agweather connection

Photo provided by The Oklahoman

UP IN FLAMES

It has been almost four months since wildfires devastated many communities across Oklahoma. Driven by dry conditions and high winds, these fires charred more than 100,000 acres, damaging businesses, homes and farmland.

A strong storm system moved into Oklahoma during the afternoon of April 9, pushing a dryline east of I-35, bringing high temperatures and low humidity. Near the dryline, temperatures approached 90ºF and relative humidity fell as low as 6 percent.

"All the meteorological ingredients came together across western and central Oklahoma to create a 'perfect storm' for severe wildfire outbreaks," said Dr. J. D. Carlson, Fire Meteorologist at Oklahoma State University. "During the afternoon, winds in most areas were sustained at 30 to 40 mph with gusts as high as 74 mph."

More than 15 Oklahoma counties were affected by the April 9 wildfires. Hundreds of residents were evacuated as the threat of wildfire became imminent. Interstate 35 was closed in several locations because of large wildfires and an Oklahoma firefighter was severely burned near Wellston when he and his partner were stuck in a burning field as flames rolled over their fire truck.

According to a report by the Oklahoma Department of Emergency Management, there were a total of 167 homes, 6 businesses and 30 other structures destroyed. Midwest City and Choctaw were two Oklahoma towns especially hard hit by these wildfires. "This was the largest fire that I can recall in Midwest City," said Mike Bower, Midwest City Emergency Management Director. More than 40 fire departments assisted Midwest City in battling the blazes, along with the Sheriff's Office, and many city agencies. "And, we needed everyone of them," said Bower.

Midwest City lost 12 homes in one subdivision and there was considerable damage to others. "All of these homes were built in 2001 and all of them are currently moving forward with rebuilding," said Bower. "There were 58 homes lost in the Choctaw area. A lot of these were older homes that had no insurance or were underinsured. A number of these homes are just sitting there as they were after they burned."

Although time will gradually erase scars left by the April 9 wildfires, the impact will continue to be remembered.

Relative humidity

- Start at http://agweather.mesonet.org
- Select "Weather" from the horizontal menu
- Choose "HUMIDITY"
- Then pick "Current Humidity"
- Humidity is displayed in percentages. As the humidity increases, the air outside feels wetter.
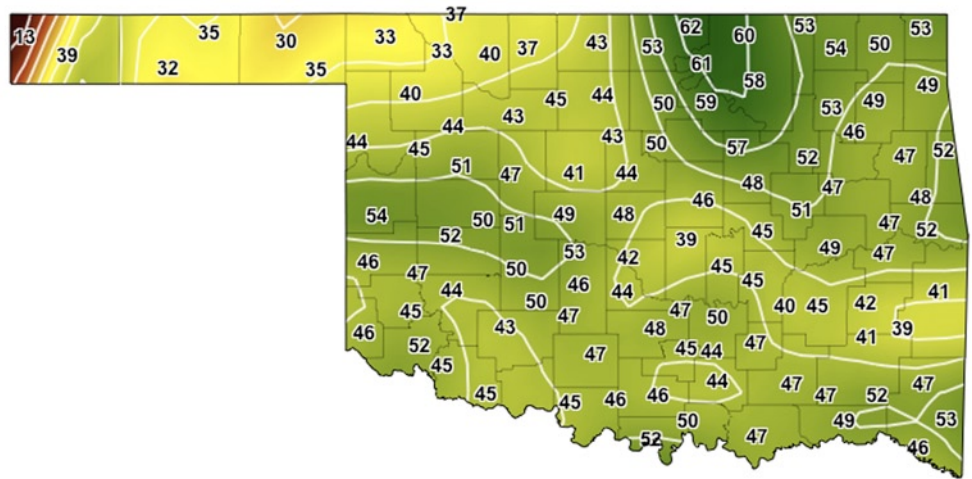

Wind speed and direction

- Start at http://agweather.mesonet.org
- Select "Weather" from the horizontal menu
- Choose "WIND"
- Then pick "Current Wind"
- You can also look at the "Maximum Wind Gust Map"
- The numbers illustrate the wind speed and the arrows indicate the direction.

Radar
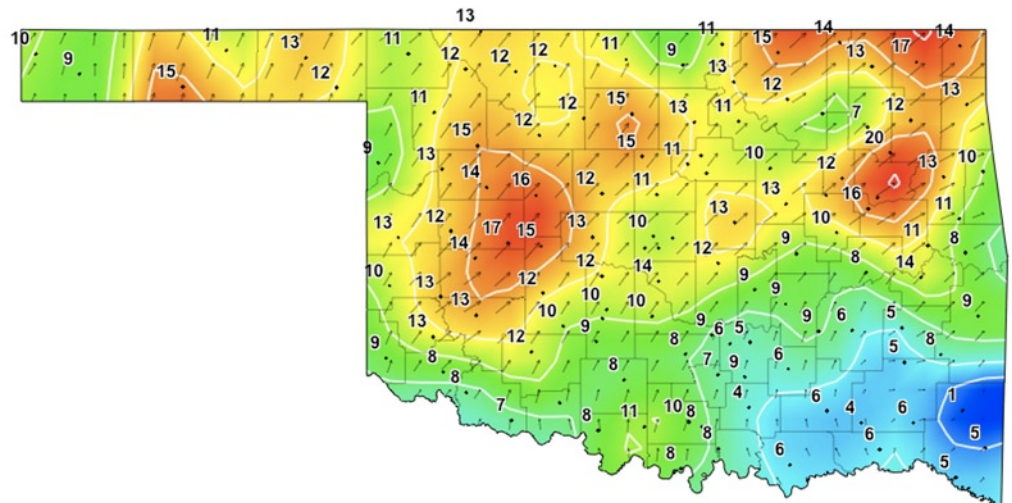
- Start at http://agweather.mesonet.org
- Select "Radar/Satellite" from the horizontal menu
- Choose "LOCAL RADAR"
- Then pick your nearest radar location
- Radar data can be shown in two modes. When there are no storm events, the radar will operate in Clear Air mode. In this mode, the legend will range from -28 to 28. When there are storms in the area, the radar will operate in Precipitation Mode, which ranges from 0 to 75.
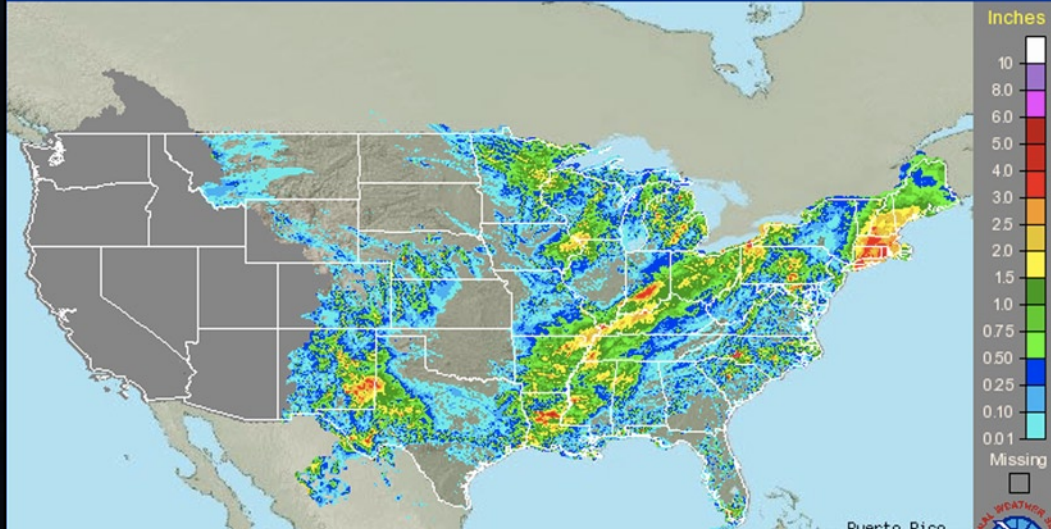
Satellite
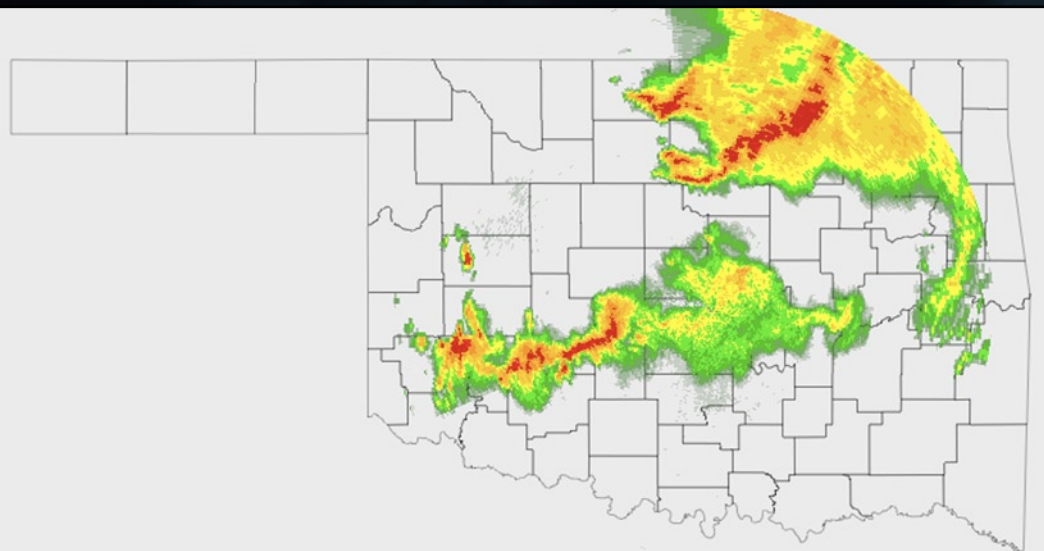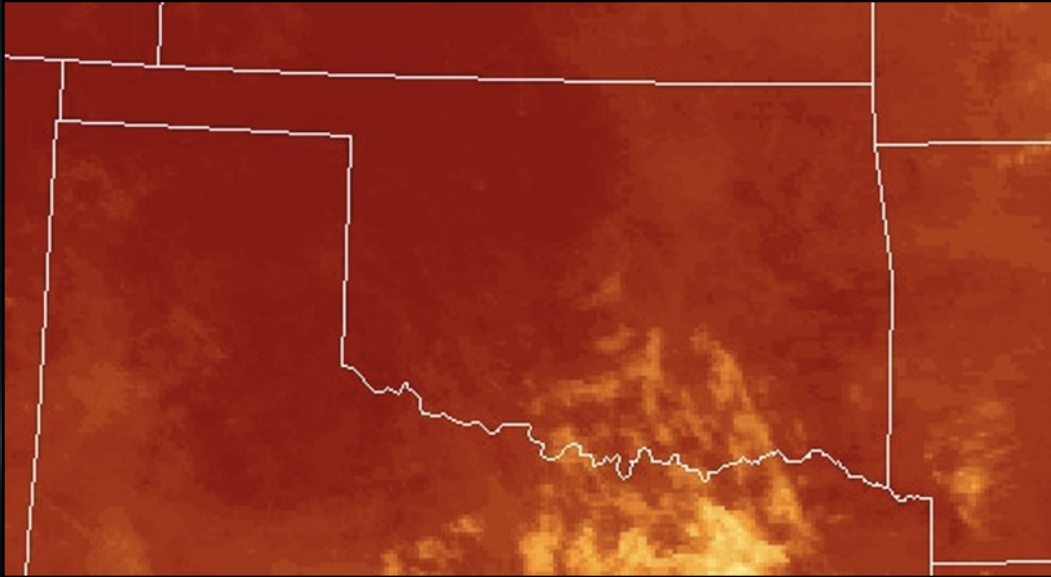
- Start at http://agweather.mesonet.org
- Select "Radar/Satellite" from the horizontal menu
- Choose "SATELLITE"
- Then pick "Regional Infrared"
- On April 9, fires could be seen as hot spots on Infrared Satellite.

CONUS + Puerto Rico
72-Hour Observed Precipitation - Ending 7/24/2009 1500 UTC

Click on the image to zoom
Click on "NWS RFCs" to zoom o

Radar-predicted rainfall

- Start at http://agweather.mesonet.org
- Click "Soil/Water" from the horizontal menu
- Then select "RAINFALL"
- Finally, choose "Radar Precip. Analysis"
- This map helps answer the questions "How much rain fell, and where?" It is especially helpful in areas where there are no rainfall sensors. A national map is shown, but you can click and zoom in to particular states.
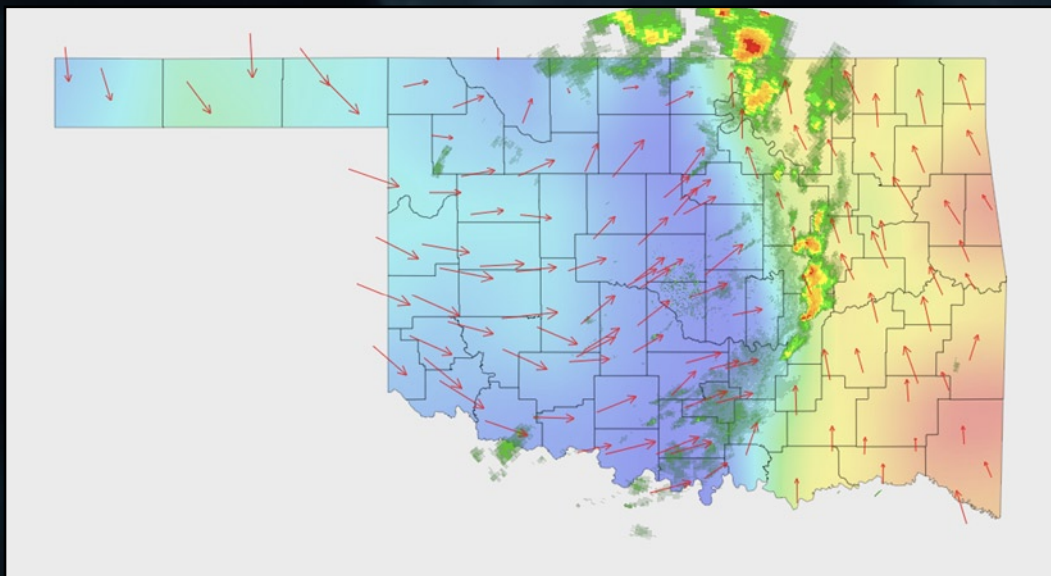
Back in time

- This map shows relative humidity, wind speed and direction, and severe weather on April 9
- This map was built using WeatherScope, the software that the Agweather Web site uses
- In addition to working with the Web site, WeatherScope can stand alone and build weather maps using past weather data
- To learn more about using WeatherScope independently, click here or contact us

define DRYLINE
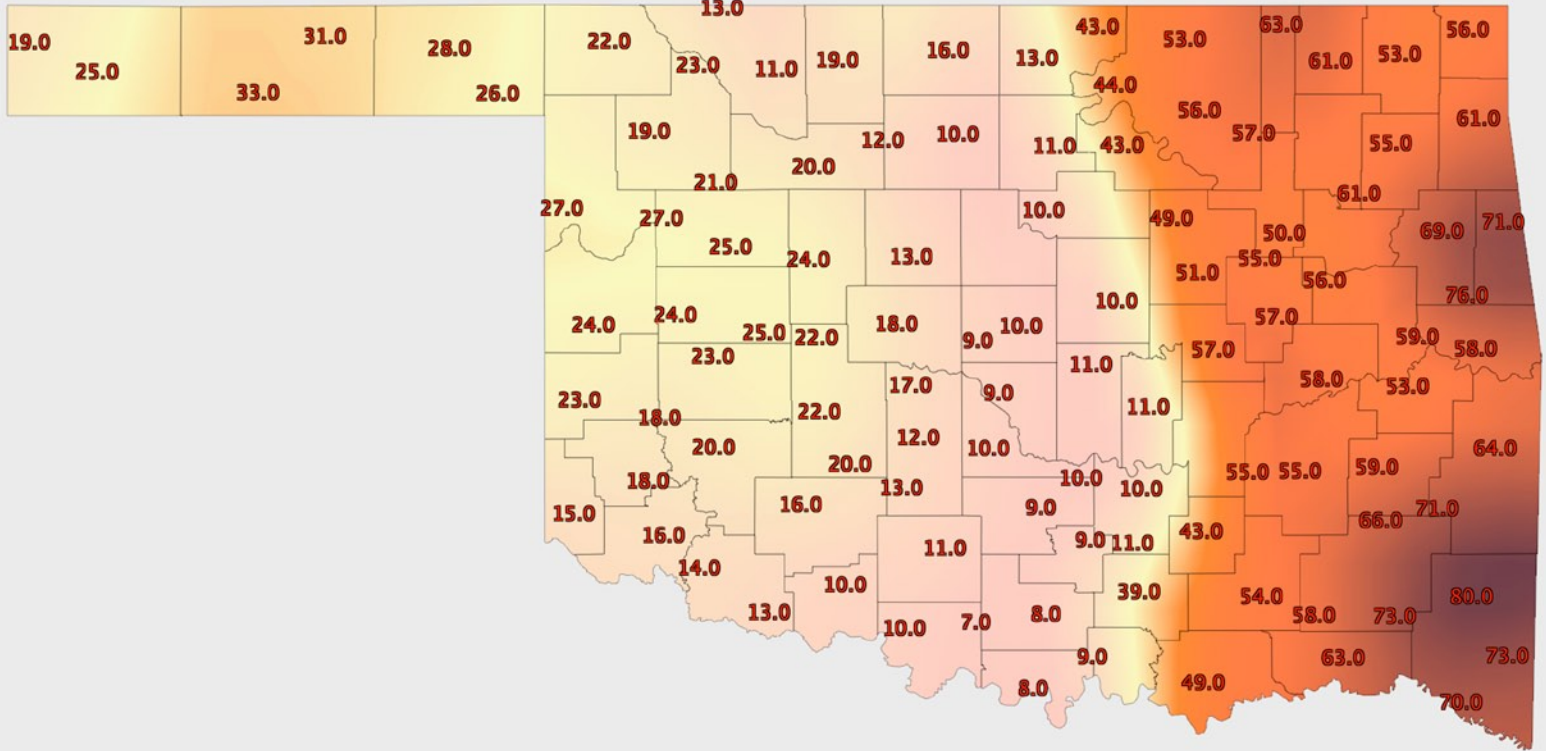
Dryline - A boundary separating warm, dry air from warm, moist air, typically across parts of New Mexico, Texas, Oklahoma or Kansas. The Central Plains is one of only four places on the planet in which drylines occur.

Dryline is a common term in Oklahoma, prominent in spring and early summer weather forecasts. By definition, a dryline is a type of boundary between hot, dry air coming off the Mexican plateau and warm, moist air coming off the Gulf of Mexico. A dryline is often associated with severe weather because it can cause moist air to be lifted in the atmosphere as it moves eastward. The more moist air that is lifted into the upper atmosphere, the stronger the storms.

"One of the most important things to note about drylines is that they act as a focal point for storm development," said Andrew Reader, program manager for Mesonet Public Safety Outreach. "Drylines are one of the contributing factors in making this area 'tornado alley.'"

In addition to helping form thunderstorms, drylines also can have a significant impact on wildfires. "If a fire is already in progress and a dryline moves into the area, the change in wind direction will change the movement of the fire," said Andrea Melvin, Program Manager for EarthStorm. "If firefighters are unaware of a dryline nearby, crews and equipment can be endangered when the fire suddenly begins moving toward them."