

# Fuels and Fire Behavior Advisory

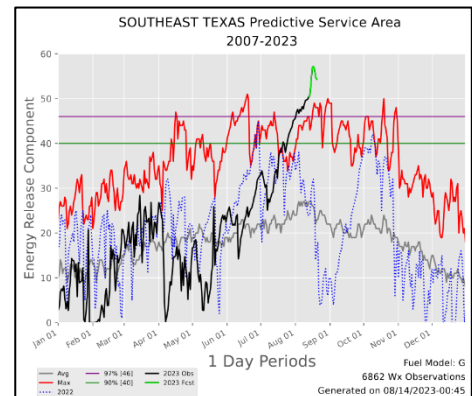
## Central and East Texas

Date Advisory Effective – August 14, 2023

**Subject:** A flash drought is ongoing for the areas of concern due to persistent above normal temperatures and below normal rainfall. This drought follows an early growing season where above normal rainfall resulted in a robust and continuous stand of grass across the Central 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 flash 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 pine timber in East Texas and oak/juniper fuel beds across Central Texas.

**Discussion:** A persistent upper level high pressure pattern has suppressed meaningful rainfall and produced the hottest July on record for many reporting stations in Central Texas. Consecutive 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. Spotting distances of 600-800 feet have been observed on recent fires.

**Difference from normal conditions:** Energy Release Component values in twelve Predictive Service Areas within the area of concern are above the 90<sup>th</sup> percentile. The Southeast Texas PSA using fuel model G is tracking above the 97<sup>th</sup> ERC percentile and the 16-year seasonal maximum (see image). A total of eight PSAs across the area of concern are forecast to be above the 97<sup>th</sup> percentile over the next 7 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.
- Spotting has routinely been reported on most recent fires, including small initial attack fires.
- Reburn of scorched needle cast in pine is now common during the days or weeks after suppression of small initial attack fires.
- The area of concern includes some of the highest population densities in the state.

**Scorched needle cast is causing reburn potential in pine fuels.**



### Mitigation Measures:

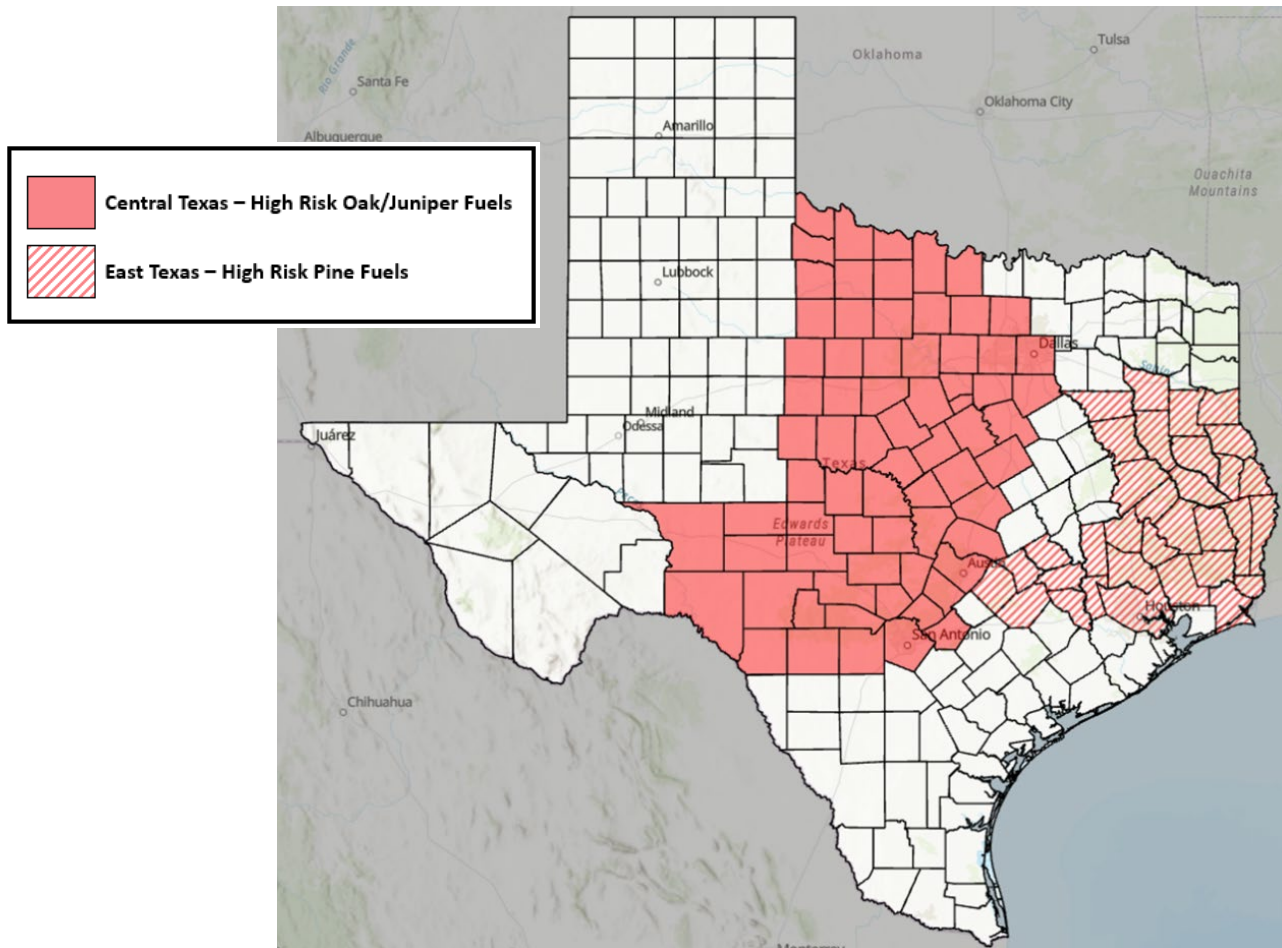
- Fire managers should be prepared to support periods of more frequent fire occurrence as well as complex, long duration incidents.
- Firefighters should anticipate constructing wider than normal control lines with dozers and graders (maintainers) working in tandem with engine support.
- Recent observations 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.

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



High Risk Oak/Juniper and drought cured grass loading in Central Texas August 5<sup>th</sup>



Active crown fire in Southeast Texas pine plantation August 3<sup>rd</sup>

