



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration

OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

National Severe Storms Laboratory  
120 David L. Boren Blvd.  
Norman, OK 73072

May 4, 2021

## Hazardous Weather Testbed Activities

The NOAA Hazardous Weather Testbed (HWT) at the National Weather Center (NWC) in Norman, Oklahoma, is seeking participants for two virtual experiments in 2021. 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 2021 HWT activities *virtually* for **20 weeks** in total.

There will be **six** primary projects in the HWT during 2020. The details of the Brief Vulnerability Overview Tool and Hazard Services - Probabilistic Hazard Information are listed in the attachments.

Probabilistic Hazard Information (PHI) Prototype	Apr 26-30, May 10-14, May 24-28
Radar Convective Applications	Apr 19-23, May 3-7, May 17-21
Satellite Convective Applications	Jun 1-4, Jun 7-11, Jun 14-18
Spring Forecasting Experiment	May 3-7, May 10-14, May 17-21, May 24-28, Jun 1-4
Brief Vulnerability Overview Tool	Jul 11-16, Jul 26-30 <b>Application Deadline: June 2</b>
Hazard Services - Probabilistic Hazard Information (HS-PHI)	Jul 19-23, Aug 2-6, Aug 30-Sep 3 <b>Application Deadline: June 2</b>

Details about HWT 2021 will become available over the next several weeks at: <http://hwt.nssl.noaa.gov/>

Due to the ongoing COVID-19 pandemic, all 2021 HWT activities will take place virtually using online resources such as Google Meet and AWIPS in the Cloud. Each project-specific application form (found in the project details selection below) will require from each candidate:

- a. Name and organization (WFO, region HQ, etc.)
- b. Forecaster position
- c. Prior HWT experience
- d. Interest statement (one paragraph, 200 words max)
- e. Weeks available

The 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. 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 about these experiments should be directed to the EWP Coordinator, **Kodi Berry** ([kodi.berry@noaa.gov](mailto:kodi.berry@noaa.gov)).

**The deadline for the second round of applications is June 2, 2021.** Candidates will be selected shortly thereafter. Any questions or concerns about the application process should be directed to **Alan Gerard** ([alan.e.gerard@noaa.gov](mailto:alan.e.gerard@noaa.gov)).

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,

Alan Gerard  
Hazardous Weather Testbed, National Severe Storms Laboratory

## Brief Vulnerability Overview Tool Project Descriptions & Details

[APPLY HERE](#)

The deadline for applications is 2 June 2021. Candidates will be selected shortly thereafter.

**WHEN** – July 12-16, July 26-30

**WHAT** – FACETs — Forecasting a Continuum of Environmental Threats — is a model for a next-generation approach to integrating the newest meteorological innovations with a deeper understanding of societal needs and vulnerabilities. Next-generation guidance is critical for improving forecasts and warnings; however, there are significant challenges in transitioning these physical science advancements into societal outcomes that are responsive to core partner needs. This project applies and integrates relevant social and behavioral science methodologies to assess WFO forecasters' and end-users' abilities to assess, understand, and respond effectively to forecasts for convective weather hazards and a tool that enhances their awareness of vulnerabilities within their County Warning Area (CWA). This project will simulate end-to-end severe weather communication — SPC to WFO to EMs — through realistic experimental scenarios involving SPC and WFO forecasters and EMs. Participants will work through three time periods in each case. In the first two periods they will prepare and deliver decision-support briefings (24-48 hours, and 4-12 hours in advance of severe weather). In the third period for each case they will issue warnings and provide warning-related decision support.

**WHY** – This HWT experiment provides a pre-operational evaluation of the Brief Vulnerability Overview Tool and experimental forecast guidance generated by the Storm Prediction Center. Feedback from this evaluation will be used to understand risks and opportunities before the BVOT and SPC experimental product concepts are further developed for NWS offices nationwide.

**WHO** – All forecasters are welcome to apply for this experiment. We would like geographic, experiential, and general diversity in our forecaster pool. Completion of the Warning Decision Training Division's Radar Applications Course and some operational severe weather warning and decision support experience are desired.

## **Hazard Services - Threats-in-Motion (HS-TIM)**

### **Project Descriptions & Details**

[APPLY HERE](#)

The deadline for applications is June 2, 2021. Candidates will be selected shortly thereafter.

**WHEN** – Jul 19-23, Aug 2-6, Aug 30-Sep 3

**WHAT** - The National Severe Storms Laboratory (NSSL) has been developing a prototype severe convective weather warning-scale tool for testing the early concepts of the Forecasting A Continuum of Environmental Threats (FACETs) initiative. Several grants from the NOAA Weather Program Office were awarded to fund an effort to transfer the capabilities of the NSSL prototype into AWIPS-2 Hazard Services (HS). An experimental version of Hazard Services has been evaluated by NWS forecasters and human factors experts in the HWT since 2016, and will be evaluated again in the HWT during the spring of 2021. We will evaluate the software design using archive data cases, with particular emphasis on the concept of Threats-In-Motion (TIM) as it relates to hazardous weather warning operations. The experiment will be conducted virtually using AWIPS cloud instances, so there is no requirement to travel to Norman, OK.

**WHY** - We hope to extend the dialog on FACETs and TIM as the concepts become closer to possible operational reality. In addition, we hope to collect the data necessary to make improvements to the HS-PHI software prior to a decision for operational implementation.

**WHO** - We would like geographic, experiential, and gender diversity in our forecaster pool. An interest in the evolution of forecast and warnings services is a must. Two forecasters will be chosen for each of the three weeks of the experiment. Completion of the Warning Decision Training Division's Radar Applications Course and some operational severe weather warning experience is desired.

For more information:

<https://inside.nssl.noaa.gov/facets/2021/03/threats-in-motion/>

[Tiny TIM blog on the FACETs VLab Page](#)