

# Decision Support Services Then and Now



*Goodwell Train Incident – June 24, 2012*



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Forecaster, NWS Amarillo

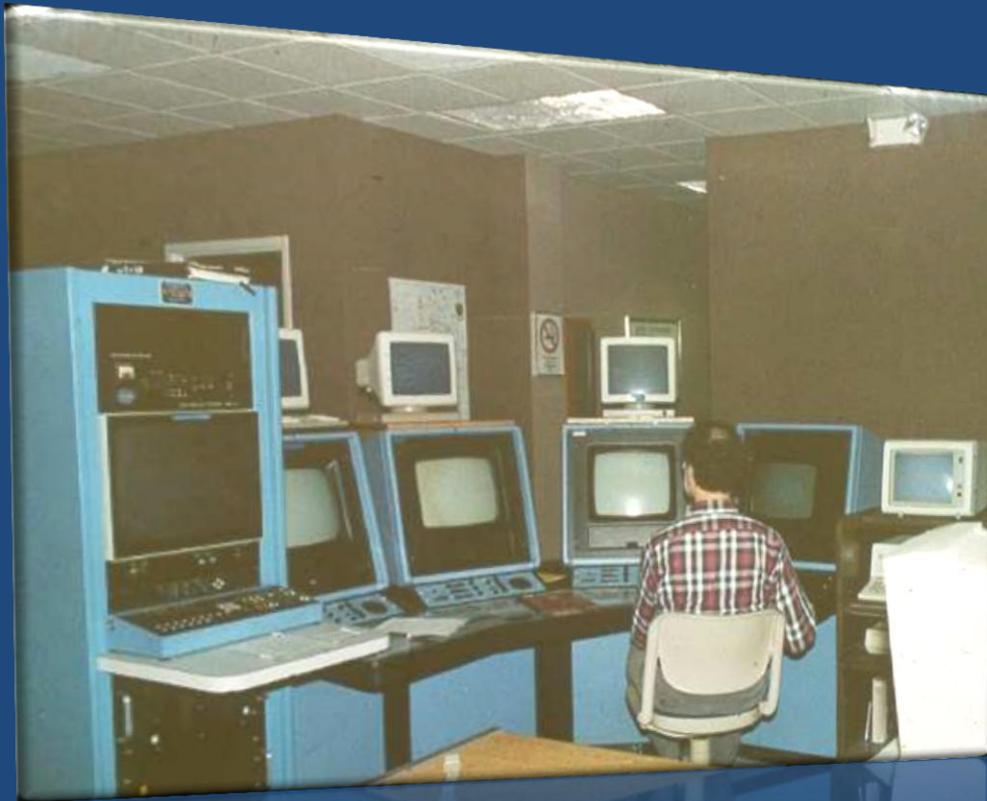


# Decision Support in the Past

- The National Weather Service has a long history of Decision Support.
- Past efforts were focused upon on-site support for forest fires.
- Today, technology and social-media allows forecast offices to adopt these methods in support of local incidents.



# Changes in Technology



- The 1960's technology had been in place at offices since the early 1980's
  - Cumbersome and crude

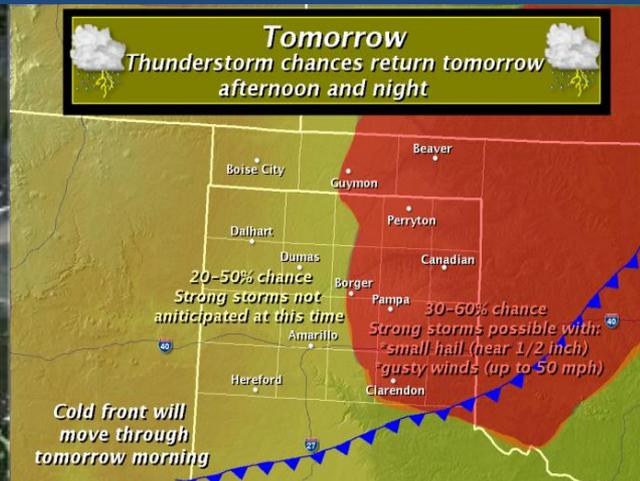
# Operations Today

- NWS Amarillo has a situational awareness display in operations.
- Can look at up to 15 different models, satellite, and radar displays.
- All NWS offices will be upgrading to AWIPS 2 soon which allows for greater amount of data to be displayed at once.



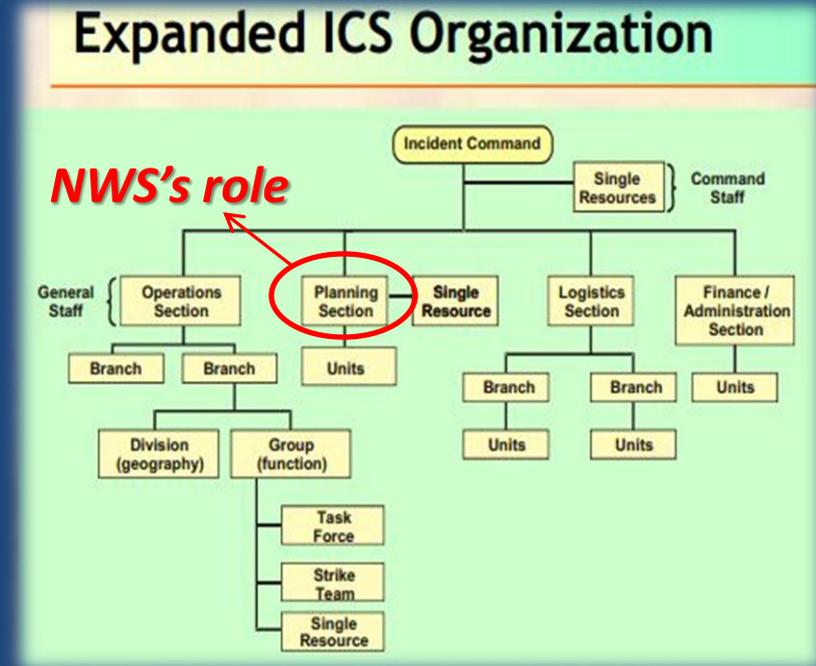
# Decision Support Services Provided Today

- HYSPLIT – Dispersion and Plume Modeling
- Graphiccasts
- Go-To-Meeting
- On-Site Support



# Decision Support Services Today

- All staff at NWS offices received training on the ICS structure.
- All staff at NWS offices took a series of training modules covering the basics of dispersion meteorology – plume dispersion properties.
- This training allowed forecasters to learn to provide pertinent weather information to emergency responders which leads to greater NWS Support During Hazardous Materials Emergencies.



# HYSPLIT – What is this program?

- HYSPLIT is designed to hone in on how small-scale, difficult-to-detect particles are likely to flow through the atmosphere.
- Thus HYSPLIT is usually called into action for incidents such as:
  - chemical spills
  - large fires
  - smoke plumes



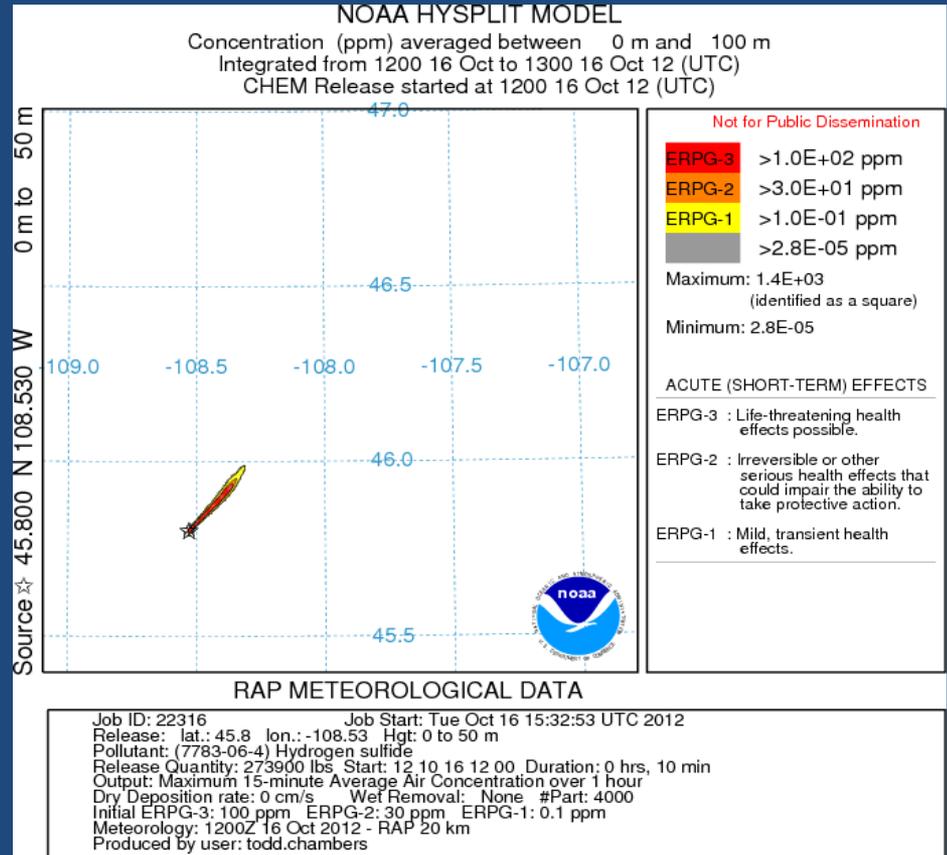
Bryan Dahlberg/FEMA News Photo



U.S. Coast Guard

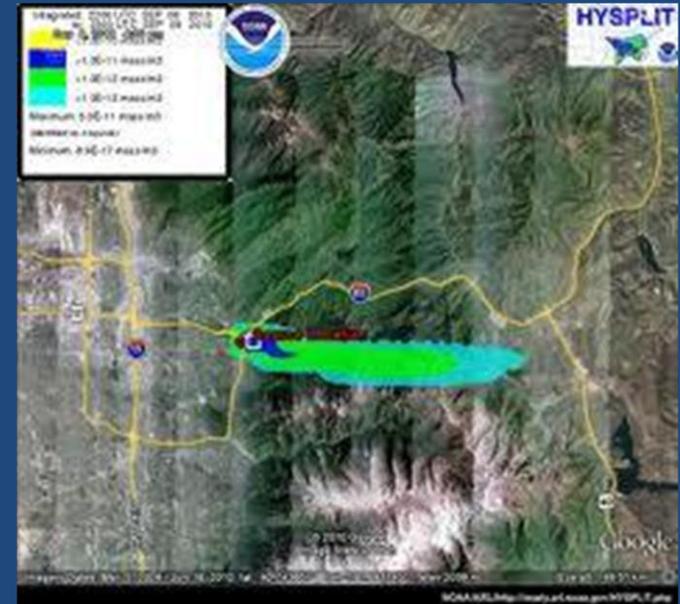
# HYSPLIT - Continued

- NWS forecasters are equipped to respond to requests for dispersion forecasts from state and local emergency managers.
- HYSPLIT uses weather models to compute trajectory, stability, and dispersion.
- If you have a Hazmat incident, consider calling NWS Amarillo for a HYSPLIT dispersion model.



# What we need from you in order to run HYSPLIT

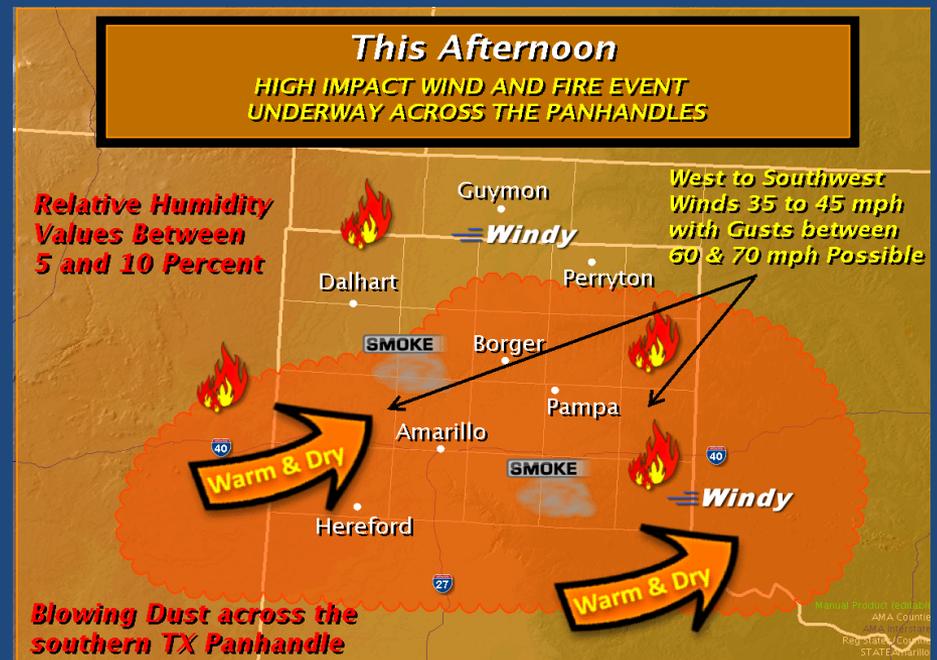
- Who?
- Where?
- When?
- What?
- How Much?
- How Long?
- Format – Google Earth or Google Maps?
- [www.srh.noaa.gov/ama/n?=&hazmat](http://www.srh.noaa.gov/ama/n?=&hazmat)



# Graphiccasts

- Graphiccasts contain a “screaming message”, which is what the highest impact event is expected in the forecast area in the next week or so.
- They are event driven and are available on our webpage and Facebook page.

*Based on this graphic, what do you think the “screaming message” is?*



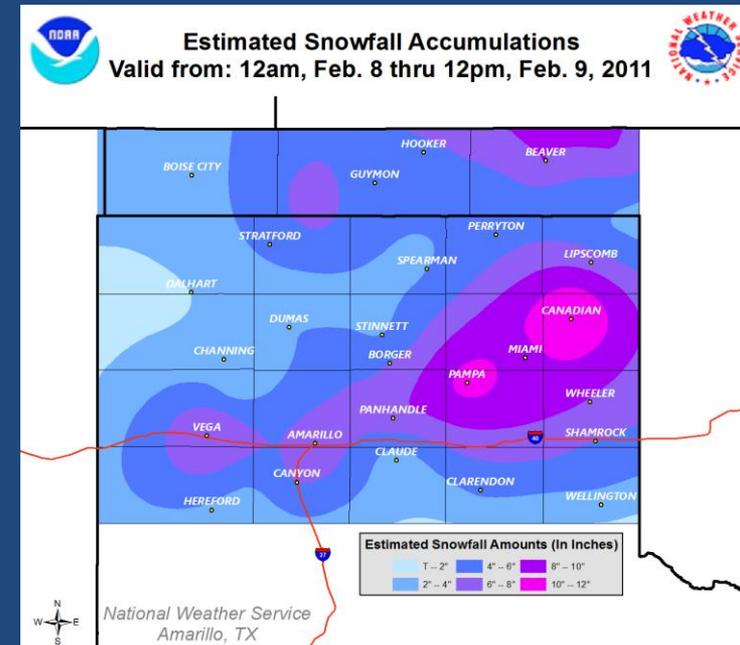
# NWS Conference Calls/Go-To-Meeting

- GoToMeeting Briefing Webinars are provided for:
  - Winter Storms
  - Severe Weather
  - Extremely Critical Fire Weather Conditions
- Briefing slides can be found at the top of the webpage:

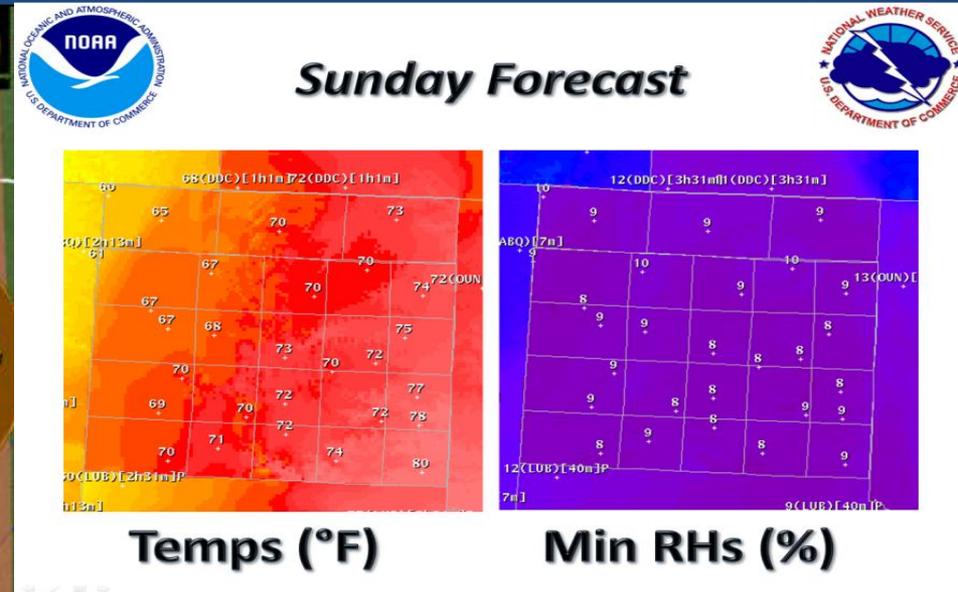
[weather.gov/ama](http://weather.gov/ama)

- Typical Call Times:

- 10am/11am
- 4pm/5pm
- Day of Event: 5am (For Schools)

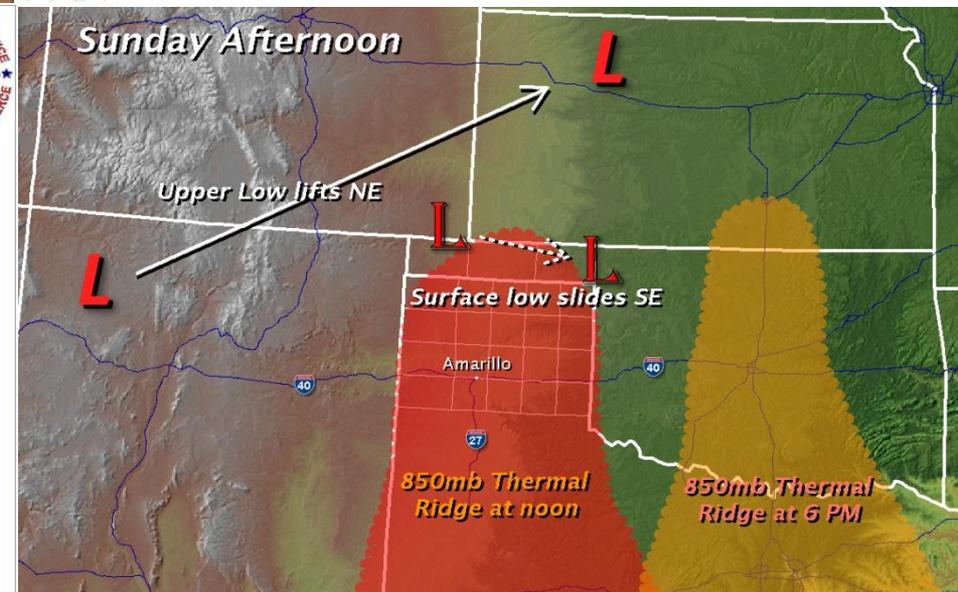


# Go-To-Webinar Briefing Slide Examples Utilized Prior to the Wildfire Outbreak



## Impacts

- **Fire Weather**
  - Extremely Critical Conditions on Sunday
- **High Winds**
  - 30 to 45 mph with gusts near 60 mph on Sunday, mainly between 10 am and 8 pm
- **Travel**
  - High profile vehicles vulnerable on Sunday
  - Blowing Dust on Sunday?



# On-site Support

- Extra forecasters are needed to provide decision support services during hazardous weather conditions.
- When requested, NWS forecasters can be deployed outside of the office to provide onsite support.



# On-site Support

- A portable weather sensor can be used to provide current weather conditions such as temperature, dew point, relative humidity, and winds.
- This can help first responders who are working the incident.



# Additional Decision Support Services Provided Today

## AMARILLO SPOT FORECASTS

for  
Tuesday

← Nov 27 2012 →

[CALENDAR](#)

[Submit a new Spot Request](#)

[Amarillo Fire Weather homepage](#)



Name	Ignition Time	Status
No Entries		

National Oceanic and Atmospheric Administration (NOAA)

[Privacy Policy](#)

National Weather Service  
Fire & Public Weather Services Branch  
Page Author: NWS Internet Services Team  
Page last updated at 7:57 am CST 3/5/07

weather.gov

National Weather Service Weather Forecast Office

## Amarillo, TX

Home Site Map News Organization Search for:  NWS All NOAA

**Top News of the Day**

- December 1st is National Skywarn Recognition Day
- Fall edition of The Dryline now available

Local forecast by "City, ST" or Zip Code

**XML** RSS Feeds

**Current Hazards**

- Local
- Nationwide
- Outlooks
- HWO

**Forecasts**

- Local
- Forecast Discussion
- Activity Planner
- Graphical
- Winter Weather
- Fire Weather
- Aviation Weather
- Severe weather
- Spot Forecast
- Graphics

**Current Weather**

- Observations
- Satellite Images
- Rivers/Lakes
- Hydrology
- CoCoRaHS

**Radar Imagery**

- Nationwide
- Local

**Climate**

- Local
- National
- More...
- Major Events

**Weather Safety**

- Get Prepared
- Weather Radio
- SKYWARN
- Spotter Training
- Storm Report
- StormReady
- Radio Programming
- Help

**Additional Info**

- Dryline
- Education
- Office Info
- Outreach
- Science & Research
- Storm Data
- Weather Calculator
- NWS Facebook Pages

Fall.pdf

Click on the map below for the latest forecast.

Read watches, warnings & advisories

[Hazardous Weather Outlook](#)

Last maps update: Tue, Nov. 27, 2012 at 2:49:09 pm CST

**Latest Conditions in Amarillo, TX** Choose Your Front Page City

Nov 27 **53°F** (12°C)

1:53 pm Fair

**Graphical Forecasts**

**Radar**

**Satellite**

**Weather Map**

**Quick Forecast**

**Precipitation Map**

**Climate Graphs**

**Graphcast**

[Submit a Storm Report](#)

LOCATION	TIME[est]	WEATHER	TEMP	DEWPT	RH %	WIND mph	PRESSURE	SUNRISE/SUNSET
Amarillo	01:53 PM	Fair	53°F	21°F	28%	SW 17 G 24	30.25 in	7:33 AM/5:36 PM
Borger	01:54 PM	Fair	54°F	21°F	28%	SW 14 G 21	30.23 in	7:33 AM/5:33 PM
Canadian	02:35 PM	Fair	54°F	21°F	28%	SW 14 G 21	30.22 in	7:30 AM/5:29 PM
Childress	01:53 PM	Fair with Haze	51°F	23°F	33%	SW 12	30.33 in	7:25 AM/5:31 PM
Dalhart	01:53 PM	Fair	55°F	25°F	31%	S 14	30.20 in	7:38 AM/5:37 PM

# Goodwell, OK Train Collision...What Happened?

- At 9:45 AM CDT, two trains collided near Goodwell.
- The westbound train was carrying finished automobiles and the eastbound train had mixed freight.
- The collision ignited a diesel fuel blaze which shut down Highway 54 for five to six hours.
- There were three fatalities.



# Decision Support Services Provided for this incident

- Phone briefings were requested in the evening as officials were still working at the site.
- However communications were lost in this area as AT&T had their phone lines cut.



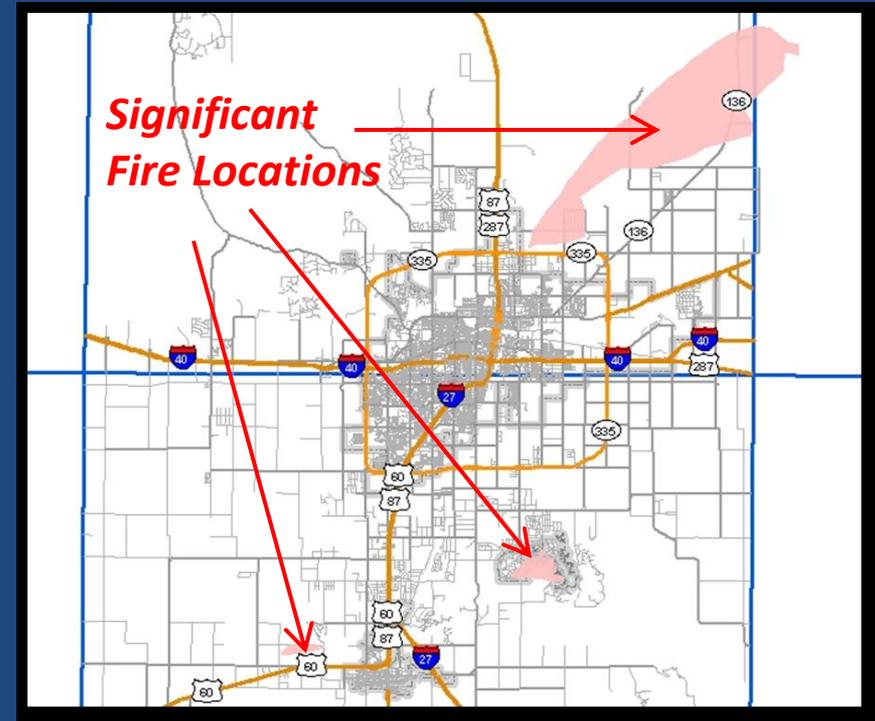
# What Else Happened?

- We were able to provide weather briefings to the Northwest Coordinator for the Oklahoma Emergency Management as he was in Oklahoma City at the time.
- The loss in communications also resulted in the loss of observations in the Oklahoma Panhandle.
- Observations eventually came back after being down for around 5 hours.



# Onsite Support – Amarillo/Potter/Randall Office of Emergency Management (OEM) at the Emergency Operations Center (EOC)

- A forecaster was dispatched to support the Amarillo/Potter/Randall OEM at the EOC by being placed in the Planning Section in an Incident Command System that was dealing with the fires.
- By using an office laptop computer and local Internet access, weather information including wind and humidity were retrieved and relayed to planning personnel to help firefighters and police officers work together to put out fires and evacuate persons.



*Significant Fires from 27 February 2011  
across Potter & Randall counties*

# Questions?



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*I would like to thank Harold Tyson, Emergency Manager of Texas County for background information on the Goodwell train collision.*

