



Drought Information Statement for The Central Tennessee Valley

December 13, 2024

Issued By: WFO Huntsville, AL

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

- Drought has worsened over the past month with a continuation of below normal precipitation. This statement will be updated if or 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 CONTINUES ACROSS MOST OF THE REGION, WITH SEVERE OR WORSE DROUGHT CONDITIONS ESPECIALLY ACROSS CENTRAL PORTIONS OF THE AREA.





U.S. Drought Monitor

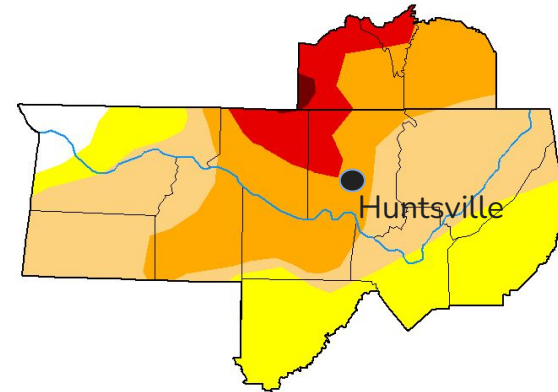
Latest U.S. Drought Monitor Map

• Drought intensity and Extent

- **D4 (Exceptional Drought):** A small area in southwest Lincoln County, and north-central Limestone County
- **D3 (Extreme Drought):** Areas from northern Limestone and northwest Madison, through western Lincoln and northern Moore Counties
- **D2 (Severe Drought):** Much of north-central portions of the area and southern Middle Tennessee; from far southeast Franklin County (AL), through Lawrence, Morgan, southern/western Limestone, Madison, and into Lincoln, Moore, and Franklin (TN) Counties.
- **D1 (Moderate Drought):** Areas around northwest and northeast Alabama, including a small area in southeast Franklin (TN) County.
- **D0 (Abnormally Dry):** Portions of Lauderdale and Colbert Counties, and areas from Cullman County northeastward through southern Marshall and much of DeKalb Counties.

U.S. Drought Monitor Huntsville, AL WFO

December 10, 2024
(Released Thursday, Dec. 12, 2024)
Valid 7 a.m. EST



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>

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National Drought Mitigation Center



droughtmonitor.unl.edu

Image Caption: U.S. Drought Monitor valid 7 AM CDT, December 10, 2024.



National Oceanic and
Atmospheric Administration

U.S. Department of Commerce

National Weather Service
Huntsville, AL



One-Week Change in Drought Intensity

- Four-Week U.S. Drought Monitor Class Change
 - **Drought Worsened:** None
 - **No Change:** Most of the area
 - **Drought Improved:** Various areas in northern Alabama, including northwest Lauderdale and southeast Franklin County (AL), along with a small swath from eastern Morgan and northwestern Marshall Counties northeastward through eastern Madison, northern Jackson and far southeastern Franklin Counties

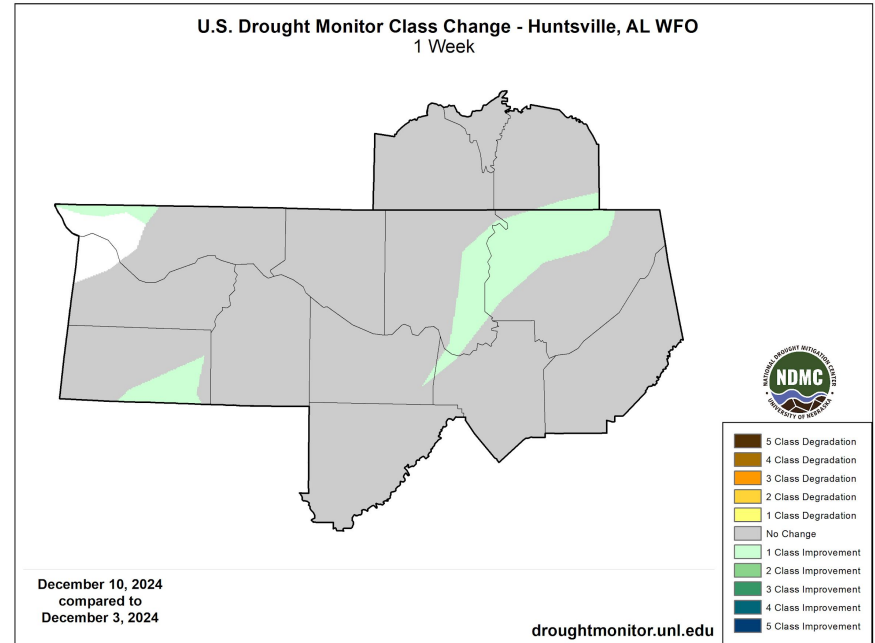
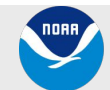


Image Caption: U.S. Drought Monitor 4-week change map valid ending 7AM CDT November 26, 2024.



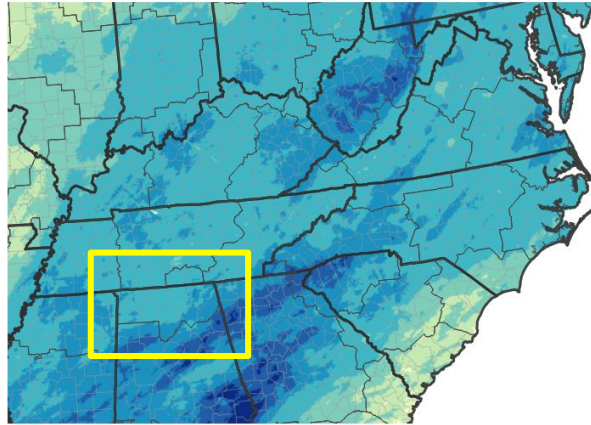


Precipitation - Past 30 Days

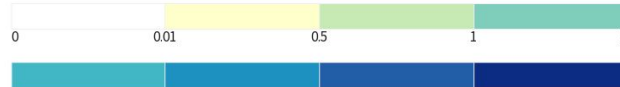
Main Takeaways

- Precipitation ending December 12th totaled around 2-3 inches in about the northwest half of the area, with higher amounts around 3-6 inches in the southeast half.
- Rainfall was around 50-75% of normal for most locations, but was a little above normal in southeastern portions of the area in parts of Marshall and DeKalb Counties.

30-Day Precipitation Accumulations (Inches)

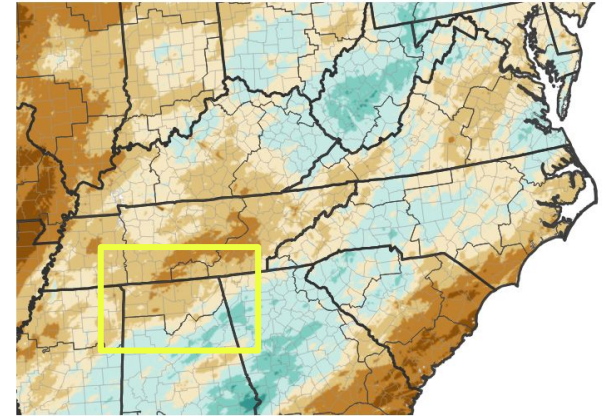


Inches of Precipitation

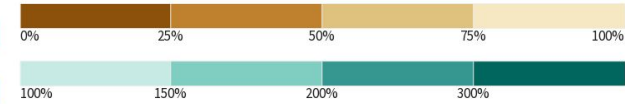


Source(s): National Weather Service Multi-Radar Multi-Sensor System; Last Updated: 12/13/24
image courtesy of Drought.gov

30-Day Percent of Normal Precipitation



Percent of Normal Precipitation (%)



Source(s): National Weather Service Multi-Radar Multi-Sensor System; Last Updated: 12/13/24
image courtesy of Drought.gov

Left - 30-Day Precipitation Totals, Right - 30-Day Percent of Normal Precipitation. Data ending Dec 13, 2024.





Summary of Impacts

Hydrologic Impacts

- The marked swings from deficits to surpluses in rainfall since the summer began have produced no significant hydrologic (streamflow) issues, other than a Major Flood that resulted on Big Nance Creek due to the impacts from tropical cyclone Francine. Most of the impacts have been associated with low soil moisture, while some impacts have also occurred with low or dry well levels in some areas.

Agricultural Impacts

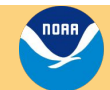
- USDA Crop and Progress Condition Reports in the early summer indicated crops had been negatively impacted due to the hot, dry weather, with corn, soybeans, cotton, hay and pastures all being affected. However, the most significant damage occurred specifically to the corn crop. More recently, reports had continued to indicate poor grazing conditions, with the need to supplement with hay, and very low water in creeks and retention ponds. Some producers had experienced delays with planting 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 remain mostly in the 10-24th percentile range for most areas, but ~10th ranking percentile are observed in portions of Limestone County. The lowest recent flows have occurred along the Elk River at Prospect, TN (5th percentile), Paint Rock River (11th percentile), Big Nance Creek (12th percentile), (18th percentile), and Limestone Creek near Athens (13th percentile)
- Lake Stages remain generally near normal

Thursday, December 12, 2024

14-Day Avg Streamflow Percentiles

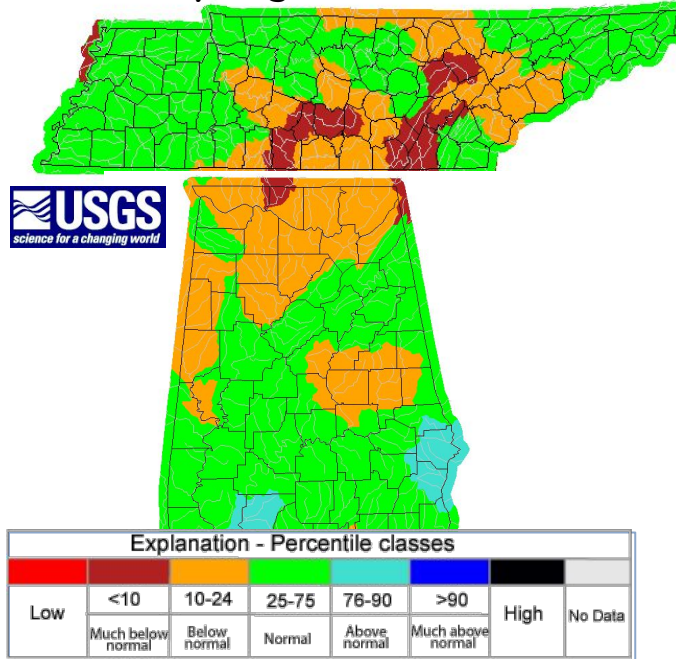
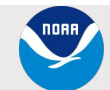


Figure Caption: USGS 14-day streamflow percentiles for Tennessee and Alabama, valid Dec 12, 2024

Lake Stages

Reservoir/ Lake	Pool Elevation (ft)	Current Elevation (ft)	Percent Full
Bear Creek	568	568	100%
Little Bear Creek	609	609	100%
Cedar Creek	567	567	100%
Tim's Ford	874	876	>100%
Nickajack	633-635	634	Within Operating Range (WOR)
Guntersville	593-594	594	WOR
Wheeler	551-552	552	WOR
Wilson	506-508	506	WOR
Pickwick	408-410	410	WOR
Lewis Smith	496	500	>100%

Table caption: Reservoir conditions as of Dec 12, 2024

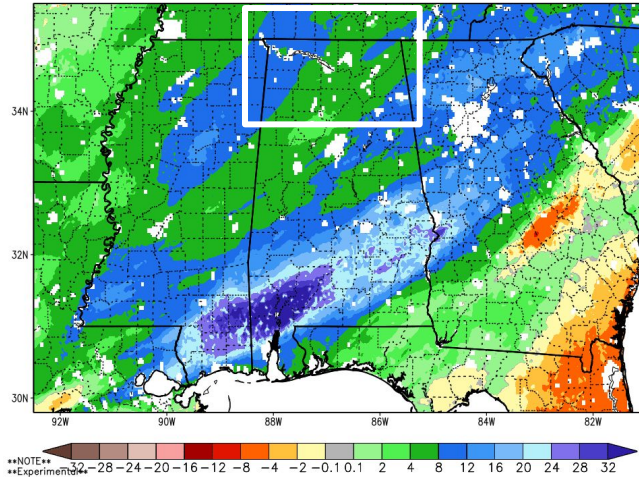




Agricultural Impacts - Soils

- Per the latest NASA SPoRT soil moisture data, 0-200 cm relative soil moisture has increased generally around 4-10% over the last 30 days.
- Although soil moisture has increased, moisture levels still remain below average for this time of year. 0-200 cm soil moisture values are still around the 5th to 20th ranking percentiles for much of the area.

1-Month Difference in Column Relative Soil Moisture (%) valid 12z 13 Dec 2024



SPoRT-LIS 0-200 cm Soil Moisture percentile valid 13 Dec 2024

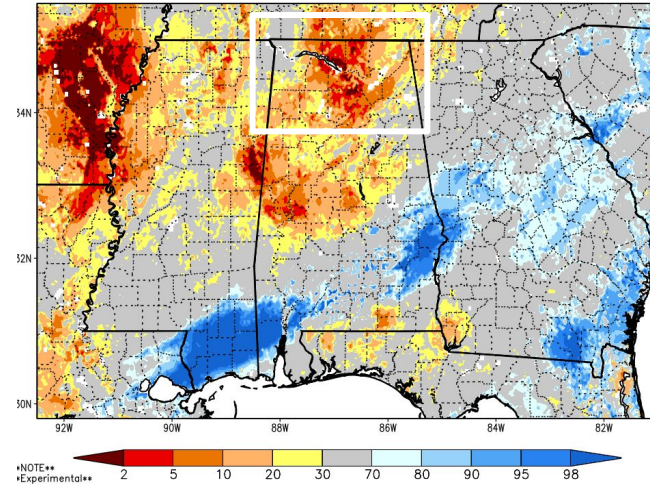
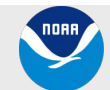


Image Captions:

Left: NASA SPoRT 1-Month Difference in 0-200 cm Relative Soil Moisture, ending Dec 13, 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), Dec 13, 2024





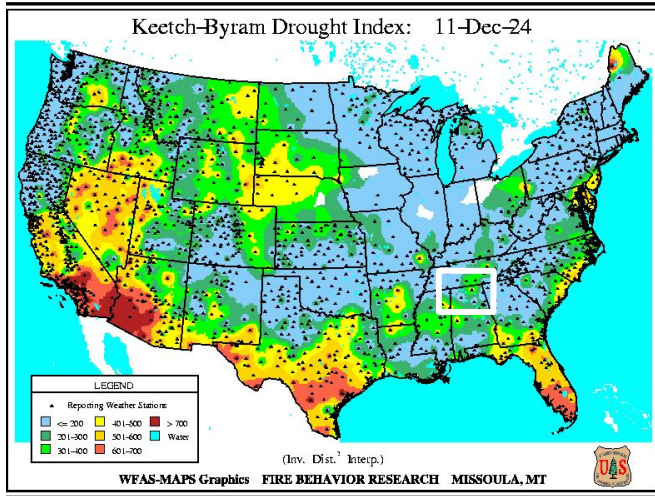
Fire Hazard Impacts

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

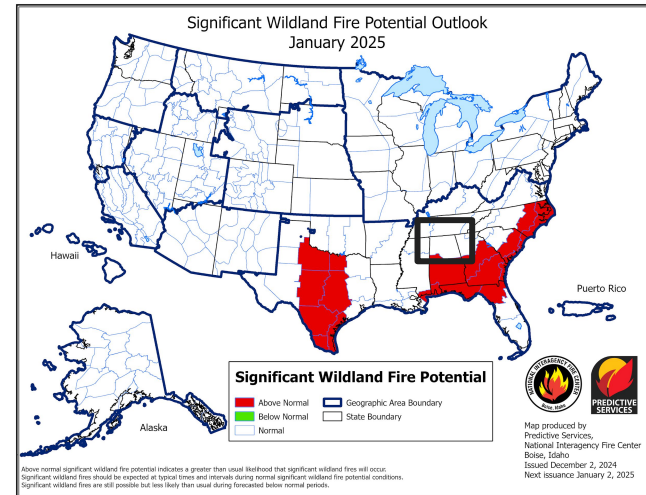
- [Keetch Byram Drought Index \(KBDI\)](#) values have fallen in the past several weeks with values generally ranging from 200-400.
- NWS offices may issue Red Flag Warnings when KBDI values climb above 300 in Alabama, although other weather criteria based on wind speeds and relative humidity must also 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, but that was later rescinded for all counties on November 15th.
- 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 Nov 28, 2024



Right Image Caption: Significant Wildland Fire Potential Outlook, January 2024

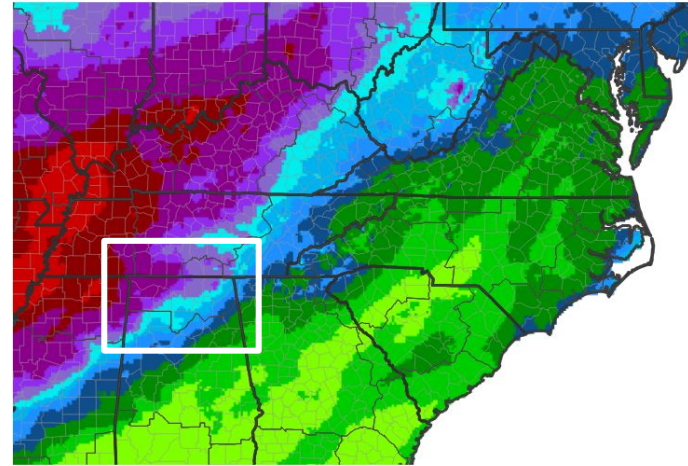




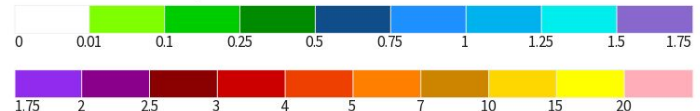
Seven Day Precipitation Forecast

- Forecast Precipitation (Dec 13 - Dec 20):
 - Rainfall is forecast to range from around 0.75 inch in southeast portions of the area to about 2.00 inches in northwest portions of the area over the 7-day period ending December 20th.
 - Around 1.25 - 1.50 inches of precipitation is normal for this time of year for a weekly period.

7-Day Quantitative Precipitation Forecast for December 13, 2024–December 20, 2024



Predicted Inches of Precipitation



Source(s): National Weather Service Weather Prediction Center; image courtesy of Drought.gov Last Updated: 12/13/24

Image Caption: Weather Prediction Center 7-day precipitation forecast, valid Dec 12-19, 2024



Monthly Outlooks - December 2024

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

- For December, 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 December, there are Equal Chances for Below, Near, or Above Normal Precipitation for the majority of the Tennessee Valley region.

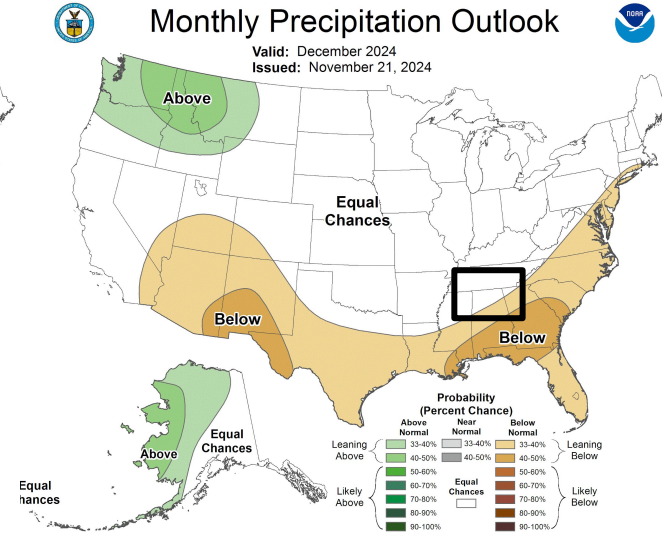
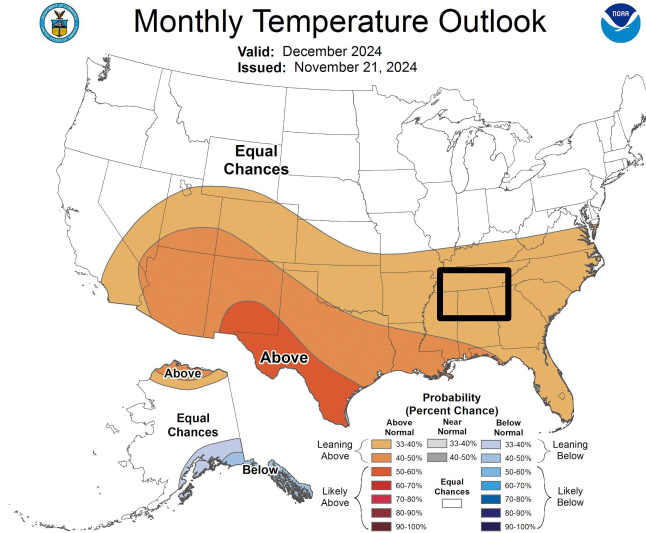
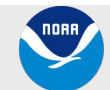


Image Caption: Climate Prediction Center Monthly Outlooks for Temperatures (left) and Precipitation (right) for December 2024





Seasonal Outlooks - December to February

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 nearly all of the area for the December to February period.
- **Precipitation:** Below Normal
Precipitation is slightly favored for about the southeast half of the area for the period. Equal Chances for Below, Near, or Above Normal Precipitation is outlooked for the remainder of the area.

Possible Impact

Drought conditions may remain nearly steady or deteriorate across the area.

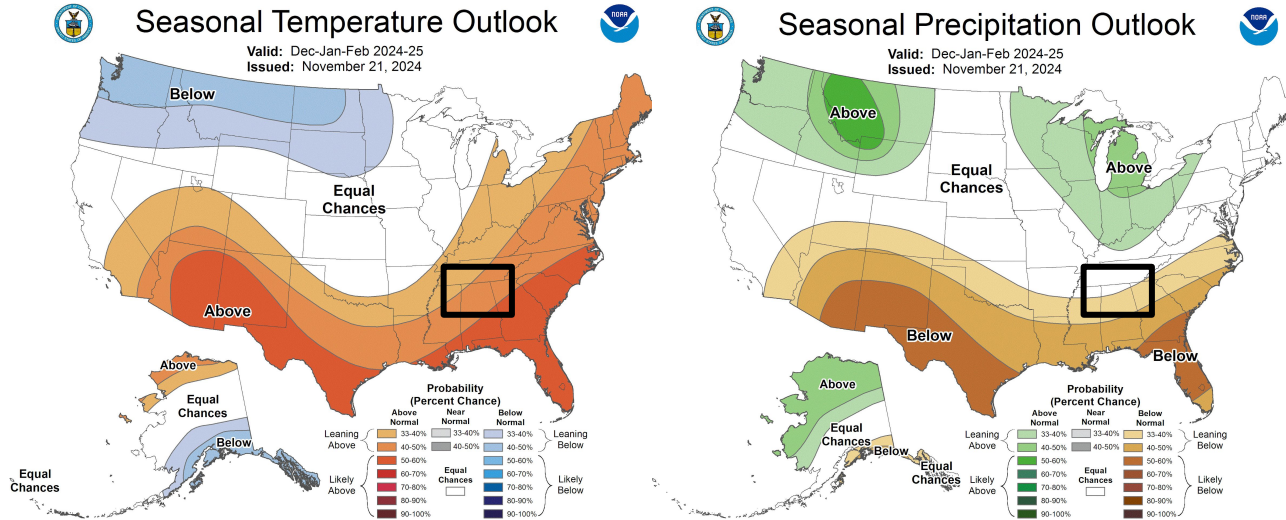
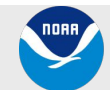


Image Caption: Climate Prediction Center Seasonal Outlooks for Temperatures (left) and Precipitation (right) for October-December 2024

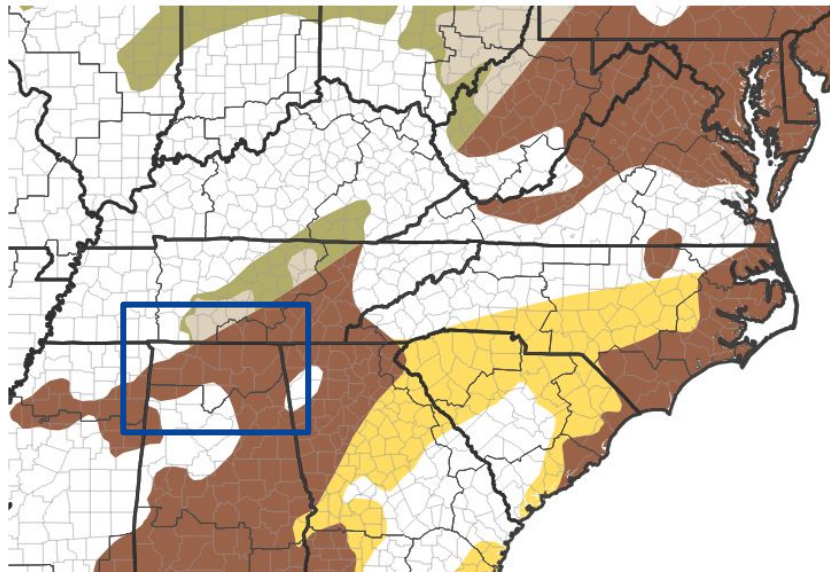


Seasonal Drought Outlook

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

- As of the latest Seasonal Drought Outlook, drought conditions are expected to generally persist across current drought-stricken areas.

Seasonal (3-Month) Drought Outlook for November 21, 2024–February 28, 2025



Drought Is Predicted To...



Source(s): Climate Prediction Center; image courtesy of Drought.gov

Last Updated: 11/21/24

Links to the latest:

[Climate Prediction Center Monthly Drought Outlook](#)

[Climate Prediction Center Seasonal Drought Outlook](#)