the following information:

1. Proposal Title;
2. The name(s) of all PI(s), co-PIs, and co-Investigators, as well as each of their home institution(s);
3. The NOFO competition to which the proposal is applying, and that competition's priority(ies) the proposed work will address;
4. Planned products/outputs;
5. Planned impacts/benefits/outcomes;
6. Planned methodology and timelines;
7. The proposed starting and ending Readiness Levels (RLs), any proposed use of NOAA Testbeds, HPC resources, and whether a NOAA Transition Plan has been developed for earlier work on this topic;
8. Potential operational, commercial, or other end-user adopter(s) of the project outputs; and
9. A simple budget table to summarize the funding allocation.

## F. Full Application Package

**Full Application Submission Date:** Full applications must be received by 5:00 pm Eastern Time (ET) on December 2, 2024. Applications received after this deadline will not be considered. Award notifications are expected by June 2025. Financial awards for this competition will be for a maximum of three years in length depending on the program, and are recommended to begin in August 2025, as described in Section II.B "Project/Award Period."

FORMAT. All pages should be single-spaced and set in 12-point font with one-inch margins on 8.5 x 11 inch paper. The proposal should be submitted as a PDF file, dated, display page numbers and **organized in the order listed below**.

- PROJECT NARRATIVE (items with asterisk (\*) are not included in the 14 page limit)
  - Title Page
  - Abstract page
  - Problem/Opportunity Statement
  - Methods and Activities
  - Products/Outputs
  - Impacts, Benefits, Outcomes, & Recipients
  - Schedule with Key Milestones
  - Outreach and Education
  - Diversity, Equity, Inclusion, and Accessibility
  - Data Management Plan\*
  - Reference List\*
  - Curricula Vitae (CV)\*
  - Current and Pending Support\*
  - Underserved Groups Information Request (VOLUNTARY)
  - Letters of Support (if needed)\*
  - Other Attachments (see section IV.D.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.D.3.(a–i) below (including the title page, abstract, and figures). All other required attachments identified in Section IV.D.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, Letter(s) of Support, and Budget Documents). Project narratives (sections a-i listed below) that exceed 14 pages will be rejected without review. Proposers are encouraged to indicate in the project narrative the extent to which, if any, generative AI technology was used and how it was used to develop their proposal.

For multi-institution projects, each institution is required to submit an identical project narrative clearly describing the work contributions of each funded investigator. For the purposes of compliance in the eRA system, this is a requirement to chronicle how each institution contributes

to the overall project scope of work.

The Application, including the Project Narrative (sections a - i), supplementary material (sections j - m), budget information (section n), and standard forms (section o) must contain the following elements:

a) TITLE PAGE (one page): Provide the following information:

- For each PI, co-PI, and co-Investigator (co-I) as well as each respective institutional representative, include their full name, title, organization, telephone number, email address; the mailing address for the institution's Lead 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;
- The Funding Opportunity Number, NOFO Competition to which the proposal is applying, and the relevant competition's priority(ies); and
- The starting and ending Readiness Levels (RLs).

For an example title page template, please visit [wpo.noaa.gov/how-to-apply/](https://wpo.noaa.gov/how-to-apply/)

For a multi-institution proposal, each institution's respective application must include the names of all institutions along with the PI information for each institution 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 General Information Sheet.

b) ABSTRACT: The abstract must appear on a separate one page document. Instead of using a single paragraph format to write the body of your abstract, we ask that you provide a concise response to several prompts. Each response should be a maximum of 50 words (not to exceed 1-2 sentences). Please ensure your descriptions are clear, concise, and informative. If funded, NOAA may, at its own discretion, make publicly visible the abstract or components of it to increase public awareness of research knowledge. Therefore, avoid technical jargon, use plain-language, and focus on the key points that highlight the significance and impact of your project. Please provide concise responses to the following prompts:

- **Project Goal:** Describe the primary goal or purpose of the project.
- **Problem/Opportunity Statement:** Explain the specific operational problem you are aiming to address or the opportunity you are exploring.
- **Methodology/Activities to be Performed:** Summarize the approach, methods, or activities you will use to conduct the research.
- **Primary Project Products/Outputs:** Describe the main output(s) or product(s) you expect to result from your project.
- **Expected Results, Outcomes, and Benefits:** Outline the expected results and outcomes of this project, as well as the intended operational and/or societal benefits.

- **Intended Beneficiaries and Recipients:** Include who you anticipate will use the outputs and how they will (or may) be applied.

Additional information, including examples, can be found in the General Information Sheet and by visiting [wpo.noaa.gov/how-to-apply/](http://wpo.noaa.gov/how-to-apply/).

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 the priorities listed under this competition. 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. Additionally, please indicate if a NOAA Transition Plan has been developed for earlier work on this topic.

d) **METHODS AND ACTIVITIES:** Concisely describe the method(s) and key activities 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, Office of Management and Budget (OMB)/Paperwork Reduction Act (PRA) clearance will be needed. Applicants should take this factor into account in planning their project. Additional information about requirements for the inclusion of human subjects, including applicability to focus groups and testbed experiments, can be found in the General 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 or more of the NOAA Testbeds.

e) **PROJECT PRODUCTS/OUTPUTS:** Identify the primary planned products/outputs. Outputs could include, but are not limited to: research-guided recommendations, methodologies, tools, software applications, algorithms, other technologies, knowledge to enhance a product or service, training materials such as user manuals, guidance and other documentation, data sets, code, and outreach materials. Provide the current/starting and target/project-completion readiness levels (RLs) with an explanation of how each level was determined.

f) **PROJECT IMPACTS, BENEFITS, OUTCOMES, & RECIPIENTS:** Clearly describe the planned impacts, benefits, and outcomes of the project. Specify the weather enterprise groups or organizations that will be the ultimate recipient(s), beneficiary(ies), or end users of the projects' outputs and outcomes (e.g., local weather or river forecast offices, a national operational forecast center, community code repository, a state mesonet, a commercial organization). Include any relevant metrics or success indicators as appropriate.

g) **SCHEDULE WITH KEY MILESTONES:** Provide a table or chart with a schedule for completing key milestones, products/outputs, and expected progression of or iteration through RLs.

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, websites, hosting workshops, developing training materials, code repositories, 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 K-12 students and 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, equity, inclusion, and accessibility (DEIA) by taking an intentional step that encourages applicants to consider DEIA as part of their scientific projects. In this section, articulate how the proposed project broadens the participation of traditionally underrepresented groups (e.g., gender, ethnicity, disability, geography, 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, equity, inclusion and accessibility in the research environment, including, but not limited to:

- Utilization of educational and research partnerships with institutions serving minority and underrepresented populations (e.g., 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 General Information General 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.

#### SUPPLEMENTARY MATERIALS (REQUIRED)

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 during 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 does 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 collaborators. 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 period of performance to include the month that performance will begin and end, investigator months, and total dollar value. 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.D.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. If you choose to provide information, each named investigator on your proposed who wishes to participate should complete a separate Underserved Groups Information Request Form (attached under the related documents section of this announcement); OMB approved for PRA under DOC generic clearance information collections, 0690-0030 and 0690-0035). The Underserved Groups Information Request Form will be accessible to applicants on Grants.gov under this announcement number in the related documents section. The decision to submit or not submit this information will not affect the selection process.

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 nor does any named investigator on this proposal

ii. Request for Federal Support (Required if applicable): Request(s) for Federal Support are only required to chronicle funding requests by NOAA federal collaborators.

iii. 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 corresponding Budget Justification. The information in the Budget Table, Budget Justification, and SF-424A Budget Information form must match the corresponding information provided on the SF-424 form. Only include budget information for PIs and co-Is from your institution in the Budget Table in this section and the SF-424A. Do not include budget details for those from other institutions contributing to a multi-institutional project. 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) The budget narrative should explain the budget items by federal object class category in sufficient detail to enable review of the appropriateness of the funding requested. In addition, it is encouraged that applicants provide separate budgets for each sub-award. Additional budget narrative guidance can be found at: NOAA Grants Management Division's Budget Narrative Guidance located at [NOAA Grants Management Division's Budget Narrative Guidance](#)

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.D.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 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:

Jennifer Jackson, GMD  
[jennifer.jackson@noaa.gov](mailto:jennifer.jackson@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

For guidance on finding and entering your Congressional District correctly, please review the information found here:

<https://grantsgovprod.wordpress.com/2017/06/21/how-to-find-your-congressional-district-for-the-sf-424-form/>

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.

#### G. 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](mailto:support@grants.gov).

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

#### H. Submission Dates and Times

LOI due date: October 2, 2024

Expected NOAA response date on LOIs: October 18, 2024

Full application package due date: December 2, 2024

In the event of a lapse in government appropriations or other extenuating circumstances that may preclude NOAA from executing this competition 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.

#### 1. LETTERS OF INTENT (LOI)

**Letter of Intent (LOI) Submission Date:** Pre-proposal Letters of Intent (LOIs) are strongly encouraged for potential applicants and must be received by 5:00 pm ET on October 2, 2024 in order to receive a pre-proposal review.

LOIs are optional (although strongly encouraged) and the feedback from WPO is non-binding. In order to receive feedback, LOIs must be submitted as PDF documents to NOAA through a submission form at <https://tinyurl.com/FY25WPOCompetition>. Alternatively, LOIs may be submitted via email at [oar.wpo.nofocompetition@noaa.gov](mailto:oar.wpo.nofocompetition@noaa.gov) no later than 5:00 p.m. Eastern Time

(ET) on October 2, 2024. If applicants do not receive a confirmation of receipt within 24 hours of submitting their LOI, it is recommended that they contact the WPO NOFO email address at [oar.wpo.nofocompetition@noaa.gov](mailto:oar.wpo.nofocompetition@noaa.gov) with the specific name of the competition and appropriate Program Manager (Section VII) to confirm receipt of their LOI. NOAA determines whether an LOI has been submitted before the deadline by using the date and time stamp 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. Those who submitted an LOI will receive an email from WPO either encouraging or discouraging proposal submission on or about October 18, 2024

## 2. FULL APPLICATION PACKAGES

Full application packages must successfully pass the 2 step validation by both [Grants.gov](https://www.grants.gov) and eRA no later than December 2, 2024. 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](https://www.grants.gov) will be the basis of determining acceptance for review processing by NOAA. Please refer to Section G for additional information regarding eRA system registration and considerations on developing a timeline for proposal submission.

Please note: validation or rejection of an application by Grants.gov and eRA may take a minimum of three business days after submission. **If proposals fail the eRA system validation check, validation errors must be addressed and the proposal must be re-routed through Grants.gov and eRA before the NOFO submission deadline. Failure to pass the 2-step validation process by both Grants.gov and eRA before the NOFO submission deadline will result in your application being rejected.** Eligible applicants should consider this process in developing their submission timeline. 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.

### I. Intergovernmental Review

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

### J. Funding Restrictions

1. 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 will not be contingent upon funding decisions of any other separate submitted proposal unless it is clearly identifiable as part of a multi-institution project.

2. Federal Costs. NOAA will not fund federal salary costs for federal government employees (NOAA or otherwise) who 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 NOAA collaborators (excluding indirect overhead costs) must not exceed 20% of the project total cost.
3. 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.
4. 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.

#### K. Other Submission Requirements

Full application packages should be submitted online at [grants.gov](https://grants.gov). Additional submission information can be found in Section IV.D of this NOFO.

**Applicant organizations must complete and maintain three registrations to be eligible to apply for or receive an award. These registrations include SAM.gov, Grants.gov, and eRA Commons.** All registrations must be completed prior to the application being submitted. The complete registration process for all three systems can take 4 to 6 weeks, so applicants should begin this activity as soon as possible. If an eligible applicant does not have access to the internet, please contact the Agency Contacts listed in Section VII for submission instructions.

Prior to registering with eRA Commons, applicant organizations must first obtain a Unique Entity Identifier (UEI) from SAM.gov, if needed (refer to Section IV. Applications and Submission Information, Section C). Organizations can register with eRA Commons in tandem with completing their full SAM and Grants.gov registrations; however, all registrations must be in place by time of application submission. eRA Commons requires organizations to identify at least one Signing Official (SO) and at least one Program Director/Principal Investigator (PD/PI) account in order to submit an application.

The first PD/PI listed on the application must include their eRA Commons ID in the "Credential, e.g. agency login" Applicant Identifier field on the SF-424 form. Failure to register in the Commons and to include a valid PD/PI Commons ID in the Applicant Identifier field will prevent the successful submission of an electronic application.

After submission to Grants.gov, the PI listed on the application will receive an email notification from the eRA email address [era-notify@mail.nih.gov](mailto:era-notify@mail.nih.gov). This email will either confirm a successful submission to eRA or list errors and warnings associated with the application. Errors must be

addressed, the application resubmitted via Grants.gov, and an email received by the listed PI indicating a successful submission to eRA for an application to be successfully received by NOAA.

## V. Application Review Information

### A. Evaluation Criteria

#### 1. Relevance of Proposed Project to Competition 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. If applicable to the proposal, how robust is the proposed collaboration with operational stakeholders and/or potential adopters? This question should be addressed with a focus on quality over quantity of 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. 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 data

repositories), and the format of data, metadata, and documentation that will be provided with publicly available data.

4. If applicable, how well does the proposal describe the management of data in the Software Management Plan and sharing of code? This includes storing code in code repositories with corresponding documentation.

### 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. If applicable to the proposal, 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, and Diversity, Equity, Inclusion and Accessibility (8 points each subsection, 16 points total).

For outreach and education, this criterion assesses whether the project provides a focused and

effective education and outreach strategy (8 points). 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 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.
3. 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.

For diversity, equity, inclusion and accessibility, this criterion assesses the project's compliance with NOAA's policy on diversity, equity, inclusion, and accessibility (DEIA), as defined in Section IV.F (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 (8 points). 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 the General Information Sheet.
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 by the deadline, an administrative review will first be conducted to determine compliance with all submission requirements, completeness of the application, and general responsiveness to the FY25 NOFO priorities in Section I.B. If all requirements are satisfied and the application is responsive to at least one of the aforementioned FY25 NOFO 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. Reviewers will be prohibited from uploading any content from these applications, review information and related records to generative AI tools. All proposals 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 this competition. Final selections will be based on rank order and Selection Factors described below in Section V.C.

Before a recommendation for funding and the award is made, any application considered for funding may be required to address comments or questions raised in the evaluation of the application by the reviewers, program officer, and/or selecting official.

The WPO Director is the designated Selection Official for the competition in this funding opportunity 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;
  - e. By project types; and/or
  - f. By weather hazard type.
3. Whether this project duplicates other projects funded or considered for funding by NOAA or other federal agencies.
4. Program priorities, policy factors, and unique or impactful benefits.
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 4–6 months following the full application due date. WPO anticipates that funding recommendation decisions on applications will be made in May 2025. Such decisions are contingent upon the final FY 2025 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 aims to notify grant awardees of formal award offers approximately one month before the planned start date for each program competition (listed in Section II.B). However, formal award offers may be sent as late as September. 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 qualitative feedback consisting of a summary of 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. Pre-award spending is authorized 90 days prior to the start date of the award. However, all costs incurred before NOAA makes the award are at the recipient's risk (i.e., NOAA is not required to reimburse such costs if for any reason the recipient does not receive an award or if the award is less than anticipated and inadequate to cover such costs).

#### 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](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 General Information Sheet.

#### DATA MANAGEMENT AND SHARING PLAN.

1. As stated in [NOAA's directive on data sharing](#), 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:

- a. descriptions of the types of data and information expected to be created during the course of the project;
- b. procedures for storing collected data during the project;

- c. the tentative location of shared data; the tentative date by which data will be shared;
- d. the standards to be used for data/metadata format and content;
- e. methods for providing data access; approximate total volume of data to be collected; and
- f. 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 DOC's eRA 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. Reports must be submitted no later than 30 days following the start of the reporting period, which occurs at the end of each 6-month period of performance. The 6-month period of performance renews every January and July; the eRA system will notify award recipients when reports are due. 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.fsr.gov/> on all subawards over \$25,000. Refer to 2 CFR Parts 170.

Intellectual property that is developed under this award must follow the provisions in Bayh-Dole Act (37 U.S.C. Part 401) as well as the Special Award Conditions which may include reporting of inventions as developed under this award to the iEdison system (<https://iedison.nist.gov>). Any copyright ownership in and rights to software created by financial award recipients (grants and cooperative agreements, including Cooperative Institutes) within the scope of their funding agreement is determined by the terms of that funding agreement. Upon creation, the copyright

ownership most often belongs to the award recipient, and the U.S. Government is typically granted a license to use the software for “Federal purposes.” 2 CFR § 200.315(b).

## VII. Agency Contacts

All questions regarding this announcement should be sent to [oar.wpo.nofocompetition@noaa.gov](mailto:oar.wpo.nofocompetition@noaa.gov) with the specific name of the competition and program manager, as chronicled below, placed in the subject line to route the inquiry to the appropriate program.

Air Quality Research and Forecasting (AQRF): Lingyan Xin

## VIII. Other Information

**Section 508 Compliance** All public-facing products produced with funding from the award(s)/project(s) must ensure compliance with Section 508 of the Americans with Disabilities Act. The grant application and final report of all funded grants are public documents, except for privileged information or material that is personal, proprietary or otherwise exempt from disclosure under law. Appropriate labeling in the application will aid identification of what may be specifically exempt. The applicant acknowledges and understands that information and data contained in applications for financial assistance, as well as information and data contained in financial, performance and other reports submitted by applicants, may be used by the Department of Commerce in conducting reviews and evaluations of its financial assistance programs. For this purpose, applicant information and data may be accessed, reviewed and evaluated by Department of Commerce employees, other federal employees, and also by federal agents and contractors, and/or by non-federal personnel, all of whom enter into appropriate conflict of interest and confidentiality agreements covering the use of such information. As may be provided in the terms and conditions of a specific financial assistance award, applicants are expected to support program reviews and evaluations by submitting required financial and performance information and data in an accurate and timely manner, and by cooperating with the Department of Commerce and external program evaluators. In accordance with 2 C.F.R. § 200.303(e), applicants are reminded that they must take reasonable measures to safeguard protected personally identifiable information and other confidential or sensitive personal or business information created or obtained in connection with a Department of Commerce financial assistance award.