



Drought Information Statement for The Central Tennessee Valley

October 31, 2024

Issued By: WFO Huntsville, AL

Contact Information: sr-hun.webmaster@noaa.gov

- Drought has worsened yet again due to lack of rainfall over the last month. This statement will be updated when drought conditions or impacts change significantly in the next several weeks.
 - Please see all currently available products at <https://drought.gov/drought-information-statements>
 - Please visit <https://www.weather.gov/hun/DroughtInformationStatement> for previous statements
 - Please visit <https://www.drought.gov/dews/Southeast>
-
- DROUGHT WORSENS AGAIN DUE TO LACK OF RAINFALL IN OCTOBER.





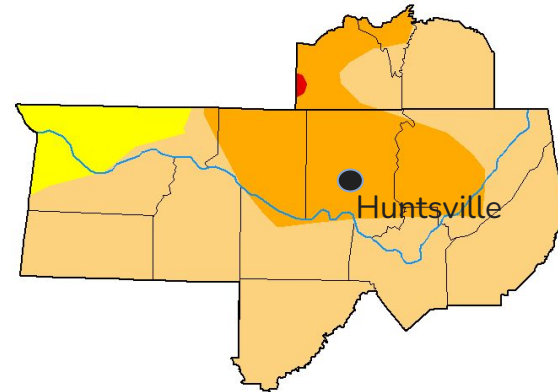
U.S. Drought Monitor

Latest U.S. Drought Monitor Map

- **Drought intensity and Extent**
 - **D4 (Exceptional Drought):** None
 - **D3 (Extreme Drought):** A small area of west-central Lincoln County, TN.
 - **D2 (Severe Drought):** Areas encompassing much of Limestone and Madison Counties, western and central Jackson County, much of Lincoln County with the exception of southeast portions of the county, and about the northern half of Moore County.
 - **D1 (Moderate Drought):** Moderate drought exists across much of the area, especially in areas generally south of the Tennessee River.
 - **D0 (Abnormally Dry):** Much of Lauderdale County and about the northwest third of Colbert County.

U.S. Drought Monitor Huntsville, AL WFO

October 29, 2024
(Released Thursday, Oct. 31, 2024)
Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:
Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

Image Caption: U.S. Drought Monitor valid 7 AM CDT, October 29, 2024.



Four-Week Change in Drought Intensity

- Four-Week U.S. Drought Monitor Class Change
 - **Drought Worsened:** Across the majority of the area, but especially in areas from Limestone County eastward through Madison and into western Jackson Counties, along with most areas generally south of the Tennessee River. Portions of Lincoln and Moore Counties in Tennessee also experienced worsening conditions.
 - **No Change:** Primarily in northwest and northeast portions of northern Alabama, and much of Franklin and Lincoln Counties in southern Middle Tennessee.
 - **Drought Improved:** Only a small area in northeastern Lauderdale County, as compared to one month ago.

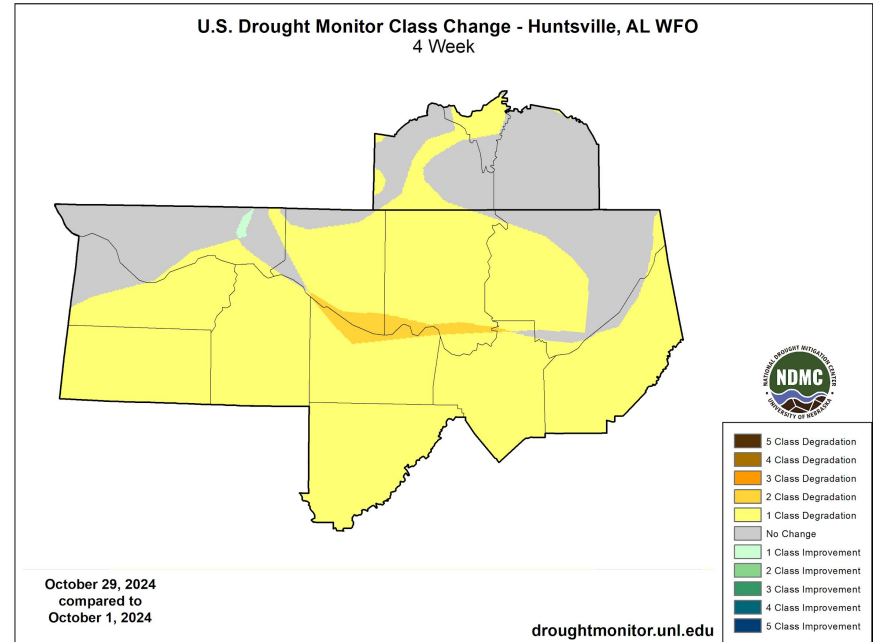
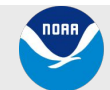


Image Caption: U.S. Drought Monitor 4-week change map valid ending 7AM CDT October 29, 2024.



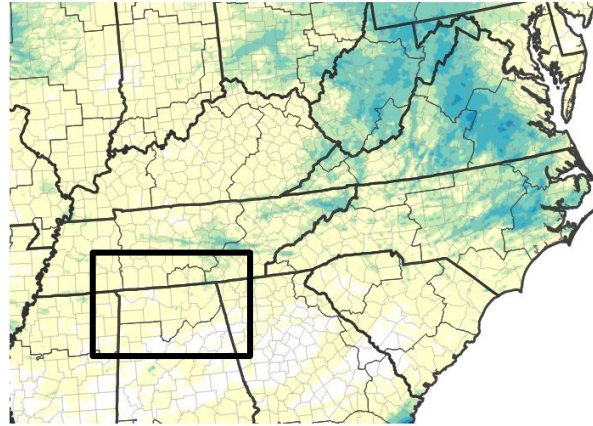


Precipitation - Past 30 Days

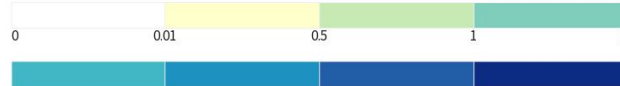
Main Takeaways

- Precipitation ending October 30th totaled around less than one tenth of an inch for most areas. In fact, most areas received a trace or zero rainfall for the previous 30 days.
- Rainfall was near 0% of normal for most locations, with some locations, mainly in southern Middle Tennessee and in northeastern Alabama receiving just around 10% of normal rainfall.

30-Day Precipitation Accumulations (Inches)

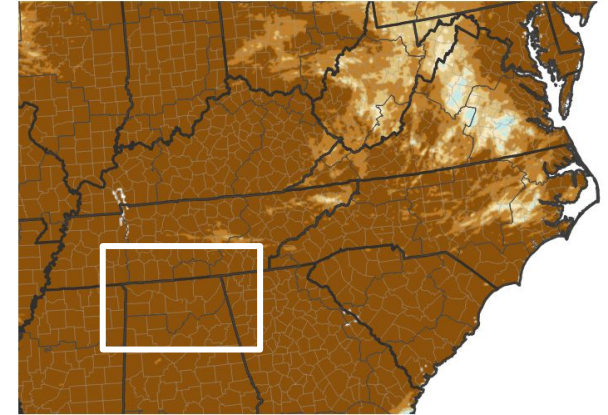


Inches of Precipitation



Source(s): National Weather Service Multi-Radar Multi-Sensor System; image courtesy of Drought.gov Last Updated: 10/31/24

30-Day Percent of Normal Precipitation



Percent of Normal Precipitation (%)



Source(s): National Weather Service Multi-Radar Multi-Sensor System; image courtesy of Drought.gov Last Updated: 10/31/24

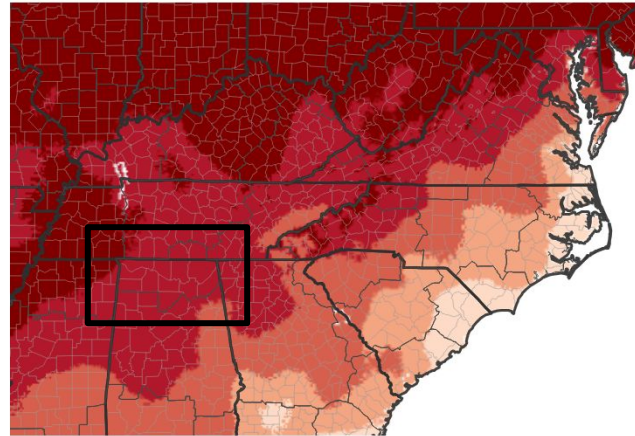
Left - 30-Day Precipitation Totals, Right - 30-Day Percent of Normal Precipitation. Data ending Oct 31, 2024.



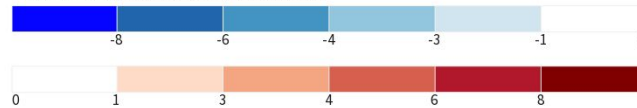
Temperature - Latest 7 and 30 Day Anomalies

- For the weekly period ending on October 26th, temperatures have averaged around 4-6 degrees (F) above normal. For the longer 30-day period, daytime highs have averaged around 1-3 degrees (F) above normal.

7-Day Temperature Anomaly



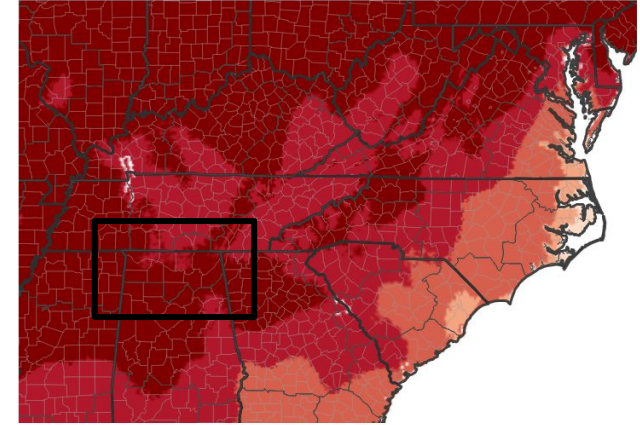
Departure from Normal Max Temperature (°F)



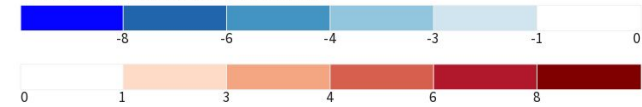
Source(s): NOAA's National Centers for Environmental Information; image courtesy of Drought.gov

Data Valid: 10/26/24

7-Day Temperature Anomaly



Departure from Normal Max Temperature (°F)



Source(s): NOAA's National Centers for Environmental Information; image courtesy of Drought.gov

Data Valid: 10/27/24

Image Captions:

Left - 7-Day Departure from Normal Temperature

Right - 30-Day Departure from Normal Temperature

Data Courtesy High Plains Regional Climate Center.

Data period ending Oct 27, 2024



Summary of Impacts

Hydrologic Impacts

- The marked swings from deficits to surpluses in rainfall since the summer began have produced no significant hydrologic issues, other than a Major Flood that resulted on Big Nance Creek due to the impacts from tropical cyclone Francine. Some impacts have been provided that indicate low or dry wells in some areas.

Agricultural Impacts

- USDA Crop and Progress Condition Reports in the early summer indicated crops had been negatively impacted due to the hot, dry weather, with corn, soybeans, cotton, hay and pastures all being affected. However, the most significant damage occurred specifically to the corn crop. More recently, reports have continued to indicate poor condition of grazing grasses, with the need to supplement with hay, and very low water in creeks and retention ponds. Some producers were not inclined to plant winter wheat due to the dry conditions. Please see the 2024 Crop and Progress Condition Reports for [Alabama](#) and [Tennessee](#) from the USDA.

Fire Hazard Impacts

- As reported by the Alabama Forestry Commission, since late June over 1000 acres have burned in northern Alabama within the Huntsville County Warning and Forecast Area. This includes the following larger fires: 100 acres in Colbert County (controlled on Sep 10th), 130 acres in Lawrence County (controlled on September 17th), and 135 acres in Colbert County (controlled on June 26th).

Mitigation Actions

- All TN and AL counties in the Huntsville County Warning and Forecast Area have been included in a USDA Secretarial Disaster Declaration for Drought. Go to this link for more information: <https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/disaster-designation-information/index>
- On July 17, 2024, The Alabama Dept. of Economic and Community Affairs - Office of Water Resources placed Drought Regions 1 and 3 (which encompasses all of the Huntsville, AL NWS County Warning and Forecast Area) in a Drought Watch. This remains in effect.





Hydrologic Conditions

- 14-Day average streamflows on average remain in the 25th-75th percentile for this time of year. However, lower level flows are currently being experienced especially along Big Wills Creek (8th percentile), Limestone Creek (13th percentile), Shoal Creek (20th percentile), and Bear Creek (21st Percentile).
- Lake Stages remain generally near normal.

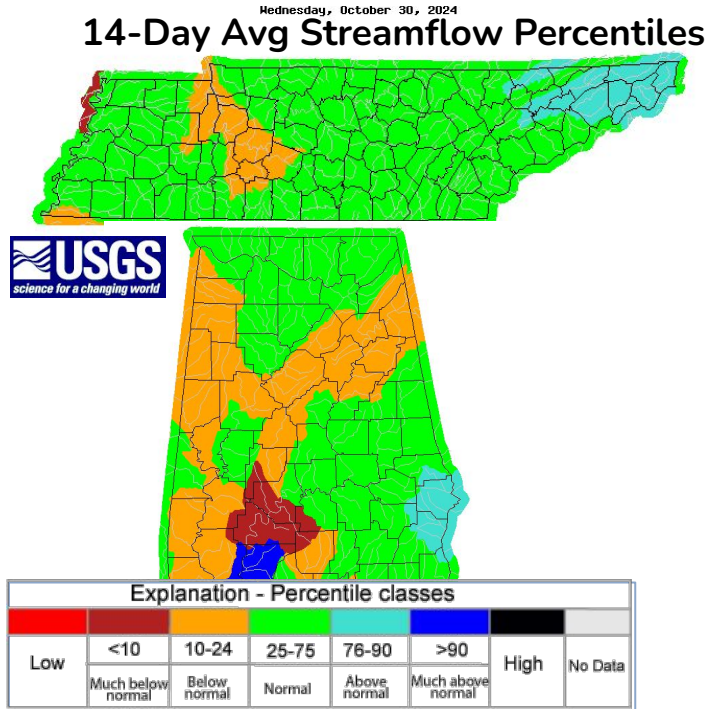


Figure Caption: USGS 14-day streamflow percentiles for Tennessee and Alabama, valid Oct 30, 2024

Lake Stages

Reservoir/ Lake	Pool Elevation (ft)	Current Elevation (ft)	Percent Full
Bear Creek	576	576	100%
Little Bear Creek	620	618	<100%
Cedar Creek	580	578	<100%
Tim's Ford	881	883	>100%
Nickajack	633-635	634	Within Operating Range (WOR)
Guntersville	594-595	594	WOR
Wheeler	553-554	552	WOR
Wilson	506-508	507	WOR
Pickwick	411-412	411	WOR
Lewis Smith	499	500	>100%

Table caption: Reservoir conditions as of Oct 30, 2024

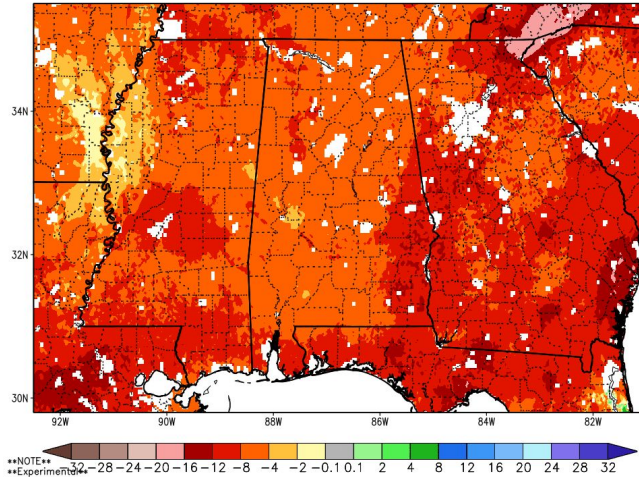




Agricultural Impacts - Soils

- Per the latest NASA SPoRT soil moisture data, 0-200 cm relative soil moisture has decreased around 4-10% over the last 30 days.
- 0-200 cm soil moisture is around the 30th to 70th percentiles mainly in northeastern and northwestern portions of Alabama, and in portions of southern Middle Tennessee, but is indicating values around the 10th -20th percentile elsewhere.

1-Month Difference in Column Relative Soil Moisture (%) valid 12z 31 Oct 2024



SPoRT-LIS 0-200 cm Soil Moisture percentile valid 31 Oct 2024

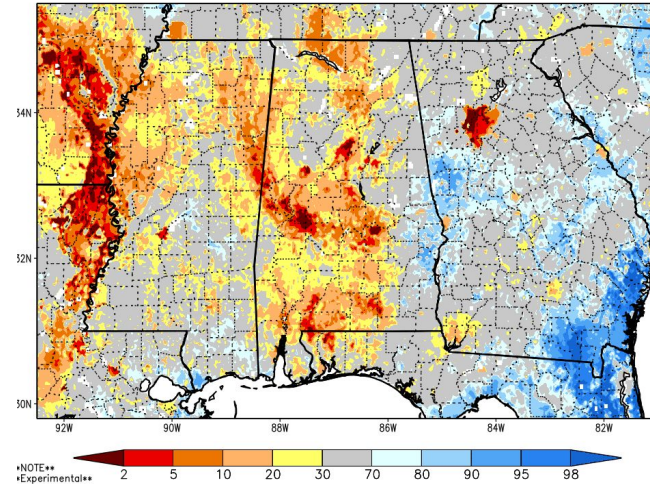
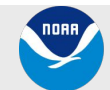


Image Captions:

Left: NASA SPoRT 1-Month Difference in 0-200 cm Relative Soil Moisture, ending Oct 31, 2024

Right: NASA Short-term Prediction Research and Transition (SPoRT) Center 0-200 cm Soil Moisture Ranking Percentile based on a 33-year climatology (1981-2013), Oct 31, 2024





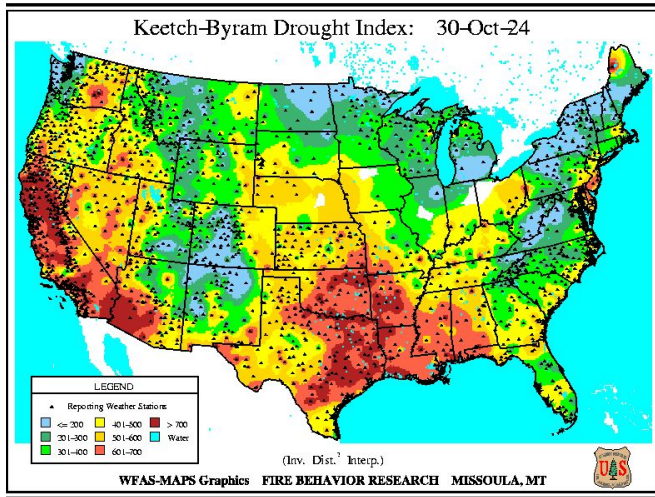
Fire Hazard Impacts

Link to [Wildfire Potential Outlooks from the National Interagency Coordination Center](#).

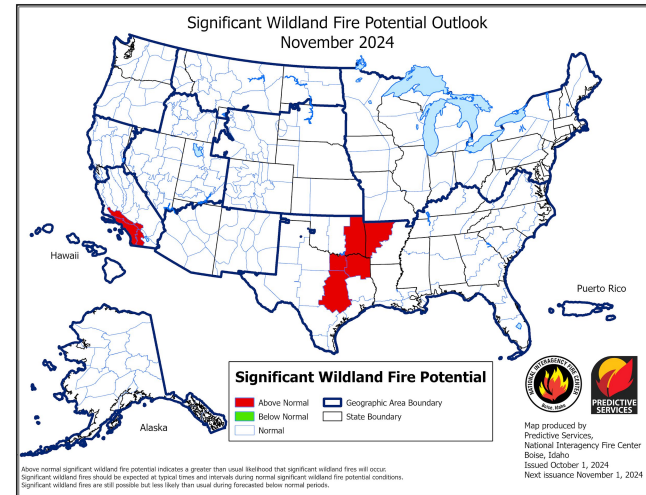
- Keetch Byram Drought Index (KBDI) values have risen again in the past few weeks with values generally range from 500-600.
- NWS offices may issue Red Flag Warnings when KBDI values climb above 300 in Alabama, although other weather criteria based on wind speeds and relative humidity must also be met.

The Alabama Forestry Commission uses the KBDI as a system for relating current and recent weather conditions to potential or expected fire behavior. It is a numerical index calculated daily for each county. Each number is an estimate of the amount of rain, in hundredths of an inch, needed to bring the soil back to saturation. The index ranges from 0 to 800, with 0 representing a saturated soil and 800 a completely dry soil.

- On Oct 30th, the Alabama Forestry Commission expanded a Fire Danger Advisory to cover all counties in Alabama.
- Burn Permits are required in Tennessee from Oct 15 to May 15 for debris pile fires in areas without local restrictions.



Left Image Caption:
Keetch-Byram Drought Index (KBDI) for the Continental U.S., estimated for Oct 30, 2024



Right Image Caption: Significant Wildland Fire Potential Outlook, Nov2024



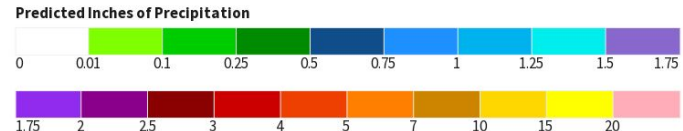
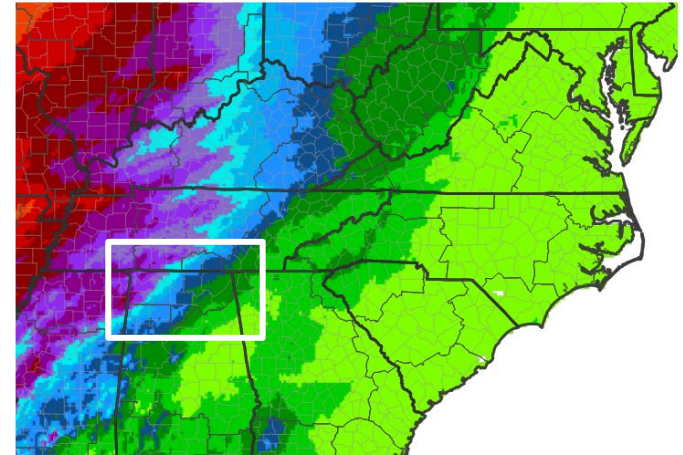


Seven Day Precipitation Forecast

- Forecast Precipitation (Oct 5-12):

- Rainfall is forecast for the area over the next week, though November 7th. Forecast rainfall amounts are highest in northwestern Alabama with amounts around 2 inches or greater possible. Forecast amounts fall off gradually eastward, with amounts expected to be just around 0.25 inch in portions of northeastern Alabama.
- Around 1.00 inch of precipitation is normal for this time of year for a weekly period.

7-Day Quantitative Precipitation Forecast for October 31, 2024–November 7, 2024



Source(s): National Weather Service Weather Prediction Center; image courtesy of Drought.gov Last Updated: 10/31/24

Image Caption: Weather Prediction Center 7-day precipitation forecast, valid Oct 31 – Nov 7



Monthly Outlooks - November 2024

The latest monthly and seasonal outlooks can be found on the [CPC homepage](#)

- For October, odds are slightly in favor (33-40%) of Above Normal Temperatures for the period. It's important to note that the Monthly Outlook includes probabilities for 3-categories: Above, Near, and Below Normal Temperatures.
- For October, odds favor Below Normal Precipitation. Odds for Below Normal Precipitation are highest in the west (40-50%), with 33-40% odds elsewhere. It's important to note that the Monthly Outlook includes probabilities for 3-categories: Above, Near, and Below Normal Precipitation.

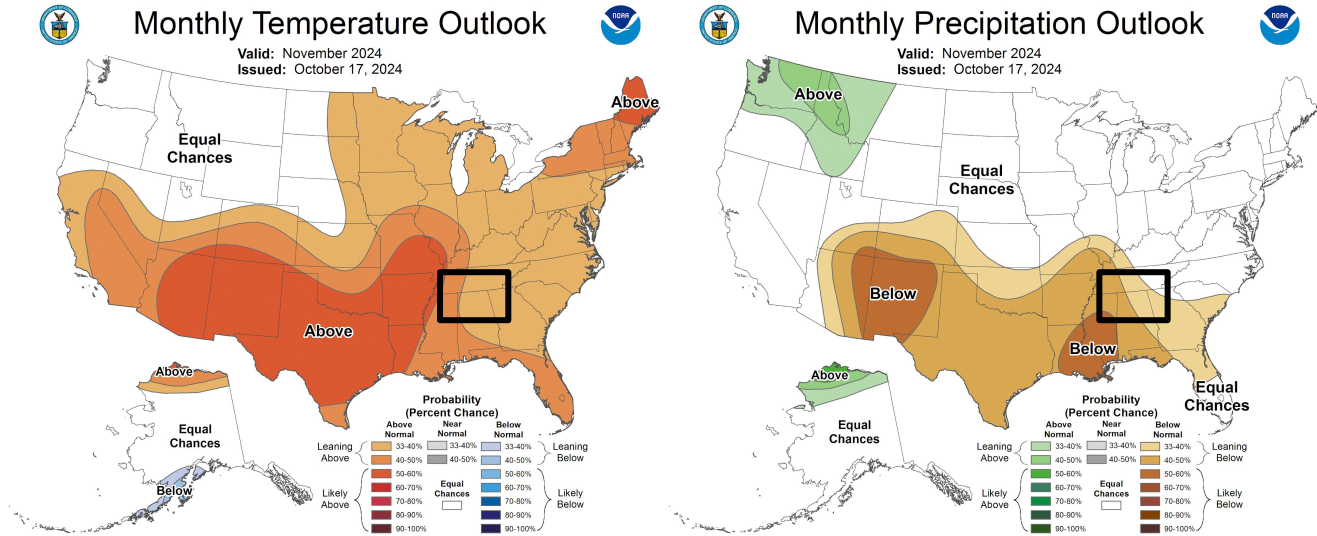


Image Caption: Climate Prediction Center Monthly Outlooks for Temperatures (left) and Precipitation (right) for November 2024

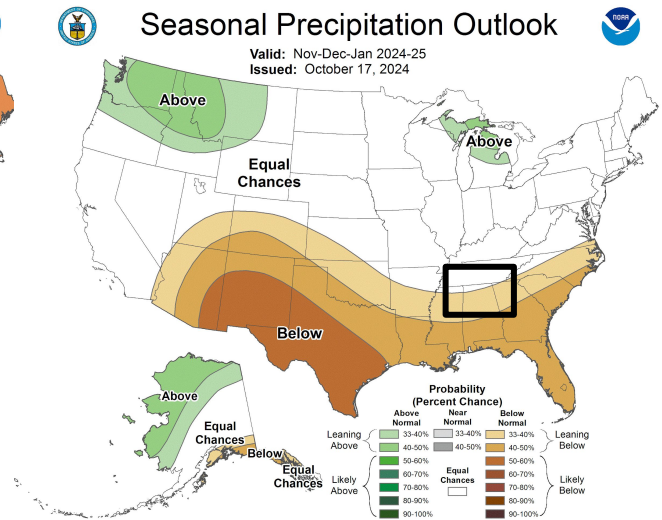
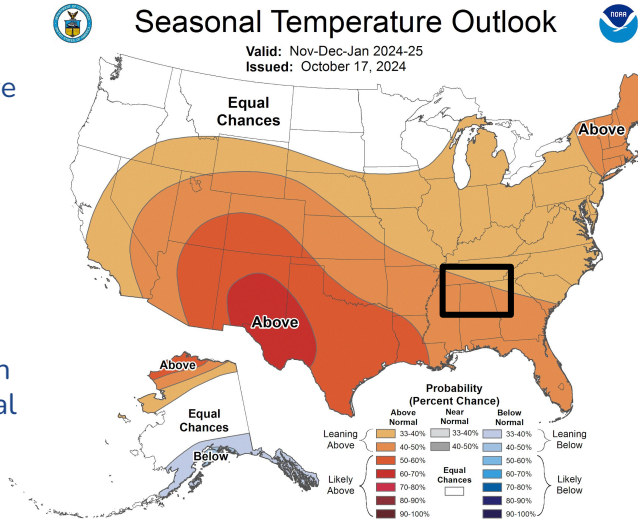


Seasonal Outlooks - Nov to Jan

The latest monthly and seasonal outlooks can be found on the [CPC homepage](#)

Main Takeaways

- **Temperatures:** Above Normal temperatures are moderately favored (40-50% probability) for the most of the area for the November to January period. Above Normal Temperatures are slightly favored (33-40%) for portions of Jackson County and southern Middle Tennessee.
- **Precipitation:** Equal Chances for Below, Near, or Above Normal Precipitation for about the northern half of the area, with Below Normal Precipitation slightly favored (33-40%) for the southern half.



Possible Impact

Drought conditions may deteriorate across the area.

Image Caption: Climate Prediction Center Seasonal Outlooks for Temperatures (left) and Precipitation (right) for October-December 2024





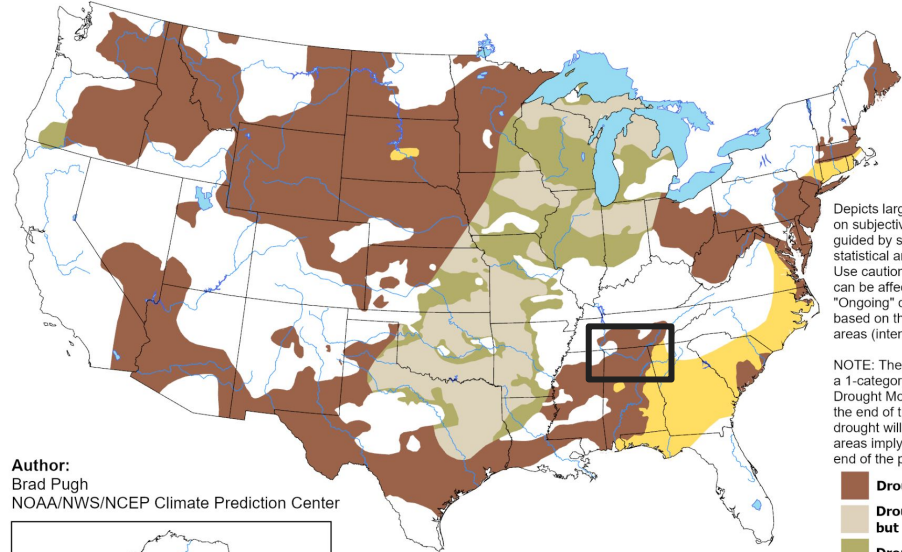
Monthly Drought Outlook

The latest monthly and seasonal drought outlooks can be found on the [CPC homepage](#)

- As of the latest Monthly Drought Outlook for November, and updated on October 31st, drought conditions are expected to persist across the area.

U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

Valid for November 2024
Released October 31, 2024

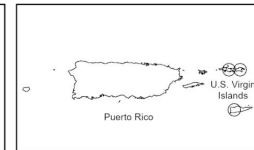
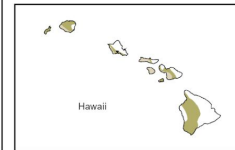
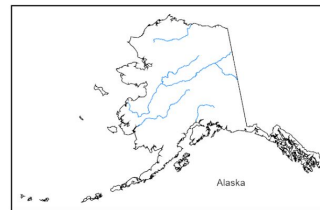


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought

Author:
Brad Pugh
NOAA/NWS/NCEP Climate Prediction Center



<https://go.usa.gov/3eZGd>

Links to the latest:

[Climate Prediction Center Monthly Drought Outlook](#)

[Climate Prediction Center Seasonal Drought Outlook](#)