

Mid-south Irrigator Perceptions about Water Shortage

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In 2016 a survey representing the 2015 crop year was undertaken to gather information on current irrigation practices in four mid-South states: Arkansas, Louisiana, Mississippi, and Missouri. The study was, funded with support from the United Soybean Board (USB) and the Mid-South Soybean board and carried out by extension staff in agricultural engineering and agronomy from each of the states' land grant universities. Overall in the mid-South, only 13.1% of the 412 irrigators offered an opinion on whether water levels on their farm were changing or not, felt that it was dropping. Missouri irrigators were less likely to feel levels were dropping, and Arkansas irrigators the most likely. The percentages of irrigators feeling that water levels were dropping were 0, 12, 19, and 29%, respectively, for MO, LA, MS and AR.

Table 1. Farmers' depth-to-water change in their irrigation wells & their percent of sample

Location	Survey Response					Total
	Depth-to-water increased ^[A]	Depth-to-water did not change	Depth-to-water decreased	Refused	Don't Know	
Arkansas	26 (14%)	107 (57%)	54 (29%)	1	11	199
Louisiana	7 (9%)	59 (79%)	9 (12%)	1	17	93
Mississippi	20 (16%)	84 (65%)	25 (19%)	1	18	148
Missouri	1 (5%)	20 (95%)	0 (0%)	0	5	26
All 4 States	54 (13%)	270 (66%)	88 (21%)	3	51	466

^[A] Note that a depth-to water increase means water levels are dropping.

The survey asked farmers to scale their feelings on groundwater shortages, both on their own farm and for the state at large. A scale of 1 to 5 was used, with 1 meaning 'no problem' and 5 meaning 'severe problem'. Respondents appeared more optimistic regarding their own individual farm than they did for the state. However, farmers appeared very reluctant to answer the question when it regarded their own farm (a response on concern level for the state was almost five times as forthcoming (Table 2).

A Survey of 2015 Mid-South Irrigation Practices: Report to the Mid-South Soybean Board



Table 2. Perceived groundwater shortage severity by irrigators for their own farm and for their state

STATE	For Your Farm	For Your State
Arkansas	3.32 (n = 31)	3.60 (n = 139)
Louisiana	2.00 (n = 6)	3.25 (n = 16)
Mississippi	2.63 (n = 8)	3.33 (n = 48)
Missouri	---	2.50 (n = 2)
All 4 States	3.02 (n = 45)	3.50 (n = 205)

Figure 1 shows a graphic presentation of farmers’ concept on the level of the statewide groundwater severity problem. In general, irrigators adjacent or near the northern reaches of the Mississippi River on the western side were not as concerned about shortage problems. The only exception for this was Cape Girardeau County in Missouri; it should be noted much of this county lies outside the range of the Mississippi River’s delta. Growers on the river’s eastern side (they all were in Mississippi), had mild levels of concern. In Arkansas, concerns of the irrigators about their state water shortage appeared to increase both in the downstream direction and, laterally, in distance from the river.

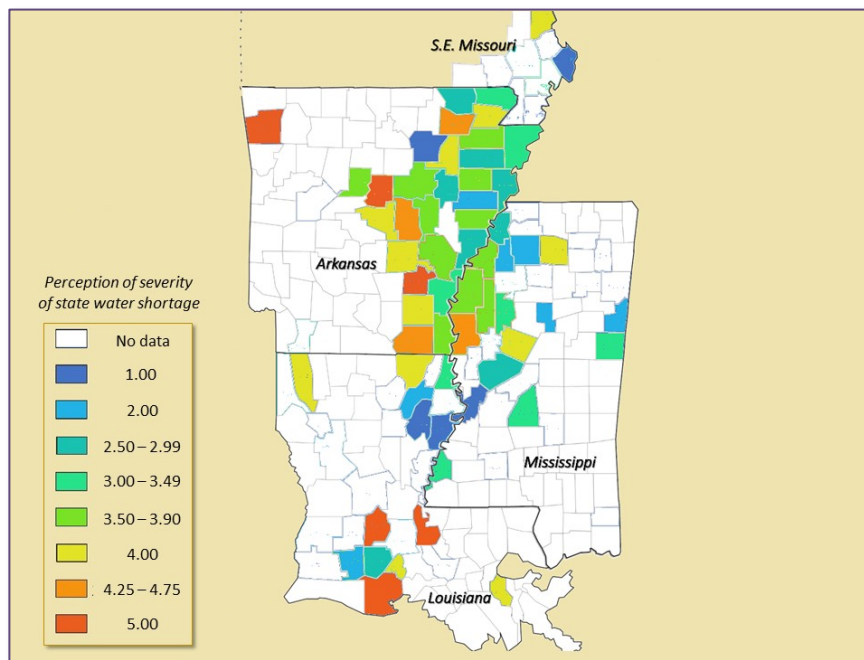


Figure 1. Map, average perceptions of irrigators of groundwater shortage in their state with 1 being “no problem” and 5 being a “severe problem”

