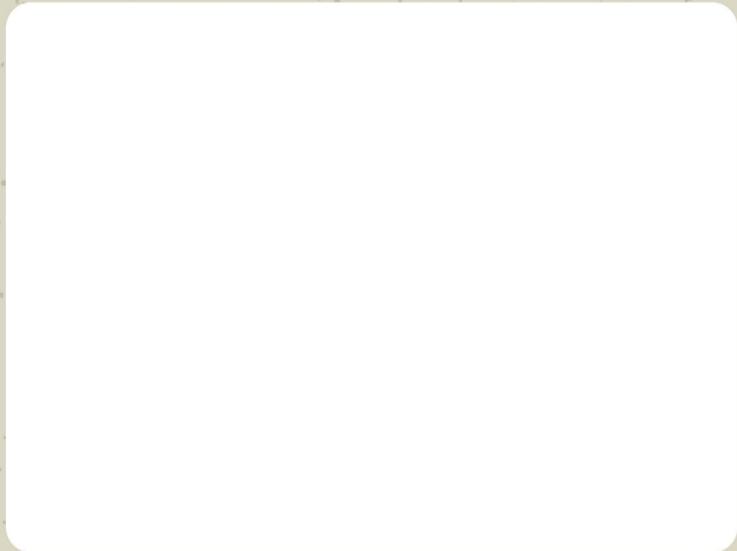




OKLAHOMA FORESTRY SERVICES

Department of Agriculture, Food and Forestry
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MEET OUR FIREFIGHTING TEAM



Rick O'Daniel

A 36-year career in wildland firefighting has taken Rick O'Daniel all over Oklahoma and far beyond. A Forest Ranger with Oklahoma Forestry Services, Rick is based out of the Jay District Office in northeast part of the state. He is also qualified through the National Wildfire Coordinating Group as a Division Supervisor and an Operations Branch Director on a Type 1 Incident Management Team.

Rick has worked for Oklahoma Forestry Services since 1987. In addition to fire suppression duties, Rick assists with training new employees and structural firefighters on wildland firefighting. He has served on the Oklahoma Forestry Services Type 2 Incident Management Team as an Operations Section Chief for ten years and is currently a Safety Officer Trainee.

When he's not fighting fire, Rick provides Oklahoma landowners with technical assistance on timber harvesting, tree planting, tree identification, insect and disease control and prescribed burning. He also enjoys providing school programs to educate students about forestry, conservation, tree planting and Smokey Bear.

As a member of a Type 1 Incident Management Team, Rick has been deployed to fight fire in 28 states through the years. He has also had other incident experiences, such as working with FEMA following hurricanes and working with NASA after the Columbia Shuttle went down in East Texas. Rick has a bachelor's degree in Forestry from Oklahoma State University and worked as a firefighter for the U.S. Forest Service in Oregon and Texas before joining Oklahoma Forestry Services.

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.

OKLAHOMA WILDLAND

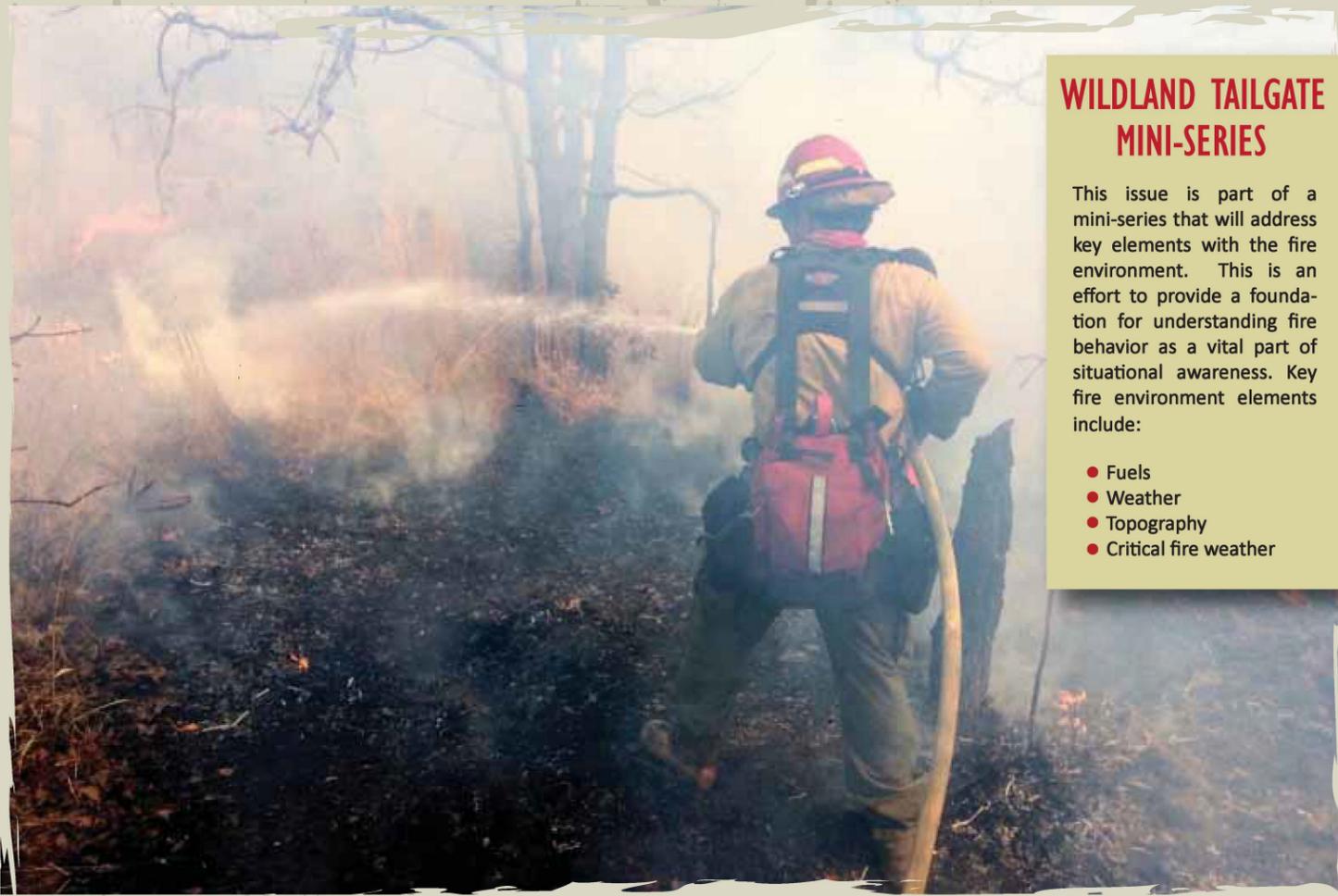


TAILGATE SERIES
OCTOBER 2016 | EDITION 9 | WWW.FORESTRY.OK.GOV

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 TOPOGRAPHY

Topography is the constant among the fire environment elements, but has a dynamic effect on fire behavior.



WILDLAND TAILGATE MINI-SERIES

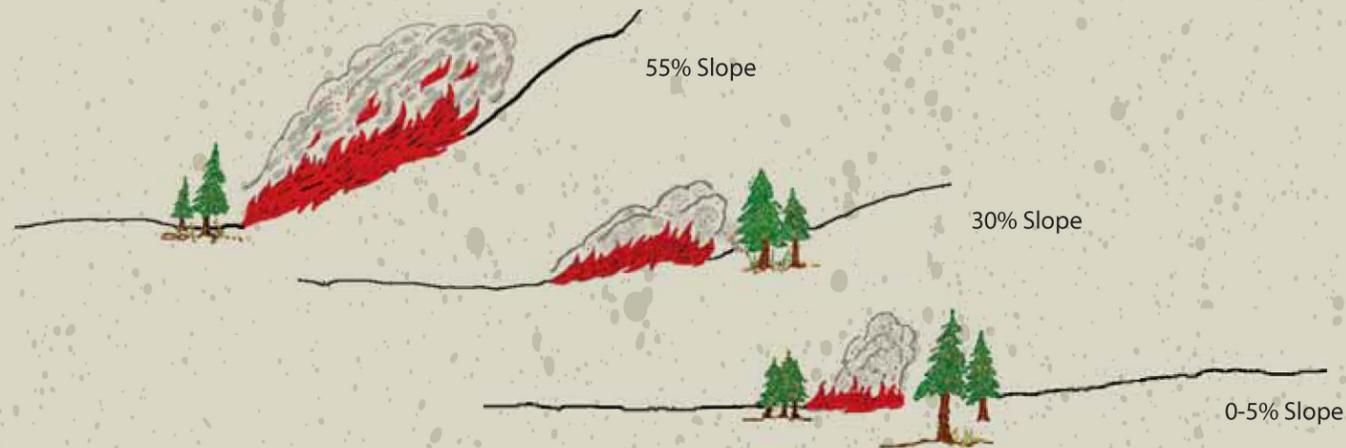
This issue is part of a mini-series that will address key elements with the fire environment. This is an effort to provide a foundation for understanding fire behavior as a vital part of situational awareness. Key fire environment elements include:

- Fuels
- Weather
- Topography
- Critical fire weather

WHAT YOU NEED TO KNOW

Topographic influence on fires across Oklahoma is as varied as the ecological landscape across the state. From rolling to rugged, plains to mountains and flats to broken canyon lands; topography plays a critical role in influencing fire behavior. Topographical influence is characterized in the following areas:

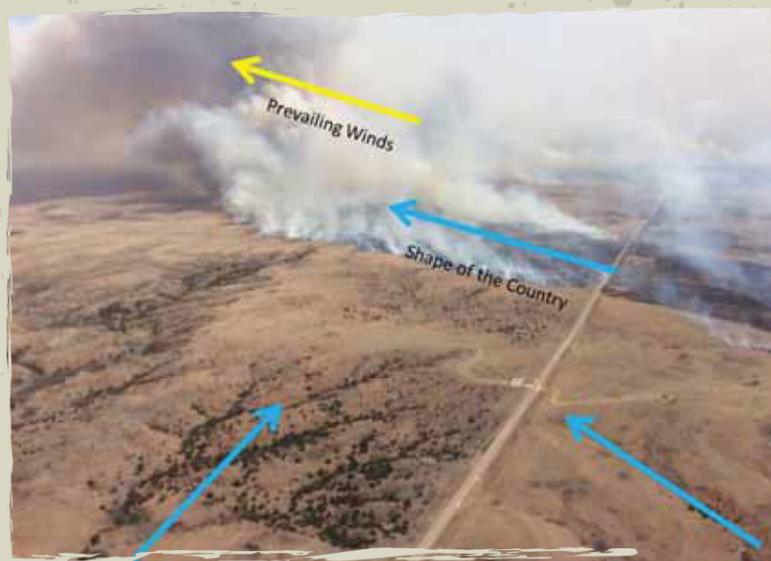
- **Slope** is the amount of degree of incline of a hillside. Fires will burn more rapidly upslope as convective heat preheats fuels and flames bend uphill increasing the rate of combustion.



- **Position On Slope.** A fire that is burning in the lower 1/3 of a slope has opportunity to burn actively up the entire slope given adequate fuels are available. Fires that occur in the upper reaches of a slope are limited in the amount of upslope run that can occur.

- One particular hazard associated with fires burning toward the top of a slope is the potential for embers, logs, etc. to roll out downslope igniting fuels below the initial fire.

- **The Shape Of The Country** also contributes to fire behavior influencing the direction of fire spread, rate of spread and overall intensity.



◦ Canyons

- Fires starting near the base of canyons, especially narrow canyons, may react similar to a fire in a wood burning stove or fireplace funneling convected heat up-canyon.
- Prevailing wind direction can be altered by the direction of a particular canyon influencing direction of spread.
- Expect erratic and increased fire behavior when topography and prevailing winds are aligned.

- Wind blowing through a **Saddle** or pass in a mountain range can increase in speed as it passes through the constricted area and spread out on the downwind side with possible eddy action.

ON THE FIREGROUND

APPLYING WHAT YOU'VE LEARNED

🔥 THE SITUATION

Your task force has been requested to respond to a fire outside of your protection area. As you lead your group consisting of three Type 6 Engines, one Type 4 Engine and one Type 2 Water Tender on the two hour drive you are thinking about the fire environment that you will encounter on scene. The last time you were out that way on a fire you realized that the fuels were similar to what you have at home, but the lay of the land was more pronounced. As you near the area, radio traffic describes that the fire is very active in a wide canyon and that eddying winds are becoming increasingly problematic.



Q: What are some typical hazards associated with fires burning in canyons?

A. Canyons tend to influence surface winds and can alter the direction of fire spread; if the canyon is aligned with prevailing winds and pronounced rate of fire spread should be expected.

Q: Fire has moved upslope and out of the canyon beginning to burn down the next hill. What type of fire behavior should be expected?

A. Reduced fire behavior because of convected heat moving back upslope and flames that are bending back over already burned areas.

Q: Your Task Force has successfully extinguished the section of fire on a ridgeline, but parts of the line are underslung with unburned fuels below your control line. What should your crew be on the lookout for in this situation?

A. Burning material rolling down the slope and establishing active fire below your position.



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