

Ag INSIDER

**FARM
BUREAU
ARKANSAS**

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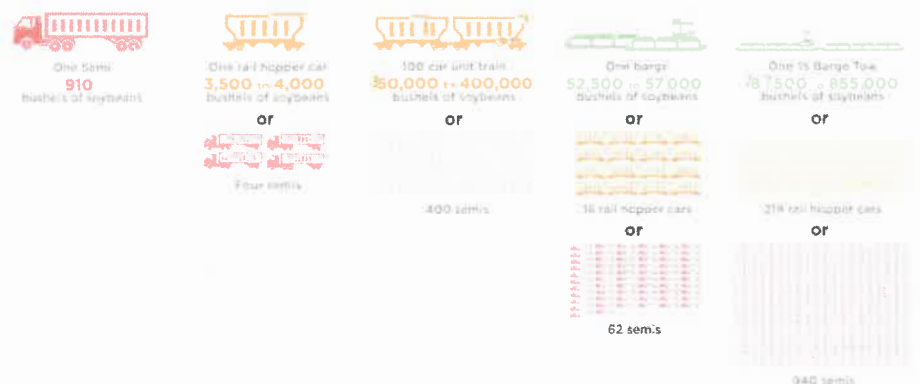
Low Water Levels on the Mississippi River and its Impact on Arkansas Producers

Over the last three years the United States, and the World, experienced unimaginable supply chain disruptions. In the spring of 2020, COVID-19 spread across the globe, exposing the fragility of our food supply chain. Grocery store shelves went bare exacerbating consumers' fears about whether they would be able to feed their families. As the United States and the World learned how to manage COVID, food supply chain issues began to resolve and had returned to mostly normal by the beginning of 2022. However, in February of this year Russia declared war on Ukraine. This, once again, raised concerns about the food supply chain given that Russia and Ukraine account for 20% and 10%, respectively, of the world's wheat exports and Ukraine being the largest exporter of corn into the world market. Russia is also the world's largest exporter of fertilizer. Imports into the U.S. were significantly impacted by Black Sea port blockades. Simultaneously, as the war in Ukraine raged into the summer of 2022, one of the worst and most extensive droughts in the last decade developed here at home. This summer's drought continued into early fall resulting in water levels on the Mississippi River declining to their lowest levels since 1988. Water levels are so low that barge traffic, our country's leading transportation method for grain and many other materials, has nearly come to a standstill. For context, the Mississippi River is the largest drainage basin in the United States covering approximately two-thirds of the nation's land mass and extending 2,350 miles from Minnesota to the Gulf of Mexico.

Why is barge transportation on the Mississippi River so important to grain farmers?

Barges efficiently move millions of tons of bulk products up and down the river providing jobs and fueling the economy. A barge running on the Mississippi river can carry agricultural commodities, as well as fertilizer, fuel, construction materials, metals, sand, and gravel. A typical 15 barge tow is capable of hauling 22,500 tons; 767,500 bushels; or 6,804,000 gallons and is equivalent to 225 car unit trains or 1,050 trailer trucks. The Mississippi River barge transport accounts for 92% of the nation's agricultural exports with some 60% of all grain from the U.S. being shipped on the

CARGO CAPACITY



Comparison of Truck, Railroad & Barge carrying soybeans - Image provided by Soy Transportation Coalition

river through the port of New Orleans and the Port of South Louisiana. The Army Corps of Engineers estimates that the Mississippi River carries 589 million tons of freight a year, an estimated value of over \$405 billion annually. This, in turn, keeps a high volume of trailer truck loads off U.S. highways and reduces transportation costs by \$12.5 billion annually.

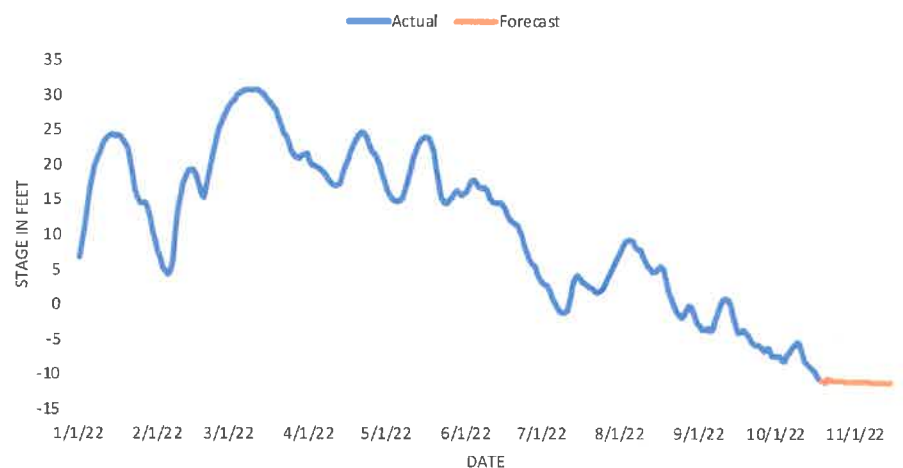
How low is the river?

According to the U.S. Army Corps of Engineers, the stage, or height of the river's surface above standard sea level, for the Mississippi at New Orleans was 2.4 feet as of Oct. 24. This is 52% lower than the prior three-year average of 4.95 feet. At these current water levels, barges cannot be loaded to full capacity. This equates to less grain heading down river to the Gulf of Mexico and to export customers. Since the first of September, the number of barges unloaded in New Orleans is down 39% from the five-year average. If this continues, export buyers may find alternatives to fill their needs.

Brazilian export group Associação Nacional dos Exportadores de Cereais (ANEC) reported Brazil's soybean exports

in September reached a record high. A slow trickle out of the Gulf could lead to our domestic supply getting bigger than forecasted, which could be disastrous for future contracts and basis. Basis is the difference between the local cash price (the price at your local elevator) and the futures market price for that commodity. An example would be if the soybean future price is \$12.00, and an elevator is offering 20 cents under on basis then the farmer would be getting \$11.80 for soybeans. Meaning you are receiving 20 cents less than the current futures price. Below there will be further discussion on the impact of basis.

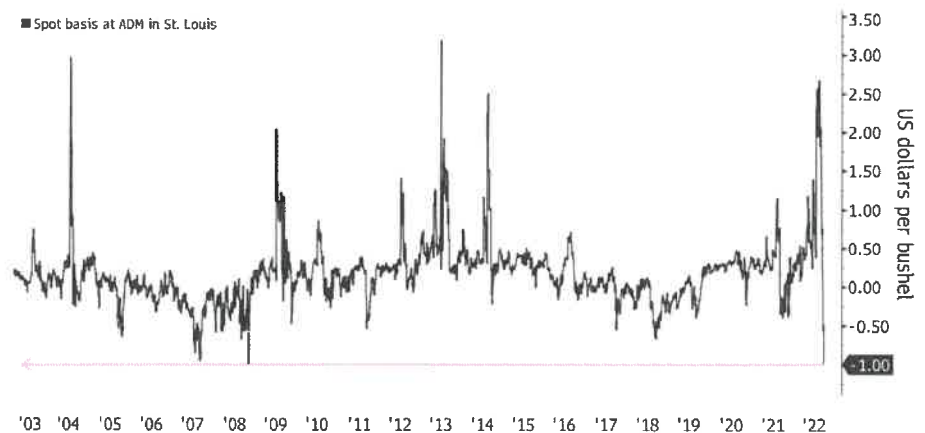
Mississippi River Level at Memphis, TN



As of October 18th, 2022, the US Army Corps of Engineers, reported the water level at Memphis, TN at -10.65 ft and is forecasted to move lower.

How will this affect commodity prices?

Elevators around the Mississippi River are now being forced to store grain longer since barge capacity has decreased. Because barges aren't able to be filled, available storage at elevators is becoming scarce. Elevators are deterring producers by offering less than current futures prices for their grain due to the lack of storage. These lower cash bids can eat away at the Arkansas grain producers' bottom lines. Typical basis at harvest would be around 20 cents under the futures price, farmers are facing anywhere from 80 cents under



Spot Basis at ADM in St. Louis – Image provided by GeoGrain

to \$1.30 under. The Spot Basis graph on page two shows the excessive widening of basis recently. Along with a widening basis the futures price is also being affected due to the slow grain movement on the river. This has led producers to opt for on-farm storage in efforts to hold grain until the river rises, and the basis becomes narrower. However, building materials for grain bins are also shipped on the Mississippi River, and prices for those materials could rise as they become more scarce.

How have shipping costs been affected?

The cost of barge freight for soybeans has seen a 300% increase since water levels have fallen. Average freight costs for the last 4 seasons have been around 50 cents/bu. This year barge freight around St. Louis has risen nearly \$3.50/bu for soybeans. The blockages are forcing companies to find more costly methods to move goods i.e., metals, agriculture products, and fertilizers. Increases in shipping cost via rail and truck transport is already being seen. However, some companies are postponing planned loadings by barge until conditions



Cost of Rail Shipping – Image provided by USDA

improve. The Cost of Rail Shipping graph shows the increased cost of rail shipping since the water levels have kept barges at bay. The railway and trucking industries have seen labor and equipment capacity constraints recently, which has also affected the cost of shipping. Barges have largely been unaffected and relatively inexpensive in years past. Most estimates show that rail cost around 10 times more than barge while trucking is roughly 16 times more.

Conclusion

Supply chain issues continue to be a problem for all sectors of our economy and as resilient as the American farmer is, they are still not immune to the situation. Producers have faced a wide range of challenges this year and each challenge affects their means to generate revenue. As it continues to stay dry the once cost-effective and efficient transportation mode, i.e. barges, will become more problematic. This is especially true during the height of harvest season, when farmers are looking to move grain. If relief doesn't arrive soon, producers will have to look at other methods to store their goods or find alternative methods to transport their grain. These other methods will not be monetarily favorable for the producer. The combination of rising costs for freight, storage and widening basis levels for grain will inevitably have negative impacts on Arkansas producers' bottom line.



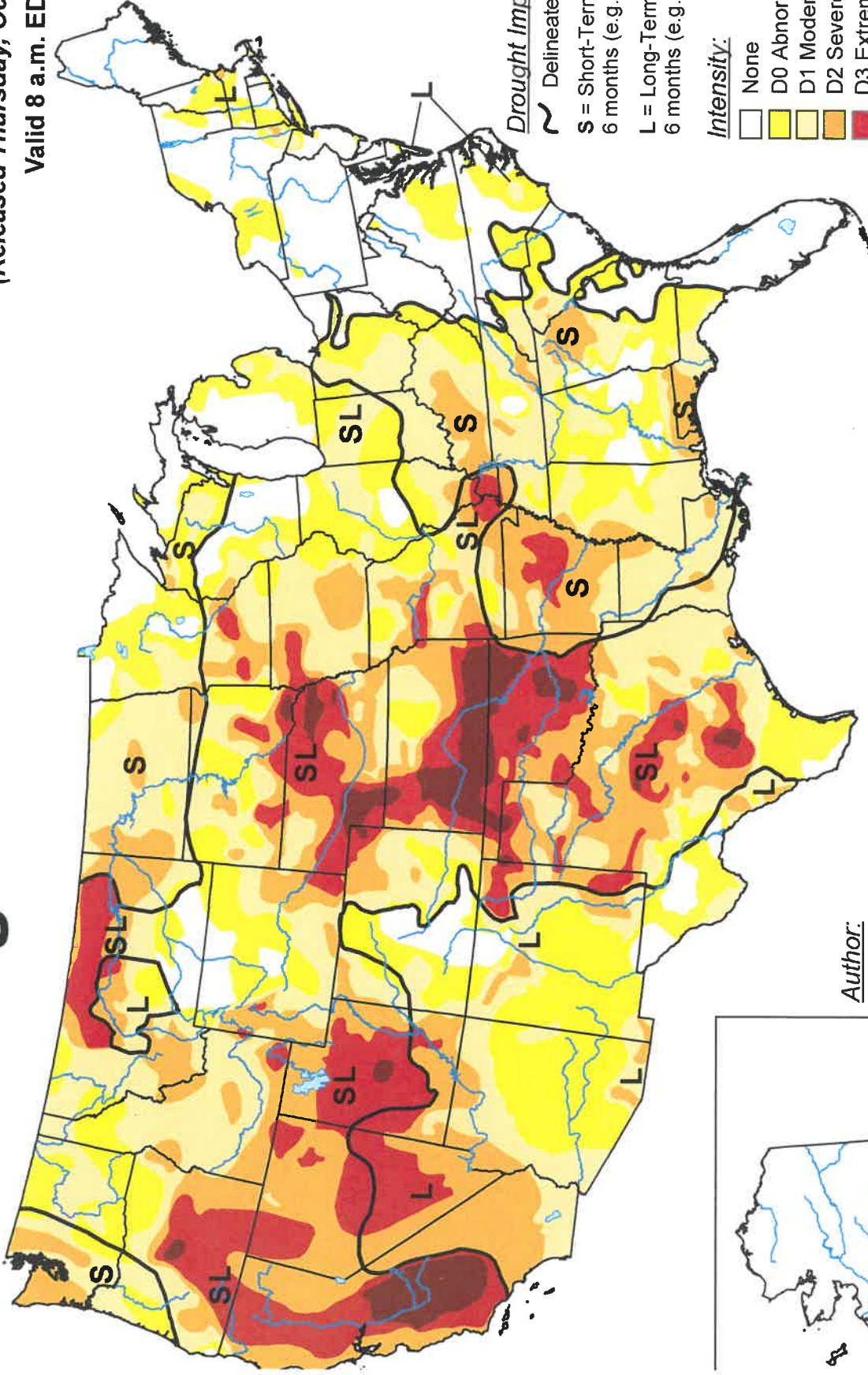
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U.S. Drought Monitor

October 25, 2022

(Released Thursday, Oct. 27, 2022)

Valid 8 a.m. EDT



Drought Impact Types:

- ~ Delineates dominant impacts
- S** = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L** = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

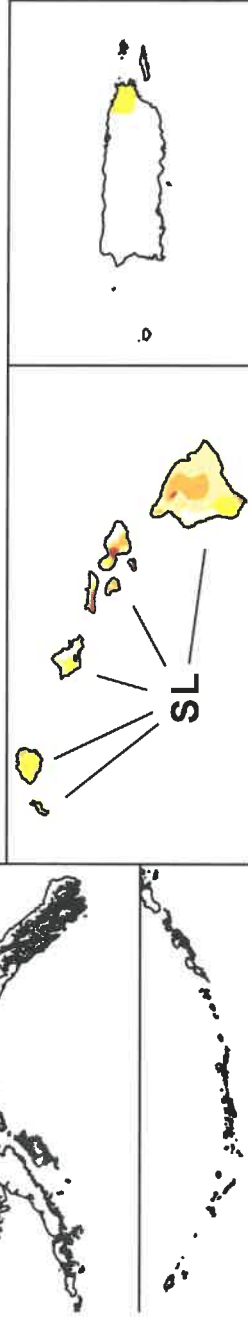
Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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NOAA/NWS/NCEP/CPC

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>



droughtmonitor.unl.edu