

Fuels and Fire Behavior Advisory

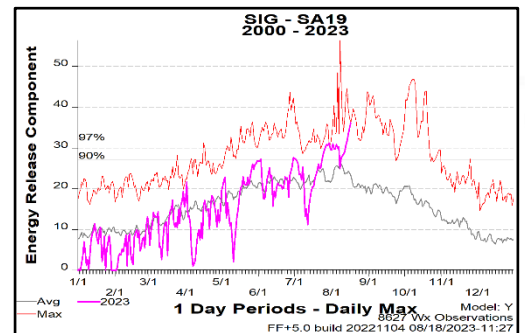
Louisiana, Southern Mississippi, Southwest Alabama and the Western Florida Panhandle

Date Advisory Effective – August 18, 2023

Subject: Persistent, record-breaking heat and flash drought development have led to a steady increase in wildfire activity during the first half of August, resulting in elevated fire behavior and increased resistance to control across Louisiana and portions of Mississippi. The potential for these conditions is likely to increase throughout the region, and an expected uptick in tropical cyclone activity could lead to periods of critical fire weather if widespread wetting rain does not materialize through the end of August.

Discussion: Thunderstorm activity that normally produces 1-2” of rainfall per week this time of year has been isolated across the central Gulf Coast and Lower Mississippi Valley since the beginning of July. Increasing areas within the advisory have not observed wetting rainfall in 20-40 days, while the mid-July to mid-August period has been the hottest on record. An objective, long-term analysis from the National Drought Mitigation Center depicts the equivalent of severe to exceptional drought scattered across the region, which extends back to the multi-year La Niña that precedes this year’s developing El Niño. Soil moisture data from NASA-SPoRT is alarmingly low, with large expanses of the central Gulf Coast showing values in all relevant layers below the 2nd percentile. Intense high pressure aloft responsible for increasing heat in the short term is likely to steer a tropical disturbance in the Gulf of Mexico well to the south during the week of August 21st. Winds associated with this disturbance may significantly increase the risk for large fires, crown runs and extreme fire behavior as otherwise very hot and dry conditions persist.

Difference from normal conditions: KBDIs above 700 are widespread, on par with droughts observed in 2000 and 2011. ERC-Y has frequently been above the 90th percentile since at least mid-July and has trended to or above the 97th percentile this week in many of the affected predictive service areas. Live fuel moisture on a recent palmetto sample along the Alabama coast was at 65%, suggesting the potential for wildfires is likely to increase in this high risk fuel type. Temperatures above 100 degrees, min. RH of 20-35% and winds of 5-15 mph have produced increased fire behavior for inland areas of Louisiana and Mississippi, while coastal fires have been associated with highs in the mid-90s, min. RH from 30-50% and wind gusts of 15-25 mph.



ERC-Y is above the 97th percentile in western Louisiana as of 08/17/2023

Concerns to Firefighters and the Public:

- Sea breezes and nearby thunderstorms may produce problematic changes in wind velocities that result in extreme fire behavior and heightened danger for first responders.
- Overnight RH recovery may not temper fire behavior, and established coastal fires in high risk fuels have the potential to burn through the night when winds stay up.
- Sustained winds near or above 10 mph may lead to crown runs in pine-dominant fuels, while a yaupon understory can easily carry fire up from the ground as live fuel moisture continues to decrease.
- Very hot temperatures present a heightened risk for heat exhaustion and heatstroke. Stay hydrated.
- Existing fires could see a rapid increase in fire behavior due to nearby tropical cyclones.

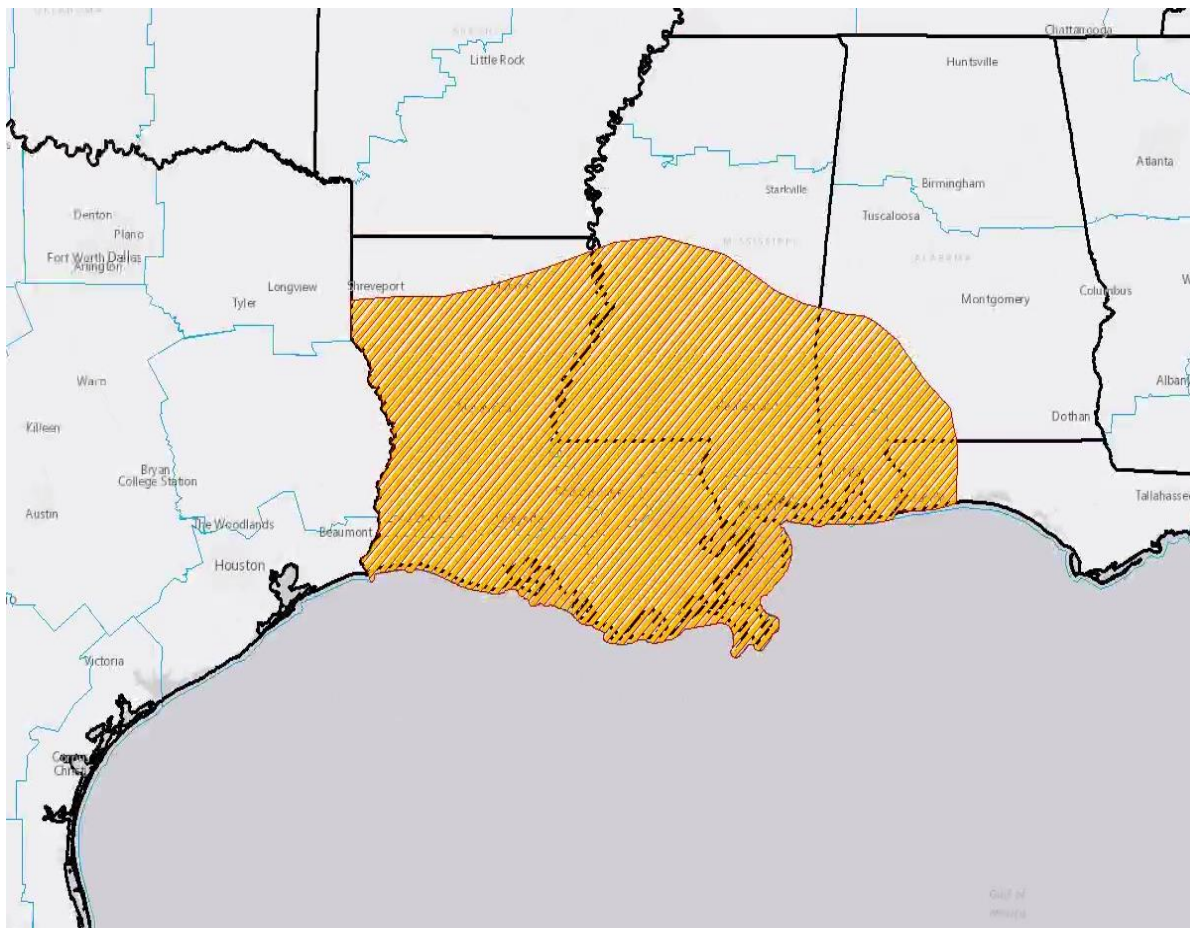
Mitigation Measures:

- Fire managers should be prepared to support periods of more frequent fire occurrence as well as complex, long duration incidents.
- Increased spotting frequency and distance may require wider than normal containment lines with more frequent patrolling and mop up. Firefighters should anticipate constructing wider than normal control lines.
- Resources involved in suppression efforts should be thoroughly briefed that fire behavior is exceeding normal expectations for this time of the year.
- 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.

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A wildfire in Sabine Parish, Louisiana, on August 14th, 2023, exhibited plume-dominated growth during extreme heat and light winds (left). Group torching of pine trees was also observed (right).