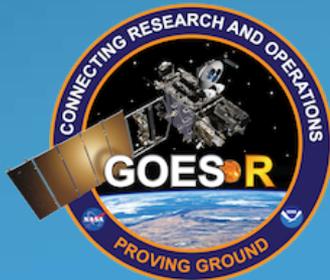


“Tales From The Testbed”: HWT-EWP Highlights

Lance VandenBoogart

GOES-R PG User Readiness Meeting

6/3/2014



What Is The Hazardous Weather Testbed (HWT)?

- Not just a facility...

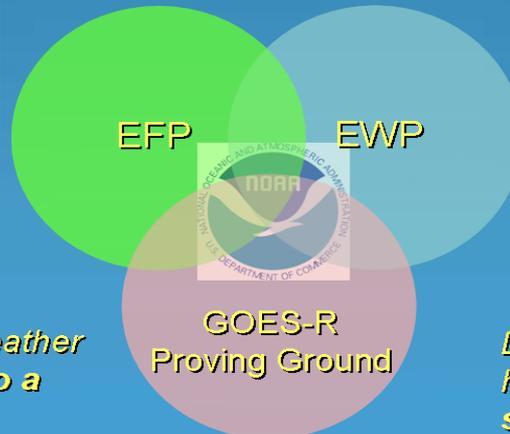


- ...but an organization



**Experimental
Forecast
Program**

Prediction of hazardous weather events from a few hours to a week in advance



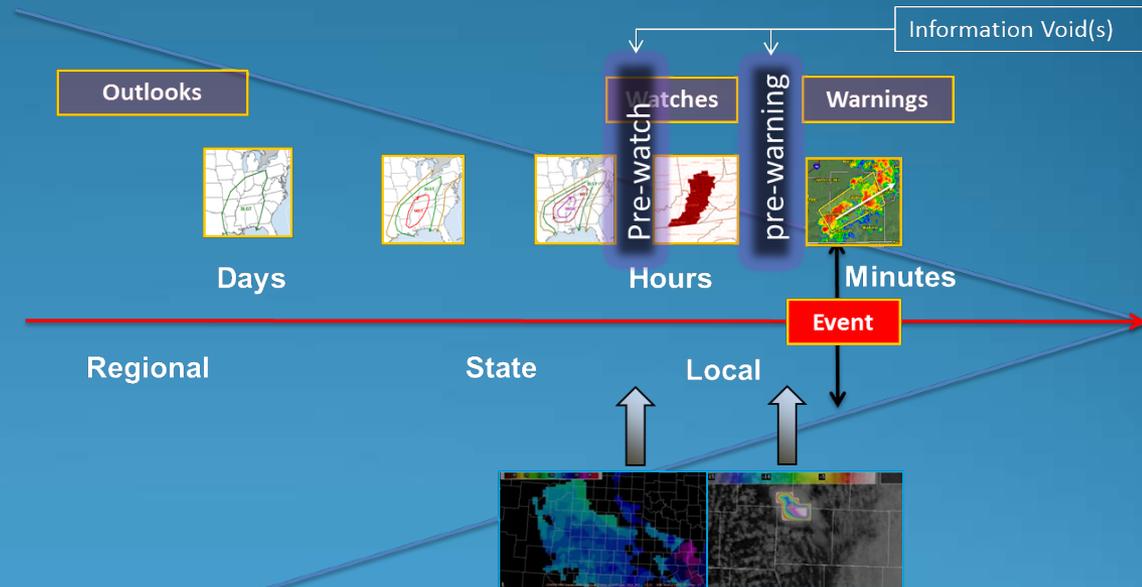
**Experimental
Warning
Program**

Detection and prediction of hazardous weather events up to several hours in advance



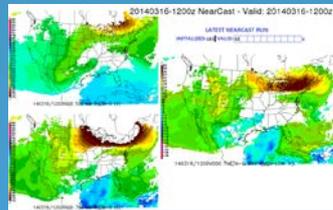
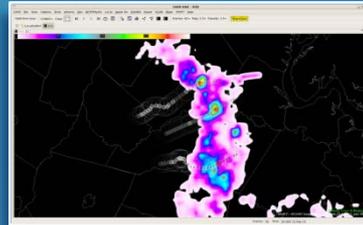
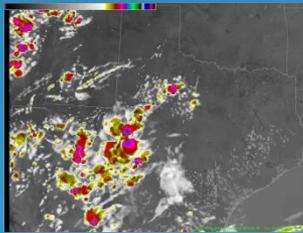
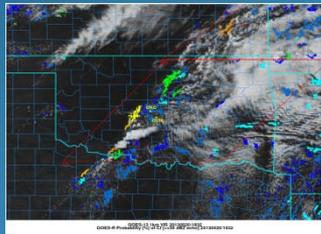
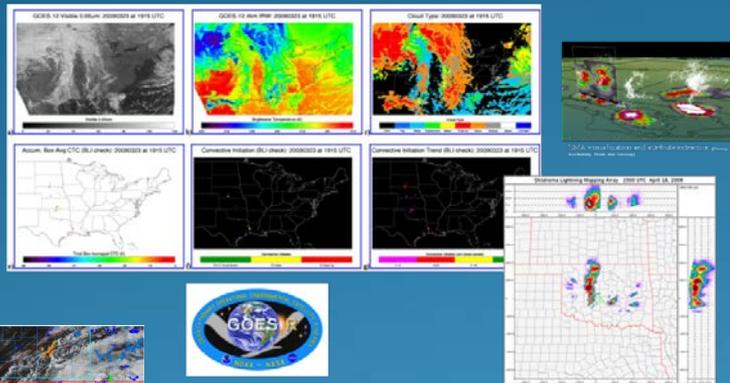
HWT Experimental Warning Program (EWP)

- **Mission:** Improve prediction of severe convective weather and warning decision-making at the “warning scale” (0-2 hours)
- Forecasters gain experience with new products / processes
- A vital component of the Research to Operations / Operations to Research (R2O/O2R) process

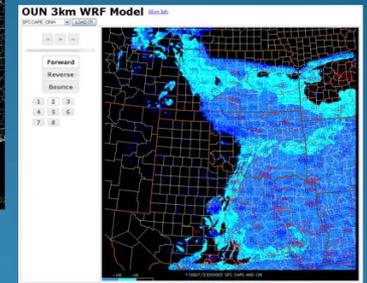
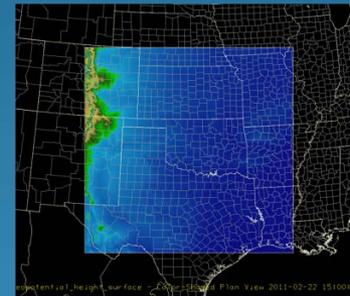


2014 EWP Projects

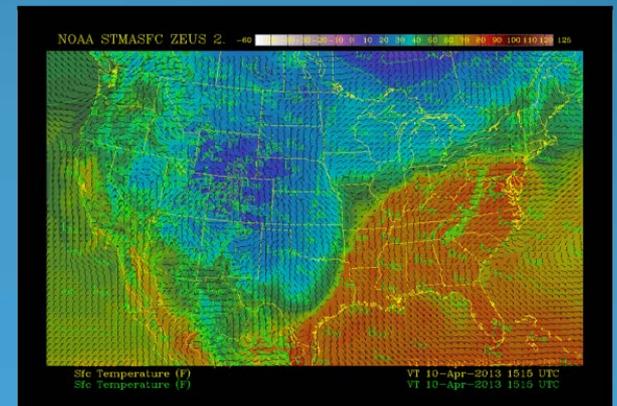
GOES-R / PGLM



OUN WRF



Variational LAPS



Widespread Participation

- Offices with operational forecasters participating in EWP (through week 3)
 - NWS: OAX, LMK, GGW, OUN, BUF, UNR, GRR,
 - Broadcasters: WCVB (Boston, MA), WUSA (Washington, DC), WSPA (Greenville, SC)
- Number of offices attending live Friday webinars
 - May 9: 30
 - May 16: 31
 - May 23: 33
 - June 6: ???



Online Webinar Archive

- 2014 Archived Webinars:
 - May 9:
http://hwt.nssl.noaa.gov/spring_experiment/tales/2014-wk1/
 - May 16:
http://hwt.nssl.noaa.gov/spring_experiment/tales/2014-wk2/
 - May 23:
http://hwt.nssl.noaa.gov/spring_experiment/tales/2014-wk3/
 - June 6: coming soon
- Also available in context:
<http://hwt.nssl.noaa.gov/ewp/>



Looking For More Information?

- External (public)
 - <http://hwt.nssl.noaa.gov/ewp/>
 - General Information about the EWP
 - Previous weeks' "Tales from the Testbed"

- Internal (private)
 - <http://hwt.nssl.noaa.gov/ewp/internal/2014/>
 - (NOAA LDAP credentials required)
 - The EWP Blog
 - Operations Plans
 - Training Materials
 - Schedules (Google Calendar)
 - Other useful links

NOAA HAZARDOUS WEATHER TESTBED
SPRING EXPERIMENT

SPRING EXPERIMENT HOME FORECAST PROGRAM WARNING PROGRAM

EXPERIMENTAL WARNING PROGRAM

2013 Spring Experiment (EWP2013)

- EWP2013 Participant Information (restricted access)
- EWP Blog (restricted access)

The Experimental Warning Program is a part of the NOAA Hazardous Weather Testbed (HWT) at the National Weather Center (NWC) in Norman, Oklahoma. The HWT EWP mission is to improve the nation's hazardous weather warning services by bringing together forecasters, researchers, learners, technology specialists, and other contributors to test and evaluate new techniques, applications, observing platforms, and technologies.

The annual Spring Experiment provides forecasters with a first-hand look at the latest research concepts and products, and immerses research scientists in the challenges, needs, and constraints of first-line forecasters. The EWP helps translate severe weather research and technology to improve the Weather Forecast Office's severe weather warnings for hail, wind and tornadoes. The EWP helps research concepts and technology eventually arrive at short-lead warnings of severe weather events.

Past EWP Spring Experiments (restricted access): 2013 2011 2010 2009 2008 2007

EWP Summer/Sea 2012 2011 2010 2009 2008

NOAA HAZARDOUS WEATHER TESTBED
SPRING EXPERIMENT

SPRING EXPERIMENT HOME FORECAST PROGRAM WARNING PROGRAM

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EWP Summer/Sea 2012 2011 2010 2009 2008

EWP Research Projects

Experimental Platforms

Set of testing of new platforms for severe weather warning applications in a research-to-operational transition. The goal of these summer experiments is to evaluate the use of the following experimental platforms:

- Hazardous Weather Testbed for the National Weather Center
- Low-power radios for the Center for Collaborative Adaptive Sensing of the Atmosphere (CCAS)
- The Oklahoma Lightning Mapping Array
- Products from the forecast center
- Prototype satellite applications (SIRSAT)
- Severe-weather research and development (SIRSAT)
- Weather-education Web-based research and data assimilation (WEDAS)

New Warning Techniques

- The Probabilistic Hazard Information (PHI) experiment is a design framework at the base for next-generation severe weather warning

Enhanced Warning Guidance

- Multi-Modal Severe (MMS) system has automatically been deployed to the testbed and is available to our visitors

EWP Blog

Spring Experiments and Beyond

Home About

CATEGORY ARCHIVES: GENERAL

General Information and News

The EWP2012 Thank You Post

Posted on June 15, 2012 by gregpattani

Here is our "Thank You" post for EWP2012, expressing our gratitude to the hardwork and long hours put in by our forecasters, developers, and other participants for our spring experiment. Even though we had a great severe weather season this year, we found storms on pretty much all the operational days in the few weeks we operated. This was the first year we used AVIPS2, and it was a great success and mostly well-received by our participants and staff.

The biggest expression of thanks goes to our new full-time AVIPS2 support person, **Darrel Kingfield** (CMR/SNSSL), who put in many extra hours to pull off the transition to the new software. AVIPS2 performed very well, both due to Darrel's efforts, and the fact that it is a better software package than AVIPS1.

These scientists brought their expertise to the experiment and were available to observe live operations and provide support to our visitors.

For the Warn-On-Forecast 3D Radar Data Assimilation project we'd like to thank the principle scientists, **Traavis Smith** (CMR/SNSSL), **Kristen Calhoun** (CMR/SNSSL), and **Jeffrey Qiu** (SNSSL).

For the OUN WRF project, they included principle investigators **Gabe Garfield** (CMR/SNSSL) (WFO/OUN) and **David Andre** (NWS-WFO/OUN).

For the GOES-R Proving Ground experimental warning activities, including the Probabilistic Generation Lightning Mapping (pLgm) array experiment, our thanks go to principle

POSTS BY DATE

Select Month

POSTS BY CATEGORY

- Area Forecast Discussion (40)
- Daily Summaries (75)
- Experimental Warning Thoughts (2)
- Forecast Thoughts (30)
- General (7)
- Lightning Jump Algorithm (1)
- Live Hops (7)
- Operations Status Message (1)
- Outlooks (3)
- RWS (1)
- Webinars (2)
- Weekly Summaries (3)

TAGS

- 3DVAR (2)
- area2 (1)
- GOESR-Cloud Top Cooling (1)
- GOESR-Nearcast (5)
- GOESR-Satcast (5)
- lightning jump (1)
- NWS (1)
- NWSW (2)
- POLM (1)
- www (1)

Backup Slides

Takeaways

- Products with limitations this week
 - GOES-R Convective Initiation
 - Had to “calibrate to” each day
 - Many false alarms amidst cumulus field
 - vLAPS
 - Tended to overestimate Composite Z
 - CAPE fields were generally accurate predictors over land

Takeaways

- Almost ready for operations
 - ProbSevere
 - Trends on target
 - Struggles with mature cells
 - NearCast
 - Predicted area of convective instability well
 - Possibly add an interpolation toggle ability to fill gaps in with NWP

Takeaways

- Get this to my office “yesterday”!
 - Lightning Flashes & Lightning Jump Algorithm
 - Increases confidence in severity of storms
 - Provided information about updraft health
 - Super-Rapid Scan Operations (SRSOR) Imagery
 - Used to observe key storm-scale features; 1-min temporal resolution made this possible
 - Simulated Satellite Imagery
 - Comparison to reality raised or lowered confidence in using model
 - When on-track, predicted areas of storm development