



Drought Information Statement for the Central Tennessee Valley

Issued by: WFO Huntsville, AL

Contact information: 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 3rd 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





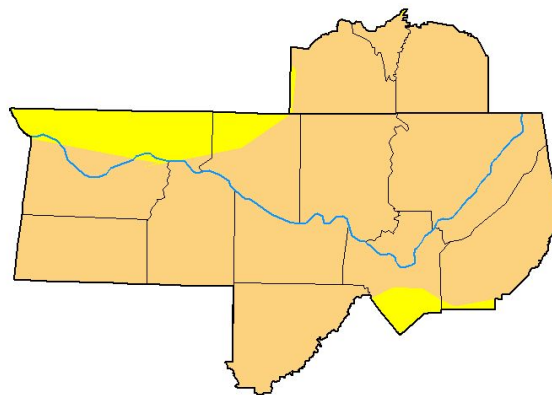
U.S. Drought Monitor

Latest U.S. Drought Monitor Map

- Drought intensity and Extent
 - D4 Exceptional Drought: None
 - D3 Extreme Drought: None
 - D2 Severe Drought: None
 - D1 Moderate Drought: Moderate drought has expanded to cover most of the Huntsville County Warning Forecast Area. Areas only in D0 status will be described below.
 - D0: Abnormally Dry: This includes much of Lauderdale County with the exception of southern areas from SW of Florence to near where Natchez Trace crosses the TN River. Far NE portions of Lauderdale, NW Limestone, a small sliver of far western Lincoln, southern Marshall, and a small portion of southern DeKalb Counties are also included.

U.S. Drought Monitor Huntsville, AL WFO

October 3, 2023
(Released Thursday, Oct. 5, 2023)
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:
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CPC/NOAA



Image Caption: U.S. Drought Monitor valid 7 AM CDT, October 3, 2023.





Recent Change in Drought Intensity

- One Week U.S. Drought Monitor Class Change
 - Drought Worsened: Most areas experienced a one category change in drought conditions from the previous week, as shown by the yellow colors in the graphic to the right.
 - No Change: Primarily NE and some NW portions of the forecast area.
 - Drought Improved: No areas

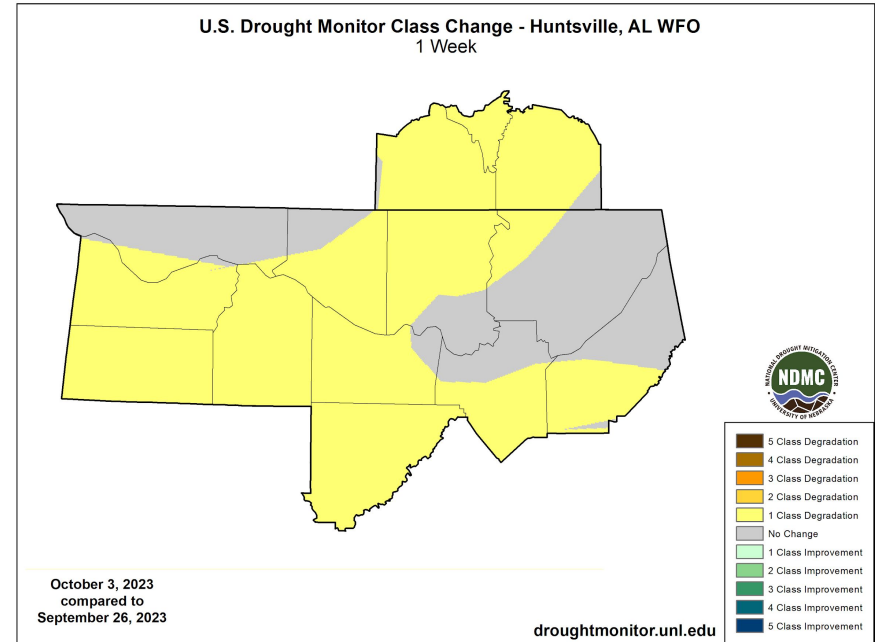


Image Caption: U.S. Drought Monitor 1-week change map valid 7 AM CDT October 3, 2023.



Precipitation

Main Takeaways

- During the last 30 days (ending Oct 4), rainfall totaled less than one inch across most areas as indicated in the graphic on the left. However, pockets of rainfall totaling 2-3 inches are present, but this is still below normal for the past 30 days. Muscle Shoals has only recorded 0.06" of precipitation, while Huntsville recorded 0.70"
- Rainfall amounts are largely below the 50th percentile for the last 30 days, with many locations below the 25th percentile, per the graphic on the right.

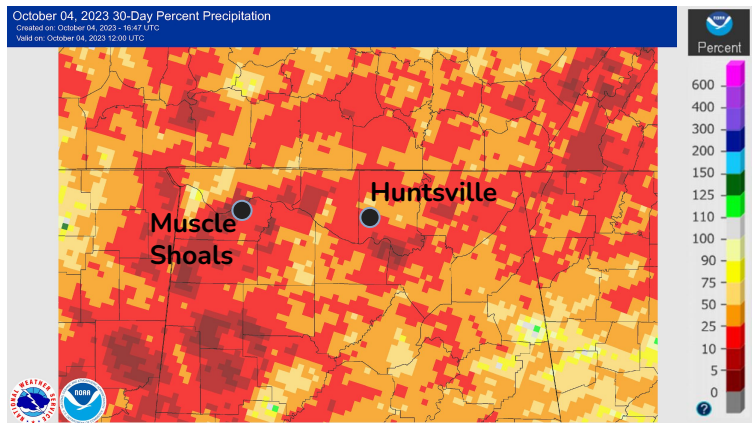
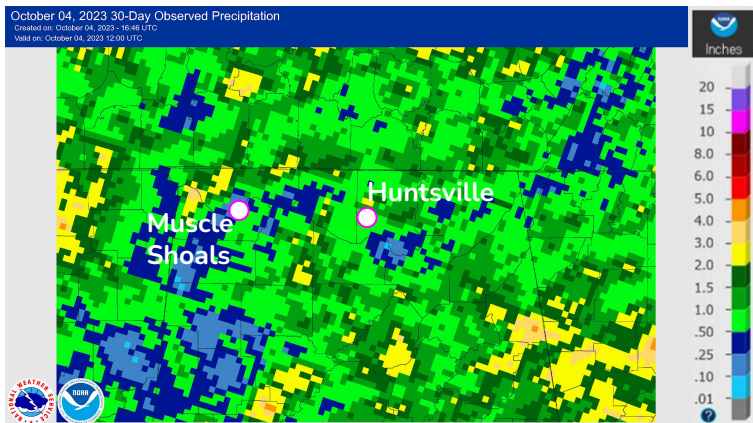
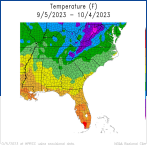


Image Captions:

Left - 30-Day Precipitation from the Advanced Hydrologic Prediction Service (AHPS), Right - 30-Day Percent of Normal Precipitation from AHPS. Data ending October 4, 2023





Temperature

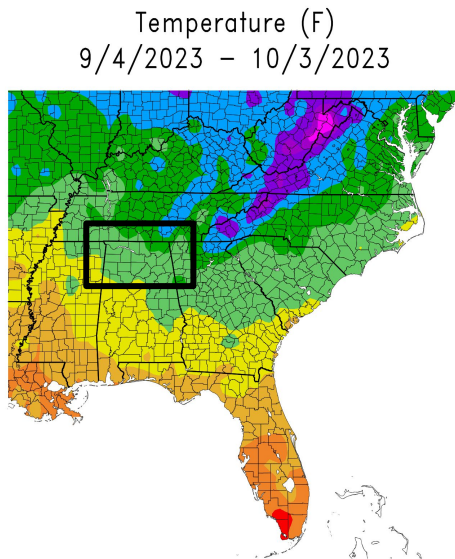
Main Headline

Main Takeaways

- Temperatures have largely averaged around 1-2 degrees (F) above normal over the last 30 days.

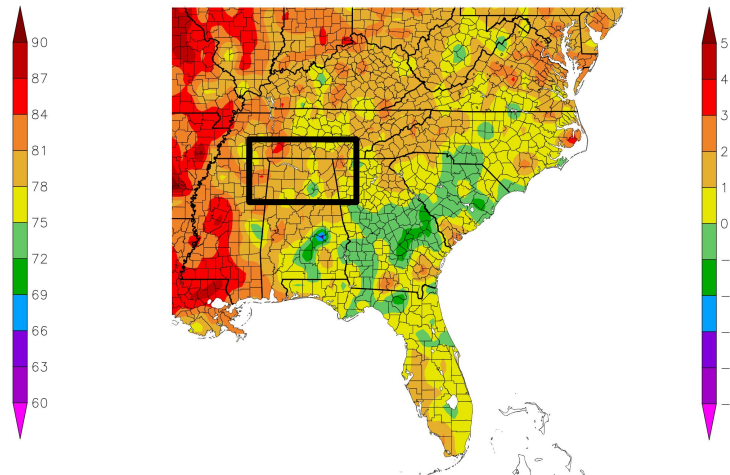
Possible Impact

Above normal temperatures have helped to intensify drying of the environment and drought conditions.



Generated 10/4/2023 at HPRCC using provisional data.

Departure from Normal Temperature (F)
9/5/2023 - 10/4/2023



NOAA Regional Climate Cted 10/5/2023 at HPRCC using provisional data.

NOAA Regional Climate

Image Captions:
Left - Average Temperature
Right - Departure from Normal Temperature
Data Courtesy High Plains Regional Climate Center.
Data over the past 30 days ending Oct, 3/4, 2023



Summary of Impacts

Hydrologic Impacts

- No significant hydrologic impacts at this time, although streamflows have fallen markedly over recent weeks.
- See next slide for more details

Agricultural Impacts

- Dry weather allowed farmers to conduct significant field work in recent weeks. However, persistent dry weather has dissuaded some operators from conducting a third or fourth cutting of hay due to expected low yields. 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.

Other Impacts

- None at this time

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 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 (Big Nance Creek: 1st percentile, Bear Creek: 3rd percentile).
- Lake/Reservoir levels remain near normal.

Additional data:

None at this time to report

7-Day Avg Streamflow Percentiles

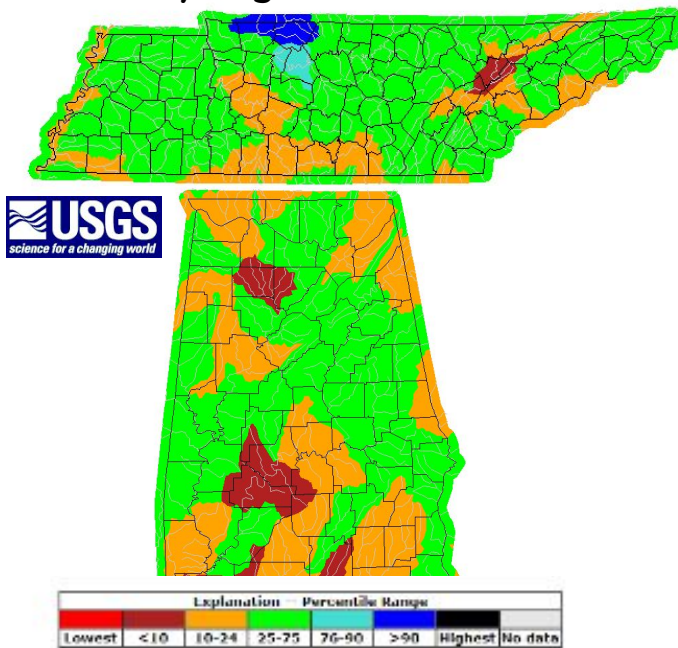


Figure Caption: USGS 7-day streamflow percentiles for Tennessee (top) and Alabama (bottom) , valid Oct 4, 2023

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 | 580 | 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 | 501 | 501 | 100% |

Table caption: Reservoir conditions as of Oct 4, 2023





Agricultural Impacts

Main Takeaways

- Soil Moisture values have decreased in recent weeks due to below normal rainfall.
- 0-100 cm depth data from the NASA SPoRT-LIS soil moisture percentiles (upper left image) indicate values around the 10th-20th percentile for much of the area.
- Meanwhile, the crop moisture index (upper right image) indicates values are slightly dry for the weekly period ending Sep 30, 2023.

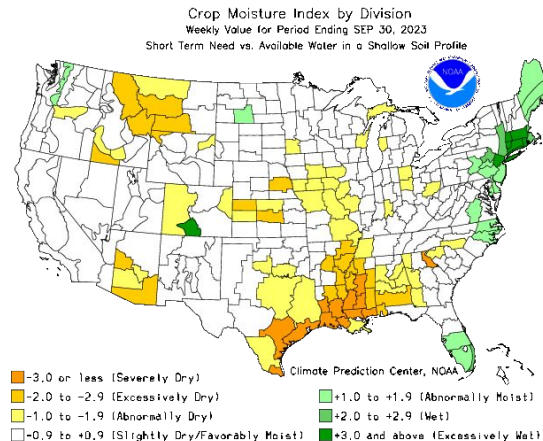
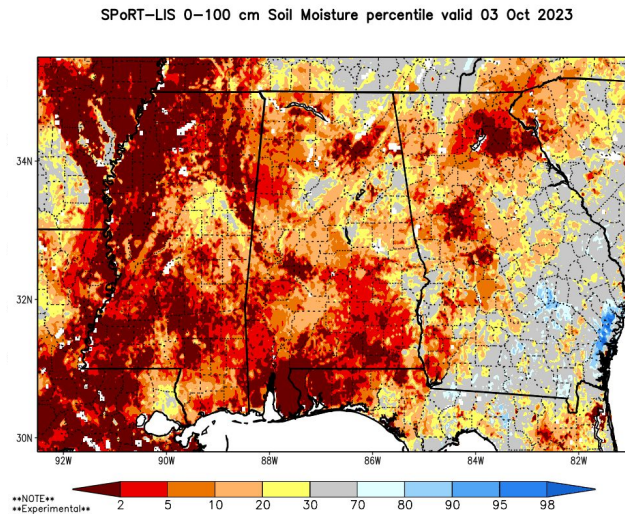


Image Captions:

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

Right: Crop Moisture Index by Division. Weekly value for period ending Sep 29, 2023





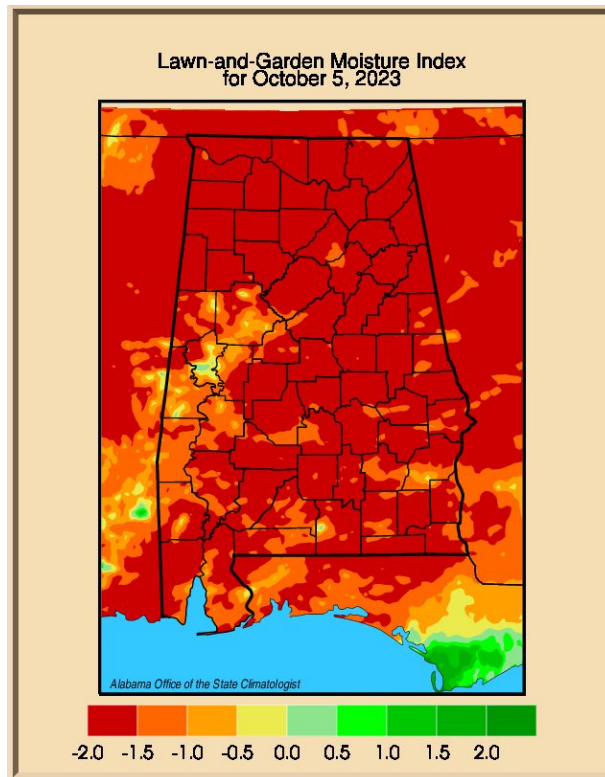
Agricultural Impacts

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 -2.0 across the area, indicating a 2.0 inch effective precipitation deficit for this time of year.

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





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.

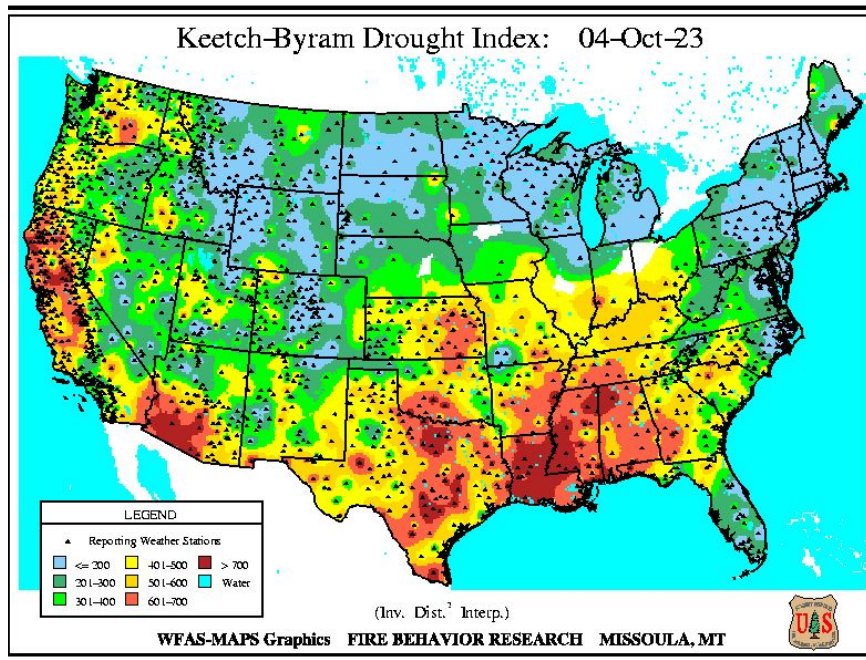


Image Caption: Keetch-Byram Drought Index (KBDI) for the Continental U.S., estimated for Oct 3, 2023. Values in the Tennessee Valley range from around 500-700.





Seven Day Precipitation Forecast

- Next 7 days:

- Climatologically very dry conditions are expected over the next 7 days, with precipitation amounts across the area generally around one quarter of an inch or less. Around 0.75-1.00 inch of precipitation is normal for this time of year for a weekly period.

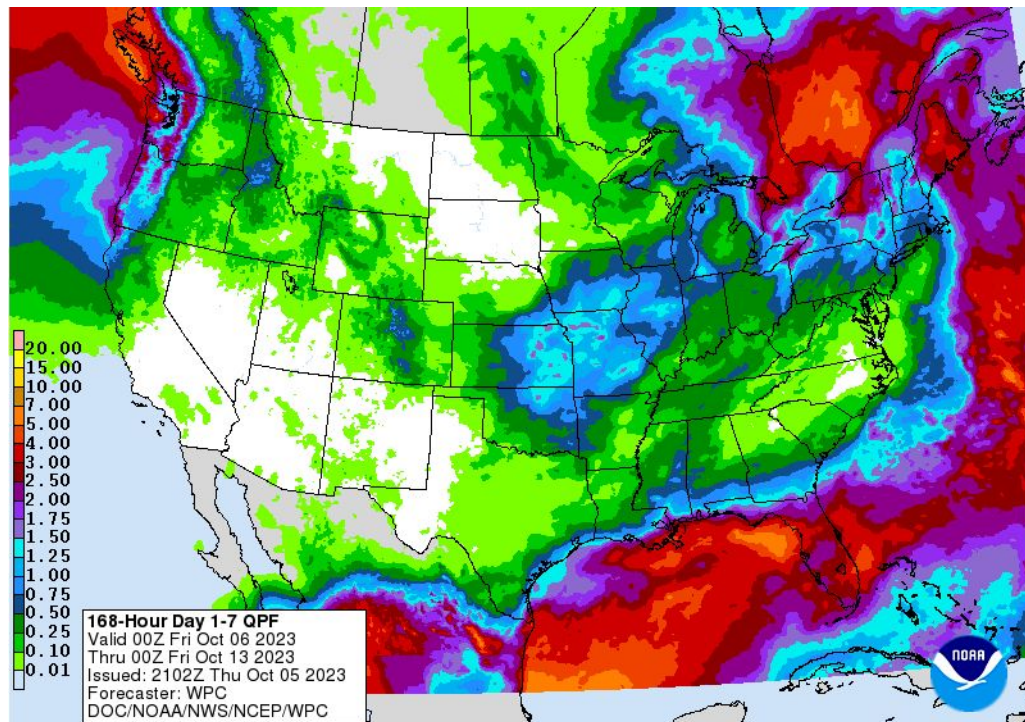


Image Caption: Weather Prediction Center 7-day precipitation forecast valid Monday June 5th to Monday June 12th





8-14 Day Outlook

Temperature and Precipitation Outlook

Main Takeaways

- Below normal temperatures are favored (40-50% chance) per the 8-14 Day Temperature Outlook (Oct 13-19).
- 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.

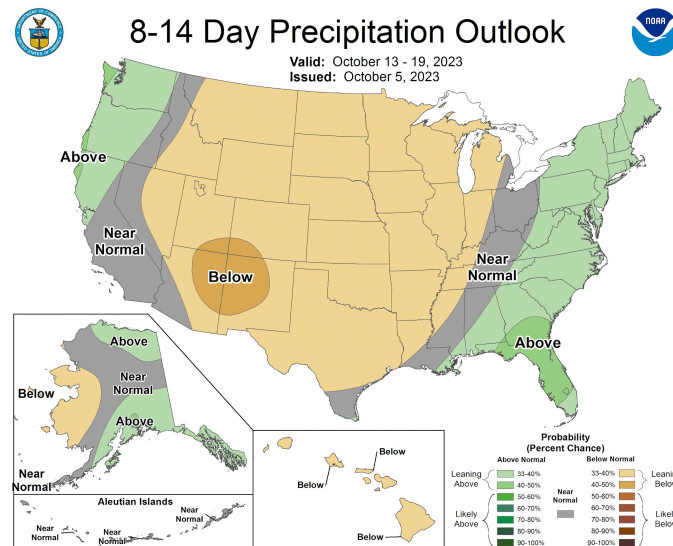
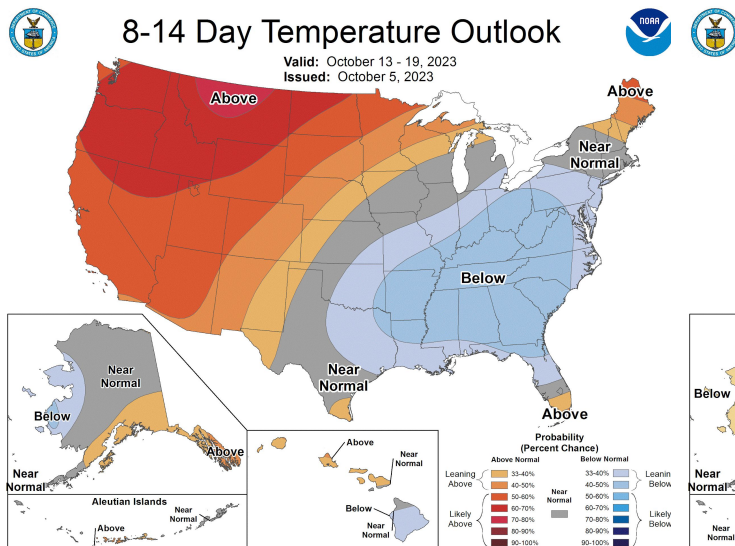


Image Captions:

Left - Climate Prediction Center 8-14 Day Temperature Outlook

Right - Climate Prediction Center 8-14 Day Precipitation Outlook

Valid June 12 to 18



National Oceanic and
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National Weather Service
Huntsville, AL



Updated Monthly Outlooks

Monthly Temperature and Precipitation Outlook

Main Takeaways

- **Temperatures:** Much of the area is slightly favored (30-40% chance) for above normal temperatures during October. However, southeastern areas have equal odds for below, near or above normal temperatures.
- **Precipitation:** Below normal precipitation is moderately favored for the area for October.

Possible Impact

- Deterioration of drought conditions may occur overall during the month of October.

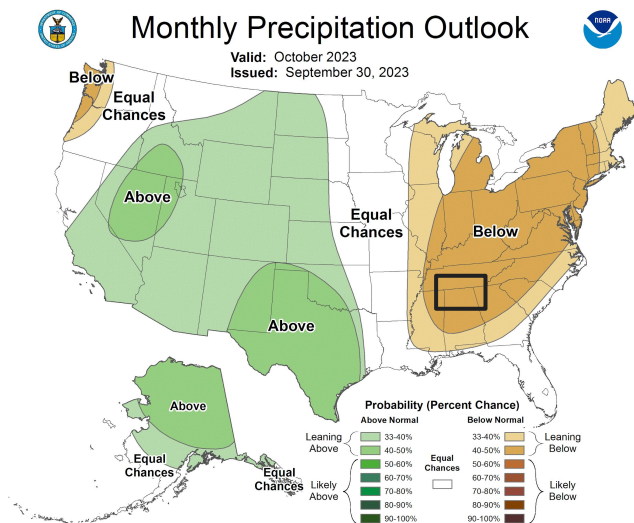
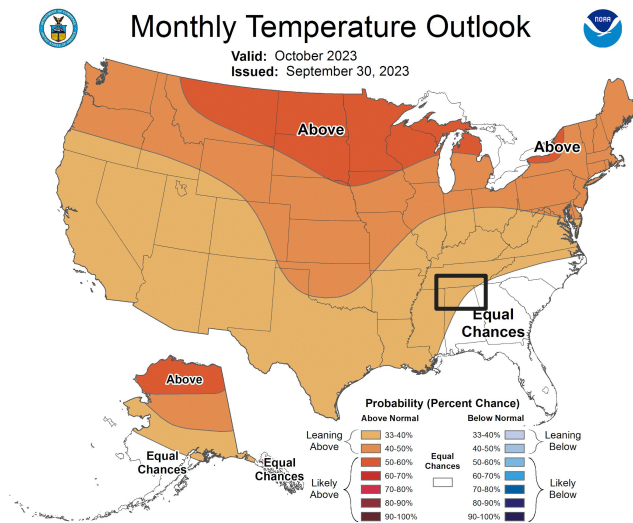


Image Captions:

Left - Climate Prediction Center Monthly Temperature Outlook.

Right - Climate Prediction Center Monthly Precipitation Outlook.

Valid June 2023.



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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.

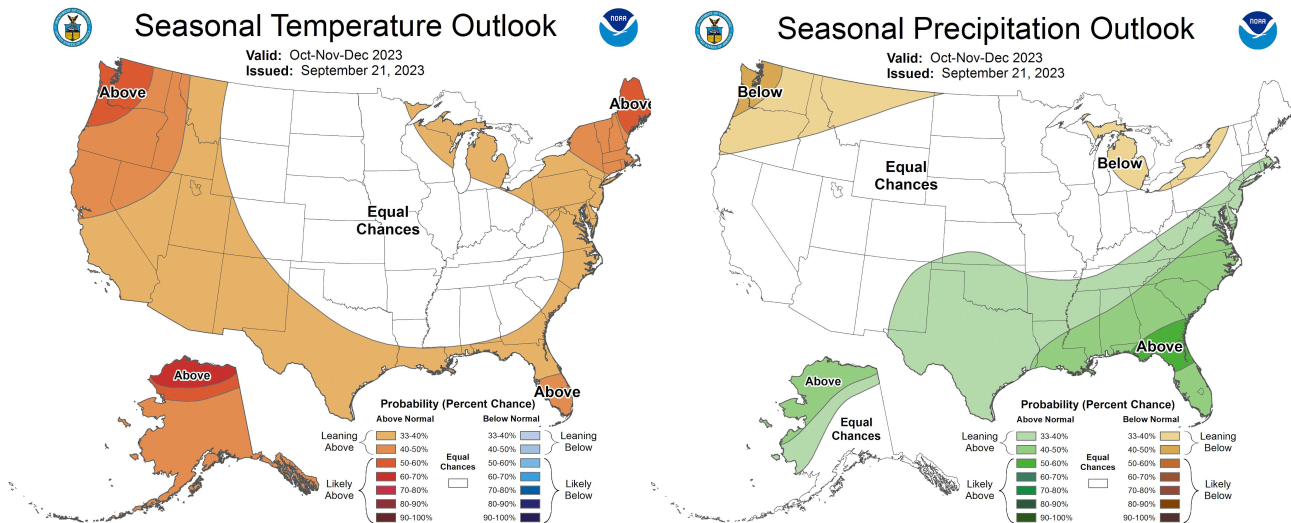


Image Captions:

Left - Climate Prediction Center Seasonal Temperature Outlook.

Right - Climate Prediction Center Seasonal Precipitation Outlook.

Valid May through July 2023



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Local Drought Outlook

Monthly and Seasonal Outlooks

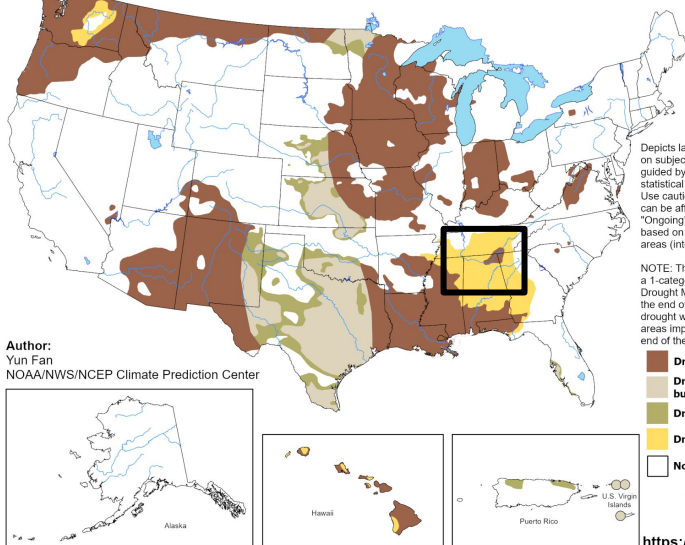
Main Takeaways

- Drought conditions are anticipated to develop and/or persist during October, per the latest Monthly Drought Outlook.

U.S. Monthly Drought Outlook

Drought Tendency During the Valid Period

Valid for October 2023
Released September 30, 2023



Author:
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NOAA/NWS/NCEP Climate Prediction Center

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



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

Image Caption:

Left - Climate Prediction Center *Monthly Drought Outlook* for October, released September 30, 2023

(https://www.cpc.ncep.noaa.gov/products/expert_assessment/month_drought.png)

