NOAA WEATHER PROGRAM OFFICE

FY25 Notice of Funding Opportunity

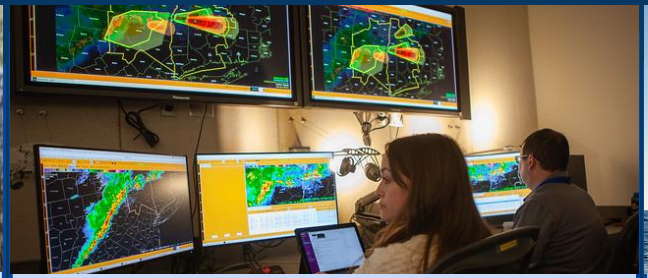
Six Unique Competitions • Approximately $12.8M of Funding Available • Proposals Due December 2, 2024

Social, Behavioral, and Economic Sciences (SBES) Competition

WPO solicits SBES research proposals that advance the identified priorities to benefit the overall weather community. The WPO Social Science Program 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. These disciplines include (but are not limited to) anthropology, communication, economics, geography, political science, psychology, and sociology. Specifically, this funding call supports interdisciplinary work, applied research, and more broadly, social science research that will advance theoretical findings into applications for the operational forecast community.

Projects appropriate for this competition range from Readiness Level (RL) 2 to RL 8 and have potential to transition to operations at either NOAA or the weather and water enterprise within the next 3 to 7 years.

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

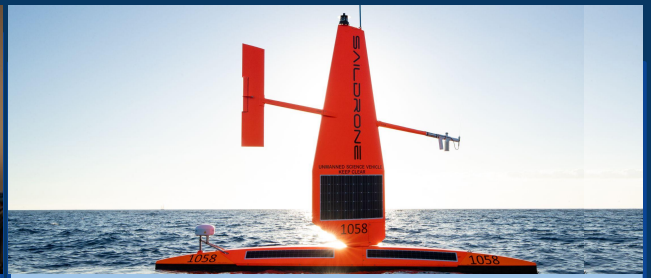


Testbeds Competition

Project proposals submitted to this competition will focus on applied research and development, and, in particular, the demonstration and testing of that research in NOAA's quasi-operational forecasting environment through engagement with one of NOAA's testbeds. The hazard focus areas relevant to this competition include: subseasonal-to-seasonal prediction capabilities; fire weather; tornadoes, severe wind, and hail storms; tropical cyclones; and extreme precipitation, including heavy snow, ice, and flash flooding. If proposing to work on a project that explores multiple hazards (e.g., tornadoes and flash floods, wildfire burn scars and flash floods), the letters of intent and proposal should clearly identify each participating testbed, and explain the collaborative aspects of the proposed work. Projects can include one hazard that is appropriate for one testbed or multiple hazards (e.g. tornadoes and flash floods) that are appropriate for multiple testbeds.

Projects that are most appropriate for the five 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.

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

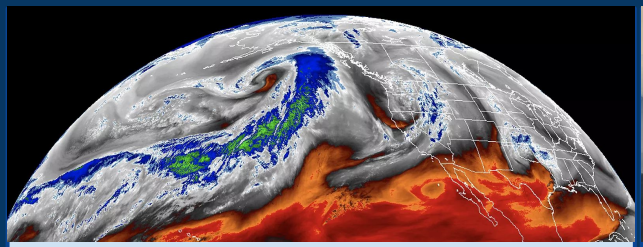


Observations Competition

Projects should 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. They should document clear relevance and support to the weather enterprise and should focus on technologies and strategies with the potential to improve the accuracy, reliability, spatial coverage, cost effectiveness, deployability, safety, and sustainability of observations for eventual use by the operational weather enterprise. The scope includes weather-related observations and observing strategies targeting the surface through the planetary boundary layer/troposphere. Satellite-based sensors are not included in this scope except to calibrate, validate, or integrate with in-situ observations as a secondary objective.

Projects appropriate for this competition range from Readiness Level (RL) 4 to RL 7 and have potential to transition to operations, application, commercialization, final product, or knowledge at either NOAA or the weather enterprise within the next 3 to 6 years.

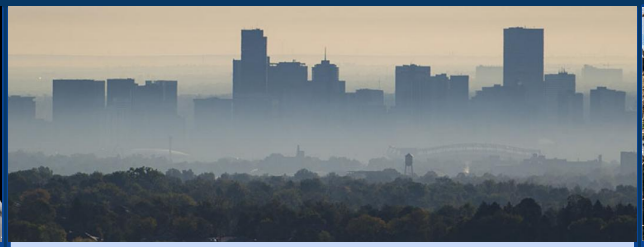
Federal Funding No. NOAA-OAR-WPO-2025-28602



Subseasonal to Seasonal Competition

WPO seeks to support resiliency of the nation's economy, infrastructure, and security by fulfilling the subseasonal to seasonal (two weeks out to two years) requirements of the Weather Research and Forecasting Innovation Act of 2017. The subseasonal to seasonal temporal range covers a wide range of phenomena with significant global and regional impacts on economies and human safety. The portfolio will emphasize models and components in NOAA's community-based Unified Forecast System (UFS) and ongoing multi-model ensemble efforts on the subseasonal to seasonal timescale within the North American Multi-Model Ensemble (NMME). Projects developing the UFS S2S capability are encouraged to coordinate 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). UFS developments are furthermore encouraged to articulate how they could collaborate with the Earth Prediction Innovation Center (EPIC), leveraging and incorporating EPIC advances to adopt continuous improvement continuous deployment, providing code documentation, incorporating code testing, or utilizing cloud computing.

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



Air Quality Competition

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.

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

VORTEX-USA Competition

VORTEX-USA is a program that is intended to have the maximum possible near-term societal benefit by reducing the impacts of tornadoes. In preparing and reviewing proposals, investigators and reviewers should assess the viability of moving results expeditiously toward application. This perspective should serve to inform investigators of the applicability of their proposal to a NOAA grant competition, in contrast with funding programs of other agencies such as the National Science Foundation. Basic research is not excluded in VORTEX-USA, but proposals for basic research carry a certain burden of convincing reviewers of a likely path toward application. Meteorological knowledge will be gained through examination of historical data, special datasets collected in the field campaigns, and the application of state-of-the-art numerical weather prediction and data assimilation systems. VORTEX-USA will also 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

Projects most appropriate for this competition range from RL 2 to RL 6.

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

- To learn more, join competition managers at our NOFO Webinar, September 19, 1:00 PM (EST). Register here
- For full competition details and application instructions please visit the WPO Website: https://wpo.noaa.gov/
- Questions or concerns should be directed to WPO.NOFO.competitions@noaa.gov

Applicants will need to register on eRA Commons with your institutions Unique Entity ID (UEI) from SAM.gov.

The eRA Commons registration process can take up to four weeks to complete. Should you have questions connect the eRA Service Desk toll free at 866-504-9552 or 301-402-7469. Or click here for an online tutorial.