



# Drought Information Statement for the Central Tennessee Valley

Issued by: WFO Huntsville, AL

Contact information: [sr-hun.webmaster@noaa.gov](mailto:sr-hun.webmaster@noaa.gov)

- This product will be updated as changes in drought conditions warrant, which may require weekly updates. However, a follow up drought statement will be issued by November 17th at the latest.
- Please see all currently available products at <https://drought.gov/drought-information-statements>
- Please visit <https://www.weather.gov/hun/DroughtInformationStatement> for previous statements





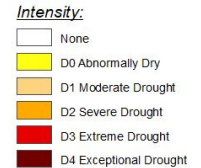
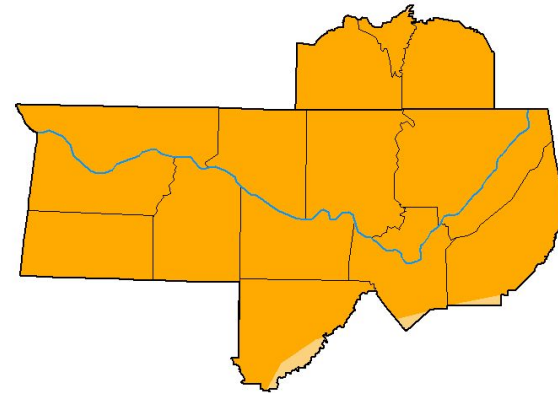
# U.S. Drought Monitor

Latest U.S. Drought Monitor Map

- Drought intensity and Extent
  - D4 Exceptional Drought: None
  - D3 Extreme Drought: None
  - D2 Severe Drought: Nearly all of the area is in D2 drought, with exceptions of very small areas in D1 drought. In fact, nearly 99% of the Huntsville County Warning Area is in D2 drought.
  - D1 Moderate Drought: Moderate drought is present in a very small area of northern Moore County, TN, portions of SE Cullman County, and small areas of far southern Marshall and DeKalb Counties.
  - D0: Abnormally Dry: None

## U.S. Drought Monitor Huntsville, AL WFO

**October 17, 2023**  
(Released Thursday, Oct. 19, 2023)  
Valid 8 a.m. EDT



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:**  
Rocky Blotta  
NCEI/NOAA



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

Image Caption: U.S. Drought Monitor valid 7 AM CDT, October 17, 2023.  
[https://droughtmonitor.unl.edu/data/png/current/current\\_wfohun\\_text.png](https://droughtmonitor.unl.edu/data/png/current/current_wfohun_text.png)





# Recent Change in Drought Intensity

- One Week U.S. Drought Monitor Class Change
  - Drought Worsened: Most areas that were not in D2 drought last week deteriorated from D1 to D2 drought this week. The exception is small portions of the area in D1 drought noted on the previous page. A small area in southern DeKalb County moved from D0 to D1 drought status.
  - No Change: Portions of Jackson, DeKalb, and SE Franklin County (TN), remain in D2 drought from last week. Portions of SE Cullman County and far southern Marshall County remain in D1 drought from last week.
  - Drought Improved: No areas

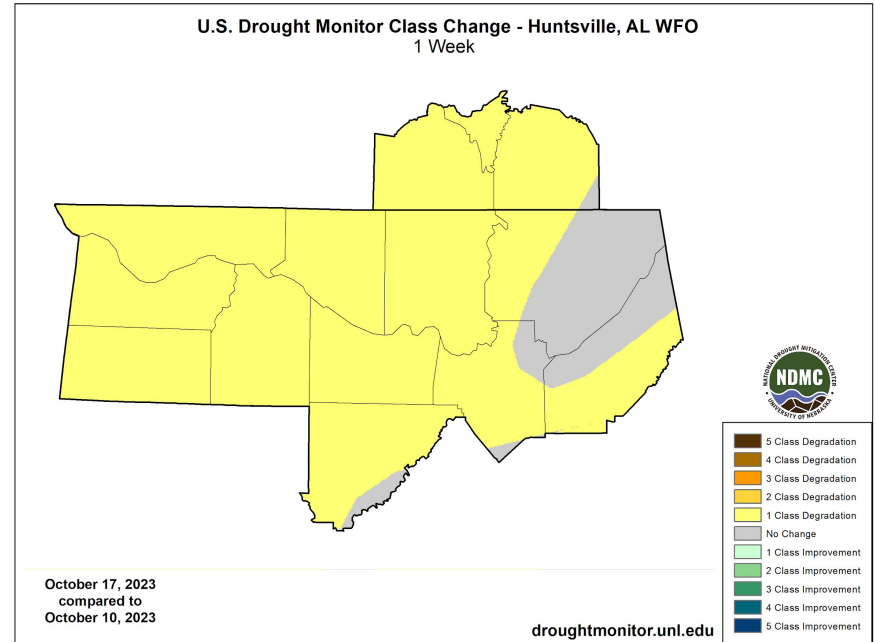
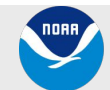


Image Caption: U.S. Drought Monitor 1-week change map valid 7 AM CDT October 10, 2023.

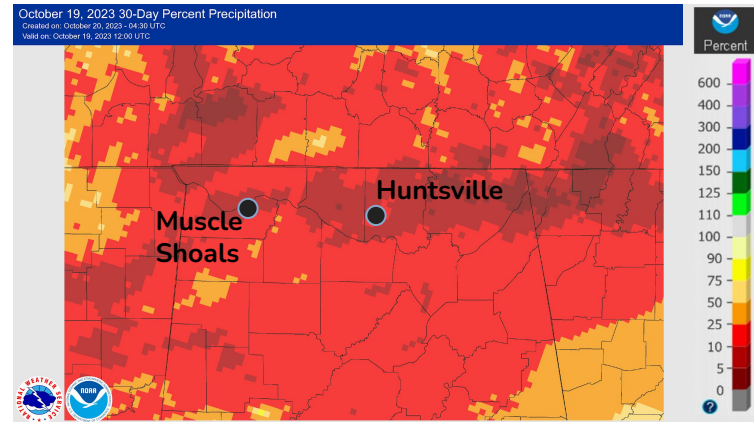
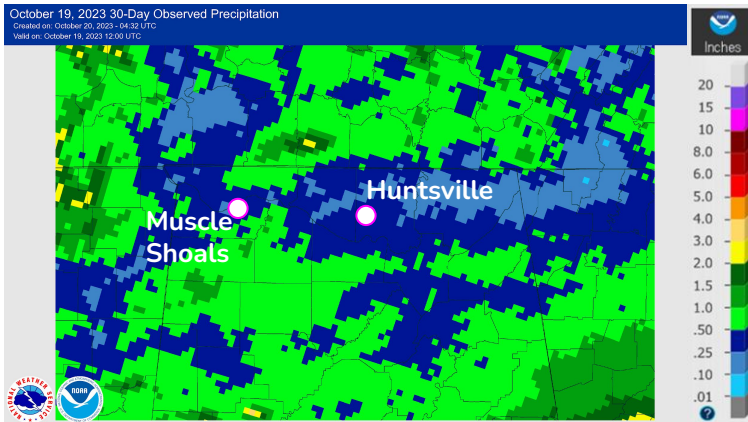




# Precipitation - Past 30 Days

## Main Takeaways

- During the last 30 days (ending 7 AM CDT Oct 19), rainfall largely totaled around 0.25 to 0.50 inch. Normal 30-day rainfall this time of year is around 3.5 to 4 inches. Although not shown, precipitation since September 1st has only totaled 0.29 inch at Muscle Shoals and 1.60 inches at Huntsville.
- Rainfall amounts are largely at or below the 25th percentile for the last 30 days (red shading), with some locations at or below the 10th percentile (dark red shading), as shown in the graphic on the right.



### Image Captions:

Left - 30-Day Precipitation from the Advanced Hydrologic Prediction Service (AHPS), Right - 30-Day Percent of Normal Precipitation from AHPS. Data ending October 19, 2023





# Summary of Impacts

## Hydrologic Impacts

- No significant hydrologic impacts are present at this time, although streamflows have fallen markedly over recent weeks. Some streams are around or below the 10th percentile for this time of year.
- See next slide for more details

## Agricultural Impacts

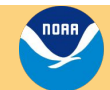
- Many operators have reported that pastures were drying up due to the lack of rain and winter season grasses were struggling to grow. Late planted soybeans and the apple crop, especially in Cullman County, have been negatively impacted. Please see the latest Crop and Progress Condition Reports for [Alabama](#) and [Tennessee](#) from the USDA.

## Fire Hazard Impacts

- Wildfire risk is enhanced with Keetch-Byram Drought Index values around 600-700 across the area.
- The Alabama Forestry Commission updated a Fire Alert on October 13th to indicate that no burn permits will currently be issued for Jackson, DeKalb, and Marshall Counties. A Fire Alert remains in effect for other northern AL counties, with burn permits available to certified prescribed burn managers only. Debris burn permits are currently required in TN counties.

## Drought Mitigation Actions

- The Alabama Dept of Economic and Community Affairs - Office of Water Resources upgraded Drought Regions 1 and 3 to a Drought Watch as of October 11, 2023. Water managers are urged to monitor water conditions and encourage the wise and efficient usage of our water resources. You can see the latest Alabama Drought Declaration here... <https://adeca.alabama.gov/wp-content/uploads/DroughtDeclaration.pdf>.
- Please refer to your municipality and/or water provider for any mitigation information in the future.





# Hydrologic Conditions

## Main Takeaways

- Degradation in streamflows has occurred in recent weeks. Basins in parts the area are experiencing 7-Day avg flows in the 10th-24th percentile for this time of year. However, streamflows at some individual locations have fallen below the 10th percentile (e.g., Big Nance Creek: 2nd percentile).
- Lake/Reservoir levels remain near normal.

Additional data:

None at this time to report

## 7-Day Avg Streamflow Percentiles

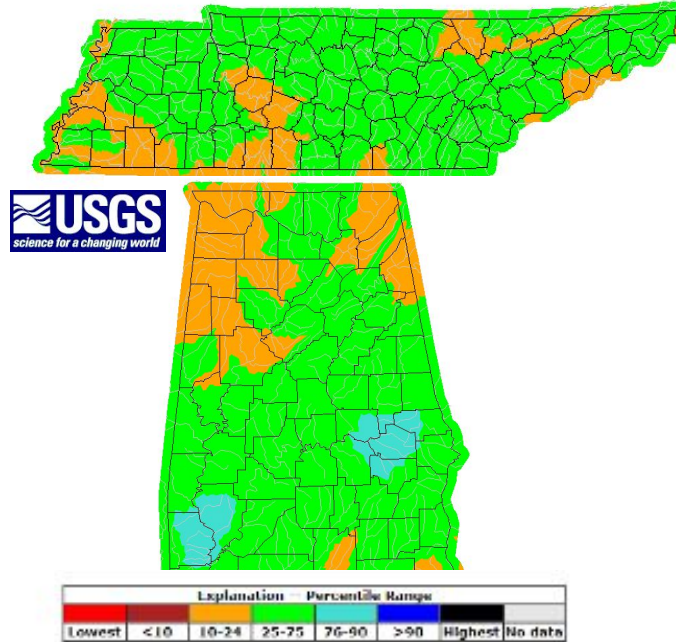


Figure Caption: USGS 7-day streamflow percentiles for Tennessee (top) and Alabama (bottom) , valid Oct 18, 2023

## Lake Stages

Reservoir/ Lake	Pool Elevation (ft)	Current Elevation (ft)	Percent Full
Bear Creek	576	576	100%
Little Bear Creek	620	619	~100%
Cedar Creek	580	579	~100%
Tim's Ford	883	887	~100%
Nickajack	634	634	100%
Guntersville	594	594	100%
Wheeler	553	554	~100%
Wilson	N/A	507	Within Normal Range
Pickwick	411	412	~100%
Lewis Smith	500	500	100%

Table caption: Reservoir conditions as of Oct 19, 2023



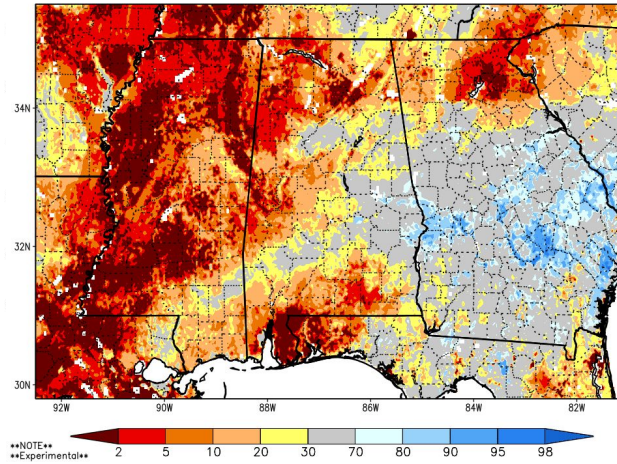


# Agricultural Impacts

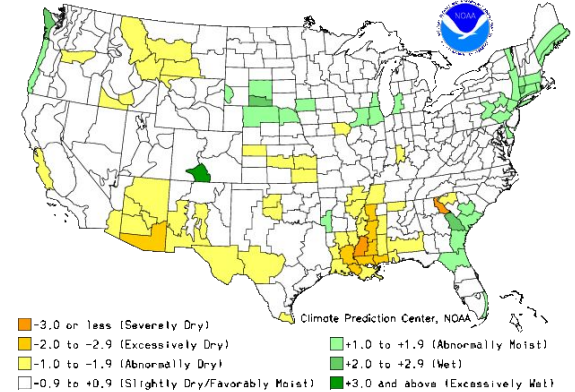
## Main Takeaways

- Soil Moisture values have decreased in recent weeks due to below normal rainfall.
- 0-100 cm depth soil moisture percentiles (left image) indicate values largely below the 20th percentile for much of the area. However, spotty locations have 1 meter depth soil moisture below the 2nd percentile.
- Meanwhile, the crop moisture index (right image) indicates values are abnormally dry for NW portions of Alabama for the weekly period ending Oct 14, 2023.

SPoRT-LIS 0-100 cm Soil Moisture percentile valid 18 Oct 2023



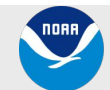
Crop Moisture Index by Division  
Weekly Value for Period Ending OCT 14, 2023  
Short Term Need vs. Available Water in a Shallow Soil Profile



## Image Captions:

Left: NASA Short-term Prediction Research and Transition Center 0-100 cm Soil Moisture Ranking Percentile based on 33-year climatology (1981-2013), 18 Oct 2023

Right: Crop Moisture Index by Division. Weekly value for period ending Oct 14, 2023





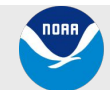
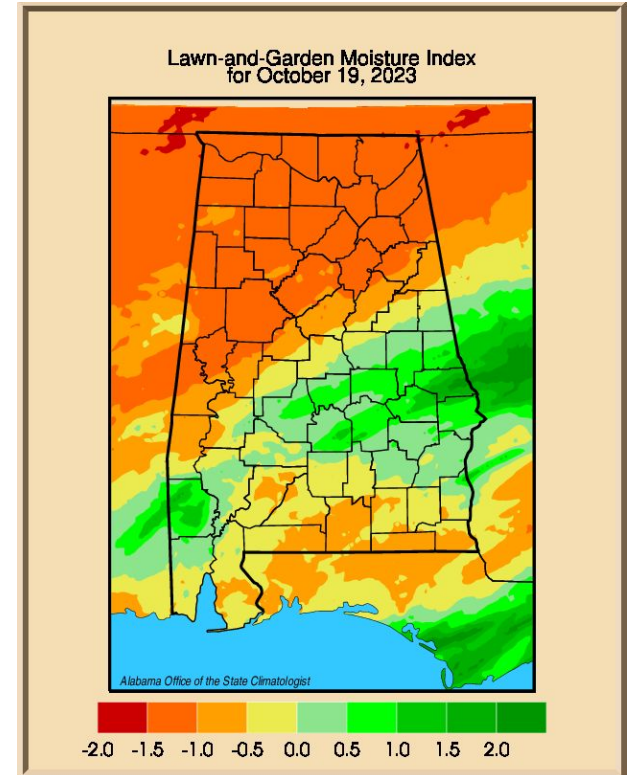
# Agricultural Impacts

## Main Takeaways

- The Lawn and Garden Moisture Index for Alabama indicates much drier than normal soil conditions for the production of healthy lawns and gardens across nearly all of northern Alabama and adjacent areas in southern Middle Tennessee. Values are largely around -1.0 to -1.5, indicating a 1.0 to 1.5 inch effective precipitation deficit for this time of year to maintain healthy lawns and gardens.

### Image Captions:

The image to the right is the Lawn and Garden Moisture Index from the Office of the State Climatologist of Alabama. Negative values (warm colors) indicate soil moisture deficits, while positive values (shades of green) indicate moisture surplus. To learn more about the Lawn and Garden Index, please visit...[https://www.nsstc.uah.edu/aosc/lawn\\_garden\\_se.html](https://www.nsstc.uah.edu/aosc/lawn_garden_se.html)







# Fire Hazard Impacts

## Main Takeaways

- Keetch Byram Drought Index values have increased significantly in recent weeks, with values around 600-700. National Weather Service offices may issue Red Flag Warnings when values climb above 300 in Alabama, although other weather criteria must be met. At this time, the Alabama Forestry Commission has issued a Fire Alert for all of northern Alabama, with burn restrictions in place. To see more about wildfire and burn restrictions, click for [Alabama](#) and [Tennessee](#).

The Alabama Forestry Commission uses the Keetch-Byram Drought Index (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.

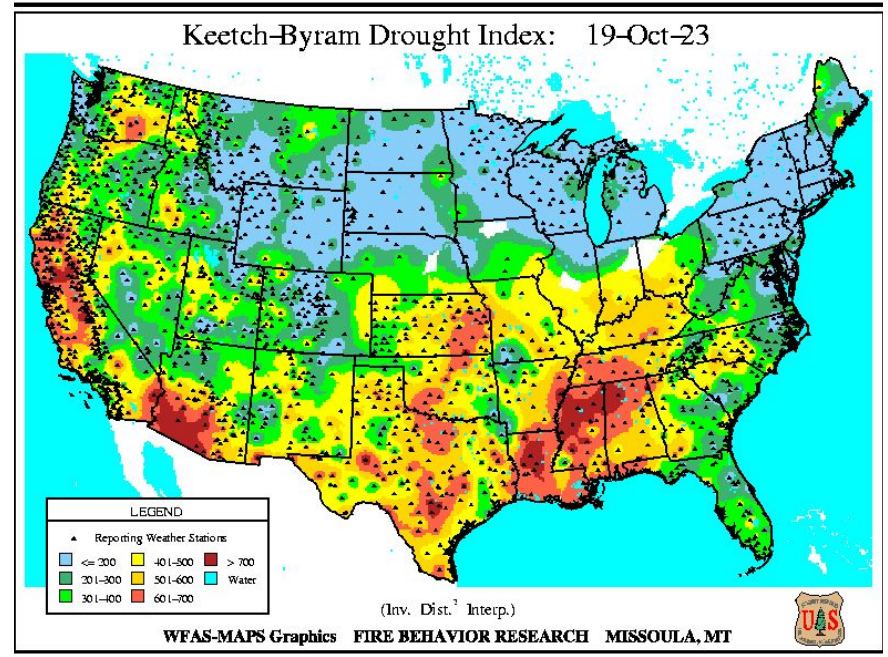
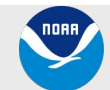


Image Caption: Keetch-Byram Drought Index (KBDI) for the Continental U.S., estimated for Oct 19, 2023. Values in the Tennessee Valley range from around 500-700.





# Seven Day Precipitation Forecast

- Next 7 days:
  - Climatologically dry conditions are forecast over the next 7 days, with precipitation amounts generally less than 0.10 inch. Around 0.80 to 1.00 inch of precipitation is normal for this time of year for a weekly period.

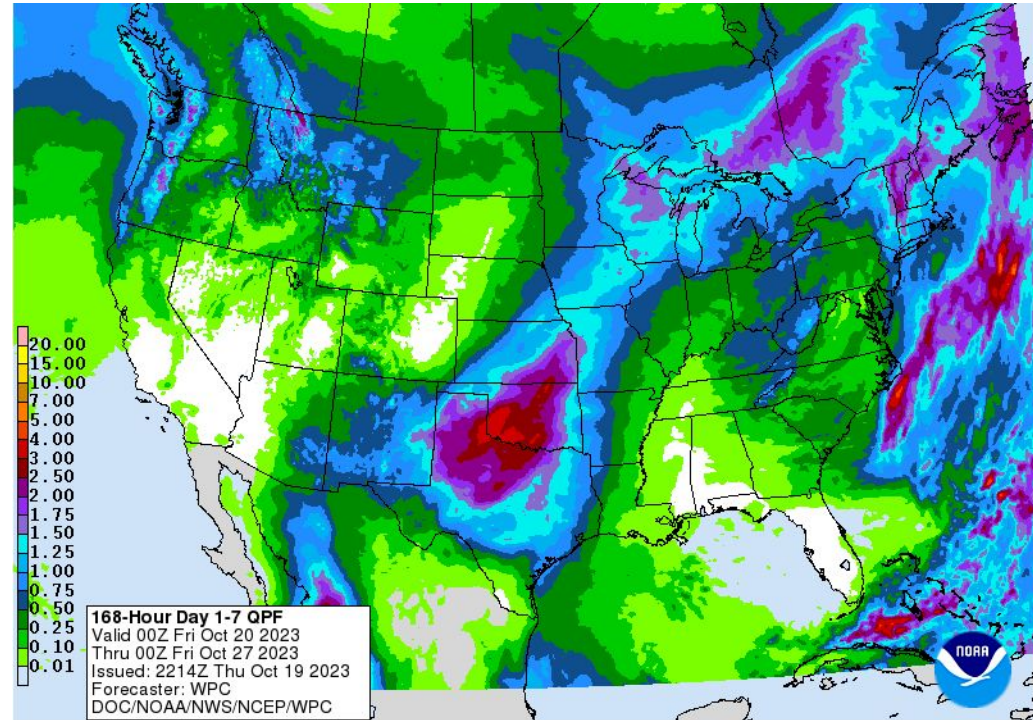
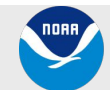


Image Caption: Weather Prediction Center 7-day precipitation forecast valid 7 PM Oct 19 to 7 PM Oct 26 (CDT)





# 8-14 Day Outlook

## Temperature and Precipitation Outlook

### Main Takeaways

- Above Normal temperatures are moderately favored (40-50% chance) for most of the area. However, Above Normal temperatures are just slightly favored (33-40%) for northwest portions of the area.
- Above Normal precipitation is slightly favored (33-40%) for most of the area in the 8-14 Day Outlook.

### Possible Impact

Conditions may remain steady-state or improve slightly during this period.

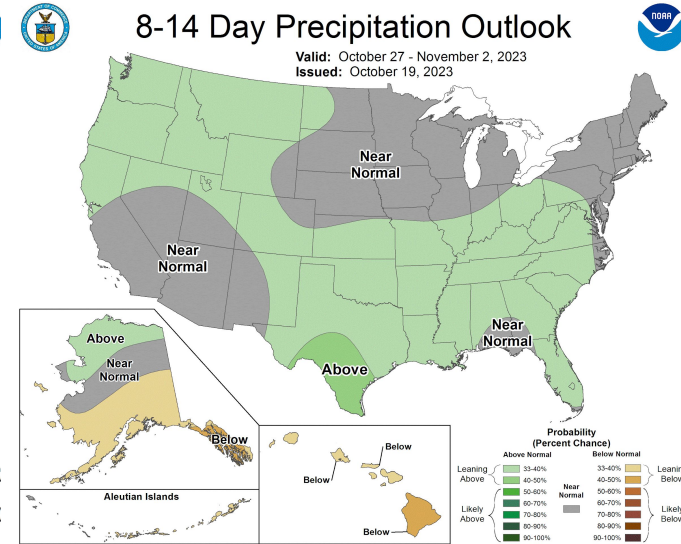
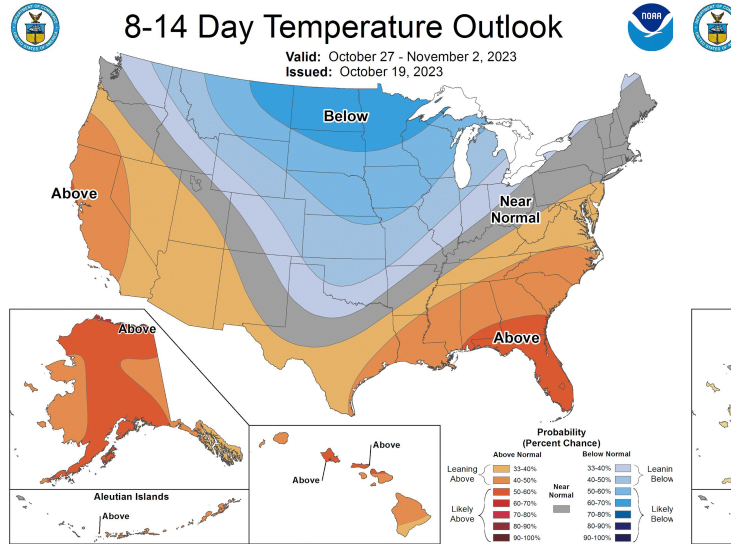


Image Captions:  
Left - Climate Prediction Center 8-14 Day Temperature Outlook  
Right - Climate Prediction Center 8-14 Day Precipitation Outlook  
Valid October 27 to November 2, 2023





# Monthly Outlooks

## Monthly Temperature and Precipitation Outlook

### Main Takeaways

- Above Normal temperatures are moderately favored (40-50% chance) during November, per the CPC Monthly Outlook.
- Equal chances for Above, Near, or Below Normal precipitation in November.

### Possible Impact

Possible degradation of conditions may eventually occur due to the expectations for above normal temperatures. However, this will ultimately depend on precipitation amounts, which are uncertain at this time.

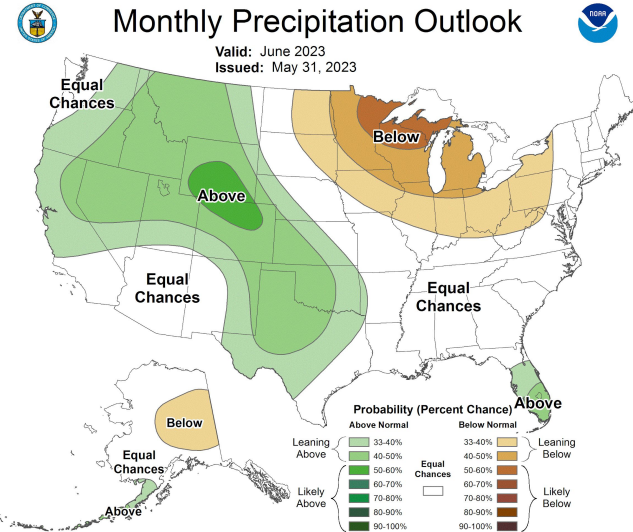
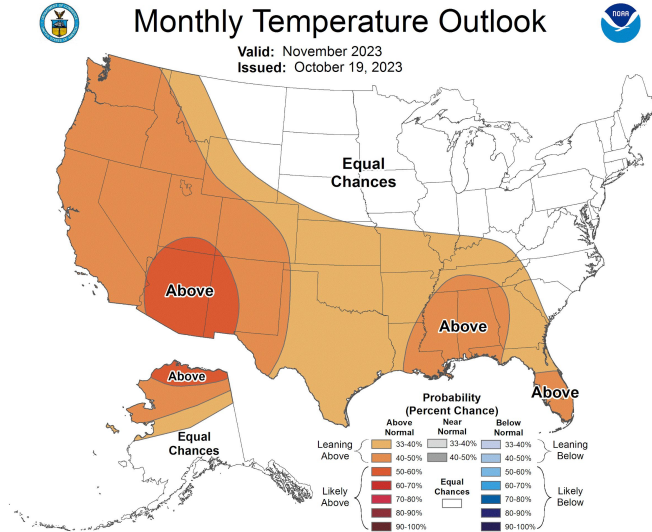
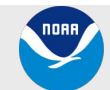


Image Captions:  
Left - Climate Prediction Center Monthly Temperature Outlook.  
Right - Climate Prediction Center Monthly Precipitation Outlook.  
Valid November 2023





# Seasonal Outlook (November to January)

## Seasonal Temperature and Precipitation Outlook

### Main Takeaways

- **Temperatures:** Above normal temperatures are slightly favored (33-40%) for the Nov-Jan season.
- **Precipitation:** Above Normal precipitation is slightly favored (33-40% chance) for most areas in northern Alabama, although equal chances for Below, Near or Above Normal precipitation are outlooked for much of Tennessee.

### Possible Impact

Some improvement in drought conditions is possible overall during the November to January period. Although, confidence is not high for specific temperature and precipitation conditions.

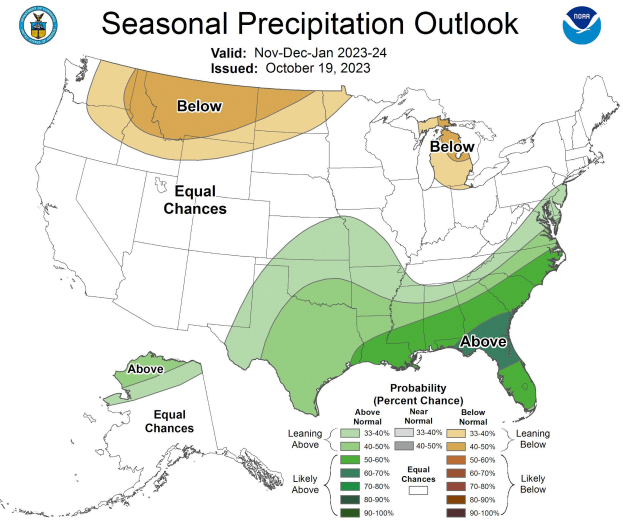
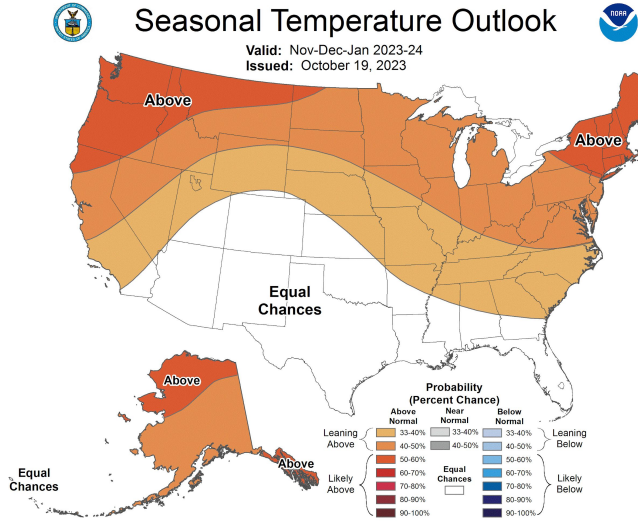


Image Captions:

Left - Climate Prediction Center Seasonal Temperature Outlook.  
Right - Climate Prediction Center Seasonal Precipitation Outlook.  
Valid November 2023 to January 2024





# Seasonal Drought Outlook

Seasonal Outlook

## Main Takeaways

- Drought conditions are anticipated to persist, but some improvement is possible from late October through January, per the latest Monthly Drought Outlook.

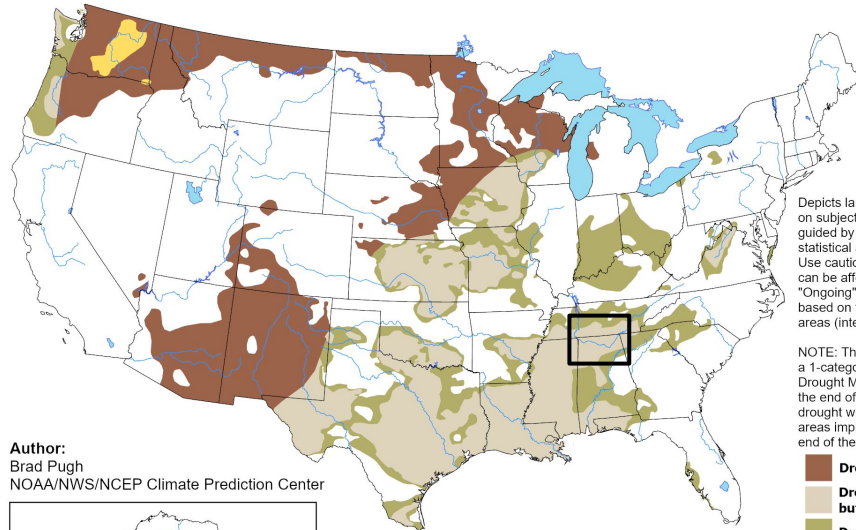
### Image Caption:

Climate Prediction Center *Seasonal Drought Outlook* for Oct 19, 2023 to Jan 31, 2024, released October 19, 2023 ([https://www.cpc.ncep.noaa.gov/products/expert\\_assessment/season\\_drought.png](https://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png))

## U.S. Seasonal Drought Outlook

### Drought Tendency During the Valid Period

Valid for October 19, 2023 - January 31, 2024  
Released October 19, 2023

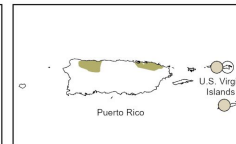
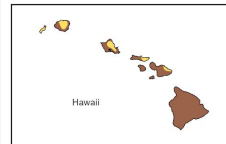
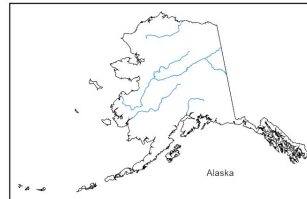


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to 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/3eZ73>

