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OK-FIRE's Widespread Impact

–by Stephanie Bowen

THE MESONET'S OK-FIRE PROGRAM has a wide reach across the state, impacting decisions made by a wide range of users from your local firefighters to state foresters. The tools provided by OK-FIRE help prepare them for prescribed burning and wildland fire situations.

"I use weather forecasts to predict fire behavior," said Jay Willis, Battalion Chief for the Stillwater Fire Department. "On any day that we could be involved with wildland fires, I print off a copy of the weather forecast to take with me. As a fire department, we are not normally involved with prescribed burns. We do, however recommend against it when conditions are not right."

Willis said the tools he uses most are wind speed and direction, relative humidity, ignition component and other fire behavior indexes, and temperature. These help him make decisions when it comes to incidents like the Glencoe fire in August 2012.

"Several residences and outbuildings were lost, along with crops, fencing, equipment and natural resources," Willis said. "Hopefully we get ground cover back before the next large rain, or the damage will continue."

Andy James, Southeast Area Forester for the Oklahoma Forestry Services, has witnessed similar damages. From hundreds of homes lost to thousands of acres of timber, he attributes the devastation in part to the ongoing drought and lack of soil moisture. James said he uses the 84-hour Fire Weather Forecast daily to help with his job.

"Mainly I use OK-FIRE to help develop staffing levels for daily and weekend fire duty," James said. "We are just now getting into the prescribed burn game so it will also be utilized heavily when trying to schedule burns to meet both objectives and prescriptions."

Another OK-FIRE user, Bob Hamilton, Director of the Tallgrass Prairie Preserve, uses it often during the prescribed fire season, mainly in spring, but also in the summer and fall.

"The OK-FIRE site is great for me because it is one stop shopping," said Hamilton. "Now everything is under the OK-FIRE umbrella, and it is easier to get to and more efficient."

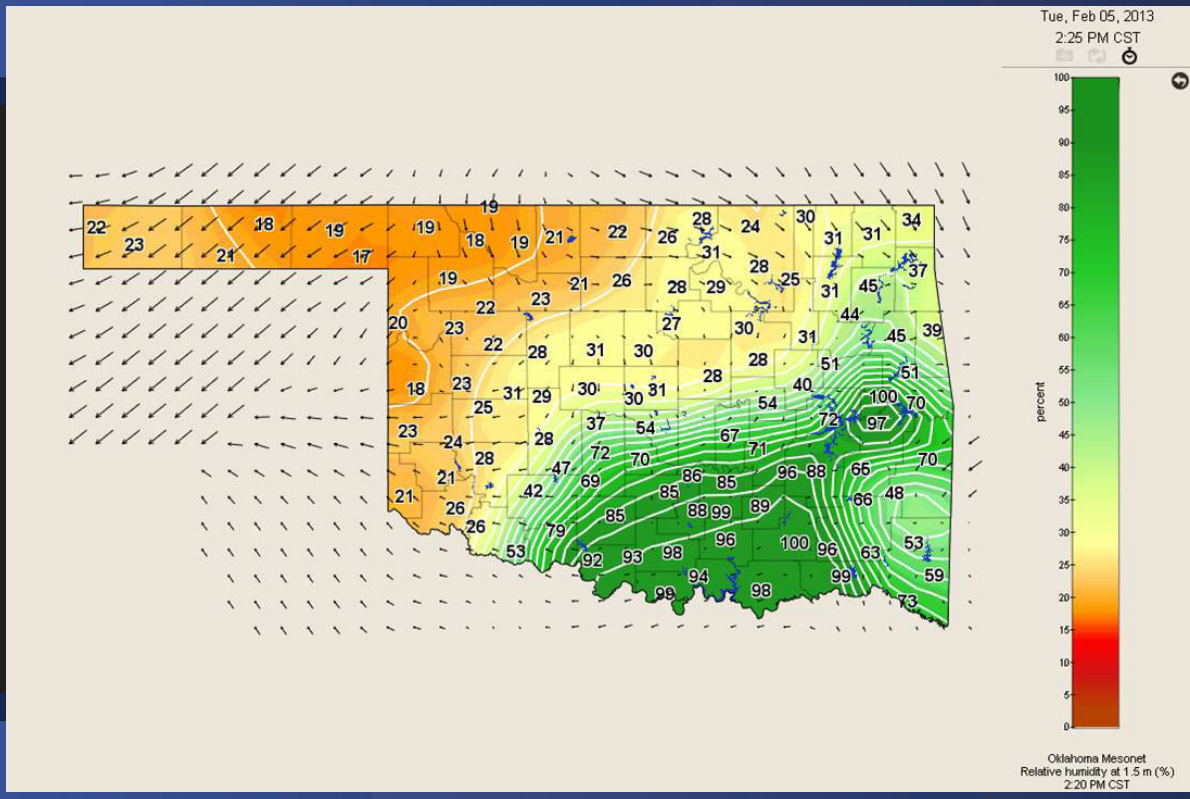
Hamilton uses basic forecast information, OK-FIRE products broken down graphically, and hour-by-hour fuel conditions to get an idea of fire conditions. After a fire, he reviews what actually happened and conditions during that time frame, and prints the Mesonet and OK-FIRE data to file for that specific event.

"We also monitor during the fire with our mobile devices," Hamilton said. "The accessibility is really cool, and the forecasts and fire ecology tools are really good things." ■

MESONET IN PICTURES

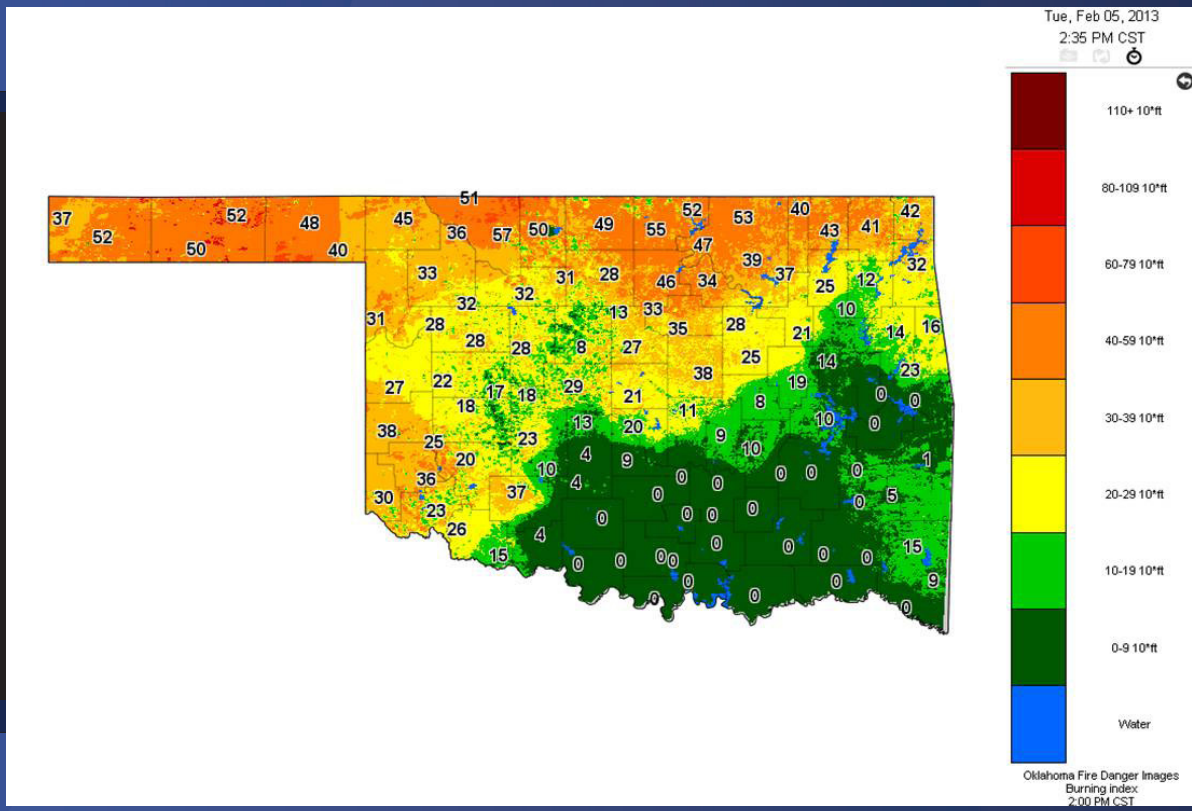
Relative Humidity and Wind Map

- Relative humidity (RH) and wind are the two most important weather variables for predicting fire danger, and are presented on this map. RH is shown with station values while the wind flow is depicted with arrows.To view this map, visit okfire.mesonet.org, click on “Weather”, then click on “Current Fire Weather” on the left, and then click “Relative Humidity and Wind.”



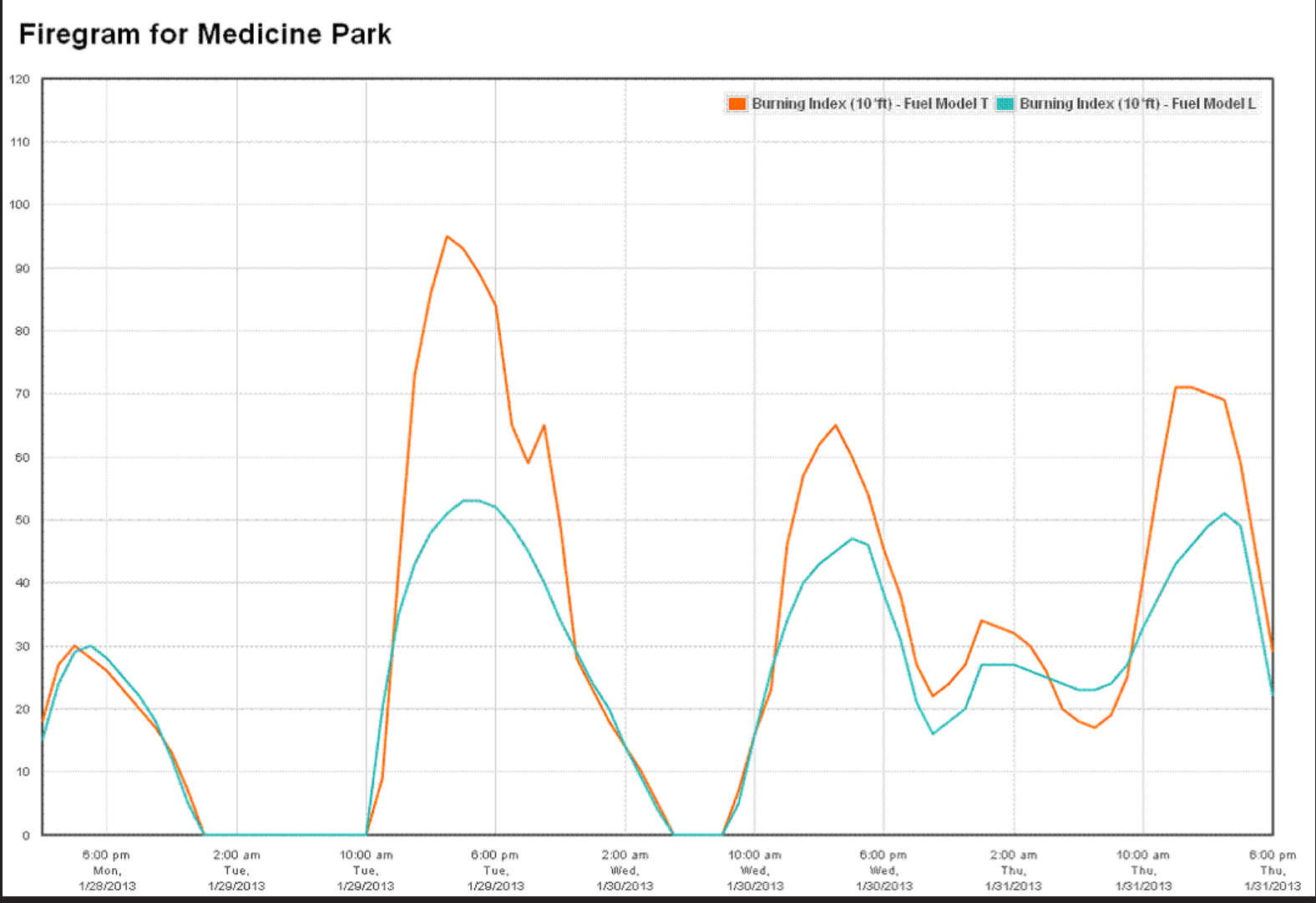
Burning Index Map

- Burning index (BI) is the most important variable from the Mesonet’s fire danger model and is directly related to the intensity of the fire. You can see how higher BI areas correspond with lower RH and higher wind speed areas in the above Relative Humidity and Wind map. To view this map, visit okfire.mesonet.org, click on “Fire”, then click on “Current Fire Danger” on the left, and then click “Burning Index.”



Burning Index Forecast Chart

- Here is a burning index forecast chart, comparing two grassy fuel models. Both fuel type models predicted high fire danger after the dryline passed on the morning of Tuesday, January 29. To view this chart, visit okfire.mesonet.org, click on “Fire”, then click on “Forecast Fire Danger” on the left, and then click “Forecast Burning Index Chart.”



OK-FIRE Experiences Growth

–by Stephanie Bowen

HEADING INTO THE SPRING MONTHS, typically there is high concern for fire danger due to dead foliage from winter and Oklahoma's high winds. The Mesonet's OK-FIRE program helps a variety of agencies and people prepare for wildfire and prescribed fire events.

OK-FIRE got its start in 2005 with a three-year grant from the federal Joint Fire Science Program. OK-FIRE has a three-fold emphasis: (1) a comprehensive suite of real-time products for fire weather, fire danger, and smoke dispersion; (2) a dedicated OK-FIRE website to act as the delivery mechanism; and (3) regional training and customer support for the user groups involved.

"Some building blocks were already in place, but this grant allowed us to develop a focused, stand-alone system for fire managers," said J.D. Carlson, OK-FIRE program manager.

Current user groups vary from the National Resources Conservation Service and Oklahoma Forestry Services to fire departments, emergency managers, and private landowners. With the debut of the OK-FIRE website in 2006 came computer training workshops across the state, and Carlson continues the training program each fall. In addition, collaboration with the Mesonet's OK-First program has allowed Carlson to conduct workshops in conjunction with OK-First's weeklong courses twice a year. Last year, 17 workshops were conducted at 10 different locations around the state, and 184 people were trained on the program.

The OK-FIRE program has experienced a large amount of growth since its beginning. Since 2008, use of the OK-FIRE website has grown from less than 500 unique users monthly to over 5,000 or more on average per month in 2012.

"While this doesn't translate into individual users, since the same person may use several devices with different IP addresses, it does show the increasing use of OK-FIRE by the wildland fire community," Carlson said. "The usage for a given month is obviously influenced by the amount of wildfire activity we are having. Last August during the wildfire outbreaks, we had over 18,000 unique users for that month, for example."

Carlson also says OK-FIRE has received increasing exposure through his workshops and word-of-mouth. This has allowed for a steady increase of people using the website and has helped achieve the program goals.

"The overall goal is to make OK-FIRE an increasingly used system in Oklahoma for both wildfire and prescribed fire management," Carlson said. "We wish to improve the components of OK-FIRE in accordance with the latest science and field observations, begin to develop on-line training modules for OK-FIRE along with the workshops, and develop a mobile OK-FIRE web site and possible (cell phone) apps." ■

OK-FIRE provides training at workshops throughout the state. Last year, seventeen workshops were given, and 184 people were trained. Pictured clockwise, from top left, are the workshop participants - Bartlesville on November 14, Idabel on November 30, Stillwater on December 18, and Antlers on December 14.

January Defies Dry Trend

By Gary McManus, Associate State Climatologist

JANUARY WRAP-UP

January seemed destined to finish on the dry side of normal, just as the eight months previous to it had, before a late-month burst of spring changed its fortunes. Tornado watches covered much of the eastern two-thirds of the state on the 29th, a by-product of the storm system that also dumped 1-3 inches of rain across parts of that same area. There were reports of large hail and wind damage scattered across the state. The late-month frenzy from Mother Nature brought January's precipitation total 0.2 inches above normal and a final statewide average of 1.6 inches according to data from the Oklahoma Mesonet. That ranks the month as the 45th wettest January since records began in 1895, and the first month since April 2012 to finish with above normal precipitation. Parts of western Oklahoma finished the month with less than an inch of rainfall. Combined with December, the first two months of winter finished 0.9 inches below normal at 2.5 inches, the 39th driest December-January period on record. Coming off the driest May-December on record for the state, the May-January statewide average of 15.4 inches ranked as the third driest such period on record, behind similar periods in 1910-11 (14.5 inches) and 1952-53 (15.2 inches).

To the delight of some and the chagrin of cold-weather enthusiasts, January's temperatures did continue a trend. The month became the 28th out of the last 34 to finish warmer than normal, a rarely-interrupted streak that began with April 2010. Included in that streak are the warmest month (July 2011) and summer (2011) for any state on record, the warmest Oklahoma spring (2012) on record, and the warmest Oklahoma year (2012) on record. According to preliminary data from the Oklahoma Mesonet, the statewide average temperature was 40 degrees, 3.9 degrees above normal and the 28th warmest January on record. Despite the lofty ranking, there were still a few bouts with frigid weather. Kenton recorded the state's lowest temperature for the month at minus 10 degrees on the second. That is the lowest temperature recorded by the Mesonet since Nowata broke the state's all-time low temperature record with minus 31 degrees back on Feb. 10, 2011. The highest temperature of the month was 81 degrees, recorded at Grandfield on the 28th. The first two months of winter had a statewide average temperature of 40.9 degrees, 3.3 degrees above normal and ranked as the 17th warmest December-January period on record.

The U.S. Drought Monitor ended the month with 92 percent of the state in Extreme (D3) drought, and 37 percent of that in the Exceptional (D4) category. Oklahoma reservoirs, some of which have fallen to historic lows, made some gains in eastern Oklahoma. Broken Bow Lake in McCurtain County rose to 77 percent of capacity, a nine percent rise in about a month's time. Hugo Lake in Choctaw County rose from 37 percent to 61 percent. The lakes farther to the west still remain near those historic lows, however. The reservoir at Altus-Lugert remained at 16 percent of capacity, and nearby Tom Steed Lake hovered at 35 percent. Oklahoma City and Norman have both implemented mandatory water conservation guidelines to their water customers due to low lake levels.

40°F
average statewide temperature for January

1.6"
RAINFALL
statewide average for January

-10°F
recorded at Kenton on Jan. 2

81°F
recorded at Grandfield on Jan. 28

CALENDAR

FEBRUARY

- 2nd: EarthStorm Job Shadow Day
- 4th: 2013 Early Spring Roundup, Ardmore
- 6th: OK-FIRE presentation, Society for Range Management, OKC
- 13th: Steering Committee Meeting, Stillwater
- 19-20th: 2013 No-till Conference, Norman
- 19th: OK-First Re-certification class, Sallisaw
- 21st: OK-First Re-certification class, Altus
- 26th: OK-First Re-certification class, Oklahoma City
- 27th: Oklahoma Emergency Management Day at the Capitol

Thank you for 20 years of partnership!

- Burbank - Installed February 2, 1993
- Pawnee - Installed February 2, 1993
- Copan - Installed February 3, 1993
- Foraker - Installed February 3, 1993
- Skiatook - Installed February 4, 1993
- Wynona - Installed February 4, 1993
- Pryor - Installed February 22, 1993
- Miami - Installed February 23, 1993
- Vinita - Installed February 23, 1993
- Hugo - Installed February 26, 1993
- Cloudy - Installed February 27, 1993
- Mt Herman - Installed February 27, 1993

CONTACTS

Accessing recent (within the past 7 days) Mesonet data
Contact: Mesonet Operator

Instrumentation, telecommunications, or other technical specifications
Contact: Chris Fiebrich

Mesonet agricultural data and products
Contact: Al Sutherland

Mesonet meteorological data
Contact: OCS Data Requests

Earthstorm - K-12 educational outreach
Contact: Andrea Melvin

OK-First - Public safety outreach
Contact: James Hocker

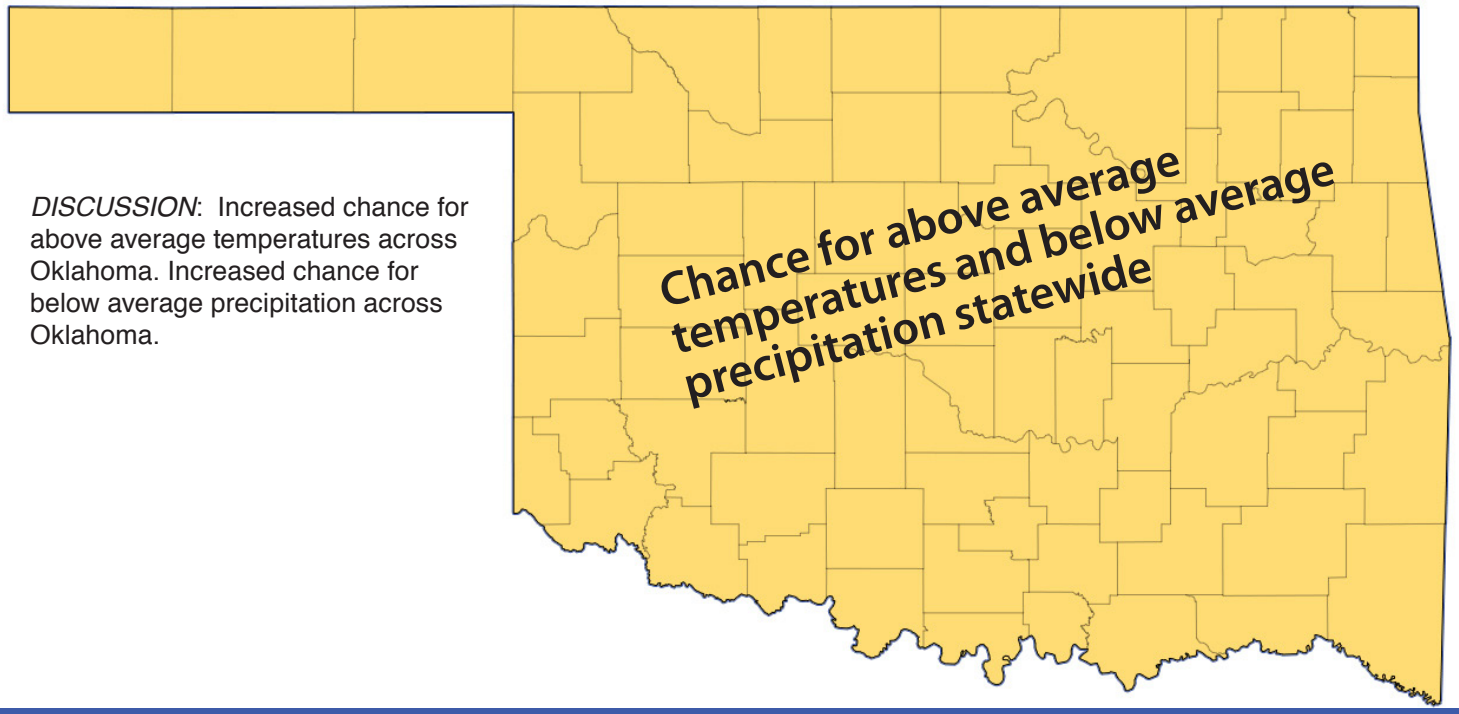
OK-FIRE - Fire management outreach
Contact: J.D. Carlson

Not sure?
Contact: 405-325-2541 or Chris Fiebrich.

FORECAST FOR FEBRUARY

Click here to view the original maps from the Climate Prediction Center.

DISCUSSION: Increased chance for above average temperatures across Oklahoma. Increased chance for below average precipitation across Oklahoma.



Mesonet Oklahoma's Weather Network | 120 David L. Boren Blvd., Suite 2900 Norman, OK 73072-7305 | T: 405-325-2541 F: 405-325-2550 http://www.mesonet.org

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