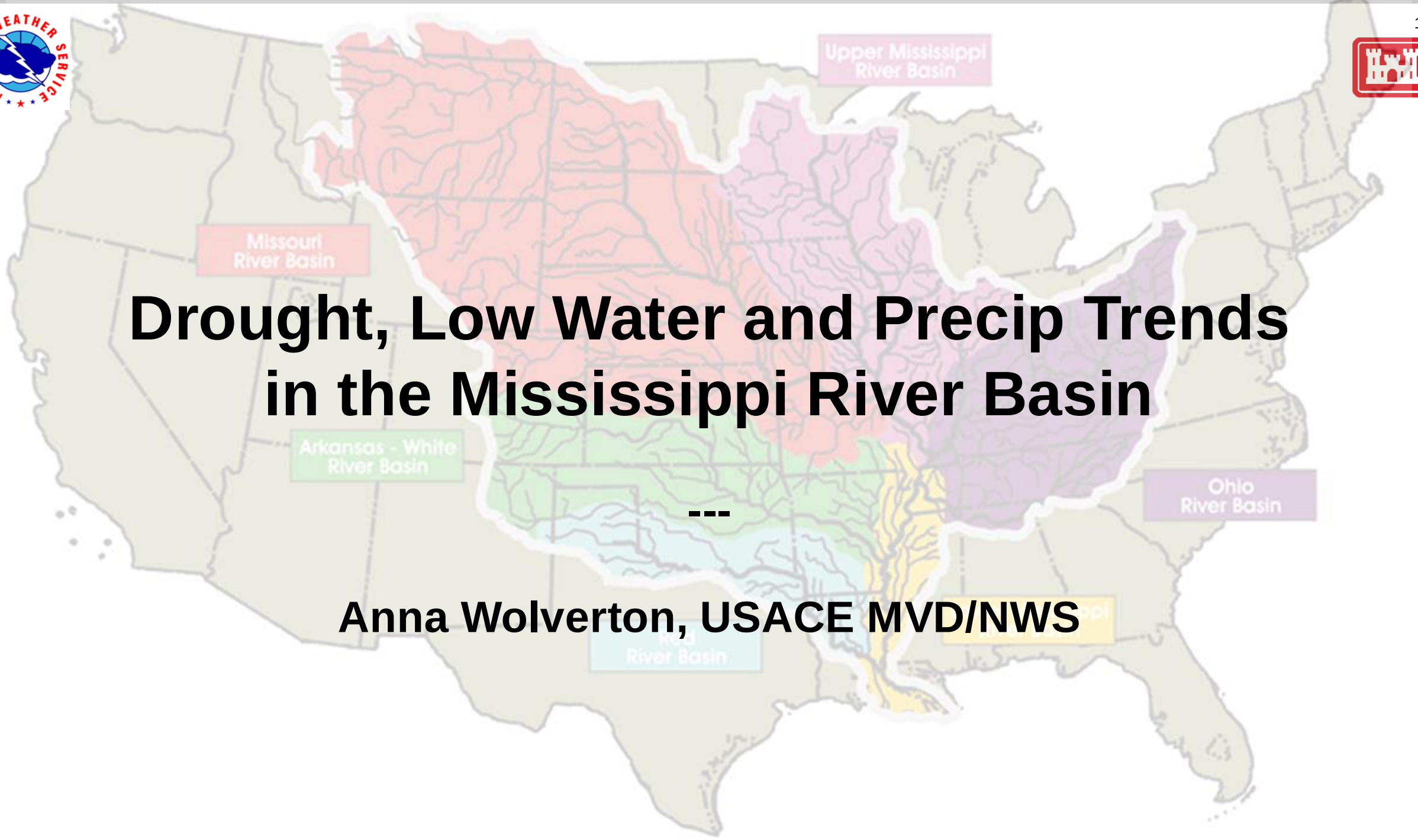

Drought, Low Water and Precip Trends in the Mississippi River Basin

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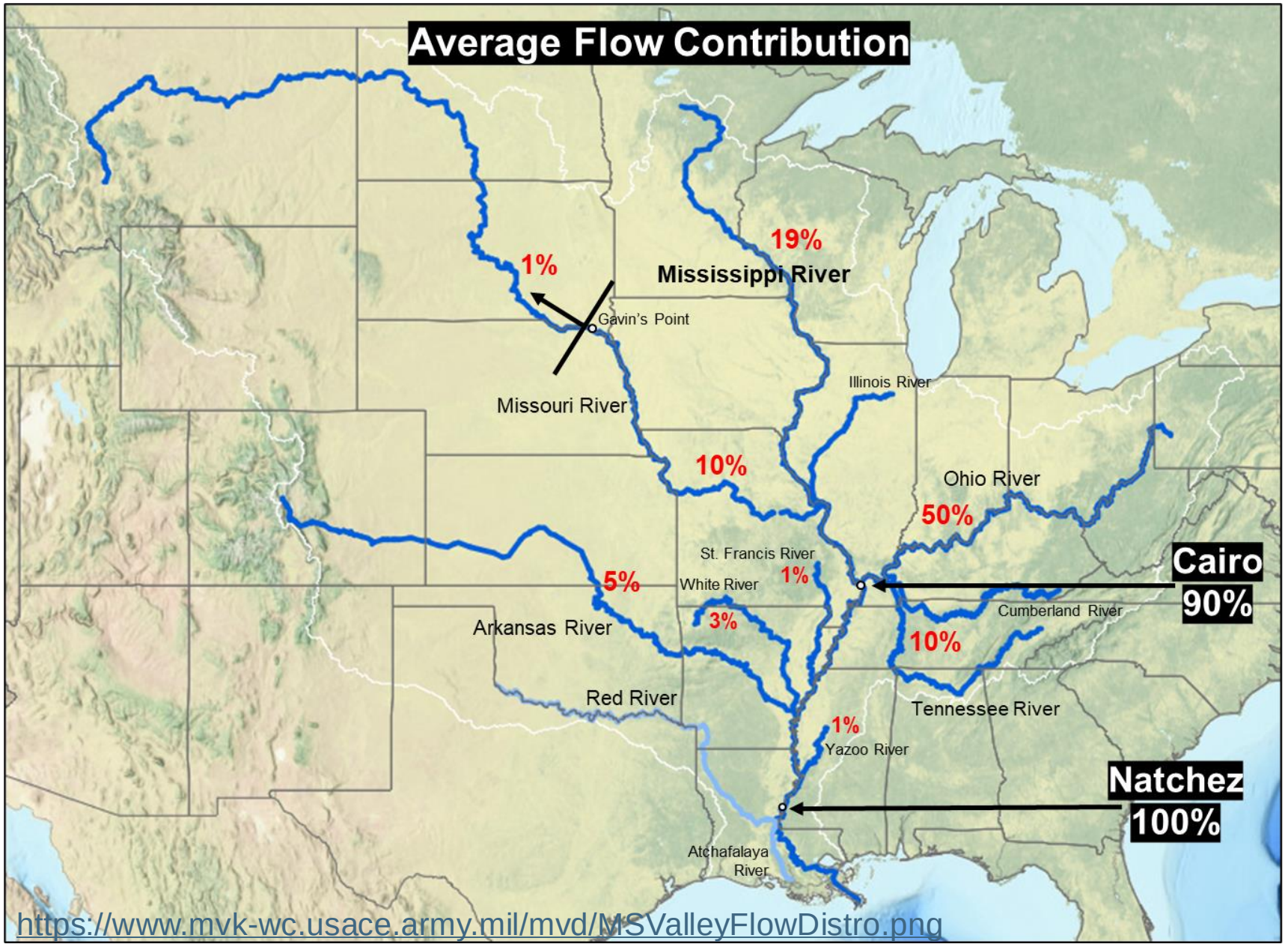
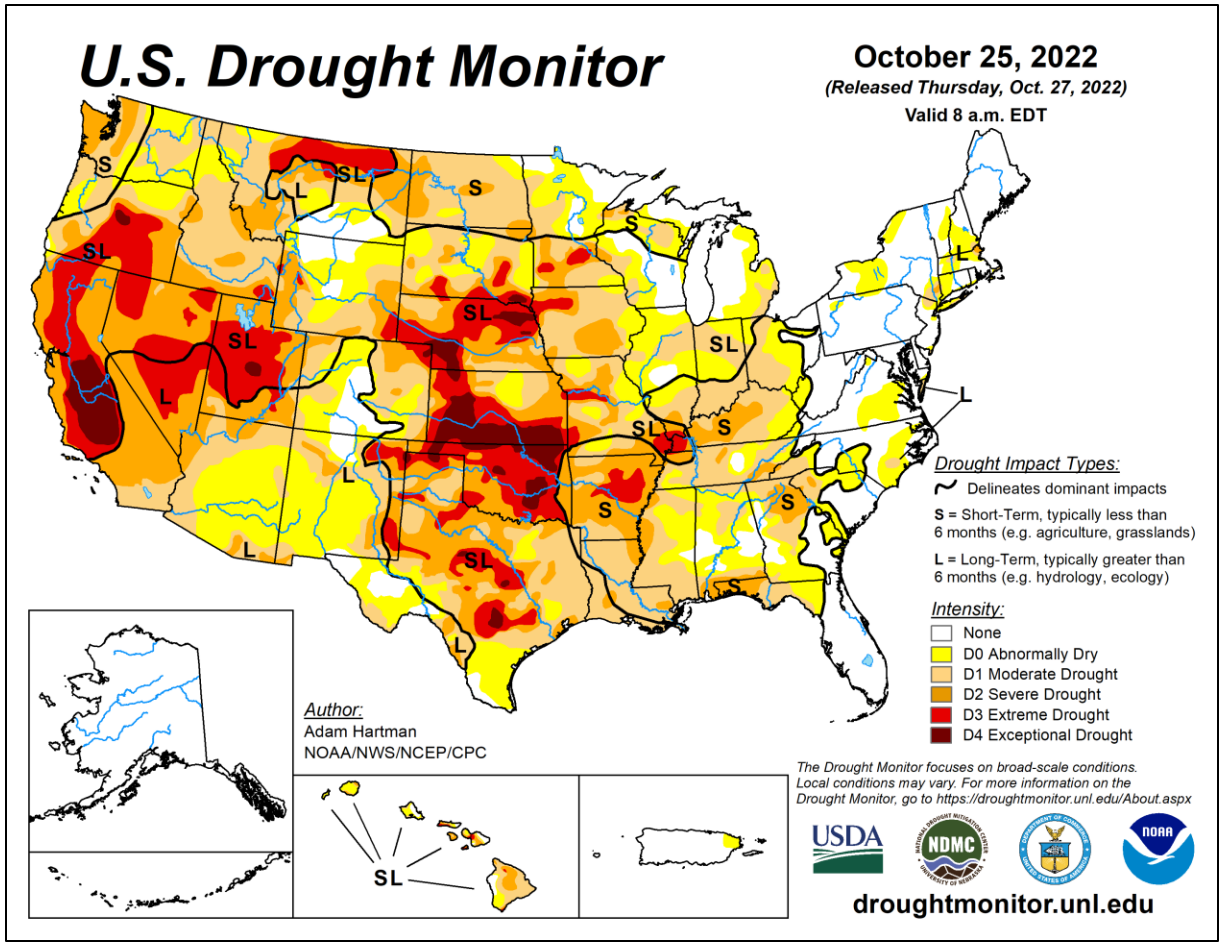
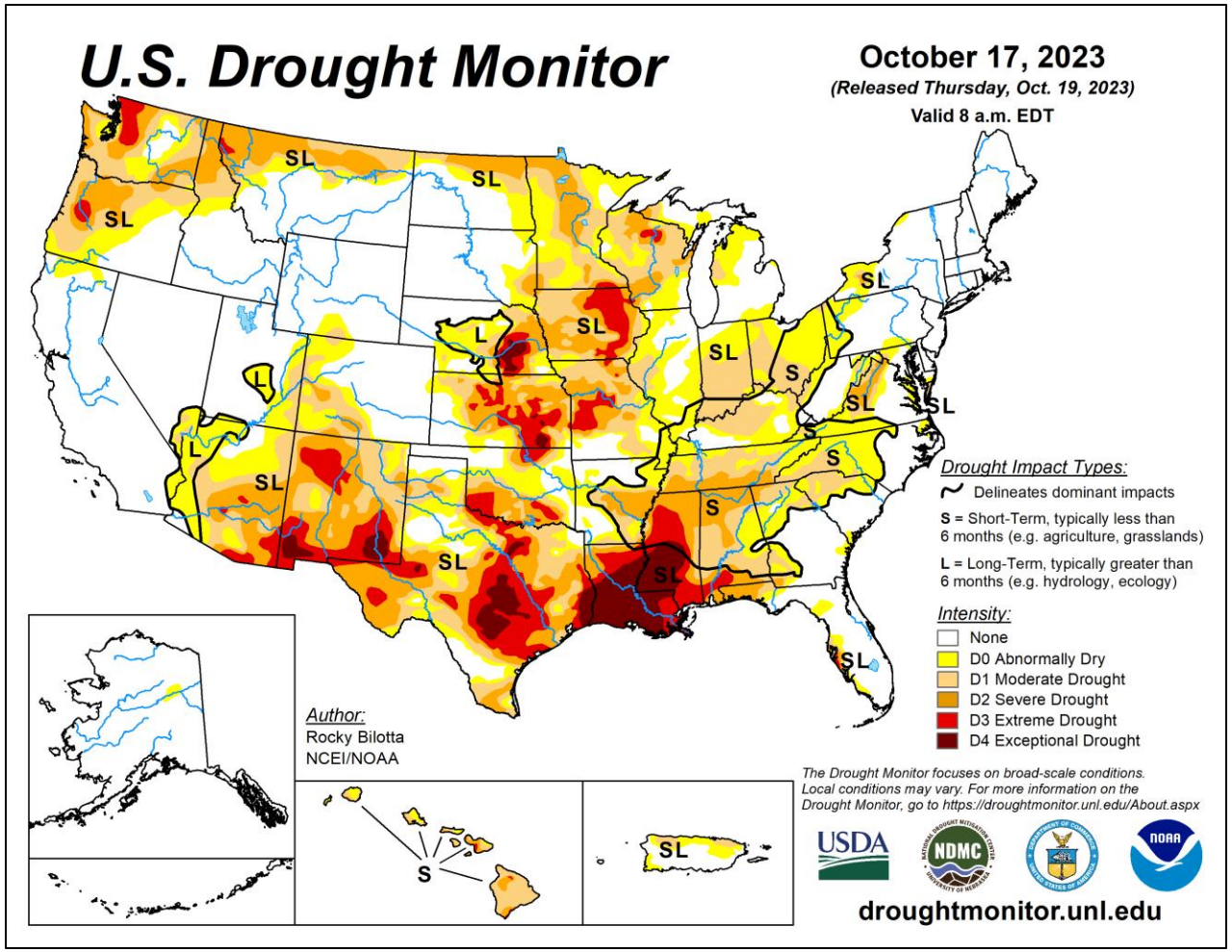
Anna Wolverton, USACE MVD/NWS

MISSISSIPPI RIVER BASIN



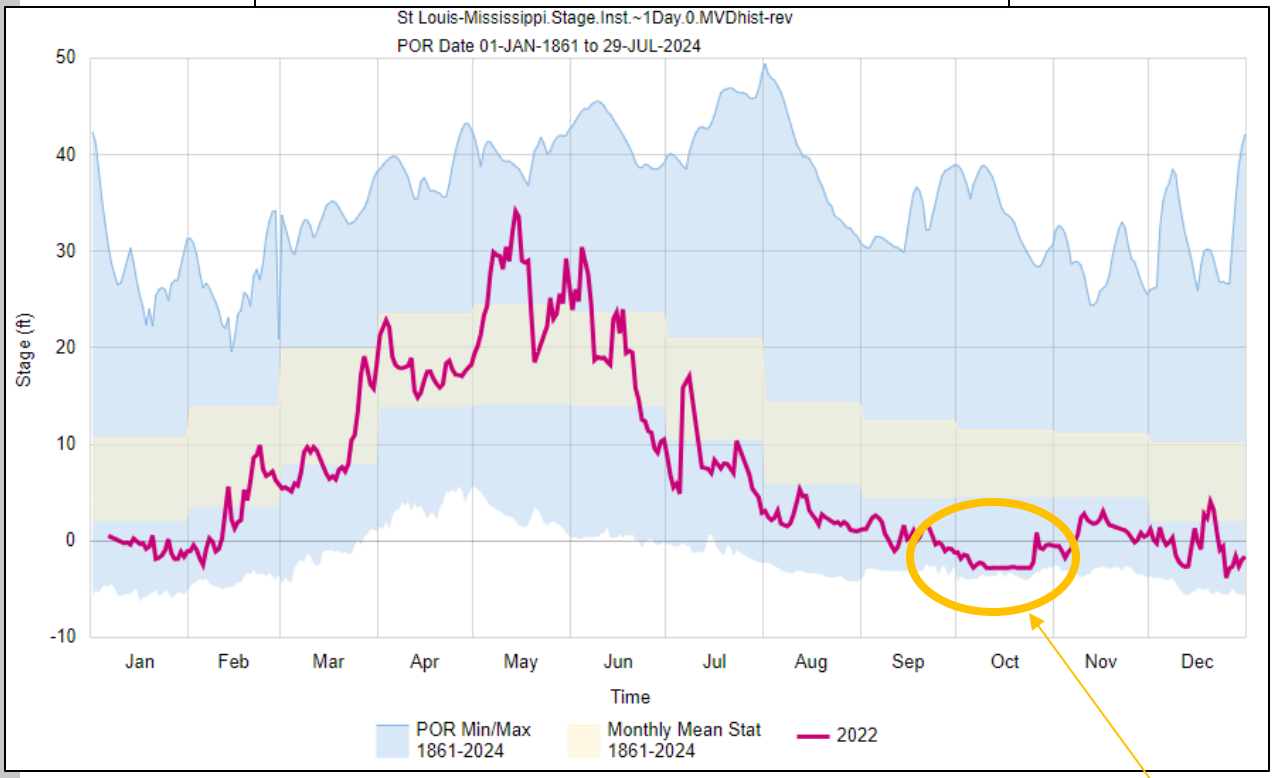
2022 & 2023 PEAK DROUGHT



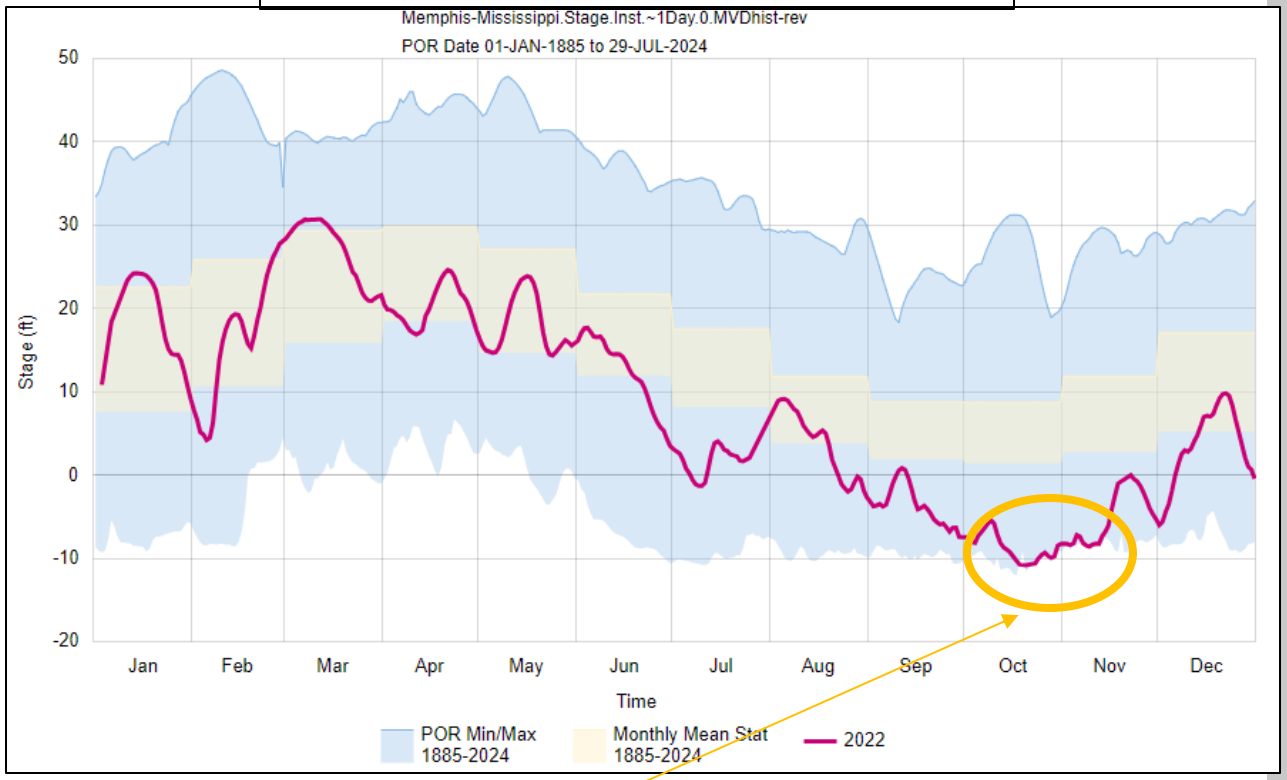


2022 RIVER LEVELS

Mississippi River @ St. Louis



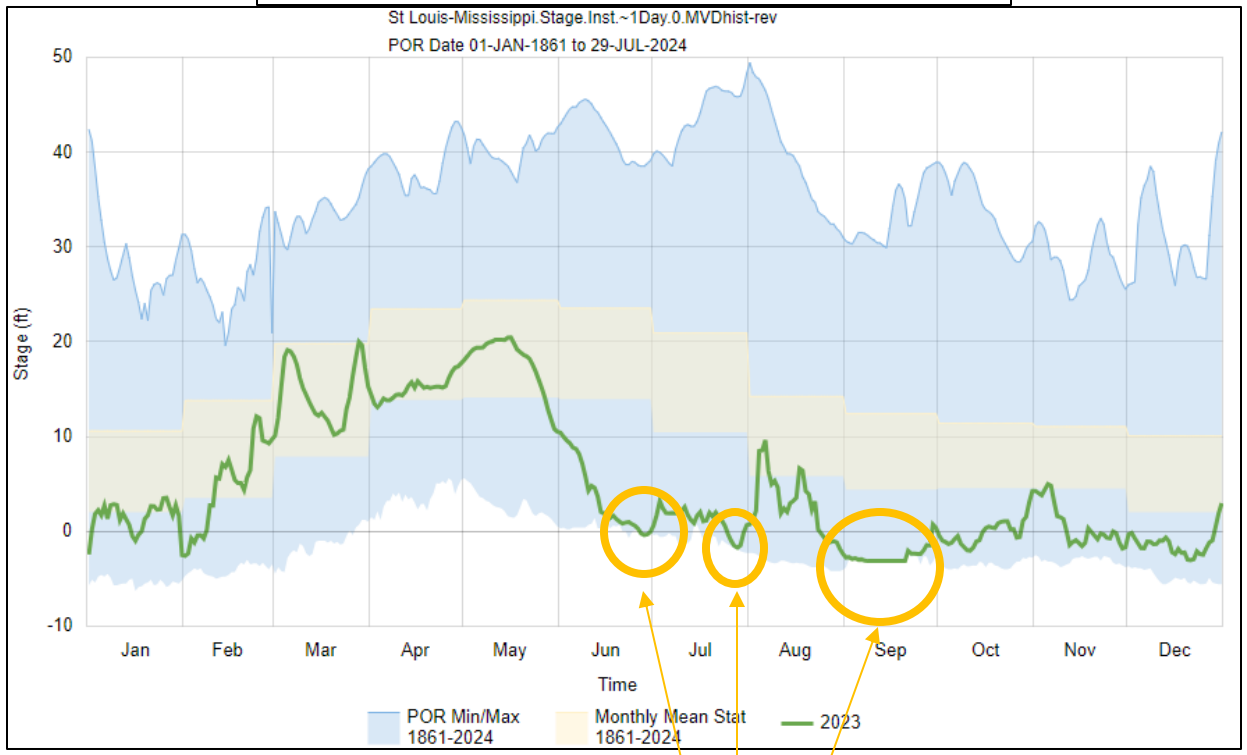
Mississippi River @ Memphis



Record low stages

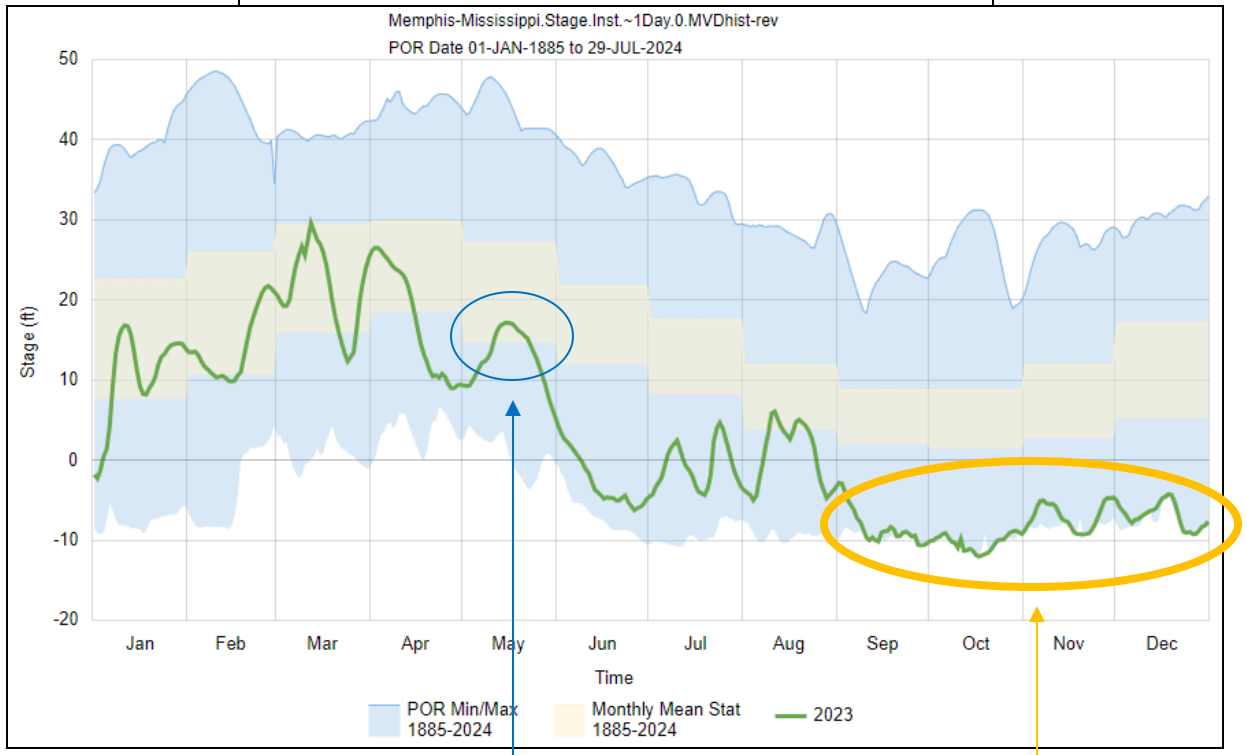
2023 RIVER LEVELS

Mississippi River @ St. Louis



Record low stages

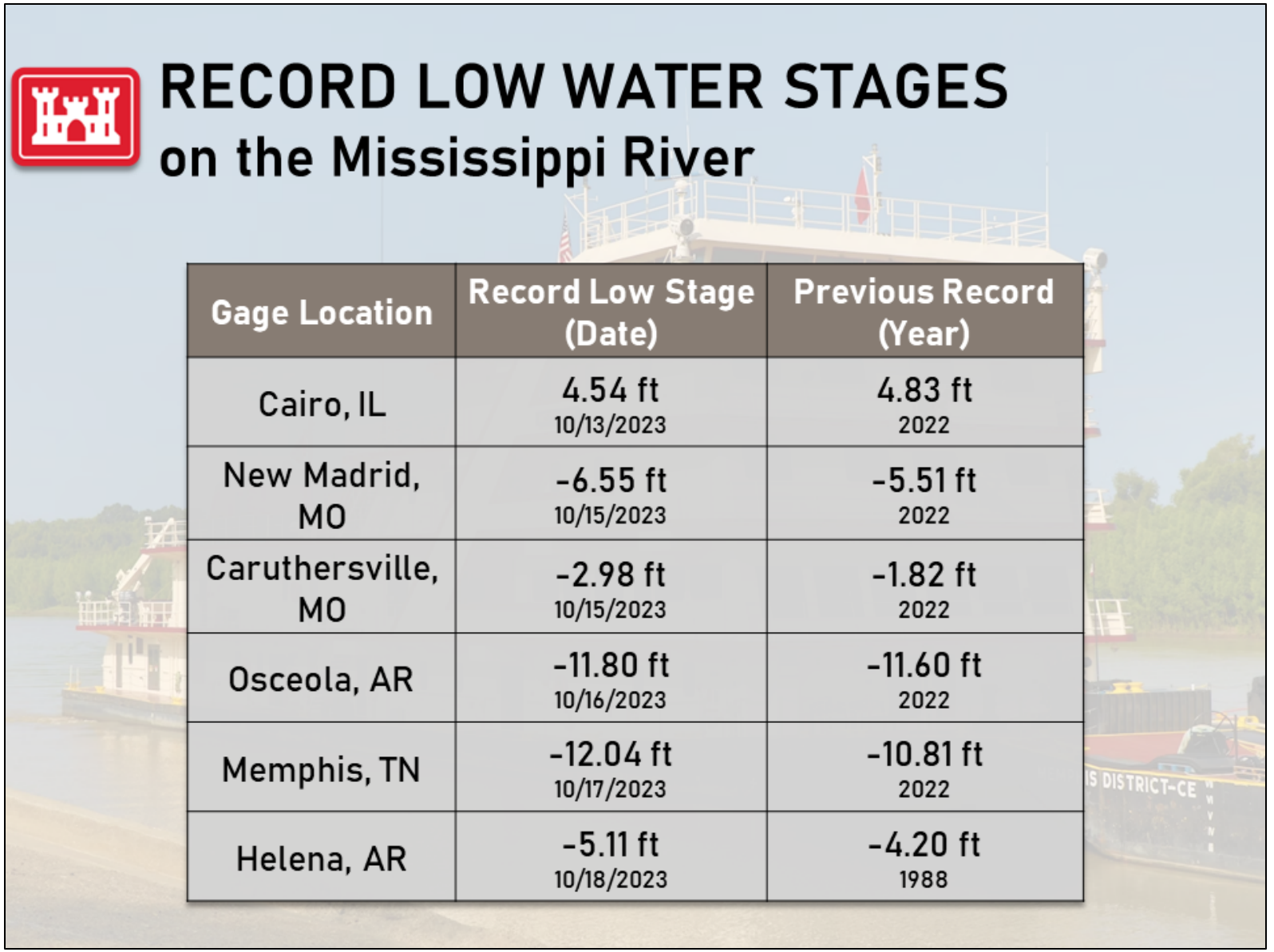
Mississippi River @ Memphis



Rise from Upper Miss snowmelt

Record low stages

2023 RECORDS BROKEN



Gage Location	Record Low Stage (Date)	Previous Record (Year)
Cairo, IL	4.54 ft 10/13/2023	4.83 ft 2022
New Madrid, MO	-6.55 ft 10/15/2023	-5.51 ft 2022
Caruthersville, MO	-2.98 ft 10/15/2023	-1.82 ft 2022
Osceola, AR	-11.80 ft 10/16/2023	-11.60 ft 2022
Memphis, TN	-12.04 ft 10/17/2023	-10.81 ft 2022
Helena, AR	-5.11 ft 10/18/2023	-4.20 ft 1988

IMPACTS TO INDUSTRY

Low flows

↓

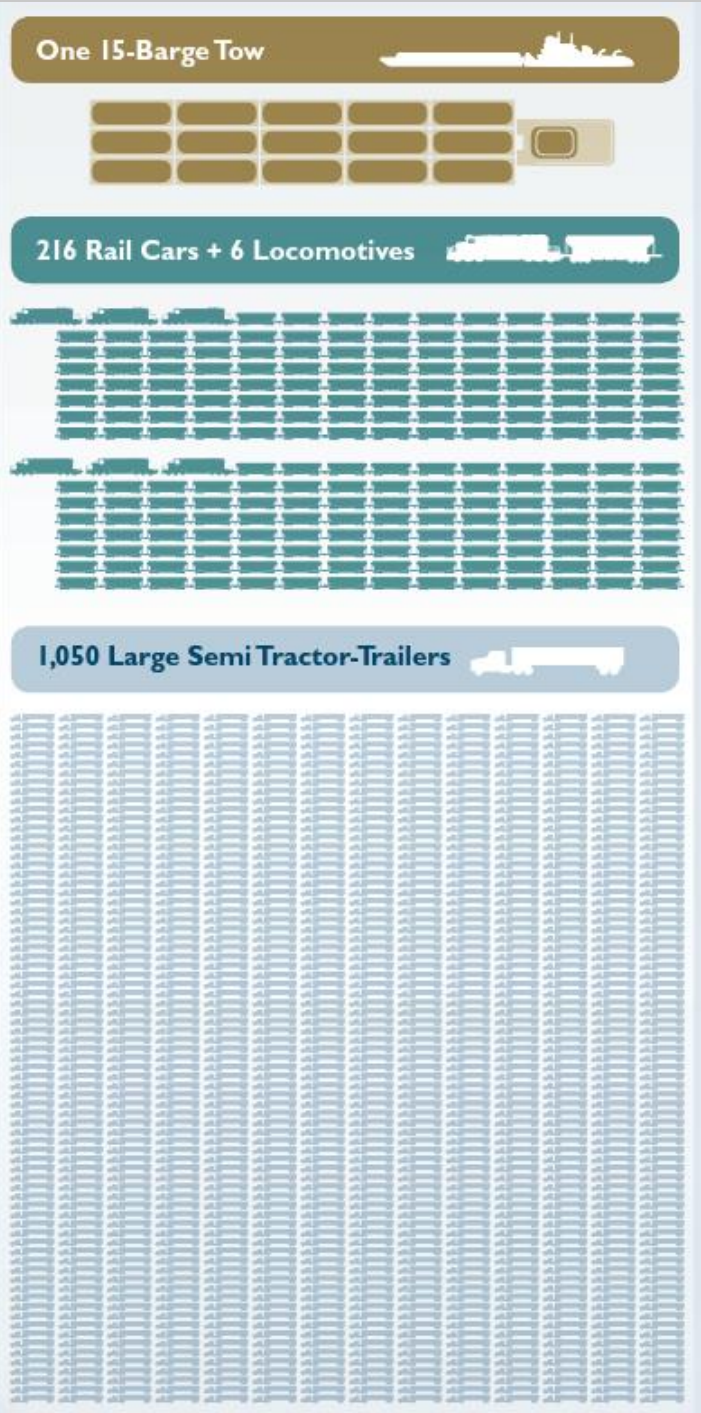
River channel more restricted

↓

Reduced capacity to barge loads

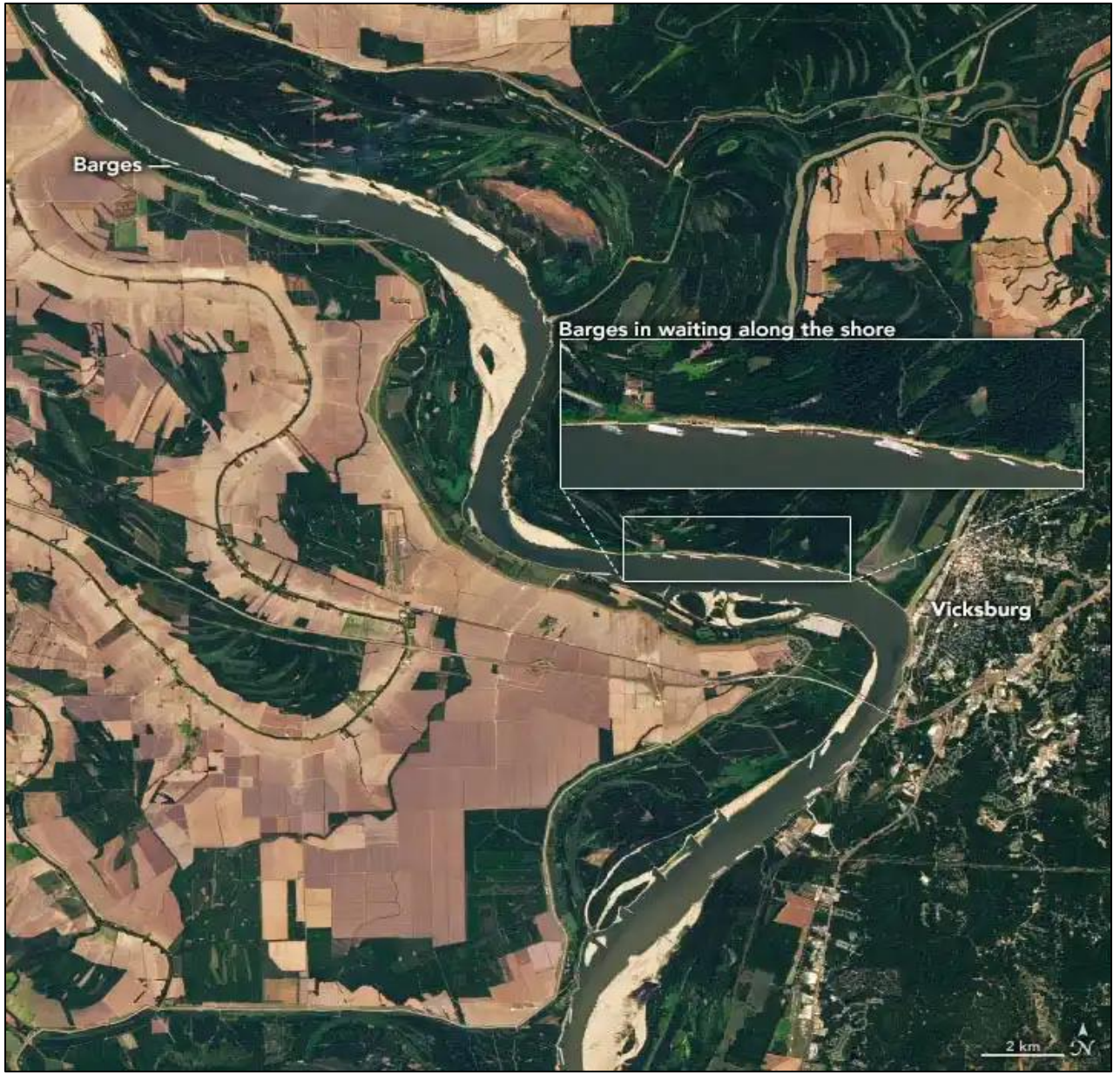
↓

More dredging needed to maintain the 9ft navigation channel



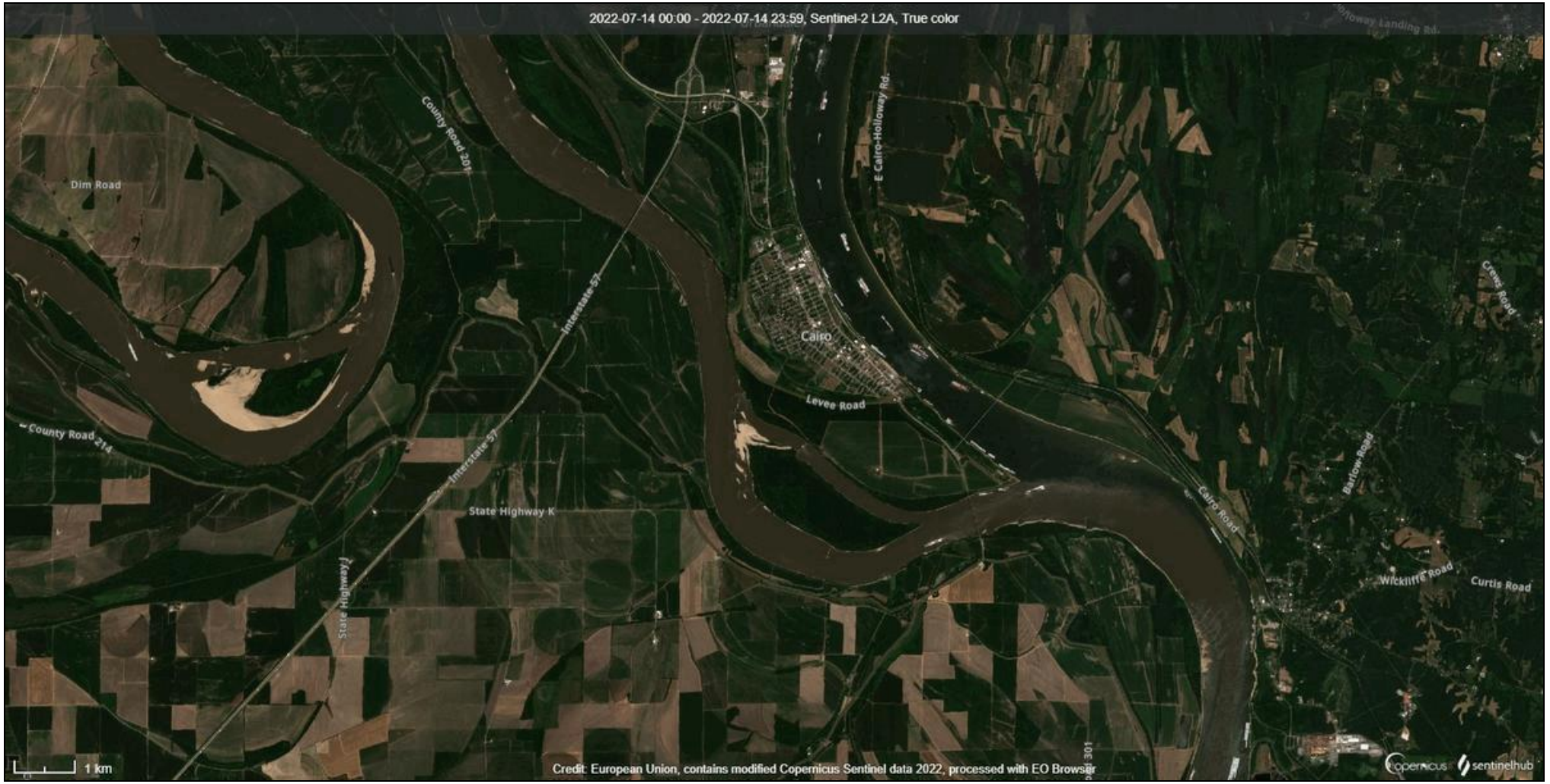
WATERWAYS COUNCIL, INC.

IMPACTS – SATELLITE VIEW



Landsat 9 imagery of the Mississippi River on October 7, 2022.

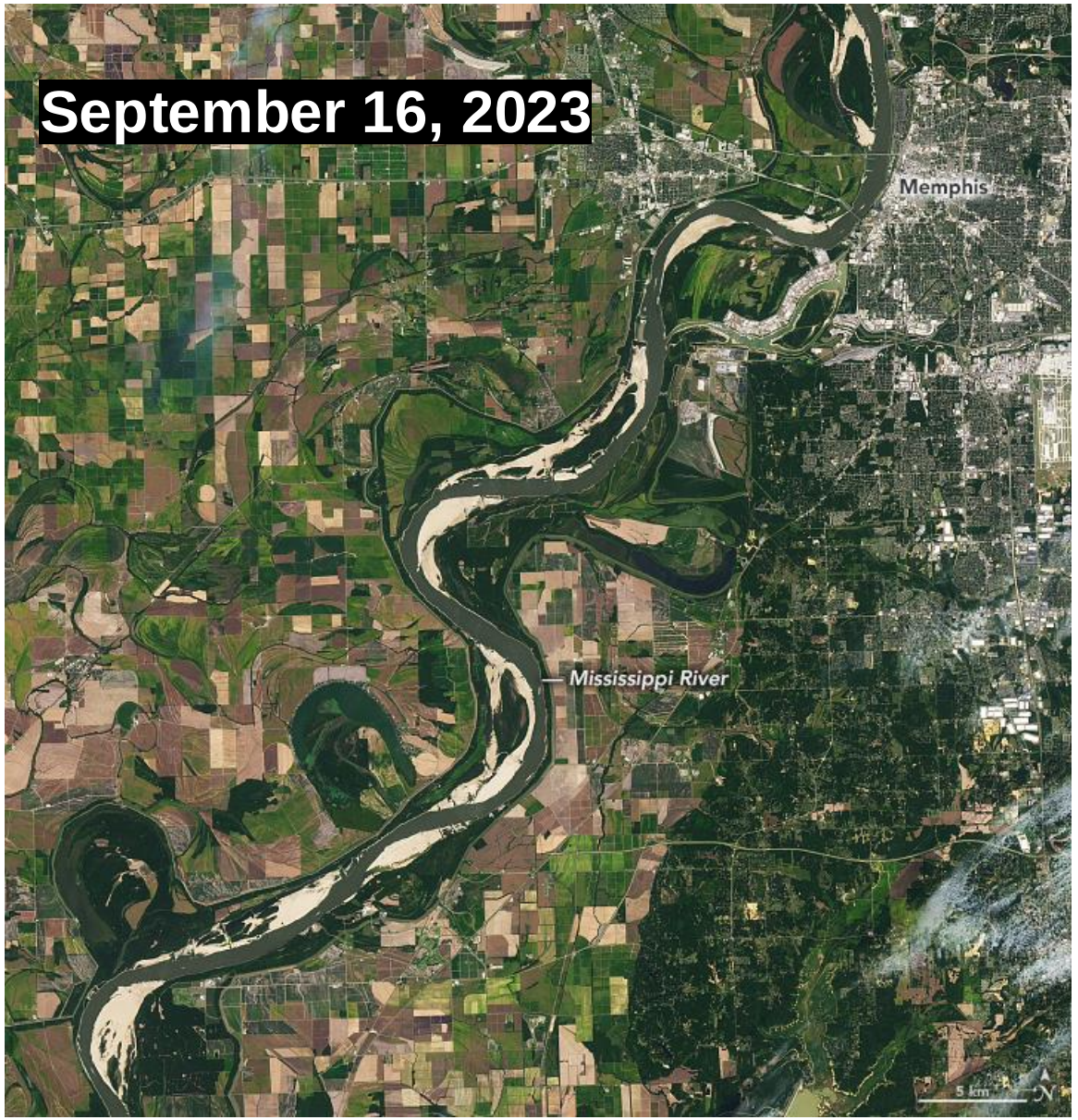
SATELLITE COMPARISON



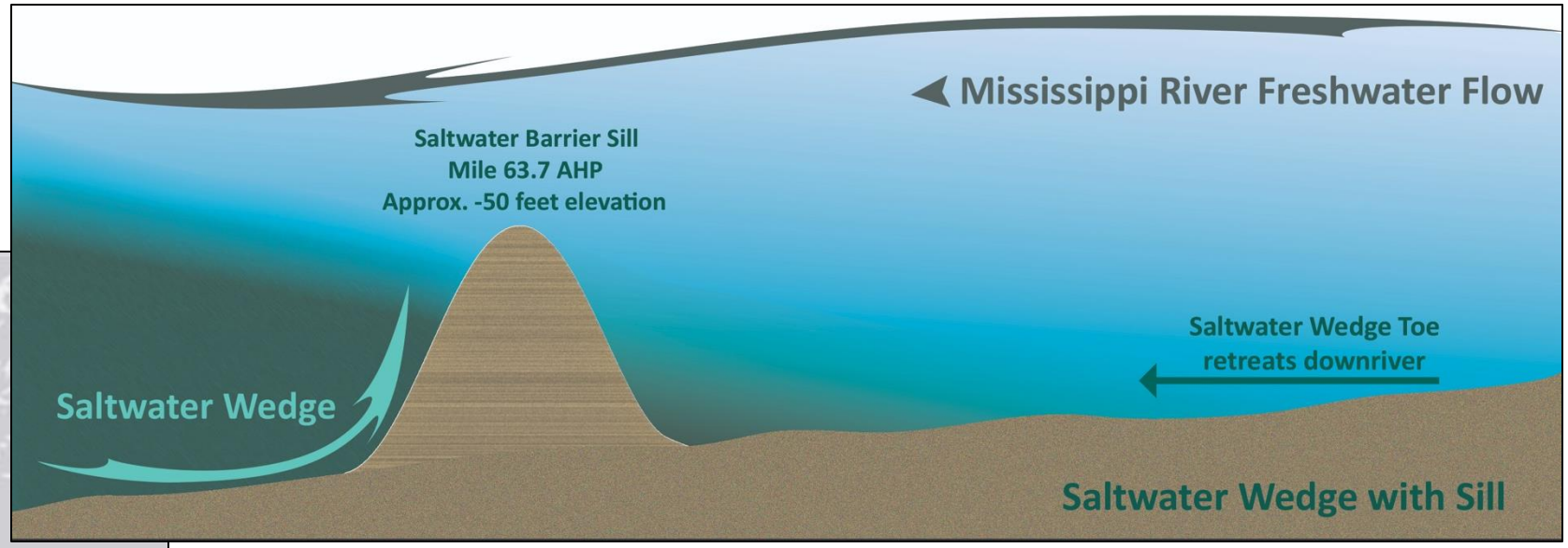
Confluence of the Ohio and Mississippi Rivers between July 14 and October 17,2022.

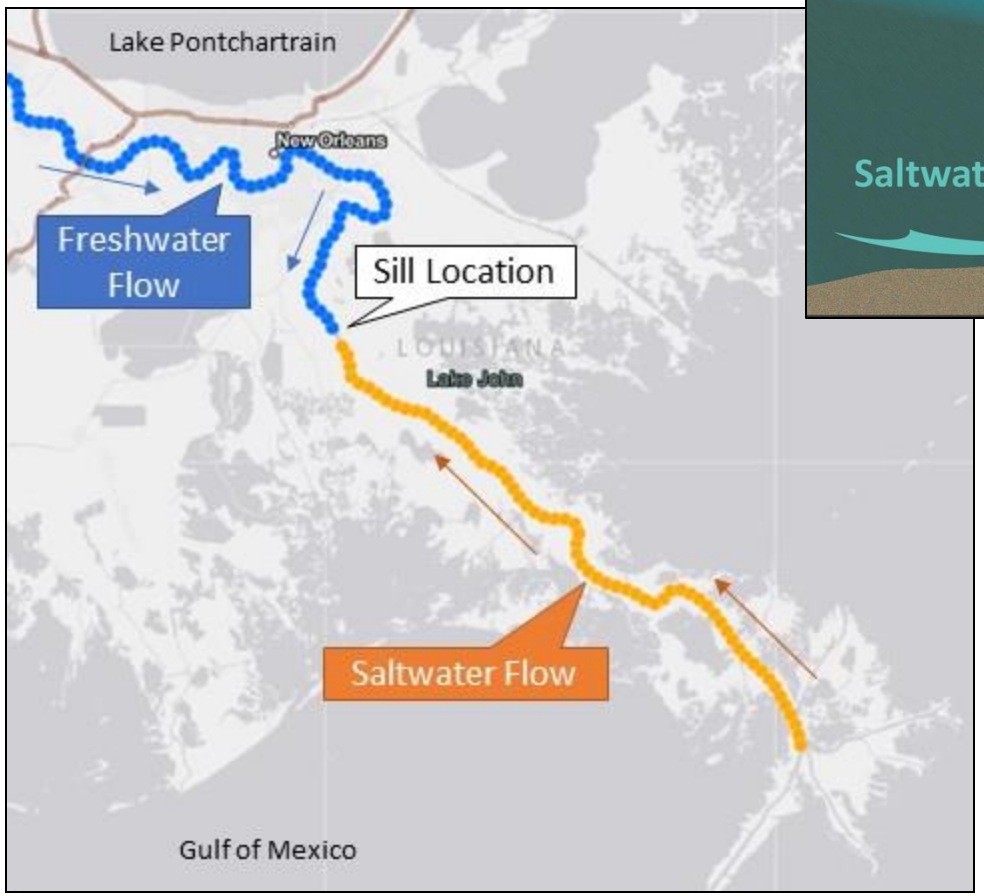
Satellite images from Copernicus Sentinel 2. Courtesy of NWS Paducah.

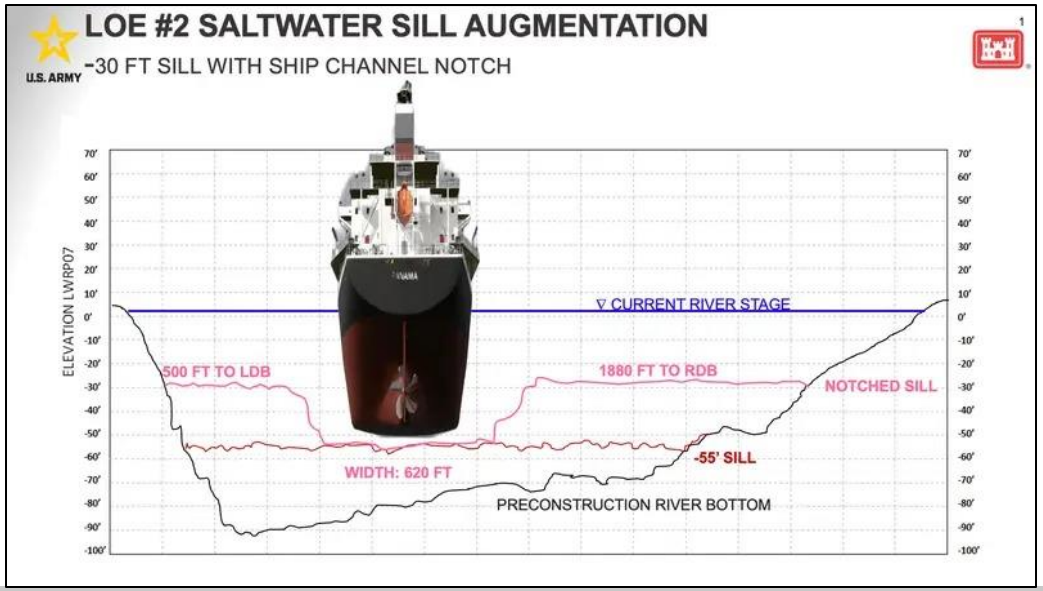
MISSISSIPPI ~~RIVER~~ BEACH



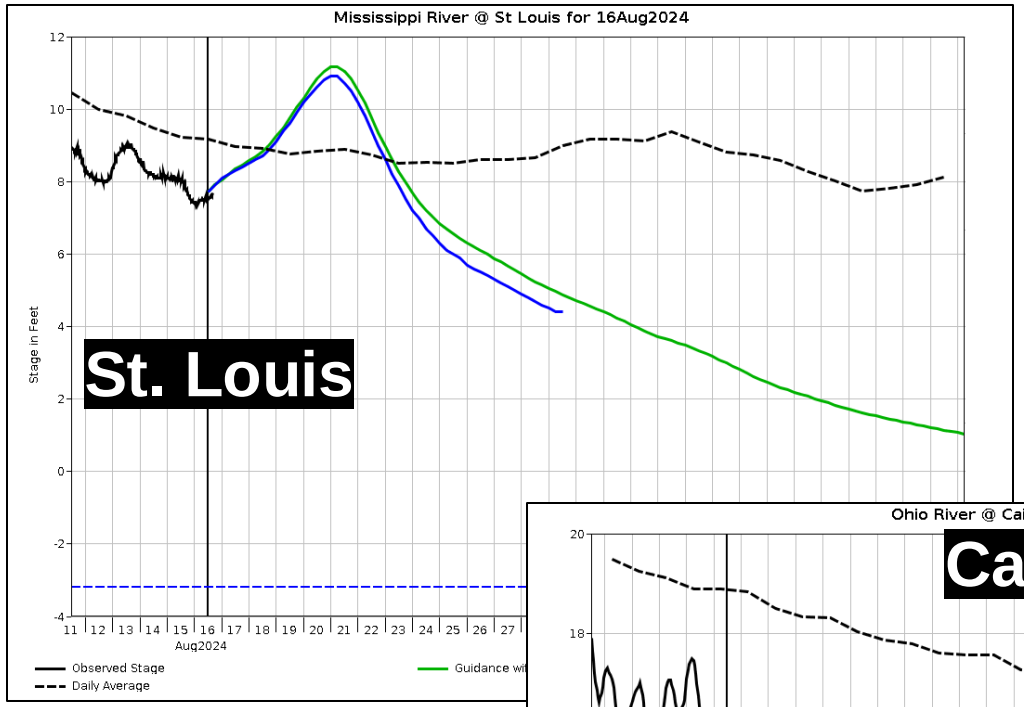
LOWER MISS IMPACTS

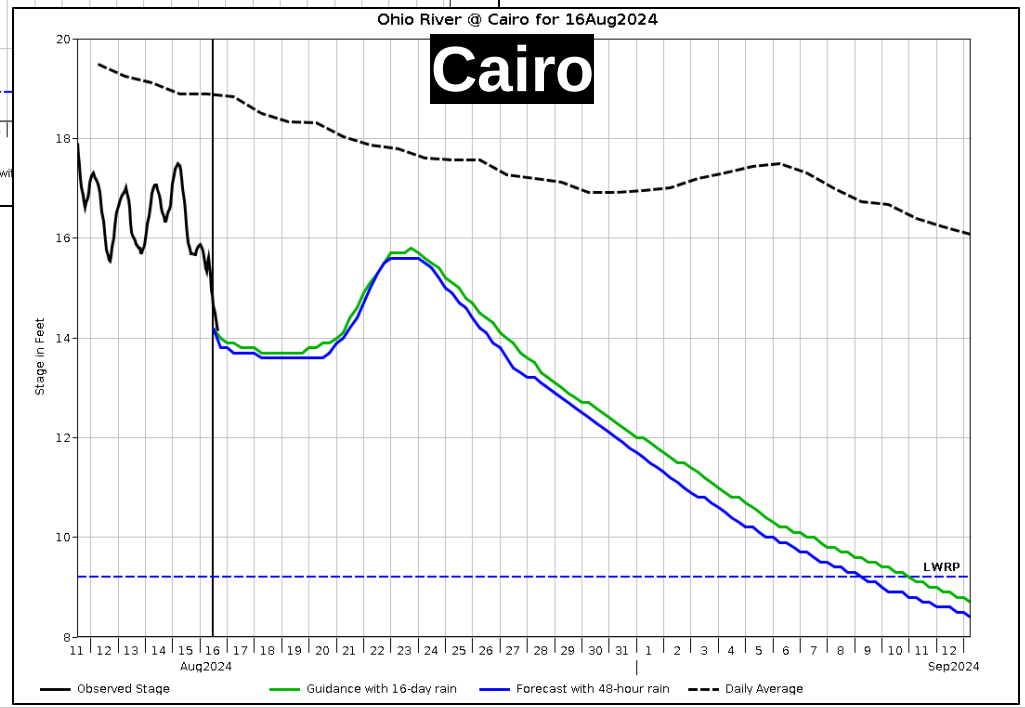






HOW'S THE RIVER DOING NOW?

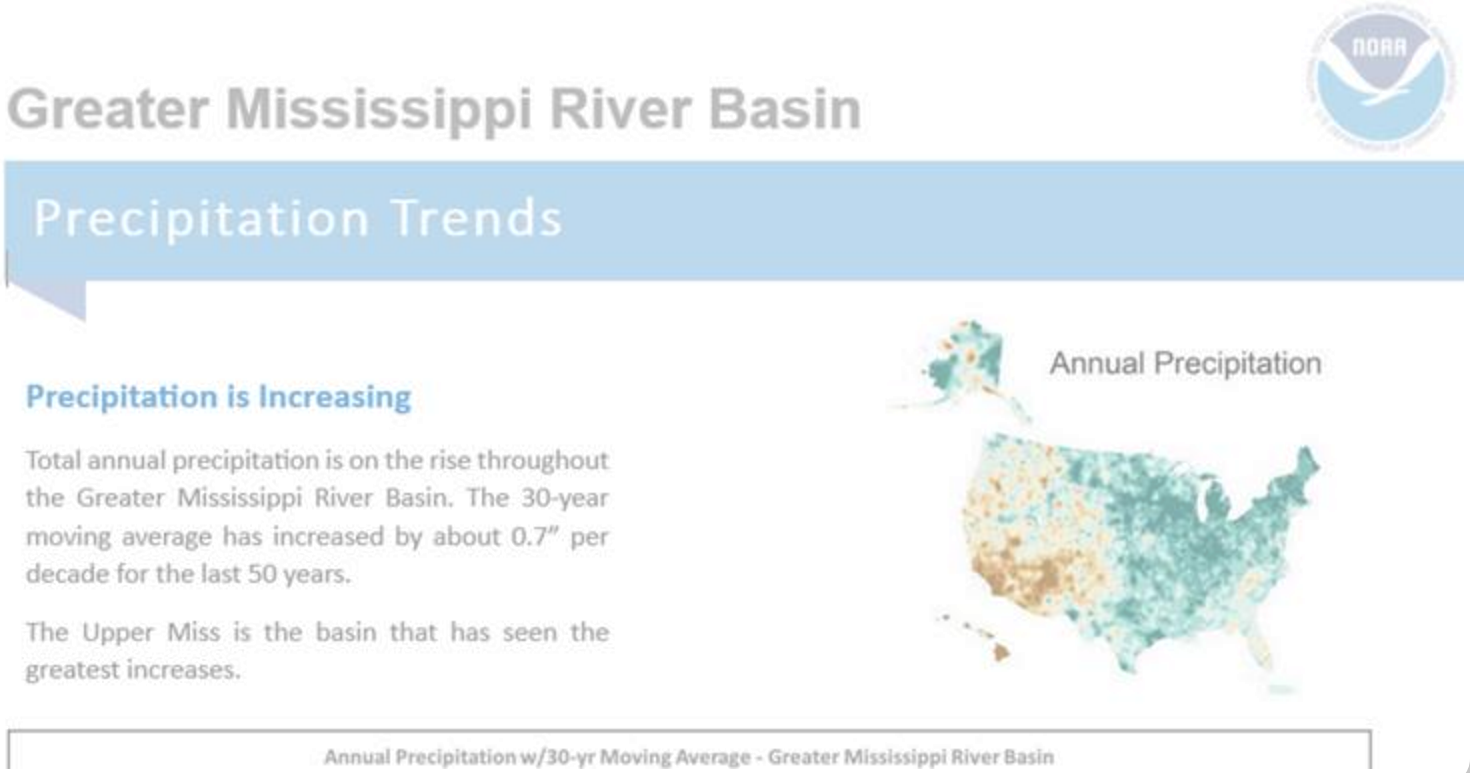




- About 3-4 weeks out from low water stages at Cairo
- Saltwater wedge at river mile 22.1 as of 13 AUG

MISSISSIPPI BASIN PRECIP TRENDS

- Multi-agency collab - input from NWS, USACE, and USGS.
- Info and data on seasonal, extreme precip, and drought trends.
- Updated info on the precip and river trends.



THE END

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