



Building a Drought & Water Dashboard for the Mississippi River Valley

**Kelsey Satalino Eigsti, Molly Woloszyn, CIRES and
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

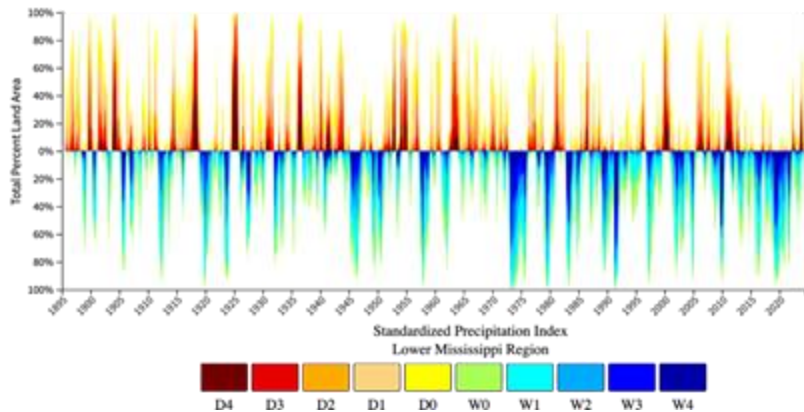
Low Mississippi River limits barges just as farmers want to move their crops downriver

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

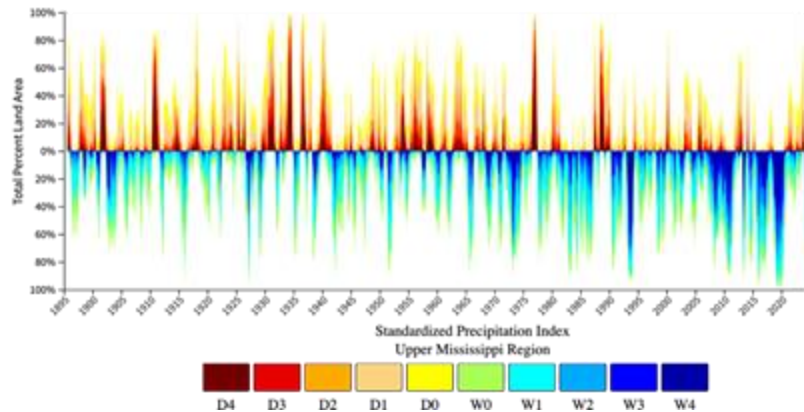
Drought Affects the Entire Basin, But Differs by Sub-Basin



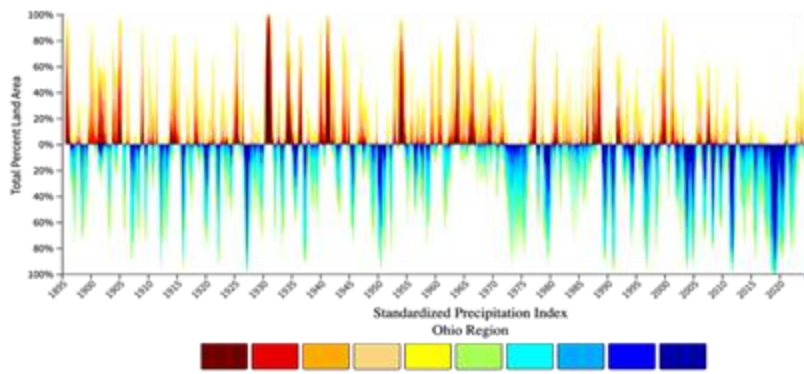
Lower MS River Basin



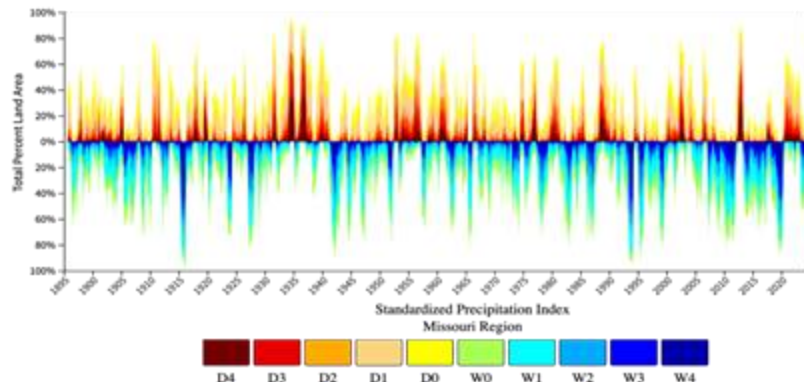
Upper MS River Basin



Missouri River Basin



Ohio River Basin

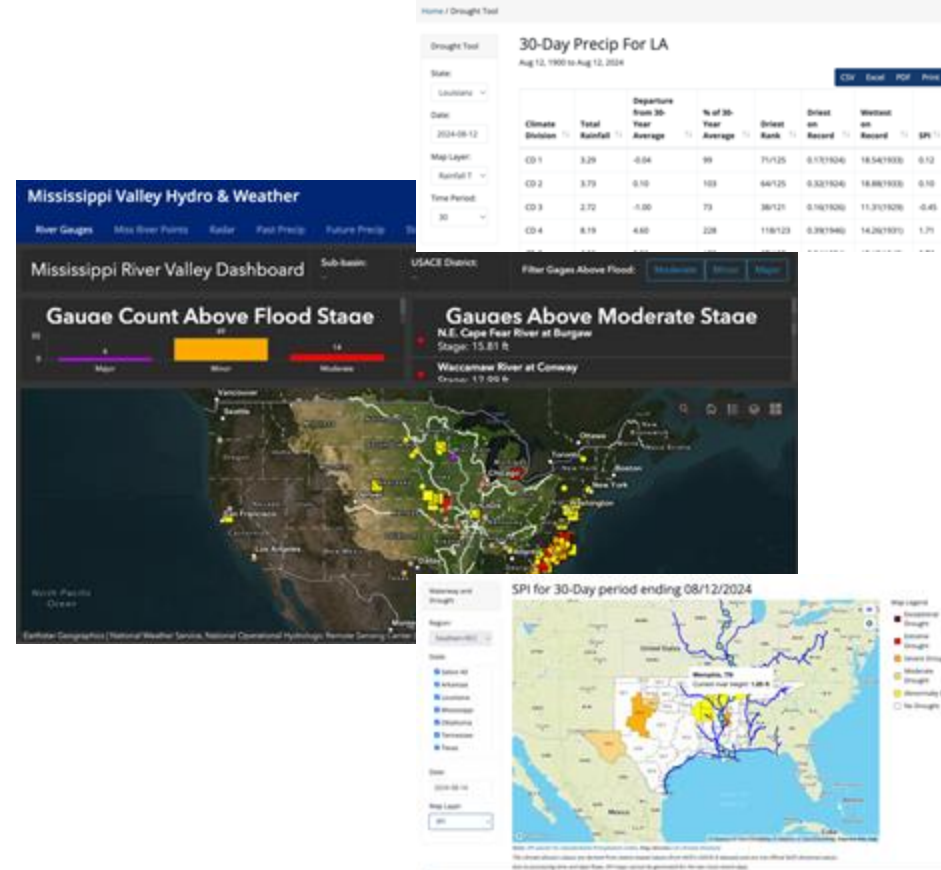


Filling a Gap in Existing Information



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)



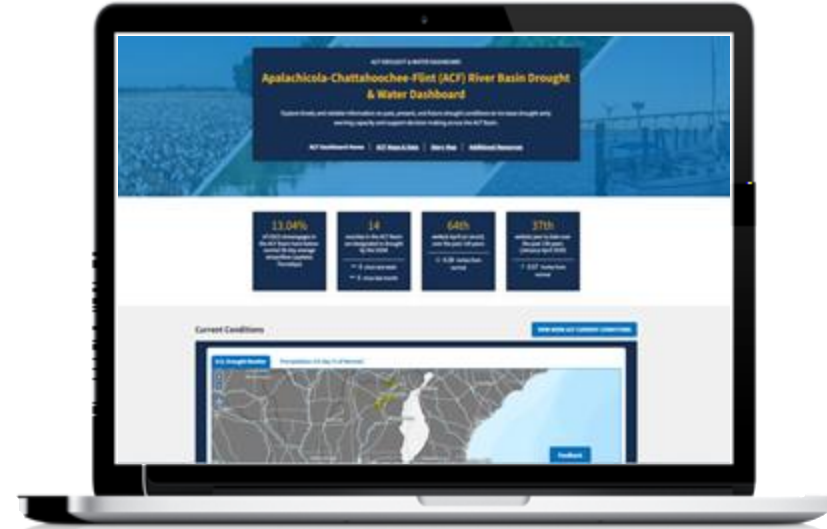
Mississippi River Basin Drought & Water Dashboard



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



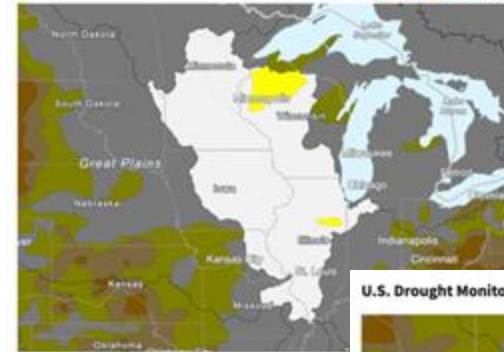
**US Army Corps
of Engineers®**

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



Drought.gov
National Integrated Drought Information System

Search [] [] [] []

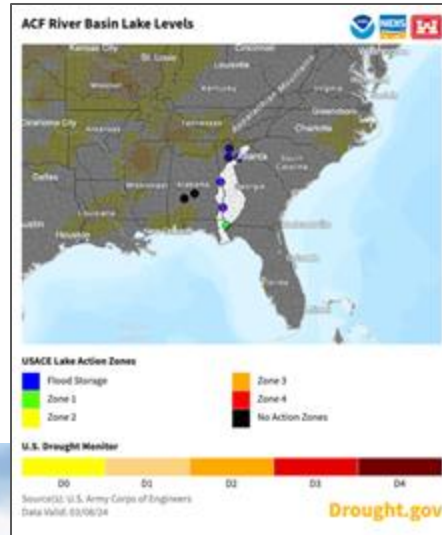
Data and Maps | By Sector | By Location | Research and Learn | About | News and Events

ACF DROUGHT & WATER DASHBOARD

Apalachicola-Chattahoochee-Flint (ACF) River Basin Drought & Water Dashboard

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.

[ACF Dashboard Home](#) | [ACF Maps & Data](#) | [Story Map](#) | [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

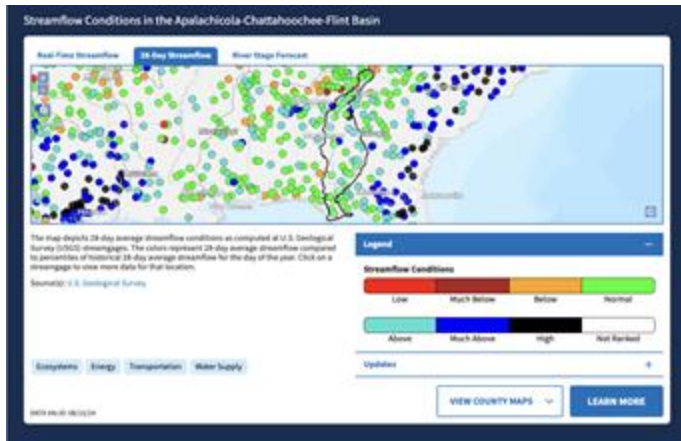
40th
wettest year to date over the past 130 years (January-February 2024)

↑ 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

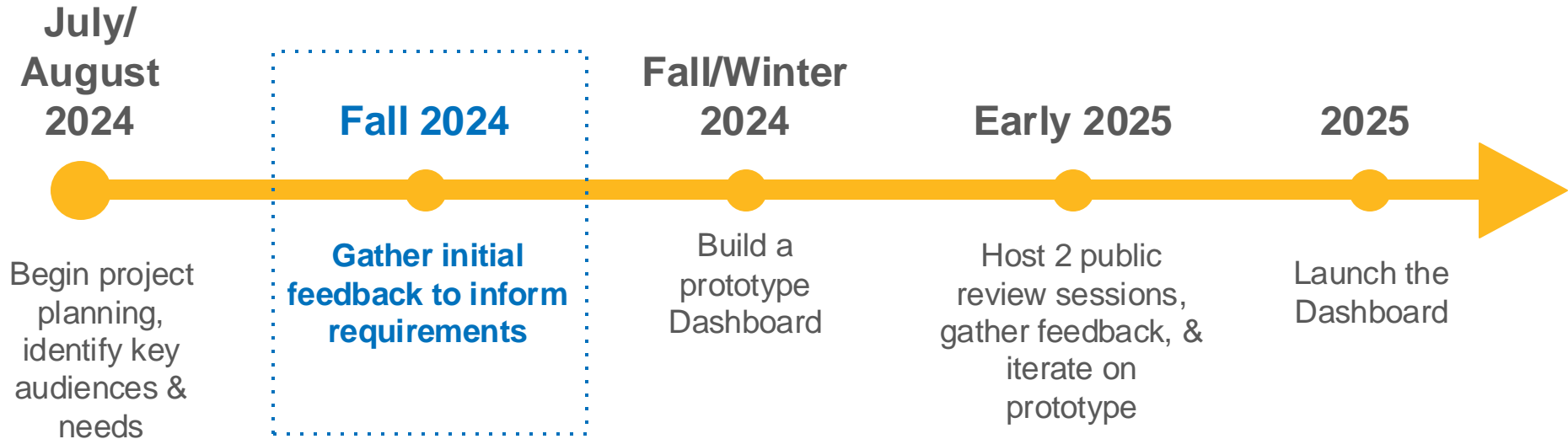
Georgia Drought Monitoring Reports

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:



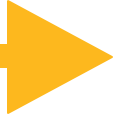
er

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

For more information, email
kelsey.satalino@noaa.gov

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



@NOAADrought

