

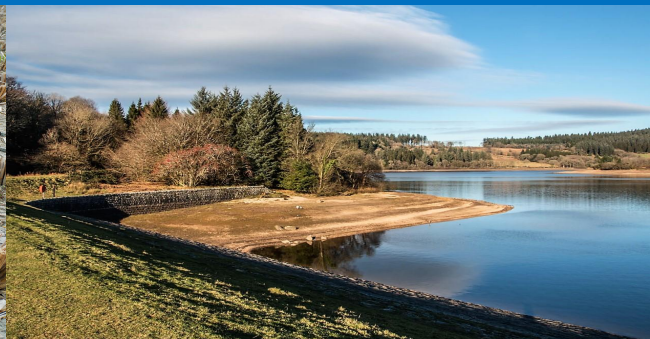


# Drought Information Statement for the Central Tennessee Valley

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 10th 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





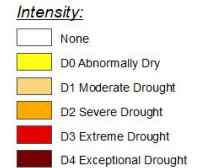
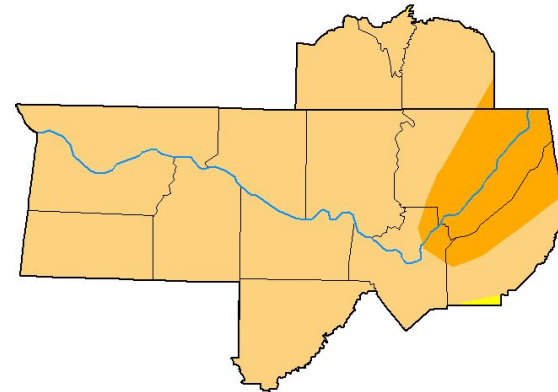
# U.S. Drought Monitor

Latest U.S. Drought Monitor Map

- Drought intensity and Extent
  - D4 Exceptional Drought: None
  - D3 Extreme Drought: None
  - D2 Severe Drought: About the eastern two-thirds of Jackson County, and mainly western/northern areas of DeKalb County, along with NE areas of Marshall County, and small area in SE Franklin County, TN.
  - D1 Moderate Drought: Moderate drought has expanded to cover most of the Huntsville County Warning Forecast Area with the exception of D2 areas noted above, and a small area of D0 noted below.
  - D0: Abnormally Dry: A very small area of southern DeKalb County

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

**October 10, 2023**  
(Released Thursday, Oct. 12, 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:**  
Brad Pugh  
CPC/NOAA



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

Image Caption: U.S. Drought Monitor valid 7 AM CDT, October 10, 2023.



# Recent Change in Drought Intensity

- One Week U.S. Drought Monitor Class Change
  - Drought Worsened: Areas of NW Alabama, extreme western Lincoln County, southern areas of Marshall County, and far SW portions of DeKalb County were moved from D0 last week to D1 this week. Portions of NE Alabama and SE portions of Franklin County TN were moved from D1 to D2 status.
  - No Change: Much of the area remained in D1 status.
  - Drought Improved: No areas

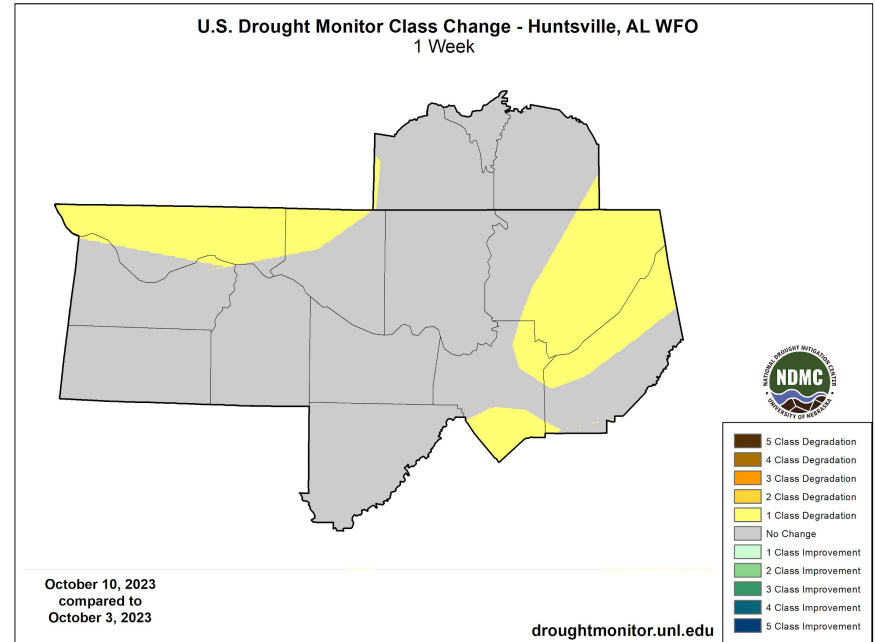
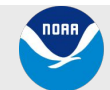


Image Caption: U.S. Drought Monitor 1-week change map valid 7 AM CDT October 10, 2023.

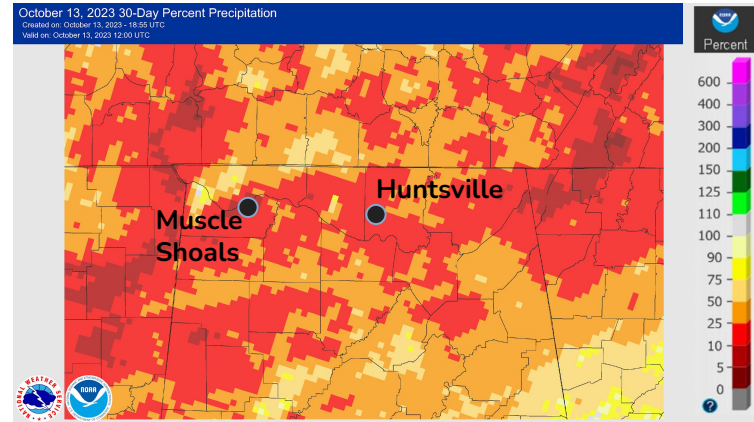
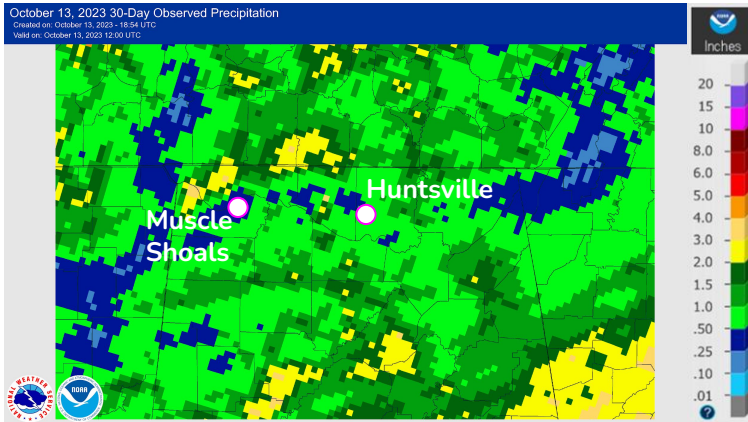




# Precipitation - Past 30 Days

## Main Takeaways

- During the last 30 days (ending Oct 13), rainfall largely totaled around one inch or less as shown in the graphic on the left. However, a swath of 2-3 inch rainfall occurred in NW portions of the area, which is still below normal. Muscle Shoals has only recorded 0.18" of precipitation, while Huntsville recorded 0.69".
- Rainfall amounts are largely at or below the 25th percentile for the last 30 days (red shading), with many locations at or below the 50th percentile (orange 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 13, 2023







# Summary of Impacts

## Hydrologic Impacts

- No significant hydrologic impacts 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

- Dry weather allowed farmers to conduct significant field work in recent weeks. However, many operators noted that many pastures were beginning to dry up due to the lack of rain. Seeding of winter wheat was delayed in some areas due to low soil moisture. 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 500-700 across the area.
- The Alabama Forestry Commission issued a statewide Fire Alert on Sep 22, 2023 due to drought conditions. An update on October 4th stated that no burning permits will be issued until further notice effective Oct 6th.

## Drought Mitigation Actions

- The Alabama Dept of Economic and Community Affairs Office of Water Resources has placed portions of Drought Region 2 under a Drought Advisory, as of Sep 19, 2023. This includes Cullman County. Water managers are urged to monitor water conditions and encourage the wise and efficient usage of our water resources.
- 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 due to below normal rainfall. Basins in parts of NW, NC, and NE Alabama are now 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: 4th percentile).
- Lake/Reservoir levels remain near normal.

## 7-Day Avg Streamflow Percentiles

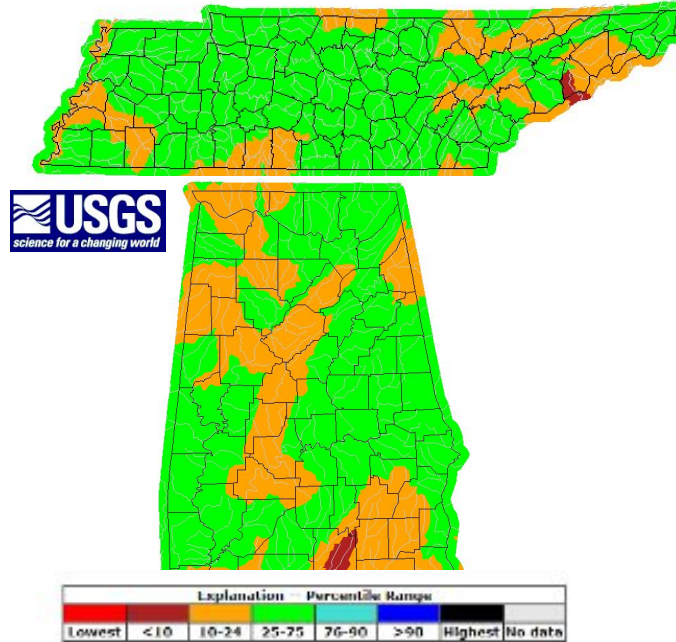


Figure Caption: USGS 7-day streamflow percentiles for Tennessee (top) and Alabama (bottom) , valid Oct 12, 2023

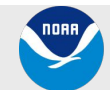
## Lake Stages

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	888	887	~100%
Nickajack	634	634	100%
Guntersville	594	594	100%
Wheeler	554	554	100%
Wilson	N/A	507	Within Normal Range
Pickwick	412	412	100%
Lewis Smith	500	500	100%

Table caption: Reservoir conditions as of Oct 12, 2023

Additional data:

None at this time to report



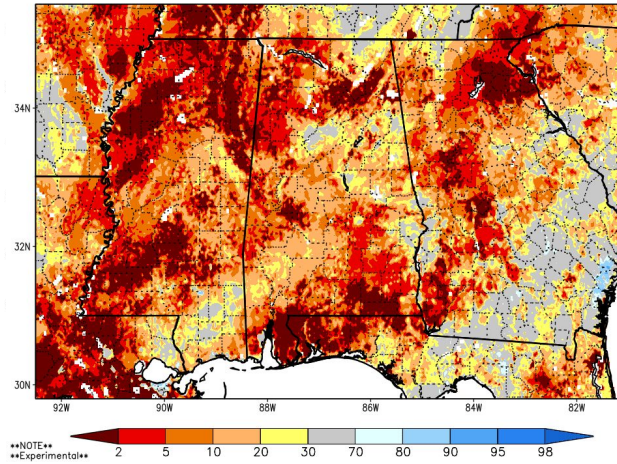


# Agricultural Impacts

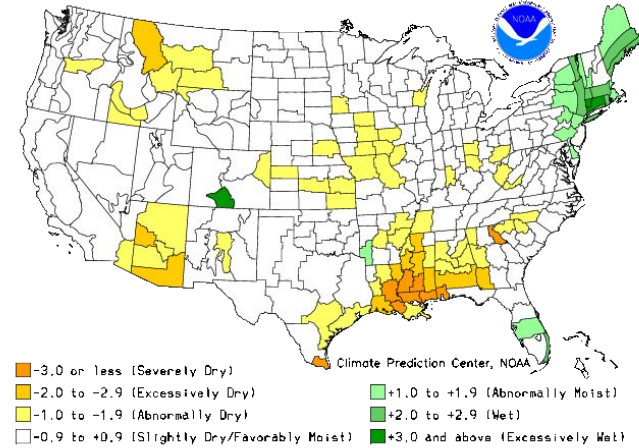
## Main Takeaways

- Soil Moisture values have decreased in recent weeks due to below normal rainfall.
- 0-100 cm depth soil moisture data from the NASA SPoRT-LIS soil moisture percentiles (left image) indicate values around the 10th-20th percentile or below for much of the area. The lowest values are generally along portions of Sand Mountain in NE AL, where D2 drought designations have been made.
- Meanwhile, the crop moisture index (right image) indicates values are slightly dry for the weekly period ending Sep 30, 2023.

SPoRT-LIS 0-100 cm Soil Moisture percentile valid 12 Oct 2023



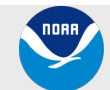
Crop Moisture Index by Division  
Weekly Value for Period Ending OCT 7, 2023  
Short Term Need vs. Available Water in a Shallow Soil Profile



## Image Captions:

Left: NASA Short-term Prediction Research and Transition Center 0-100 cm Soil Moisture Percentile based on 33-year climatology (1981-2013), 12 Oct 2023

Right: Crop Moisture Index by Division. Weekly value for period ending Oct 7, 2023





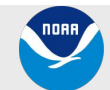
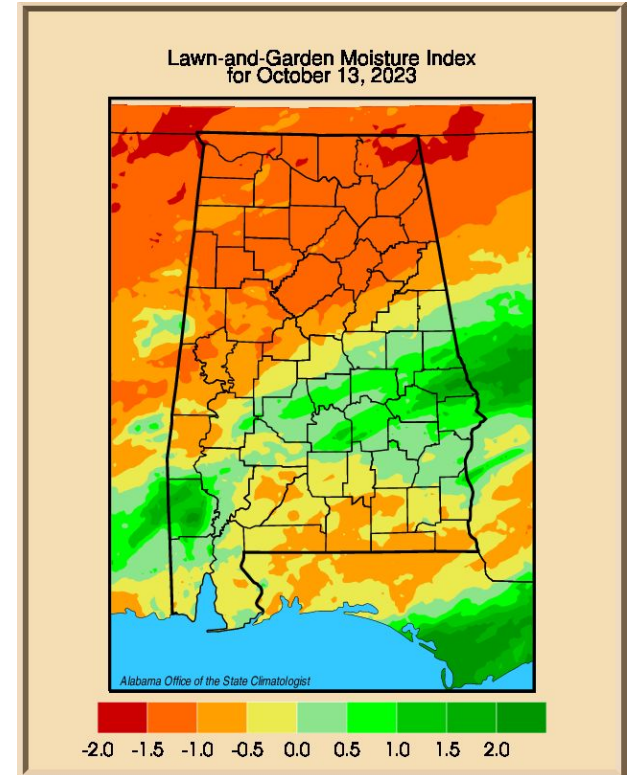
# Agricultural Impacts

## 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 -1.5 to -2.0 across the area, indicating a 1.5 to 2.0 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 above 500 in NE areas, and above 700 in portions of NW Alabama. 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 AL, 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.

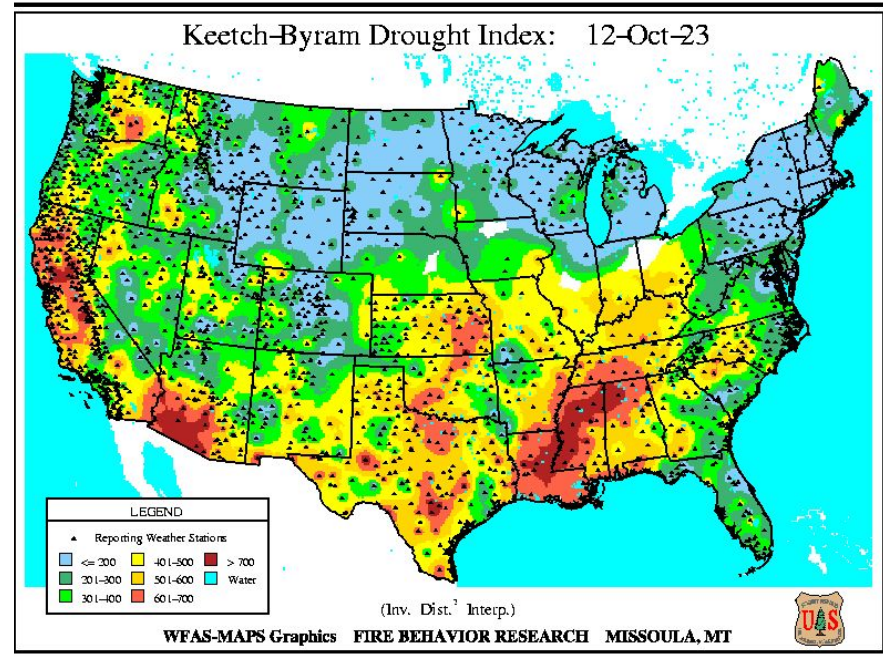


Image Caption: Keetch-Byram Drought Index (KBDI) for the Continental U.S., estimated for Oct 12, 2023. Values in the Tennessee Valley range from around 500-700.





# Seven Day Precipitation Forecast

- Next 7 days:
  - Climatologically dry conditions are forecast over the next 7 days, with precipitation amounts generally around 0.25 to 0.50 inches across the area. Around 0.75 to 1.00 inch of precipitation is normal for this time of year for a weekly period.

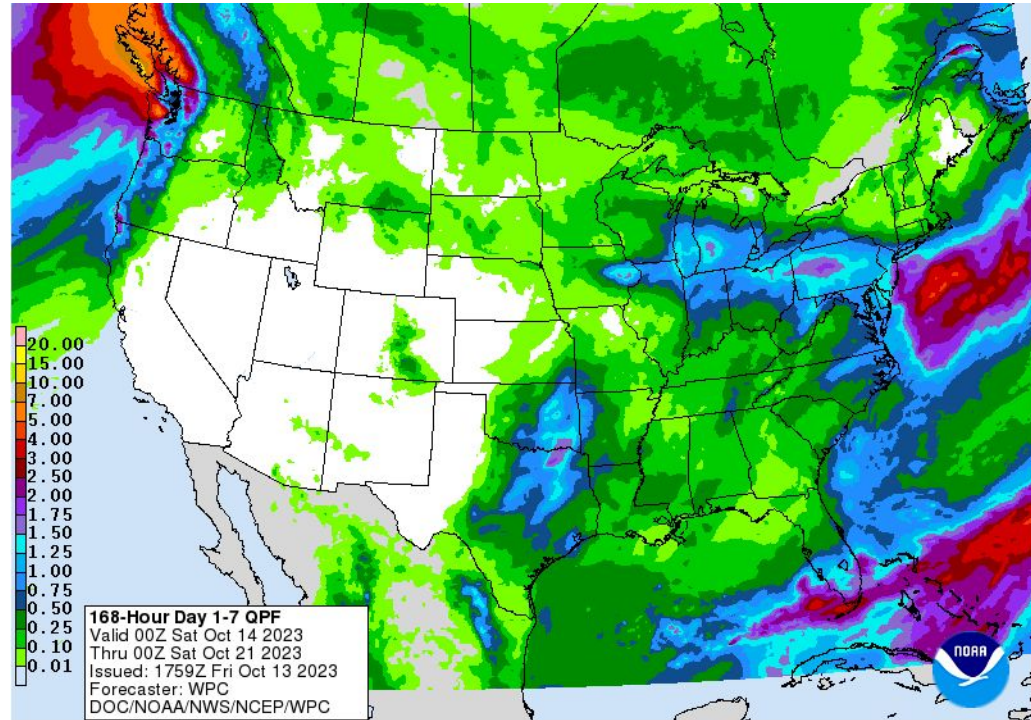
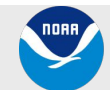


Image Caption: Weather Prediction Center 7-day precipitation forecast valid 7 PM Oct 13 to 7 PM Oct 20 (CDT)





# 8-14 Day Outlook

## Temperature and Precipitation Outlook

### Main Takeaways

- Below normal temperatures are slightly favored (30-40% chance) per the 8-14 Day Temperature Outlook (Oct 20-26).
- Near Normal precipitation is slightly favored for most of the area in the 8-14 Day Outlook.

### Possible Impact

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

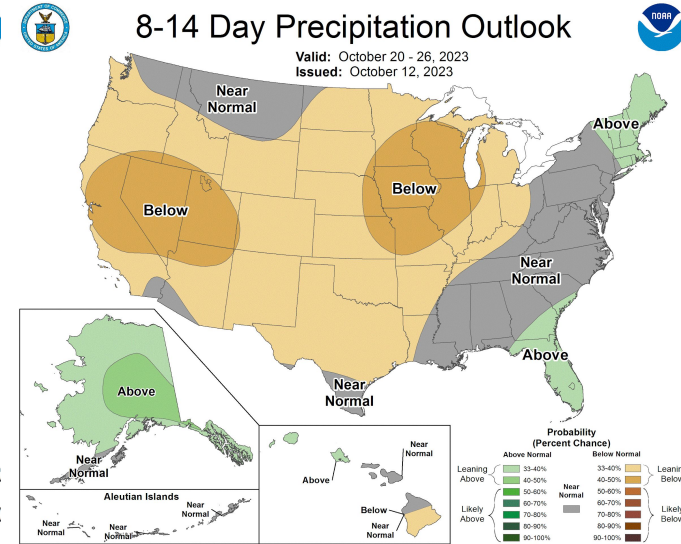
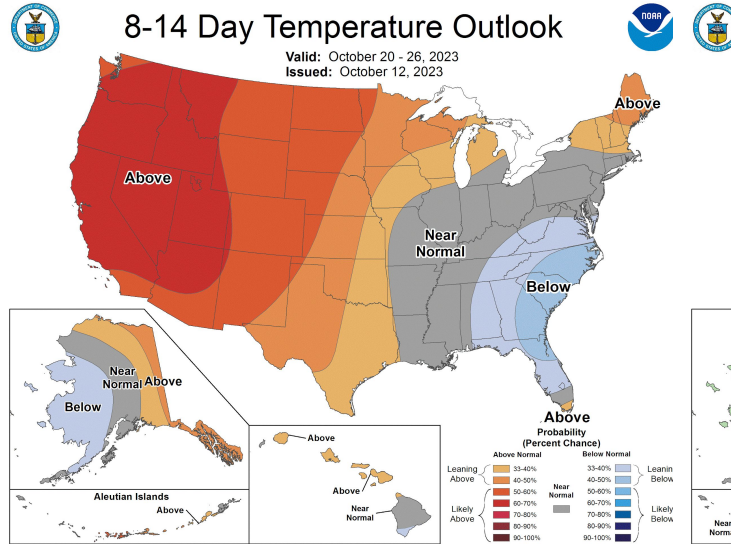


Image Captions:  
 Left - Climate Prediction Center 8-14 Day Temperature Outlook  
 Right - Climate Prediction Center 8-14 Day Precipitation Outlook  
 Valid October 20-26, 2023





# Seasonal Outlook

## Seasonal Temperature and Precipitation Outlook

### Main Takeaways

- **Temperatures:** Equal chances for below, near, or above normal temperatures for the Oct-Dec season.
- **Precipitation:** Above Normal precipitation is slightly favored (33-40% chance) for the period.

### Possible Impact

Some improvement in drought conditions is possible overall during the Oct-Dec period. Although, confidence is not high in specific temperature and precipitation conditions.

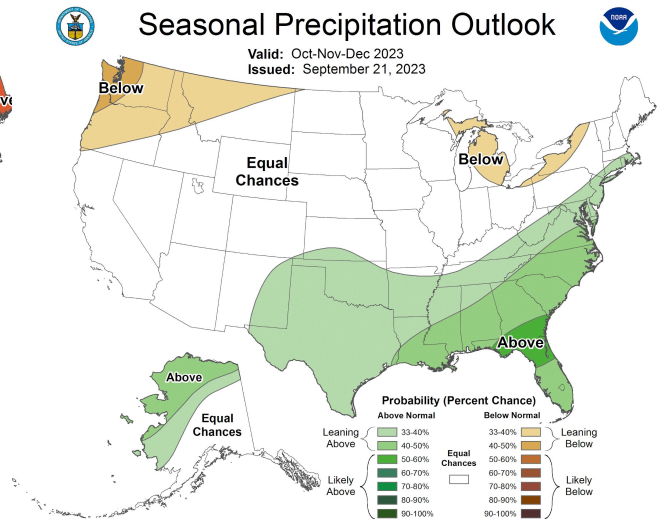
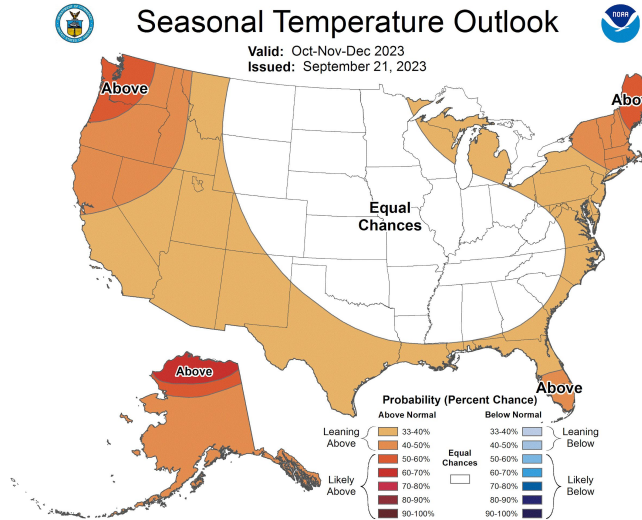


Image Captions:  
Left - Climate Prediction Center Seasonal Temperature Outlook.  
Right - Climate Prediction Center Seasonal Precipitation Outlook.  
Valid October through December 2023

