



**NOAA**  
**WEATHER**  
PROGRAM OFFICE

September 19, 2024  
1:00 pm EDT

# FY 2025 Notice of Funding Opportunity (NOFO) Webinar

A Guide to WPO's FY2025 Competitions





# WEBINAR LOGISTICS

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- **Recording** - This session is being recorded, and will be available at the NOAA Central Library YouTube Channel. All audience members are muted.
- **Vimeo Connection Issues?** If you are having trouble connecting, please log off and then log back on. As a reminder, your individual access information is included in your registration confirmation email.
- **Q&A Session?** Questions will be accepted via the Questions chat box, and read aloud at the end of the presentation. Should you have follow up questions, contact information will be provided.
- **Handout** - You may download today's slides from the "Handouts" menu located in your GoToWebinar control panel.
- **Closed-Captioning** - Closed-captioning will be available on the recording of today's presentation, found on the NOAA Central Library YouTube Channel.



# VISION

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**Innovative science** powering a weather-ready nation

# MISSION

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**Cultivating, funding, and transitioning** collaborative weather research that results in accurate and actionable weather information for all.

# CORE VALUES

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**Integrity**



**Inclusive  
Innovation**



**Teamwork**



**Social  
Stewardship**



**Results-Driven**

# WHAT DOES WPO DO?

## WE FUND RESEARCH TO IMPROVE FORECASTS

The Weather Program Office (WPO) is within the Office of Oceanic and Atmospheric Research (OAR, also known as [NOAA Research](#)).

Our aim is to integrate world class weather research into operational forecasts for the public, support new weather applications across the Weather Enterprise, and continually improve our understanding of weather phenomena.



## WPO SCIENCE DIVISIONS

### Observations and Research Support

- ✓ Observations
- ✓ Supplemental Appropriations
- ✓ Research Transitions

### Earth System Research and Modeling

- ✓ Subseasonal to Seasonal Research (S2S)
- ✓ Earth Prediction Innovation Center (EPIC)
- ✓ Air Quality & Fire Weather
- ✓ Synoptic Weather

### Science, Technology, and Society

- ✓ Social Science Program
- ✓ Joint Technology Transfer Initiative (JTII)
- ✓ Testbeds
- ✓ VORTEX-USA

# SCIENTIFIC PRIORITIES

## Availability of Funding

Selection of scientific priorities is dependent upon available funds and congressional appropriations.

## Alignment with Official Policy & Strategy

- ✓ Weather Research and Forecasting Innovation Act (2017) and Reauthorization (2019)
- ✓ NOAA, OAR, & NWS Strategic Plans
- ✓ WPO Strategic Plan
- ✓ Science Advisory Board Priorities for Weather Research

## Community Input

WPO solicits input from key partners, stakeholders, and scientific community and includes NWS operational centers, emergency managers, public officials, industry and academia.



# WPO's (6) FY25 NOFO COMPETITIONS

## Key Dates:

**LOI Due Date:** October 2, 2024

**LOI Response Date:** Mid October 2024

**Proposal Due Date:** December 2, 2024

- Funding Opportunity totaling **\$12.8 million** per year for all (6) competitions.
- Funding is contingent upon the availability of federal funding appropriations.
- Announcement contains Six (6) competitions
- Each competition has unique science objectives, priorities, and program managers
- All competitions have the same application guidelines, regulations, and deadlines



**Testbeds**  
Jordan Dale

[NOAA-OAR-WPO-2025-28601](#)



**Air Quality Research & Forecasting (AQRF)**  
Lingyan Xin

[NOAA-OAR-WPO-2025-28603](#)



**Seasonal to Subseasonal**  
Mark Olsen

[NOAA-OAR-WPO-2025-28599](#)



**Observations**  
Renee Richardson

[NOAA-OAR-WPO-2025-28602](#)



**VORTEX-USA**  
Jordan Dale

[NOAA-OAR-WPO-2025-28596](#)



**SBES**  
Alison Krepp

[NOAA-OAR-WPO-2025-28598](#)

Competition email: [OAR.WPO.NOFOCOMPETITION@NOAA.GOV](mailto:OAR.WPO.NOFOCOMPETITION@NOAA.GOV)

# Social, Behavioral, & Economic Sciences (SBES)

**Federal Funding No. NOAA-OAR-WPO-2025-28598**

Point of Contact: Alison Krepp, PM

The WPO Social Science Program (SSP) solicits SBES research proposals that advance the identified priorities to benefit the overall weather community. The SSP seeks to involve SBES researchers and social science-led, interdisciplinary teams to integrate SBES into meteorological research, forecasting, information displays, communication of uncertainty, and understanding of individual and community vulnerabilities to weather.

Recent societal impacts from hurricanes, floods, snow storms, tornadoes, and wildfires demonstrates that, although there have been considerable advances in weather prediction and forecasting, there is a continual need to understand the intersection of human behavior and meteorology.



\*Please visit [grants.gov](https://www.grants.gov) for more complete information on competition-specific priorities

# SBES Priorities

- *Three (3) main priorities:*

## (1) Community responses to weather

To understand how flows of weather information travel through a community among operational meteorologists, publics, individuals, and organizations.

## (2) Behavioral responses to hazardous weather events

To improve our understanding of how individuals and social groups, such as family units, friend units, and others, cognitively process hazardous weather information, including probabilistic information.

## (3) Data, forecasts, and societal outcomes

To develop an evidence-based understanding of how weather impacts injuries and lives lost, protects property, and enhances the national economy using datasets and data types.



# Testbeds

**Federal Funding No. NOAA-OAR-WPO-2025-28601**

Point of Contact: Jordan Dale, PM

The Weather Program Office (WPO) Testbeds Program, a component of the U.S. Weather Research Program (USWRP), and Joint Technology Transfer Initiative (JTTI) Program support projects that will transition applied research to NOAA's operations and services through close collaboration with NOAA testbeds.

Proposals should:

Focus on mature projects that are nearly ready or ready to be tested in a quasi-operational forecasting environment through one or more of the participating testbeds. Projects that are most appropriate for the five participating testbeds generally fall in or near the "demonstration" level of technical maturity, i.e., readiness levels of about 5 through 8 during the duration of the project.

Include signed Testbed Collaborator Form.

\*Visit [grants.gov](https://www.grants.gov) for more complete information on competition-specific priorities



# Testbeds Priorities

- **Climate Testbed (CTB):**
  - Improvements to data assimilation systems
  - Developmental activities to accelerate the UFS Seasonal Forecast System (SFS)
  - Activities leading to improvements to methods used to make S2S outlooks
- **Fire Weather Testbed (FWT):**
  - Fire Weather forecast verification and predictability
  - Social science research and decision support services
- **Hazardous Weather Testbed (HWT):**
  - Concepts and techniques to improve CAM ensemble performance
  - Post-processing and verification techniques for deterministic models/ensembles
  - New high temporal and spatial resolution observation datasets
  - Relevant social and behavioral science theoretical frameworks
- **Hurricane & Ocean Testbed (HOT):**
  - Near real-time 2D analysis of the near-surface wind and wave field in TCs
  - Guidance on the best supplemental observing system strategies
  - TC guidance (0-7 days) and/or forecasters' ability to interrogate guidance
  - Interpret and integrate disparate real-time observational data
  - Enable forecasters to diagnose NWP model characteristics
- **Hydrometeorology Testbed (HMT):**
  - Probabilistic flash flood and winter precipitation forecasting
  - Post-processing and verification for flash flood and winter precipitation forecasts
  - Enhance forecaster use of probabilistic information
  - Atmospheric forcings for hydrologic models



# Observations

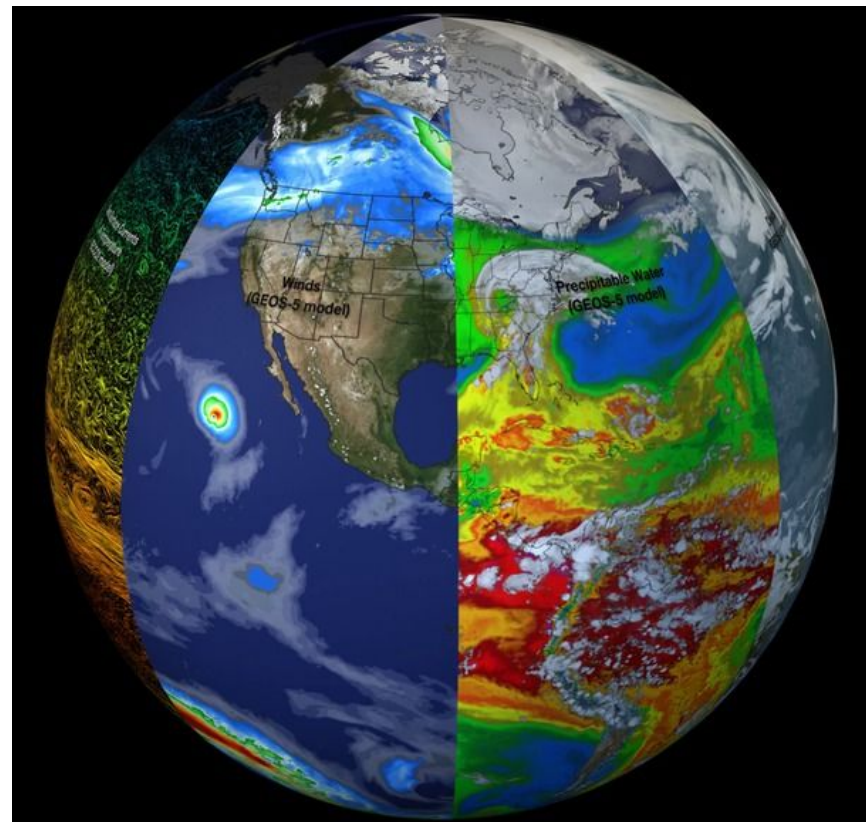
**Federal Funding No. NOAA-OAR-WPO-2025-28602**

Point of Contact: Renee Richardson, Deputy PM

The aim of this competition is to develop, demonstrate, and/or analyze innovative sensor and observing technologies and strategies that have high potential for advancing an observation systems portfolio that is mission-effective, integrated, adaptable, and affordable.

Proposals should:

- (1) include **collaboration with operational weather stakeholder(s)** with the potential to benefit from the work
- (2) include **collaboration with other relevant R&D partners** to help accelerate results
- (3) **document linkage to operational weather needs**
- (4) **demonstrate potential to transition to operations, applications, commercialization, or a final product**



\*Visit [grants.gov](https://www.grants.gov) for more complete information on competition-specific priorities

# Observations Competition Priorities

*Four Main Priorities: to develop and demonstrate*

## 1) Weather Buoy Mitigation Vehicle

high endurance, modular construction and portable **Uncrewed Surface Vehicle (USV)** to provide weather buoy backup capability

## 2) Radar KDP Rainfall Estimate Improvement

improved derived KDP product to improve rainfall, particularly heavy rainfall, estimates

## 3) Stepped Frequency Microwave Radiometer (SFMR) Improvement

software to process SFMR that delivers more reliable rain rates and surface wind speeds

## 4) Tropical Cyclone (TC) Reconnaissance Data Advancements

use of **NOAA Unified Forecast Systems (UFS)**, including the Global Forecast System (GFS) and Hurricane Analysis and Forecast System (HAFS) for improved use, assimilation, and QA/QC of TC Reconnaissance Data





# Subseasonal to Seasonal

**Federal Funding No. NOAA-OAR-WPO-2025-28599**

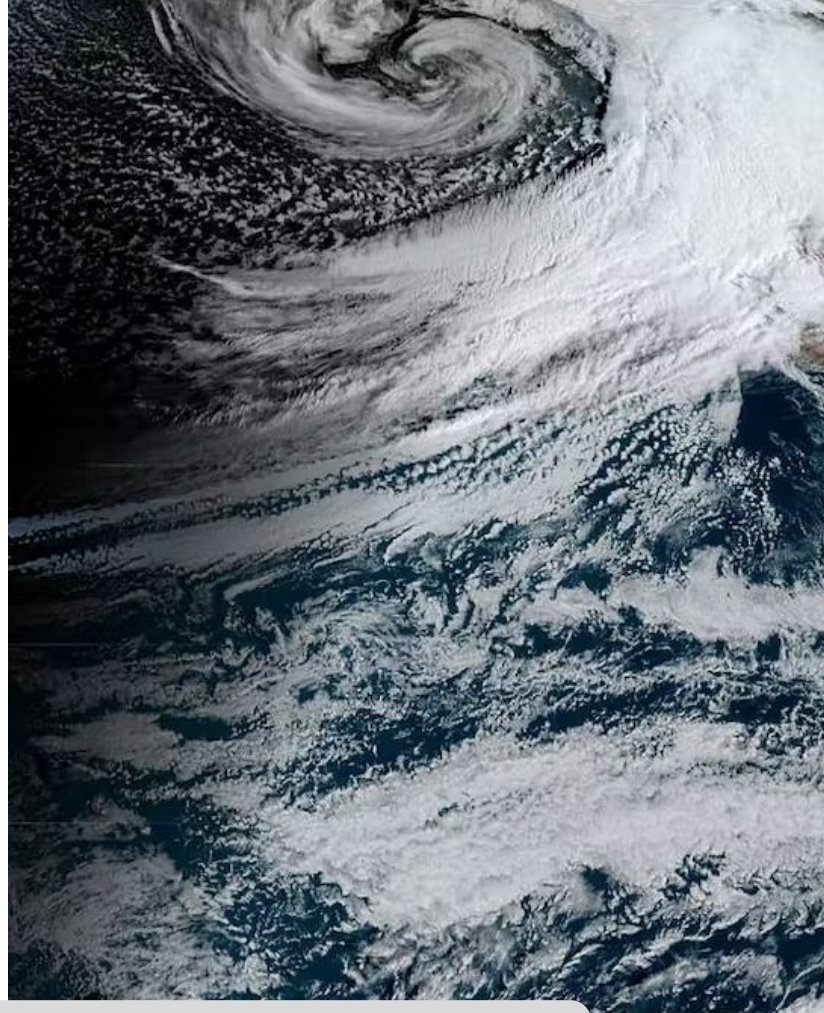
Point of Contact: Mark Olsen, PM

This competition seeks to improve S2S forecast capabilities via investigating sources of predictability, land or sea conditions/initializations, innovative AI/ML post-processing, etc. Proposals for this competition should begin within the range of RL 2-4.

Proposals are encouraged to:

- Demonstrate coordination with developments under the UFS Research to Operations (UFS R2O) Project, particularly within the teams developing the Global Ensemble Forecast System (GEFS) and the Seasonal Forecast System (SFS).
- Collaborate with the Earth Prediction Innovation Center (EPIC), leveraging and incorporating EPIC advances to adopt continuous improvement, continuous deployment, provide code documentation, incorporate code testing, or utilize cloud computing.

\*Visit [grants.gov](https://www.grants.gov) for more complete information on competition-specific priorities



# Subseasonal to Seasonal Priorities

- **Improve data assimilation (DA) for individual Earth components** (e.g., cryosphere, ocean, waves, land surface, and atmospheric composition); incorporation of new observation types for predictions on the S2S scales while being consistent with coupled DA for other global UFS-based applications.
- **Improve Earth system models via development and evaluation of individual model components or sub-elements**, single column modeling, limited area modeling, and more within the community-based UFS. Development and evaluation may focus on processes occurring within one component of the Earth system models, or on characterizing the component-to-component interactions (i.e. land-atmosphere, ocean-atmosphere, ocean-ice flux exchanges).
- **Improve existing ensembles**, including their initialization strategies, via techniques applied to all Earth System model components to determine the optimal construction of those ensembles, leading to improved prediction skill and assessments of uncertainty for various phenomena, particularly precipitation and precursors to anomalous precipitation events.



# Air Quality Research & Forecasting

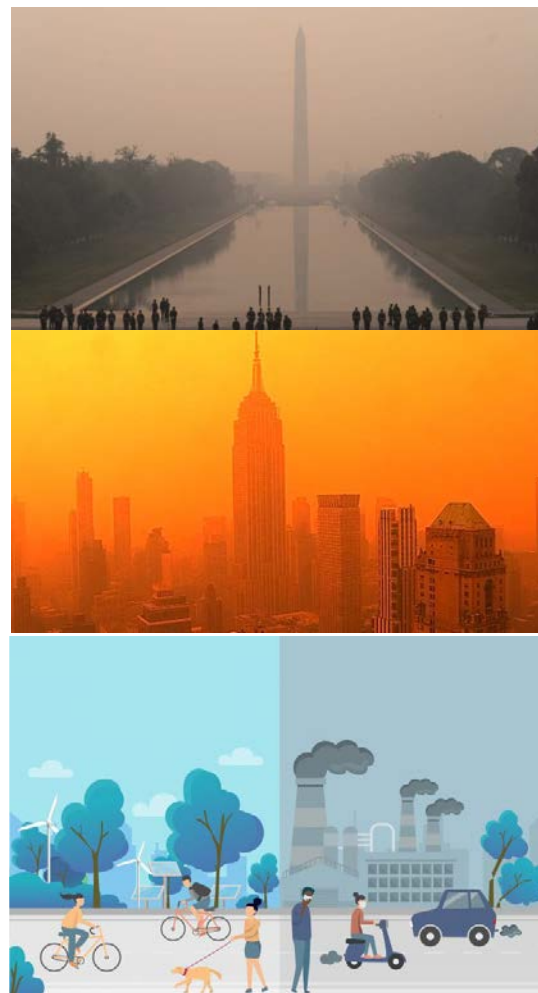
**Federal Funding No. NOAA-OAR-WPO-2025-28603**

Point of Contact: Lingyan Xin, PM

The aim of this competition is to support the mitigation of unhealthy levels of air pollutants harming human health and damaging sensitive ecosystems.

## Proposals should demonstrate:

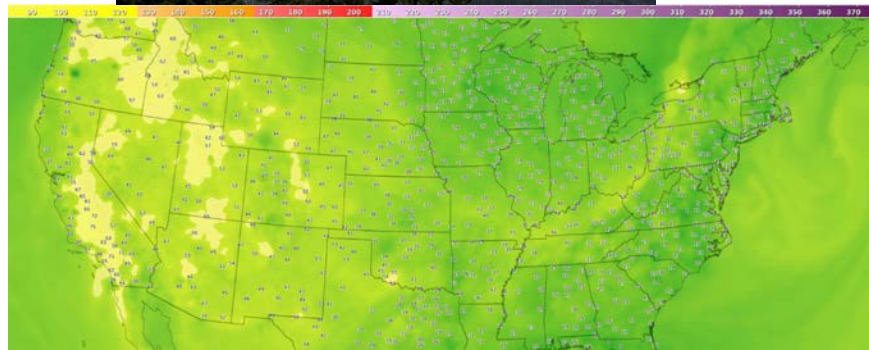
- improving emissions modeling (e.g. wildland fire smoke and dust, and timely updates of anthropogenic sources), meteorology (e.g. planetary boundary layer (PBL) height, cloudiness, and vertical transport), and initialization of atmospheric composition concentrations (model state) and emissions using coupled data assimilation (DA);
- incorporating feedbacks of atmospheric composition on atmospheric physics and meteorological DA through coupled modeling and DA;
- improving computational efficiency of atmospheric composition transport, gas-phase chemistry, DA and prediction.



\*Visit [grants.gov](https://www.grants.gov) for more complete information on competition-specific priorities

# AQRF Competition Priorities

1. Development and evaluation of high-resolution AQF capabilities consistent with NOAA weather forecast models at these resolutions
2. Evaluate the National AQF Capability system consisting of the UFS-based regional model coupled with an online Environmental Protection Agency chemistry model
3. Improved spatial and temporal estimates of anthropogenic and natural pollutant emissions
4. Explore and quantify the potential value of ensemble model approaches, post processing and AI to NOAA's operational air quality forecasting guidance.
5. Improved model accuracy using data assimilation of remotely-sensed products or in-situ observations
6. Development of verification software, methods, and techniques to ensure AQ forecast capabilities
7. Optimizing chemistry processes to increase the computational efficiency



NOAA's Air Quality Forecasting Guidance

\*Visit [grants.gov](https://www.grants.gov) for more complete information on competition-specific priorities

# VORTEX-USA

**Federal Funding No. NOAA-OAR-WPO-2025-28596**

Point of Contact: Jordan Dale, PM

VORTEX-USA is a research program intended to improve the effectiveness of tornado forecasts and warnings in the U.S. This program represents an evolution from the VORTEX-SE program of 2015-2020. VORTEX-USA will extend the approaches and findings from that program to other regions of the U.S., while maintaining a strong emphasis on Southeast issues.

Proposals should:

Explore new meteorological knowledge that will be gained through examination of historical data, special datasets collected in the field through earlier VORTEX-SE campaigns, and the application of state-of-the-art numerical weather prediction and data assimilation systems.

Explore avenues for more effectively communicating tornado forecasts to the public, and evaluate aspects of public vulnerability, risk perception and response to these forecasts in order to more effectively mitigate damage, injuries, and loss of life from tornadoes.

\*Visit [grants.gov](https://www.grants.gov) for more complete information on competition-specific priorities



# VORTEX-USA Priorities

- (1) Physical and/or social science studies focused on improving actionable information to the public and end users in the critical time period from 30 minutes to 4 hours prior to a tornadic event.
- (2) Understanding and reducing societal vulnerability to tornadoes.
- (3) Studies that support better understanding of the complex near surface windflows in tornadic storms, how those winds interact with the built and natural environment to cause damage and societal impacts, and connecting such better understanding to developing improved response and mitigation strategies.
- (4) Explore refined or novel predictors of tornadoes and/or potential improvements to data assimilation for mesoanalysis and convection-allowing modeling systems utilizing data from previous VORTEX-USA supported field campaigns, including Propagation, Evolution, and Rotation in Linear Storms (PERiLS).



# WHERE CAN I FIND MORE INFORMATION?

Information about the FY25 NOFO Competition is available on the WPO website at [wpo.noaa.gov](https://wpo.noaa.gov) including:

- **About The Funding Process** - General information about the NOFO
  - [Self-Directed Presentations](#): *Research Priorities and the Grants Process, Application Process, Award Process*
  - Eligibility Requirements
  - Partnerships and Other Funding Opportunities
- **How To Apply** - Instructions and timelines for applications
  - Application Checklist
  - NOFO FAQs
  - Competition Information Sheets
- **Explore Past Funded Projects** - Past competition information
  - Links to previous NOFO Competitions
  - Highlights of past year's funded projects



# eRA Guidance



1. **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 up to 6 weeks, applicants should begin this process as soon as possible.
2. **Applicants will need an eRA Commons account for application submission. It is recommended to allot six weeks to complete the registration process to allow ample time for registration.**
3. Prior to registering with eRA Commons, applicant organizations must first obtain a Unique Entity Identifier (UEI) from SAM.gov. Organizations can register with eRA Commons in tandem with completing their full SAM and Grants.gov registrations.
4. 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. This email will either confirm a successful submission to eRA or list errors and warnings associated with the application. **For an application to be successfully received by NOAA, all errors must be addressed, the application submitted via Grants.gov, and an email received by the listed PI indicating a successful submission to eRA**

# WHEN IS MY APPLICATION DUE?



1. NOFO published on <https://www.grants.gov> - **September 17, 2024**
2. Letters of Intent (LOIs) - **October 2, 2024 5:00pm EDT**
  - Submitted via Smartsheet form/email on WPO competition webpage
  - Provide initial feedback to potential applicants
  - LOIs should contain a list of Principal Investigators (PI), proposed work plan, and estimated budget
3. LOI Response - **Mid October 2024 (approximately)**
4. Proposal Application Deadline - **December 2, 2024, 5:00pm EST**
  - Final, hard deadline to submit full proposal via grants.gov
  - Applications MUST pass BOTH grants.gov AND eRA system checks BY THIS DEADLINE
5. Anticipated Date of Funding Recommendation - **May 2025**



# Final Reminders

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1. **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 up to 6 weeks, applicants should begin this activity as soon as possible.
2. The Q&A from today's Webinar will be posted on the WPO NOFO Competition Website.
3. **LOI Due Date:** October 2, 2024  
**LOI Response Date:** Mid October, 2024 (Approximately)  
**Proposal Due Date:** December 2, 2024
4. Please direct all FY25 NOFO competition questions to: [oar.wpo.nofocompetition@noaa.gov](mailto:oar.wpo.nofocompetition@noaa.gov)



## FY25 NOFO Six Program Competitions and Grants.gov Announcement Numbers

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1. [Social, Behavioral, and Economic Sciences \(SBES\)](#) - [NOAA-OAR-WPO-2025-28598](#)
2. [Observations](#) - [NOAA-OAR-WPO-2025-28602](#)
3. [Air Quality Research and Forecasting \(AORF\)](#) - [NOAA-OAR-WPO-2025-28603](#)
4. [Testbeds](#) - [NOAA-OAR-WPO-2025-28601](#)
5. [VORTEX USA](#) - [NOAA-OAR-WPO-2025-28596](#)
6. [Subseasonal to Seasonal](#) - [NOAA-OAR-WPO-2025-28599](#)

# WHO SHOULD I CONTACT?

Request  
More  
Info



Official NOFO announcement available at <https://www.grants.gov> as well as a supplementary information sheet for each competition

Contact information for NOFO-related inquiries:

[OAR.WPO.NOFOcompetition@noaa.gov](mailto:OAR.WPO.NOFOcompetition@noaa.gov)



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