



# Drought Information Statement for the Missouri Ozarks

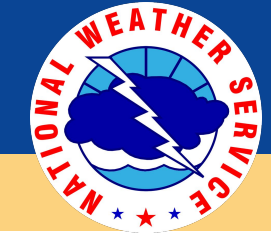
## Current Status, Impacts, and Outlook

Issued By: NWS Springfield, MO

Contact information: [contact.sqf@noaa.gov](mailto:contact.sqf@noaa.gov)







# U.S. Drought Monitor

Latest U.S. Drought Monitor Map

## Key Messages

- **Drought Worsened:** Portions of southwest and north central Missouri, and the Missouri Bootheel.
- **Drought Improved:** Central and east central Missouri.
- **No Change:** Portions of west central, northwest and northeast Missouri, and much of central and western Kansas.

## Next Scheduled Briefing

→ Thursday August 3rd, 2023

## U.S. Drought Monitor

July 25, 2023  
(Released Thursday, Jul. 27, 2023)  
Valid 8 a.m. EDT

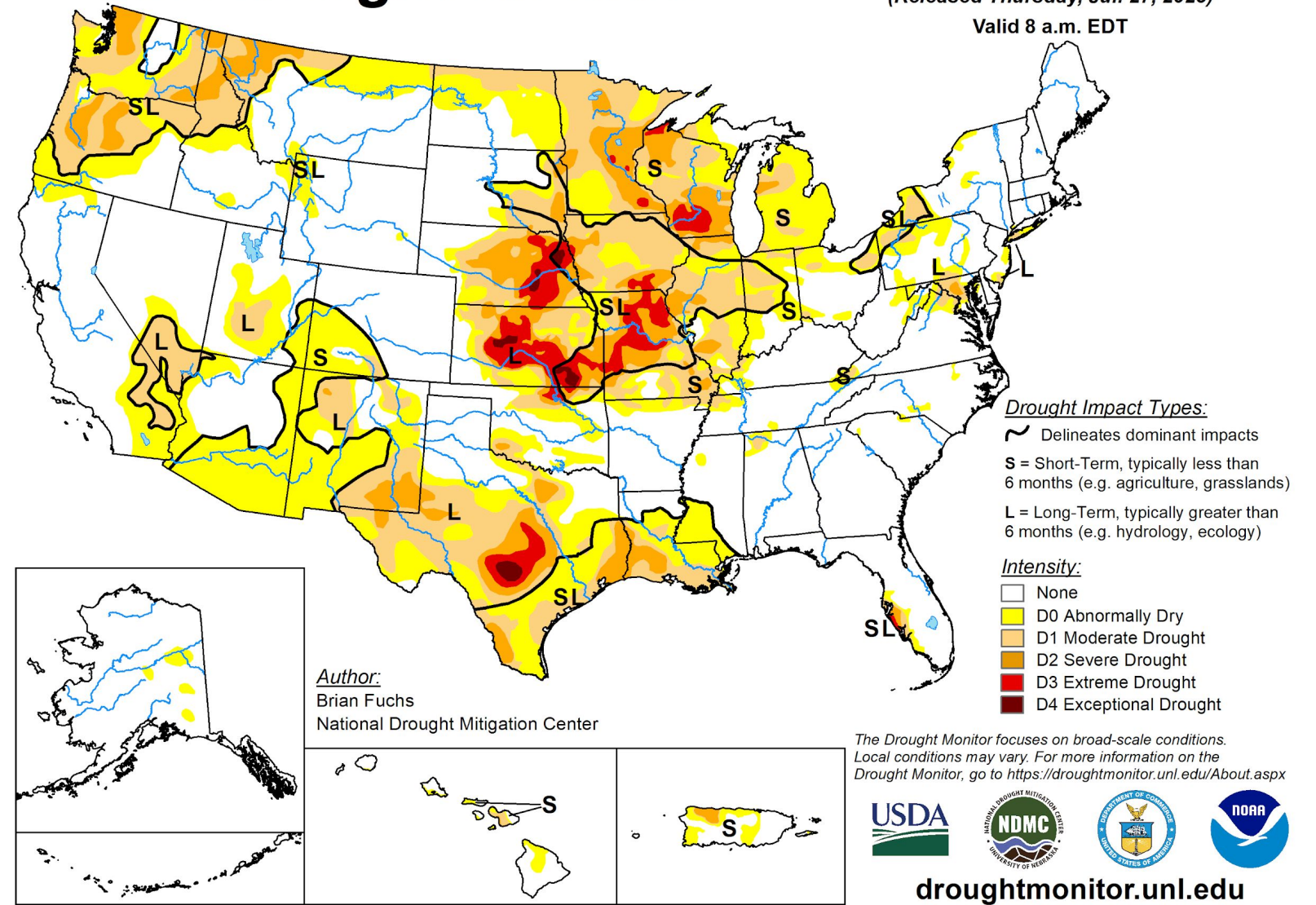
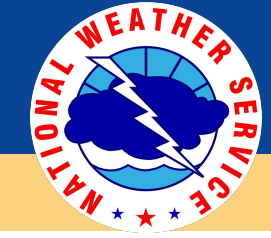


Image Caption: [U.S. Drought Monitor](#) valid 8am EDT July 25th.



# Current Drought Monitor - Intensity and Extent

## Drought intensity and Extent

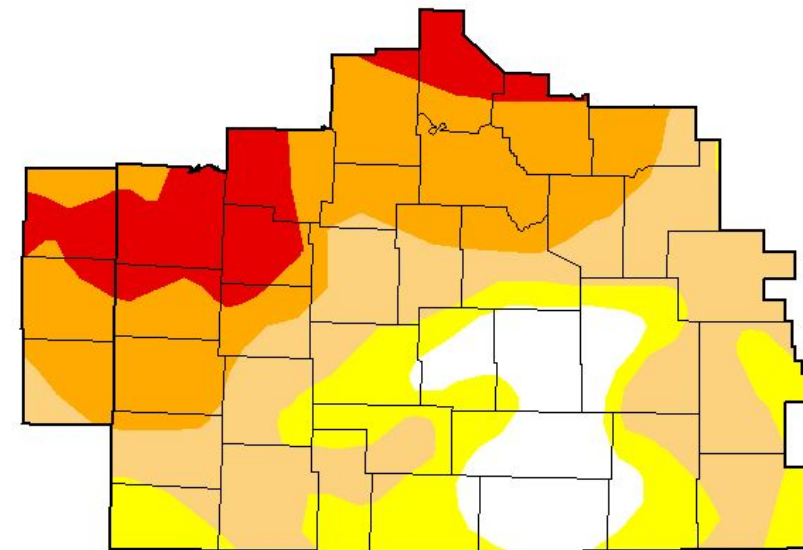
- **D3 Extreme Drought:** Northeast Benton, north and central Morgan, northern Miller, the western half of St. Clair, all but northeast and southeast Cedar, northwest Dade, all but northwest Vernon, and northern Barton Counties in Missouri, and central and southern Bourbon and northeastern Crawford Counties in southeast Kansas.
- **D2 Severe Drought:** Southern Morgan, central and southern Miller, all but northeast Benton, western and central Maries, Camden, all but southern Hickory, eastern St. Clair, northwest Phelps, the northwest half of Pulaski, northern Laclede, northern Dallas, western Polk, southeast Cedar, central, northeast and southwest Dade, northwest Vernon, central and southern Barton, Jasper, northwest Lawrence and northern Neosho Counties in Missouri. In southeast Kansas, D2 drought covers northern and southwest Bourbon, all but northeast Crawford and all but southwest Cherokee Counties.
- **D1 Moderate Drought:** Southward from the D2 drought area and covers locations from Neosho to Cassville to Nixa, areas north of a line from Mount Vernon to Ash Grove to Fort Leonard Wood and east of a line from Thayer to Cabool to Licking.
- **D0: Abnormally Dry:** The rest of southwest and south central Missouri, with the exception of Ozark, all but western Douglas, west central Howell, western Texas, all but southwest Wright and central Webster Counties, where there is no drought designation.

## U.S. Drought Monitor Springfield, MO WFO

July 25, 2023  
(Released Thursday, Jul. 27, 2023)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.66	88.34	69.92	38.79	11.66	0.00
Last Week 07-18-2023	11.68	88.32	68.95	43.32	24.91	2.22
3 Months Ago 04-25-2023	73.81	26.19	19.83	4.88	1.16	0.00
Start of Calendar Year 01-03-2023	67.05	32.95	17.89	9.63	1.63	0.00
Start of Water Year 09-27-2022	25.36	74.64	57.79	28.92	17.48	9.99
One Year Ago 07-26-2022	0.00	100.00	87.37	82.83	50.39	0.00



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:

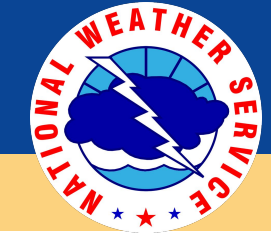
Brian Fuchs  
National Drought Mitigation Center



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

Image Caption: Drought Monitor - Springfield Area valid 8am EDT July 25th.

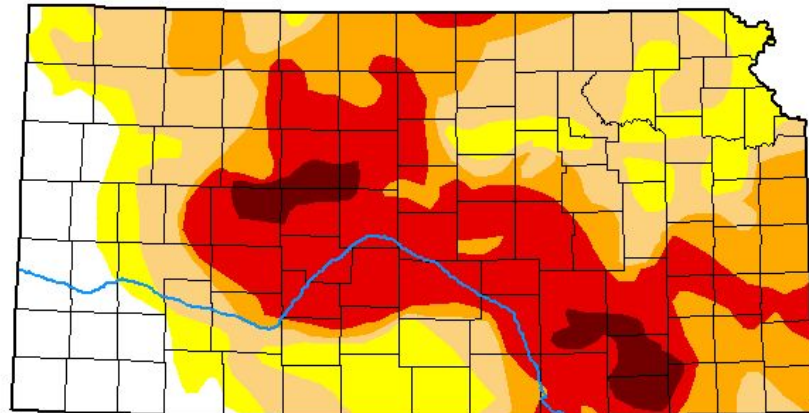




# Current Drought Monitor

## Kansas and Missouri

### U.S. Drought Monitor Kansas



**July 25, 2023**  
(Released Thursday, Jul. 27, 2023)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	12.09	87.91	71.89	47.74	29.19	3.65
<b>Last Week</b> <small>07-18-2023</small>	3.61	96.39	80.43	54.56	31.79	4.86
<b>3 Months Ago</b> <small>04-25-2023</small>	11.46	88.54	81.92	71.17	60.42	46.31
<b>Start of Calendar Year</b> <small>01-03-2023</small>	0.53	99.47	84.47	68.86	57.02	36.85
<b>Start of Water Year</b> <small>09-27-2022</small>	1.48	98.52	82.55	67.05	52.70	24.90
<b>One Year Ago</b> <small>07-26-2022</small>	18.54	81.46	68.10	44.88	25.00	7.90

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>*

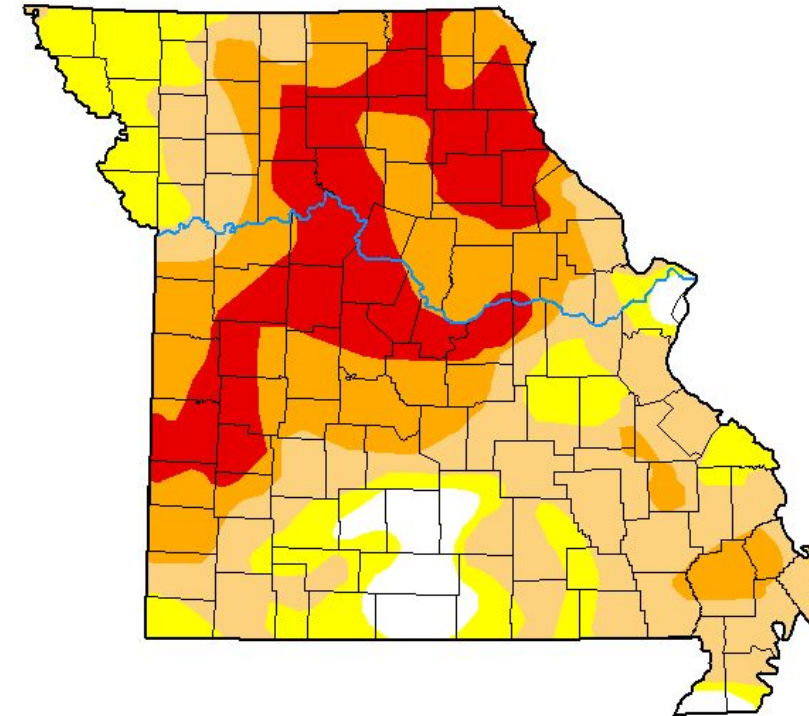
Author:

Brian Fuchs  
National Drought Mitigation Center



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

### U.S. Drought Monitor Missouri



**July 25, 2023**  
(Released Thursday, Jul. 27, 2023)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	5.07	94.93	78.38	46.67	20.23	0.00
<b>Last Week</b> <small>07-18-2023</small>	4.66	95.34	78.95	51.13	23.18	2.15
<b>3 Months Ago</b> <small>04-25-2023</small>	73.08	26.92	10.93	0.59	0.00	0.00
<b>Start of Calendar Year</b> <small>01-03-2023</small>	50.31	49.69	12.51	1.61	0.00	0.00
<b>Start of Water Year</b> <small>09-27-2022</small>	18.48	81.52	56.59	15.39	4.83	1.92
<b>One Year Ago</b> <small>07-26-2022</small>	34.25	65.75	50.30	35.64	18.24	0.00

Intensity:

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

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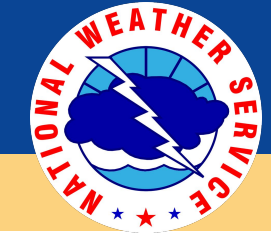
Brian Fuchs  
National Drought Mitigation Center



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

Image(s) Caption: [Kansas](#) and [Missouri](#) Current Drought Monitors valid 8am EDT July 25th.

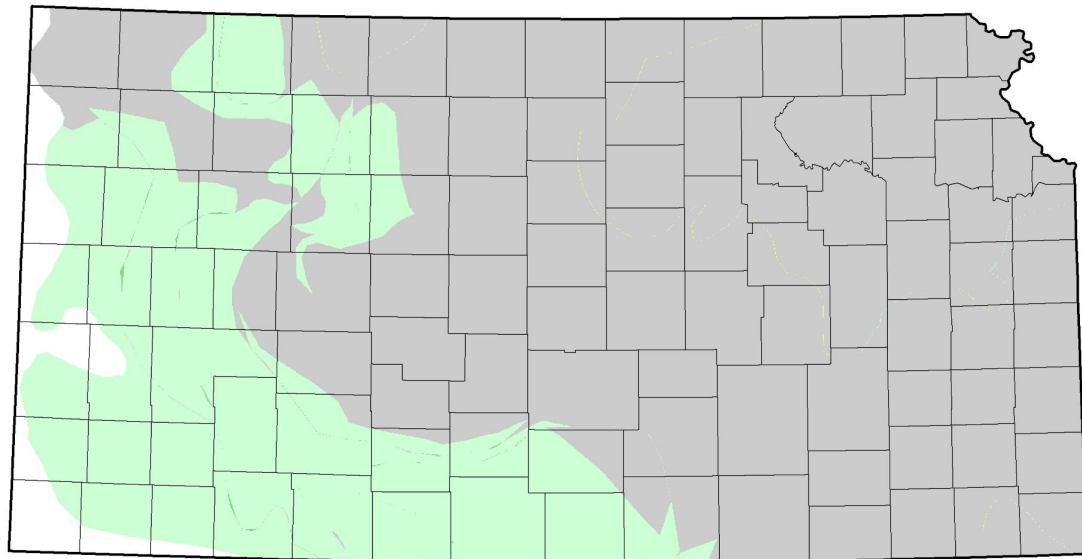




# Drought Monitor 1 Week Change

Kansas and Missouri

U.S. Drought Monitor Class Change - Kansas  
1 Week



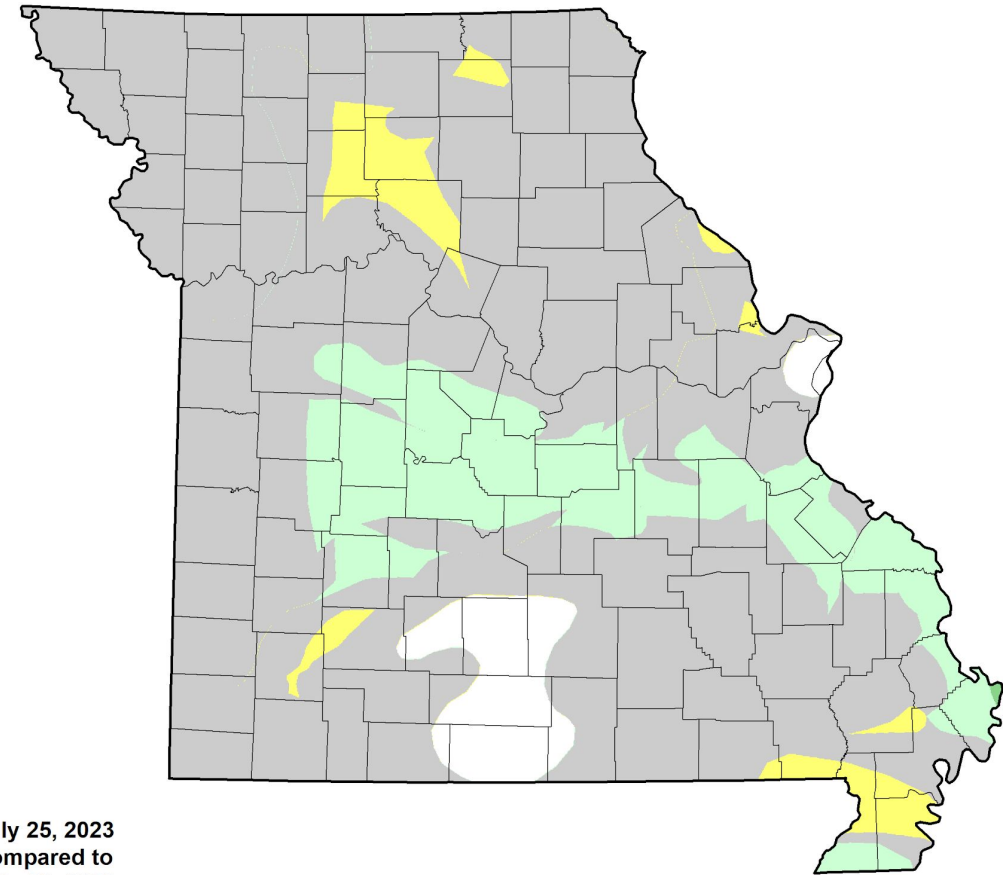
July 25, 2023  
compared to  
July 18, 2023

droughtmonitor.unl.edu



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

U.S. Drought Monitor Class Change - Missouri  
1 Week



July 25, 2023  
compared to  
July 18, 2023

droughtmonitor.unl.edu



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

Image(s) Caption: Kansas and Missouri Drought Monitors (1 week change) valid 8am EDT July 25th.

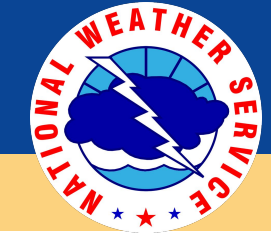


National Oceanic and  
Atmospheric Administration

U.S. Department of Commerce

National Weather Service  
Springfield, MO

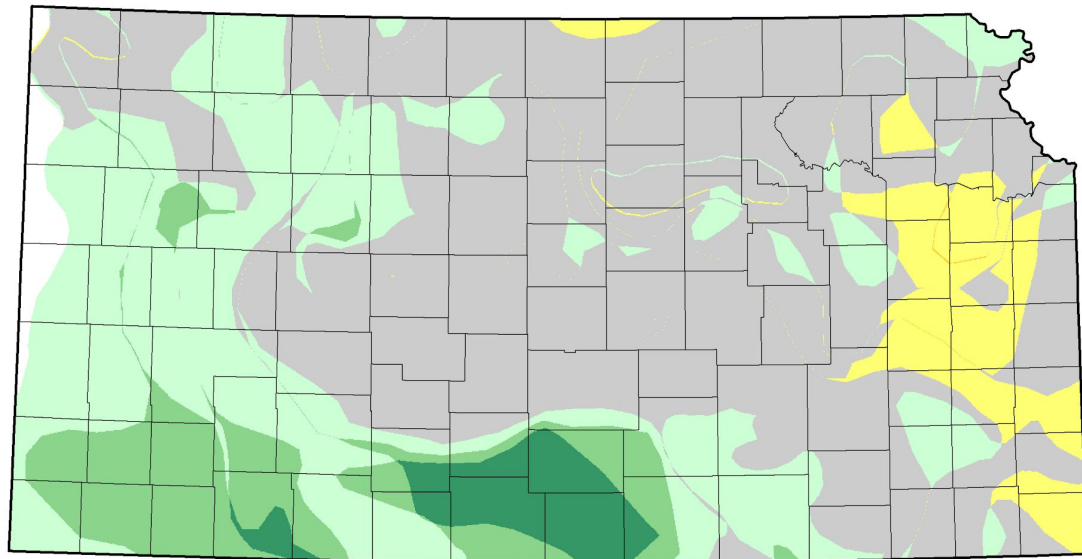




# Drought Monitor 4 Week Change

Kansas and Missouri

U.S. Drought Monitor Class Change - Kansas  
4 Week

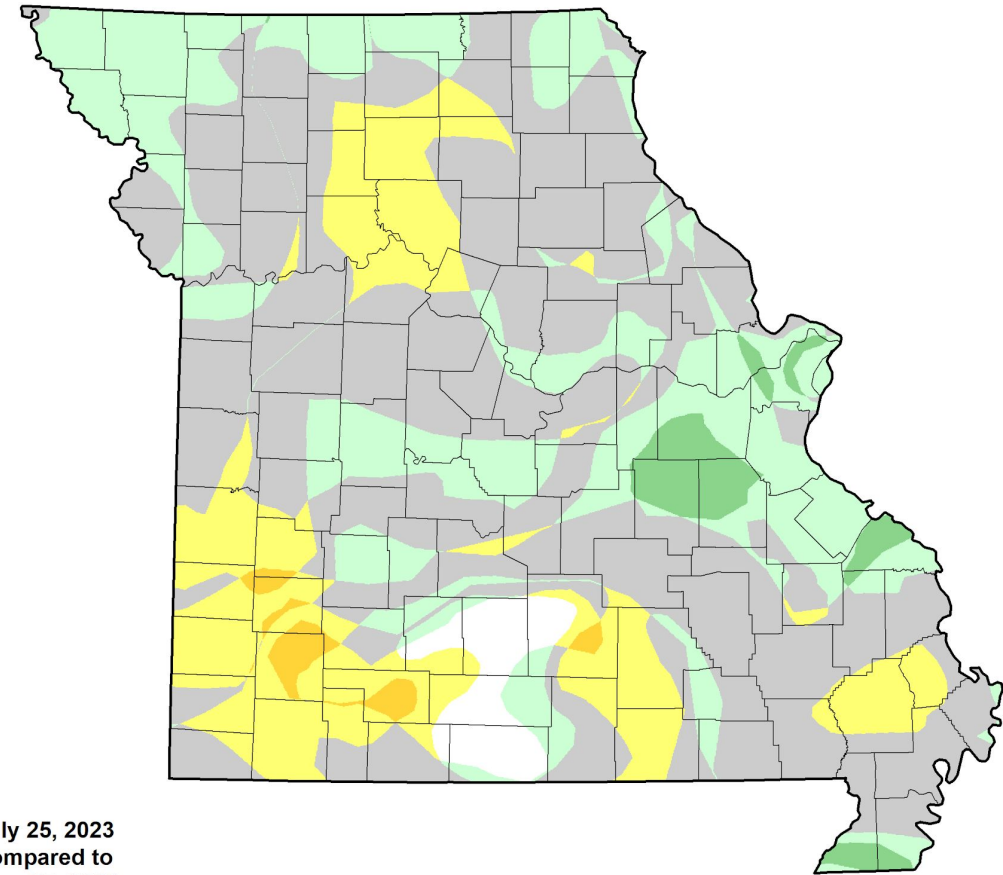


- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

July 25, 2023  
compared to  
June 27, 2023

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U.S. Drought Monitor Class Change - Missouri  
4 Week



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

July 25, 2023  
compared to  
June 27, 2023

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Image(s) Caption: Kansas and Missouri Drought Monitors (4 week change) valid 8am EDT July 25th.

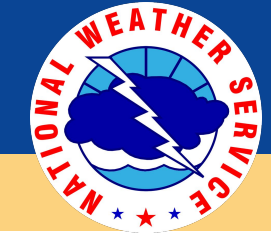


National Oceanic and  
Atmospheric Administration

U.S. Department of Commerce

National Weather Service  
Springfield, MO

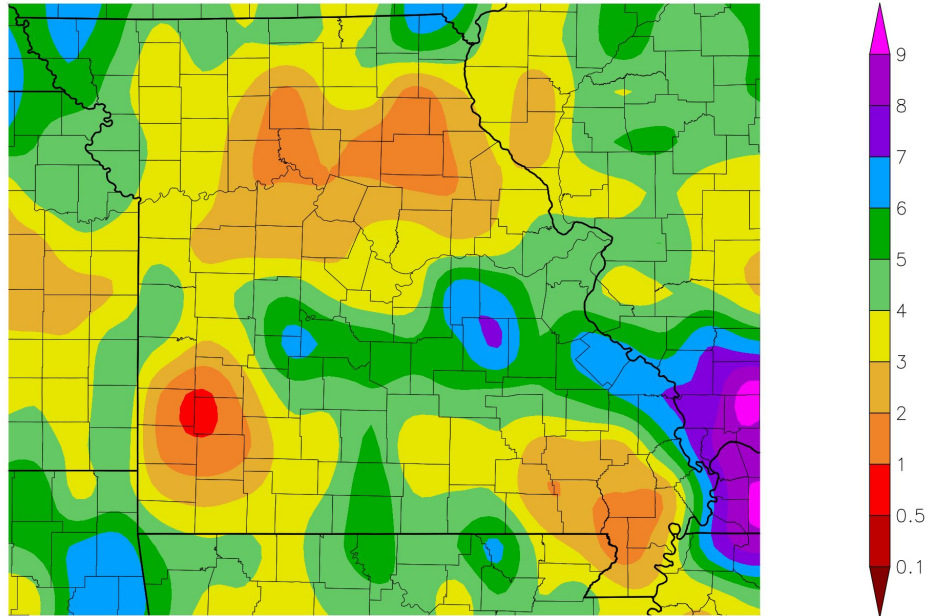




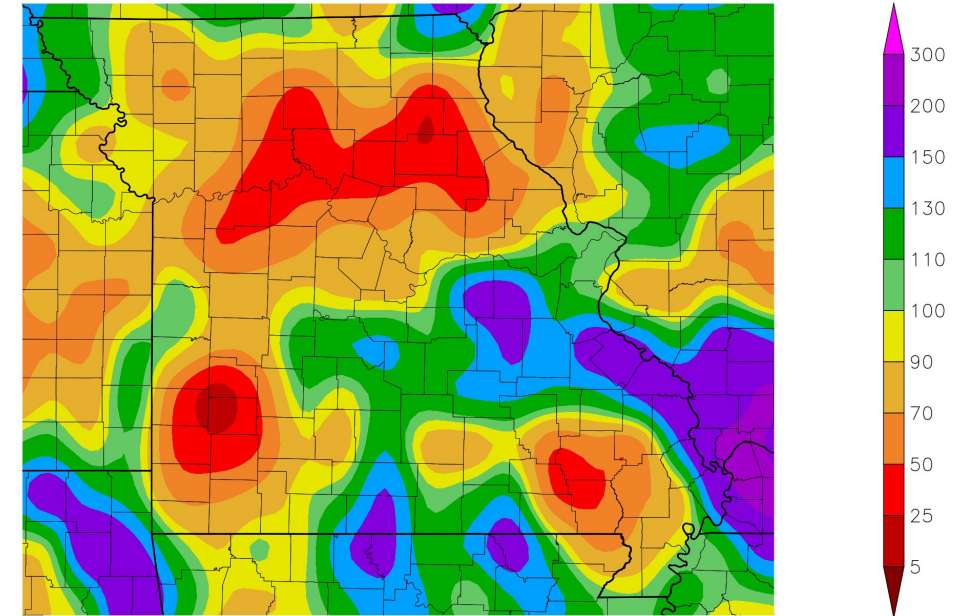
# Hydrologic Conditions

Data Courtesy High Plains Regional Climate Center

Precipitation (in)  
6/27/2023 - 7/26/2023



Percent of Normal Precipitation (%)  
6/27/2023 - 7/26/2023



Generated 7/27/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Generated 7/27/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Image Caption: [Precipitation Amount for Missouri and eastern Kansas.](#)  
Data over the past 30 days ending July 26, 2023.

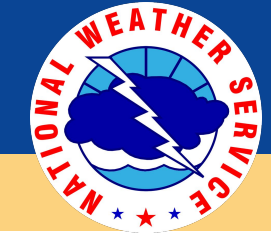
Image Caption: [Percent of Normal Precipitation for Missouri and eastern Kansas.](#)  
Data over the past 30 days ending July 26, 2023

## Main Takeaways

- Precipitation accumulations over the past 30 days ranged from less than one inch over southwest Missouri to over four inches over parts of central and south central Missouri.
- Much of southwest, central and west central Missouri had less than half of their normal precipitation.







# Summary of Impacts

## Hydrologic Impacts

- Below normal streamflow percentiles were observed along the Neosho Basin southeast Kansas and Shoal Creek over southwest Missouri.

## Agricultural Impacts

- Condition Monitoring Observer Reports (CMORs) continue to indicate dry ponds, dead grass, crop failures, reduce crop yield, and increases in invasive insects.

## Fire Hazard Impacts

- There are no known impacts at this time.

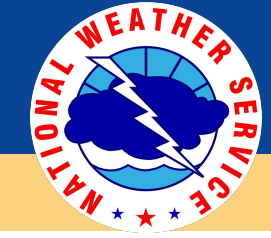
## Other Impacts

- There are no known impacts at this time.

## Mitigation actions

- Farmers were continuing to haul water for farms and livestock, supplement feed for livestock, and cull herds.
- The Missouri Department of Agriculture has an AgriStress Helpline at 833-897-2474.
- The University of Missouri Extension Office has set up a Psychological Service Clinic to aid farmers and ranchers.
- More information is available at [muext.us/PSCFarmRanch](https://muext.us/PSCFarmRanch).

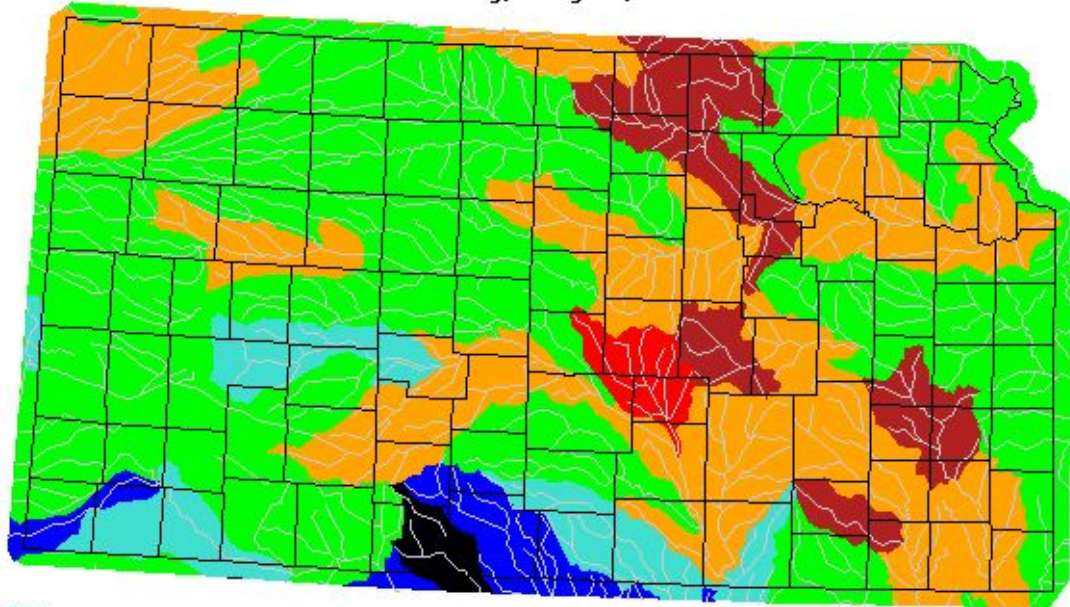




# Hydrologic Conditions

Valid July 25, 2023

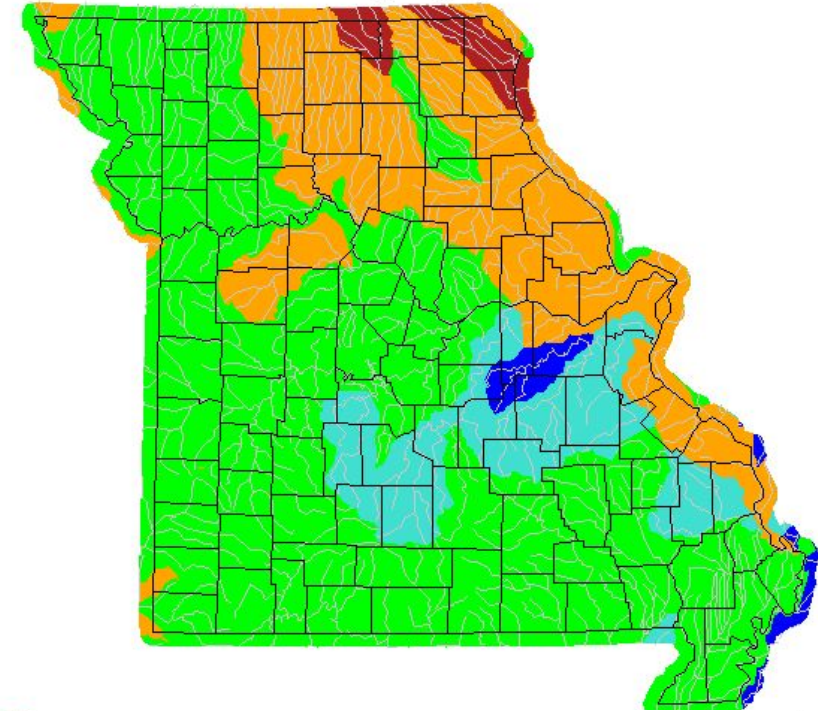
Hednesday, July 26, 2023



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Image Caption: : [USGS 7 day average streamflow HUC map - Kansas.](#)

Hednesday, July 26, 2023



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

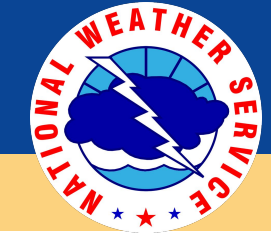
Image Caption: : [USGS 7 day average streamflow HUC map - Missouri.](#)

## Main Takeaways

- Below normal streamflow percentiles were observed along the Neosho River in southeast Kansas and Shoal Creek in southwest Missouri.







# Agricultural Impacts

Calculated Soil Moisture Ranking Percentile  
JUL 24, 2023

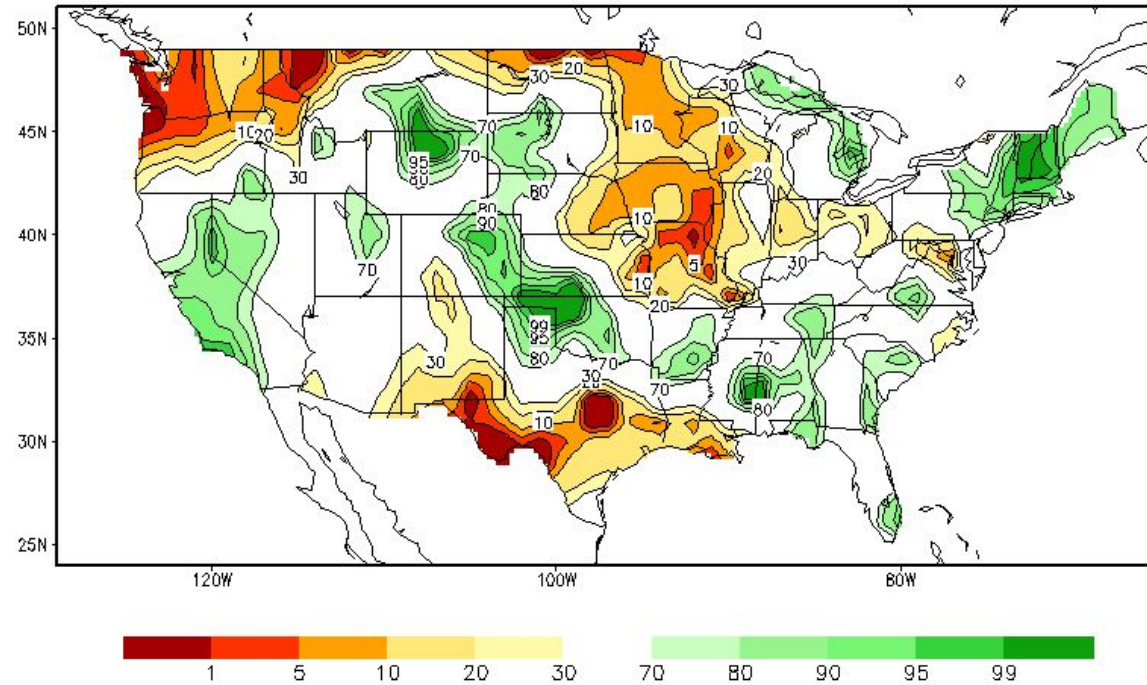


Image Caption: CPC Calculated [Soil Moisture Ranking Percentile](#).  
(valid July 24, 2023)

Crop Moisture Index by Division  
Weekly Value for Period Ending JUL 22, 2023  
Short Term Need vs. Available Water in a Shallow Soil Profile

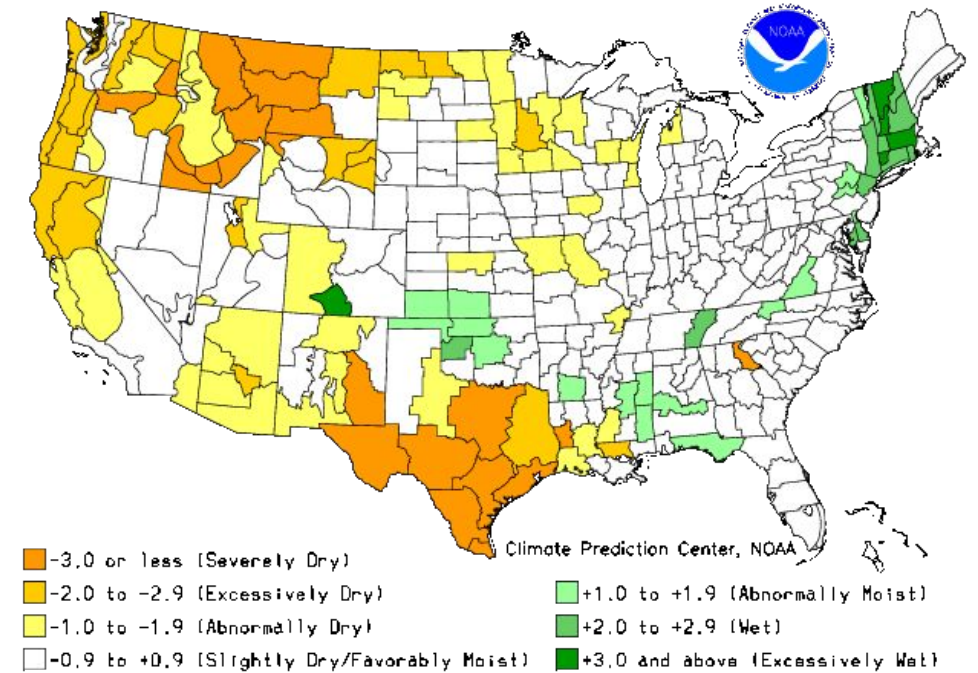


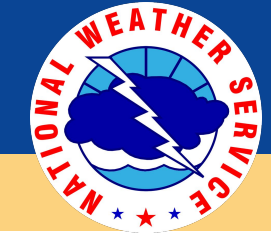
Image Caption: [Crop Moisture Index by Division](#) Weekly.  
(value for period ending July 22, 2023)

## Main Takeaways

- Soil Moisture was in the 10th percentile or lower over much of the Missouri Ozarks and southeast Kansas.
- The Crop Moisture Index was unusually dry over northern Missouri and the Missouri Bootheel.







# Precipitation Forecasts

Valid July 27 - August 3, 2023

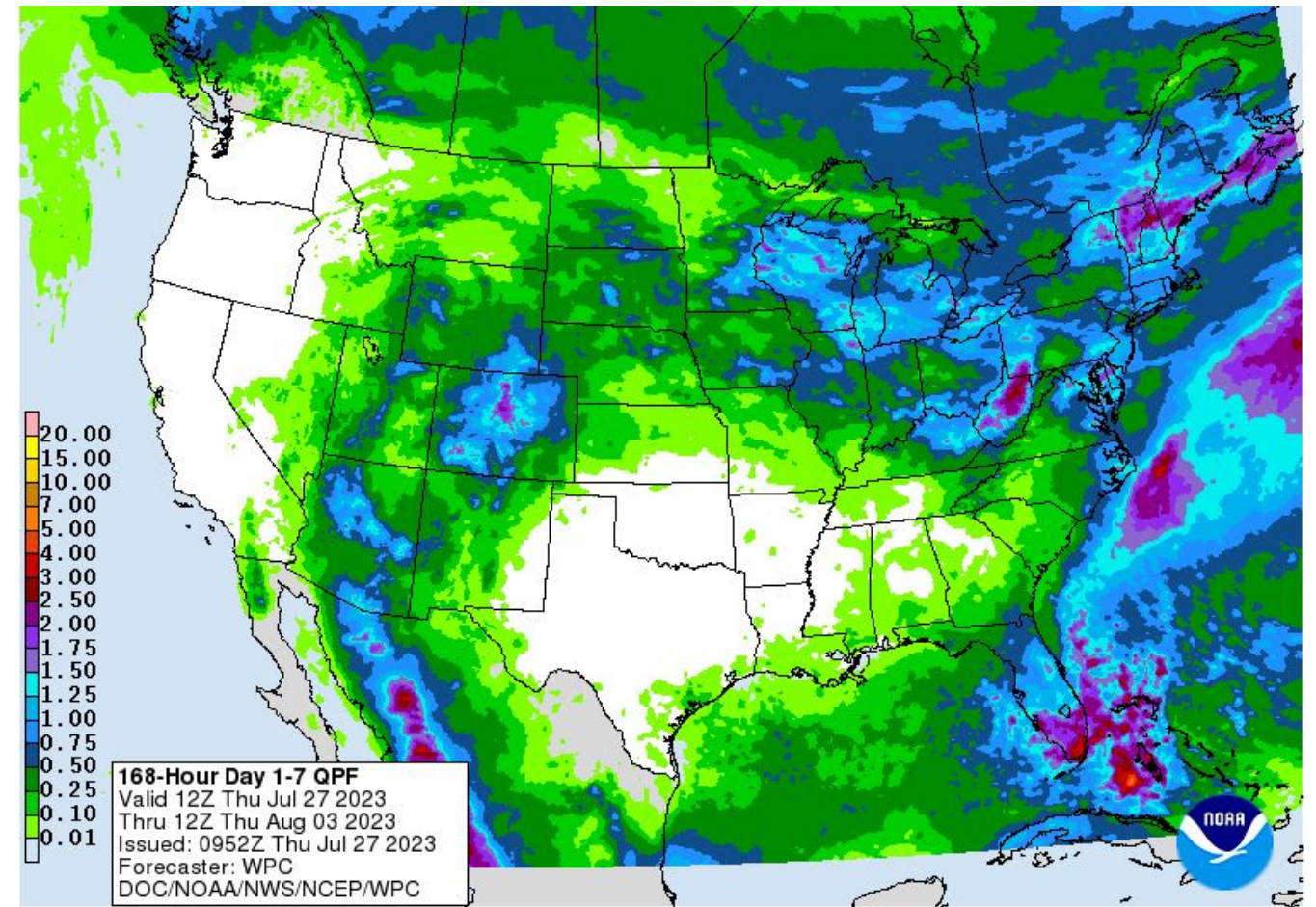
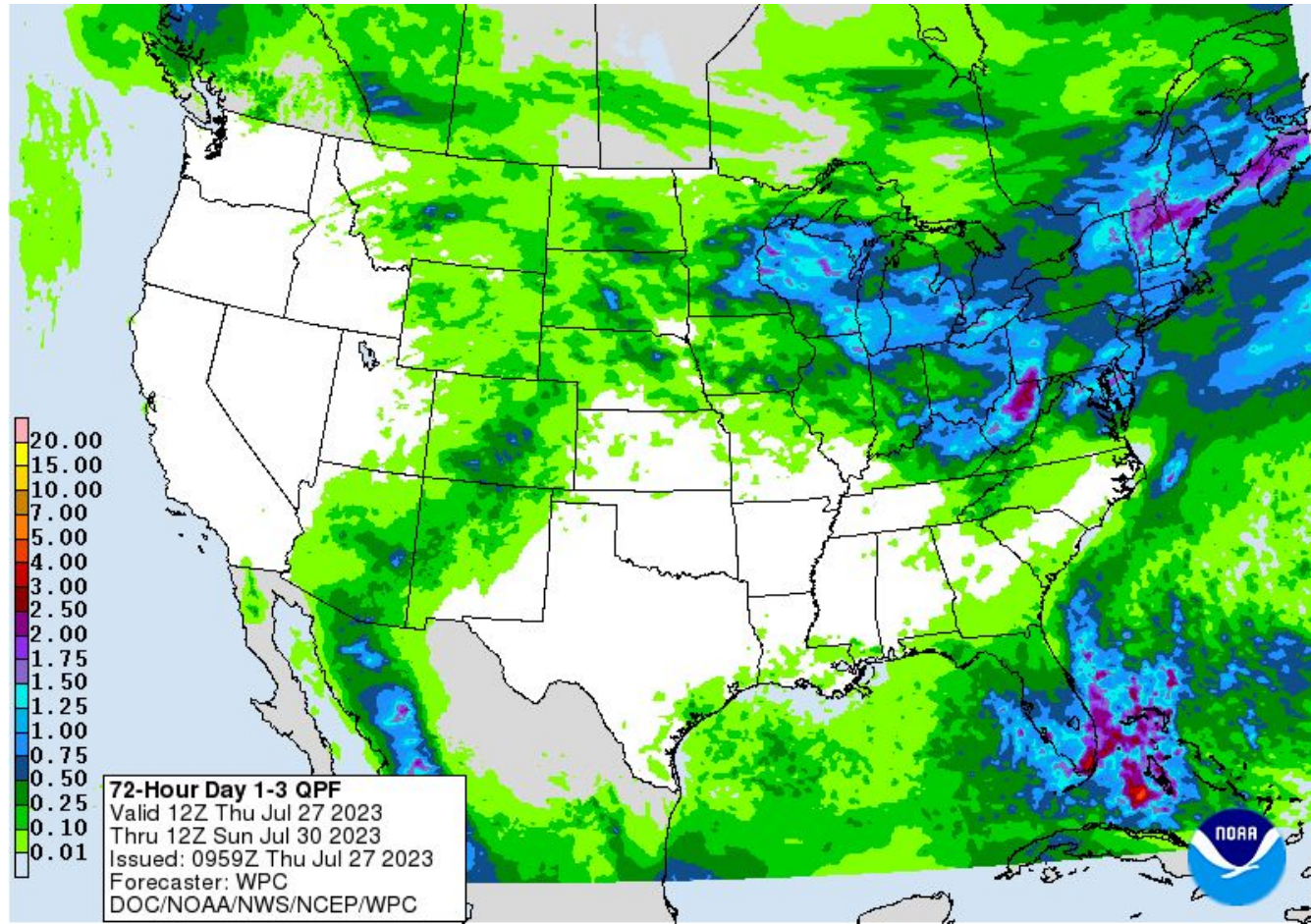


Image Caption: [Weather Prediction Center Day 1-3 Precipitation Forecast](#).

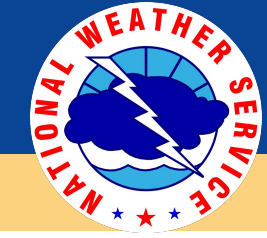
Image Caption: [Weather Prediction Center Day 1-7 Precipitation Forecast](#).

## Main Takeaway

- Some locations over southwest Missouri will see little to no precipitation through the next 7 days.







# 6-10 Day Temperature and Precipitation Outlook

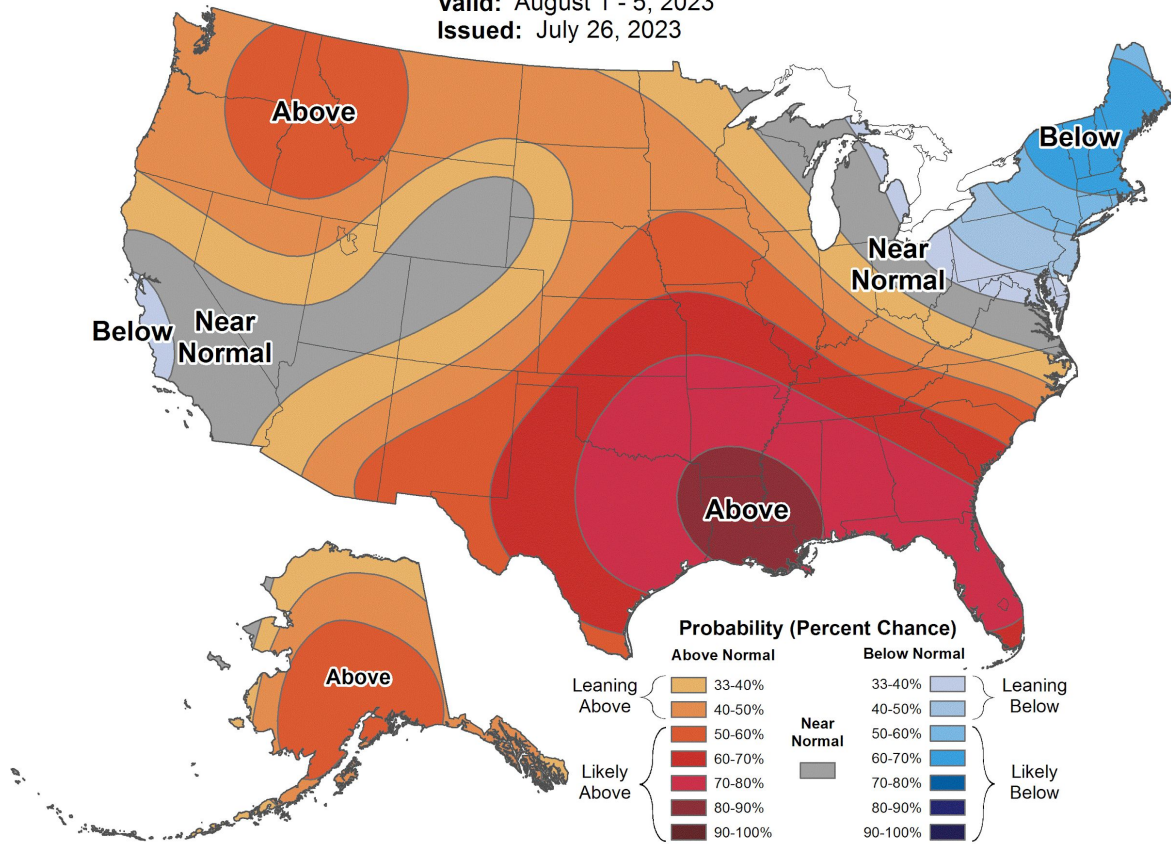
Valid August 1-5, 2023



## 6-10 Day Temperature Outlook



Valid: August 1 - 5, 2023  
Issued: July 26, 2023



## 6-10 Day Precipitation Outlook



Valid: August 1 - 5, 2023  
Issued: July 26, 2023

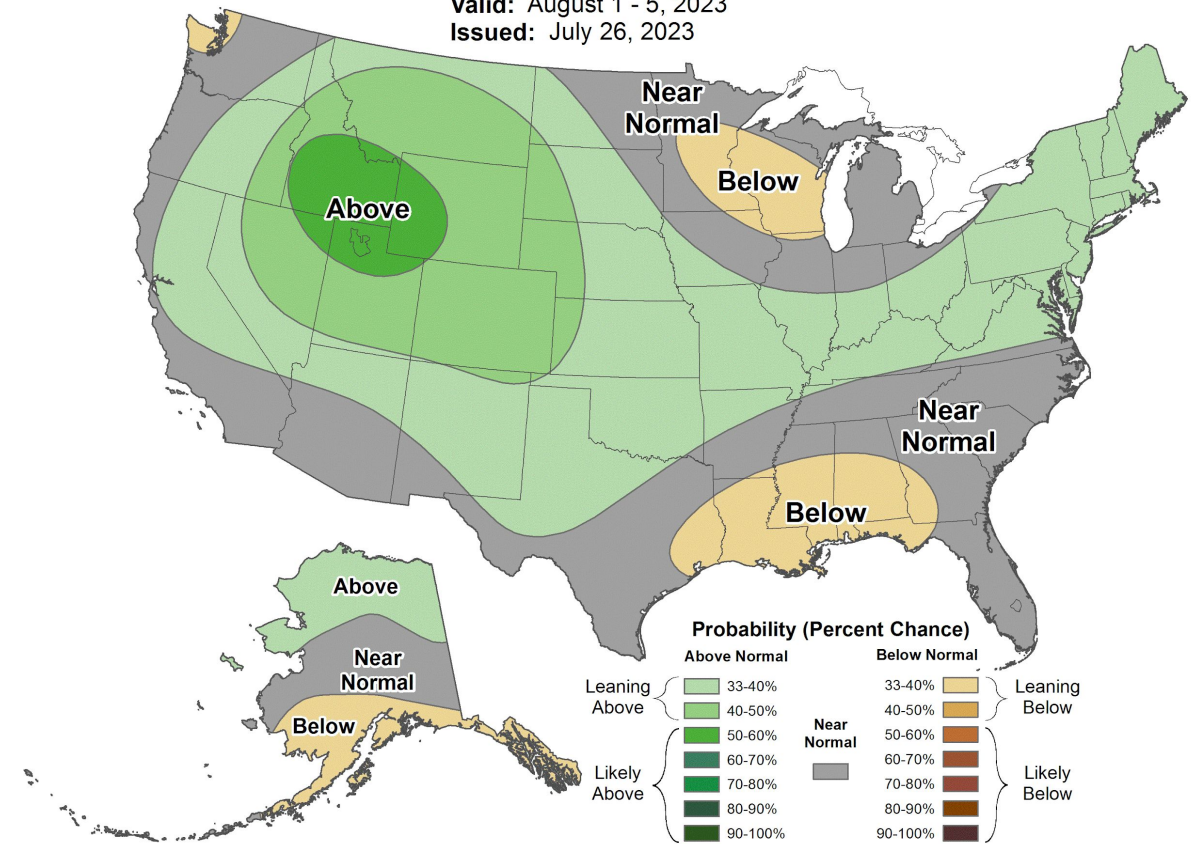


Image Caption: [Climate Prediction Center 6-10 Day Temperature Outlook](#).

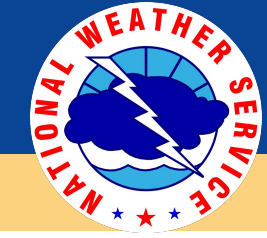
Image Caption: [Climate Prediction Center 6-10 Day Precipitation Outlook](#).

### Main Takeaways

- Above normal temperatures are favored for the Missouri Ozarks and southeast Kansas.
- Above normal precipitation is favored for the Missouri Ozarks and southeast Kansas.







# 8-14 Day Temperature and Precipitation Outlook

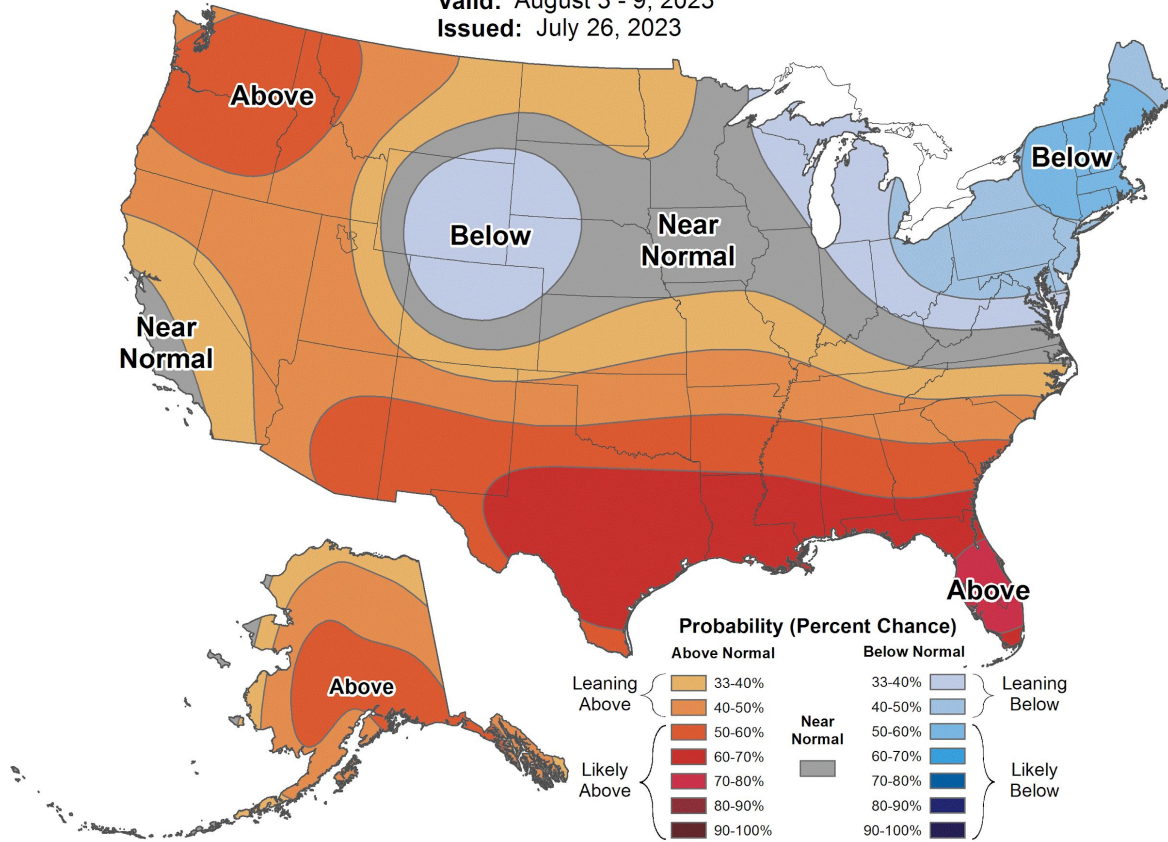
Valid August 3-9, 2023



## 8-14 Day Temperature Outlook



Valid: August 3 - 9, 2023  
Issued: July 26, 2023



## 8-14 Day Precipitation Outlook



Valid: August 3 - 9, 2023  
Issued: July 26, 2023

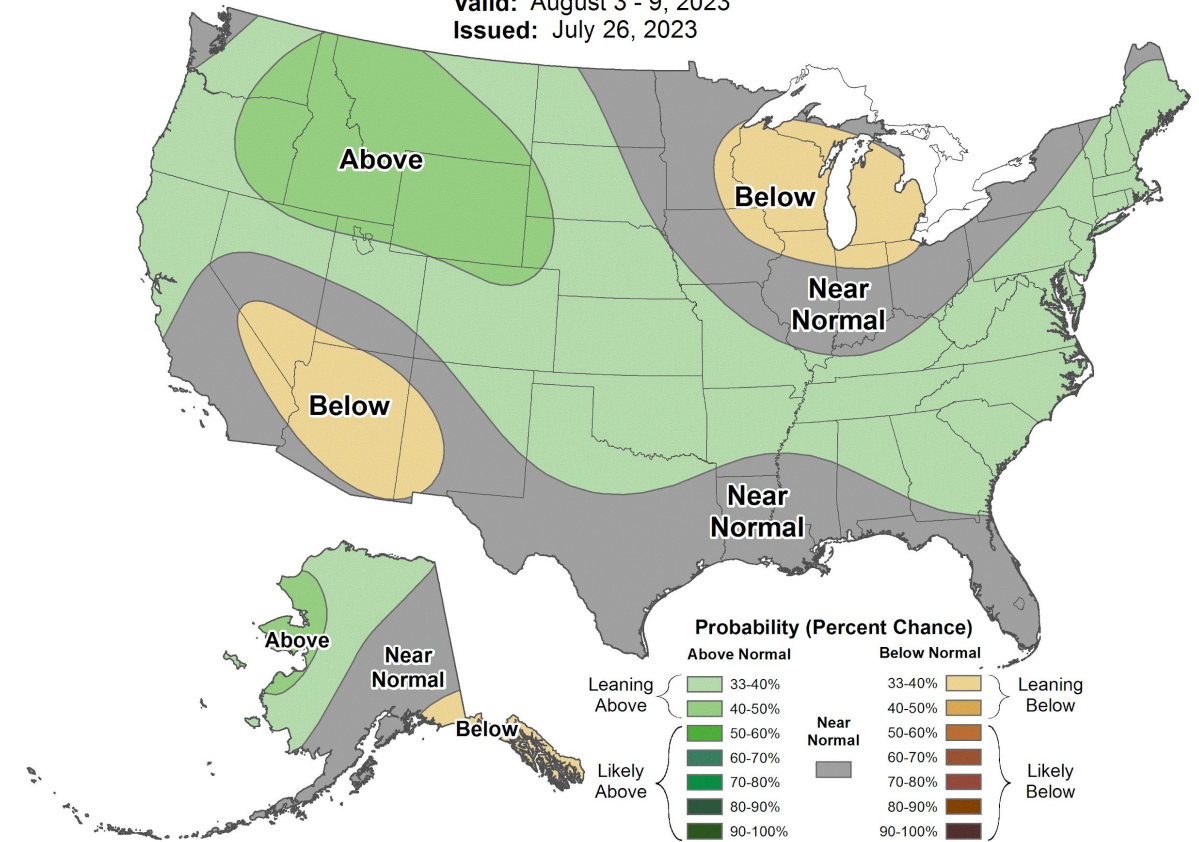


Image Caption: [Climate Prediction Center 8-14 Day Temperature Outlook.](#)

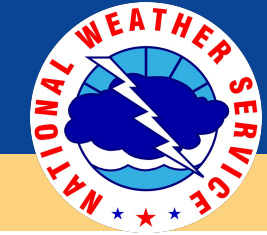
Image Caption: [Climate Prediction Center 8-14 Day Precipitation Outlook.](#)

### Main Takeaways

- Above normal temperatures and precipitation are favored.







# 3-4 Week Temperature and Precipitation Outlook

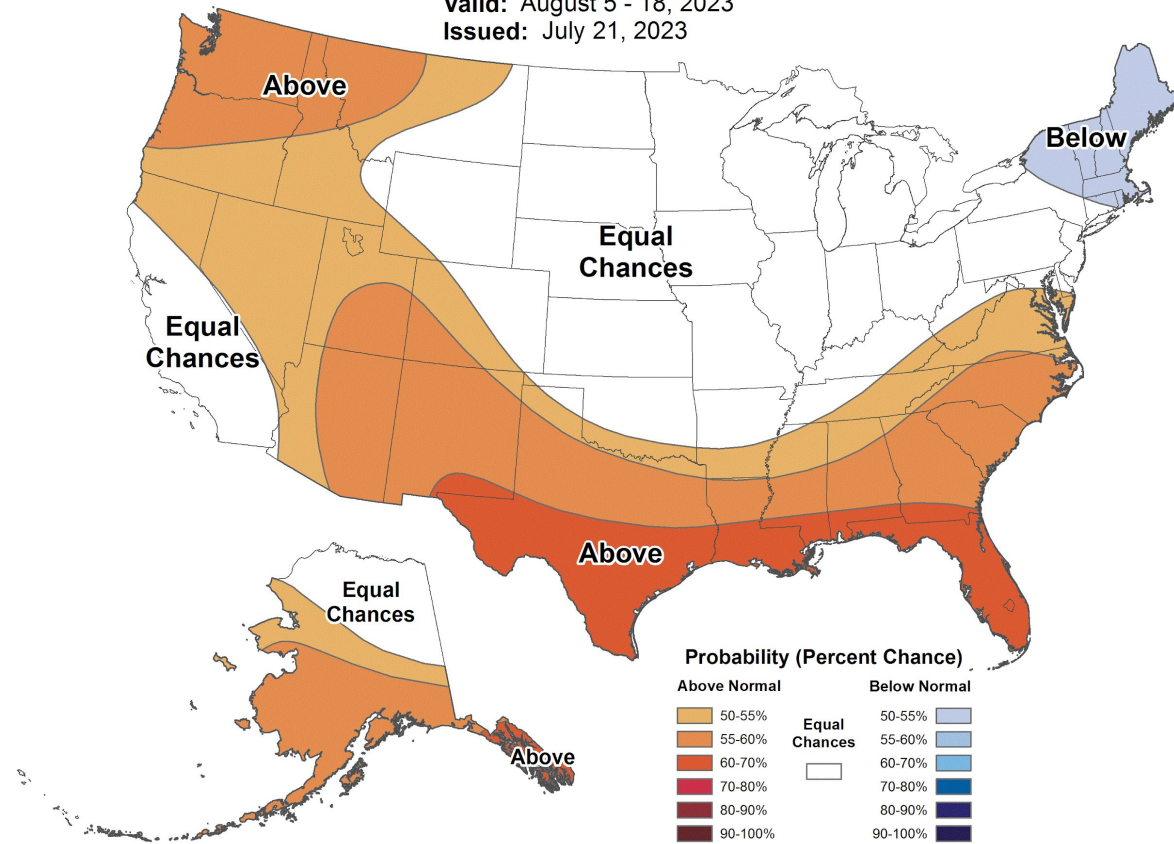
Valid August 5-18, 2023



## Weeks 3-4 Temperature Outlook



Valid: August 5 - 18, 2023  
Issued: July 21, 2023



## Weeks 3-4 Precipitation Outlook



Valid: August 5 - 18, 2023  
Issued: July 21, 2023

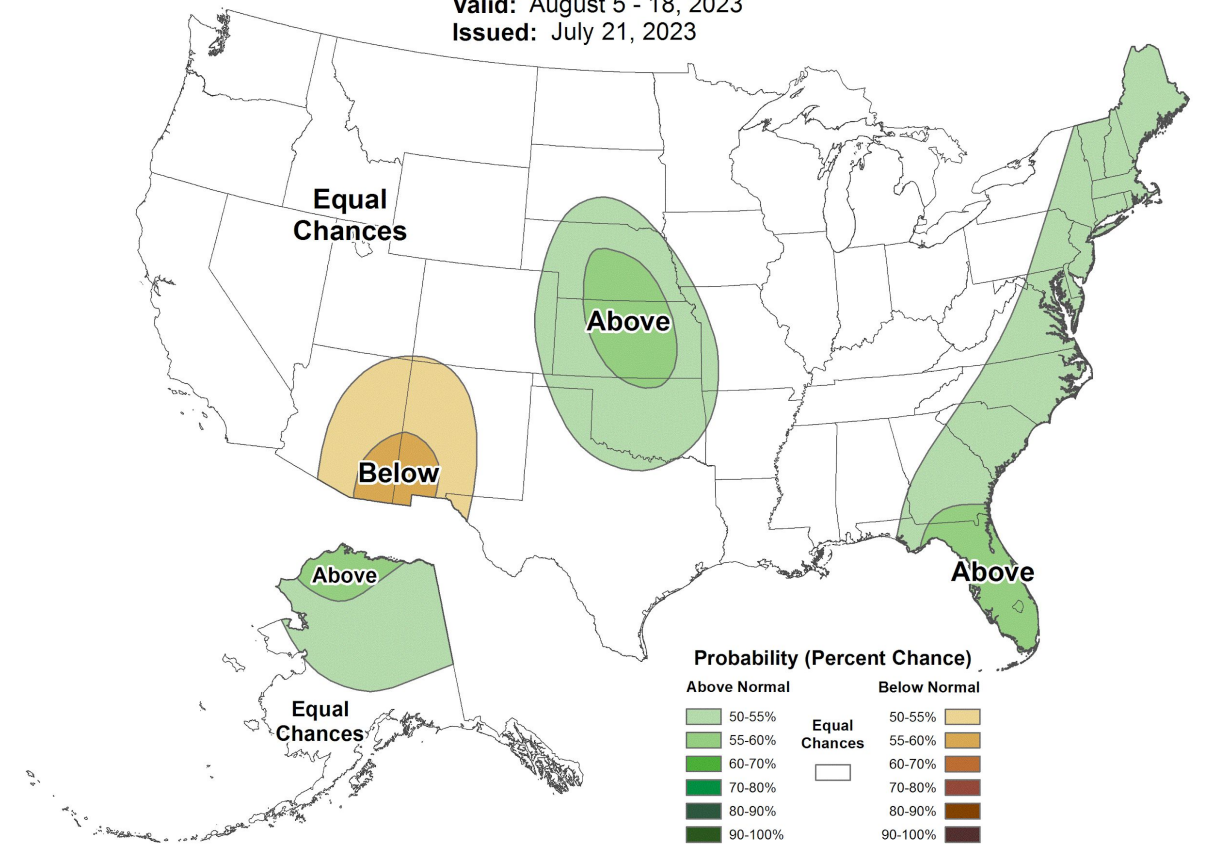


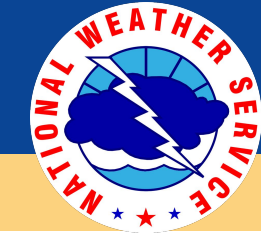
Image Caption: [Climate Prediction Center Weeks 3-4 Temperature Outlook](#).

Image Caption: [Climate Prediction Center Weeks 3-4 Precipitation Outlook](#).

### Main Takeaways

- Above normal precipitation is favored along the Missouri - Kansas border.
- There will be equal chances for above, below and normal temperatures.





# Monthly Temperature and Precipitation Outlook

Valid August 2023



## Monthly Temperature Outlook



Valid: August 2023  
Issued: July 20, 2023

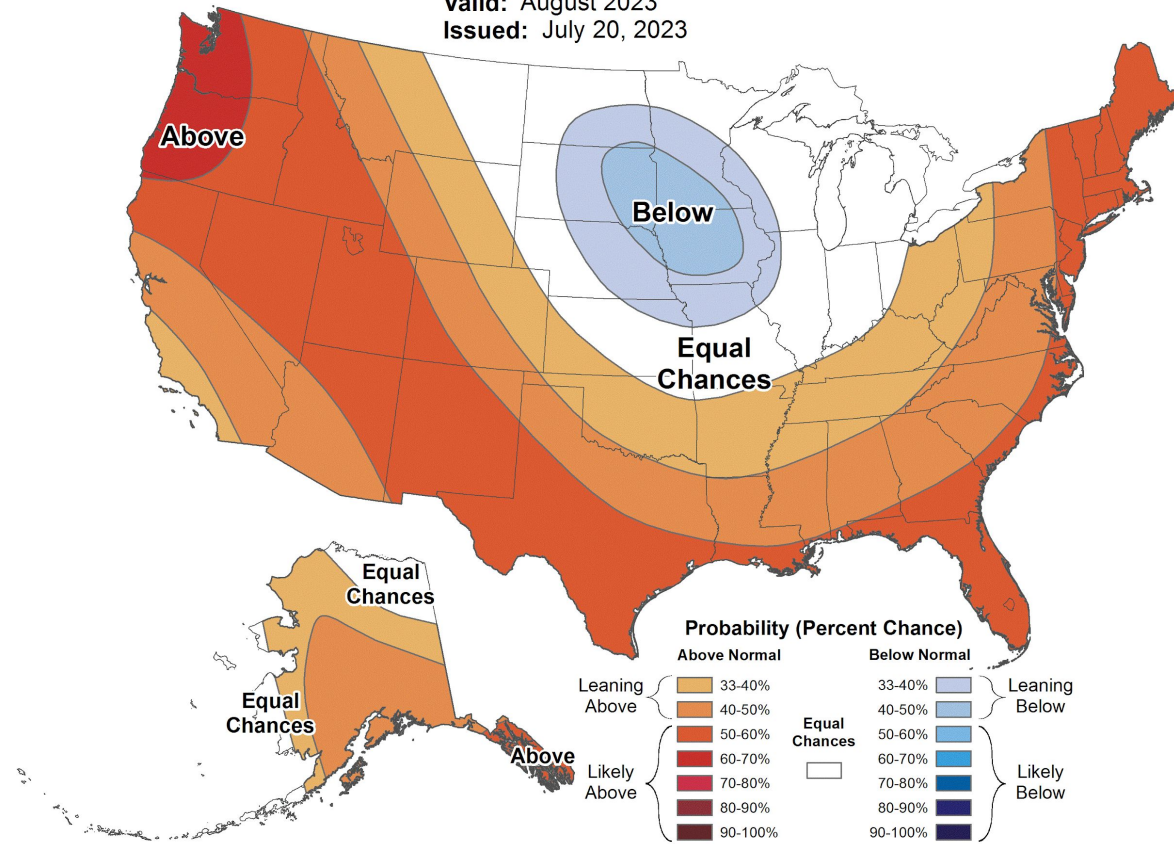


Image Caption: [Climate Prediction Center Monthly Temperature Outlook](#).



## Monthly Precipitation Outlook



Valid: August 2023  
Issued: July 20, 2023

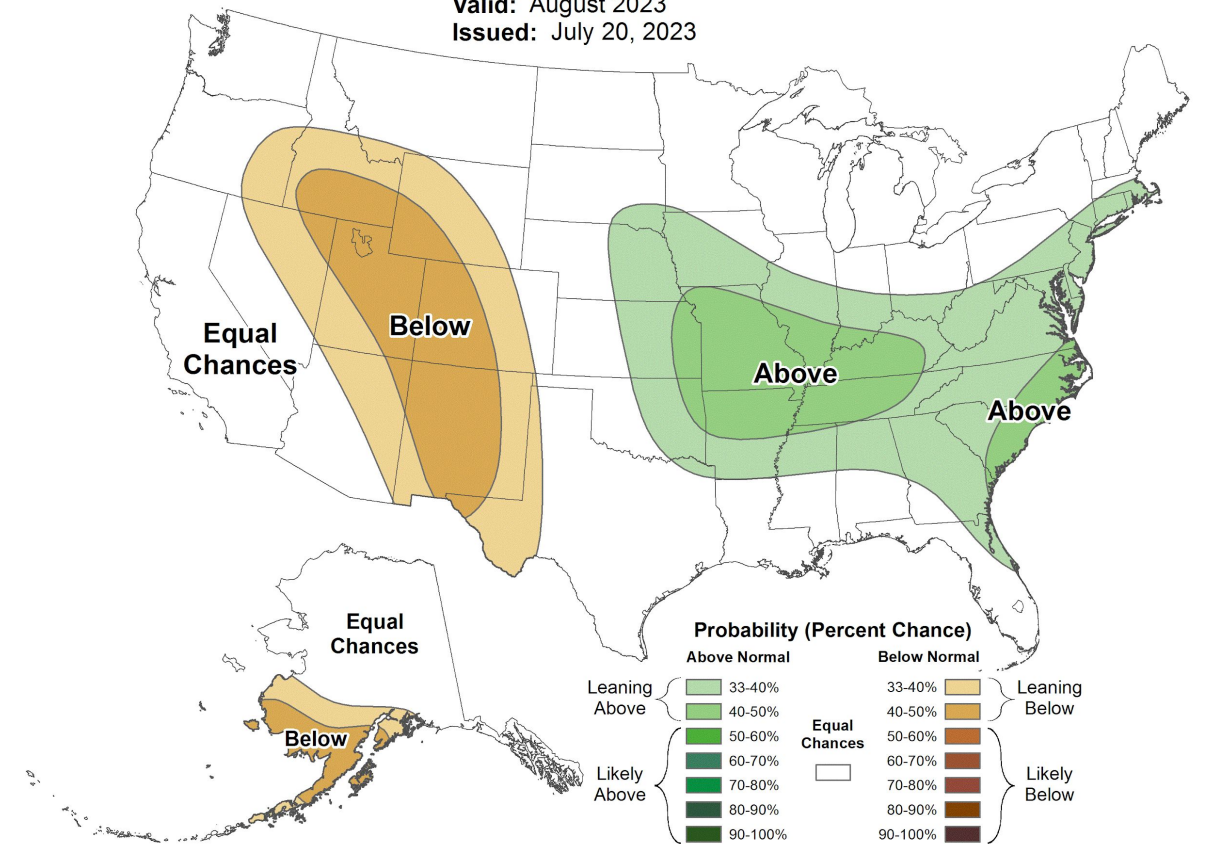


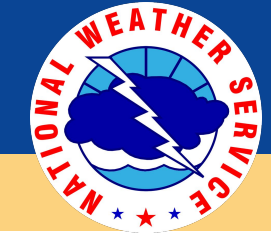
Image Caption: [Climate Prediction Center Monthly Precipitation Outlook](#).

### Main Takeaways

- Above normal precipitation is favored through August.
- There will be equal chance for above, below and normal temperatures.







# Seasonal Temperature and Precipitation Outlook

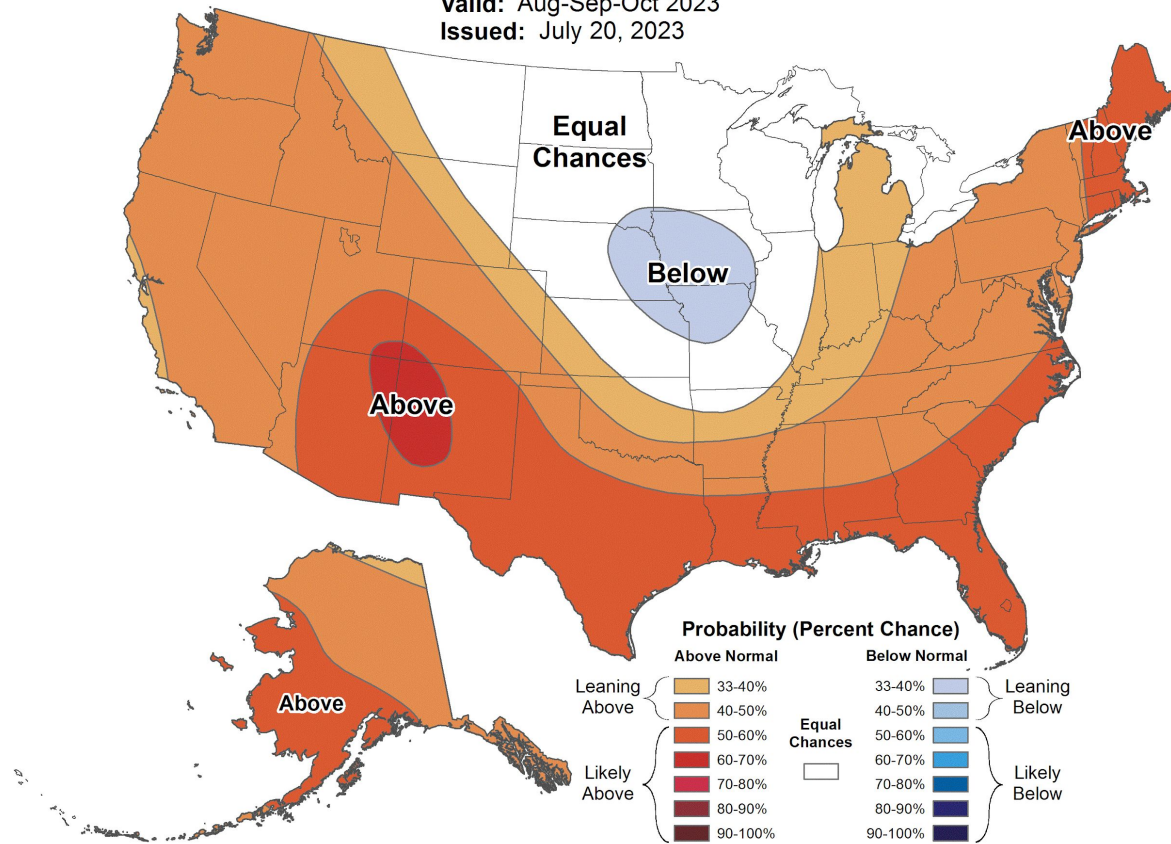
Valid August - October 2023



## Seasonal Temperature Outlook



Valid: Aug-Sep-Oct 2023  
Issued: July 20, 2023



## Seasonal Precipitation Outlook



Valid: Aug-Sep-Oct 2023  
Issued: July 20, 2023

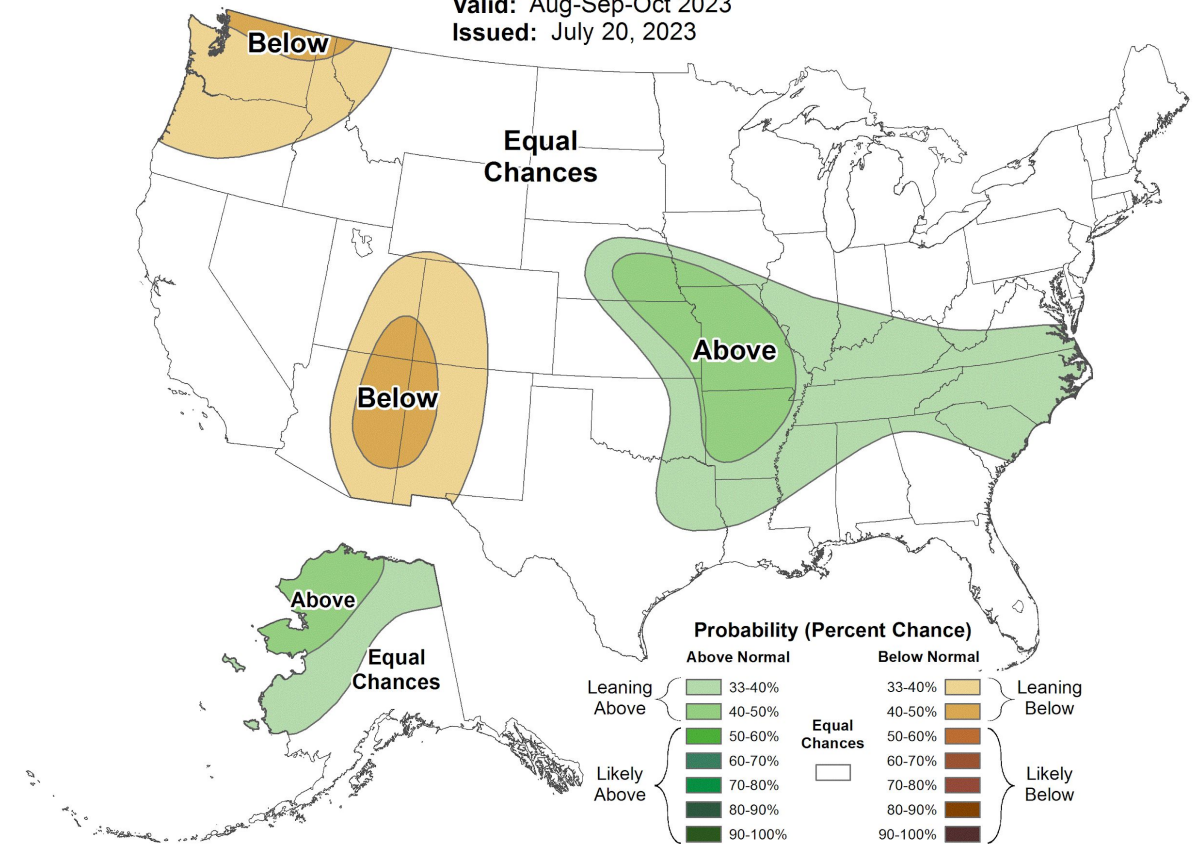


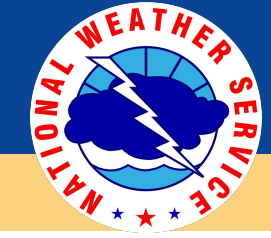
Image Caption: [Climate Prediction Center Seasonal Temperature Outlook](#).

Image Caption: [Climate Prediction Center Seasonal Precipitation Outlook](#).

### Main Takeaways

- Above normal precipitation is favored through the end of October.
- There will be equal chance for above, below and normal temperatures.



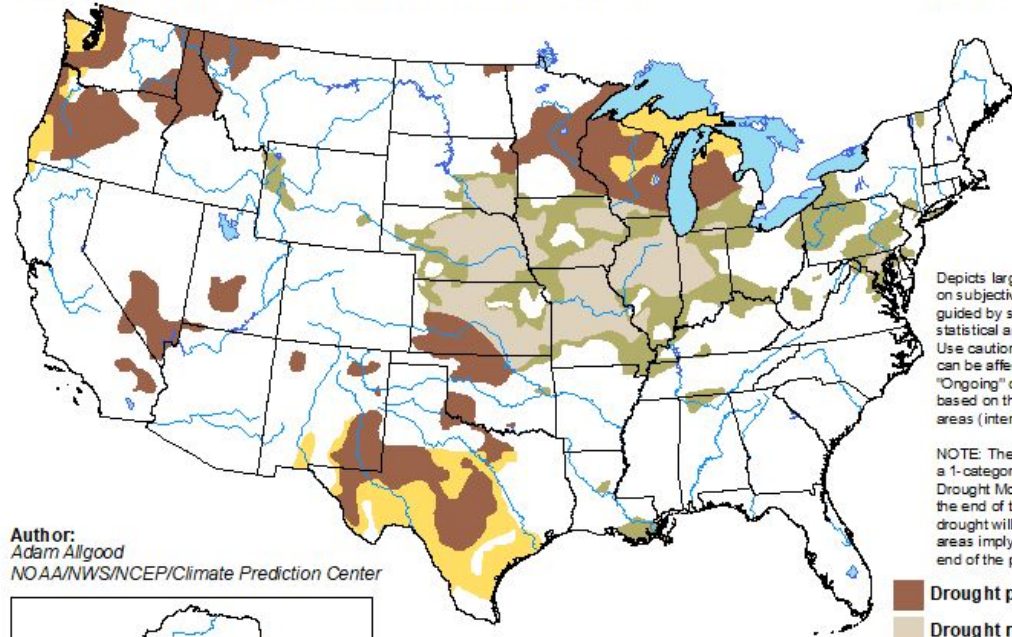


# Drought Monthly and Seasonal Outlooks

Valid August - October 2023

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

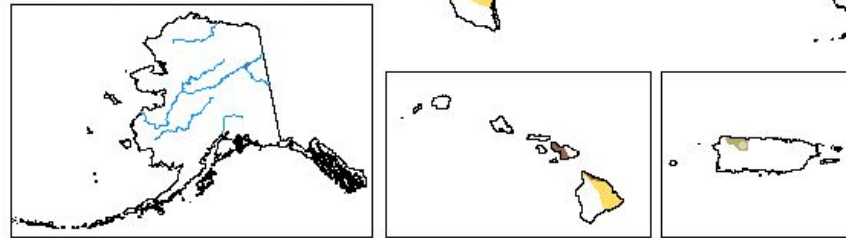
Valid for July 2023  
Released June 30, 2023



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).

Author:  
Adam Allgood  
NOAA/NWS/NCEP/Climate Prediction Center



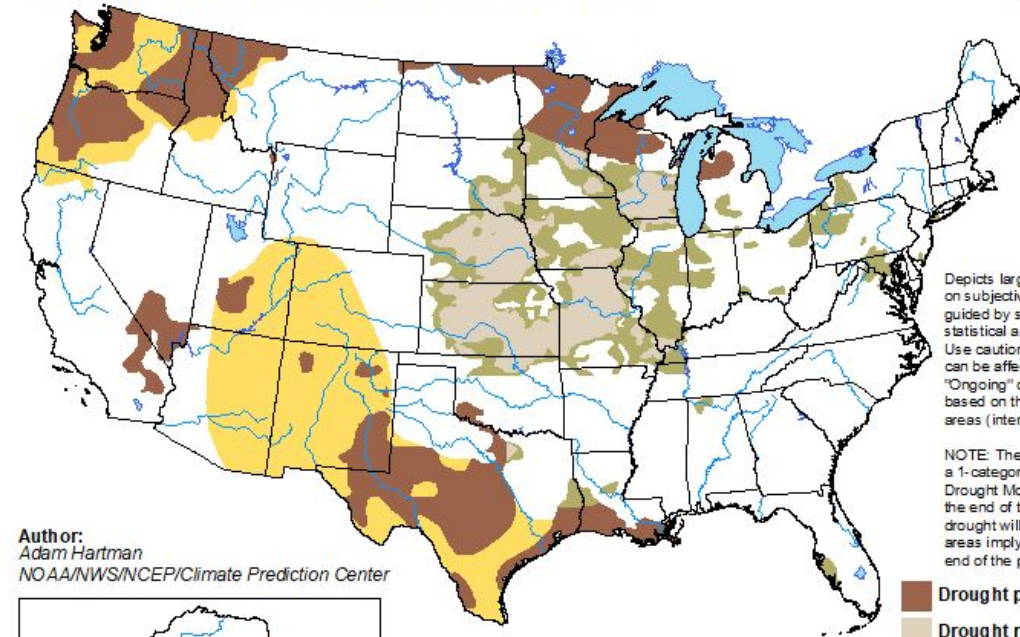
- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



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

## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

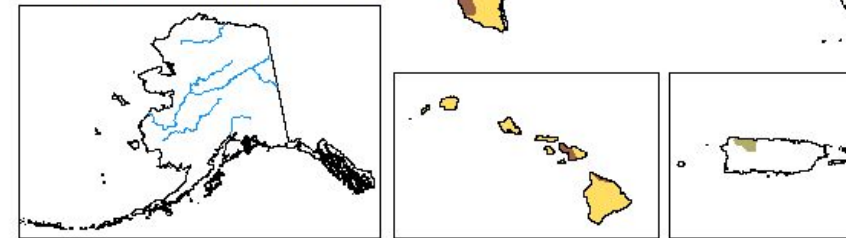
Valid for July 20 - October 31, 2023  
Released July 20



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).

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- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZ73>

Image Caption: [Climate Prediction Center Monthly Drought Outlook](#).

Image Caption: [Climate Prediction Center Seasonal Drought Outlook](#).

## Main Takeaways

- Areas in drought across the Missouri Ozarks and southeast Kansas are expected to see improvement or removal by the end of October.
- The Monthly Drought Outlook will be updated next week.

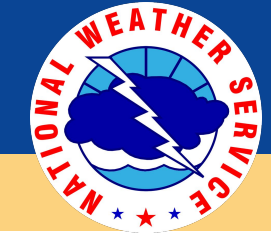


National Oceanic and Atmospheric Administration

U.S. Department of Commerce

National Weather Service  
Springfield, MO



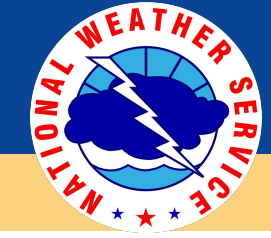


# Drought Classification

## Drought Information

- [State Impacts](#)
- [Drought Impacts Toolkit](#)
- [Drought Monitor Archive](#)

Category	Description	Possible Impacts	Ranges				
			Palmer Drought Severity Index (PDSI)	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Drought Indicator Blends (Percentiles)
D0	Abnormally Dry	Going into drought: <ul style="list-style-type: none"> <li>• short-term dryness slowing planting, growth of crops or pastures</li> </ul> Coming out of drought: <ul style="list-style-type: none"> <li>• some lingering water deficits</li> <li>• pastures or crops not fully recovered</li> </ul>	-1.0 to -1.9	21 to 30	21 to 30	-0.5 to -0.7	21 to 30
D1	Moderate Drought	<ul style="list-style-type: none"> <li>• Some damage to crops, pastures</li> <li>• Streams, reservoirs, or wells low, some water shortages developing or imminent</li> <li>• Voluntary water-use restrictions requested</li> </ul>	-2.0 to -2.9	11 to 20	11 to 20	-0.8 to -1.2	11 to 20
D2	Severe Drought	<ul style="list-style-type: none"> <li>• Crop or pasture losses likely</li> <li>• Water shortages common</li> <li>• Water restrictions imposed</li> </ul>	-3.0 to -3.9	6 to 10	6 to 10	-1.3 to -1.5	6 to 10
D3	Extreme Drought	<ul style="list-style-type: none"> <li>• Major crop/pasture losses</li> <li>• Widespread water shortages or restrictions</li> </ul>	-4.0 to -4.9	3 to 5	3 to 5	-1.6 to -1.9	3 to 5
D4	Exceptional Drought	<ul style="list-style-type: none"> <li>• Exceptional and widespread crop/pasture losses</li> <li>• Shortages of water in reservoirs, streams, and wells creating water emergencies</li> </ul>	-5.0 or less	0 to 2	0 to 2	-2.0 or less	0 to 2



# Additional Resources

## For Additional Information

- [NWS Springfield Webpage](#)
- [IDSS Point Forecasts](#)
- [NWS Springfield Drought Monitor Resources](#)
- [Graphical Hazardous Weather Outlook](#)
- [Missouri Drought Monitor | Kansas Drought Monitor](#)
- [CPC Drought Information](#)
- [National Integrated Drought Information System \(NIDIS\)](#)
- [National Drought Mitigation Center \(NDMC\)](#)
- [Missouri USGS Streamflows | Kansas USGS Streamflows](#)
- [Drought Safety](#)

## Drought Impacts



### Agriculture

Farms, ranches, and grazing lands suffer, and increases the cost of their products



### Public Health

A decrease of water can lead to an increase of illness, disease, mortality rates, and adverse mental health



### Ecosystems

Harms fish, wildlife, and plants, as well as the benefits these ecosystems provide



### Wildfire Management

Dry, hot, and windy weather combined with dried out vegetation can lead to more large-scale wildfires



### Manufacturing

Interruptions in the water supply can result in a reduction of productivity or closure of facilities



### Energy

Production of all types of energy requires water, and drought can severely impact energy systems and prices



## During a Drought be Vigilant

Conserve Water

Practice Fire Prevention

Follow Directions from Local Officials

Trinity Lake, CA, dry lakebed during California Drought, 2014. Photo: USGS

