Texas Fire Potential Update

July 11th – July 17th 2022

Texas A&M Forest Service Predictive Services
Fire Potential Notes

• The fire environment through the weekend will support **high initial attack** fire potential in a wide range of fuel types for the majority of Texas. Higher dead fuel moistures should keep IA potential low in the Trans Pecos.

• **Moderate to high significant fire potential** in critically to extremely dry, high risk, grass/juniper/oak fuel is forecast **Monday and Tuesday** for the Western/Eastern Hill Country, Cross Timbers, and Rolling Plains when subjected to elevated to critical fire weather of 100°F temperatures, RH values below 15%, and winds near 15 mph.

• High risk, pine/yaupon fuel that is critically to extremely dry in the Western Pinewoods and Northeast Texas will support **low to moderate significant fire potential Monday and Tuesday**. These regions may experience elevated fire weather characterized by 100°F temperatures, RH values below 30%, and winds near 10 mph.

• A weak frontal boundary may trigger isolated thunderstorms through midweek in portions of the Western/Eastern Hill Country, Central Texas, Rolling Plains, Cross Timbers, and East Texas. Any storms that do develop will have the potential to produce lightning ignitions in critically dry to extremely dry fuel. Outflow winds from nearby storms will be capable of producing sudden changes in wind speed and direction that could increase fire behavior, causing ongoing fire to become more resistant to control.

• Underlying drought and low 1000-hr fuel moisture is increasing the risk of initial attack fires escaping containment as larger diameter surface fuel and ground fuel is burning more readily and holding heat longer. The time and effort toward mop up will continue to increase as hot and mostly dry conditions persist through the weekend.
TAMFS resources responded to 38 fires the weekend of July 9th and 10th. The majority of fires are occurring in brush/grass or timber fuel for the eastern two thirds of Texas. The addition of isolated thunderstorms in the fire environment this past weekend did produce several fires from lightning ignitions.
A weak frontal boundary sagging into the state produced widely scattered thunderstorms Saturday and Sunday from the High Plains, Rolling Plains, Cross Timbers, North Texas, Northeast Texas, the Hill Country and Central Texas. Short duration rainfall will have little to no impact on improving fuel dryness. These thunderstorms were responsible for several wildfires from lightning. The 24-hr lightning map shows areas where lighting ignitions may emerge Monday or Tuesday in critically to extremely dry fuel beds.
A weak frontal boundary may trigger isolated thunderstorms through midweek in portions of the Western/Eastern Hill Country, Central Texas, Rolling Plains, Cross Timbers, and East Texas. Any storms that do develop will have the potential to produce lightning ignitions in critically dry to extremely dry fuel. Outflow winds from nearby storms will be capable of producing sudden changes in wind speed and direction that could increase fire behavior, causing ongoing fire to become more resistant to control. Any rainfall with these thunderstorms will be short duration and provide no long term improvement in fuel dryness.
Triple digit heat is forecast for much of the state through midweek. Temperatures exceeding 100°F are considered a critical fire weather element. These very hot temperatures create an efficient burning environment, as heat is transferred more readily both horizontally and vertically throughout the fuel profile.
A wide range of fuel types will support high initial attack fire potential through the weekend. Higher surface fire intensities are likely in brush/timber litter fuel where 100-hr fuel moisture is forecast below the 3rd percentile.
High risk, grass/juniper/oak fuel will support **moderate to high significant fire potential** Monday for the Western/Eastern Hill Country, Cross Timbers, and Rolling Plains. High risk pine/yaupon will support **low to moderate significant fire potential** for the Western Pineywoods and Northeast Texas. Critically to extremely dry fuel in these regions will be subjected to elevated or critical fire weather Monday afternoon.
Relative humidity values below 15% are considered another critical fire weather element and are forecast for much of the Rolling Plains, Western/Eastern Hill Country, and possibly into the Cross Timbers Monday. Relative humidity values near or below 30% are forecast and considered a component for elevated fire weather for portions of the Western Pineywoods and Northeast Texas. Less wind will be required to produce fires that are resistant to control in critically dry to extremely dry fuel for these regions Monday.
Tuesday’s fire environment will continue to feature critically dry to extremely dry fuel and moderate to high significant fire potential in high risk fuel for the Rolling Plains, Cross Timbers, Western/Eastern Hill Country and low to moderate significant fire potential for the Western Pineywoods and Northeast Texas. A subtle increase in fire weather is depicted in Tuesday’s forecast fire danger map along and north of the I-20 corridor with high to extreme fire danger forecast and pockets of high fire danger along the I-45 corridor.
Much of the I-20 corridor west of DFW is forecast to have Relative humidity near 15-20% **Tuesday** with wind speeds of 10-15 mph. The Western Pineywoods and Northeast Texas may experience relative humidity values below 30% and winds near 10mph.
Winds are forecast to become more southeasterly by mid-week, transporting gulf surface moisture inland, increasing RH values slightly.
The strong upper level ridge is forecast to remain the dominate weather feature through the weekend, resulting in hot and mostly dry conditions across the state. Some isolated sea breeze thunderstorm activity will remain possible near the Texas coast and into Southeast Texas this weekend.
Hot temperatures are forecast for much of the state this weekend. Temperatures may be slightly cooler along the upper Gulf Coast and Southeast Texas due to cloud cover from sea breeze activity.
11 of the 14 predictive service areas ERC values are observed at or above the 90th percentile, with 3 of those PSAs exceeding the 97th percentile with most PSA forecast to continue drying into the middle of the week. An underlying risk of significant fires will continue where ERC is at or above the 90th percentile.
Drying of surface fuel may temporary pause for the East Texas PSAs as gulf surface moisture increases by mid-week. ERC values are forecast to remain above the 90th percentile through next weekend without any widespread rainfall forecast.
The observed 1000-hr fuel moisture percentile map indicates large diameter surface fuel is receptive to burning and will allow heat to hibernate for longer periods of time at or below the 10th percentile. The KBDI map provides guidance on the moisture deficiency of the upper layer of soil and relating to the flammability of organic matter and ground fuel. Underlying drought and low 1000-hr fuel moisture is increasing the risk of initial attack fires escaping containment as larger diameter surface fuel and ground fuel is burning more readily and holding heat longer. The time and effort toward mop up will continue to increase as hot and mostly dry conditions persist through the weekend.