UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

National Severe Storms Laboratory
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Norman, OK 73072

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Hazardous Weather Testbed Activities

The NOAA Hazardous Weather Testbed (HWT) at the National Weather Center (NWC) in Norman, Oklahoma, is seeking participants for ***two in-person* experiments*** in late Summer–early Fall 2024. The testbed is a joint project of the National Weather Service Storm Prediction Center and the National Severe Storms Laboratory that provides a conceptual framework and physical space to foster collaboration between research and operations to test and evaluate emerging technologies and science. This year, we will be conducting the 2024 HWT activities ***virtually and in-person*** for ***22 weeks*** in total.

There will be ***seven*** primary projects in the HWT during 2024. The details of the July–September experiments are listed beginning on page 3.

Radar Convective Applications **in-person*	Apr 15–19, Apr 22–26, May 6–10
Convective Outlook Innovations **virtual* (Broadcasters and Emergency Managers)	Apr 16–18, Apr 23–25
Threats-in-Motion (TIM) **in-person*	Apr 29–May 3, May 13–17, May 20–24
Spring Forecasting Experiment **hybrid*	Apr 29–May 3, May 6–10, May 13–17, May 20–24, May 28–31
Satellite Convective Applications **hybrid*	May 13–17, May 20–24, Jun 3–7
Dual-Pol Phased Array Radar **in-person*	Jul 29–Aug 2, Aug 5–9, Aug 19–23 **Application Deadline: Jun 18**
Watch-to-Warning **in-person*	Aug 12–16, Aug 26–30, Sep 9–13 **Application Deadline: Jun 18**

*In-person participation will comply with DOC COVID-19 Workplace Safety Plan

All 2024 HWT activities will have virtual contingency plans using online resources such as Google Meet and AWIPS in the Cloud. Each project-specific application form can be found in the project details selection below.

Interest statements should include your motivation for evaluating future warning and/or forecast systems in the HWT and *demonstrate why you would be a good fit for a particular experiment*. NWS participants may include WFO, CWSU, or Region HQ staff, and participants are not required to have had prior HWT experience. We are seeking diversity among regions, warning and forecast experience, and HWT experience.

Any questions or concerns about these experiments or the application process should be directed to the HWT Executive Officer, **Tony Lyza (anthony.lyza@noaa.gov)**.

The deadline for the second round of applications is June 18, 2024. Candidates will be selected shortly thereafter.

We desire enthusiastic people who are interested in improving NWS warning and/or forecast decision-making technology, products, and services. We would be happy to provide more information about the HWT activities if requested.

Sincerely,
Tony Lyza
Hazardous Weather Testbed, National Severe Storms Laboratory

EWP Dual-Pol Phased Array Radar Experiment
Project Descriptions & Details

Apply here!

The **deadline for applications is June 18, 2024**. Candidates will be selected shortly thereafter.

WHEN – July 29–August 2, August 5–9, August 19–23

WHAT – This activity will include 12 forecasters who will provide feedback on the update time, data quality, and vertical coverage of dual-pol phased-array radar data in the context of severe weather warnings. Participants will issue warnings in simulated real-time events, take surveys, and participate in discussions regarding the events and how various aspects of radar data impacted warning decisions and understanding of storm-scale processes. Participants will evaluate data from the Advanced Technology Demonstrator (ATD), which is the first dual-pol S-band phased array radar designed for weather observations. This HWT activity is the first of several planned over the next few years to incorporate phased array radar data, and is the first to do so since 2015.

WHY – Participants in this HWT activity will provide feedback on dual-pol phased array radar data. This feedback will be used to inform future radar research directions and HWT activities. It will also add to the body of knowledge to be shared with the NWS as they work towards designing the next operational radar network.

WHO – We are looking for forecasters with all levels of experience, from all regions of the U.S., and with all backgrounds. Four forecasters will be chosen for each of the three weeks of the activity. Completion of the Warning Decision Training Division's Radar Applications Course and some operational severe weather warning experience is required for NWS forecasters.

Watch-to-Warning Experiment
Project Descriptions & Details

Click here to apply!

The **deadline for applications is June 18, 2024**. Candidates will be selected shortly thereafter.

WHEN – August 12–16, August 26–30, September 9–13

WHERE – Hazardous Weather Testbed, National Weather Center, Norman, OK
*In-person participation will comply with DOC COVID-19 Workplace Safety Plan

WHAT – The National Severe Storms Laboratory (NSSL) and the Cooperative Institute for Severe and High-Impact Weather Research and Operations (CIWRO) have been developing a machine learning severe weather forecasting tool that combines information from the NSSL's Warn-on-Forecast System (WoFS) and ProbSevere Version 2 (PS2). The tool, named WoFS-PHI (i.e., a combination between WoFS and Probabilistic Hazard Information), is designed to give skillful, rapidly-updating spatial severe weather hazard probabilities at lead times between 30 minutes and 3 hours to help fill the gap in numerical guidance that exists between the issuance of traditional weather watches and warnings.

In this experiment, participants will work together to issue short-term severe weather forecasts, watches, warnings, mesoscale discussions, and "public-facing" graphics in displaced real-time cases. To help create these products, participants will have access to state-of-the-art tools, including WoFS-PHI, WoFS, and the Probabilistic Hazard Information (PHI) Tool, as well as more traditional observational and model data available through AWIPS-II. Participants will then engage in focus group discussions about how these tools influenced their communication of the severe weather threat at times spanning from watch to warning issuance.

WHY – We hope to better understand how forecasters use WoFS-PHI, WoFS, and the PHI Tool to assess and communicate the severe weather threat between watches and warnings. Additionally, we will collect the data necessary to make improvements to the WoFS-PHI product as we continue its development.

WHO – We are seeking forecasters who have an interest in the evolution of forecast services, particularly in the time period between weather watches and warnings. 2-3 National Weather Service forecasters and 1-2 Storm Prediction Center forecasters will be selected for participation each week. We are seeking geographic, experiential, and gender diversity in our forecaster pool and would prefer participants with at least some operational severe weather forecasting experience.