



NOAA/NWS Operations Proving Ground

Preparing the NWS to Meet America's Growing Needs

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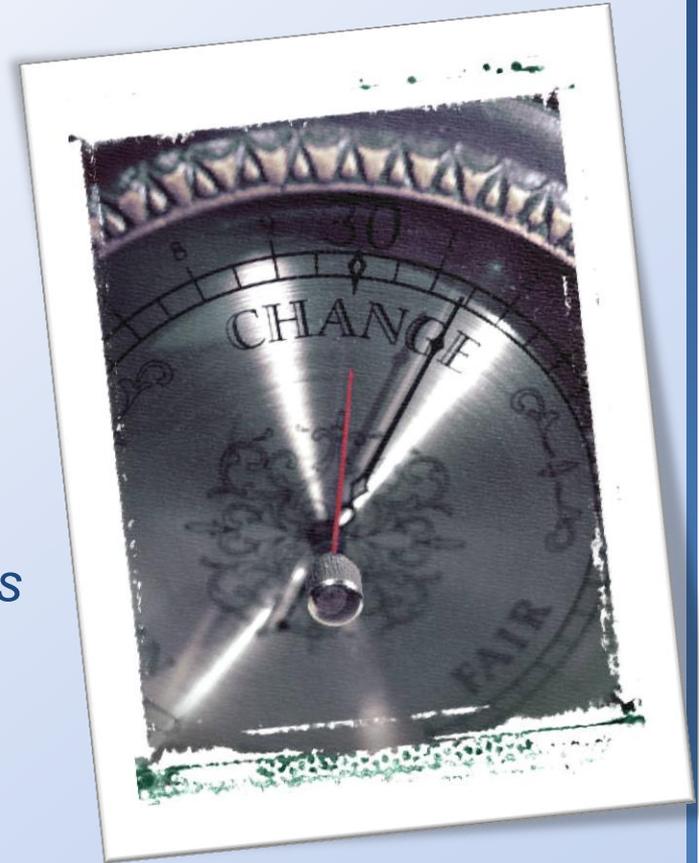
Prepare today's National Weather Service forecaster to support tomorrow's Weather Ready Nation by building capacity for superior impact-based decision support services.



- Streamlined R2O process and O2R feedback loop to optimize interaction between S&T development and NWS operations.
- Mechanism to evaluate human factor impacts, as well as technological ones, for any proposed new tools or service enhancement initiatives.
- Operational Readiness Evaluation (ORE) sessions will assess candidate capabilities in a realistic NWS operational setting.
- Prior to acceptance for ORE, candidate tools must have been rigorously assessed in a developmental testbed environment (e.g., HWT, HMT).



- **Candidate capabilities must successfully demonstrate substantive improvement to one or more of the following:**
 - *the warning and forecast process*
 - *collaborative decision making*
 - *risk communication*
 - *effective decision support services*
- **Candidate capability examples:**
 - *advanced observing systems*
 - *better use of data in decision making*
 - *improved forecast models, techniques*
 - *applications which enhance services*
 - *tools that promote benefits to public safety, disaster response, etc.*

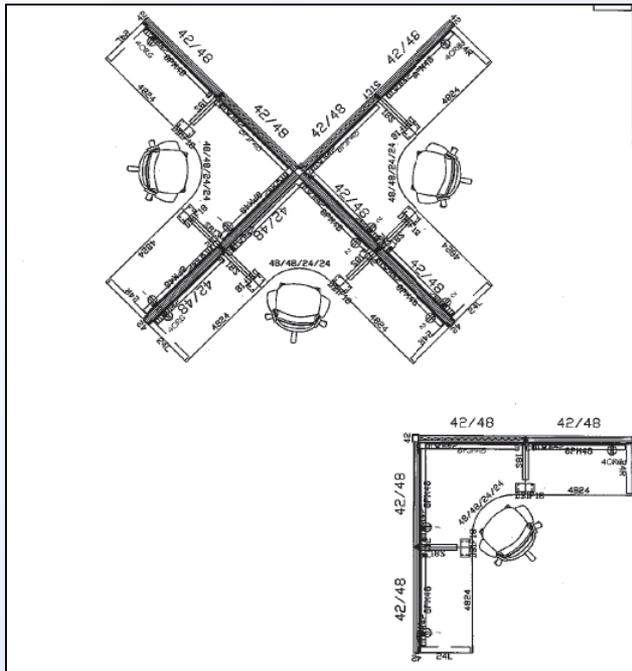


- **Prototype 2-rack AWIPS; same performance capability through virtualized processing, lower hardware refresh costs.**
- **Experiment with cloud architecture to conduct thorough viability testing of processing, storage, scalability issues, as well as data integrity and IT security concerns.**



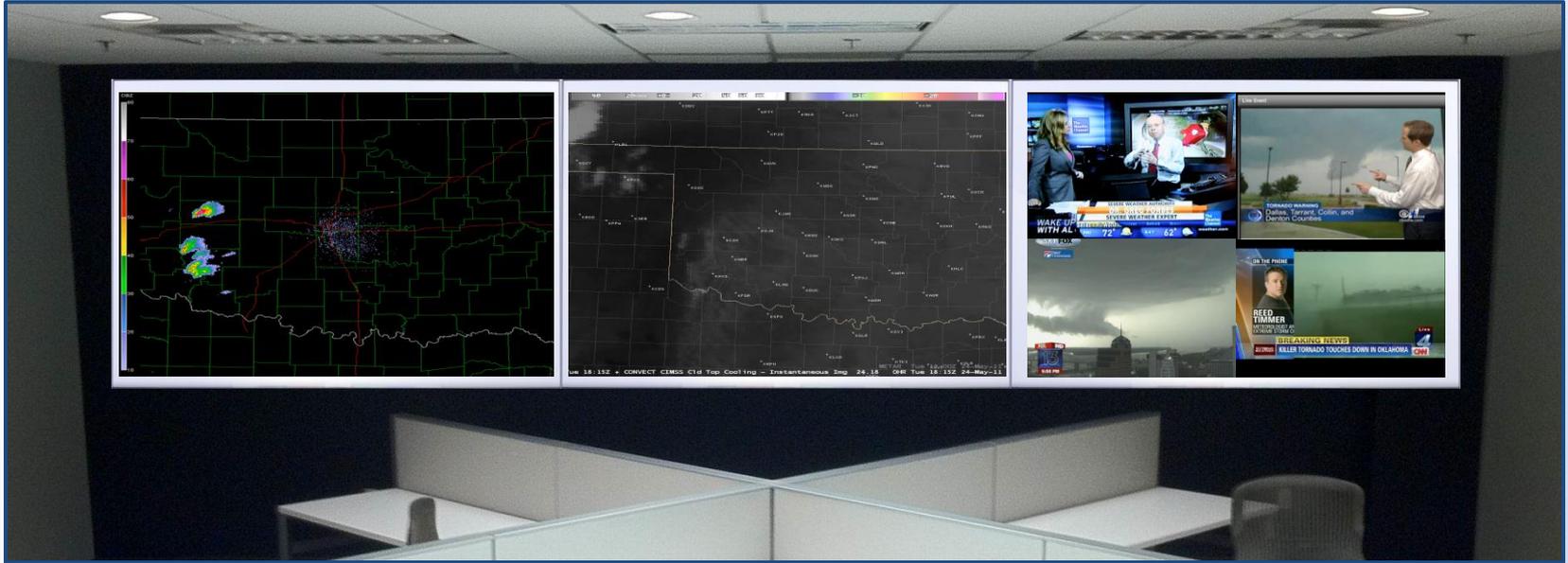
OPG Layout

- X-config designed to enhance collaborative interaction, maximize situational awareness



- Big picture SA, internal & external collaboration, tech support, etc., can be orchestrated from Event Coordinator position.

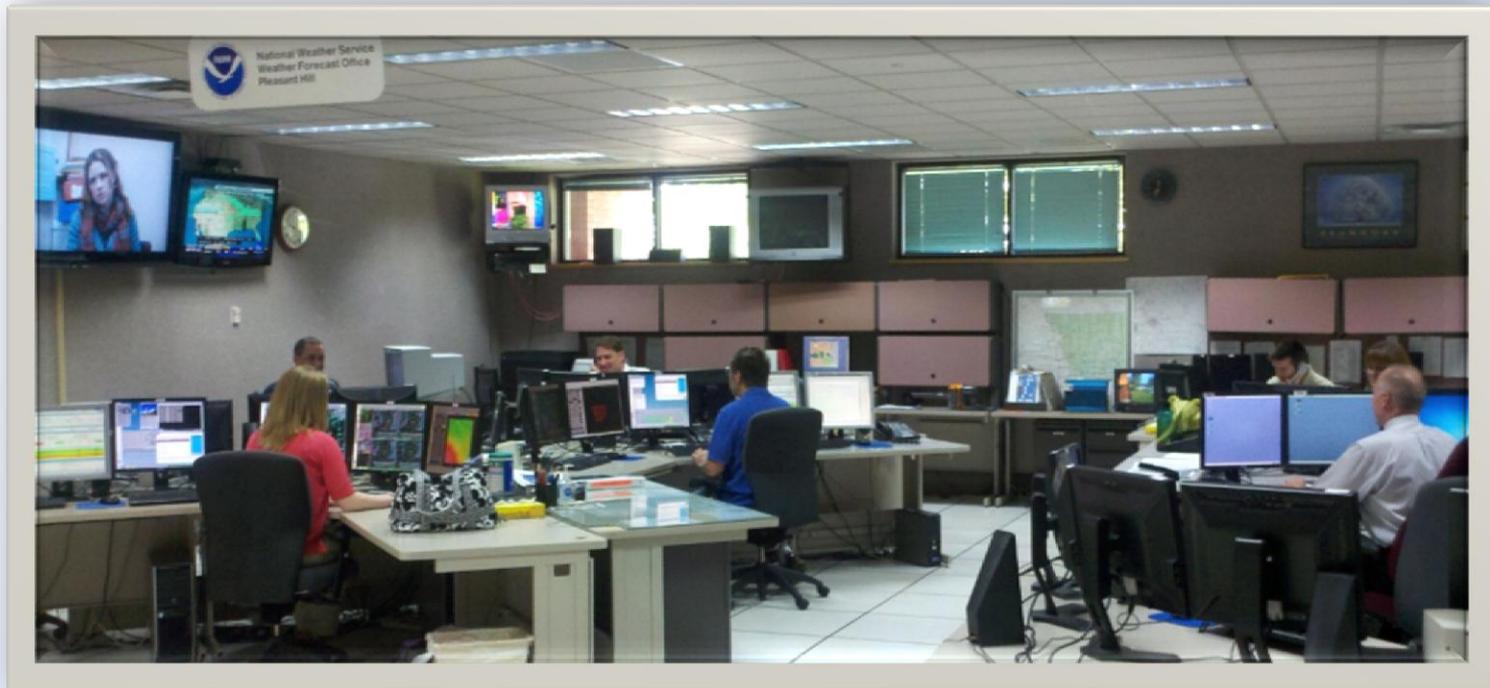
Situational Awareness Wall



- **Three 70" High Def (1080p) LED-LCD displays**
 - *Center panel: touch-enabled, HD Interactive Smart Board*
 - *Side panels: Multi-source inputs; HD quad split capability*
 - *Side panels mounted with adjustable cantilevered arms*
 - *Controller unit and Media Center located at Coord Desk*
- **Commercial EVCM® GIS collaboration platform**

ORE Session Teams

- **Eval Teams will be formed for all ORE Sessions.**
- **NWS forecasters, OPG facilitators, Core Partners (as appropriate), other relevant observers**



Involved ORE Session Example

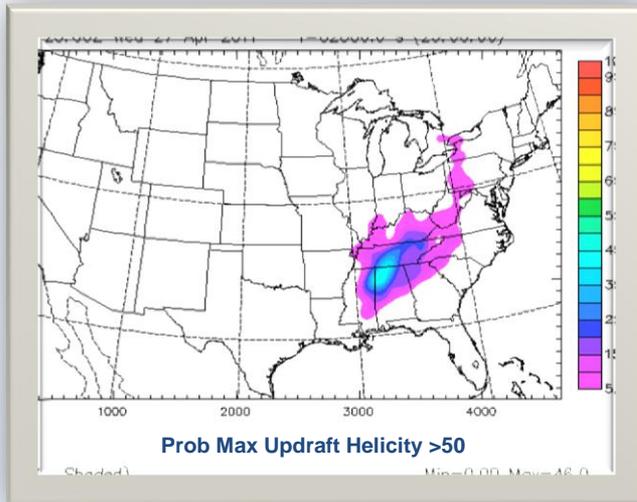
Major Severe Weather Outbreak

Candidate Tools

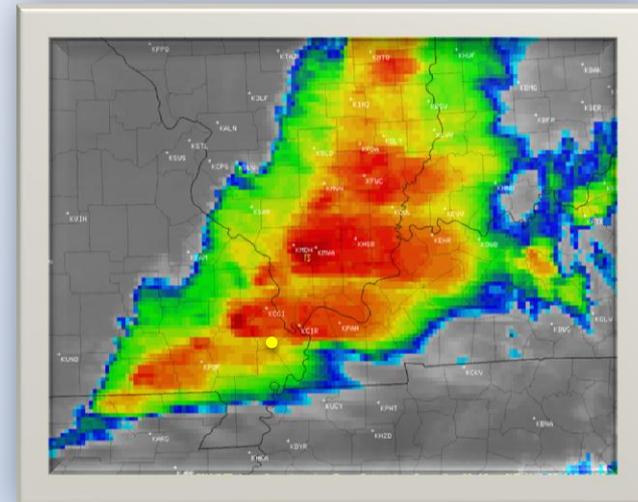
- **GOES-R Convective Products**
 - *cloud-top cooling / convective initiation*
 - *overshooting-top*
 - *thermal couplet / enhanced-V*
- **WRF/ARPS 50-member Ensemble**
- **EVCM Collaboration Platform**
- **Multimedia Weather Briefing**

Monday PM

- **Familiarization with OPG systems and facilities**
- **Training on candidate tools**
- **Mini-cases using candidate tools**



WRF/ARPS 50-member Storm-Scale Ensemble 23h Fcst



GOES-R Overshooting-Top Detection Algorithm

Involved ORE Session Example

Major Severe Weather Outbreak

TUE/WED: Progression from 3 Days out to Day of Event

- Integration of new tool set into decision process
- Usefulness in achieving test objectives
 - e.g., *GOES-R convec init applied to Warn-on-Forecast*
- Hazard identification, effectiveness of risk messaging
- End-to-end delivery of products and services
- Impact on workflow, workload, data constraints
- Impact on improving internal & external collaboration

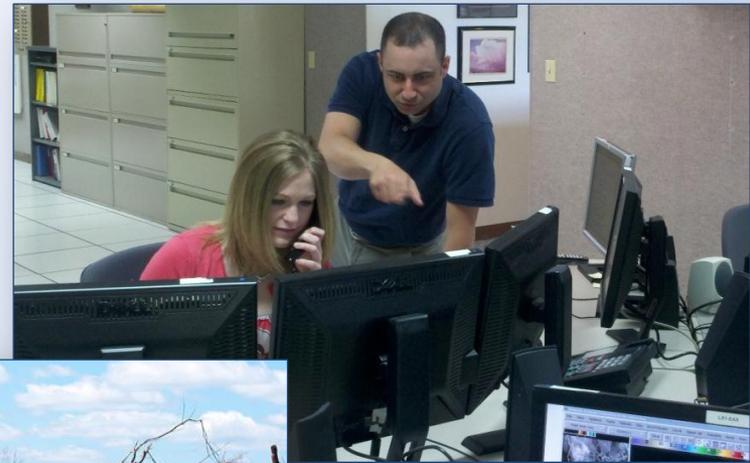


Involved ORE Session Example

Major Severe Weather Outbreak

THU: Two Days After – Full-Day ICS/EOC Simulation

- Facilitation shared by EM partners, ESF qualified officials
- On-site DSS / Risk Comm
 - Incident Commander IAP
 - Ops Crew Shift Changes
 - Aerial Recon, SAR Briefings
 - Press Conf, Media Interviews
 - Customized alert thresholds
- De-brief



- Initial target: 3-4 formal ORE Sessions each year.
- Announcements of Opportunity issued to identify science and service areas of interest.
- Session summary reports highlight performance metrics, milestones achieved, recommendations concerning operational implementation.
- Full charter available on-line at:
www.testbeds.noaa.gov



Summary

- The Operations Proving Ground is one of ten key principles in the Weather Ready Nation Roadmap
- Formal readiness evaluations using NWS forecasters in a WFO setting will optimize transition of research to operations
- Initiatives aimed at enhancing expert IDSS provision, including partner facilitated incident simulations, can be tested and validated prior to implementation

