Fuels and Fire Behavior Advisory

Central and East Texas, Southern Oklahoma, Far Southern Arkansas, Louisiana, Central and Southern Mississippi, Central and Southern Alabama and the Far Western Florida Panhandle

Date Advisory Effective – August 31, 2023

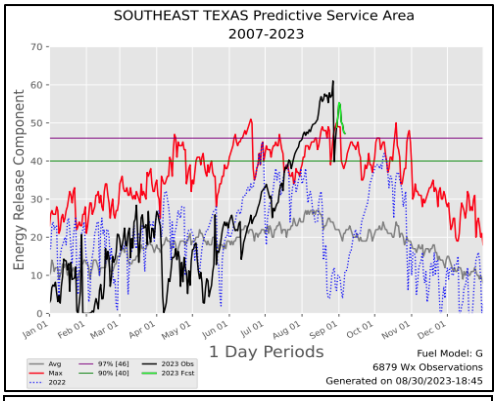
Subject: Persistent, record-breaking heat and well below normal rainfall have led to flash drought development across the Southern Area this summer. This rapid drought onset and underlying dryness have unlocked the availability of large dead fuels and live canopy fuels for combustion over an expanding portion of the geographic area. These fuels are contributing to fire behavior that increases the resistance to control for wildfires burning in high-risk pine timber and oak/juniper fuel beds across the advisory area.

Discussion: A persistent upper-level high pressure ridge produced the hottest June-to-August period on record from parts of Texas eastwards along the Gulf Coast, while hot and dry conditions have recently led to a rapid increase in abnormal dryness for adjacent areas farther to the north and east. Relentless 100-degree temperatures have contributed to an increase in fuel availability, which is resulting in very high fire intensities. Recent scattered rainfall may temporarily ease fuel dryness locally, but the return of abnormally hot and dry conditions is expected to accelerate moisture loss heading into September. Widespread, drought-busting rainfall is not currently anticipated through at least mid-September.

Difference from normal conditions: The footprint of Energy Release Component (ERC) values above the 90th percentile is forecast to expand as hot and dry conditions return to the advisory area. ERC-G in the TAMFS Southeast Texas PSA is trending above the 97th percentile and continues to track above the 16-year historical maximum. A drier, post-frontal air mass and the return of very hot temperatures is forecast to dry out fuels and increase ERC values in the areas of concern during much of the first half of September. Fire weather thresholds required to produce crown fire in high-risk timber and brush fuels are much lower with the fuel dryness indicated by 90th-percentile-or-greater ERCs. 100-degree temperatures, winds near 15 mph, and relative humidity (RH) near 25% in oak/juniper fuels near and west of I-35 and at or below 35% in pine-dominant or coastal fuels east of I-35 have been fire weather triggers. Established large fires in high risk fuels, such as Tiger Island in Louisiana, have burned intensely through the night despite RH recovery above 80%.

Concerns to Firefighters and the Public:

- Extreme fire line intensity is to be expected during both initial attack and extended attack.
- 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 during periods of poor RH recovery.
- Spotting up to ¼ of a mile away has routinely been reported on the majority of 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.
- Roots burning underground may result in green trees falling.
- Critical fire weather may be associated with but is not limited to: compressional warming in unstable pre-frontal environments, dry cold fronts, subsidence adjacent to tropical cyclones, sea breeze fronts and erratic winds associated with outflow from nearby thunderstorms.



ERC-G in Southeast Texas is forecast to remain above the 97th percentile this week.

Mitigation Measures:

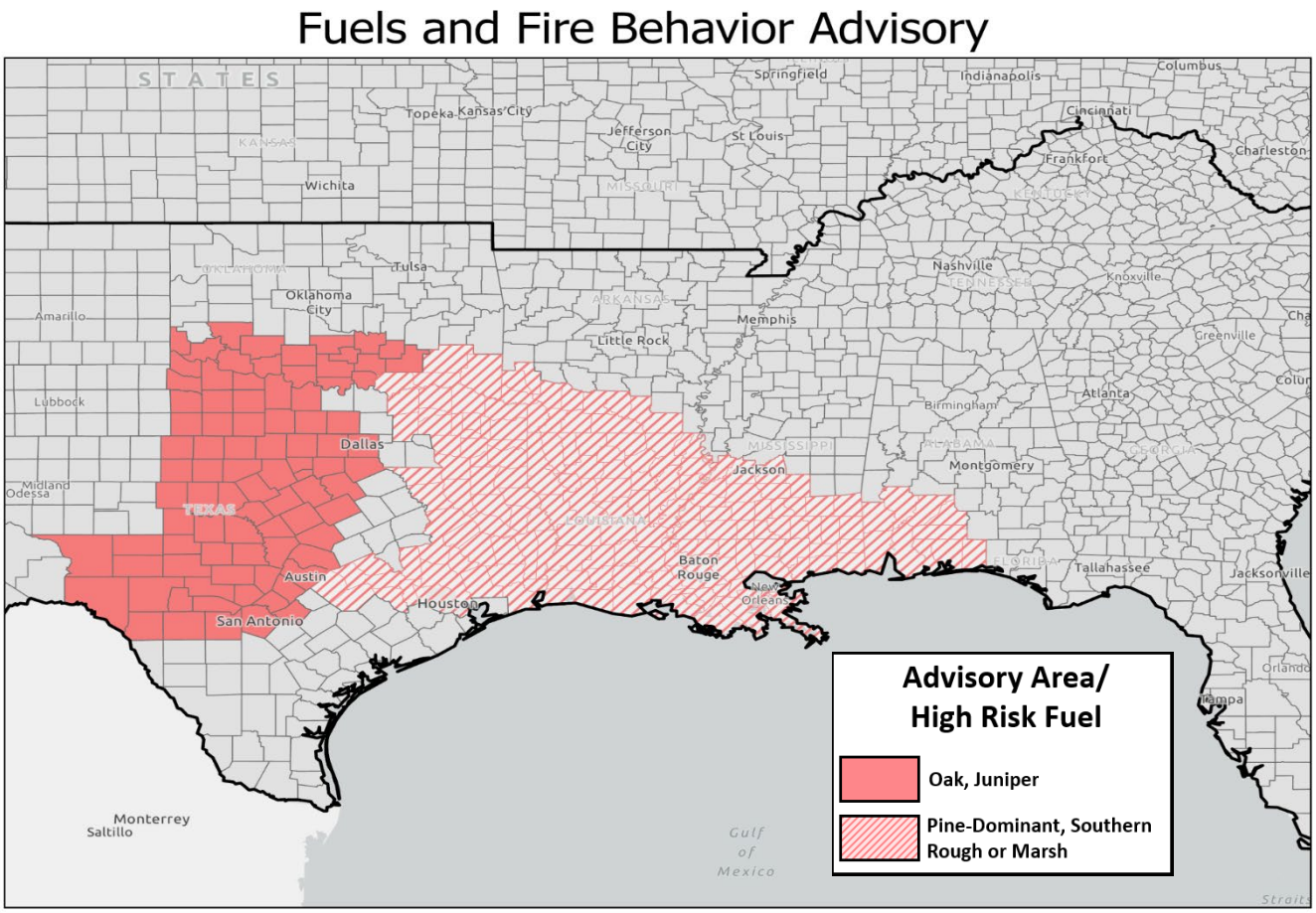
- Fire managers should be prepared to support periods of more frequent fire occurrence as well as complex, long-duration incidents.
- Firefighters should anticipate constructing wider than normal control lines, with dozers and graders (maintainers) working in tandem with engine support.
- Recent observations 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 these fuels hold heat, especially with the forecast of continued very hot and mostly dry conditions.

Issued By: **Southern Area Predictive Services in coordination with state and federal partners.**

Fuels and Fire Behavior Advisory

Central and East Texas, Southern Oklahoma, Far Southern Arkansas, Louisiana, Central and Southern Mississippi, Central and Southern Alabama and the Far Western Florida Panhandle

Date Advisory Effective – August 31, 2023



High risk oak/juniper and drought-cured grass loading on the Hill Top Fire south of Abilene, Texas (left). Torching in high risk pines adjacent to the roadside in Louisiana (right). Cured grasses near roads are a common carrier of fire into high risk fuels.