

Prepared December 21, 2023

Texas A&M Forest Service Predictive Services Department

Background: Since 1988, 90% of the 30 largest wildfires in Texas history have occurred between January and May, primarily in the grass dominant Texas Plains.

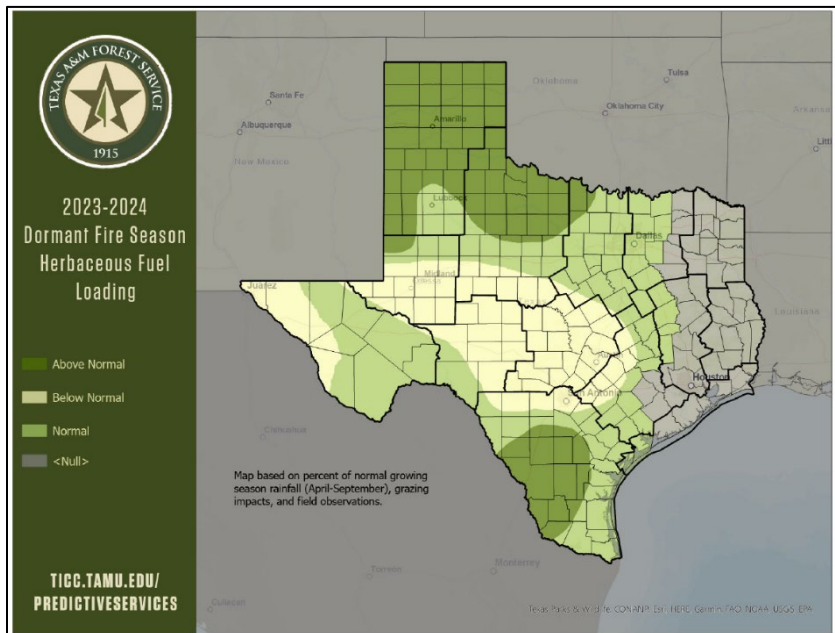
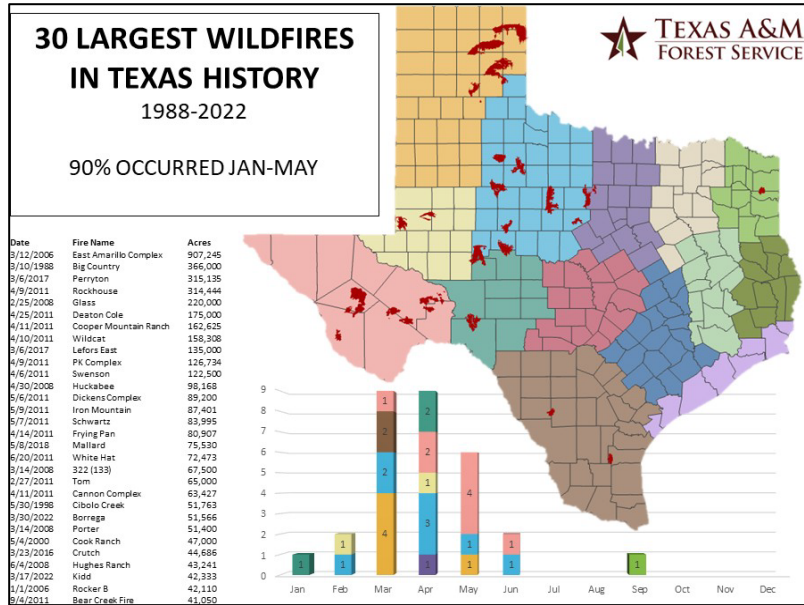
Factors that drive the dormant wildfire season in Texas are:

- Grass fuel loading produced during the previous growing season.
- Current and forecast drought conditions.
- Seasonal temperature and precipitation trends.
- Widespread, freeze cured grasses and timing of spring green up.

The intent of this outlook is to provide general awareness of broad environmental conditions and the potential impact these conditions could have on wildfire activity across Texas through the spring of 2024.

Analysis: Surplus rainfall (150-400% of normal) between May and June of 2023 prompted vigorous growth of herbaceous fuel in the High Plains, upper Rolling Plains and into parts of South Texas where above normal grass loading is present. Above normal grass loading often requires lower thresholds of dryness and fire weather to produce increased wildfire activity.

Persistent drought through the 2023 growing season and livestock grazing have resulted in below normal grass loading south of Interstate 20 in the lower Rolling Plains and much of the Western/Eastern Hill Country. Less grass/fuel on the landscape often results in below normal wildfire activity.



Field verification of grass loading by Texas A&M Forest Service Fire Analysts during the fall of 2023 validated areas with above normal grass loading in the High Plains (left photo) and South Texas (right photo).



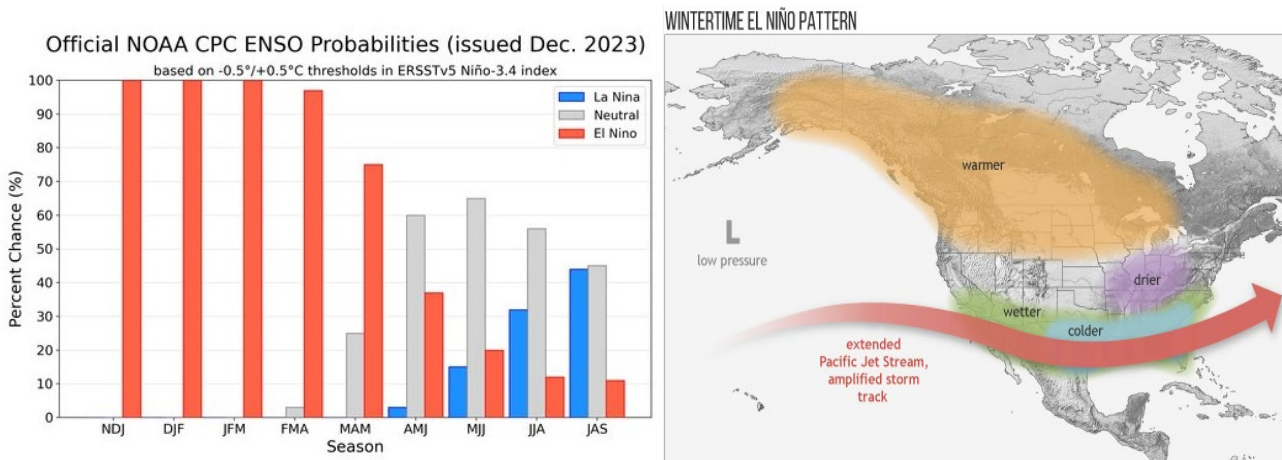
Field verification also validated areas with below normal grass loading due to drought and grazing in the lower Rolling Plains (left photo) and Western/Eastern Hill Country (right photo).



As of December 21, [freeze cured grasses](#) are present for the northern two-thirds of Texas. Above normal grass loading in the High Plains and upper Rolling Plains will only require one to two days of drying and moderate fire weather to produce small, initial attack wildfire activity. The occurrence of large fires that are resistant to control will be dependent on occurrence and frequency of critical to extreme fire weather, usually associated in the environment ahead of an approaching cold front. Normal peak wildfire occurrence in the High Plains and Rolling Plains is mid-February through early April. Another area of above normal grass loading is located in South Texas and could support increased wildfire activity once grasses have frozen. As of December 21, widespread, hard freezes have not been observed across South Texas. March is the peak month for post-frontal conditions moving through deep South Texas. Strong north winds and low relative humidity in the post-frontal environment can act as a fire weather trigger for large fire development.

Wildfire activity can still occur in areas with normal to below normal grass loading, but a wildfire's resistance to control is often lower, increasing opportunities for success toward containment during initial attack. Regions with below normal grass loading usually require higher levels of drying and strong fire weather to produce large wildfires.

The CPC has high confidence that El Niño conditions will continue through the winter and spring of 2024 before transitioning to neutral conditions the summer of 2024. El Niño conditions often equate to lower probabilities of high impact fire weather, including Southern Plains Wildfire Outbreaks.



Increased probabilities of above normal precipitation may help promote early green up in herbaceous fuel and grasses during the late winter and early spring, limiting the potential for increased wildfire activity to extend past mid-April 2024 in South Texas and the Western Plains.

In Summary:

- Despite areas with above normal grass loading, diminishing drought and increased probabilities of normal to above normal precipitation suggests the 2024 Texas dormant fire season will be normal to below normal.
- Above normal freeze cured grass loading will require lower thresholds of fuel dryness and fire weather to produce wildfire activity in the High Plains, upper Rolling Plains and parts of South Texas. Below normal grass loading in the lower Rolling Plains and Western/Eastern Hill Country will require higher levels of fuel dryness and fire weather to produce increased wildfire activity.
- Recent precipitation observed mid-December 2023 and the reduction of drought does not indicate an early onset of increased wildfire activity. Normal peak wildfire activity in the West Texas Plains is mid-February through mid-April with increased winds surrounding cold front passages. The onset of increased wildfire activity in South Texas will be dependent on herbaceous fuel becoming dormant after a widespread hard freeze.
- Above normal precipitation chances this dormant season could result in early green up in herbaceous fuel, compressing the duration of the 2024 Texas dormant fire season. El Niño conditions offer lower probabilities of high impact fire weather occurrence and less potential for large fires that are highly resistant to control.

Contact: Texas A&M Forest Service encourages firefighters, fire managers, and emergency management professionals to subscribe to the weekly Texas Fire Potential Update by sending an email to tx-fire-potential+subscribe@lists.tamu.edu. These weekly fire potential outlooks provide short term analysis of current wildfire activity trends, fire environment conditions, and wildfire potential for the state of Texas.