

# Fuels and Fire Behavior Advisory

## Central and East Texas

Date Advisory Effective – July 31 2023

**Subject:** Rapid drought development or flash drought is ongoing in for area of concern due to persistent above normal temperatures and below normal rainfall. This reemerging drought follows an early growing season where above normal rainfall resulted in a robust and continuous stand of grass across the Texas landscape. This continuous grass fuel bed facilitates the ignition and spread of wildfires as the grass wilts and cures in the Texas heat and drought. The emerging drought and underlying dryness have unlocked the availability of large dead fuels and canopy fuels for combustion. These fuels are now contributing to fire behaviors that increase the resistance to control of wildfires burning in high-risk timber and brush fuel beds.

**Discussion:** A persistent upper level high pressure pattern has suppressed meaningful rainfall and will be responsible for the hottest July on record for many reporting stations in Central Texas. Consecutive days/weeks of 100-degree temperatures have accelerated the loss of moisture in the fire environment and contributed to the availability of additional fuel, which results in very high fire intensities. Very high fire intensities will support active crown fire which has produced spotting distances of 600-800 feet.

**Difference from normal conditions:** Energy Release Component values in four Predictive Service Areas within the area of concern are above the 90<sup>th</sup> percentile. The Southeast Texas PSA is currently tracking above seasonal maximums and is forecast to reach the 97<sup>th</sup> percentile by Aug. 1. A total of six PSAs across the area of concern are forecast to be above the 90<sup>th</sup> percentile, as two additional PSAs are expected to reach this threshold in the next seven days. Fire weather thresholds required to produce crown fire in high-risk timber and brush fuels are much lower with the fuel dryness indicated by 90<sup>th</sup> percentile ERC. 100-degree temperatures, windspeed near 15 mph, and RH near 25% (west of I-35) and near 35% east of I-35 have been fire weather triggers.



### Concerns to Firefighters and the Public:

- Extreme fireline intensity is to be expected during both initial attack and extended attack. Currently, only elevated fire weather is required to produce extreme fire line intensities and high crown fire potential.
- Typical barriers to fire spread like roadways, rivers, and hardwood river bottoms cannot be relied upon to stop fire progression.
- Active fire behavior may extend into the overnight hours due to poor overnight moisture recovery.
- The area of concern includes some of the highest population densities in the state.

Crown fire in 10-year-old East Texas pine plantation that was not induced by burnout.

### Mitigation Measures:

- Fire managers should be prepared to support periods of more frequent fire occurrence as well as complex, long duration incidents.
- Firefighters should anticipate constructing wider than normal control lines with dozers and graders (maintainers) working in tandem with engine support.
- Recent observations indicate large diameter surface fuels and ground fuels are burning more readily and holding heat longer due to low 1000-hr fuel moisture and underlying drought. The time and effort needed for mop-up will continue to increase as large diameter fuels and ground fuels hold heat with the forecast of continued very hot and mostly dry conditions.

**Issued By:** Texas A&M Forest Service, coordinating with the Southern Area Geographic Area.

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