

The primary objectives of the 2012 Experimental Warning Program Spring Experiment (EWP2012) are as follows:

- To **evaluate the accuracy and the operational utility of new science, technology, and products** in a testbed setting to **gain feedback** for improvements prior to their potential implementation into NWS severe convective weather warning operations.
 - The Hazardous Weather Testbed serves as a primary vehicle for transitioning new research, knowledge, and concepts into NWS operations. It is designed to provide forecasters with direct access to the latest developments in meteorological research while imparting scientists with the knowledge to formulate research strategies that will have practical benefits for operations.
- To **foster collaboration** between NSSL and GOES-R scientists and operational meteorologists.
 - The WFOs are our primary customers. We want to work with them to understand their requirements and improve warning accuracy and services. This will also allow for continued scientific collaboration on application development, and on informal and formal publications. The interaction between scientists and operational meteorologists will provide a synergy that will lead to improvements in future products.

The overall objectives of the specific projects to be conducted during EWP2012 are:

- To evaluate the operational utility of **Warn-on-Forecast 3DVAR Real-time Data Assimilation** technology. The goals are to:
 - To create real-time weather-adaptive 3DVAR analyses at high horizontal resolution and high time frequency with all operationally available radar data from the WSR-88D network.
 - Compare 3DVAR data to other radar products, including multiple-radar/multiple-sensor (MRMS) products.
 - Determine the potential operational impacts of these data on the WFO nowcast and warning decision process?
- To evaluate the model performance and forecast utility of the **Norman NWS office's custom Weather Research and Forecasting model (OUN WRF)**. When operations are expected in the Southern Plains (within the domain of the OUN WRF), the goals are to:
 - Assess the utility of the OUN WRF for the purpose of forecasting initiation, mode, and dissipation of severe convective storms.
 - Subjectively determine the forecast value of adding high-resolution model output to the suite of tools available in an operational warning environment.
- To evaluate the operational utility of experimental applications intended for the **GOES-R satellite platform**, including **total lightning data**, prior to the launch of the observing platform. The goals are to:
 - Assess various satellite-based applications, including convective initiation and lightning prediction applications for the pre-storm environment.

- Evaluate GOES-R pseudo-GLM products including the flash rate of storms and their tracks for use in storm interrogation and warning decision making.
- Identify best practices for using the GOES-R products in nowcast and warning decision making.
- Identify appropriate display strategies within AWIPS-2 for GOES-R products.