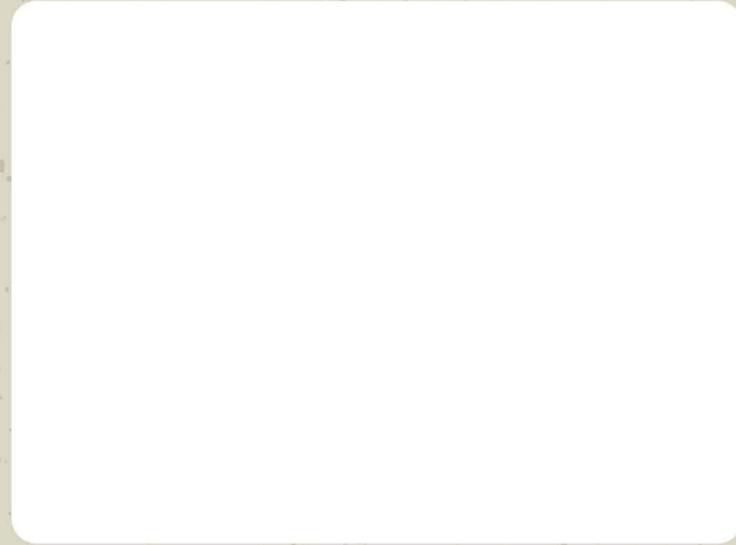




OKLAHOMA FORESTRY SERVICES

Department of Agriculture, Food and Forestry
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MEET OUR FIREFIGHTING TEAM



Jason Whaley

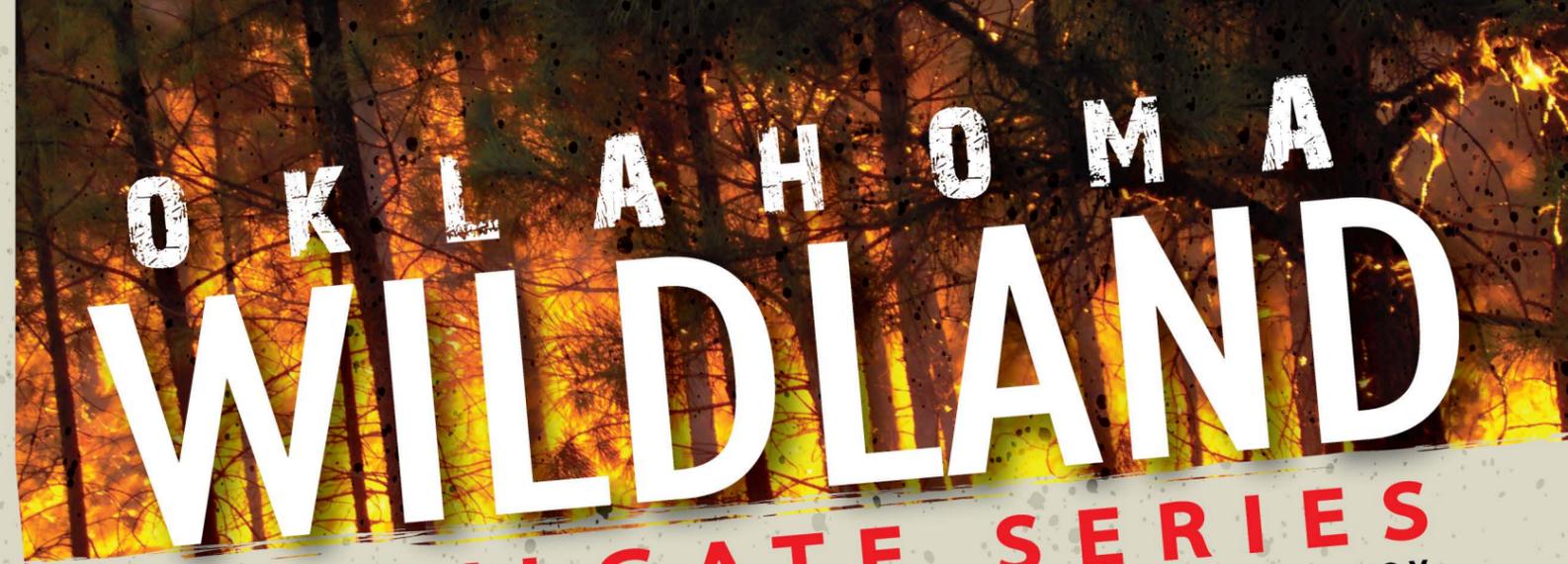
Jason Whaley, a District Forester for Oklahoma Forestry Services, heads up the Wilburton District in the East Central Area. His responsibilities center in five counties: Latimer, Haskell, Pittsburg, Hughes, and Okfuskee. District Foresters provide landowners with technical forestry assistance on their woodlands and supervise and support district fire suppression personnel.

Whaley graduated from Leflore High School in western LeFlore County and was one of the four members of the state championship FFA Forestry Judging team in 1994. He started with OFS in 2004, after finishing up his forestry degree from OSU. He is working on his Task Force Leader qualifications and is one of the few OFS folks currently qualified as a Prescribed Burn Boss 2.

From the short, steep Potato Hills in southern Latimer County covered with oak-pine forests to the wide prairies and extensive grasslands in Hughes and Okfuskee counties, topography and fuel conditions change quickly in the district. All of the district's fire suppression personnel live east of US Highway 69 and therein lies the focus of Whaley's fire assignments.

Whaley has been exposed to critical fire weather conditions in various parts of the country. He spent two summers with the Negrito Hotshots in New Mexico suppressing fires in New Mexico, Arizona, California, Texas, Florida and North Carolina. Here in Oklahoma, he has experienced some of our busiest seasons, complete with many of the critical fire weather conditions described in this issue.

For questions or comments contact Drew Daily, fire management staff forester, at drew.daily@ag.ok.gov or call 405-522-6158. To sign up for our email list, suggest topics for future issues or download Oklahoma Wildland Tailgate issues visit forestry.ok.gov/tailgate.



TAILGATE SERIES
JANUARY 2017 | EDITION 10 | WWW.FORESTRY.OK.GOV

Oklahoma Forestry Services developed this training tool for fire departments as a supplement to formal firefighter training. Watch for a new message quarterly to use in formal safety meetings or in small "tailgate" groups as an effective way to increase preparedness and improve safety. The Tailgate Series is available at www.forestry.ok.gov

FIRE ENVIRONMENT CRITICAL FIRE WEATHER

The past three issues have addressed the Fire Environment and how Fuels, Weather and Topography contribute to fire behavior. You may be thinking to yourself, "So, warm temperatures and low relative humidity result in dry fuels – Got it. Throw in wind and the rate of spread increases – Understood. If those conditions are aligned with topography -then fire behavior gets real interesting and real fast." What happens when Critical Fire Weather is added to the mash up we call the Fire Environment?



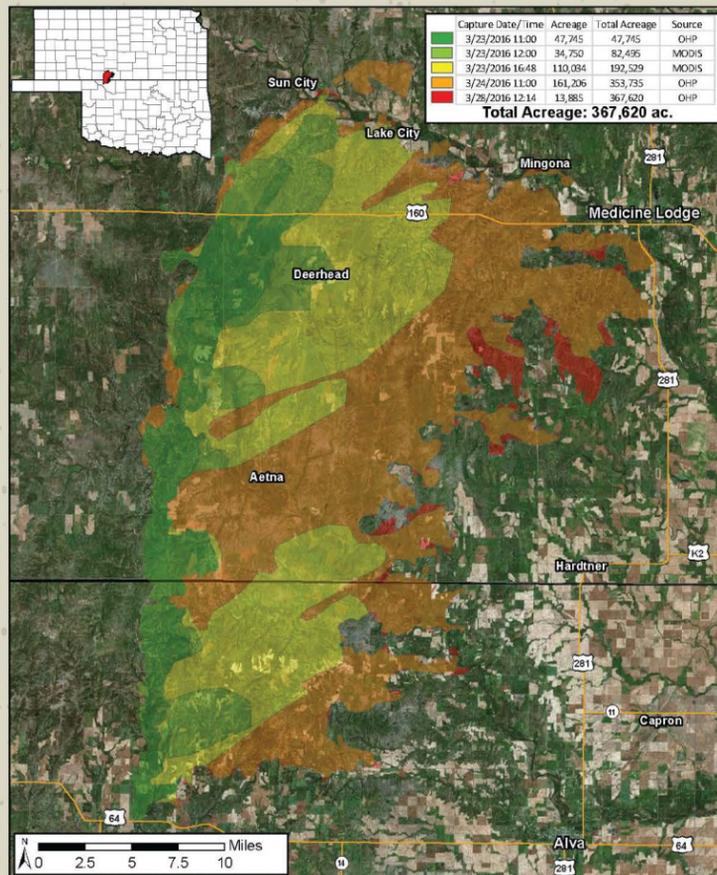
WHAT YOU NEED TO KNOW

Standard Firefighting Order #1 - Keep informed on fire weather conditions and forecasts.

Oklahoma is, by no means, stranger to some wild weather. Many of the most devastating and tragic wildfires have occurred when very-high fire danger is accompanied by critical fire weather conditions including passage of a cold front, thunderstorms in the area or a Great Plains weather system called the Dry Line.

ANDERSON CREEK FIRE PROGRESSION

Start Date: 3/22/2016 17:23 OK-OKS-160023

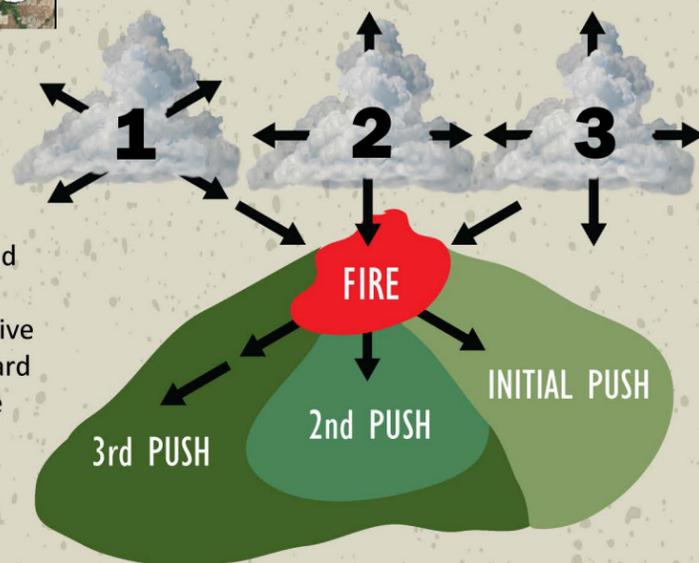


Cold Fronts – An approaching cold front merits particular attention when engaged in suppressing a going fire. Relative humidity has a tendency to rapidly drop in advance of the front driving fine-dead fuel moisture into critically low values. Strong southerly winds ahead of the cold front will shift clockwise to the northwest resulting in a dramatic shift in direction of fire spread.

The Anderson Creek Fire which started on March 22, 2016 in northwest Oklahoma burning across the stateline into Kansas consuming over 367,000 acres was subjected to a cold front passage. The fire made a nearly 32 mile run to the north in the evening and when the cold front pushed through it spread 27 miles to the east burning at a rate of nearly 30,000 acres per hour.

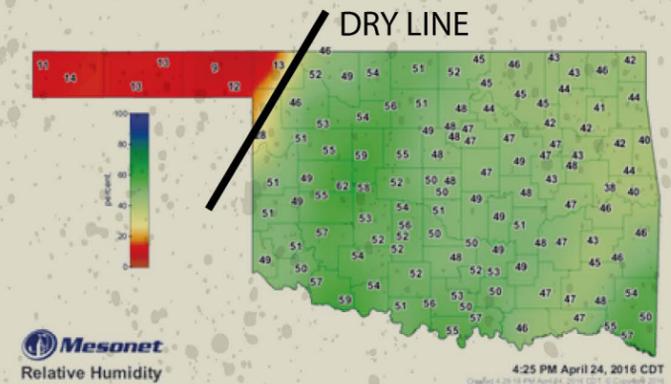
- Establish a strong anchor point on the heel of the fire and concentrate efforts on the east flank reinforcing control lines ahead of the cold front.
- Identify escape routes and safety zones and make them known.

THUNDERSTORM DOWNDRAFT CAUTION



Thunderstorms – Thunderstorms are associated with unstable air that also has adverse effects on fire behavior. Strong and gusty surface winds as a storm approaches result in rapid rates of fire spread in many fuel types. As the storm passes outflow winds can produce erratic fire behavior and explosive fire growth. Additionally, lightning is another hazard associated with thunderstorms, which may require personnel to take shelter.

Dry Line – Defined as a boundary between a moist air mass and a dry air mass, the occurrence has significant impact on fire danger in Oklahoma and the Great Plains especially in the dormant season when fine-dead fuels react quickly to changes in relative humidity. The west side of the boundary typically experiences critically low relative humidity, clear skies and strong south to southwest winds while along and east of the boundary more moist and unstable conditions often contribute to thunderstorm development and increased chances of tornadoes. Firefighters should expect rapid rates of fire spread and the potential for spot fires to increase as winds loft firebrands into receptive fuels.



ON THE FIREGROUND

APPLYING WHAT YOU'VE LEARNED

THE SITUATION

A fire department in the county to your north has requested mutual-aid for a fire that is rapidly growing given the fact that Red Flag Warning conditions are in place. While enroute to assist, your Engine Captain is reviewing the weather forecast that calls for a cold front to pass through the area late in the afternoon around 1630 hrs. Unfortunately, no precipitation is expected. The current weather observations near the fire are 81° with southwest winds 18-21 mph gusting to 27. Relative humidity is 18% and has been steadily dropping through day. The fire is reported to be burning in grass and brush with pockets of heavy timber and is approximately 450 acres in a rural area. Radio traffic is increasing and it sounds like the fire is beginning to “blow up” which is confirmed by what you see on the horizon as you get nearer to the fire.

Questions:

1. What changes in fire behavior can you expect to occur as you engage in firefighting?
 - Northward progression of fire spread to shift to the east and possibly southeast as winds shift clockwise with the approaching front. Increasing wind speed and faster rates of fire spread coupled with the potential for longer range spot fires.
2. Your engine is assigned to work the east flank of the fire. What are some things to consider prior to engaging?
 - Keep informed on fire weather conditions and forecasts.
 - Establish escape routes and safety zones and make them known.
 - Post a lookout to communicate any changes in fire behavior.
 - Work from an anchor point and progress along the flank fully suppressing the fireline.
3. Your engine is working with two additional engines and you have successfully suppressed the section of fireline that you were assigned. What might you consider next?
 - Continue to work that section of fireline mopping up to build depth of control ahead of the cold front impacting the east flank.
 - Offer up one of the engines to assist with fire suppression on other sections of the east flank.



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