



U.S. Drought Portal Resources for the Midwest

Kelsey Satalino, CIRES, NOAA/NIDIS

Midwest DEWS Partners Meeting, August 21, 2024

The U.S. Drought Portal: Drought.gov



An official website of the United States government [Here's how you know](#)

Drought.gov
National Integrated Drought Information System

Search

Data and Maps ▾ By Sector ▾ By Location ▾ Research and Learn ▾ About ▾ News and Events ▾

NIDIS Invests Up to \$4 Million to Support Drought Assessment in a Changing Climate

NIDIS has announced up to \$4 million in funding for 8 two-year projects as part of the Fiscal Year 2025 Coping with Drought research competition.

FEATURED NEWS AND ARTICLES

21st-Century Droughts Are Transforming Ecosystems

Monitor Heat, Drought with New Tools on Drought.gov

Southern Plains Drought Update: August 8

How is drought affecting your neighborhood?

Enter Zip Code, City, County, or State

U.S. Drought Monitor

Current Week 1-Week Change

Legend

U.S. Drought Monitor

D0 D1 D2 D3 D4

About +

Updates +

Drought Index Water Supply Agriculture

DATA VALID: 08/13/24

LEARN MORE

Precipitation Conditions

7-Day 30-Day % Normal 60-Day % Normal

Legend

Percent of Normal Precipitation (%)

0% 25% 50% 75% 100%

100% 150% 200% 300%

About +

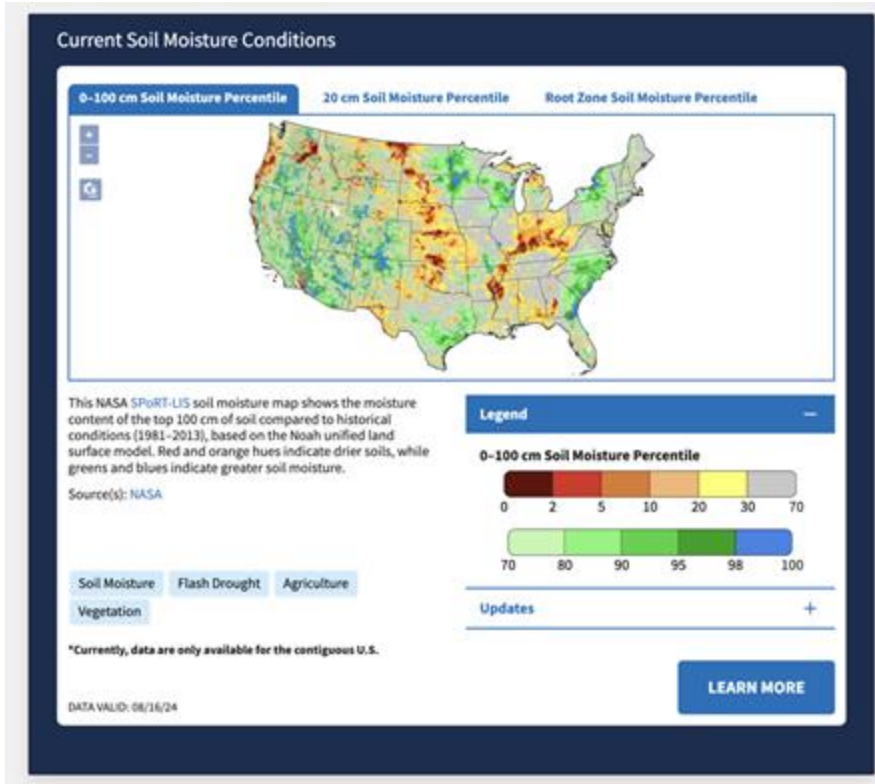
Updates +

Precipitation Water Supply Agriculture

DATA VALID: 08/13/24

LEARN MORE

The U.S. Drought Portal: Drought.gov



- One-stop shop for interactive, high-resolution maps & data
- Local drought information by watershed, state, county, city
- Easy-to-understand maps you can **customize & download** for use in communications
- Timely regional drought information: drought status updates, webinars, NWS Drought Information Statements
- Educational resources on ecological drought, flash drought, & more

1

“By Location” Section: Local, High-Res Drought Data & Maps

2

Customizable & Downloadable Map Images for Easy Sharing

3

Historical Data & Conditions Tool

4

Timely Drought Communications: Drought Status Updates, NWS Drought Information Statements

Drought.gov County & City Pages



BY LOCATION | COUNTY

Drought Conditions for Franklin County

[GO TO OHIO STATE PAGE](#)

Get notified when conditions change

[SIGN UP FOR ALERTS](#)

1,163,411

people in Franklin County are affected by drought

— No change since last week

↑ 31.6% since last month

100%

of people in Franklin County are affected by drought

— No change since last week

↑ 24% since last month

14th

driest July on record, over the past 130 years

↓ 1.82

inches from normal

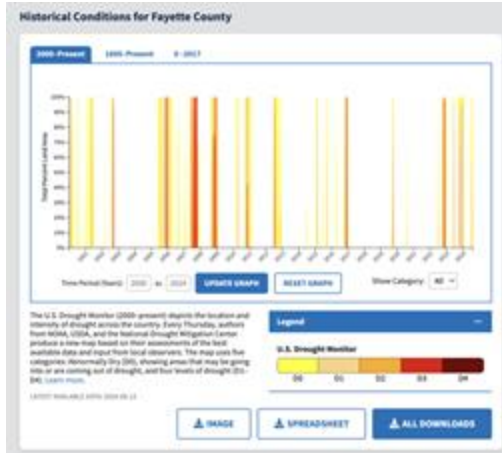
54th

driest year to date over the past 130 years (January-July 2024)

↓ 0.69

inches from normal

[Learn more about these stats](#)



Current Data Layer

60-Day Percent of Normal Pr

Show Map Description

Layer Transparency

0 100

Background Layer

Labels Only

Overlay Current U.S. Drought Monitor

Do not display

USDM Transparency

0% 100%

Border Outlines

Show Tribal Nation Lines

Show State Lines

Show County Lines

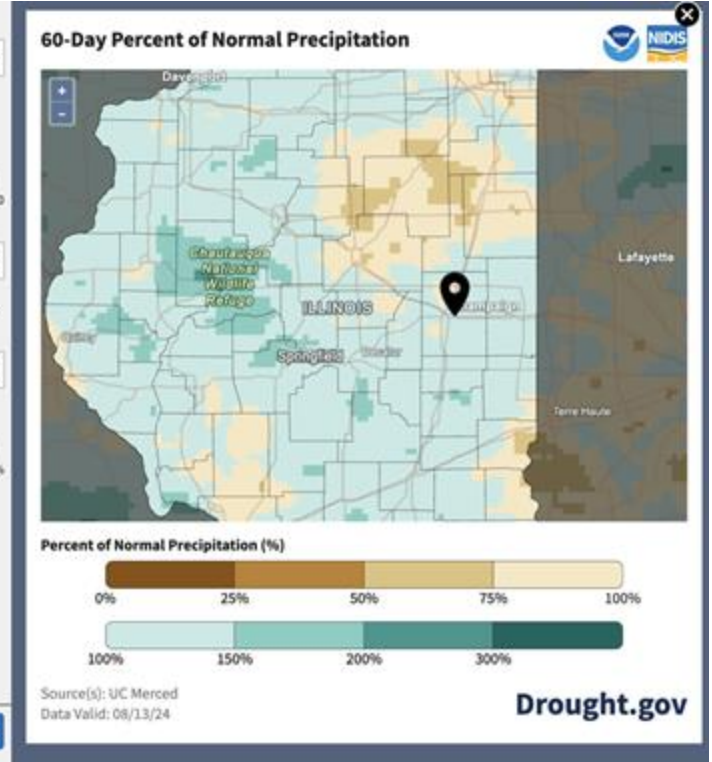
Display Multiple Regions

Show Alaska map area

Show Hawaii map area

[SAVE MAP](#)

[Learn more about these data](#)



Drought.gov State Pages



Indiana Streamflow Conditions



Legend

Streamflow Conditions

Low Much Below Below Normal

Above Much Above High Not Ranked

About +

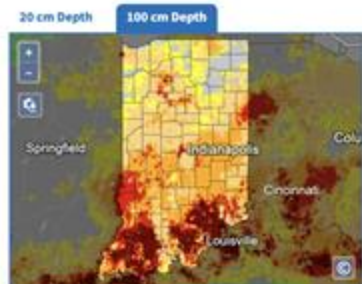
Updates +

Ecosystems Energy Transportation Water Supply

LEARN MORE

DATA VALID: 08/16/24

Indiana Soil Moisture Conditions



Legend

0-100 cm Soil Moisture Percentile

0 2 5 10 20 30 70

70 80 90 95 98 100

About +

Updates +

Soil Moisture Flash Drought Agriculture

Vegetation

LEARN MORE

DATA VALID: 08/16/24

Learn more about these data

0
counties with USDA Disaster Designations (primary)

— 0 counties since last week

3.0 Million
Ohio residents in areas of drought, according to the Drought Monitor

↓ 30.7% since last week

21st
driest July on record (since 1895)

2.97 in. total precipitation
↓ 1.01 in. from normal

64th
wettest January–July on record (since 1895)

24.22 in. total precipitation
↑ 0.47 in. from normal

Drought in Michigan

Like other states in the Upper Midwest region, climate in Michigan is generically described as humid continental, with warm-hot summers, cold winters, and no dry season, with precipitation relatively evenly distributed throughout the year. Averaged across the state, Michigan receives about 33 inches of precipitation per year, and months without any precipitation are rare.

Mild meteorological drought conditions are not uncommon in Michigan, but meteorological droughts reaching severe thresholds are infrequent and generally of short duration. Historical data suggest that northern portions of the state are slightly more drought-prone than southern sections of the state. Michigan's rather even seasonal distribution of precipitation and relatively low evapotranspiration rates help to reduce periods of drought relative to other areas of the region. Following an observed maximum during the 1930s, severe droughts in the state have become less common over time, a trend associated with increasing precipitation across the state. One notable exception to this trend concerns the occurrence of rapidly developing "flash droughts," which have increased in frequency in some areas of the state in recent decades.

Despite overall recent trends of decreasing drought risk, long term projections of future climate in the region suggest a reversal in the future associated with warming temperatures, greater rates of evapotranspiration, more erratic precipitation, and lower soil moisture levels during the warm season. In particular, shorter-duration seasonal droughts are expected to worsen during the summer, even though overall annual precipitation rates may increase.

NOAA's National Integrated Drought Information System (NIDIS) launched the Midwest Drought Early Warning System (DEWS) in response to the 2012 drought, which highlighted the need for additional drought early warning and preparedness in the region. The Midwest DEWS is a network of regional and national partners that share information and coordinate actions to help communities in the region cope with drought.

Reach out to [Molly Woloszyn](#), the Regional Drought Coordinator for this region, for more information, or [sign up](#) for the Midwest DEWS newsletter.

MIDWEST DEWS

GET EMAIL UPDATES

Michigan State Drought Resources

State Drought & Hazard Mitigation Plans:

[Michigan Emergency Management Plan: Drought Annex \(2022\)](#)

[Michigan Hazard Mitigation Plan \(2019\)](#)

State Climate Office:

[Office of the Michigan State Climatologist](#)

Customize & Download Map Images



Choose data layer: toggle back and forth between maps while maintaining zoom extent

Adjust layer transparency & change the basemap

Overlay the latest U.S. Drought Monitor

Overlay geographic boundary lines for states, counties, & tribal land areas

Download a high-quality PNG image

The screenshot displays the Drought.gov web application interface. On the left is a control panel with the following sections:

- Current Data Layer:** A dropdown menu set to "28-Day Average Streamflow".
- Show Map Description:** An unchecked checkbox.
- Layer Transparency:** A slider control ranging from 0 to 100.
- Background Layer:** A dropdown menu set to "Labels Only".
- Overlay Current U.S. Drought Monitor:** A dropdown menu set to "Do not display".
- USD M Transparency:** A slider control ranging from 0% to 100%.
- Border Outlines:** Three checkboxes: "Show Tribal Nation Lines" (unchecked), "Show State Lines" (checked), and "Show County Lines" (unchecked).
- Display Multiple Regions:** Two checkboxes: "Show Alaska map area" (unchecked) and "Show Hawaii map area" (unchecked).
- SAVE MAP** button with a download icon.
- [Learn more about these data](#) link.

The main map area is titled "28-Day Average Streamflow" and shows a map of the central United States (Iowa, Missouri, Kentucky) with numerous colored circular markers representing streamflow data points. Major cities like Chicago, Des Moines, Springfield, and Louisville are labeled. The map includes a zoom control in the top-left corner. Logos for NOAA, NIDIS, and USGS are in the top-right corner of the map area.

Below the map is a "Streamflow Conditions" legend with two horizontal color bars:

- The top bar shows four categories: "Low" (red), "Much Below" (dark red), "Below" (orange), and "Normal" (green).
- The bottom bar shows four categories: "Above" (light blue), "Much Above" (dark blue), "High" (black), and "Not Ranked" (white).

At the bottom of the interface, it states: "Source(s): U.S. Geological Survey" and "Data Valid: 08/16/24". The "Drought.gov" logo is in the bottom-right corner.

New NWS Heat & Flash Drought Maps



National Weather Service Heat Advisories, Warnings, & Watches



National Weather Service Heat Warnings

- Excessive Heat Watch
- Excessive Heat Warning

Source(s): National Weather Service
Data Valid: 08/15/24

[Drought.gov](https://drought.gov)

Official NOAA Rapid Onset Drought Outlook

2-4 Week Outlook



Legend

2-4 Week Hazard Outlook

- Rapid Onset Drought

[About](#) +

[Updates](#) +

- Temperature
- Flash Drought
- Agriculture
- Hazard Planning

LAST UPDATED: 08/15/24

[LEARN MORE](#)

Official NOAA Heat Hazard Outlooks

Day 3-7 Outlook

Day 8-14 Outlook



Legend

Hazard Outlook for Days 3-7

- Hazardous Heat

[About](#) +

[Updates](#) +

- Temperature
- Flash Drought
- Agriculture
- Hazard Planning

DATA VALID: 08/18/24-08/22/24
DATA VALID: 08/15/24

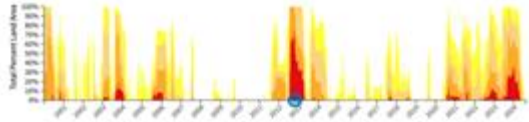
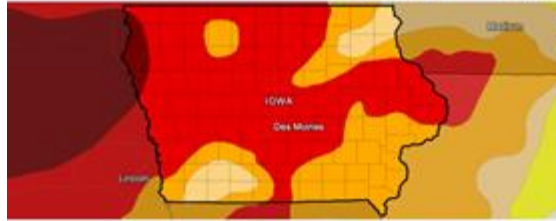
[LEARN MORE](#)

[Learn more about these data](#)

Drought.gov Historical Conditions Tool



U.S. Drought Monitor for Iowa



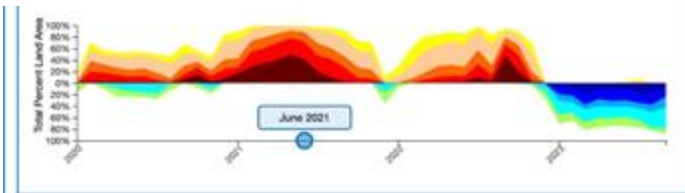
Map Valid: Oct 23, 2012

U.S. Drought Monitor Category



Total Area in Drought (D1-D4)
100.02%

ria



9-Month Standardized Precipitation Index (SPI)



The **Historical Data & Conditions Tool** allows users to compare 3 historical drought datasets side by side on an interactive map + timeseries: U.S. Drought Monitor, 9-Month SPI, and paleoclimate data.

- View data by state or county or a custom region
- Hover over the timeseries for statistics to easily compare drought conditions over time
- Use the interactive legend to view context for what each “drought” or “wet” category means
- Download high-quality images or data files

Choose data layer: Select a tab to view 3 historical drought datasets

Click on a state or county to load state historical data. Shift+click to select multiple states/counties.

Click a point on the time series to update the map and statistics. Or, hover over the time series to view quick statistics as you scan.

Use the “Time Series Options” to zoom in on a time period, show or hide the date label and hoverable statistics, or isolate a specific drought category on the time series.

Use the “Combine States” and “Combine Counties” sections to select multiple regions for a custom map/time series.

Hover over the legend and select “About This Dataset” to view more info on the data.

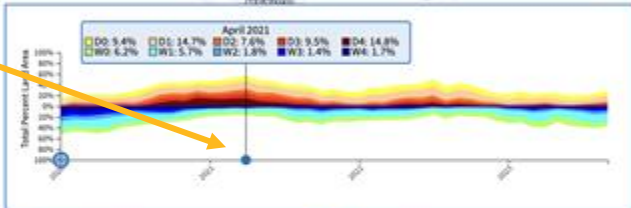
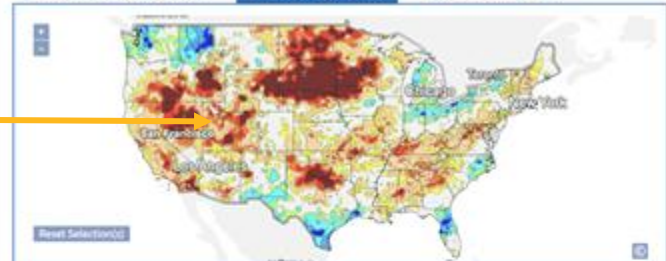
Download an image or a CSV, XML, or JSON file. Or embed the tool in your own website.

Explore Historical Drought Conditions

U.S. Drought Monitor (2000 - Present)

9-Month SPI (1895 - Present)

Paleoclimate Data (0 - 2017)



Time Series Options

Time Period (Years): 2020 to 2023

UPDATE GRAPH

RESET GRAPH

Show Date Label

Show Data on Hover

Show Category: All

Combine States

Combine Counties

Map Legend

9-Month Standardized Precipitation Index % of U.S. (SPI)

W4 - Exceptionally Wet	0.1%
W3 - Extremely Wet	0.5%
W2 - Severely Wet	1.5%
W1 - Moderately Wet	5.2%
W0 - Abnormally Wet	5.3%
D0 - Abnormally Dry	13.1%
D1 - Moderate Drought	20.1%
D2 - Severe Drought	8.3%
D3 - Extreme Drought	5.3%
D4 - Exceptional Drought	7.5%
No Data Available	0%

About This Dataset

SOURCES: NOAA's National Centers for Environmental Information
LATEST AVAILABLE DATA: 2023-09-02

IMAGE

SPREADSHEET

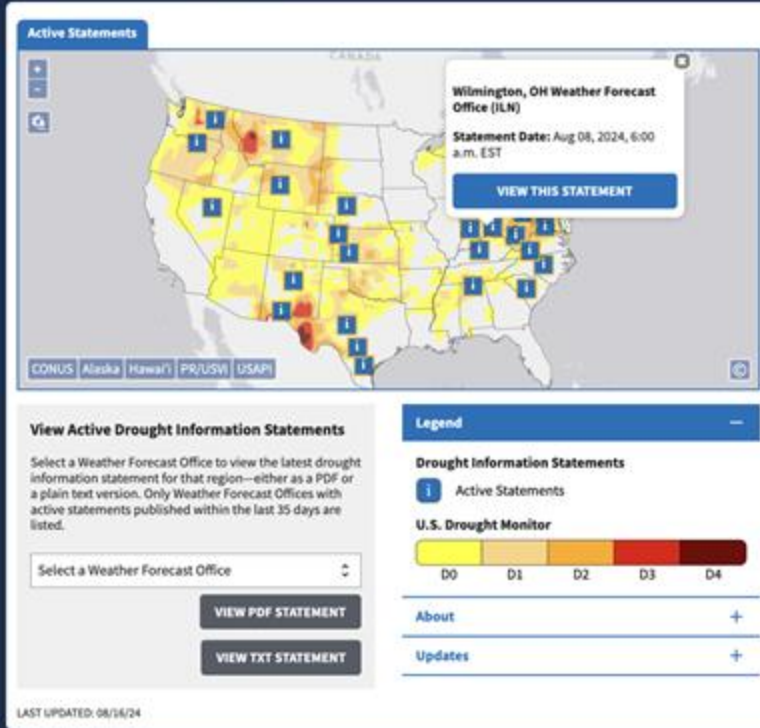
EMBED

ALL DOWNLOADS

NWS Drought Information Statements



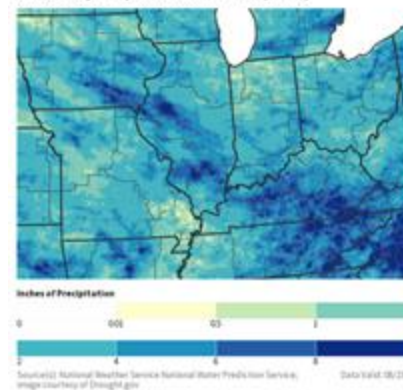
Drought Information Statements



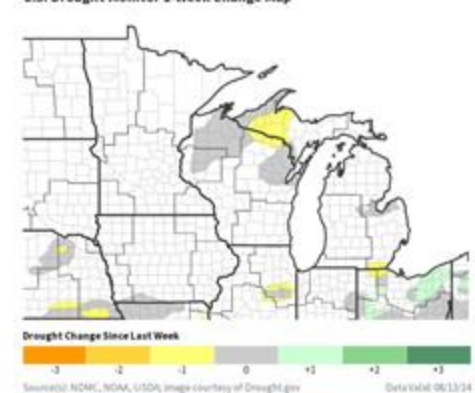
LAST UPDATED: 08/14/24

- NIDIS & NCEI partnered with NWS on the modernized drought information statements
- Custom map images with WFO boundaries, which update automatically
- Interactive map of active Drought Information Statements on Drought.gov issued within last 35 days

NWPS 30-Day Precipitation Accumulations (inches)



U.S. Drought Monitor 1-Week Change Map



Regional Drought Status Updates



DROUGHT STATUS UPDATE July 25, 2024

Drought Status Update for the Midwest

DEWS Regions: Midwest
States: Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio, Wisconsin
Update Status: NIDIS and partners will issue future Drought Status Updates as conditions evolve.

Share This Update

Minimal Drought Across the Midwest, but Hot and Dry Weather Expands Drought in Ohio and Kentucky

Key Points

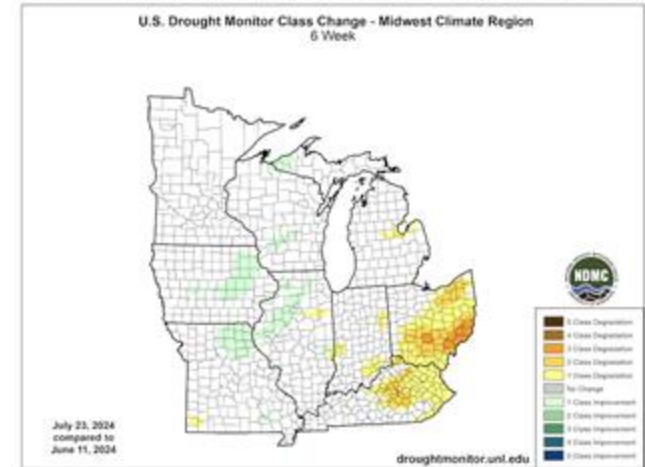
- According to the U.S. Drought Monitor, **only 4% of the Midwest region is in drought** (Moderate to Severe Drought [D1-D2]), with an additional 7% considered Abnormally Dry [D0].
- Spring and early summer rainfall completely alleviated drought concerns across the Midwest; the region was drought-free on the June 11 U.S. Drought Monitor. However, the reprieve was short-lived as extreme heat and below-normal rainfall drove the **expansion of drought in Ohio and Kentucky over the last 5 weeks.**

Current Conditions for the Midwest

- According to the U.S. Drought Monitor, only 4% of the Midwest region is in drought (Moderate to Severe Drought [D1-D2]), with an additional 7% considered Abnormally Dry [D0].
- Spring and early summer rainfall helped completely alleviate drought concerns across the Midwest; the region was drought free on the June 11 U.S. Drought Monitor. However, the reprieve was short-lived as extreme heat and below-normal rainfall drove the expansion of drought in Ohio and Kentucky over the last 6 weeks (Figure 1).
- Portions of the Ohio River Basin (Ohio, Kentucky) have received only 25%–75% of normal precipitation since June 11 (Figure 2). On the other hand, much of Minnesota, Iowa, Missouri, Wisconsin, and Michigan, received above-normal precipitation since mid-June.
- The 13-week U.S. Drought Monitor change map shows the extreme contrast between western portions of the region (improvement) versus the eastern portions of the region (degradation) since late April (Figure 3).

Figure 1: 6-Week U.S. Drought Monitor Change Map (Since June 11, 2024)

Key Takeaway: In just 6 weeks, drought worsened by one to three categories on the U.S. Drought Monitor in portions of Ohio and Kentucky.



6-week U.S. Drought Monitor change map, showing where drought has improved (green), is unchanged (gray), or has worsened (yellow to orange) from June 11–July 23, 2024. Source: National Drought Mitigation Center (7).

Sign up for Midwest DEWS Emails:



Thank You

For more information, email kelsey.satalino@noaa.gov or drought.portal@noaa.gov

Sign up for Midwest DEWS emails: drought.gov/drought-alerts/signup



@NOAADrought

