



# **Building a Drought & Water Dashboard for the Mississippi River Valley**

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NOAA/NIDIS, Meredith Muth, NOAA/NIDIS**

**Midwest DEWS Partners Meeting, August 20, 2024**

## Salt water threatens Louisiana drinking water supply amid Mississippi River drought

Severe Weather and Low Mississippi River Levels Bring Uncertainty to Harvest



Mississippi River drought strands boats in mud



**Shrunken Mississippi River Slows US Food Exports When World Needs Them Most**

**'Worst time possible': Mississippi River drought disrupts key commerce, strands cruise ship passengers**

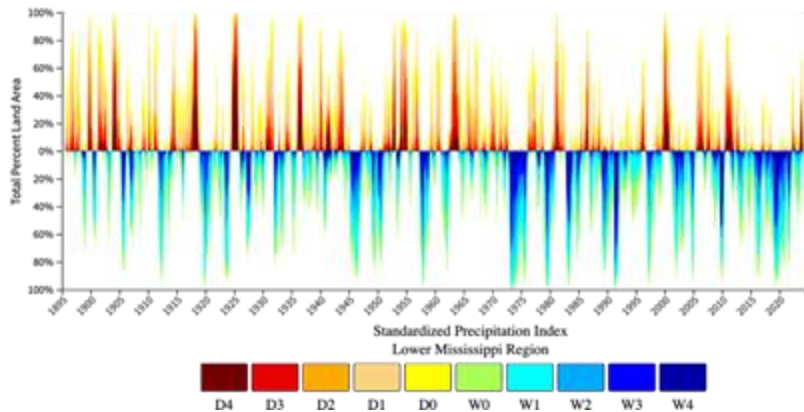
**Low Mississippi River limits barges just as farmers want to move their crops downriver**

Historic low water levels on Mississippi River stymie commercial barge traffic in Arkansas

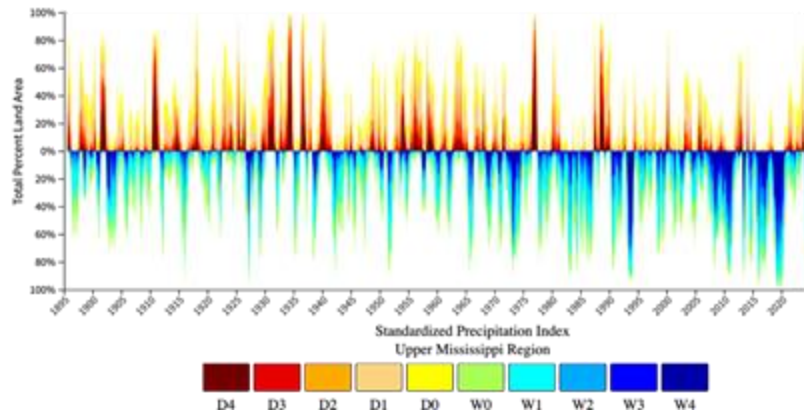
# Drought Affects the Entire Basin, But Differs by Sub-Basin



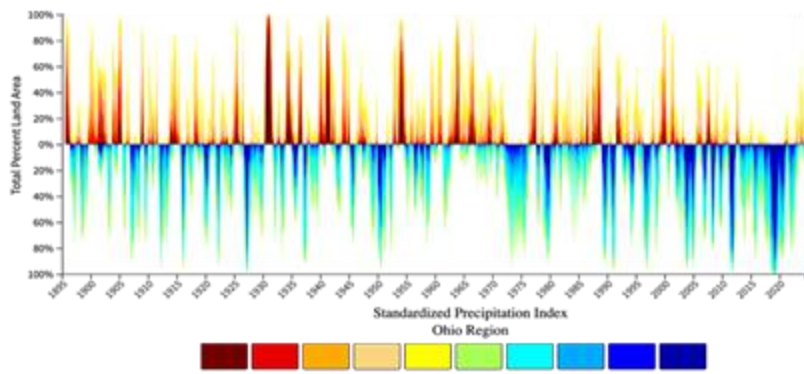
Lower MS River Basin



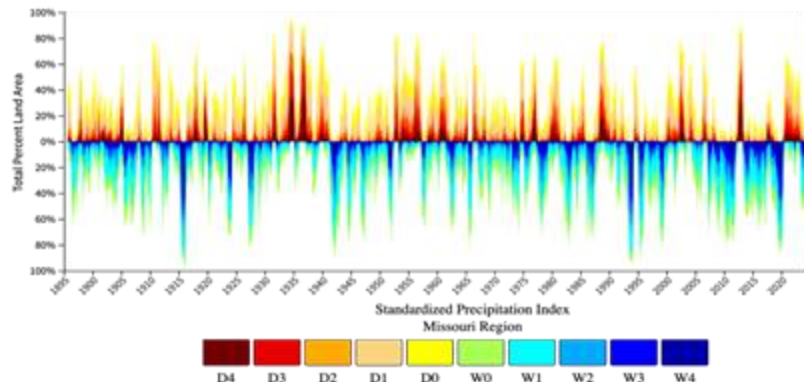
Upper MS River Basin



Missouri River Basin



Ohio River Basin

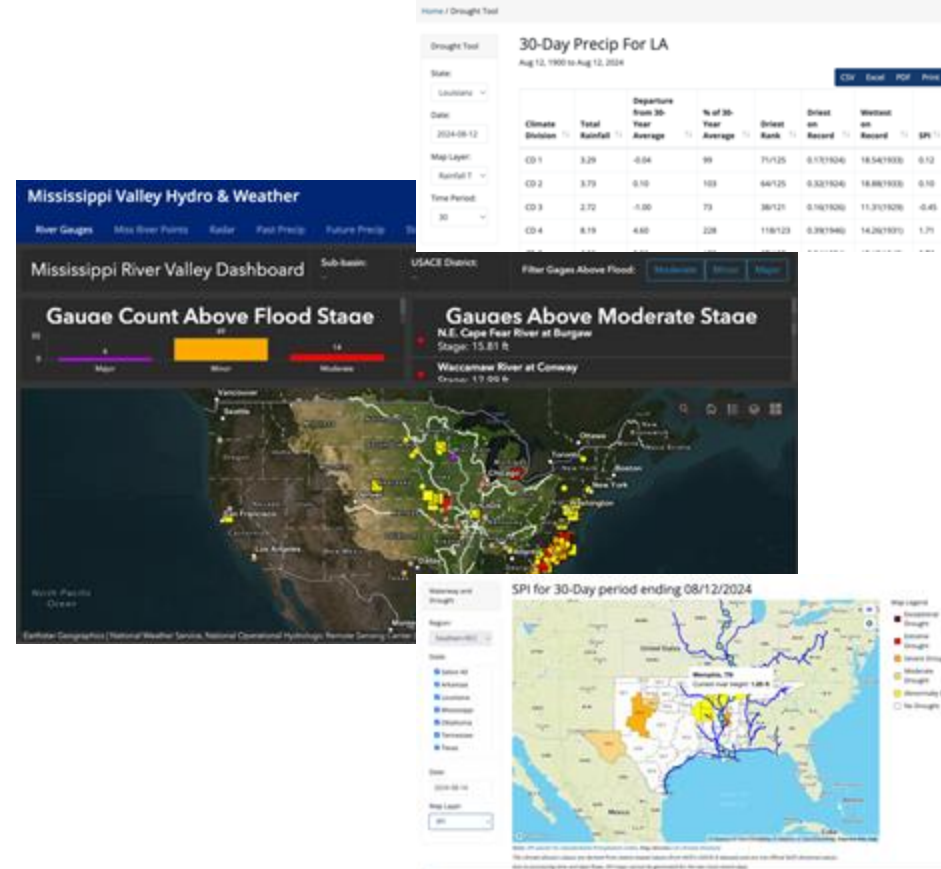


# Filling a Gap in Existing Information



## Needs We've Heard:

- Ability to zoom in on specific parts of the basin
- Incorporate both hydrological and climate data
- Ability to download & share presentation- and social media-friendly map images
- Provide a plain language primer on water management in the basin, to educate the public on impacts
- Overcome data limitations (e.g., bring in data from sources that don't have a REST API)



# Mississippi River Basin Drought & Water Dashboard



**Vision:** An interactive online platform featuring curated and customized drought information and tools to **support decision-making and communications across the Mississippi Valley.**

## Audiences:

- Water managers
- Federal, state, and local government agencies
- State climate offices
- Private sector (water utilities, agriculture, etc.)
- The media
- General public



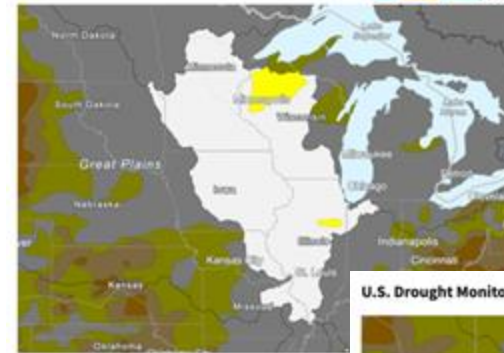
**US Army Corps  
of Engineers®**

# Mississippi River Basin Drought & Water Dashboard



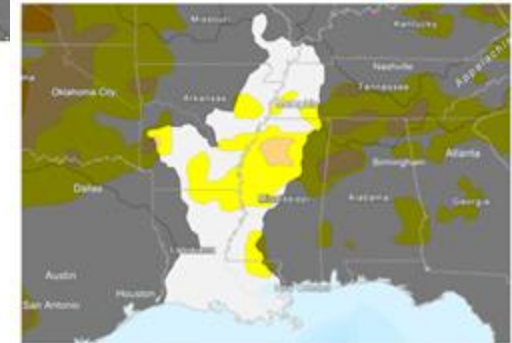
- Modeled after successful ACF and ACT Drought & Water Dashboards.
- User-centric, iterative approach driven by listening sessions with drought information producers and users throughout the Mississippi Valley.
- Real-time maps & statistics spanning historical, current, and future conditions.
- Easy-to-understand & downloadable graphics.
- Educational primer on the nature of drought and water management in the river.

U.S. Drought Monitor



Source(s): NDMC, NOAA, USDA  
Data Valid: 06/06/24

U.S. Drought Monitor



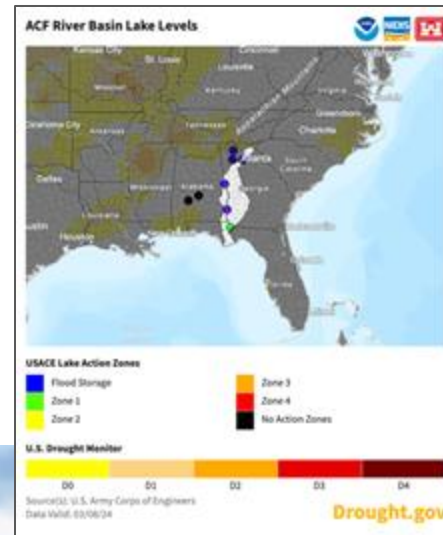
Source(s): NDMC, NOAA, USDA  
Data Valid: 06/06/24

% of Lower Mississippi Region	
D0 - Abnormally Dry	29.63%
D1 - Moderate Drought	2.89%
D2 - Severe Drought	0%
D3 - Extreme Drought	0%
D4 - Exceptional Drought	0%
Total Area in Drought (D1-D4)	2.89%

# The ACF River Basin Drought and Water Dashboard



The screenshot shows the NOAA NIDIS Drought.gov website. The header includes the NOAA and NIDIS logos, the text "Drought.gov National Integrated Drought Information System", and a search bar with social media icons. A navigation menu lists "Data and Maps", "By Sector", "By Location", "Research and Learn", "About", and "News and Events". The main content area features the title "Apalachicola-Chattahoochee-Flint (ACF) River Basin Drought & Water Dashboard" and a sub-header "ACF DROUGHT & WATER DASHBOARD". Below this is a call to action: "Explore timely and reliable information on past, present, and future drought conditions to increase drought early warning capacity and support decision making across the ACF Basin." At the bottom of the dashboard are links for "ACF Dashboard Home", "ACF Maps & Data", "Story Map", and "Additional Resources".



**0%**  
of USGS streamgages in the ACF Basin have below-normal 28-day average streamflow (updates Thursdays)

**14**  
counties in the ACF Basin are designated in drought by the USDA

— 0 since last week  
— 0 since last month

**53rd**  
driest February on record, over the past 130 years

↓ 0.13 inches from normal

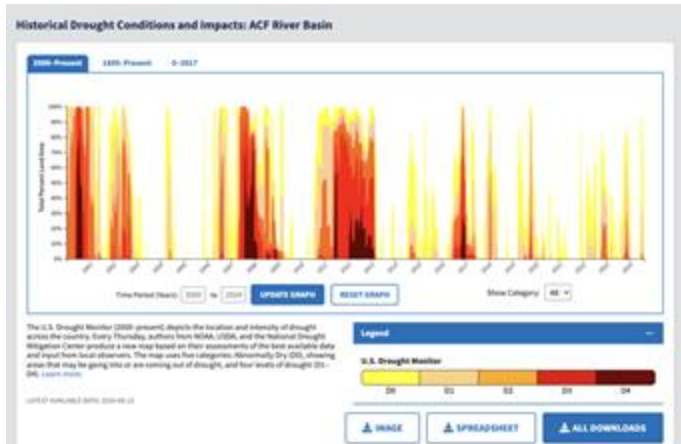
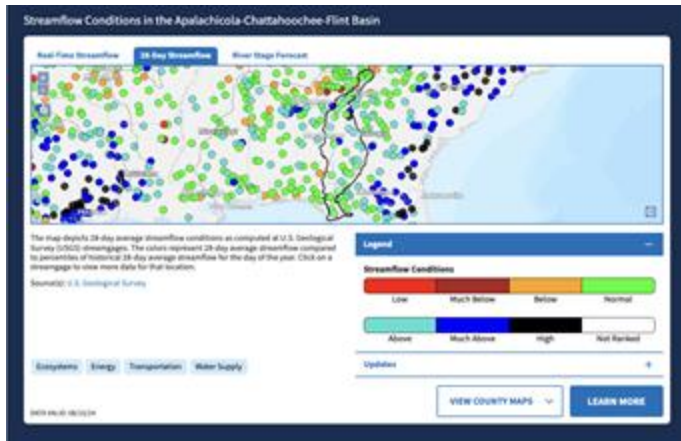
**40th**  
wettest year to date over the past 130 years (January-February 2024)

↑ 0.64 inches from normal

## Drought in the ACF River Basin

This Story Map was launched in January 2022 as part of the ACF Drought & Water Dashboard, developed in close collaboration with the states of Alabama, Florida, and Georgia, the U.S. Army Corps of Engineers, NOAA's National Integrated Drought Information System and National Centers for Environmental Information, and other partners.

# The ACF River Basin Drought and Water Dashboard



## Alabama Resources and Contacts



**Alabama Drought Planning and Management, Alabama Department of Economic and Community Affairs (ADECA), Office of Water Resources**  
Provides a comprehensive overview of Alabama's Drought Planning and Response Act, Drought Management Plan and Regions, Drought Data Portal, and current Drought Declarations.

**Alabama Office of the State Climatologist**

**Alabama Groundwater Assessment Program, Geological Survey of Alabama**  
Includes real-time monitoring network of wells.

**Alabama Drought Reach**, a program that is improving drought communications and drought impact monitoring in Alabama.

**Drought.gov Alabama State Page**

Provides state-level and media-friendly information on current and historical conditions. You can also access county- and local-level drought information.

## Florida Resources and Contacts

**Northwest Florida Water Management District**  
Provides a broad range of information on water supply, water quality, flood protection, and natural system protection.

**Florida Climate Center and State Climatologist**

**Drought.gov Florida State Page**

Provides state-level and media-friendly information on current and historical conditions. You can also access county- and local-level drought information.



## Georgia Resources and Contacts

**Georgia Drought Management, Environmental Protection Division**  
Provides information on the recent Drought Management Rules, withdrawal permits, and Drought Indicators and Triggers reports.

**Office of the Georgia State Climatologist**

**Current Drought Status for Metropolitan North Georgia Water Planning District**

**Georgia Drought Water Conservation Plan**

**Georgia Drought Management Rules**

**Georgia Drought Monitoring Reports**

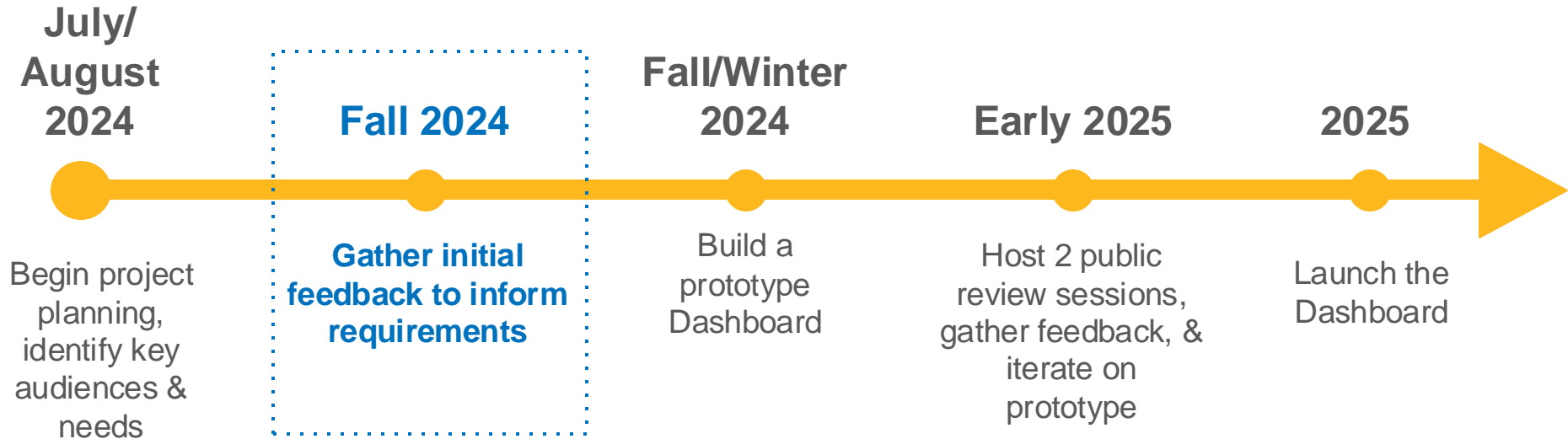
**Drought.gov Georgia State Page**

Provides state-level and media-friendly information on current and historical conditions. You can also access county- and local-level drought information.





# User-Driven Development Process



# User-Driven Development Process



July/  
August  
2024

Begin project  
planning,  
identify key  
audiences &  
needs

Sign up for Midwest  
DEWS Emails:



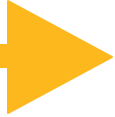
er

Early 2025

Host 2 public  
review sessions,  
gather feedback, &  
iterate on  
prototype

2025

Launch the  
Dashboard



1

What **existing sources of information** (websites, dashboards, products, tools, etc.) do you already use to monitor drought and low-flow in the Mississippi River Basin?

- Current Conditions
- Impacts
- Predictions / Outlooks

2

**What do you do with this information?** How do you use it to inform communications, decision-making, or other uses?

# Thank You

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For more information, email  
[kelsey.satalino@noaa.gov](mailto:kelsey.satalino@noaa.gov)

Sign up for Midwest DEWS emails:  
[drought.gov/drought-alerts/signup](https://drought.gov/drought-alerts/signup)



@NOAADrought

