Texas Fire Potential Update
August 14th – August 20th 2023
Texas A&M Forest Service Predictive Services
Fire Potential Notes August 14th-August 20th, 2023

• A temporary change in the fire environment will begin Monday as an unusual August cold front progresses south, stalling near Interstate-10 by Tuesday morning. Widely isolated thunderstorms are possible Monday afternoon through Tuesday morning along the front. Lightning ignitions will be possible from any thunderstorm. Outflow winds from thunderstorms can produce localized critical wind speeds, resulting in a rapid increase in fire intensity or rate of spread.

• High-risk pine fuel south of I-20 for East Texas and pine regions of Central Texas will support a high risk for a significant fire Tuesday and Wednesday. Accelerated drying of surface fuel will occur Tuesday and Wednesday, producing widespread extremely dry fuel. A slightly cooler, but drier post-frontal airmass combined with winds near 10 mph could result in high surface fire intensities, active crown fire, and long range spotting.

• High-risk juniper/oak fuel will continue to support a moderate risk for a significant fire along and west of I-35 Monday through Friday for the Cross Timbers, Eastern/Western Hill Country, and Rolling Plains with periods of elevated fire weather over extremely dry fuel.

• A very high volume of wildfire occurrence is expected to continue through next Sunday for the eastern two thirds of Texas due the underlying drought, critically dry to extremely dry fuel, and periods of elevated to near critical fire weather.
Lightning from scattered thunderstorms Thursday through Saturday produced multiple wildfires in the Rolling Plains between Childress and Wichita Falls. Outflow winds from nearby thunderstorms did produce sudden changes in wind speed and wind direction for ongoing fires Saturday evening. Rainfall near the Childress region has resulted in normal fuel dryness where several fires were reported over the weekend. Monsoonal moisture in the Trans Pecos has improved fuel moistures, reducing the threat for new wildfire ignitions.
East Texas south of I-20 continues to observe a high volume of daily wildfire response. Moderate to high surface fire intensities were observed on several wildfires.

Photo submitted by Chris Kirby
Rusk County near Henderson 8/12/23

Photo submitted by Brett Byley
Shelby County 3134 Fire 8/13/23
Live fuel sampling from August 1st shows the impacts of the ongoing flash drought on yaupon across East Texas, as many sampling locations are trending below the 10th percentile with some below the 3rd percentile. Pine samples are trending below normal and will continue to decline with the forecast of hot and dry conditions for the next 7+ days. The combined effects of critically to extremely dry surface fuel, low foliar moisture content in understory vegetation, and 100°+ temperatures will continue to support active crown fire potential in pine/yaupon fuel.
The majority of Texas is experiencing rainfall deficits over the past 30 days. Rainfall deficits of 25% or less over the past 60 days are now common from South Texas north along the I-35 corridor to the Dallas/Fort Worth region. These deficits extend east into Central Texas and the southern half of East Texas. This persistent dryness will support the risk for a significant fire in high-risk oak/juniper or pine fuel through the weekend.
A notable expansion of extremely dry fuel is forecast to emerge by Wednesday in Central and East Texas. A dry post-frontal airmass will accelerate drying of surface fuel Tuesday and Wednesday. High risk pine fuel in Central and East Texas south of I-20 will be exposed to post-frontal elevated fire weather **Tuesday and Wednesday**, where there will be **high potential for a significant fire**. High risk oak/juniper in the Eastern/Western Hill Country, Rolling Plains, and Cross Timbers will support a moderate risk for a significant fire through the weekend.
A temporary change in the fire environment will occur Monday as an unusual August cold front progresses toward Interstate-10 by Tuesday morning. Widely isolated thunderstorms are possible Monday afternoon through Tuesday morning along the front. Lightning ignitions will be possible from any thunderstorm. Outflow winds from thunderstorms can produce localized critical wind speeds, resulting in a rapid increase in fire intensity or rate of spread.
Slightly cooler temperatures are forecast behind the cold front passage for Texas north of Interstate 10 Monday and Tuesday. By Wednesday, temperatures will begin rebound back to or exceed 100°F.
Winds will shift from the north during the day Monday as the cold front progresses south. A narrow corridor of drier air in the Eastern Hill Country and Central Texas ahead of the cold front is possible where temperatures are still near 100°F.

Monday 7 PM Forecast Wind

Monday Forecast Minimum Relative Humidity
Cooler, but drier post-frontal conditions are expected to occur Tuesday with relatively humidity below 25% in Central Texas and south of I-20 in East Texas. Drier air combined with 10-15 mph wind over critically dry to extremely dry fuel will support high potential for a significant fire in pine fuel for these regions. Oak/Juniper fuel can support a moderate risk for a significant fire in the Cross Timbers, Eastern/Western Hill Country, and Rolling Plains.
Wind speeds are forecast 7-10 mph Wednesday, but drier air will persist over extremely dry fuel for Central and East Texas, continuing the high risk for significant fire in pine fuel. Critically dry to extremely dry fuel and elevated fire weather will support moderate potential for a significant fire in the Cross Timbers, Eastern/Western Hill Country, and Rolling Plains.
A drier airmass is forecast behind the early week cold front. Overnight moisture recovery will be poor for a broad area of Texas Tuesday and Wednesday morning. Timber fuel in Central and East Texas is very sensitive to this lack of moisture recovery and could support increased fire behavior into the nighttime hours. This poor overnight moisture recovery combined with low daytime relative humidity is the catalyst for the accelerated drying.
Observed energy release component (ERC) values are now above the critical 90th percentile in 11 of the 14 predictive services areas (PSAs). Current ERC forecast indicate eight PSAs will exceed the 97th percentile ERC over the next 7 days.

<table>
<thead>
<tr>
<th>PSA</th>
<th>ERC Trend</th>
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<tbody>
<tr>
<td>Central Texas</td>
<td>&gt;90th Percentile*</td>
</tr>
<tr>
<td>Cross Timbers</td>
<td>&gt;90th Percentile*</td>
</tr>
<tr>
<td>Eastern Hill Country</td>
<td>&gt;90th Percentile*</td>
</tr>
<tr>
<td>Gulf Coast</td>
<td>&gt;90th Percentile*</td>
</tr>
<tr>
<td>High Plains</td>
<td>Above Average</td>
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<tr>
<td>North Texas</td>
<td>&gt;90th Percentile</td>
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<tr>
<td>Northeast Texas</td>
<td>Above Average</td>
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<tr>
<td>Rolling Plains</td>
<td>&gt;90th Percentile</td>
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<tr>
<td>South Texas</td>
<td>&gt;90th Percentile*</td>
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<tr>
<td>Southeast Texas</td>
<td>&gt;97th Percentile</td>
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<tr>
<td>Southern Plains</td>
<td>90th Percentile</td>
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<tr>
<td>Trans Pecos</td>
<td>Above Average (Above Seasonal Max)</td>
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<tr>
<td>Western Hill Country</td>
<td>&gt;90th Percentile*</td>
</tr>
<tr>
<td>Western Pineywoods</td>
<td>&gt;90th Percentile*</td>
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</tbody>
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* Forecast to exceed 97th percentile ERC over next 7 days
The Southeast Texas PSA ERC is forecast to set a 16 year, all-time high this week with the onset of accelerated drying. Central Texas and Western Pineywoods will experience the accelerated drying, resulting in ERC values above the 97th percentile. ERC values above the 97th percentile is a strong indicator that a significant fire could occur because of extremely dry fuel.

**SOUTHEAST TEXAS Predictive Service Area**

2007-2023

**CENTRAL TEXAS Predictive Service Area**

2007-2023

Fuel Model: G

6862 Wx Observations

Generated on 08/14/2023-00:45

Fuel Model: G

7227 Wx Observations

Generated on 08/14/2023-00:45
The Eastern/Western Hill Country and Cross Timbers are expected to exceed the 97th percentile by mid-week. Elevated fire weather combined with extremely dry fuel will support a moderate risk significant fire near the densely populated areas along and just west of I-35.
Extreme heat will continue to promote an efficient burning environment Thursday and Friday as the upper level ridge of high pressure becomes the dominant weather feature.
As high pressure moves back over Texas Thursday, winds will shift out of the south. The continuation of elevated fire weather over extremely dry fuel will support moderate significant fire potential in oak/juniper fuel for the Western/Eastern Hill Country, Cross Timbers, and Rolling Plains. Pine fuel will continue to support a moderate risk of new significant fire Thursday for Central Texas and the southern half of East Texas.
Moderate significant fire potential will continue in high risk oak/juniper fuel along and west of I-35 where critically and extremely dry fuel persist. Surface moisture will slowly increase inland for Central and East Texas Friday, but extremely dry fuel will continue to support a moderate risk for a significant fire.
Reburn is now contributing to fires escaping containment, primarily in pine timber. Heat generated from higher surface fire intensities is causing pine needles to fall from the canopy, creating a new surface fuel bed and a path for fires to escape over containment lines days after fires are contained. With low soil moisture due to the ongoing flash drought, stump holes are holding heat longer and can serve as the ignition source for reburn of pine needle cast. Fire environment conditions this week in East and Central Texas will result in a very high reburn potential.