

Southern Area Wildfire Risk Assessment

Fall Edition 2026

Southern Area Decision Support Group

Issued: October 9, 2026



Gracemont Fire, Caddo County, Oklahoma -photo provided by Oklahoma Forestry Services



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Executive Summary

This wildfire risk assessment evaluates relevant factors from the summer season and assesses potential activity for the Fall 2026 fire season. The outlook period extends from late September through early December.

After a hot and dry spring and summer, fire potential has been elevated across the South. Many areas had concerning levels of drought, with fire occurrence that was much higher than typical for the time of year. Recently, remnants from Hurricane Polo combined with a stalled frontal boundary and plentiful Gulf moisture to provide portions of the Geographic Area with significant precipitation over the previous 7 days. Fire indices have shown meaningful decline in areas that received that rainfall.

An additional caveat is the fact that during the writing of this assessment, Hurricane Isaias has organized in the Gulf of Mexico and is likely to impact the Gulf Coast states within the next 24 hours. Significant precipitation from this or additional tropical storms will likely alter fall fire danger conditions for those areas near and in the path of the storm.

Key findings include:

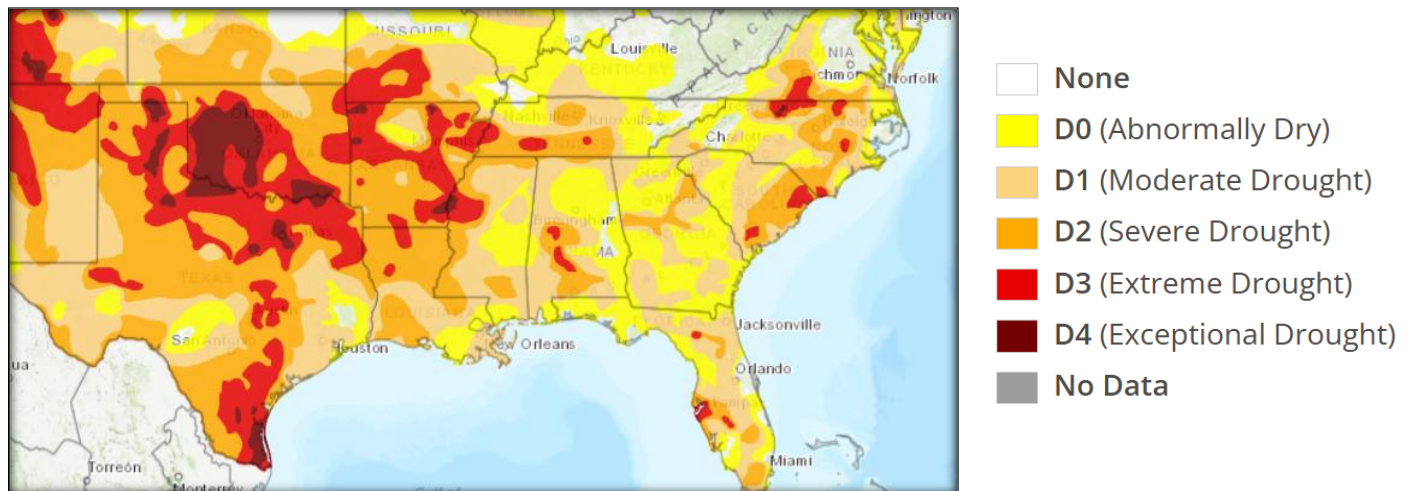
- The past 10 to 12 months have been very dry across the Southeast US – in some cases historically dry.
- Keetch Byram Drought Index levels are exceedingly high in many states.
- Fire intensity on recent fires has been elevated, took more resources than typical to suppress, and mop up activities were more laborious than usual.
- Early leaf fall is occurring in areas with more extensive drought.
- A robust grass crop remains on the landscape in Texas and Oklahoma that becomes more fire prone during dormant season.
- The Southern Appalachian Mountains experienced relatively normal precipitation over the past summer, but the most recent 30 days have trended drier. The situation warrants monitoring should dry conditions linger into leaf fall season.
- A historically strong El Niño is expected to bring recurring wet weather to the South and reduce fire danger at some point this fall. Typically, impacts from El Niño are widespread across the region with most areas receiving above normal precipitation. It is uncertain when those impacts will begin to be felt.
- Some areas that had been experiencing high fire danger in the spring and early summer – such as Florida – have begun to get drought relief from recent rain events and are now seeing a downward trend in fire danger.

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- Portions of Texas and Oklahoma have also experienced significant precipitation in recent days that have reduced drought concerns and fire danger somewhat. Underlying long-term drought impacts could persist or quickly re-emerge without additional precipitation events.
 - Coastal areas from Southeast Texas to the Florida panhandle have received beneficial rain over the past 7 days. Fire danger has been reduced – at least temporarily – in these locations. Isaias is likely to provide additional rainfall.
 - It remains to be seen how long these beneficial reductions last. The severe conditions took months to build and will not likely be completely erased without regular precipitation.
 - Some green up in grass fuels has occurred in areas that received recent precipitation. This should help prolong the reduction in fire danger.
 - Debris from last January's Winter storm Fern remains a concern for fire managers this fall
 - Puerto Rico is mired in an unusual drought and fire danger remains a concern on the island.
 - Hurricane Isaias may create new fuel concerns in the form of downed timber.

Background

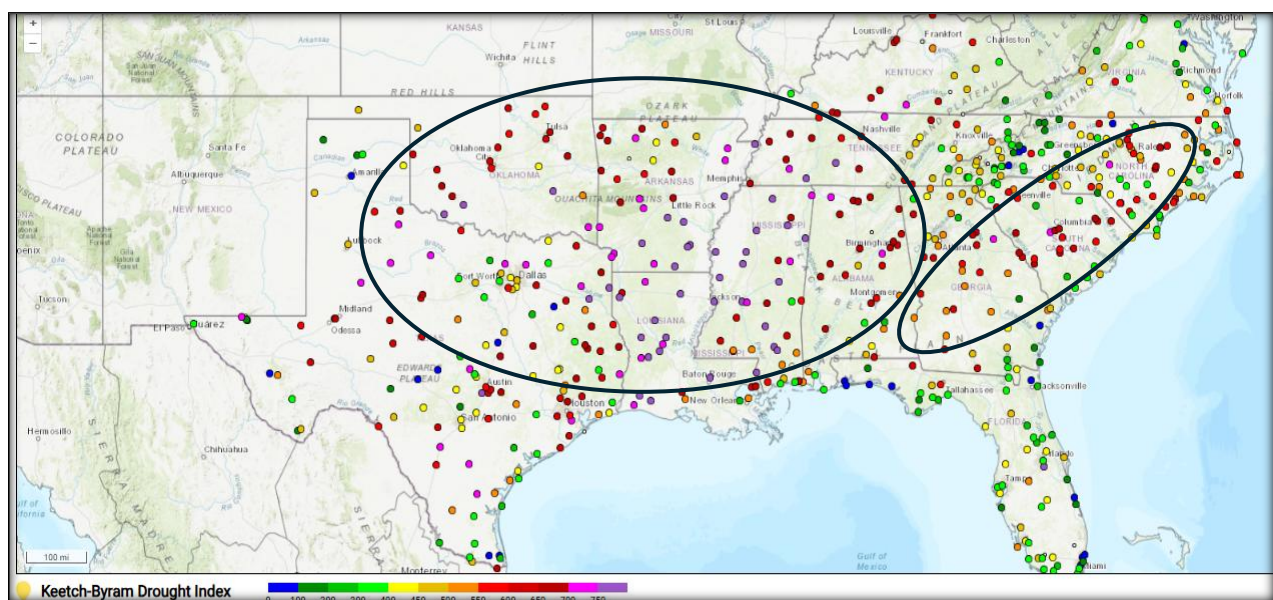
For at least a year, a potent and prolonged drought has been in place across much of the Southern Area. Rainfall amounts have been less, in many cases significantly less, than historical averages. For instance, the state of Florida is just beginning to emerge from one of the driest September to May periods in over 100 years. The Carolinas experienced one of their driest years on record, especially the Piedmont and coastal plain areas. May and June were especially hot and dry in that region. Parts of Texas and Oklahoma continue to see drought and elevated fire danger that has been in place since February, while some areas in both states have received recent beneficial rainfall, notably the Panhandle regions.

When viewing the Southern Area as a whole, there are currently few locations that are not in some type of drought category. Large areas of Abnormally Dry or Moderate Drought exist in most states, with a few notable areas of Severe and Extreme Drought in Texas, Oklahoma and Arkansas, as well as isolated areas in the Carolinas and Alabama. As fall fire season approaches, most states have drought concerns to some degree. Several states should see improvements as the drought monitor updates each week and recent rainfall is considered. See Drought Monitor chart on following page.



US Drought Monitor September 29, 2026 (precip that occurred after 9/29 may not be represented)

Keetch-Byram Drought Index (KBDI) is one of the most widely used metrics across the South for evaluating trends in fire danger and general drying. During late summer and early fall, it is common for KBDI values to reach seasonal highs before beginning to trend lower towards winter. This year however, as September transitions to October, KBDI values across the South are significantly elevated compared to most years. In fact, many stations are running KBDI values 200 points or more above normal for this time of year. When the GACC is viewed as a whole, 8 of 13 states show areas of KBDI values above 700, and many others have values well into the 600's. This area of dryness encompasses nearly 50% of the *entire* Southern Area.



KBDI map October 5th, 2026 depicting two areas of particularly elevated values

KBDI value alone does not completely tell the story. A better representation is comparing the current value to normal and then assessing the difference. The figures below illustrate the significant KBDI departure from normal in many geographies across the Southern Area. These data were captured on October 5th from the North Carolina Fire Weather Intelligence Portal.

Texas

FDRA Name and Vicinity	Current KBDI	Departure from Normal
Central Texas (Round Prairie/Bastrop)	666	+146
Northeast Texas (Gilmer/Texarkana)	705	+180
North Texas (Mckinney/Terrell)	750	+249
Eastern Hill Country (Temple/East Austin)	667	+218
Rolling Plains (Hamby/Matador/Miller Creek)	673	+229
Southern Plains (Midland/Gail)	647	+205
Southeast Texas (Lufkin/Sabine/Kirbyville)	681	+152

Oklahoma

FDRA Name and Vicinity	Current KBDI	Departure from Normal
West Central (Cheyenne)	624	+228
Southeast (Kiamichi/Broken Bow)	616	+168
Southwest (Wichita)	696	+280

Arkansas

FDRA Name and Vicinity	Current KBDI	Departure from Normal
Delta (Marianna/Poinsett)	740	+257
Ozark Highlands (Boonville/Wedington/Guy)	683	+235
Ouachita Mountain (Jessieville/Oden)	692	+183

Louisiana

FDRA Name and Vicinity	Current KBDI	Departure from Normal
Western Parishes (Natchitoches/Evangeline)	734	+196
Delta Parishes (Catahoula/Monroe)	786	+253
Coastal Parishes (Big Branch NWR/Lacassine)	632	+129
Florida Parishes (Bude/Hancock/Big Branch)	634	+116

Large KBDI departures are not confined to the listed states only. Most of Mississippi exhibits KBDI values that are well above normal for this time of year. Alabama, parts of Georgia, as well as areas in the Carolinas and the western half of Tennessee, also have values that are well above normal. KBDIs in Florida and across most areas of the Appalachian Mountains are highly variable, but other metrics of long-term drought are more concerning.



Early leaf drop in North Carolina

KBDI by itself is not always a predictor of problematic fire behavior, especially during mid-to-late summer when RH levels are higher and vegetation remains green. As summer transitions to fall when vegetation is nearing the end of its growing season, live fuel moisture seasonally declines, and leaves begin to fall. Weather patterns also typically transition to air masses with lower dewpoints and relative humidity. More wind – as compared to summertime – is also common. This combination of factors can then become a concern for fire managers – as a drier fuel state begins to align with weather factors that will be more conducive to fire spread. Brief periods of low humidity and moderate windspeeds could produce challenging fire behavior in those areas that continue to experience extremely high KBDI levels.

An additional compounding factor for fire danger in Texas and Oklahoma is the fact that portions of those states saw adequate rainfall to allow for a robust crop of grass and herbaceous fuels growth. Most notably, extreme rainfall in the Texas Hill Country was observed two summers in a row. Grass was taller and more contiguous than normal in many parts of both states. This situation was noted in the Southern Area Spring Wildfire Risk Assessment as well. Much of that grass is still on the landscape and is likely to provide increased loading of flashy, fine fuels.



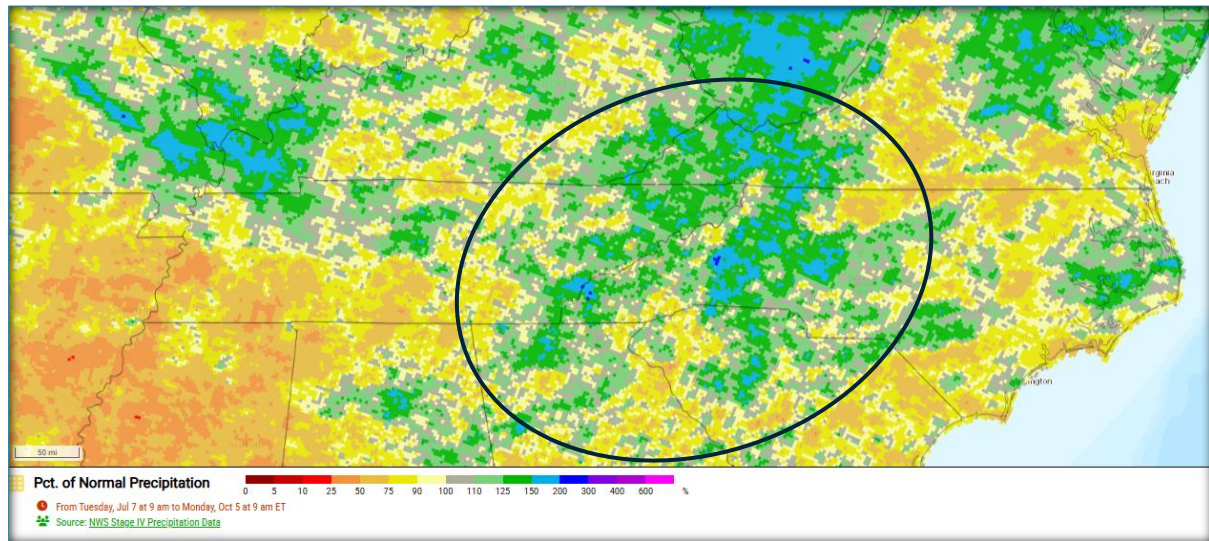
Robust grass production and continuity in Texas (Photo courtesy of Texas A&M Forest Service)

This volatile fuel situation has produced multiple instances of problematic fire spread in both states during the past several months. Recent rainfall across these two states may provide a brief green-up to the grass component that could temporarily reduce fire spread potential.

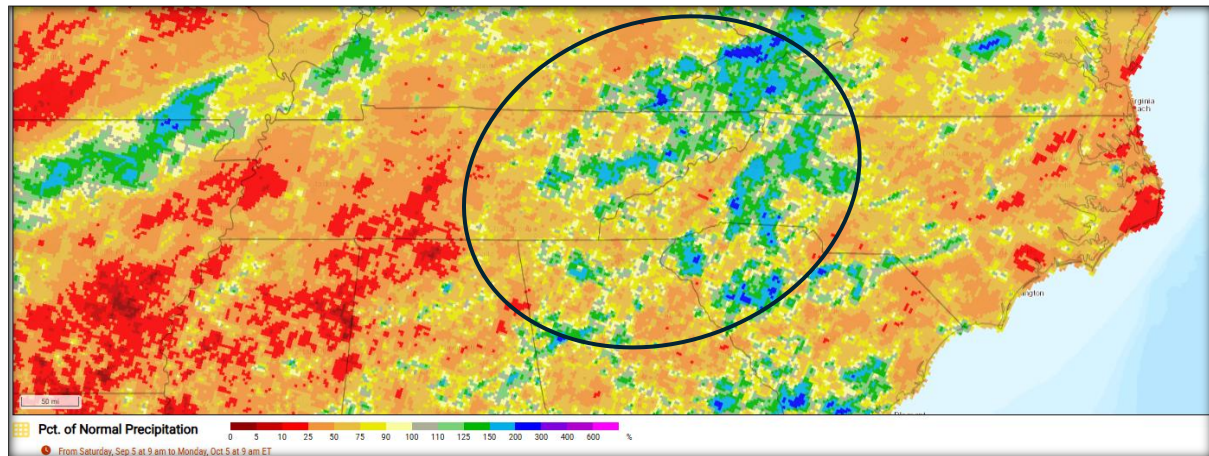
Florida has just recently begun to emerge from a sustained drought that persisted from September of 2025. Regular rainfall patterns in the form of afternoon and evening thunderstorms have reduced KBDI values across most of Florida to levels that are of low concern for fire managers. While most of the state still resides in moderate drought, the trend has been towards wetter weather, and the drought classification has seen steady improvement recently. Swamps and drainages across most of Florida are not yet back to normal levels as far as standing water, but that situation appears to be steadily improving, and current weather outlooks for Florida do not indicate droughty conditions are likely in the near future.

Tropical storms typically provide Florida with a considerable share of its yearly rainfall. Hurricane season in 2025 and the early portion of the 2026 season have seen essentially zero beneficial rains from tropical activity. The remainder of this tropical season is not expected to produce a high number of storms, but a stalled front followed by Isaias will result in multiple rounds of heavy rain across Florida and adjacent portions of the Southeast during the second week of October. Also, weather models are indicating above normal general rainfall for the state this fall and winter, so fire danger is not expected to be elevated. It appears more likely than not that most of Florida will have below average fire danger for most of the upcoming fall.

The Southern Appalachians are an area that is usually watched closely for fire potential during the fall. Large fires are common during dry years, especially when dry conditions coincide with leaf fall from deciduous hardwoods. The summer of 2026 has seen highly variable amounts of precipitation in the Southern Apps over the last 90 days. The most recent 30-day period indicates a more notable drying trend, with many areas in the mountains showing a rainfall deficit during the last month.



90-day Percent of Normal Precipitation – Southern Apps (blues and greens are surplus)



30-day Percent of Normal Precipitation – Southern Apps (yellow and red are deficits)

Isaias will bring variable rainfall to the Appalachians in the short-term, but a gradient in rainfall typically exists during falls with El Niño conditions in place, with drier conditions to the northwest and wetter weather to the southeast. Fire danger in the Southern Apps is highly dependent upon frequency of rain events after leaf drop occurs, rather than total rainfall

amounts. Brief periods of sunny days with low humidity and gusty afternoon winds can cause a quick uptick in fire activity, especially when leaves have already fallen. The lack of shading and a fresh layer of continuous fine fuel can create conditions for fire to spread easily across the landscape. It should be kept in mind that vast areas of Helene-damaged timber still exist across the landscape of the Southern Appalachian Mountains. This situation is likely to remain a fuel loading threat as well as an access problem for fire suppression response for the foreseeable future, necessitating heavy use of aircraft when possible.

A devastating ice storm this past January that stretched from north Texas to Tennessee caused significant amounts of tree damage in both pine and hardwood forests along the path of the storm. The impact was especially severe in central Mississippi and into west and middle



*Fire Behavior in Ice damaged timber, Hardeman County Tennessee
(Photo provided by Tennessee Division of Forestry)*

Tennessee. Most of the debris caused by the storm is still on the ground and has had nine months to cure and become available to contribute to fire intensity.

Increased fire behavior has been observed on fires occurring within ice damaged areas in recent months, specifically in Mississippi and Tennessee. It should be expected that if dry weather continues to persist in these areas, increased fire intensity is

likely with any ignitions that occur inside ice damaged areas. Resistance to control will be higher, especially if fire spread is occurring in pine fuel where downed limbs and tops still retain brown pine needles.

Puerto Rico is an area that doesn't frequently experience high fire danger. 2026 however has been one of the drier summers on record for the island. KBDI and Energy Release values both reached the 97th percentile in late June and early July and remained elevated for most of July and August. Fire occurrence has at times been much higher than typical, as the month of July saw over 300 individual IA fires. Indices have gradually decreased to seasonal normals, but forecasts indicate a return to well above average ERC values and historically low 1000-hour fuel moistures. In the absence of tropical activity, the islands could expect to experience a continuation of above average fire occurrence. Outlooks do indicate above normal



*Parched fuels in Cabo Rojo, Puerto Rico on DOI land on
September 29th (Photo courtesy of James Sullivan, DOI
USWFS)*

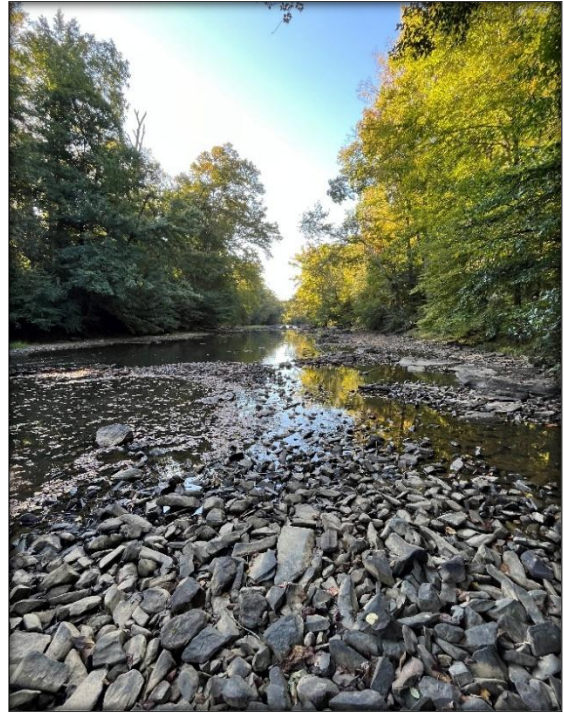
significant wildfire potential for both October and November. Wildfire activity in tropical rainforests can have especially severe ecological consequences, as fire tolerance for most species is extremely low and mortality is usually high.

Outlook and Implications

Aside from existing drought, the biggest factor expected to influence fire danger across the South this fall is the historically strong El Niño. Past history suggests that precipitation events and accumulations could be significantly above average by December, but confidence is much lower for the rest of October into November – the traditional peak of the fall fire season. As noted in this document, many areas of the South are entering the fall much drier than usual. There is at least the potential for overlap of the continued dry conditions with the more fire prone fall air masses prior to the onset of El Niño’s winter precipitation. Implications and impacts could include:

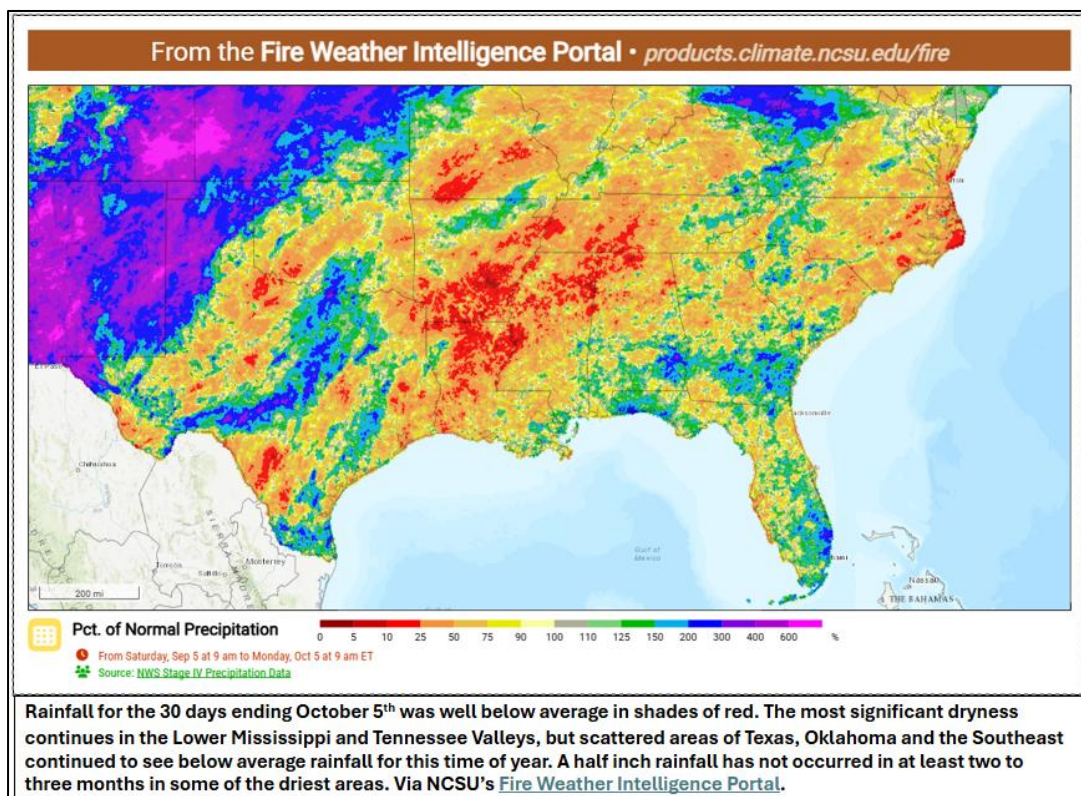
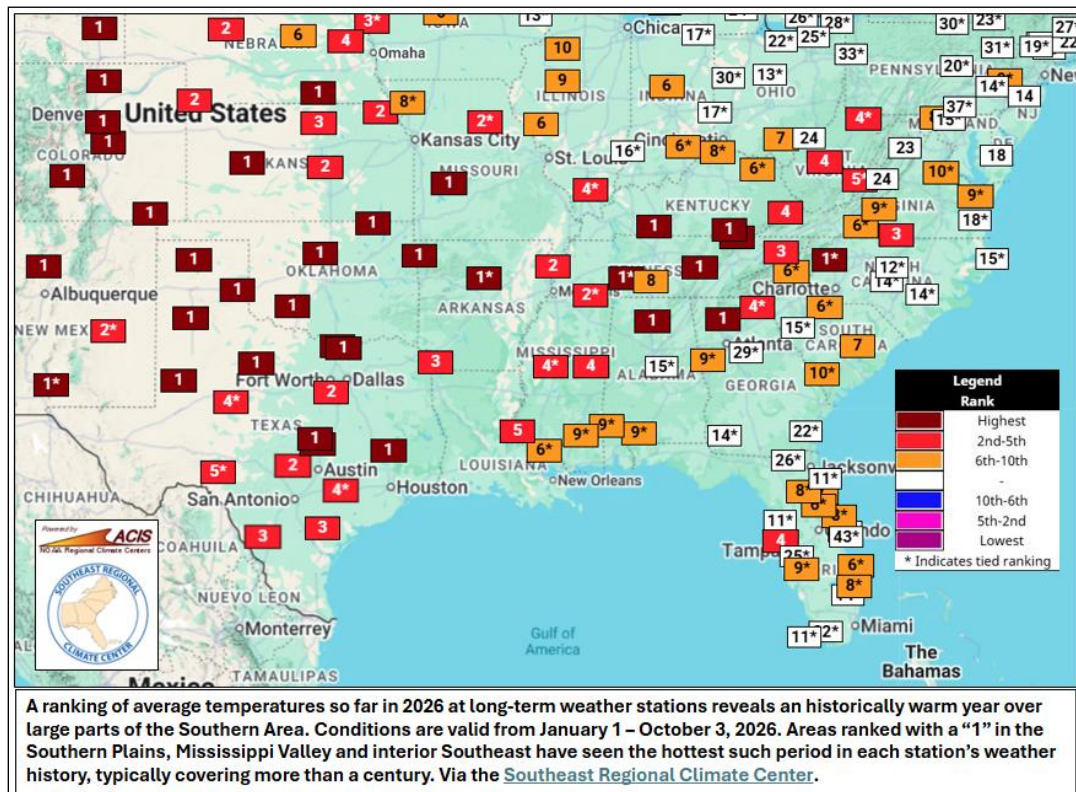
- Until such time as the impacts from El Niño begin to be felt, it is likely that significant areas of the region will continue to see elevated fire danger, even when recent precipitation and heavy rainfall from Isaias is considered.
- The later that El Niño impacts develop, the more time available for fire danger to increase during critical periods such as leaf fall in the Southern Appalachians.
- Several Gulf Coast states remain critically dry. KBDI levels have been higher with more widespread areas above 700 than during the significant drought of 2023. KBDIs have decreased slightly with recent precipitation in some areas. Beetle-killed and drought-killed trees are still standing on the landscape from 2023 and could become a problematic fuel if drought conditions persist. Past history suggests active fall seasons when conditions are similar to those currently in place.
- Prior to recent precipitation, Arkansas had been noticeably dry for several weeks. Fire activity had been increasing and resistance to control at times was high. Large air tankers were used on the recent Bunker Fire that eventually burned 2800 acres. A drying pattern will quickly erase effects from recent rainfall since wetting amounts were scattered, allowing a return to high fire danger.
- The Piedmont and Coastal Plain areas of the Carolinas experienced significant drought during the spring and summer of 2026 – in some areas, the driest 6-to-12-month period on record were observed. Soils and woody fuels are significantly dry. Any fires under these conditions could display aggressive behavior or become established in organic soil.
- Early leaf drop has been reported around the Southern Area.

- Rivers, streams and drainages remain much drier than normal and may not suffice as containment features until adequate recharge occurs
- In those areas with a predominantly fine fuel environment like Texas, Oklahoma or the Appalachian Mountains – expect a quick ramp up to elevated fire potential with any brief period of low RH and breezy winds.
- Expect longer duration fires and extended mop up until El Niño impacts materialize. 1000-hour fuels trend similar to KBDI – both are good indicators of long-term dryness. Several agencies have reported extended mop up on fires recently.
- Prolonged smoke production due to low soil moisture and large diameter fuel moisture should be expected.
- Reburn potential from needle cast is higher during drought.
- Fire spread may be persistent and strong on any fires that ignite in the more critically dry areas of the region.
- In those areas with extremely high KBDI values, it will take a tropical system, extreme rainfall event or frequent and extended periods of wet and cool weather to bring conditions back to “normal”. Stream flows are likely to remain low until plentiful precipitation arrives.

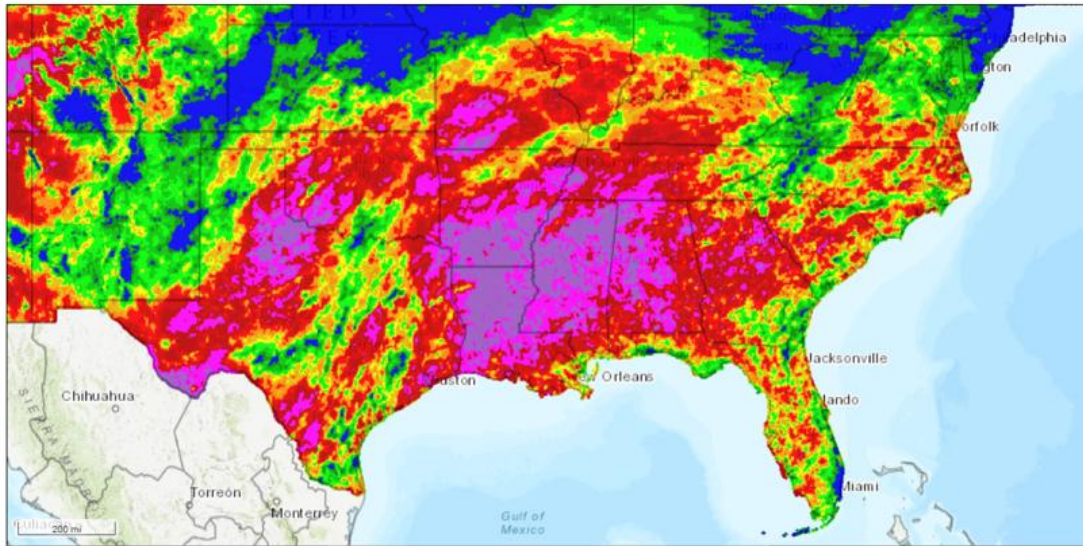


Rivers and streams are low across the Piedmont of the Carolinas and Georgia as shown in this photo of the Uwharrie River.

Weather Overview



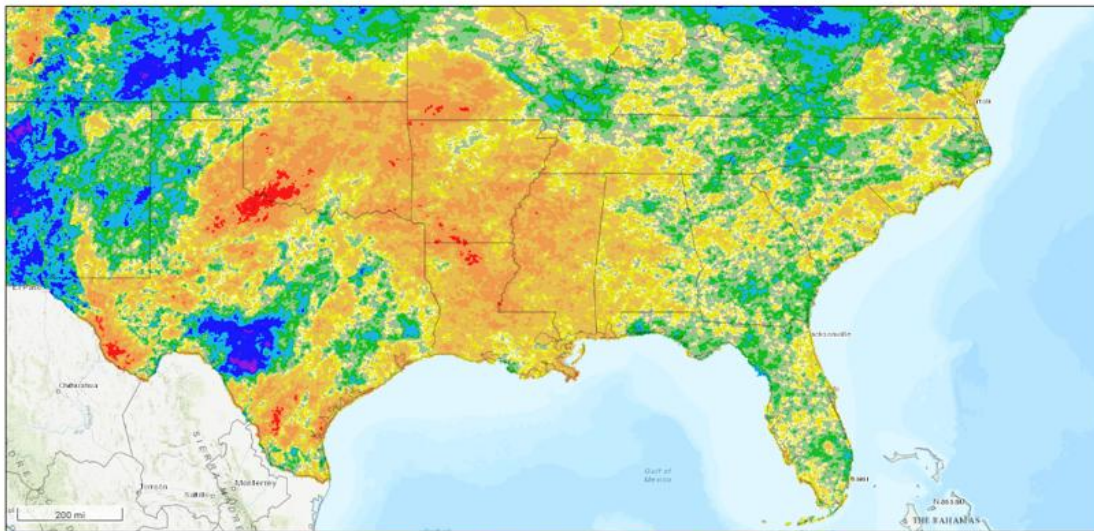
From the Fire Weather Intelligence Portal • products.climate.ncsu.edu/fire



Keetch-Byram Drought Index
 0 100 200 300 400 450 500 550 600 650 700 750
 From yesterday (Oct 4)
 Source: Calculated based on PRISM Climate Data

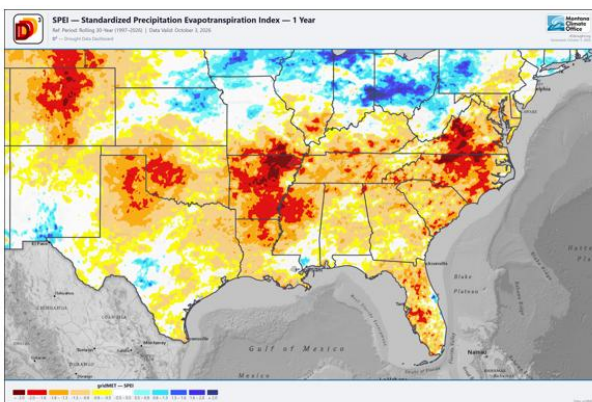
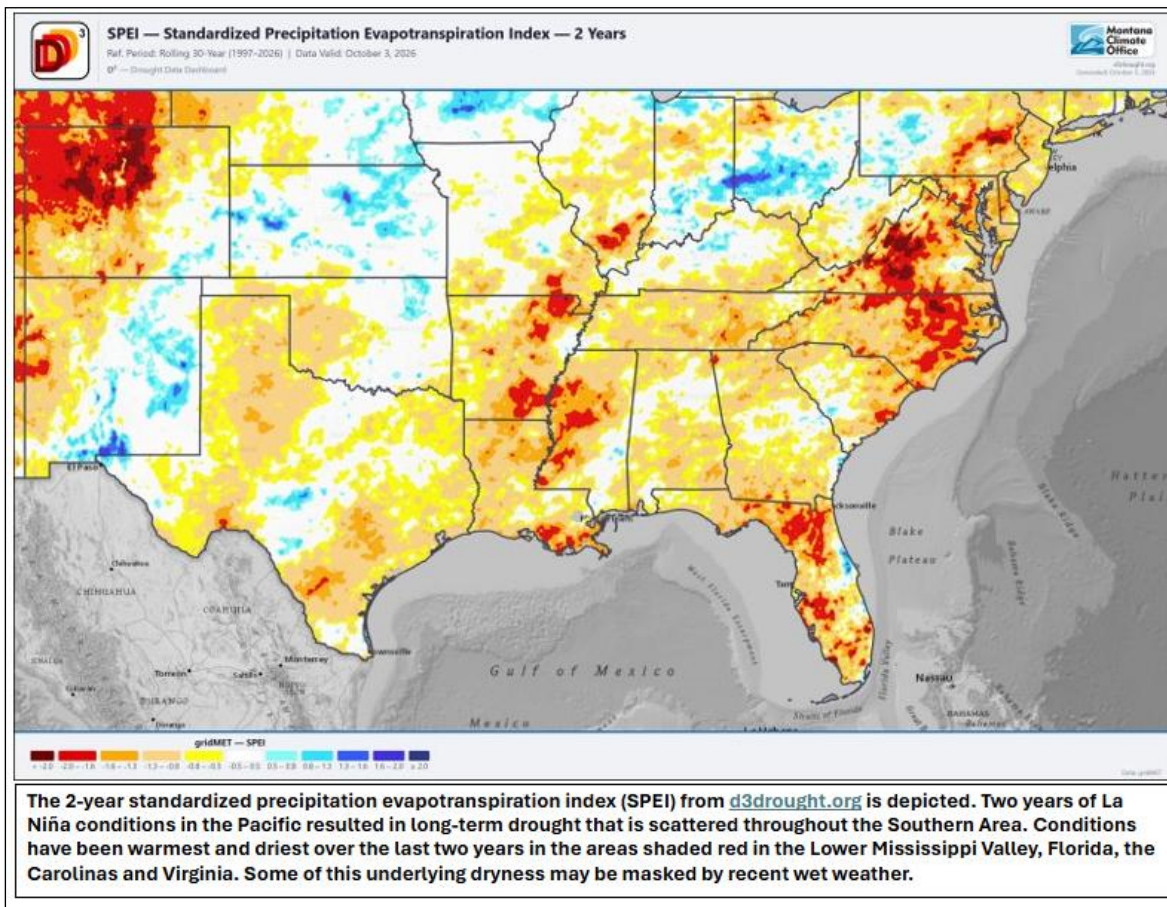
Gridded KBDIs are depicted, valid as of October 4th. Significant drought relief occurred in scattered areas of the Plains and more isolated portions of the Lower Mississippi Valley and Southeast in late September and early October. Despite this, portions of the Plains, most of the Lower Mississippi Valley and scattered areas in the Southeast are experiencing KBDIs well above 700, at least 200-400 points higher than normal for this time of year. Via NCSU's [Fire Weather Intelligence Portal](https://products.climate.ncsu.edu/fire).

From the Fire Weather Intelligence Portal • products.climate.ncsu.edu/fire

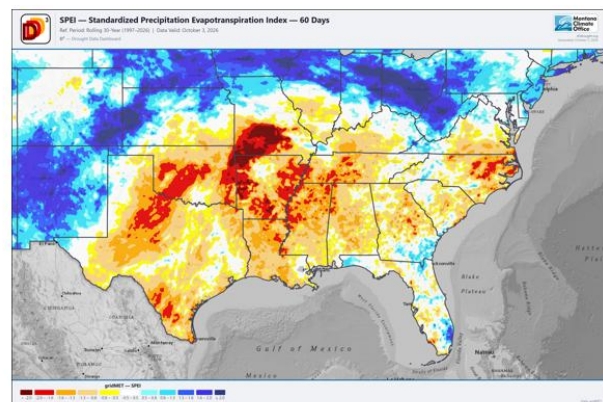


Pct. of Normal Precipitation
 0 5 10 25 50 75 90 100 110 125 150 200 300 400 600 %
 From Tuesday, Jul 7 at 9 am to Monday, Oct 5 at 9 am ET
 Source: NWS Stage IV Precipitation Data

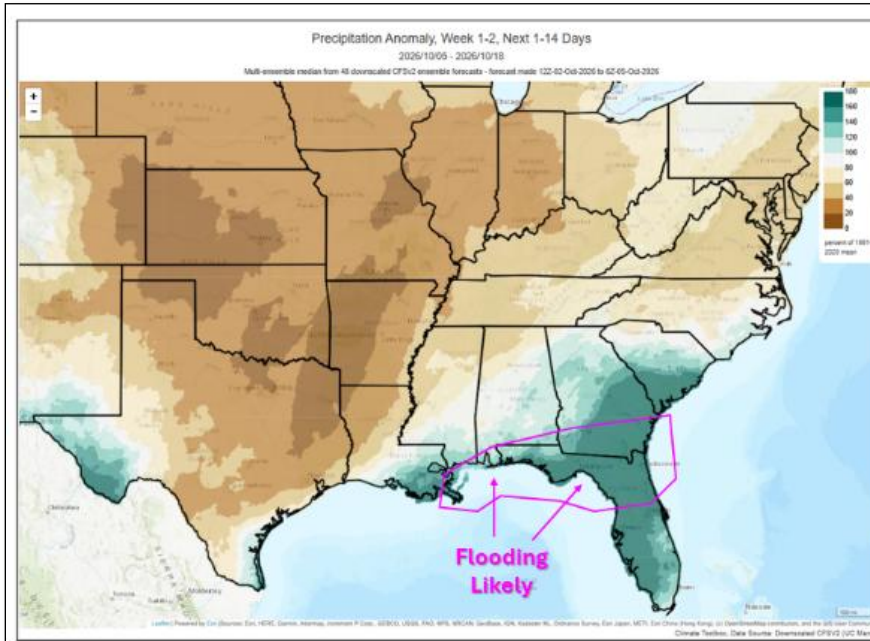
Rainfall for the 90 days ending October 5th was below average in the warm shades. The most significant dryness is indicated in areas of red, representing rainfall that was below 25% of normal. This includes portions of the Trans Pecos, south Texas, western north Texas into southwest Oklahoma, and smaller areas of eastern Oklahoma into west and south Arkansas, north Louisiana and northwest Mississippi. July flooding in the Texas Hill Country, evident in cooler shades, contributed to above normal grass loads that are now cured due to the flash drought that followed. Via NCSU's [Fire Weather Intelligence Portal](https://products.climate.ncsu.edu/fire).

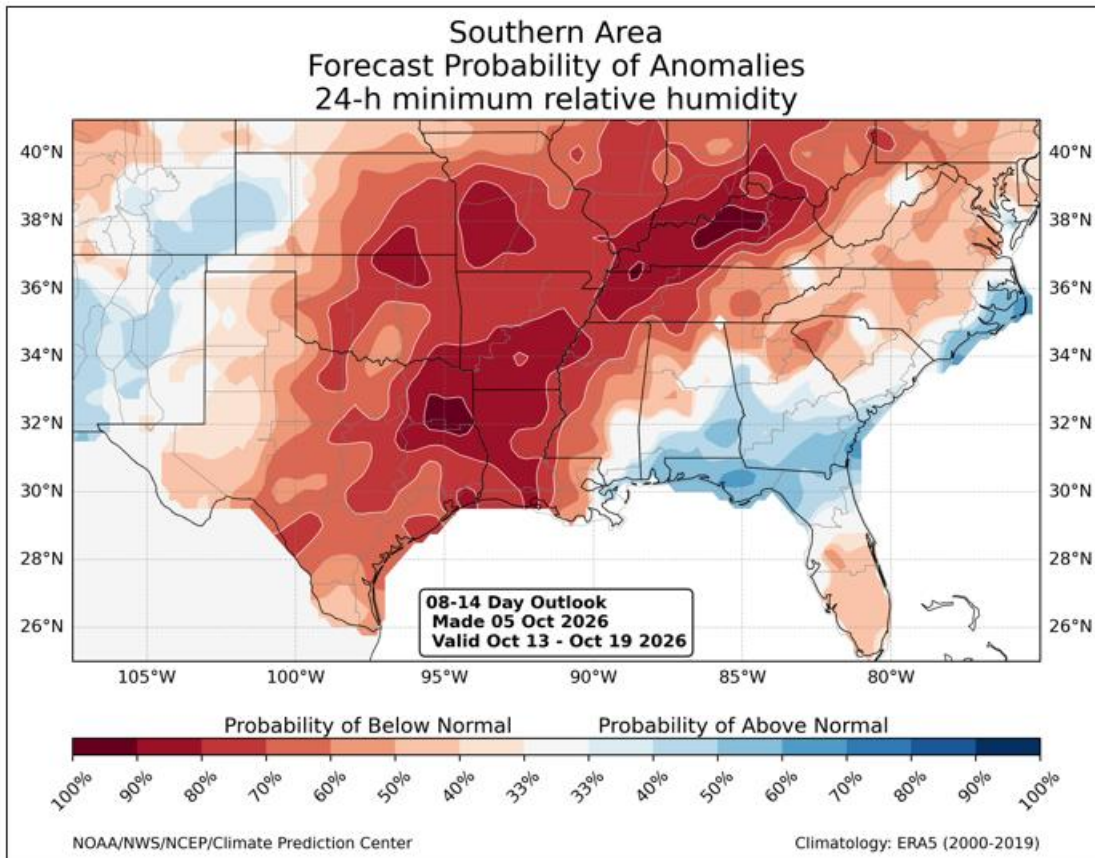


The annual SPEI depicts widespread, significant drought across the Southern Area that extends back to the lack of landfalling hurricanes in 2025 that was followed by a dry winter and spring. Areas in the two darkest shades of red are likely experiencing unusually low deep-layer soil moisture, affecting forest health and leading to vegetative stress and early leaf drop or needle cast. Via d3drought.org

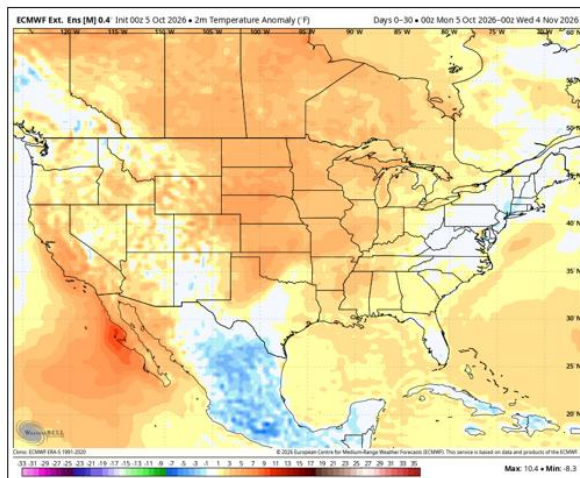


Late summer and early fall flash drought affected large parts of the Southern Area, especially for areas shaded in red. 60-day SPEIs show the hottest and driest areas extended from parts of the Plains through the Mississippi Valley and Southeast, though heavy rain over the last week is masking out some of the historically dry and hot conditions experienced during August and September. Via d3drought.org

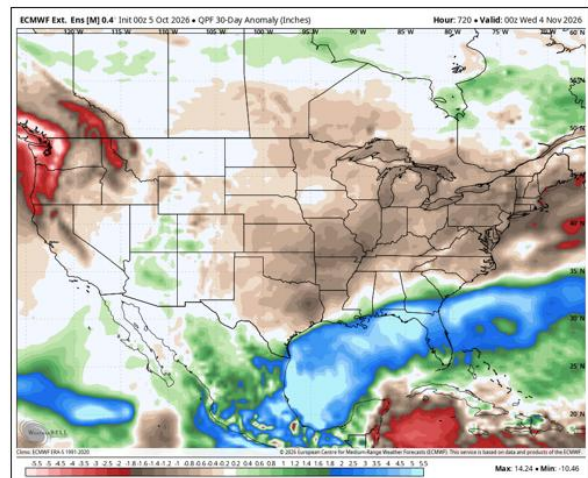




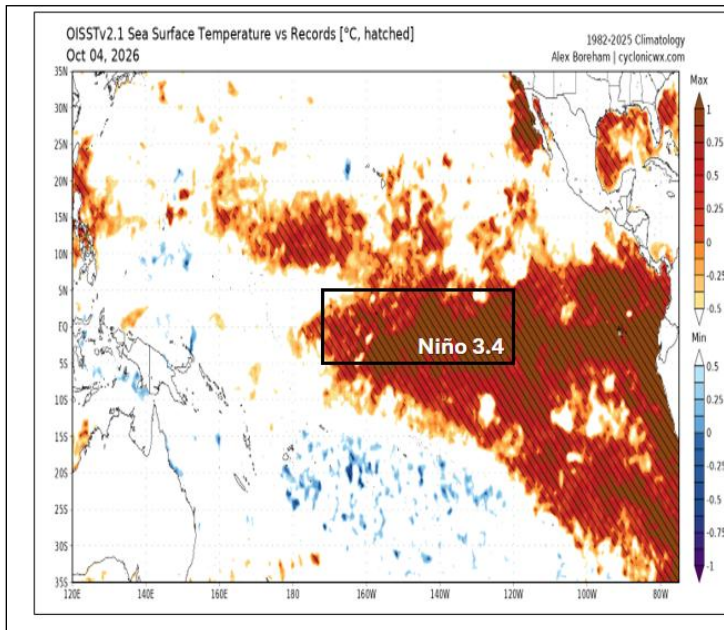
NOAA's GFS Ensembles predict that a dry air mass will persist across western, central and northern parts of the region during the majority of the October 13-19 period, continuing a drying trend that begins in early October. Fire danger will likely increase where rainfall does not occur during this period. The coastal Southeast is expected to remain humid due to southerly flow off the unusually warm Gulf. Via NOAA's [CPC](#)



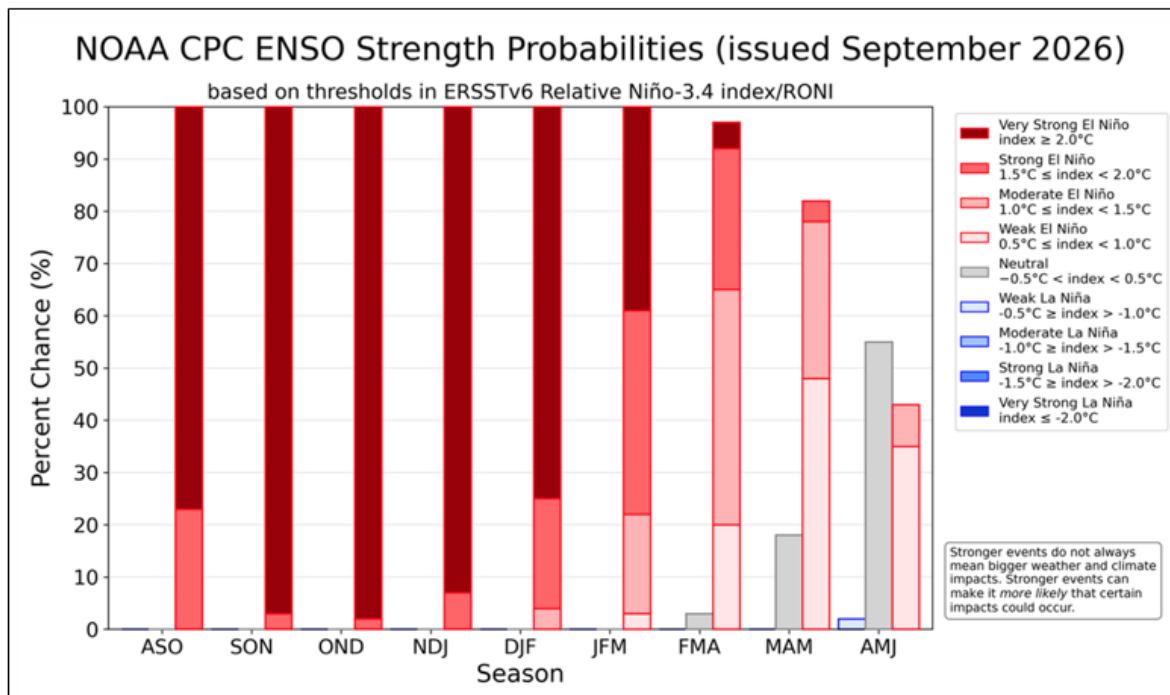
The ECWTF Ensembles forecast temperatures the next 30 days to be warmer than normal across most of the geographic area, with the highest confidence in northwest and east Texas, western and northern Oklahoma and the Lower Mississippi Valley – map via [WeatherBELL](#).



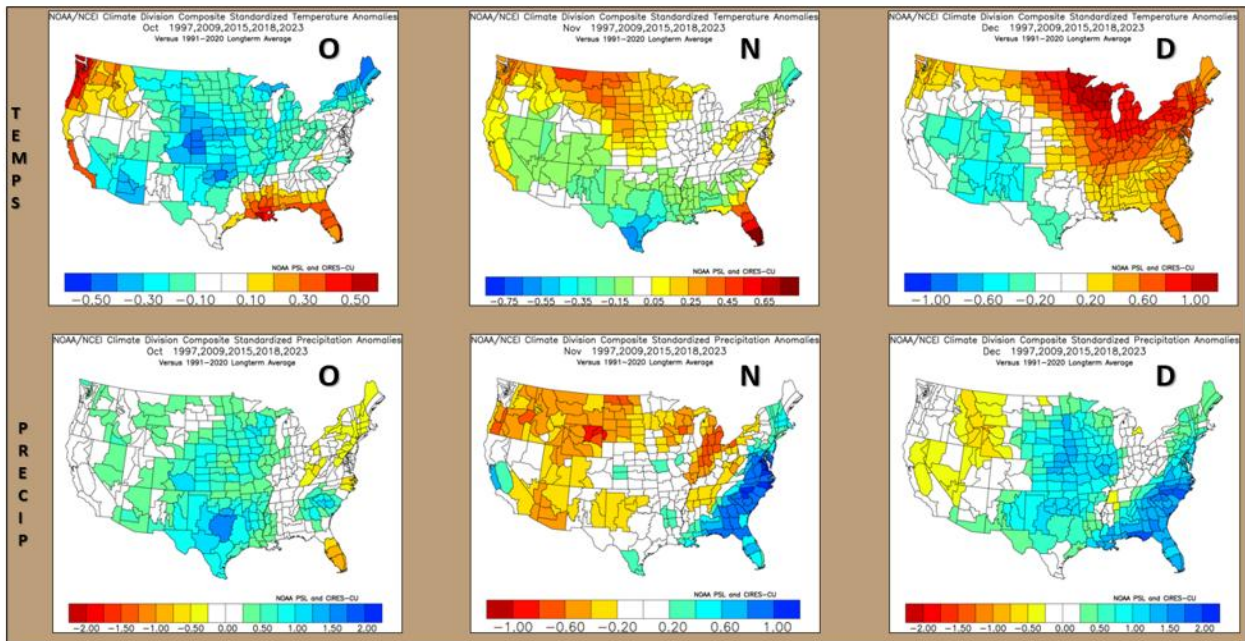
The ECWTF Ensembles forecast above normal rainfall along the Gulf Coast, with the wettest conditions over central and north Florida into south Alabama and Georgia. Drier than normal conditions are favored in most other areas – map via [WeatherBELL](#).



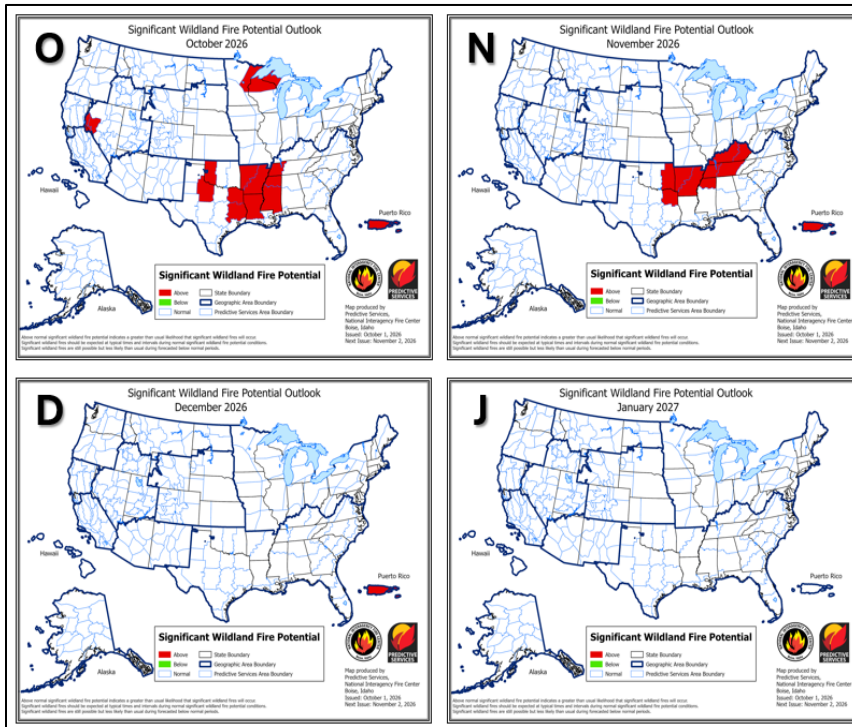
- Sea surface temperatures are record warm in the red hatched areas over the Pacific and far western Atlantic, as of October 4th
- Conditions in the Niño 3.4 region are historic for this time of year, with widespread record warm sea surface temperatures that have not likely been reached in 10s to 100s of thousands of years across the tropical eastern Pacific
- Sea surface temperatures east of the Niño 3.4 region are warmest relative to average (not depicted), which tends to increase winter precipitation in the Southern Area
- Record warm sea surface temperatures as of October 4th are also in place over much of the western Atlantic, including along the Gulf Coast and east of Florida and Georgia – this may contribute to extreme rainfall, flooding and severe weather during fall and winter
- Global oceanic conditions on top of those described above are unprecedented and could lead to atypical weather impacts in the coming months and years



NOAA's [Climate Prediction Center](#) forecasts a 98% chance of a very strong or "Super" El Niño by the end of 2026. Record high sea surface temperatures are already in place over the central and eastern tropical Pacific, with additional warming expected through fall. Weather conditions over the Southern Area in fall are not always affected by ENSO, aside from high wind shear and below normal hurricane activity in the Atlantic basin.



Analogs for ENSO conditions similar to this year include 1997, 2009, 2015, 2018 and 2023. Conditions in the Pacific are most similar to 1997. Temperatures for each month from October through December are on the top row, with precipitation anomalies on the bottom. The unsettled weather associated with El Niño can set in during October and November but becomes more likely during December. Dryness is often favored during the fall fire season in portions of Kentucky, Tennessee, north Mississippi and Alabama, Arkansas, Oklahoma and north Texas, with a sharp gradient in rainfall near the Appalachians. No two El Niños are alike.



- The [Significant Wildland Fire Potential Outlook](#) for October 2026 to January 2027 is depicted
- Above normal significant fire potential is forecasted in October over northwest Texas and western Oklahoma, in addition to far east Texas and the Lower Mississippi Valley
- November is forecast to see above normal significant fire potential over eastern Oklahoma and northeast Texas into Arkansas, north Mississippi, west and middle Tennessee and Kentucky
- Above normal significant fire potential is forecasted for Puerto Rico and the U.S. Virgin Islands from October to December
- Otherwise, normal conditions are expected for the rest of the Southern Area, but uncertainty is high for areas affected by Helene during November
- The timing of leaf drop and frequency of rainfall events in November is also highly uncertain

Critical Fire Weather Patterns

Lingering Late Summer and Early Fall Weather Watchouts

- **Pre-frontal Compressional Warming:** As weather fronts approach, compressional warming can lead to hotter than anticipated high temperatures. This phenomenon occurs when air is forced to descend, heating as it compresses. This can also drive minimum relative humidity lower than forecasted, creating an environment conducive to fire spread. These conditions may develop rapidly, leaving limited time for fire managers to respond.
- **Erratic Thunderstorm Winds:** Thunderstorms, even those producing little or no rainfall, may generate erratic outflow winds. These winds, often far from the storm's core, can be unpredictable, stirring extreme fire behavior in areas with drought-affected or high-risk fuels. Such conditions can catch firefighting teams off-guard, potentially causing fires to spread quickly in unexpected directions.
- **Sea Breezes and Abrupt Wind Changes:** Even into October, sea breezes can develop along coastal areas, especially during warm weather with light background winds. These breezes can cause sudden shifts in wind velocities and directions, temporarily increasing fire danger by altering how a fire spreads, especially in regions with dry fuels.
- **High Temperatures Persisting into Fall:** While temperatures at or above 100°F become less common as the days shorten, they are still possible in the warmer parts of the region into late September and early October. Sandy or dry soils can exacerbate this trend, leading to localized hotspots of high fire danger.

Dry Cold Fronts

- **Fall and Winter Dry Fronts:** October and November are prime months for dry frontal passages, though they can occur throughout the fall and winter. These fronts typically bring little to no precipitation but are followed by dry air masses that result in critically low relative humidity levels during the day, with minimal recovery overnight. If a dry front is accompanied by a strong pressure gradient, expect sustained westerly or northerly winds with gusts of 30-40 mph, significantly increasing fire risk.
- **Fuel Drying:** These dry air masses can quickly deplete moisture in dead fuels, creating dangerous fire conditions, especially in areas with freshly fallen leaf litter, grass-heavy regions, or where surface fuels combine with ladder fuels in drought-stressed pine forests.

Tropical Cyclones and Their Adjacent Dry and Breezy Conditions

- **Dual Impact of Tropical Cyclones:** While tropical cyclones can quickly alleviate drought conditions through heavy rainfall, they can also generate critical fire weather on their periphery. Strong winds, not directly linked to the cyclone's core, often occur between the cyclone and high pressure systems. As high pressure systems strengthen in fall, they generate dry air masses, which, combined with subsiding air from cyclones, can create corridors of dry, gusty winds.

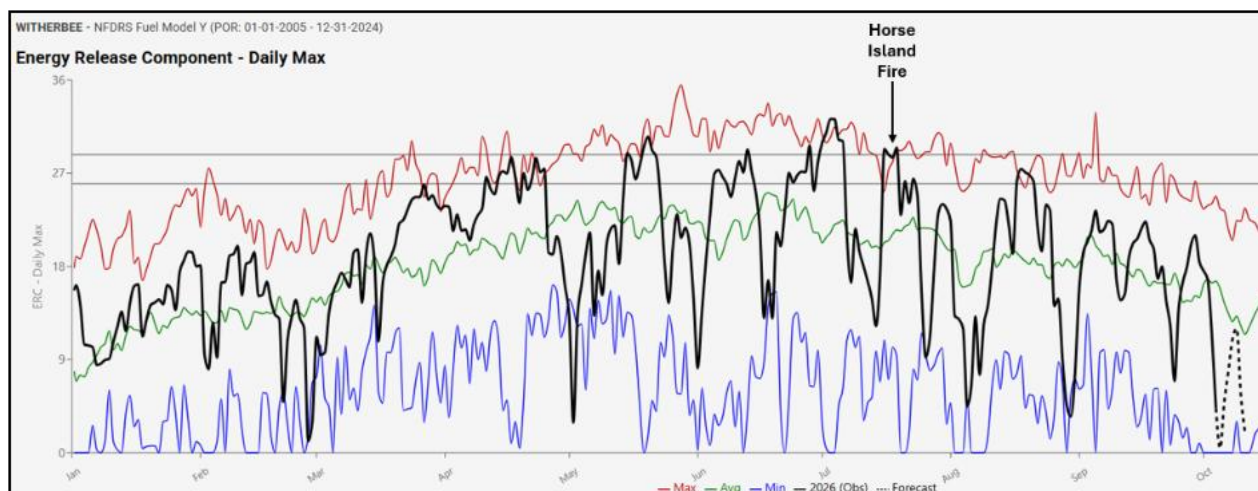
Mountain Waves

- **Mountain Wave Formation:** Mountain waves are air movements that occur near mountainous terrain, often during stable air conditions. These waves are particularly common in late fall and early winter in the Appalachians but can develop near any elevated terrain in the region. Mountain waves are most likely when the wind direction is within 30 degrees of being perpendicular to a ridge line, especially ahead of or behind passing low pressure systems and their frontal boundaries.
- **Extreme Winds and Fire Risk:** These mountain waves can produce narrow but extreme wind events, with gusts exceeding hurricane-force levels. Wind direction may shift rapidly, catching fire crews off-guard. The eastern side of the Appalachians is especially vulnerable to these events, which can enhance fire spread by rapidly drying fuels and fanning flames. Additionally, mountain waves can cause new fire ignitions by downing power lines in high-wind areas.

Fuels and Fire Danger

Preceding Summer Fuels Conditions

- Drought continued to plague much of the Southern Area throughout Summer 2026 despite some respite provided by typical convection rainfall patterns in early to mid-summer for many areas following an active Spring wildfire season.
- Although drought and high temperatures continued to stress vegetation in parts of the Carolinas, Tennessee, Virginia, and a few other areas in June, large fire activity remained low, and the GACC spent most of June at Preparedness Level (PL) 1 as significant precipitation events began to make up for significant deficits in both Florida and Texas.
- This relief was short-lived as precipitation slacked off in a few coastal areas and heat persisted in July leading to an increase to PL2 by July 10th and larger fires in South Carolina (Horse Island WF – Francis Marion NF), northern Florida (Mailbox, Sandhill, Double Strike, Moccasin WFs – Osceola NF), and southern Louisiana (West Blue Crab, Boardwalk, and Brown Ditch WFs – Sabine NWR).
- RAWS near these larger fires in South Carolina and Florida showed Energy Release Component (ERCs) above the 97th percentile (at record highs for those dates), 1000-hr fuel moistures below the 3rd percentile (also records for those dates at many stations), and live herbaceous and woody fuel moistures fully cured.

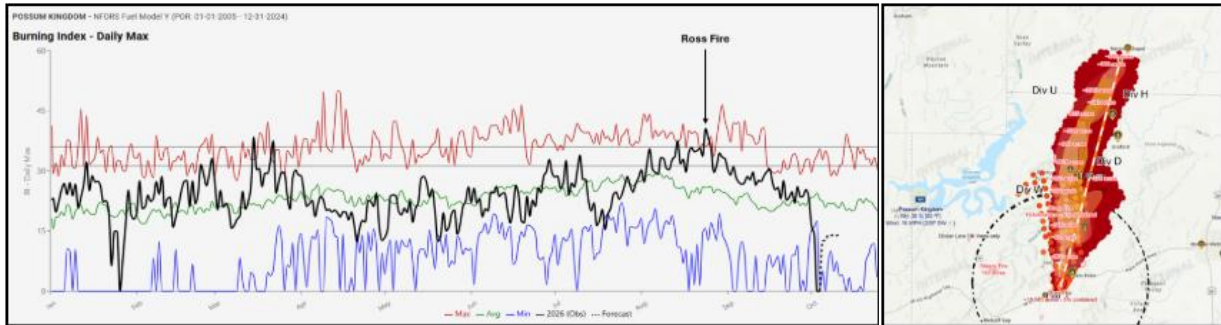


ERC-Y climatology graph for Witherbee RAWS on the Francis Marion NF in South Carolina. ERC was above the 97th percentile and at record highs for July 18th when the Horse Island Fire was discovered on Francis Marion NF. It grew to 1,012 acres in size.

- In August and September, drought and unrelenting heat began to build back into the western portion of the Southern Area, while fuel conditions continued to improve with regular rainfall events and periods of cloudy days across most of the eastern 2/3 of the GACC. Notable exceptions include a few hot, dry, and windy periods in south Florida in August which led to an outbreak of fires in the Everglades (Movie Dome and Chipmunk WFs) and more recently in southern Louisiana in September (Rita Lake, Stark, and Gray WFs).
- Fire activity began to tick up in Texas and Oklahoma starting again in August as ERCs climbed with record-setting heat, woody and herbaceous fuels cured, and dramatic wind events began to exploit drought-stressed fuels.
- This was perhaps most evident for the Ross Fire which started on August 24th west of Fort Worth near Possum Kingdom Lake. Burning Index, an NFDRS index combining ERC and spread component which considers both fuel moistures and wind, peaked on the same day the Ross Fire started, grew to at least 24,000 acres, and spread over 20 miles in the first operational period. The majority of this growth occurred overnight, as the fire coupled to an elevated, nocturnal low-level jet – a corridor of strong winds aloft.

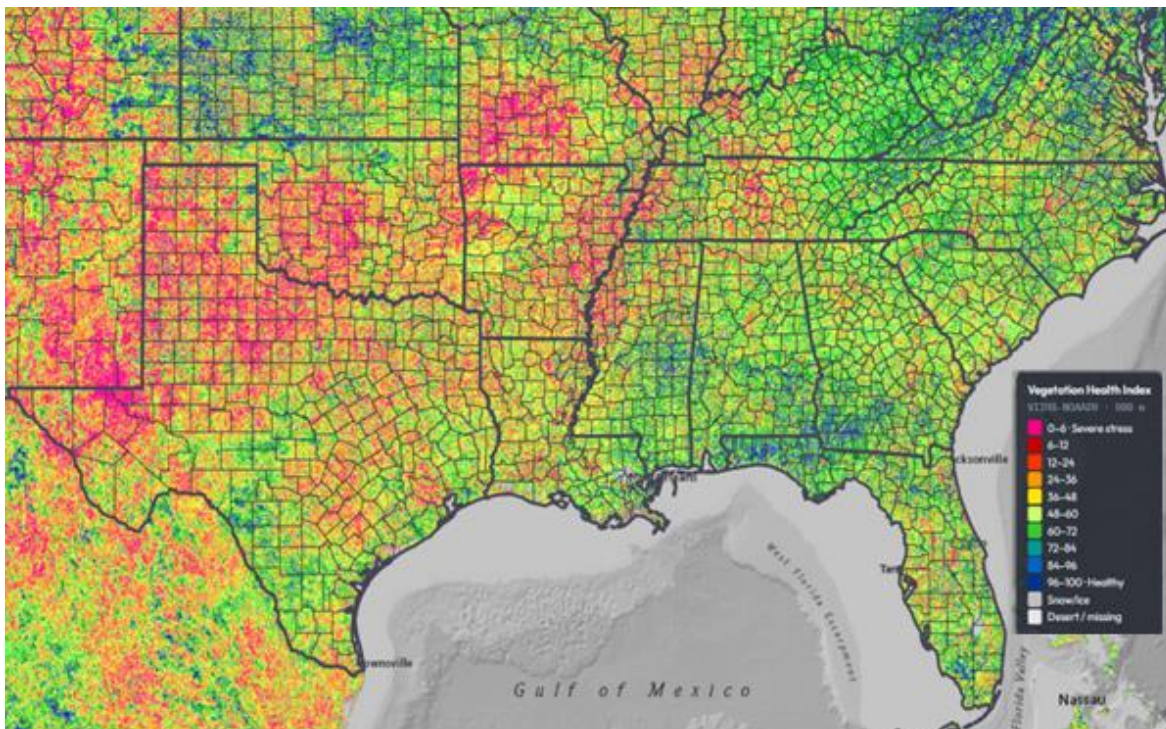


The Chipmunk Fire burns south of the Shark Valley Observation Tower in Everglades National Park on August 22nd (Photo by National Park Service)



Burning Index (Fuel Model Y) at Possum Kingdom RAWS steadily climbed in the month of August peaking on August 24th, the report date for the Ross Fire, the largest and fastest growing fire of the summer in Texas. Ross Fire progression map from the Enterprise Geospatial Portal (EGP) provided by Andy Snyder, USWFS SACC Predictive Services.

- Record temperatures and flash drought led to persistent fire activity in both Texas and Oklahoma at the end of August and into early September, although Tropical Storm Edouard provided at least some relief (and flooding) to portions of east Texas the first week in September.
- Multiple rounds of low humidities and temperatures over 100 degrees in mid-September continued to bake Texas, Oklahoma, and portions of Arkansas as ERCs remained high, fuel moistures tanked, and fire activity continued in these areas until recent scattered relief occurred.

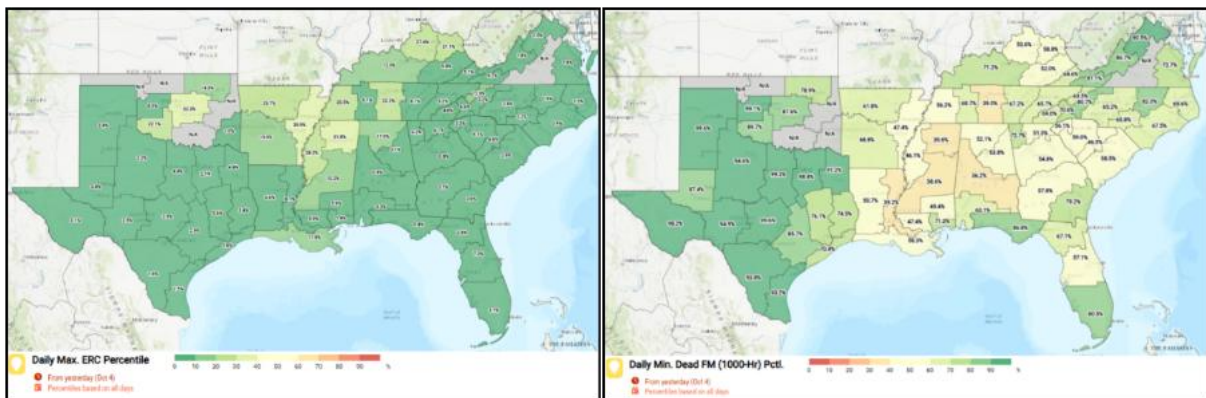


Vegetation Health Index (VHI) from NOAA NESDIS / STAR — a satellite-derived weekly composite combining the Vegetation Condition Index (VCI) and Temperature Condition Index (TCI) from VIIRS-NOAA20 (J01) at 500 m.

- The NOAA NESDIS/STAR Vegetation Health Index (VHI) is a satellite-derived product that indicates vegetation stress over the last 30 days relative to a rolling 30-year baseline (1997 – 2026) as of September 27, 2026.
- This product suggests that the areas of greatest vegetation stress in September 2026, prior to recent precipitation, were spread across most of Texas, Oklahoma, Arkansas, Tennessee and portions of the lower Mississippi Valley. At least scattered areas of stressed vegetation could be found throughout the Southern Area. This is to be expected given the abnormally hot spring and summer, along with sustained drought much of the region has experienced for over a year.

Current Fuels Conditions

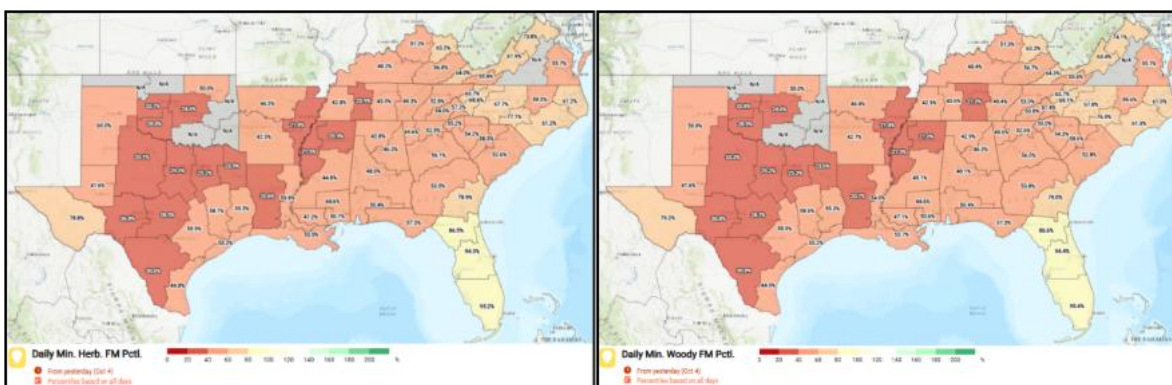
- Despite heavy rainfall recharging fuel moistures across large portions of the Southern Area over the past week, there are still large swaths of Louisiana, Arkansas, northern Mississippi, and parts of northern Alabama, Tennessee, Kentucky, and North Carolina which have received little to no rain recently.
- While most of the GACC is currently showing 1000-hr fuel moistures above 19%, there are still areas of the lower Mississippi Valley, Alabama, and Tennessee below the 40th percentile for 1000-hr FM values indicating an underlying potential for fire growth and resistance to control with any periods of hot, dry, and windy conditions.
- However, ERCs are currently much improved GACC-wide with the highest values hovering around the 32nd percentile in Oklahoma, eastern Arkansas and northern Mississippi in areas that did not receive as much recent rainfall.



Daily maximum ERC and daily minimum 1000-hr dead fuel moisture percentiles as of October 4, 2026 (from the North Carolina State Climate Office Fire Weather Intelligence Portal: <https://products.climate.ncsu.edu/fire/>)

- Live fuel moistures are lagging behind dead fuel moistures in terms of recovery following recent precipitation and associated cloud cover but are beginning to improve in the portions of west and east Texas, Oklahoma, Arkansas, and Louisiana which have received rain.
- Many areas in red in the maps below are still at 30% live herbaceous and 60% live woody moisture values (fully cured), while PSAs within the the Florida Peninsula are approaching the 100th percentile of historic live fuel moistures, and areas of North Carolina as high as the 77th percentile.

- Moisture recharge in the Southern Great Plains should result in green-up of cool-season grasses, and perhaps even some warm-season bunch grasses where precipitation percolates deeper into the soil.
- Since there are forecasts for temperatures to rise into the upper 80s to mid-90s in some areas of Texas and Oklahoma over the next week or two, there is also some potential for late-season green-up. Any late-season green-up will act like a heat sink and should limit fire spread and resistance to control where it occurs.
- As long as flash drought does not return to these areas in the short-term, the improvements to fire danger abatement should last until vegetation-killing frosts set in later in the fall.

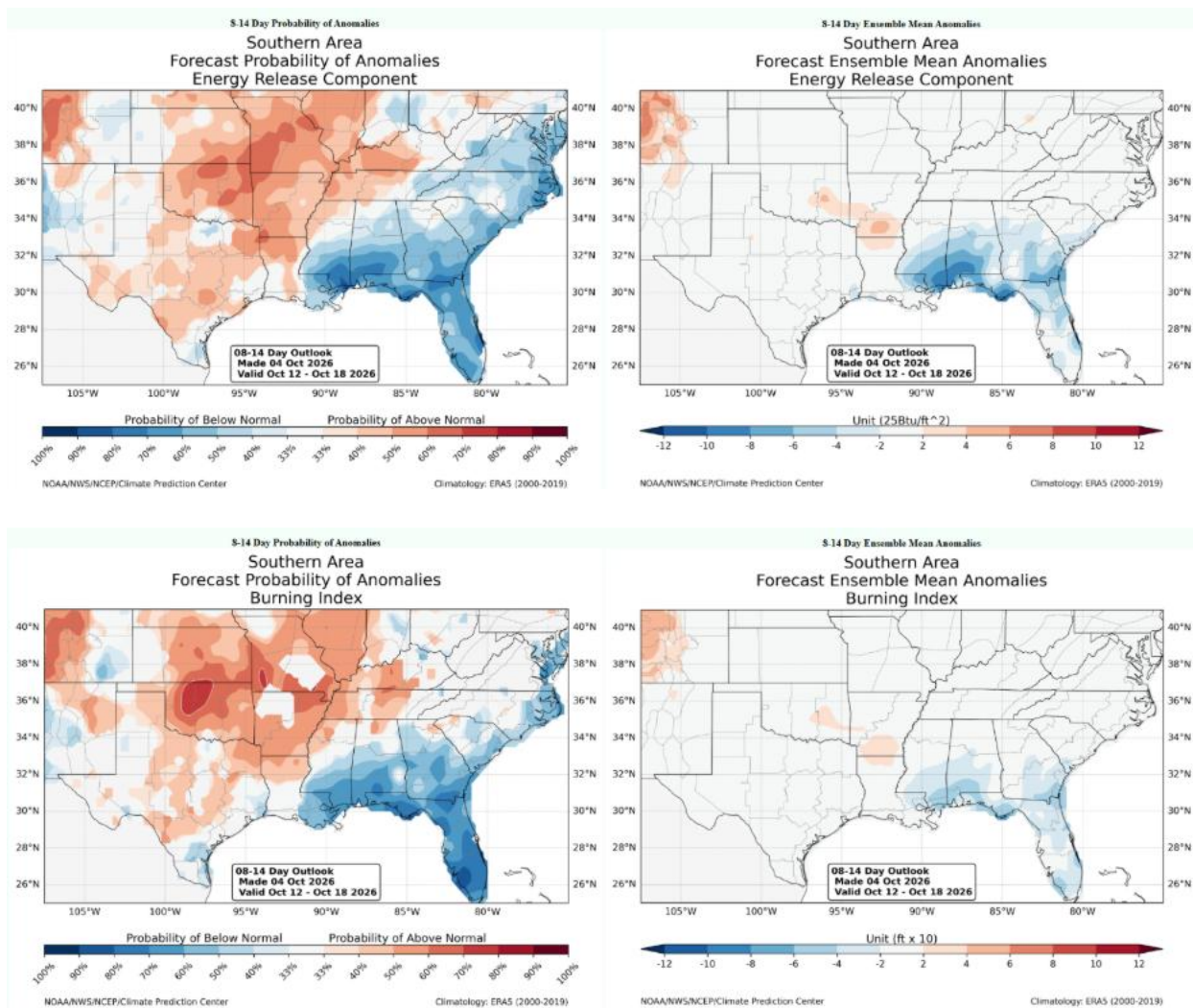


Daily minimum live herbaceous and woody fuel moisture percentiles as of October 4, 2026 (from the North Carolina State Climate Office Fire Weather Intelligence Portal: <https://products.climate.ncsu.edu/fire/>)

Fall Fuels Condition Outlook

- There are a few products that provide experimental NFDRS near-term forecasts for this fall. The NOAA NCEP Climate Prediction Center produces experimental [8-14 day weather and fire danger anomaly maps](#) depicting both probability of departure from normal (2000-2019) and forecast of ensemble mean anomaly. [Climate Mapper](#) provides weekly forecasts out to 28 days for ERC, Burning Index (BI), and 100-hr fuel moisture departure from normal based on 48 downscaled CFSv2 ensemble forecasts.
- The 8-14 day Climate Prediction Center forecasts displayed below illustrate an increased likelihood of higher-than-normal ERCs and BIs in a swath from Texas and Oklahoma, over to Arkansas and northern Louisiana, and west through northwest Mississippi, Tennessee, and Kentucky over this time period with a more limited area of higher forecast mean ERC anomalies in southern Arkansas, northern Louisiana, and eastern Oklahoma.
- Most of the eastern 2/3 of the GACC is forecast to exhibit increased chances of lower-than-normal ERC and BI values over the next 8-14 days with the lowest forecast mean ERCs and BIs possible in southern Mississippi, Alabama, and Georgia as well as many parts of Florida.
- This pattern agrees with forecast temperature and precipitation anomalies over the same period as temps in the 80s and 90s return to Texas, Oklahoma, Arkansas, and portions of

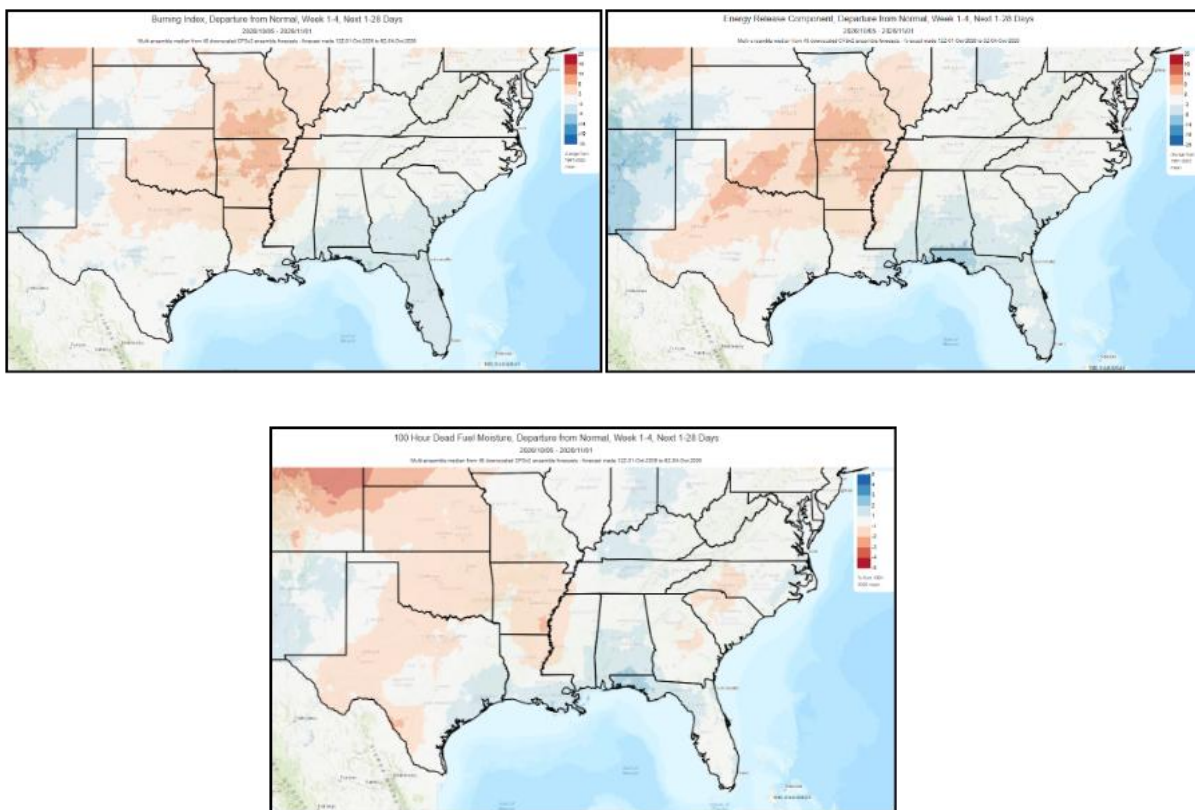
the lower Mississippi Valley and rain and cloud cover associated with a stalled frontal boundary and potential tropical system drape the far southeastern portion of the Southern Area over the next two weeks.



- The Climate Mapper 1-28 day NFDRS and fuel moisture departure from normal forecasts paint a similar picture as the the Climate Prediction Center 8-14 day experimental anomaly forecasts in terms of higher ERCs and BIs likely in the northwestern portion of the GACC with ERCs and BIs 8-14 points higher in portions of Texas, Oklahoma, and Arkansas.
- 100-hr fuel moisture anomalies are showing a less drastic departure from normal over the next month for these same areas but are indicating a drying trend in much of the western 1/3 of the Southern Area as well as scattered portions of Georgia and the Carolinas.
- ERCs and BIs are forecast to be lower than normal along the Gulf Coast and into the Piedmont with 100-hr fuel moistures ticking higher in these same areas. There is also a

signal of higher than normal 100-hr fuel moisture in north-central Tennessee, western Kentucky, and coastal North Carolina in October.

- These near-term NFDRS and fuel moisture forecasts closely mirror a likelihood for higher fire danger in the areas highlighted within the seasonal significant fire potential outlook for October.



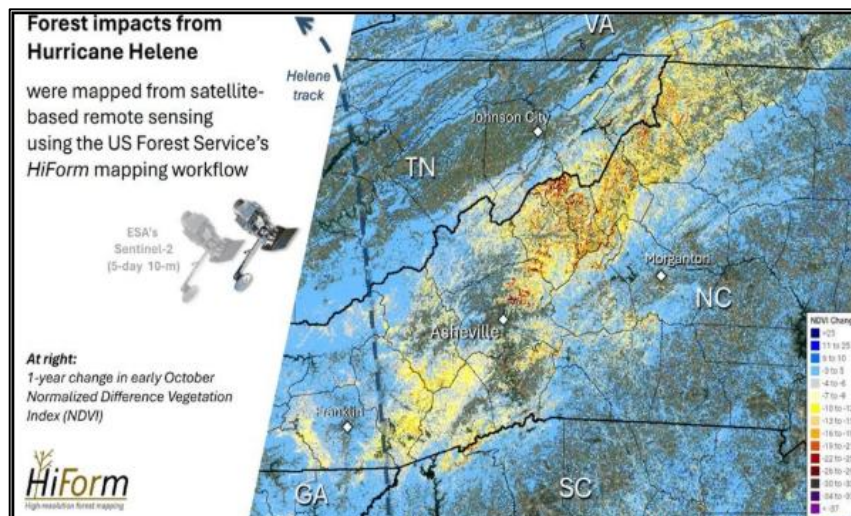
Additional Fall Fuels Considerations

With El Niño forecast to continue strengthening into the fall and winter, the timing, location, and amount of precipitation, temperature swings, and wind events associated with cold fronts and low pressure systems will dictate the potential for fire occurrence and growth in the Southern Area. As temperatures drop and frost occurs beginning in northern latitudes and moving south, live fuels that have been acting as a heat sink will transition to a heat source and more available to burn. The following are a few additional fuel considerations in the Southern Area to maintain awareness of this fall and winter:

- **Leaf drop:** Leaves have begun changing colors in the northern tier of the region, and in some areas of the Southern Plains, Interior Highlands, and lower Mississippi Valley early leaf drop and needle cast associated with hot/dry weather this past spring and recent flash drought have been reported. Early needle cast will increase fine fuel loading while deciduous leaf drop will expose surface fuels to more rapid drying from sunlight and wind. The frequency of precipitation events (including snowfall), as well as timing and

intensity of frosts, will dictate fuel availability particularly in hardwood areas of the Interior Highlands and Southern Apps.

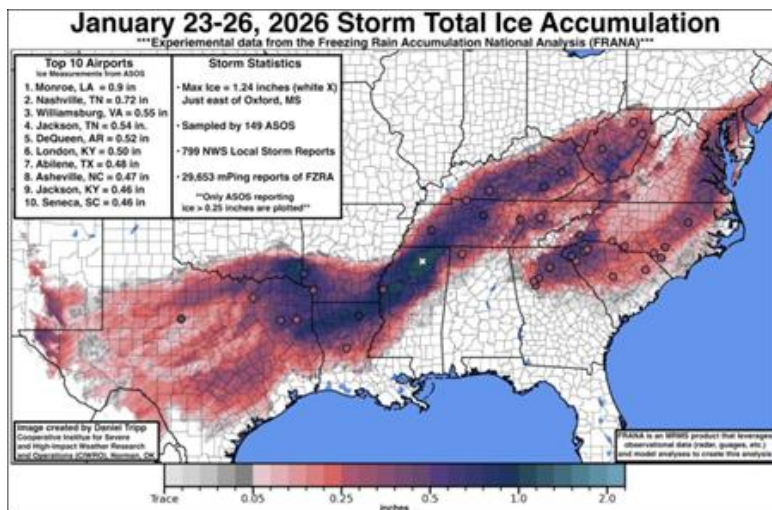
- **Hurricane Helene:** It has been two years since Hurricane Helene made landfall and blazed a path of destruction from Florida up through Georgia and South Carolina and into the Southern Apps. 1- hour, 10-hour, and most 100-hour fuels from vegetation impacted by this disturbance have likely become fully cured, while 1000-hour fuels are beginning to cure, and in some cases, the outer bark and cambium are now available to burn. It is important to stress the continued fire danger from Helene fuels, and an alignment of the right weather conditions and fire occurrence in these fuels could pose challenging to potentially catastrophic fire intensity. Structurally, the open canopy conditions over large areas of tree blowdown have exposed fuels to increased sunlight and reduced wind drag and have released the mountain laurel and rhododendron understory. As woody fuels continue to decompose and become more available, there will be an increased risk of higher flame lengths, increased fire line intensities, and short to medium range spot fires from damaged fuels. Standing eastern hemlocks with broken crowns have been reported to be problematic as sources of spot fires over creeks and riparian areas which used to hold fire, so crews should patrol creek boundaries for snags and slopovers when using these features as natural firebreaks. For more in-depth treatment of Helene's impacts to fuels and fire behavior, as well as recommendations for adjusting fire management operations to mitigate safety concerns, refer to [Fuels and Fire Management Considerations for Hurricane Helene Damaged Areas](#) and [Post-Hurricane Fuels and Suppression Considerations Bulletin](#) produced by USFS Region 8 Fire and Aviation Management and hosted on the Southern Fire Exchange website: [Resources for Understanding Hurricane Impacts on Prescribed Fire and Wildfire](#)



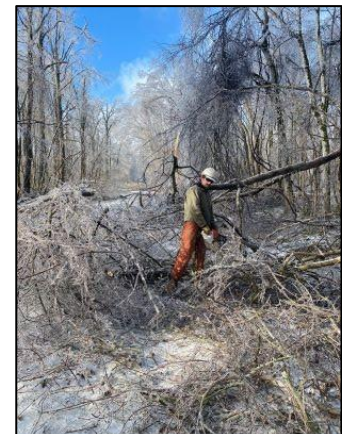
- **Tornados and wind events:** Tornado activity in the Southeast was not widespread in 2026, but there were a few isolated outbreaks in Texas and Oklahoma in March and April. On May 6th, a “supercell” storm produced a tornado near Natchez, Mississippi that struck the Homochitto NF and surrounding private forest lands leaving a path of destruction half a mile wide and 17 miles long. Similar to the immediate aftermath of

Hurricane Helene, fire intensity and resistance to control should not be expected to increase in the short-term under normal weather conditions. Access and re-establishment of roads and other containment lines to hold fire will be the immediate concern. However, the dead treetops, which are still holding leaves and needles, can be expected to contribute to increased fireline intensities and spotting, and as 100-hour and 1000-hour fuels cure out and become available, they will more significantly contribute to fire behavior and smoke production. See the Post-Hurricane Fuels and Suppression Bulletin for Hurricane Helene referenced above for more in-depth fuels and safety information for those working in these storm-affected areas.

- **Winter Storm Fern:** The impacts to forests and fuels from Winter Storm Fern (January 2026) continue to be reported from northern Louisiana and Mississippi up through central Tennessee. Heavy ice accumulation broke tree branches and boles and has resulted in delayed mortality to stressed trees. Similar to the impacts from Helene, canopies in these areas are more open to solar insolation and wind while dead woody fuel loadings as ladder fuels and on the forest floor have continued to increase and become available. In impacted areas currently experiencing continuing drought, there have been reports of heavy loads of coarse woody debris burning to white ash and elevated snag falling hazards to firefighters.

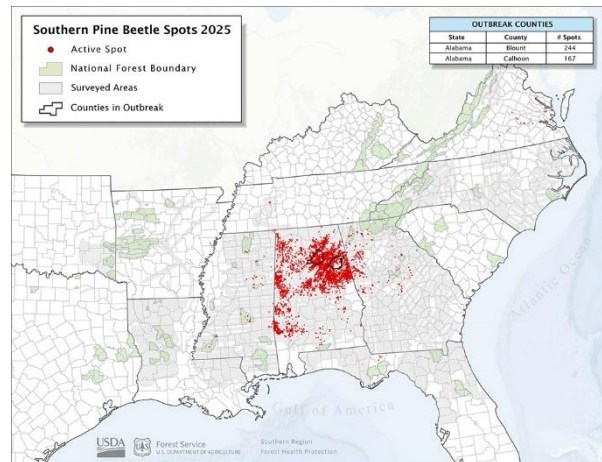


Experimental map product predicting total ice accumulation (inches) from Winter Storm Fern in January 2026. Image was created by Daniel Tripp at the Cooperative Institute for Severe and high-Impact Weather Research and Operations (CIWRO), Norman, OK from



U.S. Forest Service staff cutting limbs on Delta NF, MS after Winter Storm Fern. Photo credit: NFs in Mississippi

- Beetle/insect-killed timber:** Another fuels concern are the impacts of current and future pine beetle infestations across parts of the Gulf States as well as spongy moth defoliation and associated hardwood mortality, primarily in Virginia. Large swaths of Mississippi and Alabama suffered major Southern Pine Beetle (SPB) and Ips beetle infestations following severe drought in summer 2023, and Alabama saw the worst SPB activity in 2025 with almost 11,500 acres impacted. Areas that have been under recent and prolonged drought associated with record-setting temperatures and lack of precipitation this past summer should be watched for new infestations. These insects have left behind large amounts of standing dead timber, which serve as potent fuel sources for fires and safety hazards to firefighters. Line production rates and overall suppression difficulty increase considerably in areas with large amounts of available and standing dead fuel, and spotting from copious dead snags is a major concern.

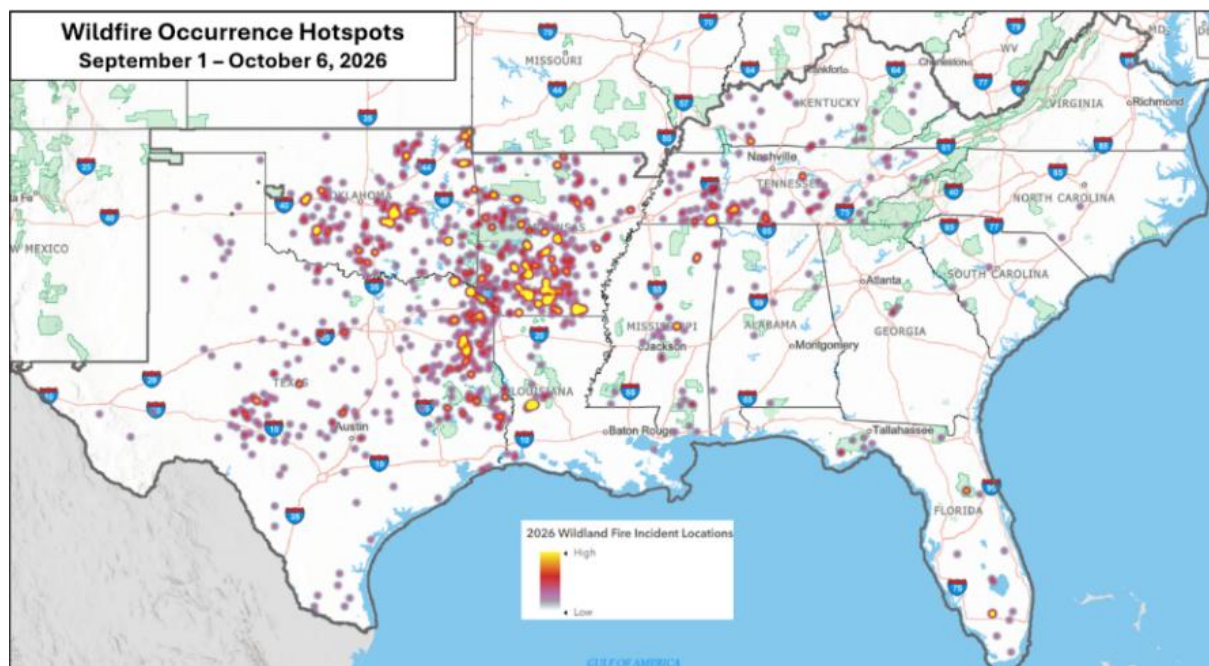


Southern Pine Beetle Information Center is sponsored by the US Forest Service and Clemson Public Service and Agriculture.

Fire Occurrence

Late Summer and Early Fall Wildfire Activity

The map below represents wildfire occurrence hotspots across the Southern Area in September and early October 2026 based on fire occurrence data from the Wildland Fire Interagency Geospatial Services (WFIGS) hosted in NIFC ArcGIS Online (AGOL). This service contains all wildland fire incidents from the Integrated Reporting of Wildland Fire Information (IRWIN) only, so it does not account for state and other fires not reported in IRWIN. Additionally, these data only account for fire occurrence and do not consider fire size. As to be expected based on these data for September and early October, fire activity was elevated in the western 1/3 of the Southern Area where historic temperatures and hit and miss precipitation had led to flash drought ahead of recent precipitation from Hurricane Polo and stalled frontal boundary.

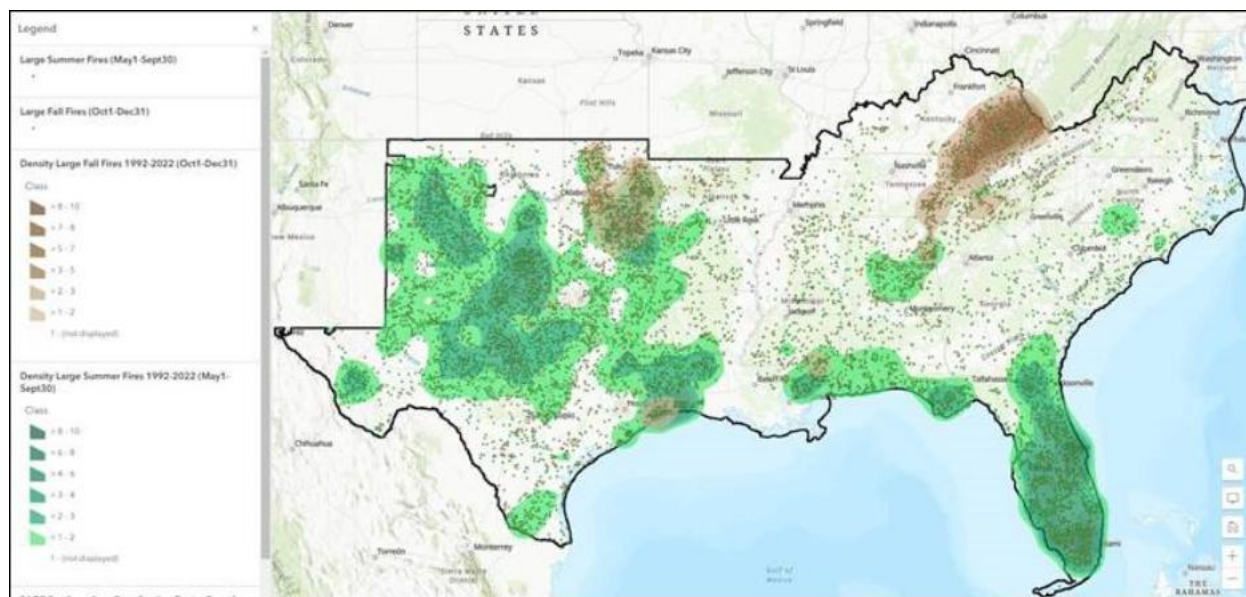


Historic Seasonal Wildfire Activity

The following seasonal fire density map was created in ArcGIS Online by Mike Keys, USFS Fire Planner for National Forests in Florida, using ESRI's [Calculate Density](#) tool which calculates [kernel density](#) of features utilizing a specified search radius. The datasets used included a combination of the [Spatial wildfire occurrence data for the United States, 1992-2020 \[FPA_FOD_20221014\] \(6th Edition\) \(Short, 2022\)](#) for fire years 1992-2020 and [INFORM](#) fire incident records for 2021-September 7, 2023, filtered to fires of 100 acres or greater. For the large summer fires, records were further filtered to 8,909 fire location points occurring within the months of May, June, July, August and September, spanning May 1, 1992 – Sept 7, 2023. For the large fall fires, records were filtered to 4,519 fire location points occurring within the months of October, November, and December, spanning October 1, 1992 – December 31, 2022. The density analyses were run with a search radius of 50 miles for both the spring and fall density maps and the resulting values, density of fires per square mile over the time period, were classified into 7 categories using [natural breaks \(Jenks\)](#). Of these, the first category was intentionally not displayed in order to visually focus on the next six highest density categories. It should be noted that the resulting density layer class values offer a representative index of large fire frequency by season, but the categories themselves do not directly express actual values in terms of fires per square mile.

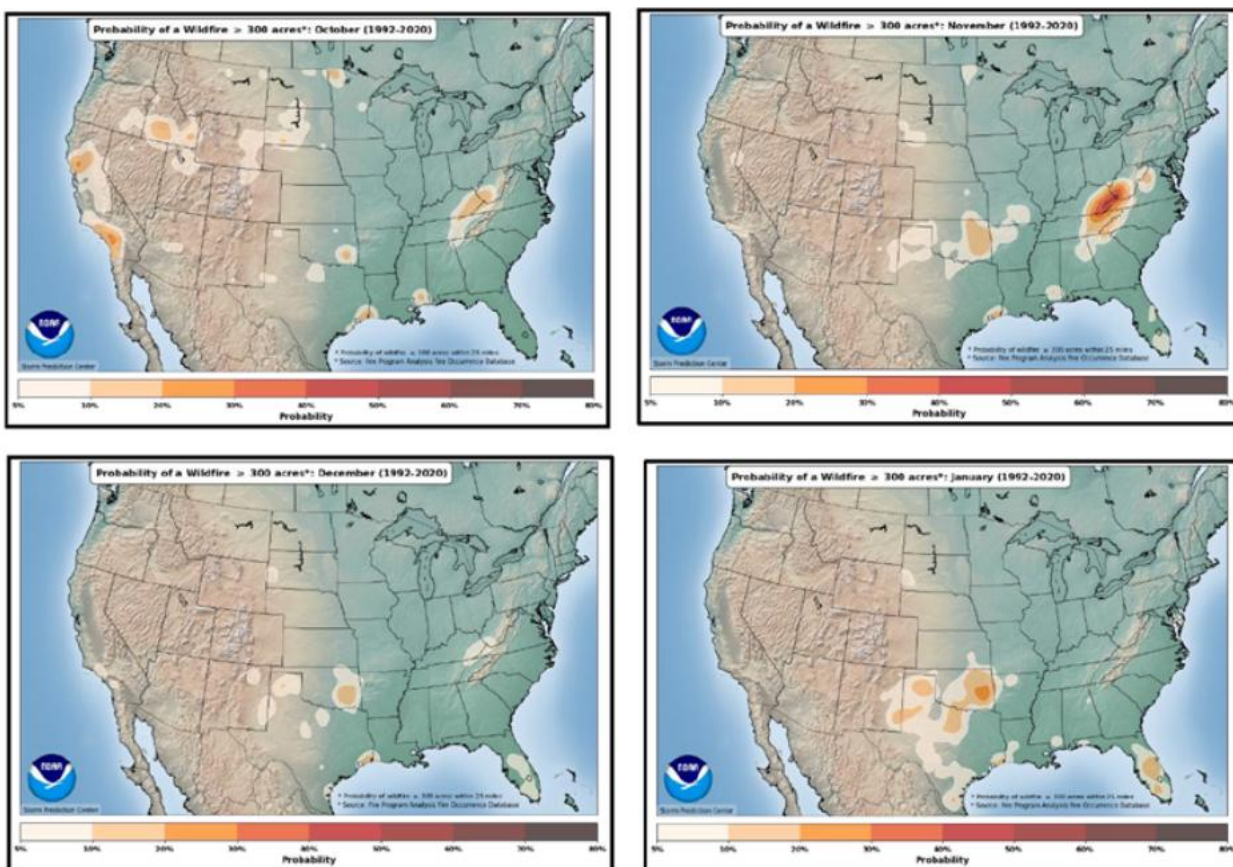
The occurrence and proximity of large wildfires across the Geographic Area typically progresses from the states within the Coastal Plain, Interior Plains, and Highlands in the summer months, to the Appalachian Mountains through the fall. Large fire occurrence remains fairly high in eastern Oklahoma and western Arkansas in the fall as well. The following map displays fire season progression from early-May to the end of December, using data compiled from 1992-2020. It is evident that while large fires have historically occurred anywhere in the Geographic Area, in both

the summer and fall seasons, the bulk density of these large fire footprints follows this summer to fall progression.



Map of Southern Area historical summer vs. fall large fire occurrence density (1992-2022, courtesy of Mike Keys, NFs in FL).

Similar to the map above, the following maps from the NOAA Storm Prediction Center display the probability of a wildfire ≥ 300 acres by month for October - January (1992-2020). Historically, wildfire activity in the Southern Area begins with increased probability across the Southern Apps, southeast Oklahoma, portions of Texas, and coastal Louisiana/Mississippi in October, expands in area and with higher probabilities in Oklahoma and peaks the Southern Apps in November. Wildfire occurrence dissipates in the Southern Apps with colder weather in December while persisting in eastern Oklahoma and beginning to appear in South Florida with transition into the dry season. January sees similar probability of wildfire occurrence to December with activity expanding in Oklahoma, Texas, and Florida.



Monthly wildfire occurrence hotspot maps for fires greater than or equal to 300 acres in size within 25 miles. Fire severity can not be inferred from this analysis (based on 1992-2020 FPA-FOD data) provided by the NOAA Storm Prediction Center (<https://www.spc.noaa.gov/new/FWclimo/climo.php?parm=300ac>).

Predictions concerning fall fire occurrence are uncertain, but we can look to long-term historical trends coupled with current conditions to make inferences. Historically, early fall coincides with a substantial decrease in fire activity throughout Texas, Arkansas, and Louisiana but a corresponding uptick in activity from Mississippi eastward into the Southern Appalachians. The Southern Area fall fire season is typically dominated by many wildfire starts in the Cumberland Mountains of eastern Kentucky and Tennessee, portions of southern Mississippi and the Texas Gulf Coast and a broad swath of eastern Oklahoma.

Despite a typical decrease in overall activity, Texas leads the region in the number of starts during much of the fall most years. Oklahoma has the highest average fire size in the fall historically, but Mississippi, Kentucky and Virginia are frequently close behind in these categories.

Fall 2026 may vary considerably from long-term average fire occurrence due to the strengthening El Niño currently underway and associated historic lack of tropical activity in the Atlantic Ocean and Gulf of Mexico this hurricane season. Based on the ENSO analogs presented in the weather and climate section, strong El Niño years have often resulted in drier conditions in portions of Kentucky, Tennessee, north Mississippi and Alabama, Oklahoma, and north Texas. Based on the seasonal Significant Fire Potential maps, October could see increased potential in areas of the western half of the region that missed recent precipitation over the past week – these areas may

largely miss out on Isaias' rainfall, as well. Temperatures have already return to the 80s and low 90s, with humidities in the teens and 20s. By November, significant fire potential is forecast to decrease in western Oklahoma and Texas and expand further east into central Tennessee and most of Kentucky. There is still much uncertainty in December and January fire occurrence, but if the current El Niño pattern continues to strengthen into the winter, it is likely to result in wet conditions and a lack of fire activity for most of the Southeast.