



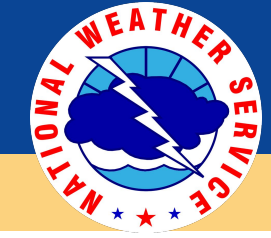
Drought Information Statement for the Missouri Ozarks

Current Status, Impacts, and Outlook

Issued By: NWS Springfield, MO

Contact information: contact.sqf@noaa.gov





U.S. Drought Monitor

Latest U.S. Drought Monitor Map - Released Thursday, August 10th

Key Messages

- **Drought Worsened:** No areas in Missouri or southeast Kansas had worsening drought conditions over the past week.
- **Drought Improved:** Portions of northeast, northwest, central, southwest and southeast Missouri and southeast Kansas.
- **No Change:** West central and south central Missouri.

Next Scheduled Briefing

→ Thursday August 17th, 2023

U.S. Drought Monitor

August 8, 2023
(Released Thursday, Aug. 10, 2023)
Valid 8 a.m. EDT

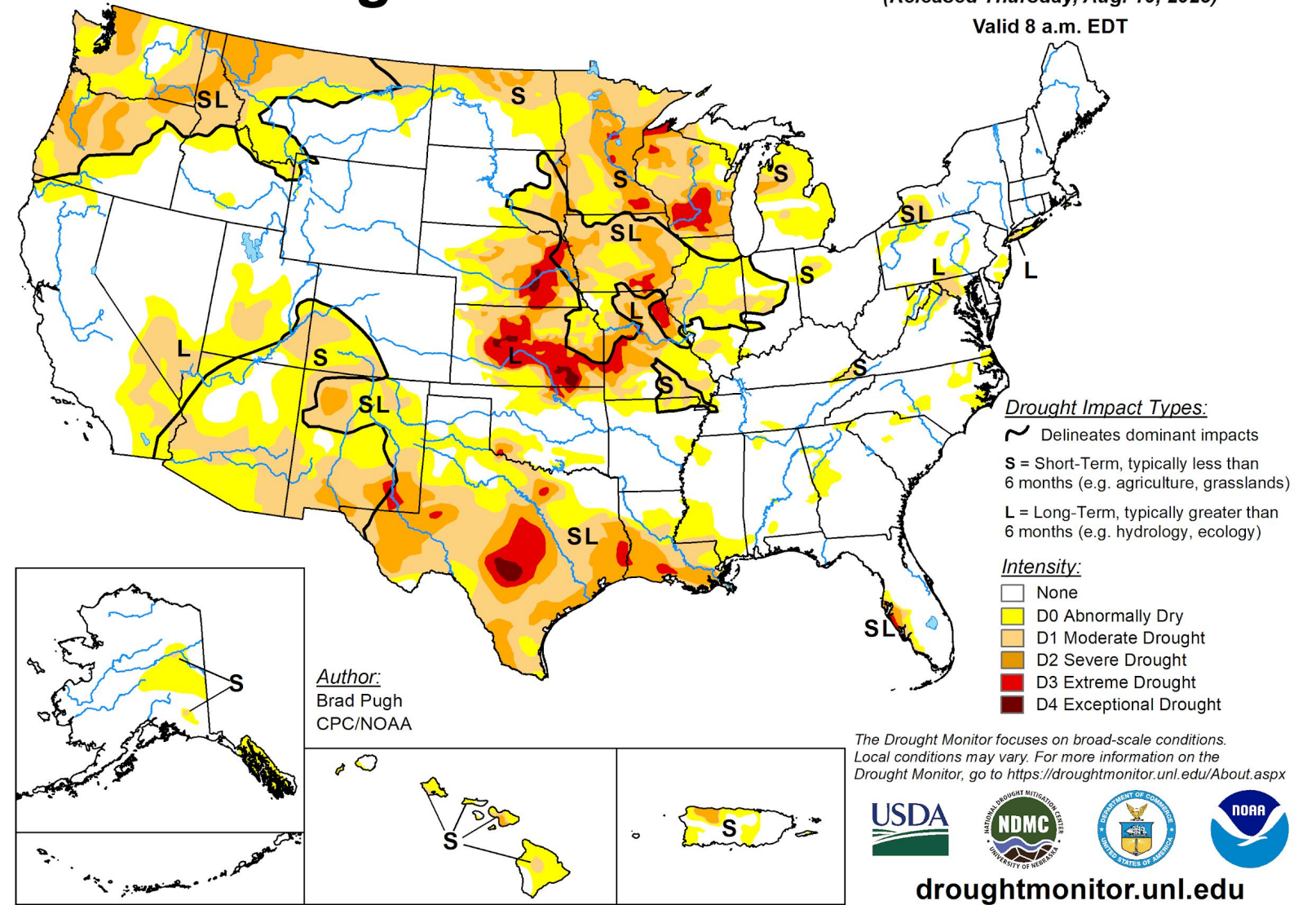
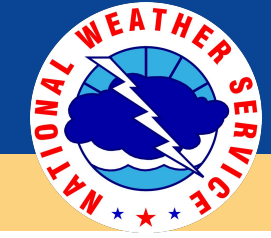


Image Caption: [U.S. Drought Monitor](https://droughtmonitor.unl.edu) valid 8am EDT August 10th.



Current Drought Monitor - Intensity and Extent

• Drought intensity and Extent

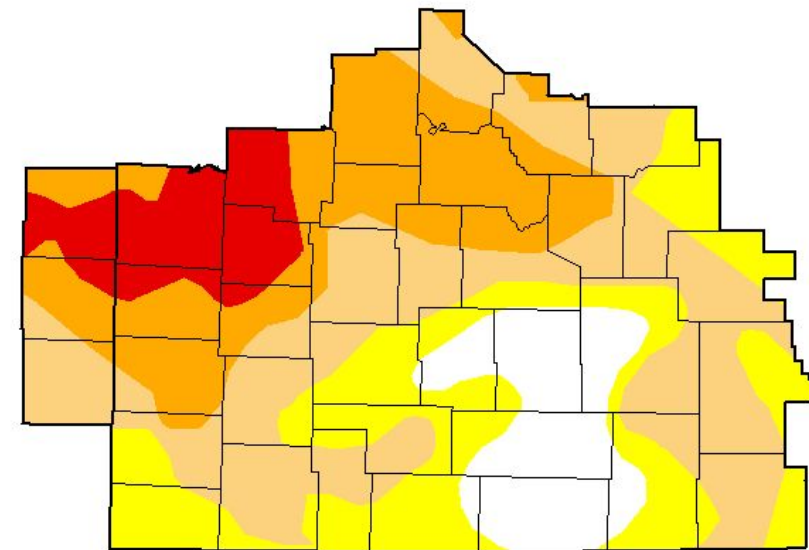
- **D3 Extreme Drought:** The western half of St. Clair, all but eastern Cedar, northwest Dade, all but northwest Vernon, and northern Barton Counties in Missouri, and central and southern Bourbon and northeastern Crawford Counties in southeast Kansas.
- **D2 Severe Drought:** Northeast and southern Morgan, northern and southern Miller, all but northeast Benton, Camden, all but southern Hickory, the eastern half of St. Clair, the northwest half of Pulaski, northern Laclede, northern Dallas, western Polk, eastern Cedar, central, northeast and southwest Dade, northwest Vernon, central and southern Barton, all but southwest Jasper, northwest Lawrence and northeast Neosho Counties in Missouri. In southeast Kansas, northern and southwest Bourbon, all but northeast and southwest Crawford and extreme northeast Cherokee Counties.
- **D1 Moderate Drought:** Portions of central Missouri from Versailles to Vienna, locations from McCune Kansas to Joplin to Cassville to Nixa, north of a line from Mount Vernon to Ash Grove to Lebanon to Fort Leonard Wood, east of a line from Thayer to Cabool to Licking, and west of a line from Rolla to Salem.
- **D0: Abnormally Dry:** The rest of central, southwest and south central Missouri, with the exception of northeast Taney, Ozark, all but western Douglas, west central Howell, western Texas, all but southwest Wright and central Webster Counties.

U.S. Drought Monitor Springfield, MO WFO

August 8, 2023
(Released Thursday, Aug. 10, 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	65.09	31.38	9.23	0.00
Last Week 08-01-2023	11.66	88.34	69.92	38.79	9.89	0.00
3 Months Ago 05-09-2023	8.70	91.30	34.84	19.22	3.68	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 08-09-2022	9.80	90.20	86.79	54.02	11.50	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>

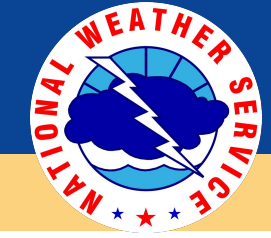
Author:

Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu

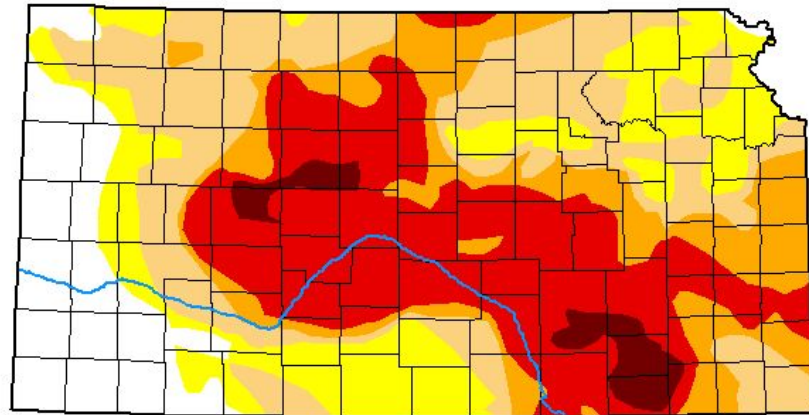
Image Caption: Drought Monitor - Springfield Area valid 8am EDT August 10th.



Current Drought Monitor

Kansas and Missouri

U.S. Drought Monitor Kansas



August 8, 2023

(Released Thursday, Aug. 10, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	13.39	86.61	69.80	45.09	29.98	3.19
Last Week <i>08-01-2023</i>	12.09	87.91	71.49	47.74	29.19	3.65
3 Months Ago <i>05-09-2023</i>	7.96	92.04	84.51	76.53	64.44	41.10
Start of Calendar Year <i>01-03-2023</i>	0.53	99.47	84.47	68.86	57.02	36.85
Start of Water Year <i>09-27-2022</i>	1.48	98.52	82.55	67.05	52.70	24.90
One Year Ago <i>08-09-2022</i>	16.25	83.75	72.48	54.32	28.72	10.01

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>

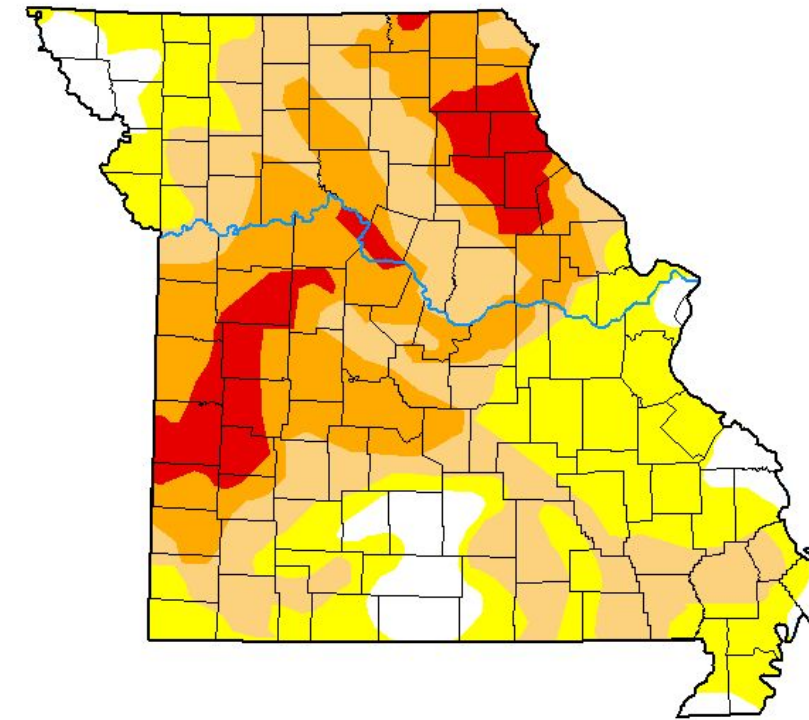
Author:

Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu

U.S. Drought Monitor Missouri



August 8, 2023

(Released Thursday, Aug. 10, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.91	91.09	62.51	32.90	8.77	0.00
Last Week <i>08-01-2023</i>	5.92	94.08	77.21	48.56	18.77	0.00
3 Months Ago <i>05-09-2023</i>	15.30	84.70	36.61	19.62	2.13	0.00
Start of Calendar Year <i>01-03-2023</i>	50.31	49.69	12.51	1.61	0.00	0.00
Start of Water Year <i>09-27-2022</i>	18.48	81.52	56.59	15.39	4.83	1.92
One Year Ago <i>08-09-2022</i>	35.71	64.29	37.84	21.41	3.16	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>

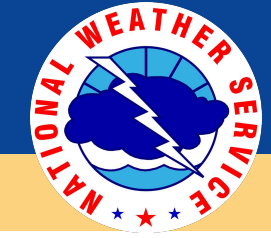
Author:

Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu

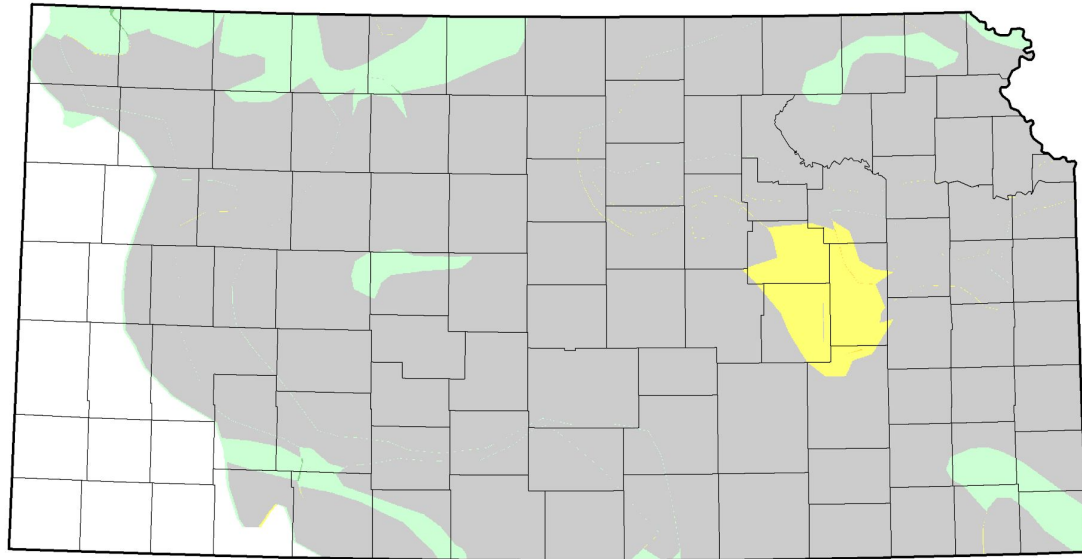
Image(s) Caption: [Kansas](#) and [Missouri](#) Current Drought Monitors valid 8am EDT August 10th.



Drought Monitor 1 Week Change

Kansas and Missouri

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



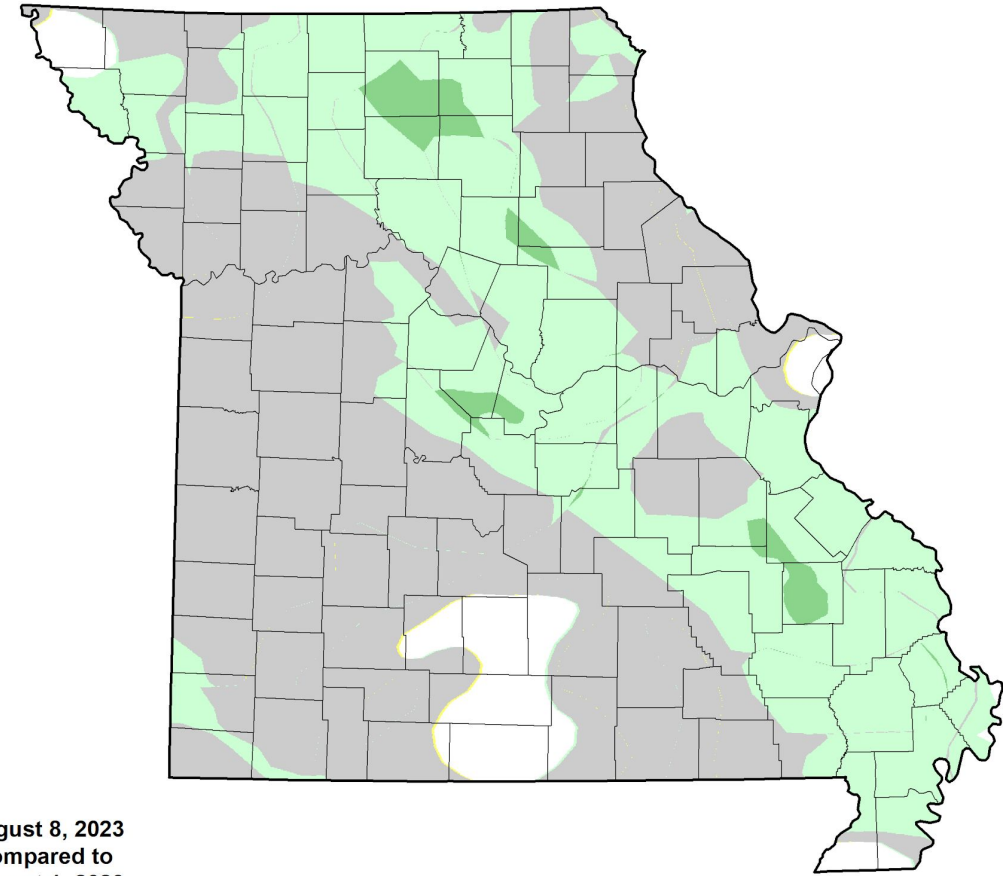
August 8, 2023
compared to
August 1, 2023

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



August 8, 2023
compared to
August 1, 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

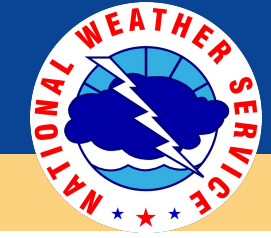
Image(s) Caption: Kansas and Missouri Drought Monitors (1 week change) valid 8am EDT August 10th.



National Oceanic and
Atmospheric Administration

U.S. Department of Commerce

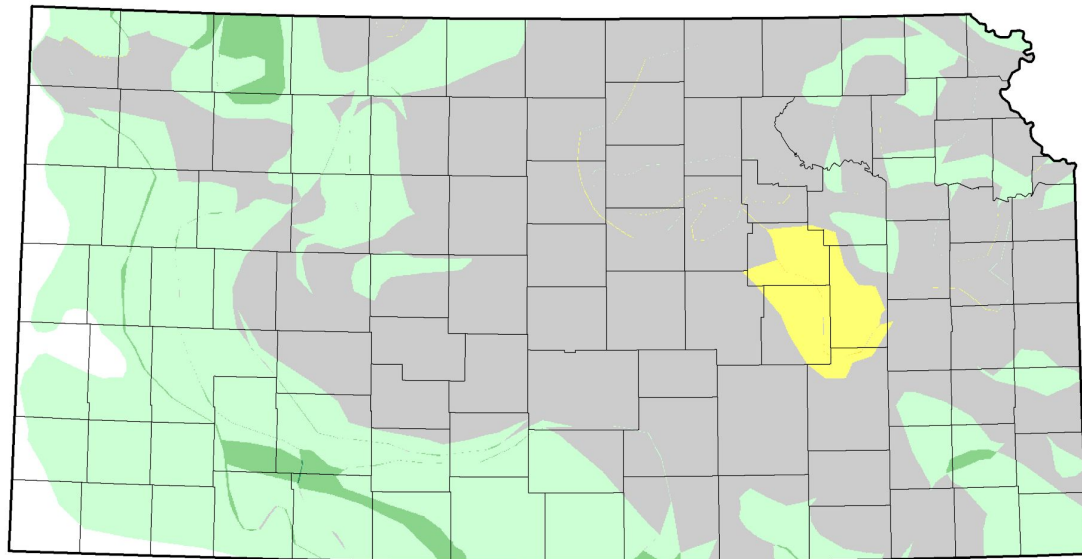
National Weather Service
Springfield, MO



Drought Monitor 4 Week Change

Kansas and Missouri

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



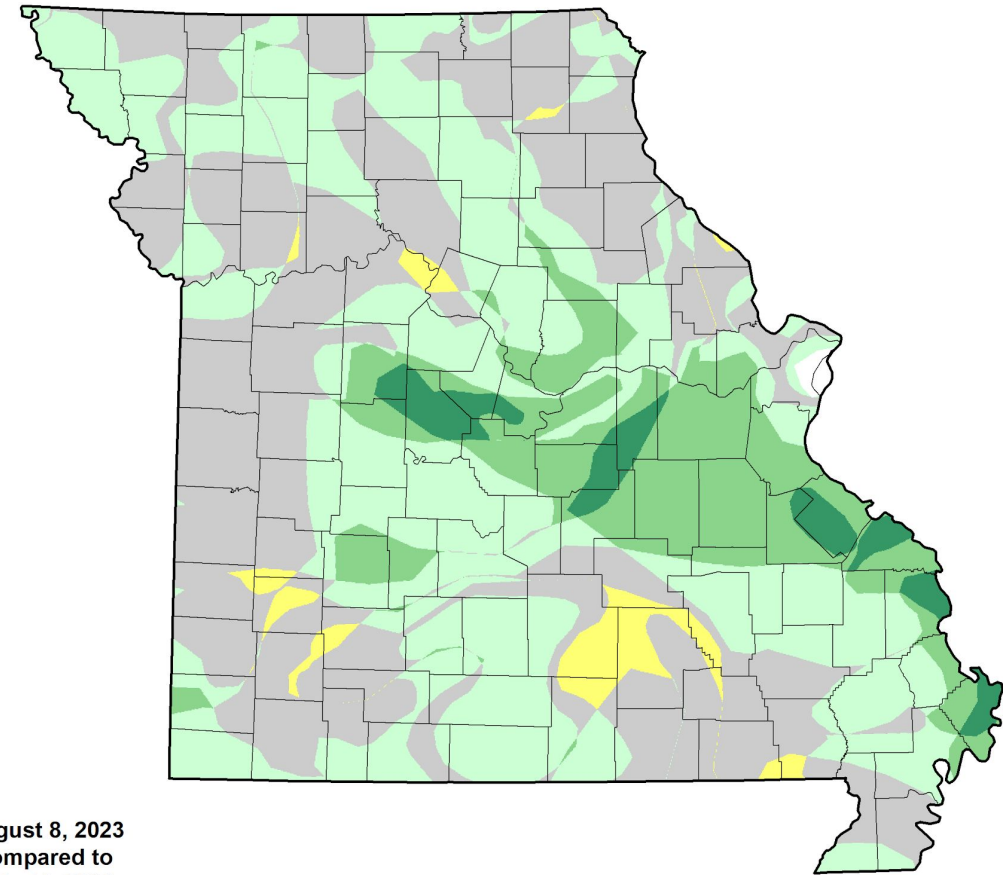
August 8, 2023
compared to
July 11, 2023

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
4 Week



August 8, 2023
compared to
July 11, 2023

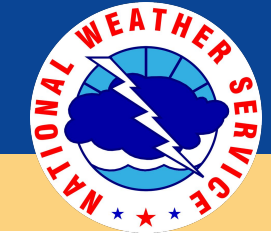
droughtmonitor.unl.edu



- 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 (4 week change) valid 8am EDT August 10th.

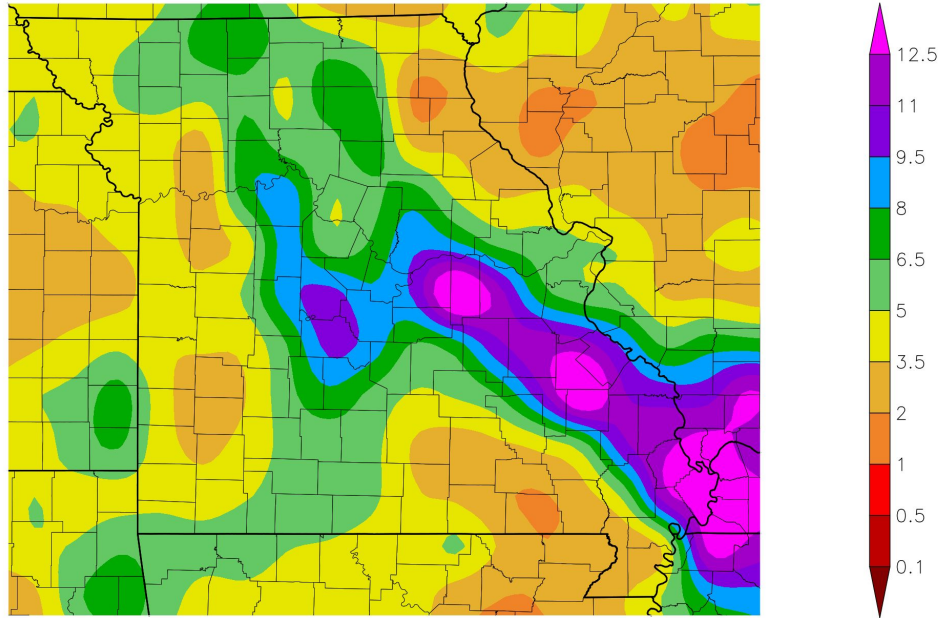




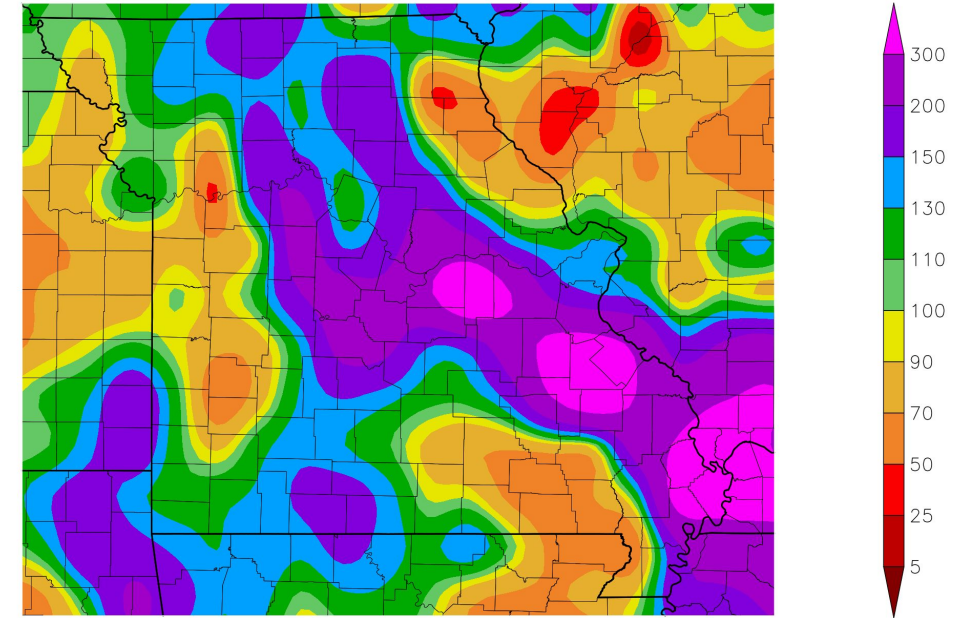
Hydrologic Conditions

Data Courtesy High Plains Regional Climate Center

Precipitation (in)
7/11/2023 – 8/9/2023



Percent of Normal Precipitation (%)
7/11/2023 – 8/9/2023



Generated 8/10/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Generated 8/10/2023 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 August 9, 2023.

Image Caption: [Percent of Normal Precipitation for Missouri and eastern Kansas.](#)
Data over the past 30 days ending August 9, 2023

Main Takeaways

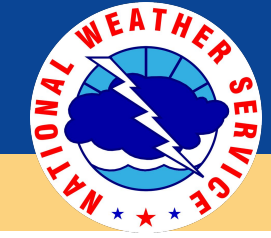
- Precipitation accumulations over the past 30 days ranged from an inch or less over southwest Missouri to over four inches over parts of central and south central Missouri.
- Portions of central, and southwest Missouri had over 150% of their normal precipitation.
- Parts of south central and west central Missouri had around 50% of their normal rainfall.



National Oceanic and Atmospheric Administration

U.S. Department of Commerce

National Weather Service
Springfield, MO



Summary of Impacts

Hydrologic Impacts

- Streamflow percentiles over the past 7 days were below normal along the Little Osage River in SE Kansas and west central 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 in the D1, D2 and D3 areas.

Fire Hazard Impacts

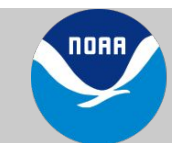
- There are no known impacts at this time.

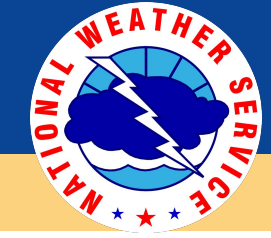
Other Impacts

- There are no known impacts at this time.

Mitigation actions

- Many farmers and ranchers continued to haul water for livestock, supplement feed 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.

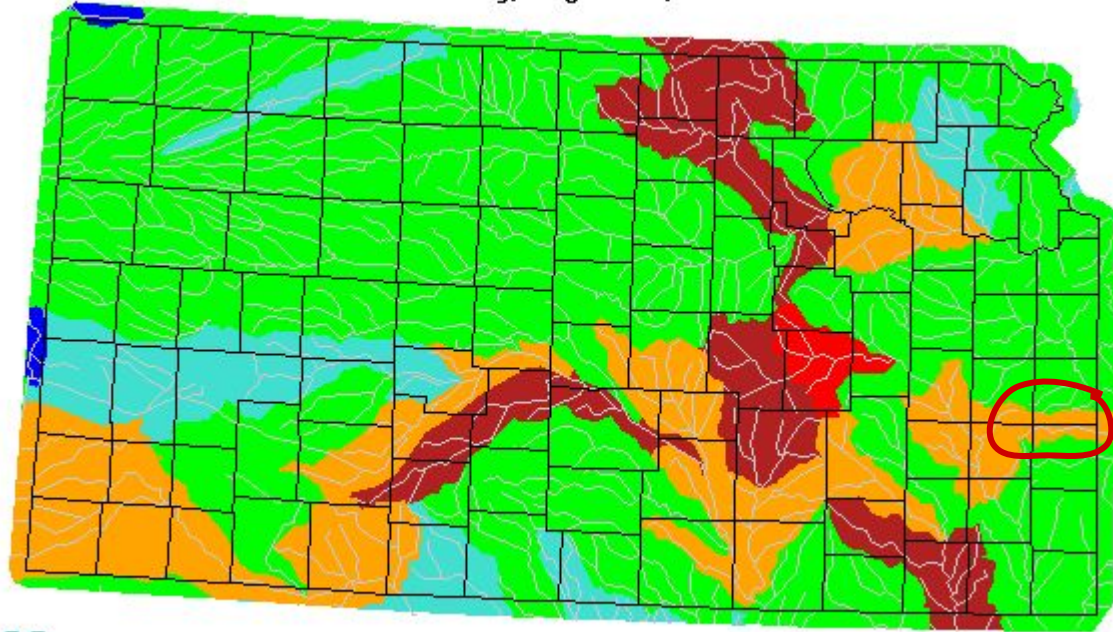




Hydrologic Conditions

Valid August 9, 2023

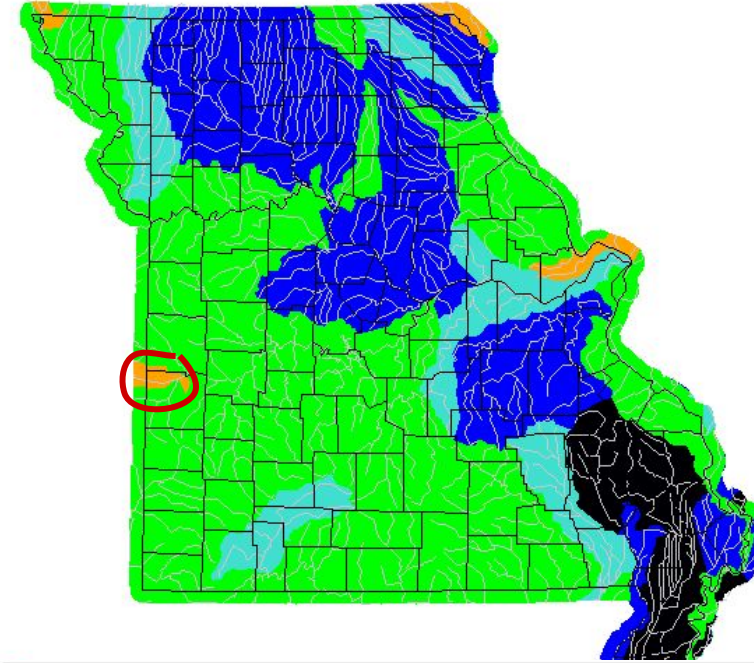
Wednesday, August 09, 2023



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.](#)

Wednesday, August 09, 2023



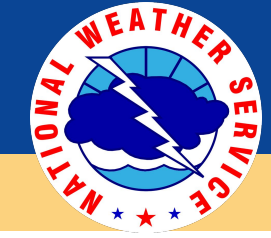
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

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

Main Takeaways

- Streamflow percentiles over the past 7 days were below normal along the Little Osage River (circled in red above).
- Over the remainder of the region, streamflows were near to above normal.





Agricultural Impacts

Calculated Soil Moisture Ranking Percentile
AUG 08, 2023

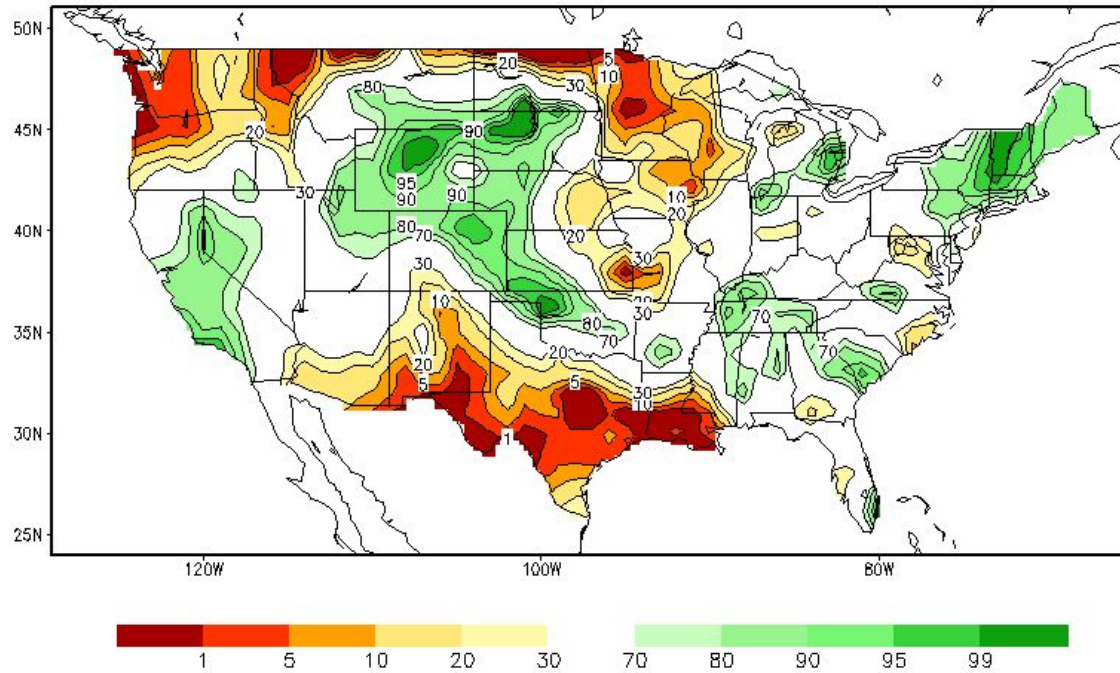


Image Caption: CPC Calculated [Soil Moisture Ranking Percentile](#).
(valid August 8, 2023)

Crop Moisture Index by Division
Weekly Value for Period Ending AUG 5, 2023
Short Term Need vs. Available Water in a Shallow Soil Profile

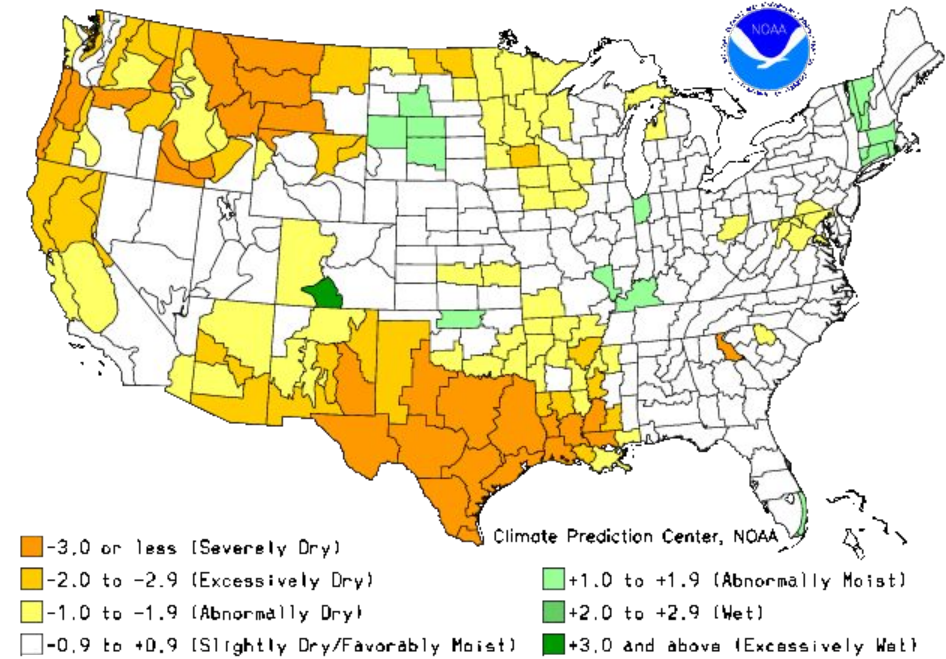
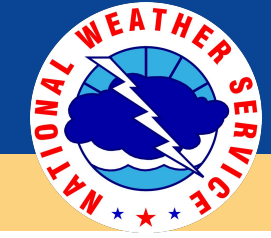


Image Caption: [Crop Moisture Index by Division](#) Weekly.
(value for period ending August 5, 2023)

Main Takeaways

- Soil Moisture was in the 1st to 5th percentile over SE Kansas and west central Missouri, and in the 5th to 20th percentile much of the Missouri Ozarks.
- The Crop Moisture Index was unusually dry over southwest Missouri.





Precipitation Forecasts

Valid August 10-17, 2023

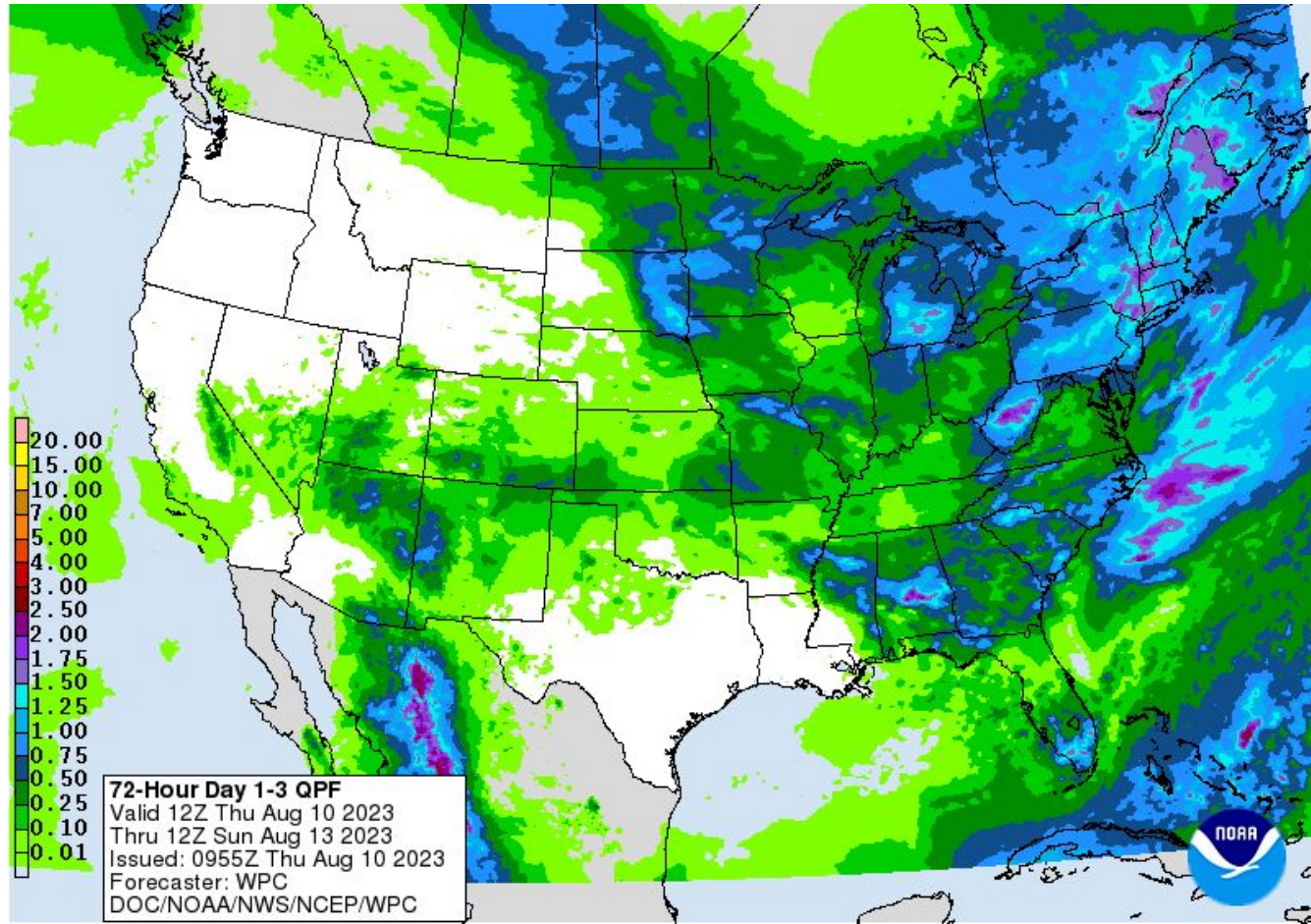


Image Caption: [Weather Prediction Center Day 1-3 Precipitation Forecast](#).

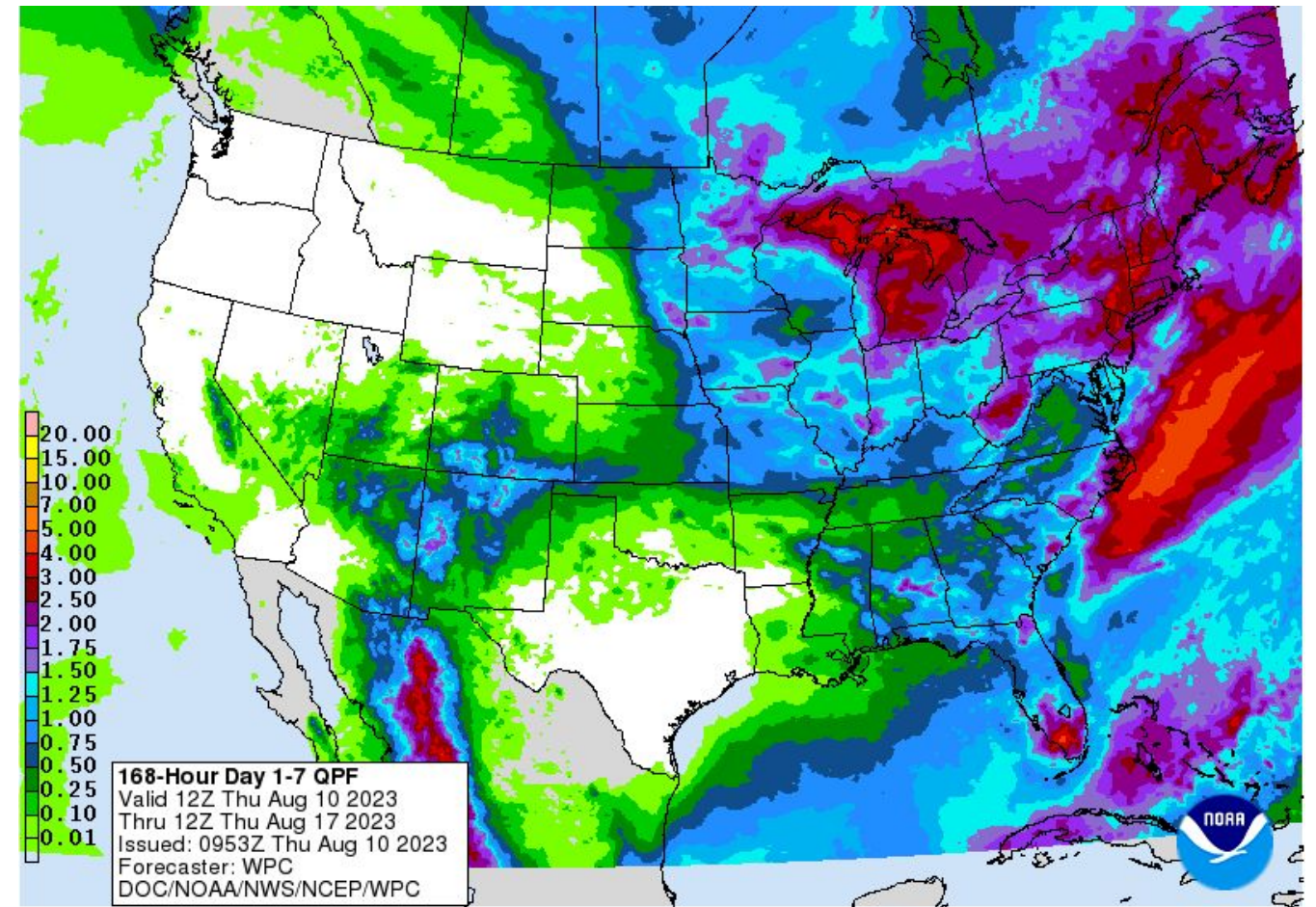
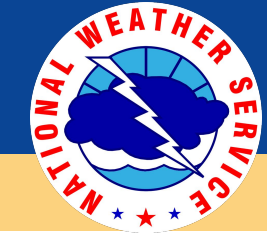


Image Caption: [Weather Prediction Center Day 1-7 Precipitation Forecast](#).

Main Takeaway

- Most areas are expected to see at least one inch of rainfall over the next 7 days.





6-10 Day Temperature and Precipitation Outlook

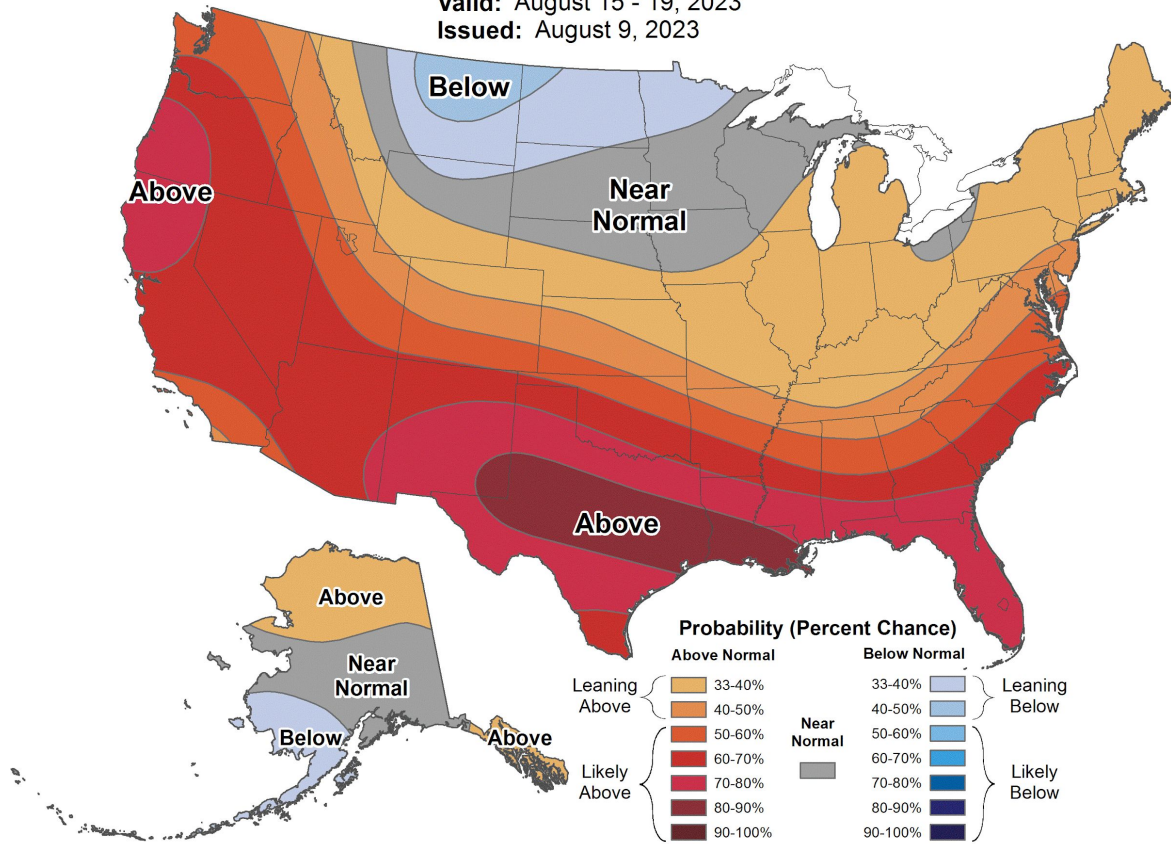
Valid August 15-19, 2023



6-10 Day Temperature Outlook



Valid: August 15 - 19, 2023
Issued: August 9, 2023



6-10 Day Precipitation Outlook



Valid: August 15 - 19, 2023
Issued: August 9, 2023

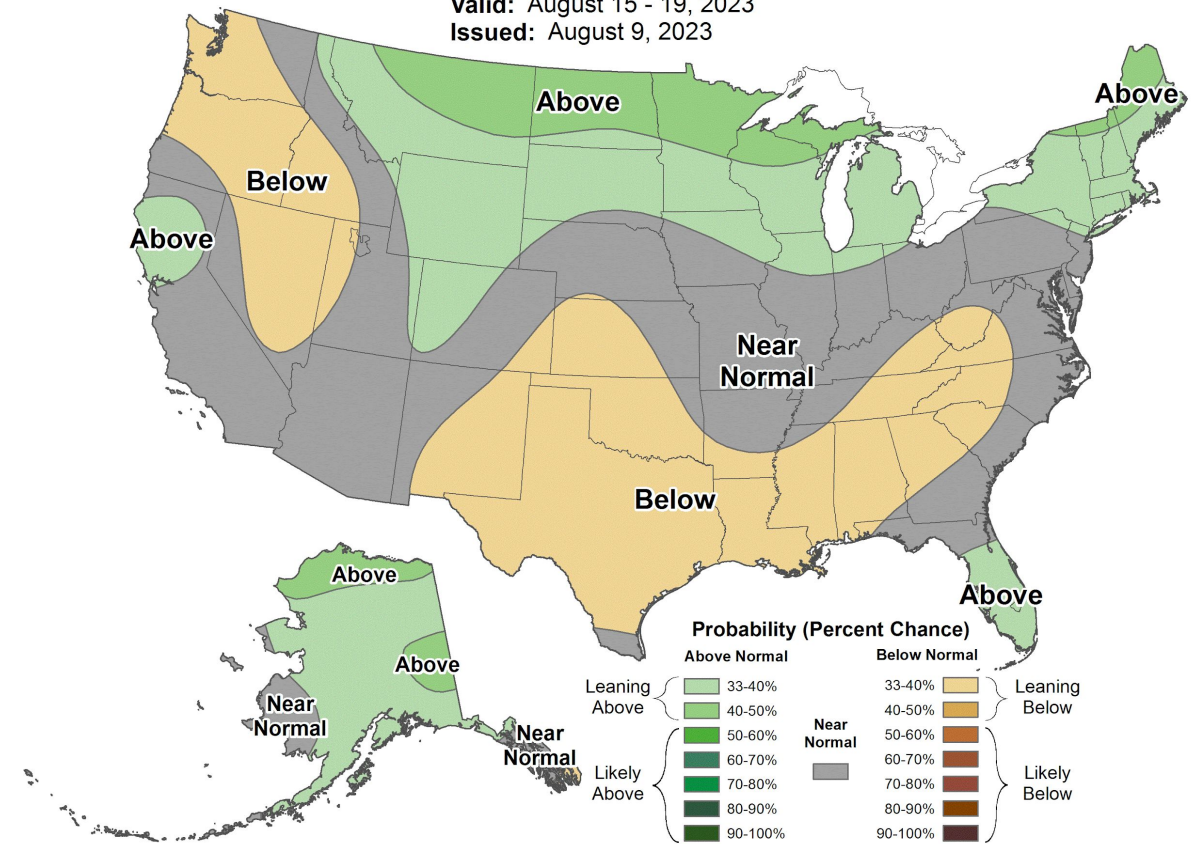


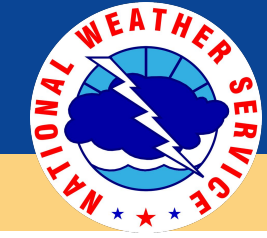
Image Caption: [Climate Prediction Center 6-10 Day Temperature Outlook](#).

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

Main Takeaways

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





8-14 Day Temperature and Precipitation Outlook

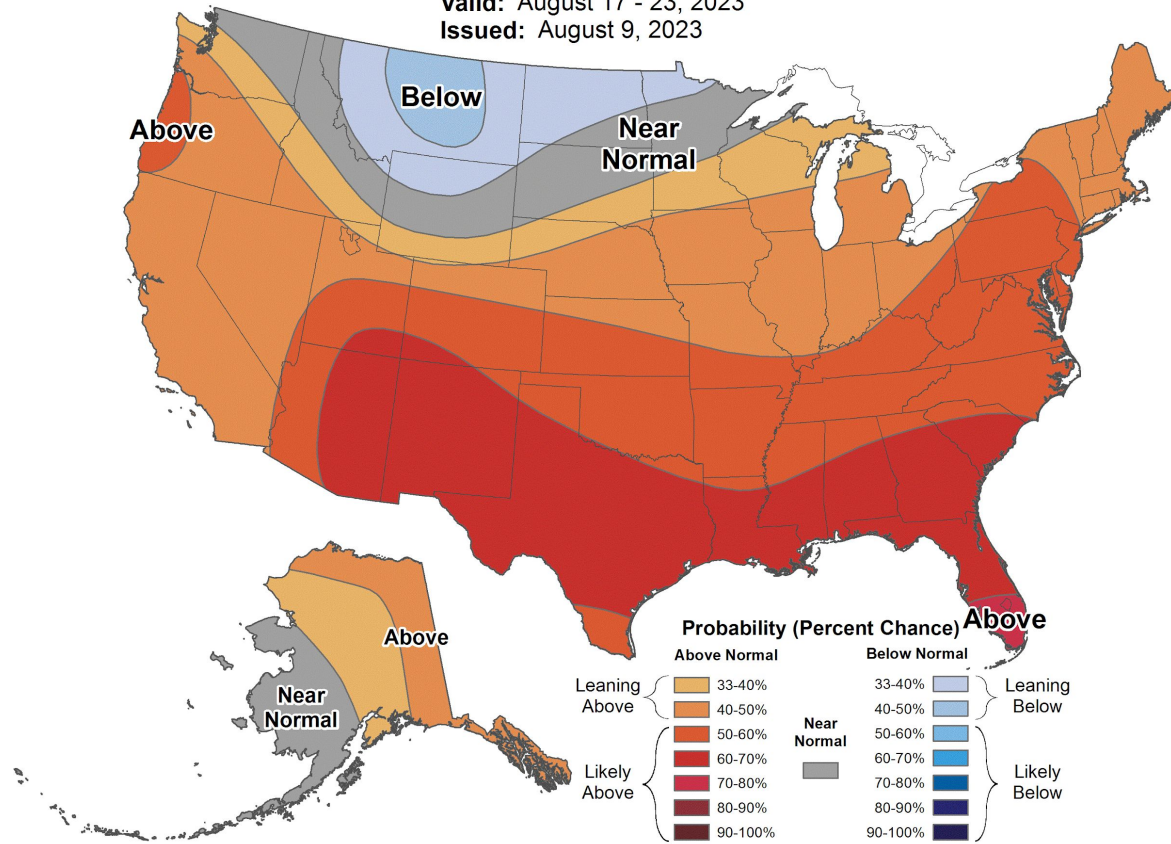
Valid August 17-23, 2023



8-14 Day Temperature Outlook



Valid: August 17 - 23, 2023
Issued: August 9, 2023



8-14 Day Precipitation Outlook



Valid: August 17 - 23, 2023
Issued: August 9, 2023

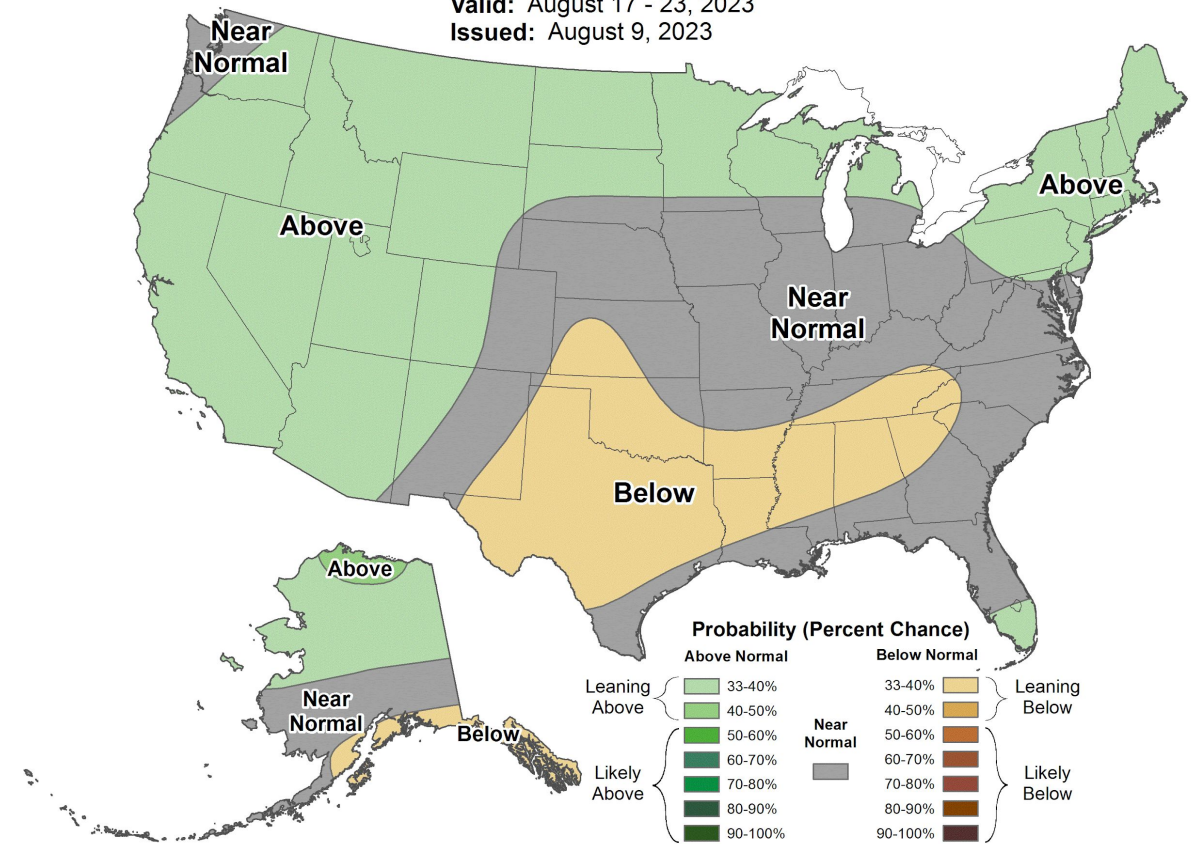


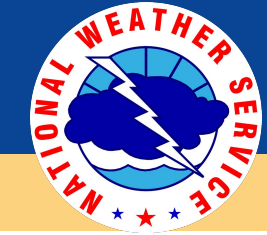
Image Caption: [Climate Prediction Center 8-14 Day Temperature Outlook](#).

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

Main Takeaways

- Above normal temperatures and near normal precipitation are favored over the Missouri Ozarks and southeast Kansas.





3-4 Week Temperature and Precipitation Outlook

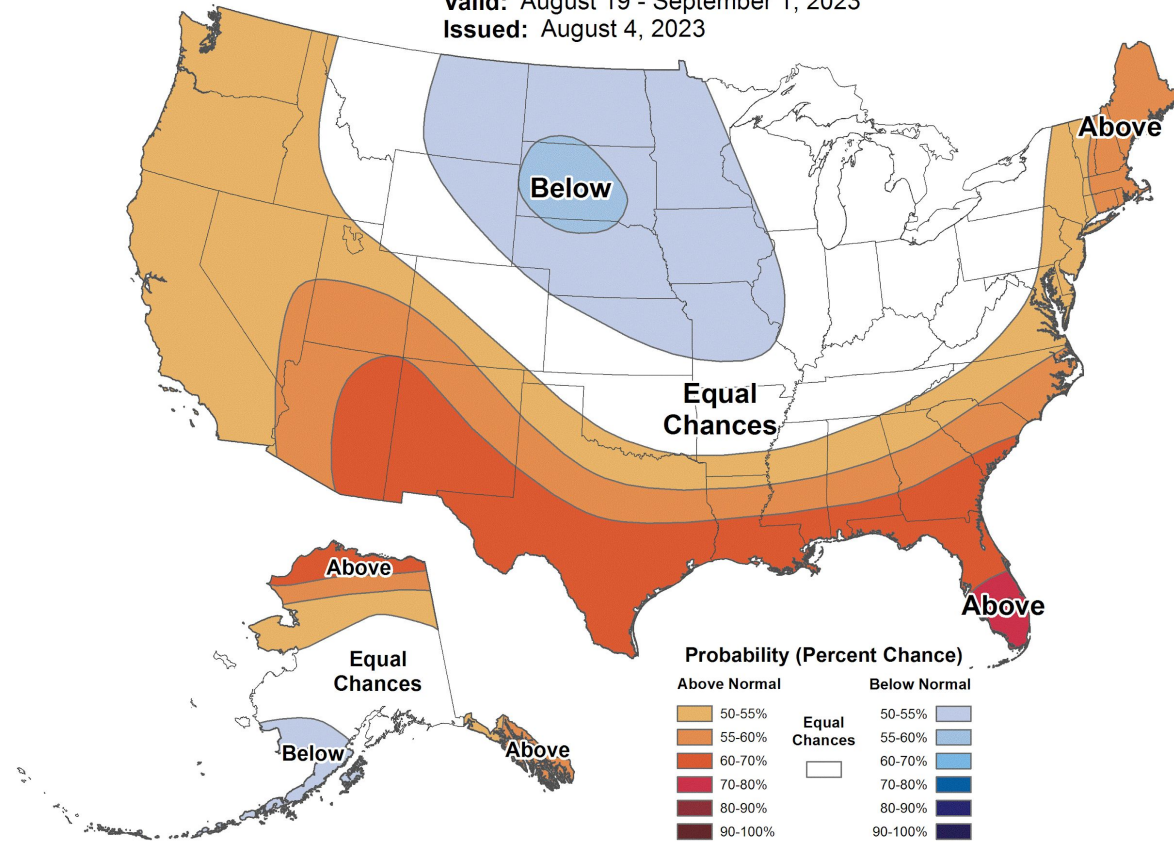
Valid August 19, 2023 - September 1, 2023



Weeks 3-4 Temperature Outlook



Valid: August 19 - September 1, 2023
Issued: August 4, 2023



Weeks 3-4 Precipitation Outlook



Valid: August 19 - September 1, 2023
Issued: August 4, 2023

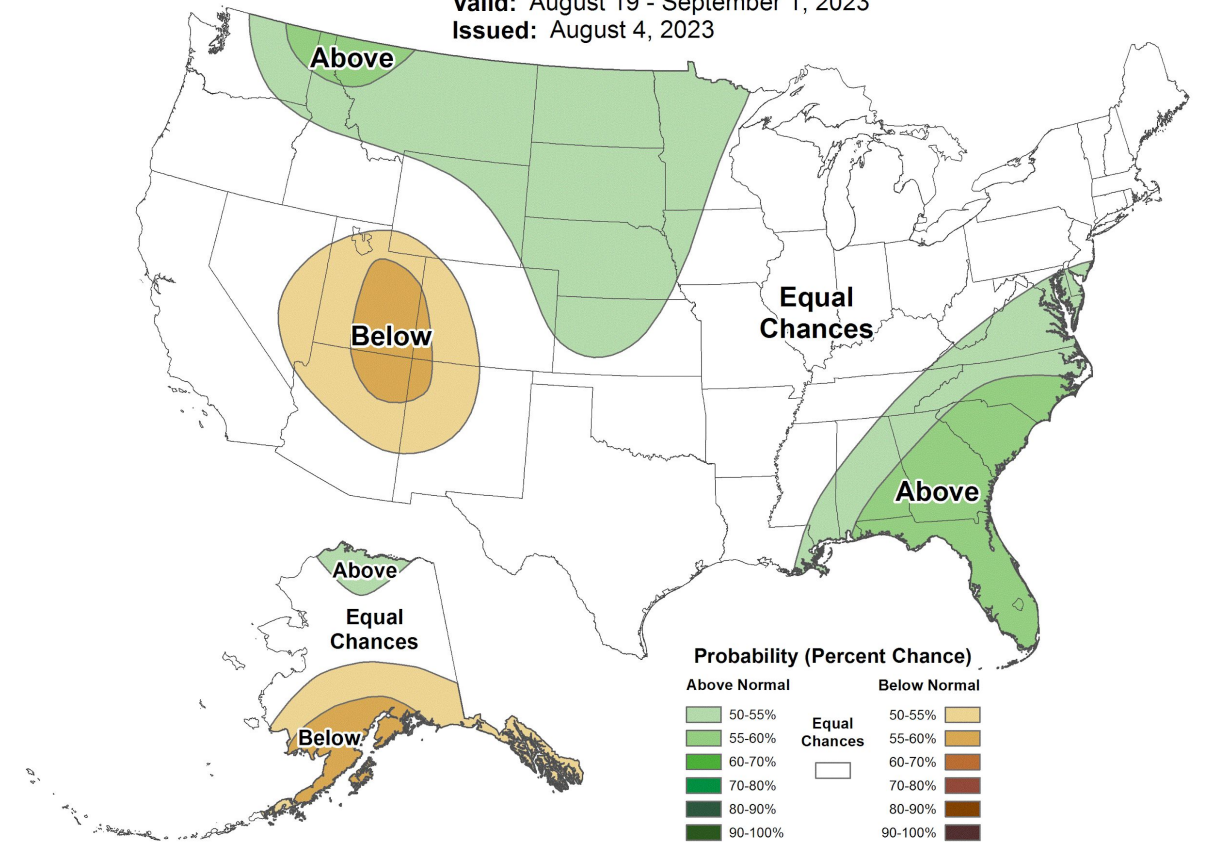


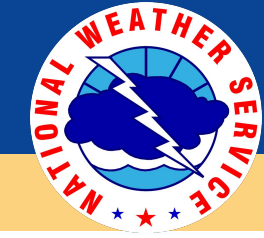
Image Caption: [Climate Prediction Center Weeks 3-4 Temperature Outlook](#).

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

Main Takeaways

- Below normal temperatures are favored over central and west central Missouri, with equal chances for above, below and normal temperatures over southern Missouri and southeast Kansas.
- There will be equal chances for above, below and normal precipitation over the Missouri Ozarks and southeast Kansas.





Seasonal Temperature and Precipitation Outlook

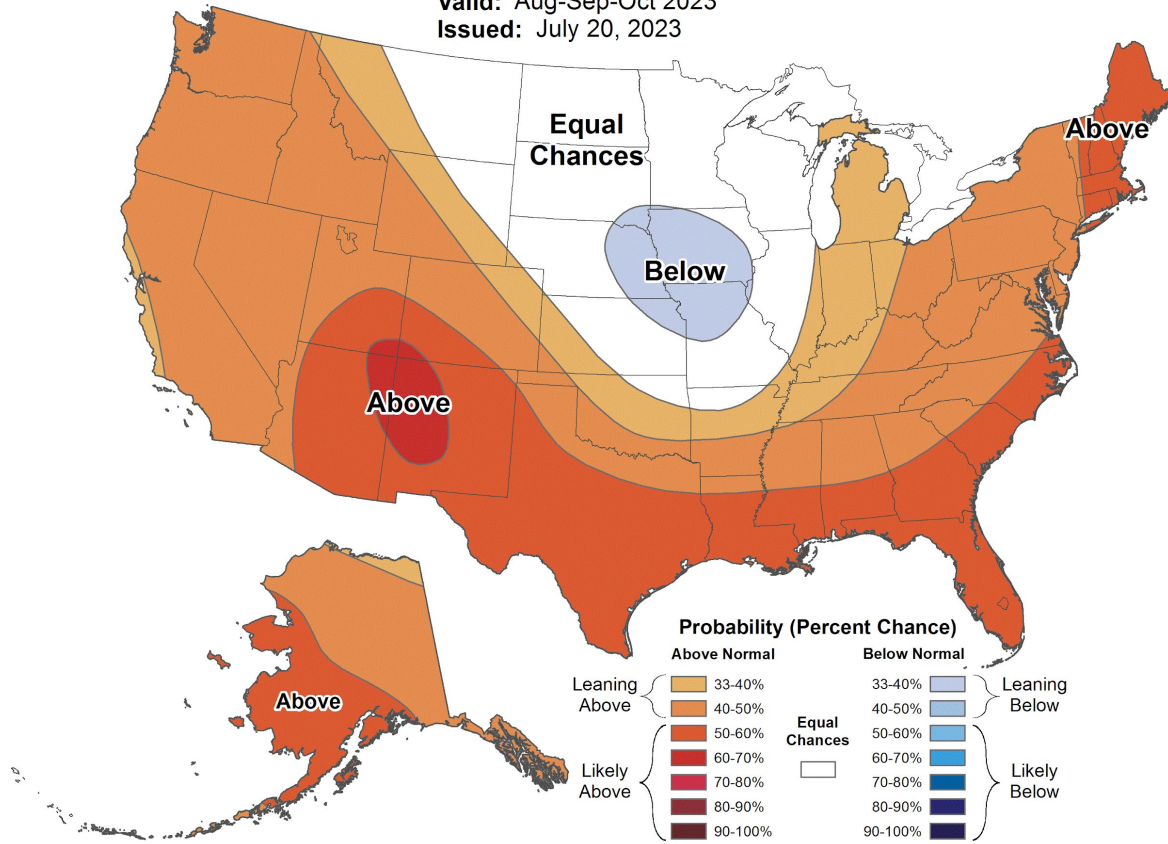
Valid August - October 2023



Seasonal Temperature Outlook



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



Seasonal Precipitation Outlook



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

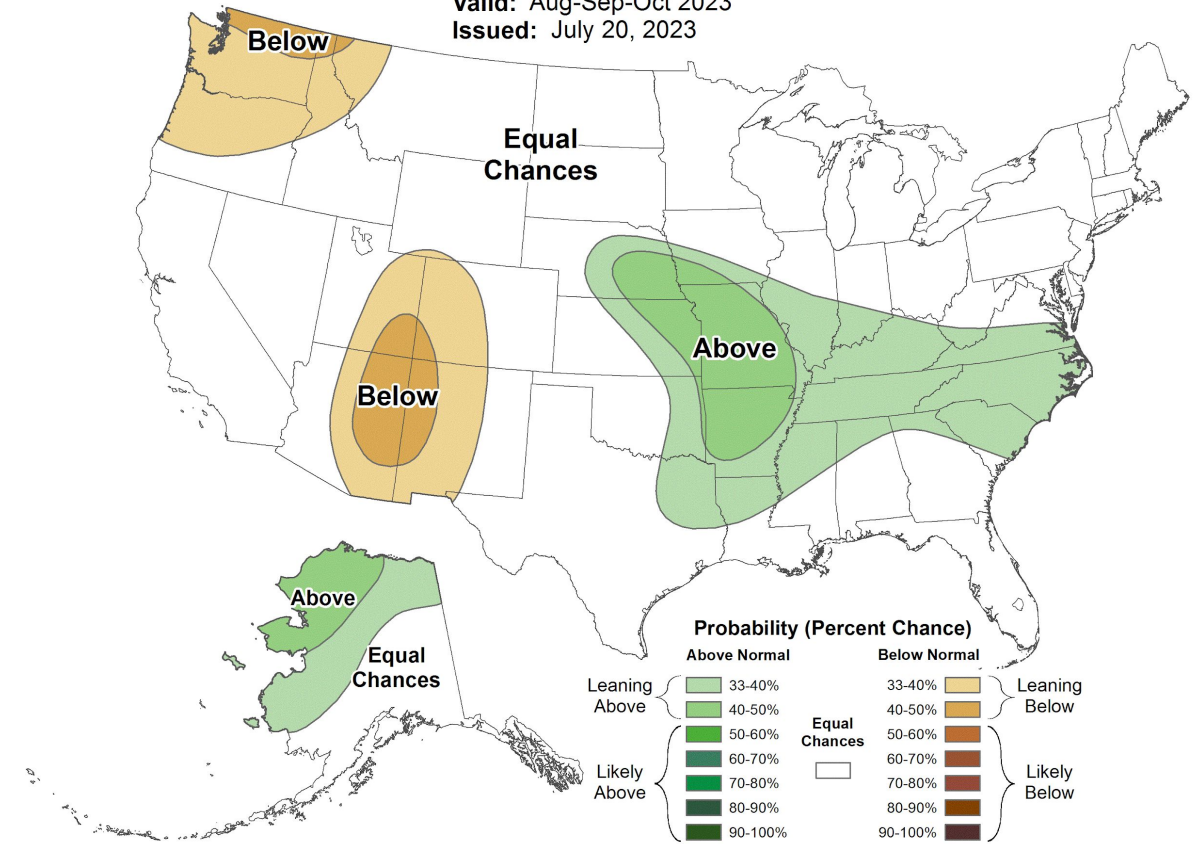


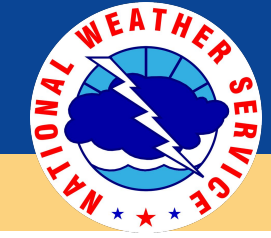
Image Caption: [Climate Prediction Center Seasonal Temperature Outlook](#).

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 through the end of October.



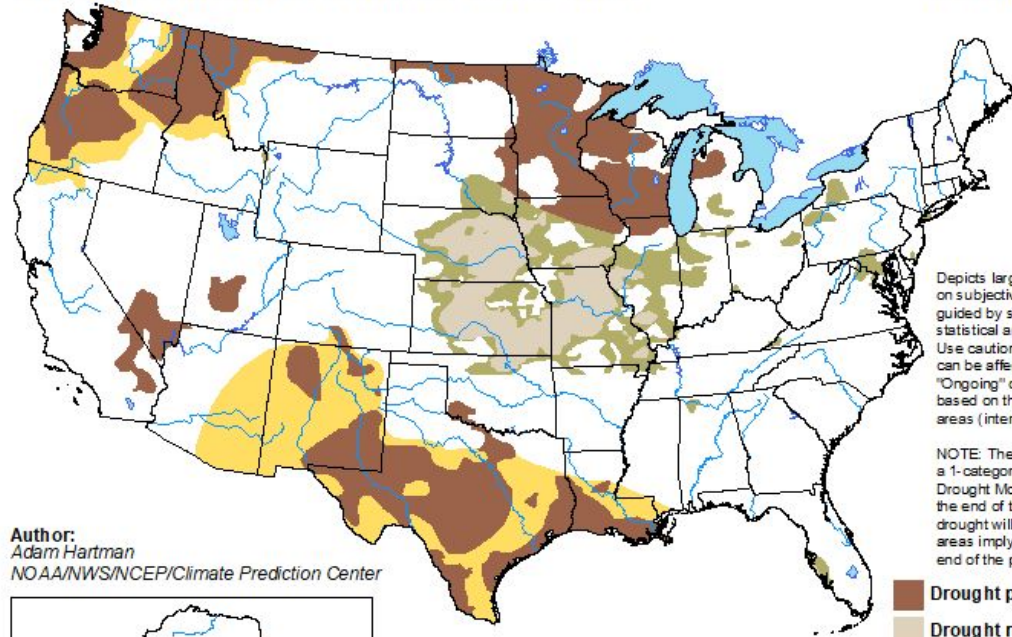


Drought Monthly and Seasonal Outlooks

Valid August - October 2023

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

Valid for August 2023
Released July 31, 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 Hartman
NOAA/NWS/NCEP/Climate Prediction Center

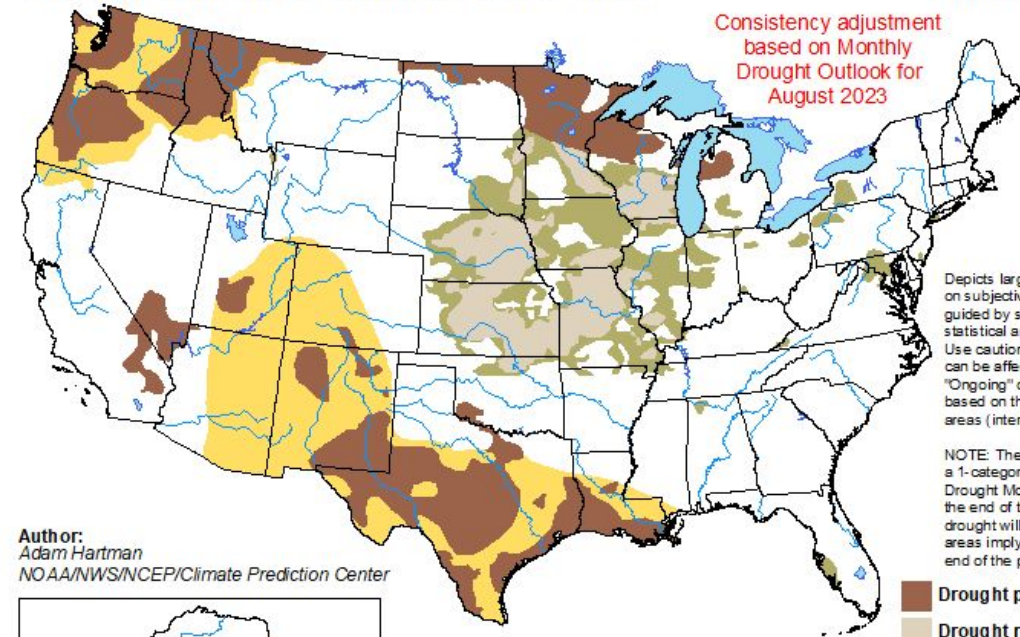


- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

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

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

Valid for August 1 - October 31, 2023
Released July 31, 2023

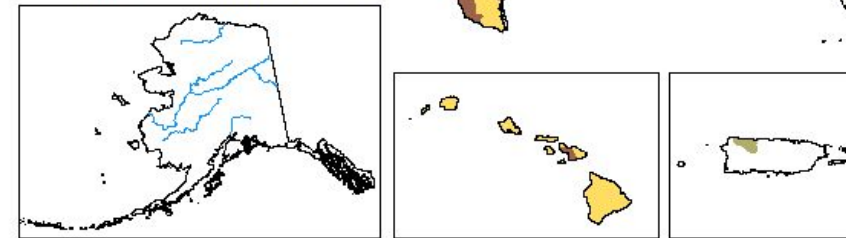


Consistency adjustment
based on Monthly
Drought Outlook for
August 2023

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).

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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

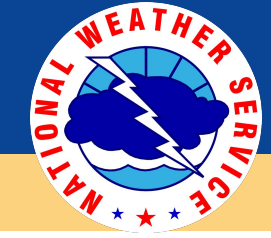
- Areas in drought across the Missouri Ozarks and southeast Kansas are expected to see improvement through the next 1-3 months
- Some drought removal is expected by the end of October.



National Oceanic and
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National Weather Service
Springfield, MO

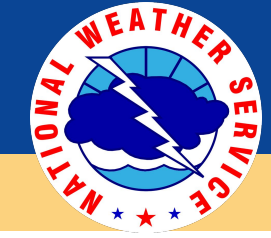


Drought Classification

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"> • short-term dryness slowing planting, growth of crops or pastures Coming out of drought: <ul style="list-style-type: none"> • some lingering water deficits • pastures or crops not fully recovered 	-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"> • Some damage to crops, pastures • Streams, reservoirs, or wells low, some water shortages developing or imminent • Voluntary water-use restrictions requested 	-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"> • Crop or pasture losses likely • Water shortages common • Water restrictions imposed 	-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"> • Major crop/pasture losses • Widespread water shortages or restrictions 	-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"> • Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies 	-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



weather.gov/drought



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