

# The "Auto-Nowcaster" A Thunderstorm Nowcasting System

Joint Interagency Weather Research Coordination Meeting  
For NextGen

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# Auto-Nowcaster on AWIPS

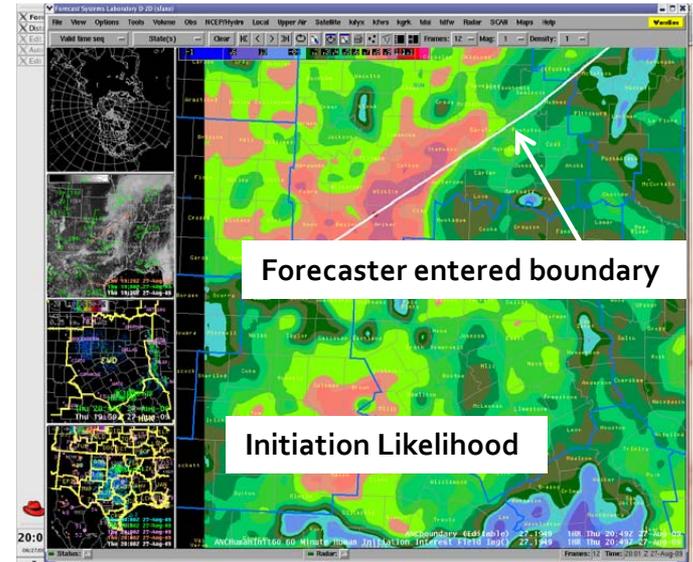
Running at FWD WFO  
Running at MLB WFO  
Under NWS NextGen sponsorship

## Provides

- Gridded fields and boundaries on AWIPS
- 60 min nowcasts of thunderstorm Initiation, growth and decay
- Updated every 5-6 min
- Real-time verification

## Characteristics

- Heuristic system ingesting observations and NWP output
- Forecaster input and oversight



# Status and Progress

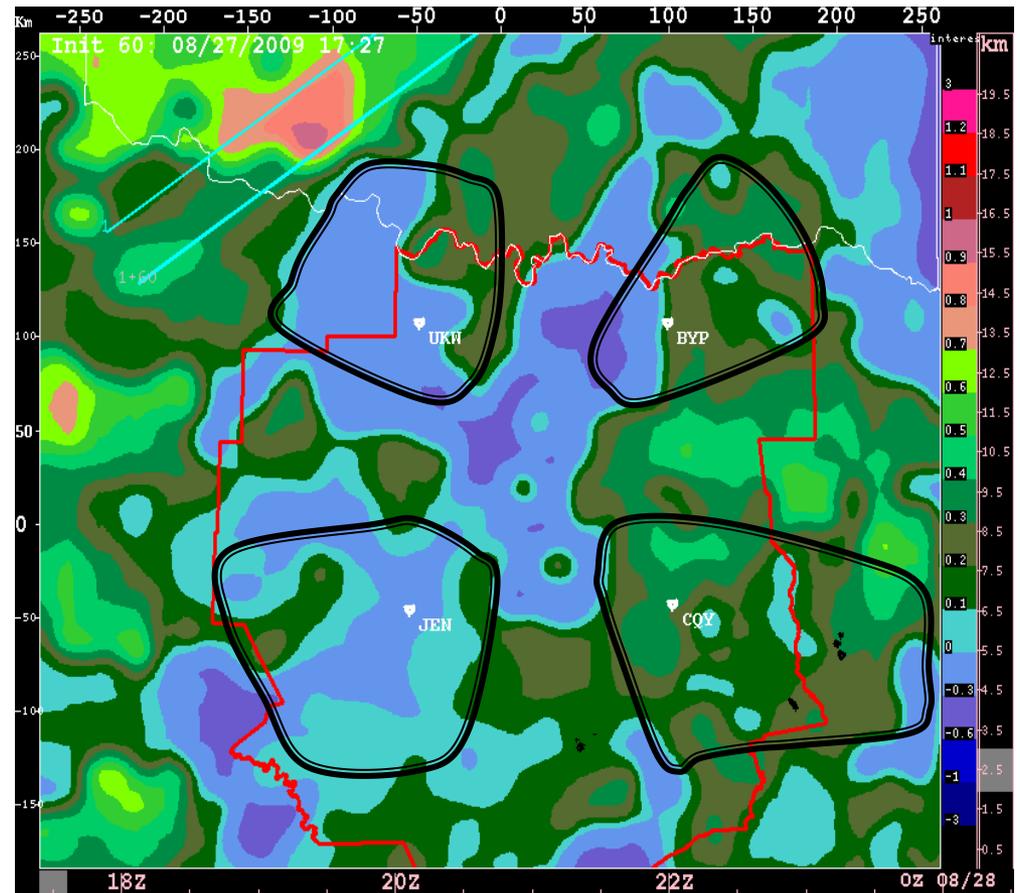
- ANC products at FWD and MLB WFOs
- Gridded nowcast fields on AWIPS and could be included in and disseminated via the GFE and NDFD
- ANC products viewed by Ft. Worth CWSU and will be disseminated to the Jacksonville and Miami CWSUs
- The role of the forecaster for the aviation community is being examined this year.

# Bigger Picture

- Thunderstorm Nowcasting Meeting the NextGen Requirements:
  - **Time and space resolution Yes, Accuracy No**
  - **Must forecast initiation, growth, dissipation**

# Nowcasting Initiation

**AutoNowcaster  
Initiation Likelihood**

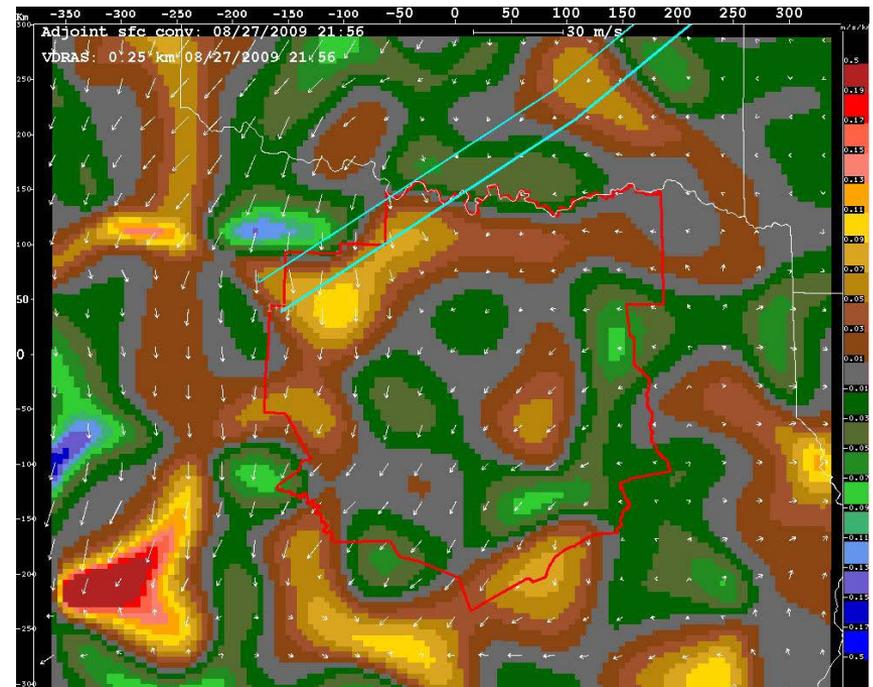


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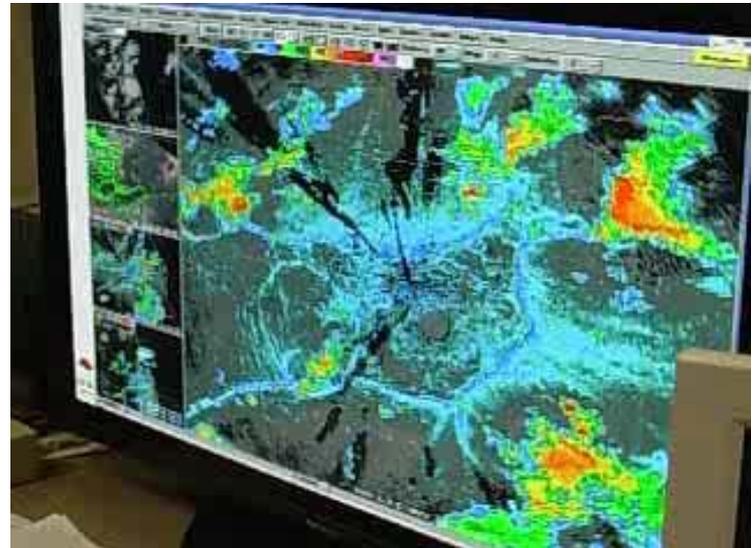
# High Resolution Winds

- High resolution 3-D winds from radar data assimilation model (VDRAS) on AWIPS
- Vertical velocity and convergence strength along surface boundaries



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  - **Basic understanding**
  - **High resolution Observations – models and heuristic rules**
  - **Automated boundary detection (new effort mesonet, satellite, radar)**



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  - Must forecast initiation, growth, dissipation
  - Basic understanding
  - High resolution Observations – models and heuristic rules
  - Automated boundary detection (new effort mesonet, satellite, radar)
  - **In meantime forecaster must enter boundaries**
  - **NextGen depends on Forecaster Over the Loop paradigm for many years to come**

# What is required to meet the NextGen requirements

- **Observations**  
Boundaries, Winds, Stability, Gravity waves, Cap (temp inversion)
- **NWP:**
  - high resolution data assimilation (boundary layer winds, radar, mesonet boundaries)
  - frequent update cycle
  - multiple scale interactions
- **Forecaster**
  - boundary locations (AWC or SPC produced)
  - climatology data base
  - conceptual models
- **Basic understanding (most important)**  
elevated convection, secondary convection, outflow characteristics