



Arkansas Department of Agriculture



Arkansas Groundwater Protection and Management Report 2024

**Arkansas Department of Agriculture
Groundwater Protection and Management Section Staff**

Corbin G. Cannon II, P.G., Geology Supervisor

Christy Steward, Tax Credit Program Coordinator

Jacob Harvey, Water Well Inspector/Geologist

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Our partners with the United States Department of Agriculture Natural Resources Conservation Service



Report written and compiled by Corbin G. Cannon II, P.G.

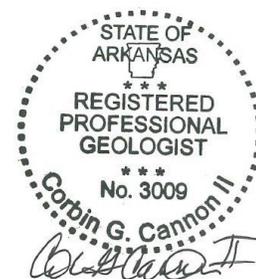


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Executive Summary

The Arkansas Groundwater Protection and Management Report is produced annually by the Arkansas Department of Agriculture's Natural Resources Division pursuant to the Arkansas Groundwater Protection and Management Act of 1991, Arkansas Code Annotated § 15-22-906. This report provides a summary of groundwater protection and conservation programs administered by the Arkansas Department of Agriculture during the years 2023 and 2024, including water-level monitoring and studies of water use trends in the state.

This report focuses on aquifer level and water quality data collected by the Arkansas Department of Agriculture and its partners in 2024, but primarily features data from two major aquifers in the state, the Mississippi River Valley Alluvial (Alluvial) aquifer, the most important water resource for agricultural production in the state, and the Sparta/Memphis (Sparta) aquifer, one of the state's best sources of good quality groundwater for drinking and industrial uses. Data collected from the Cockfield and Wilcox aquifers have also been included in this report.

The report compares synoptic water-level data collected in the spring of 2024 to historical synoptic water level data; typically, in one, five, and ten-year intervals. This report also examines data collected continuously, monthly, and quarterly to monitor the various aquifers responses to the stress conditions of 2023 and early 2024. Temperature, precipitation data, and water use data are considered along with water level data to explain the water level change results.

Aquifer-wide water level data collected during the pre-irrigation period of spring 2024 had positive average change values for both the Alluvial and Sparta aquifers when compared to spring data from 2014 but showed decreases in water level when compared to 2023. In the five-year comparison to 2019 the Sparta showed an increase while the Alluvial water level decreased. Maps depicting spring 2024 water level elevations and one, five, and ten-year water level change are presented in this report. Numerous water level hydrographs are also presented across both aquifers to illustrate water level trends over time. Long-term trends in the Cockfield and Wilcox aquifers show that wells in both aquifers are experiencing water level decline in some areas but that the overall average change is positive for most of the areas that were monitored.

While localized hydrograph data indicates a positive average change values in the five and ten-year intervals in this report, the general trend in Arkansas's long-term water level change is that the groundwater levels are declining. It is important to remember that overall, Arkansas is withdrawing groundwater from the Alluvial and Sparta aquifers in eastern and southern Arkansas at a rate above that which has been estimated to be sustainable. Some wells in certain areas where there have been historical declines do appear to show a slowing of the decline, or in some cases a rebounding trend in water level in recent years; however, it is difficult to determine the primary causes for the rebounding trends. It is speculated that above average precipitation in previous years, coupled with water conservation efforts and efficiency programs that have been implemented in recent years may be having the desired effect on the aquifers, but this has not been specifically studied.

Further research and analysis of these areas and the many factors that determine their groundwater usage may give valuable guidance for future efforts to protect groundwater reserves. The Arkansas Department of Agriculture will continue to work with partners to monitor these resources and promote conservation, education, and the conjunctive use of ground and surface water at rates that are sustainable for current and future water use needs.

Introduction

This report is prepared in accordance with Arkansas Groundwater Protection and Management Act of 1991, Arkansas Code Annotated § 15-22-906, to provide the State of Arkansas with a comprehensive water-quantity and water-quality document to be utilized, along with the Arkansas Water Plan, as a guide for water resources conservation and protection programs. It includes data, analysis, and recommendations for the groundwater protection and management program, as well as water well construction data.

This report focuses on the two most used aquifers in the state, the Mississippi River Valley Alluvial (Alluvial) aquifer and the Sparta/Memphis (Sparta) aquifer. Data collection for the program is dependent upon a strong partnership with other state, federal, and local water resources agencies. A monitoring schedule has been established to obtain data from the Alluvial and Sparta aquifers on an annual basis. Historically, approximately 300-400 wells are monitored in the Alluvial aquifer each spring, and approximately 100-200 wells are monitored each year for water levels in the Sparta aquifer. In 2024, water level data was collected from approximately 467 wells in the Alluvial aquifer and 233 wells in the Sparta aquifer during the spring. In addition to the spring measurements, synoptic Alluvial aquifer water level measurements are collected in the fall to gauge aquifer drawdown once irrigation has ended for the year. This fall water level collection is not as comprehensive as the spring effort historically, but this year 314 wells were measured that shared data with wells measured in the spring. The number of wells monitored will vary from year to year depending on the resources available, well accessibility, and other factors.

There are areas of the state experiencing groundwater withdrawals of such magnitude that demand on the aquifer exceeds the sustainable yield, resulting in consistently declining groundwater levels and development of cones of depression. These areas occur in both the Alluvial and Sparta aquifers. Water-level declines are consistently observed in areas where water use is highest, such as portions of the Grand Prairie study area and in the Cache study area for the Alluvial, and in the south Arkansas study area for the Sparta.

In addition to the great effort to collect synoptic water level data in the Alluvial and Sparta aquifers for groundwater quantity assessment, the state is interested in groundwater quality data in these aquifers and others across the state. The Arkansas Department of Agriculture collects groundwater quality data through a long-standing partnership with the U.S. Geological Survey (USGS), which maintains the Groundwater Salinity and the Arkansas Masterwell Network programs. The Groundwater Salinity Program is focused on collecting basic field parameters and chloride and bromide concentrations in an established well network in the Alluvial and Sparta aquifers. The Masterwell Network is a long-term groundwater quality network that is comprised of 47 active wells and springs in 14 different aquifers across the state. See the Groundwater Quality section of this report for more information and sampling results from both programs in 2024.

Water Policy

Water resources policy in Arkansas was established in by Act 217 of 1969 and Act 555 of 1975 authorizing development of the Arkansas Water Plan, in which the Arkansas Department of Agriculture identifies conservation, education, and the conjunctive use of ground and surface water, along with the development of excess surface water, to meet future water use needs. It is hoped that protection of the state's groundwater resources can be achieved through these measures rather than management strategies that may require allocation of water. All water use strategies must consider the wise use of our state's water resources while protecting the state's aquifers. The Arkansas Department of Agriculture recommends that the state moves toward a sustainable yield pumping strategy through conservation and utilization a of critical groundwater area designation where needed to focus resources. Designation as a critical groundwater area fosters conservation by offering enhanced tax credit benefits for conservation practices through the state's Water Conservation Tax Credit Program, by increasing educational outreach, and by qualifying the area for federal programs and funding. A critical groundwater area is a non-regulatory designation; regulation cannot be initiated without a new process involving legal proceedings, additional notice, and public hearings. Figure 1 presents the groundwater study areas, while Figure 2 presents the Critical groundwater areas as designated.

Arkansas Groundwater Study Areas

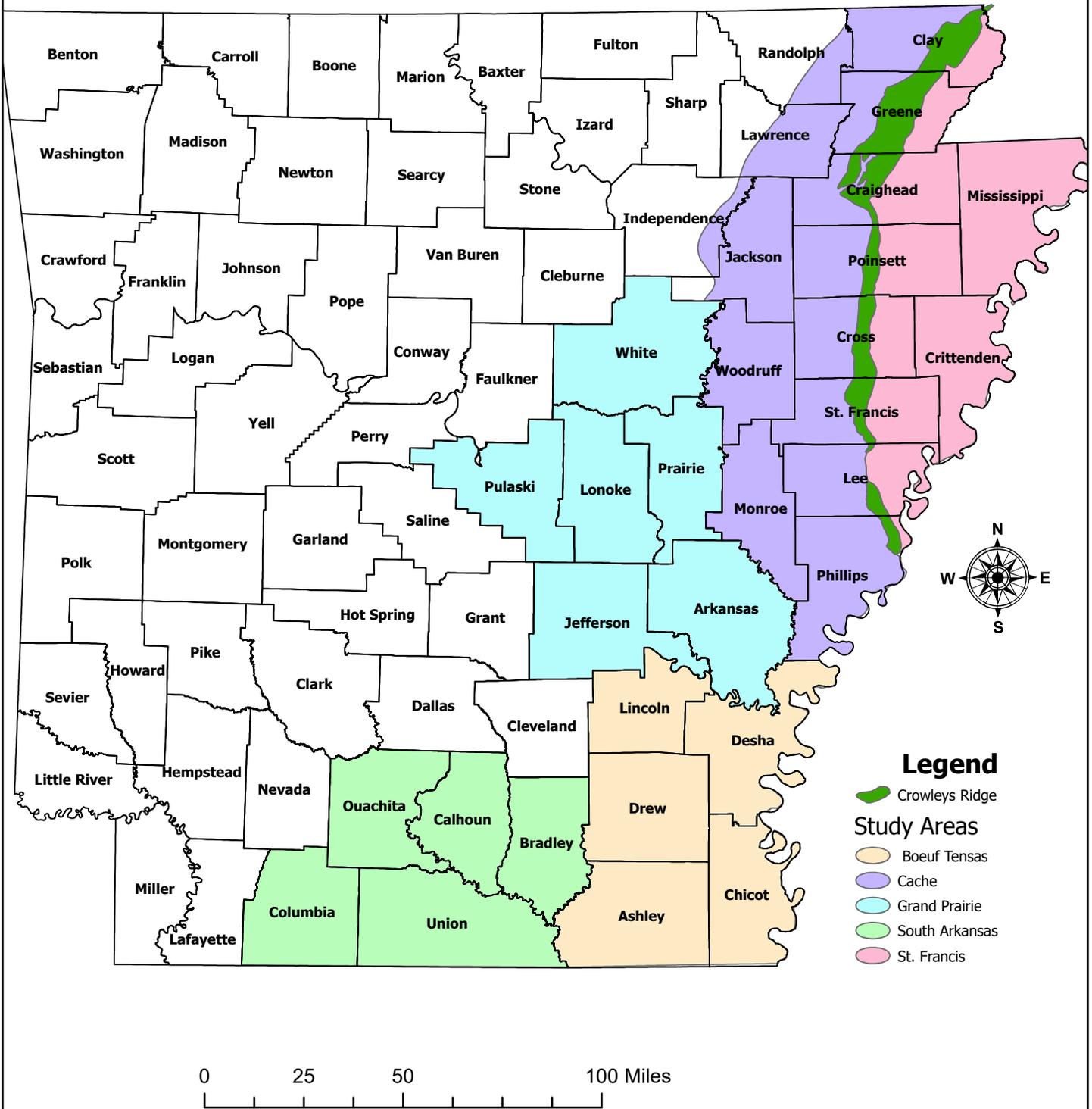
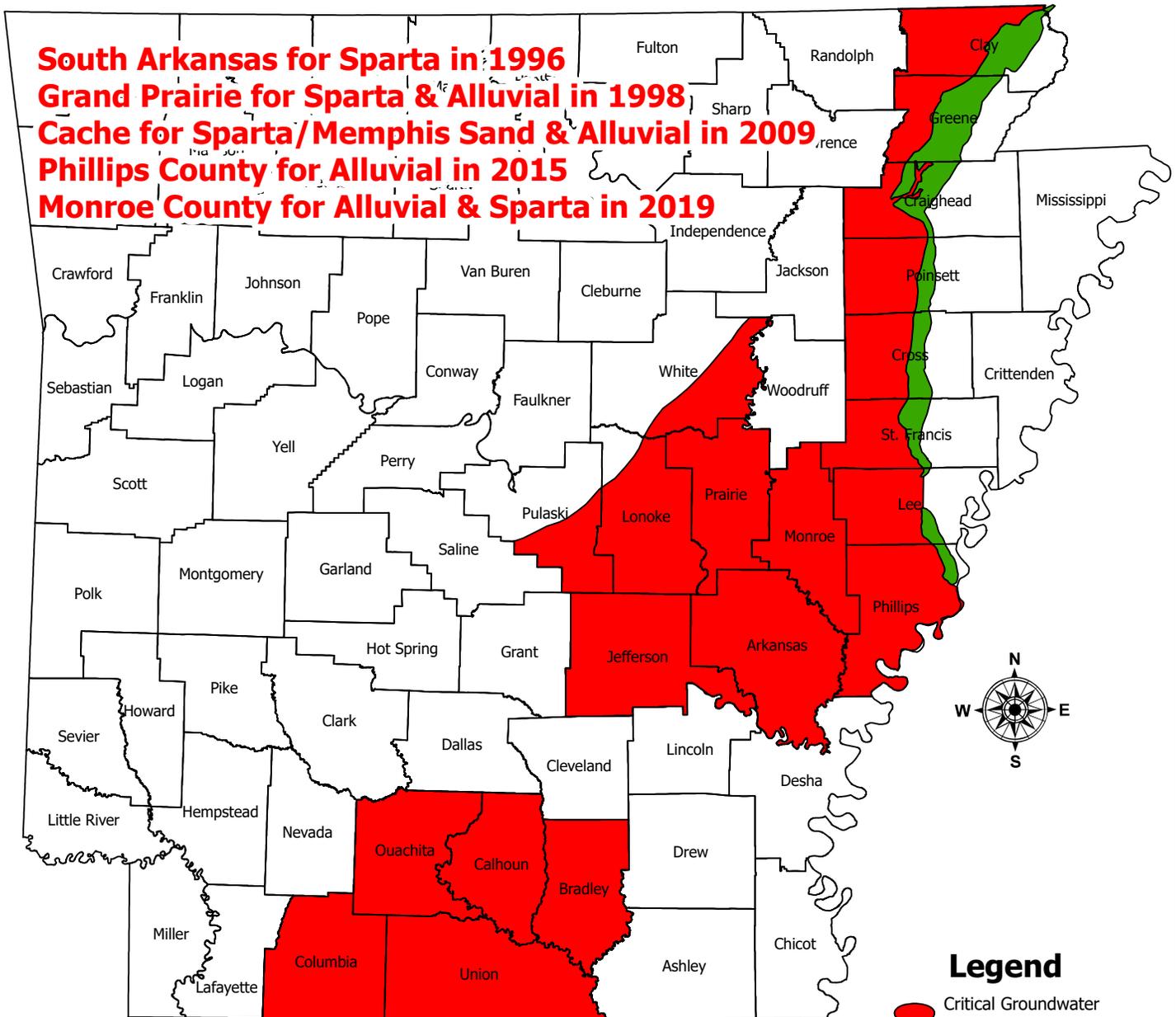


Figure 1

Critical Groundwater Areas



South Arkansas for Sparta in 1996
Grand Prairie for Sparta & Alluvial in 1998
Cache for Sparta/Memphis Sand & Alluvial in 2009
Phillips County for Alluvial in 2015
Monroe County for Alluvial & Sparta in 2019



Legend

- Critical Groundwater Areas
- Crowley's Ridge

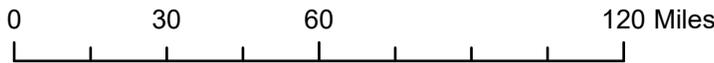


Figure 2

Hydrogeology and Water Level Trends

Mississippi River Valley Alluvial Aquifer

The Mississippi River Valley Alluvial (Alluvial) aquifer is the uppermost aquifer in the Mississippi Embayment and is composed of 50-150 feet of sand and gravel, grading from coarse gravel at the base to fine sand at the surface. It is generally overlain by the Mississippi River Confining Unit, which is composed of up to 50 feet of fine-grained sand, silt, and clay. For the purpose of this report, the term Alluvial aquifer refers to the portion of the aquifer inside the state boundaries of Arkansas and the extent of the Mississippi River Alluvial Plain; generally, the fall line or contact with outcropping tertiary formations to the west, the Mississippi River to the east, and the state lines to the north and south. The Alluvial aquifer is connected hydraulically with several rivers and drainage areas (Ackerman, 1996).

Static water level measurements were collected from 467 wells across the Alluvial aquifer prior to the irrigation season in 2024, with most of the measurements being collected in April. Figure 3 presents the potentiometric surface data as altitude relative to mean sea level. Figure 4 presents the depth to water in the Alluvial aquifer as feet below ground surface. Figure 5 presents the saturated thickness of the Alluvial aquifer as a percentage of the total aquifer thickness. Saturated thickness values were calculated by subtracting the depth to water by the total aquifer thickness on a well-to-well basis. Aquifer thickness values were obtained from the U.S. Geological Survey (USGS) Scientific Investigations Map 3426 (Torak, 2019). The areas of greatest decline continue to be the historical cones of depression in the Grand Prairie and Cache River regions.

Within the Grand Prairie cone of depression, the thickness data and 2024 water level data show that the area below 50 percent has widened, particularly in Jefferson and Arkansas counties; and the area under 20 percent saturated is significantly larger in Lonoke and Prairie counties, when compared with the saturated thickness values estimated in the 2023 groundwater report (NRD, 2024). An anomalously high well in Arkansas County put in place near Tindall Reservoir was removed from this year's map, which contributed to the appearance of a larger area below 50 percent. In the Cache River study area cone of depression, western Craighead and Poinsett counties are still mostly below 50 percent saturated thickness. The most obvious difference in the Cache River critical area is found in St. Francis, Monroe, and Lee counties where separate depressions in the 2023 report have expanded and connected to form an elongated cone across portions of all three counties.

There are research efforts by our USGS partners currently underway to refine the aquifer thickness estimates using advancements in subsurface modeling technology. Once this research is completed, we expect there will be minor changes to the estimates presented here, but it is also expected that the new estimations will be closer to the values used in this report than the values from the Mississippi Embayment Regional Aquifer Study (MERAS) used in previous reports. Any further recommendations for these areas, such as a critical groundwater area designation, will be made when the aquifer thickness values can be verified using the new subsurface modeling data.

Alluvial Aquifer Water Level Altitude Spring 2024

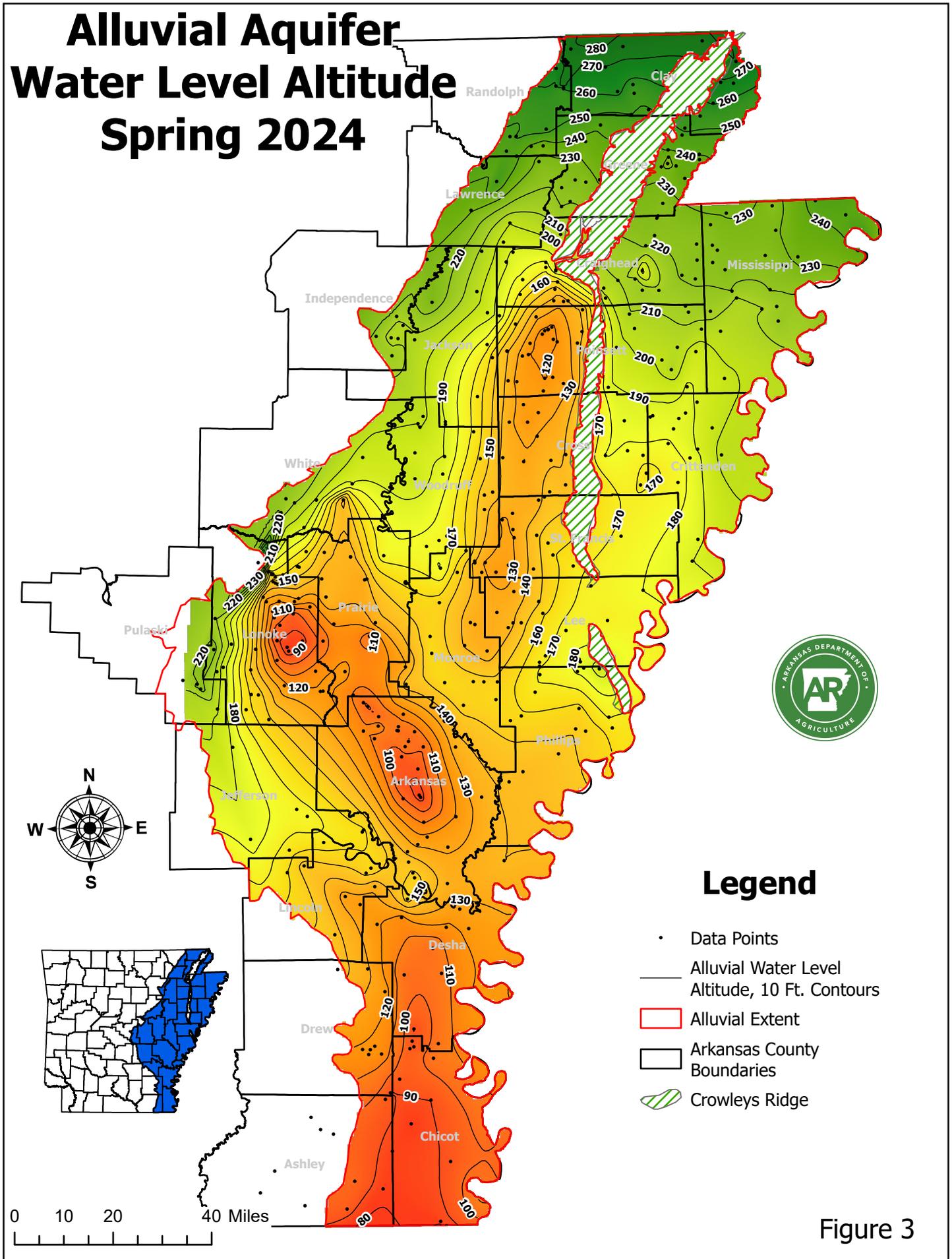
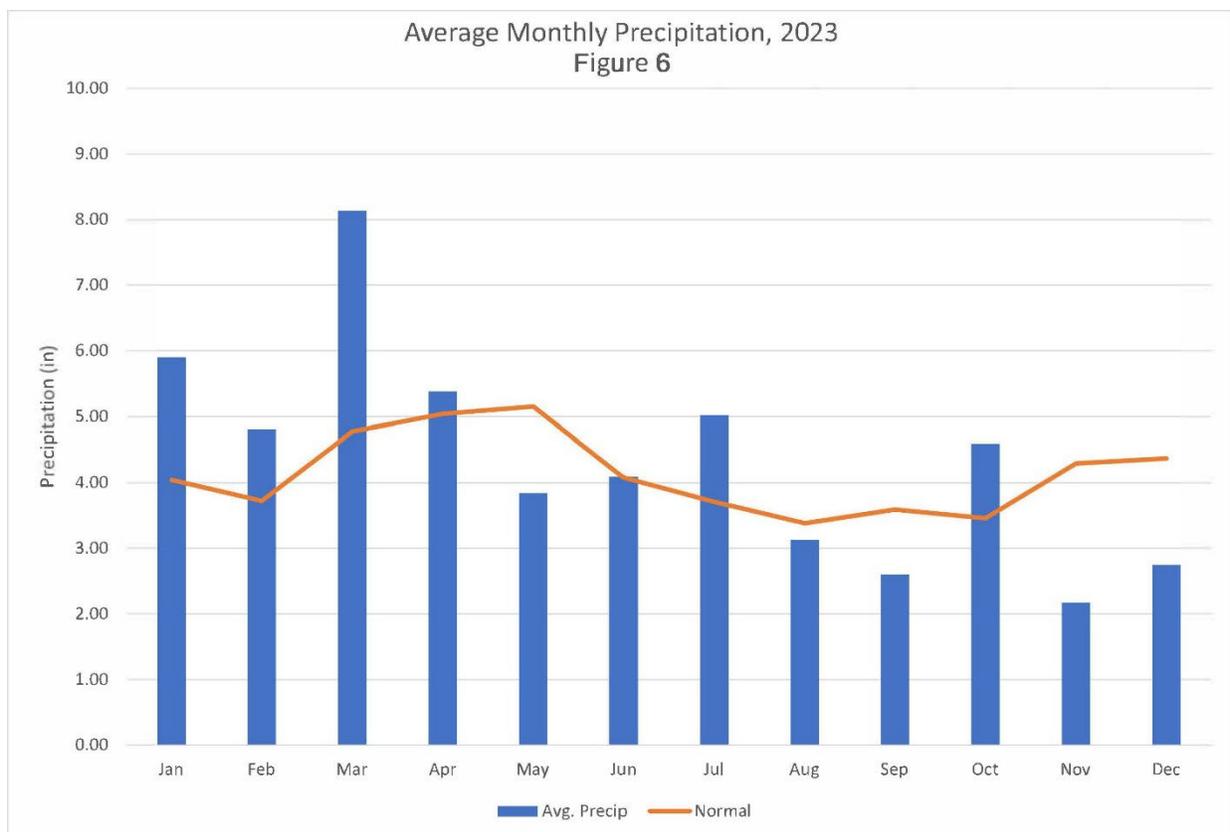


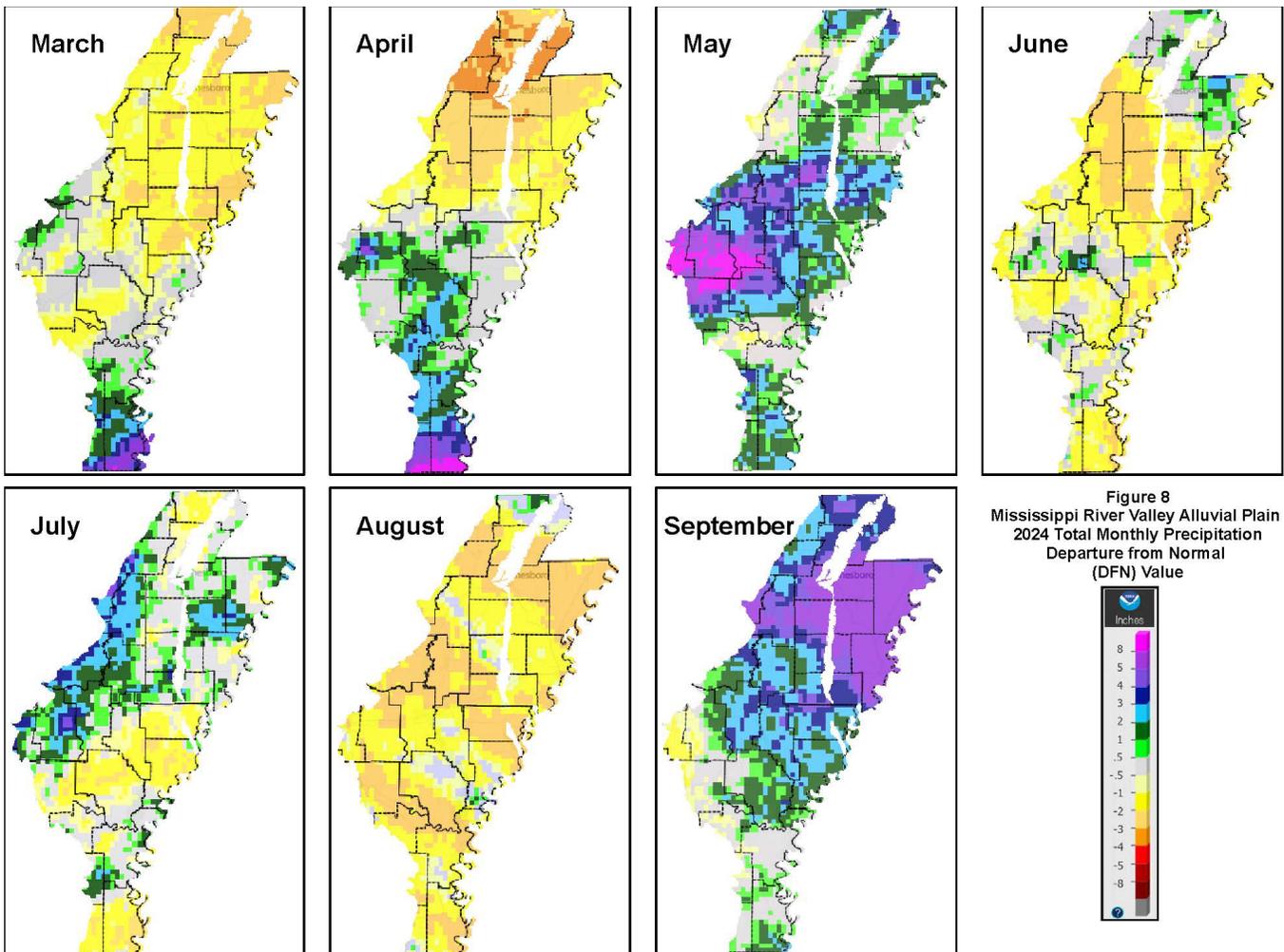
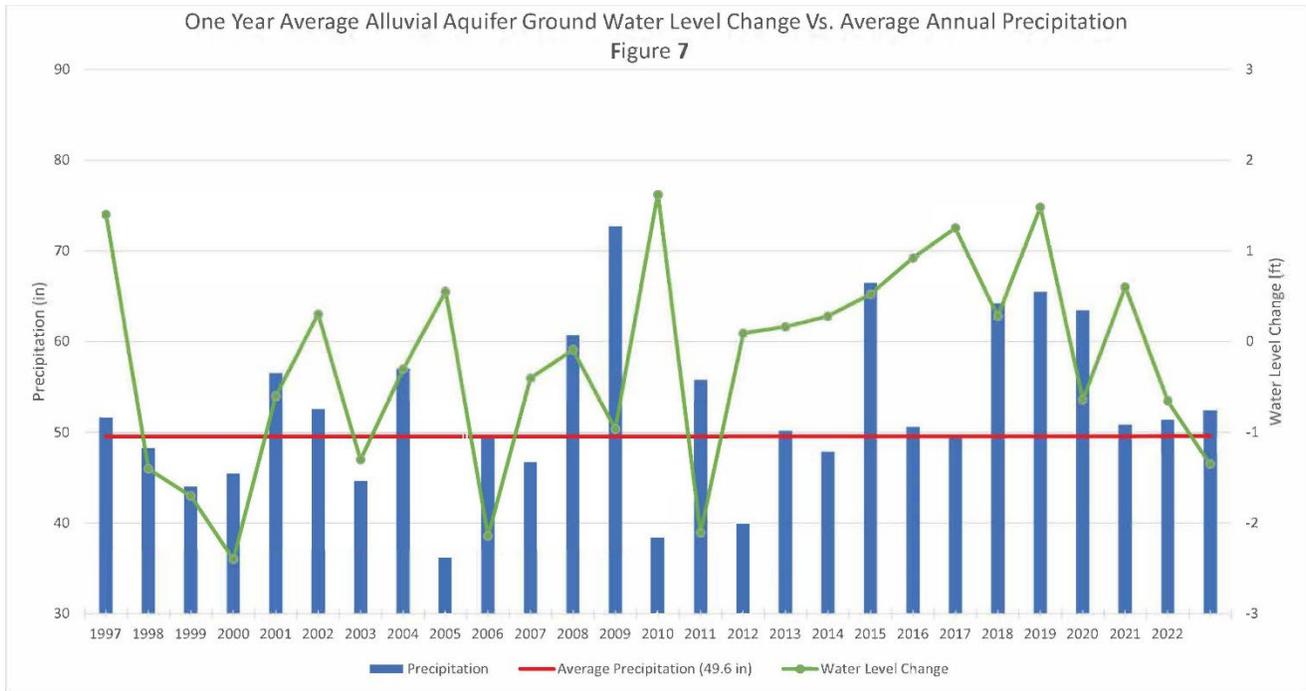
Figure 3

Precipitation and Weather Events

The amount of rainfall is considered for comparison with the water level change during times of drought or excess rainfall. Years of abundant precipitation benefit the Alluvial aquifer by increasing the ability for the aquifer to recharge naturally and by reducing the demand for groundwater, especially adequate amounts of rainfall throughout the growing season (March through September). In 2023, the total average precipitation was 52.42 inches, 2.81 inches more than the annual average and 1.0 inch above 2022. During the 2023 growing season, most months had at or above average precipitation except for May, August, and September which were just below average. Figure 6 shows the statewide monthly average precipitation for 2023 compared with the normal average monthly values.

Arkansas has received average to above average rainfall for most years since 2011. During this period, the average water level change across the Alluvial aquifer has generally been trending upwards, with the notable exception of 2021. One year precipitation totals for 2023 represent the second year in a row of near normal rainfall but significantly below normal precipitation during the growing season. The spring 2022 to 2023 average water level change comparison exhibits a negative average change value of -1.35 feet. Figure 7 compares the statewide annual average precipitation to the average change in water levels in the Alluvial aquifer from 1997 to 2023. Figure 8 presents data from the National Weather Service illustrating the total monthly precipitation received as a departure-from-normal value across the Mississippi River Valley Alluvial Plain for the 2023 growing season (NOAA, 2024).





Water Level Trends

Water level data from the current year are compared with previous data on a well-to-well basis in one, five, and ten-year intervals to illustrate the water level change of the aquifer over time. For the one-year change comparison, 299 of the 467 wells measured in spring 2024 shared data with the spring 2023 dataset, and when compared, give a total average water level change of -1.35 feet with 223 wells (74.58 percent) showing a decline in level. For the five-year comparison, 132 wells were identified as having data for both 2024 and 2019 giving a total average water level change of -1.37 feet with 84 wells (63.64 percent) having declining static water levels. The ten-year comparison found 280 wells with water level data for the spring seasons of 2024 and 2014 and gave a total average water level change of +0.22 feet with 131 wells (46.80 percent) compared showing declining aquifer levels.

Aquifer-wide water level change maps were created for the different time intervals: Figure 9 presents the one-year spring 2023 to spring 2024 water level change, Figure 10 presents the five-year spring 2019 to spring 2024 water level change, and Figure 11 presents the ten-year spring 2014 to spring 2024 water level change. These maps show that water level declines continue to be primarily concentrated in the Cache River and Grand Prairie areas where historical declines have been significant, particularly in the areas of the aquifer furthest from a major surface water source (e.g. the Arkansas, White, and Mississippi rivers). Conversely, the areas with increasing water level change values can generally be found along these sources. The five and ten-year change maps illustrate the movement of the existing cones of depression as Prairie and Lonoke counties continue to have declines in the Grand Prairie, and as the Cache River depression continues to expand southward into Monroe and Lee counties. Some water level decline can be found in the Beouf-Tensas and St. Francis study areas in the one-year comparison, but these declines do not appear to be causing significant aquifer drawdown over time.

Approximately 314 Alluvial aquifer wells were measured in the fall of 2024 that had also been measured during the spring. When compared, the total average change for spring to fall 2024 measurements was -2.63 feet, which is similar to the average change calculated over the last few years: 2018 (-3.57), 2019 (-2.90), 2020 (-3.32), 2021 (-2.80), 2022 (-3.42), and 2023 (-4.06). Figure 12 presents the spring to fall water level.

Selected water level hydrographs from the Alluvial aquifer are presented in Figure 13; the well locations are shown in Figure 4. All of these hydrographs are from monitoring wells maintained by the Arkansas Department of Agriculture or the USGS and are measured semi-annually or more during the year or have real-time data loggers installed for continuous water level data.

As previously mentioned, the spring 2024 water level change values showed a negative average change of -1.35 feet for the entire Alluvial aquifer in the one-year period and -1.28 feet in the five-year period, while the ten-year period had a positive average value of +0.22 feet. The aquifer-wide data has been focused on the four study areas that include the Alluvial aquifer: Grand Prairie, Cache River, St. Francis, and Beouf-Tensas, for each period. The 2024 data shows decreasing values for all study areas in the one-year comparison but increasing average water level changes for the Grand Prairie and Beouf-Tensas

study areas for five and ten-year time periods. Figures 14 through 25 depict the spring 2024 Alluvial aquifer water level change data and well locations for the four study areas over the one, five, and ten-year change intervals.

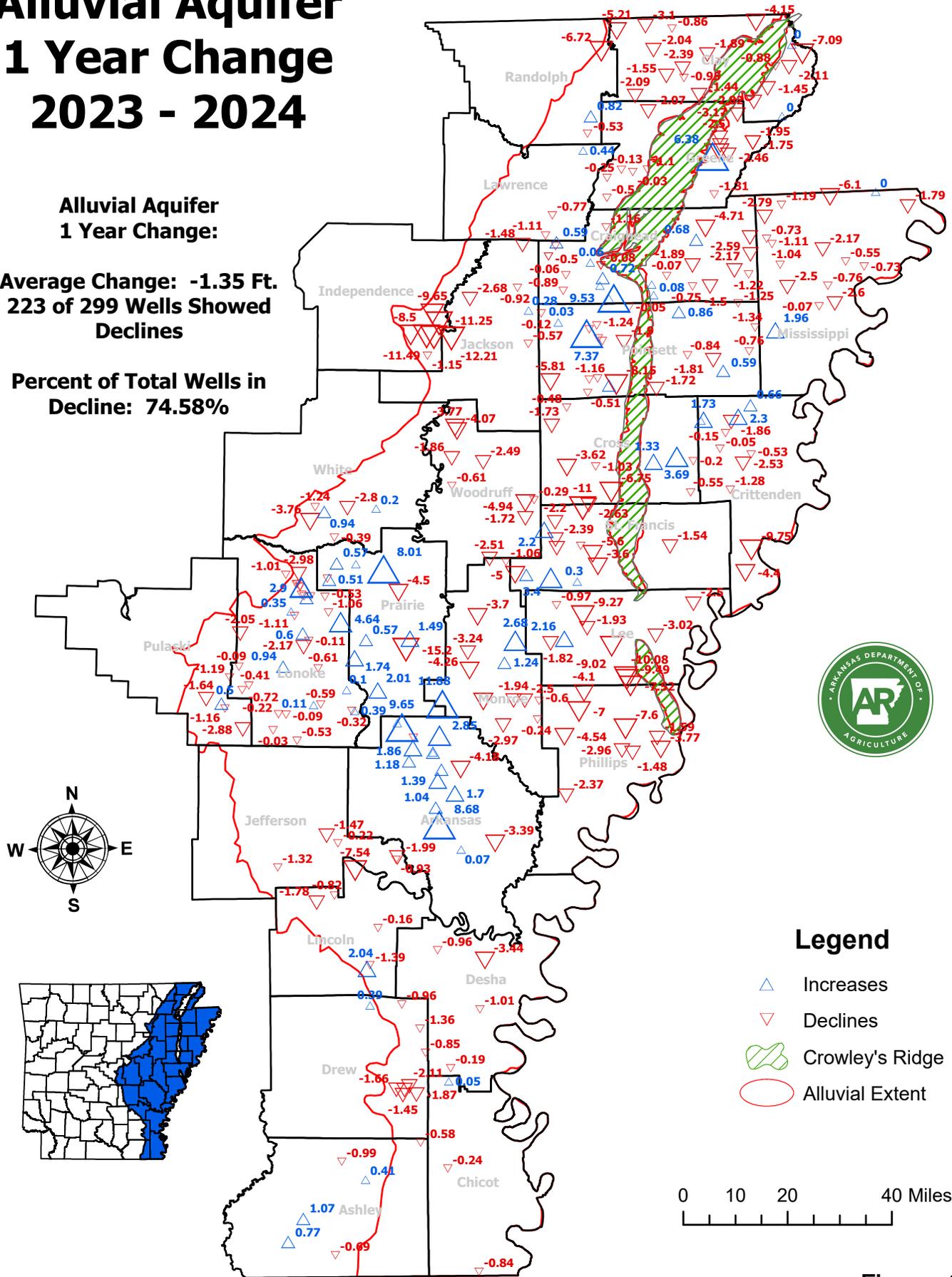
Appendix A presents the 2024 aquifer water level data along with the 2014, 2019, and 2023 water level data for wells measured in 2024 as used in this report.

Alluvial Aquifer 1 Year Change 2023 - 2024

Alluvial Aquifer
1 Year Change:

Average Change: -1.35 Ft.
223 of 299 Wells Showed
Declines

Percent of Total Wells in
Decline: 74.58%



Legend

- ▲ Increases
- ▼ Declines
- ▨ Crowley's Ridge
- Alluvial Extent

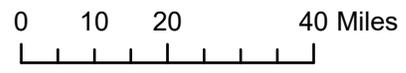


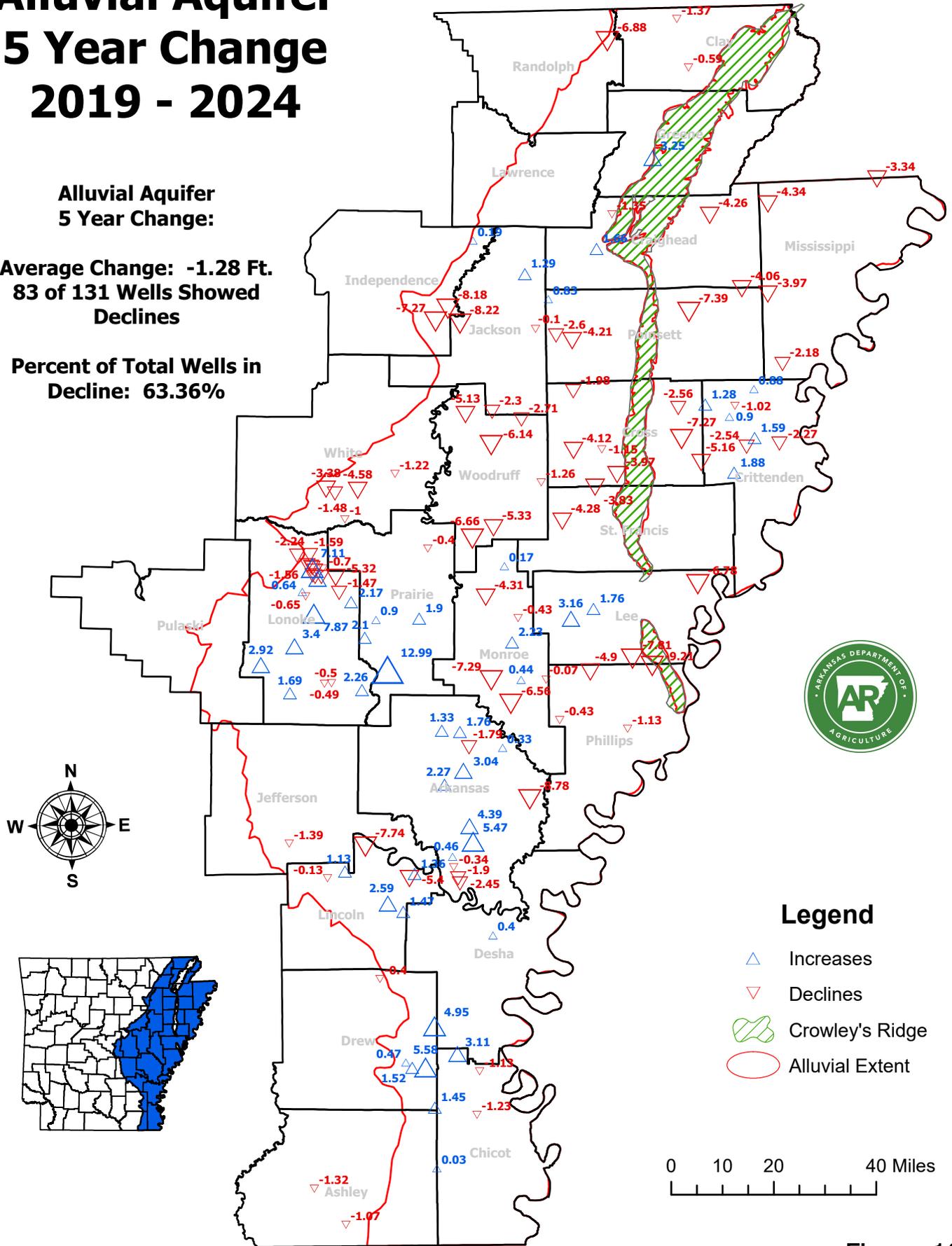
Figure 9

Alluvial Aquifer 5 Year Change 2019 - 2024

Alluvial Aquifer
5 Year Change:

Average Change: -1.28 Ft.
83 of 131 Wells Showed
Declines

Percent of Total Wells in
Decline: 63.36%



Legend

- ▲ Increases
- ▼ Declines
- Crowley's Ridge
- Alluvial Extent

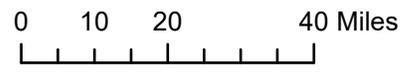


Figure 10

Alluvial Aquifer 10 Year Change 2014 - 2024

Alluvial Aquifer
10 Year Change:

Average Change: +0.22 Ft.
131 of 280 Wells Showed
Declines

Percent of Total Wells in
Decline: 46.80%

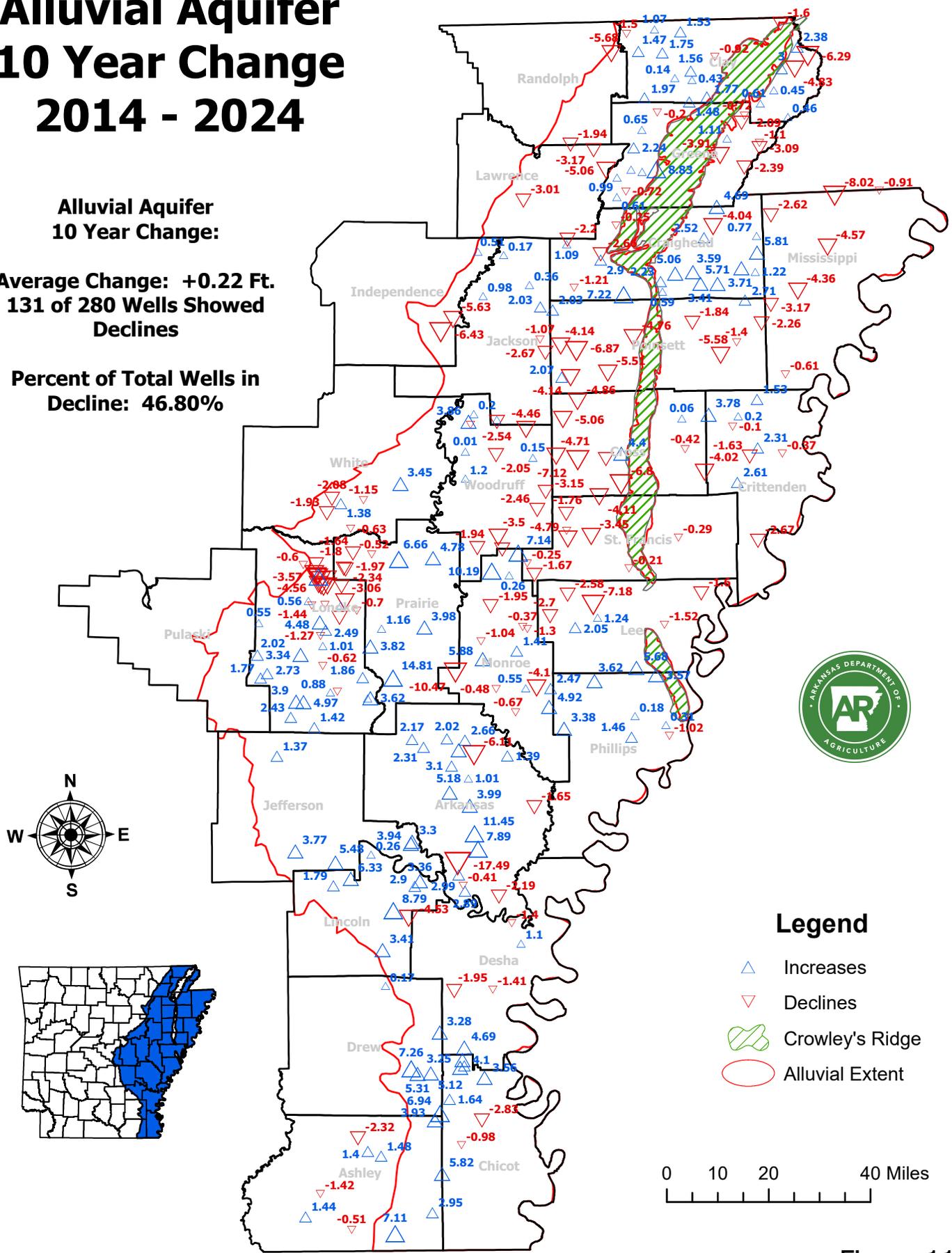


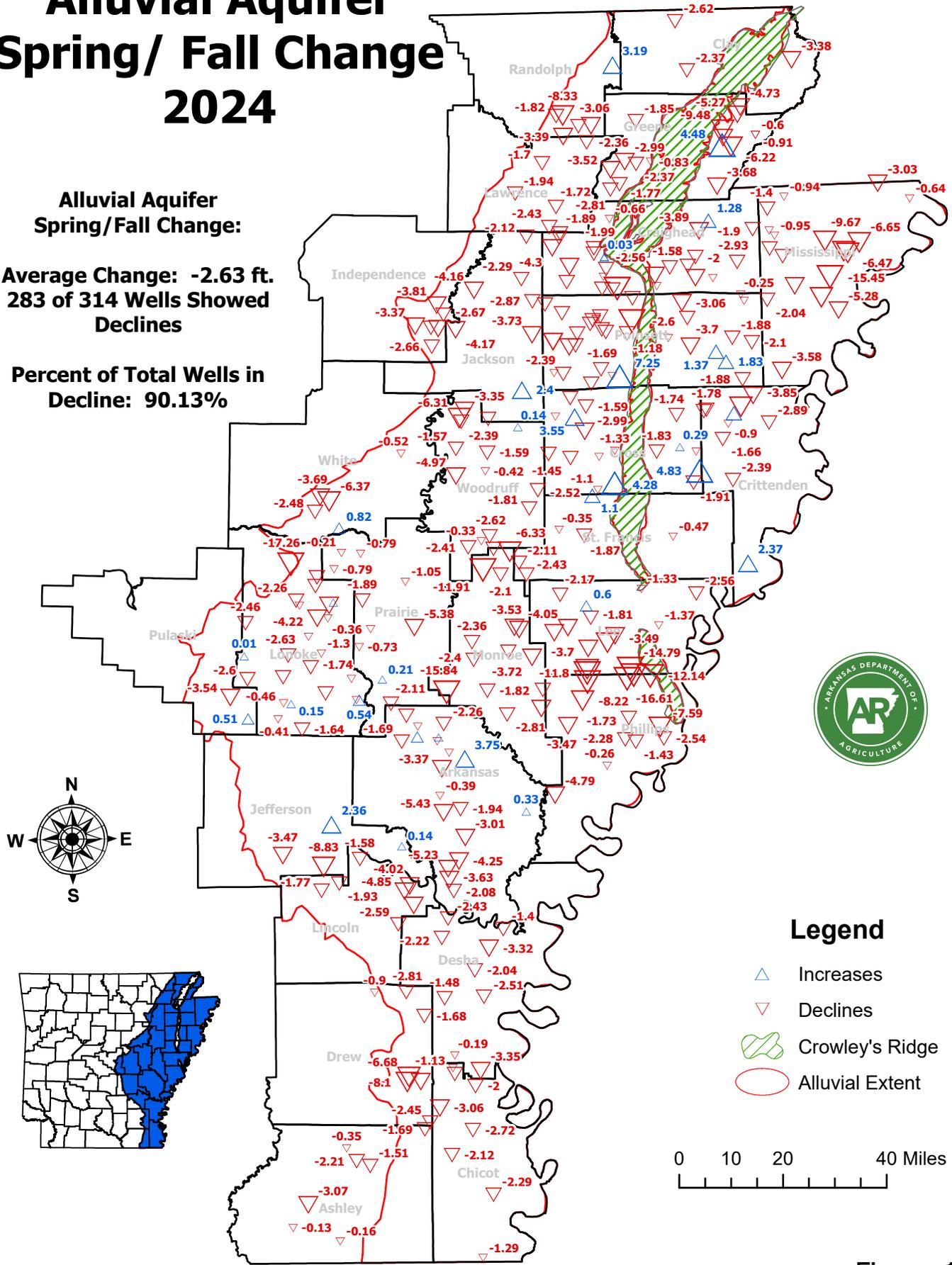
Figure 11

Alluvial Aquifer Spring/ Fall Change 2024

Alluvial Aquifer
Spring/Fall Change:

Average Change: -2.63 ft.
283 of 314 Wells Showed
Declines

Percent of Total Wells in
Decline: 90.13%



Legend

- ▲ Increases
- ▼ Declines
- ▨ Crowley's Ridge
- Alluvial Extent

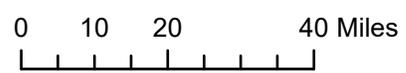
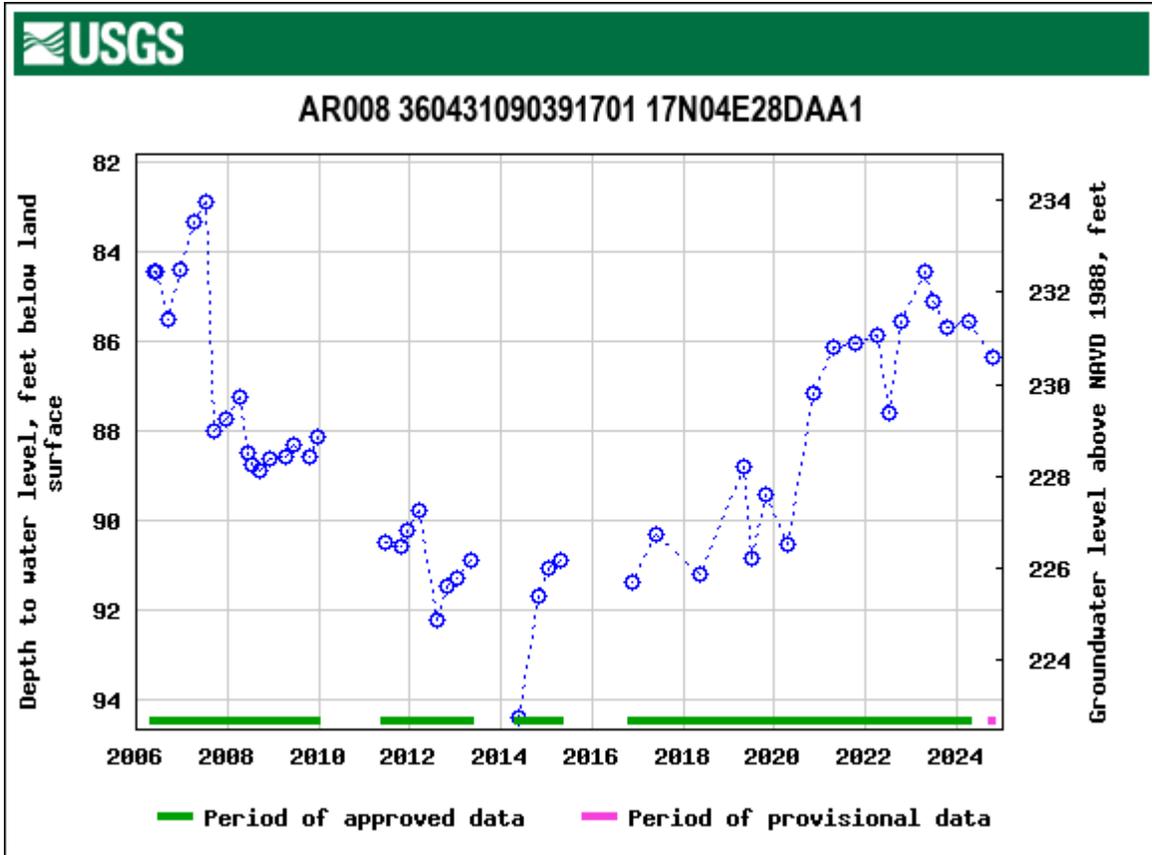
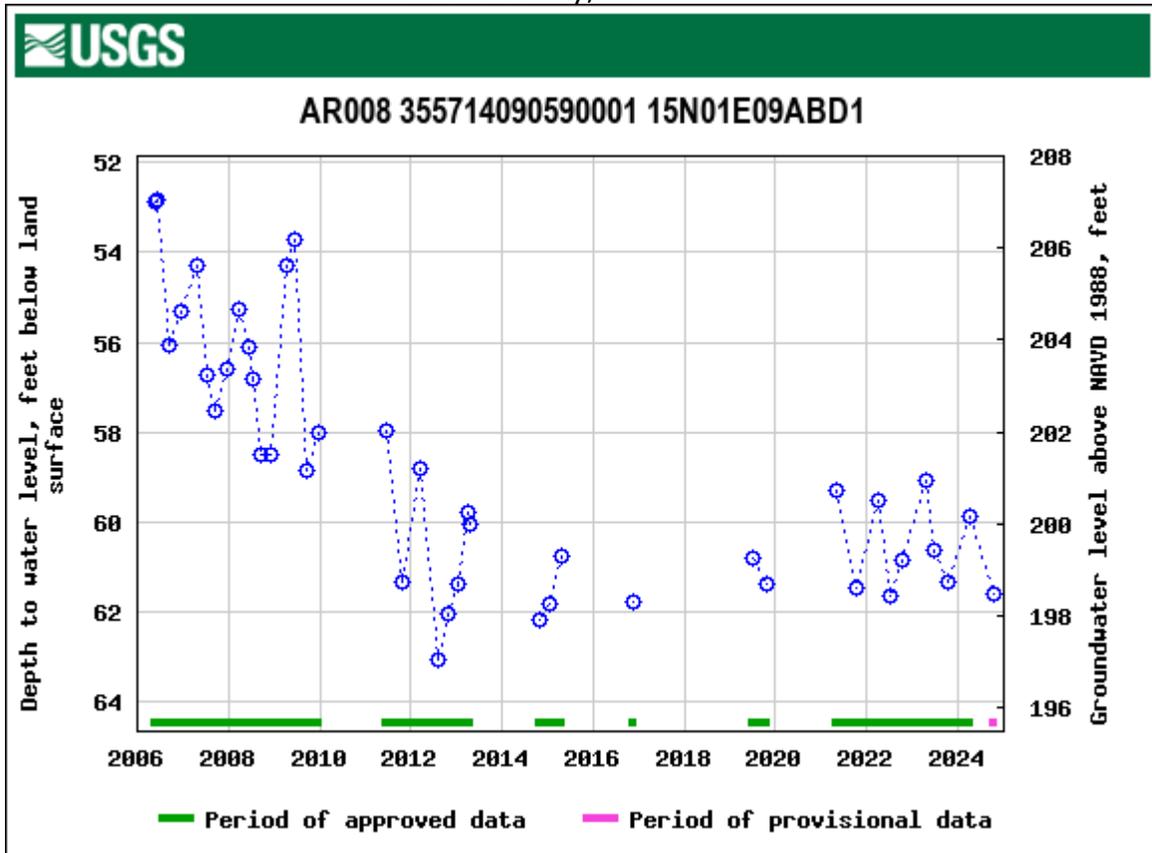


Figure 12

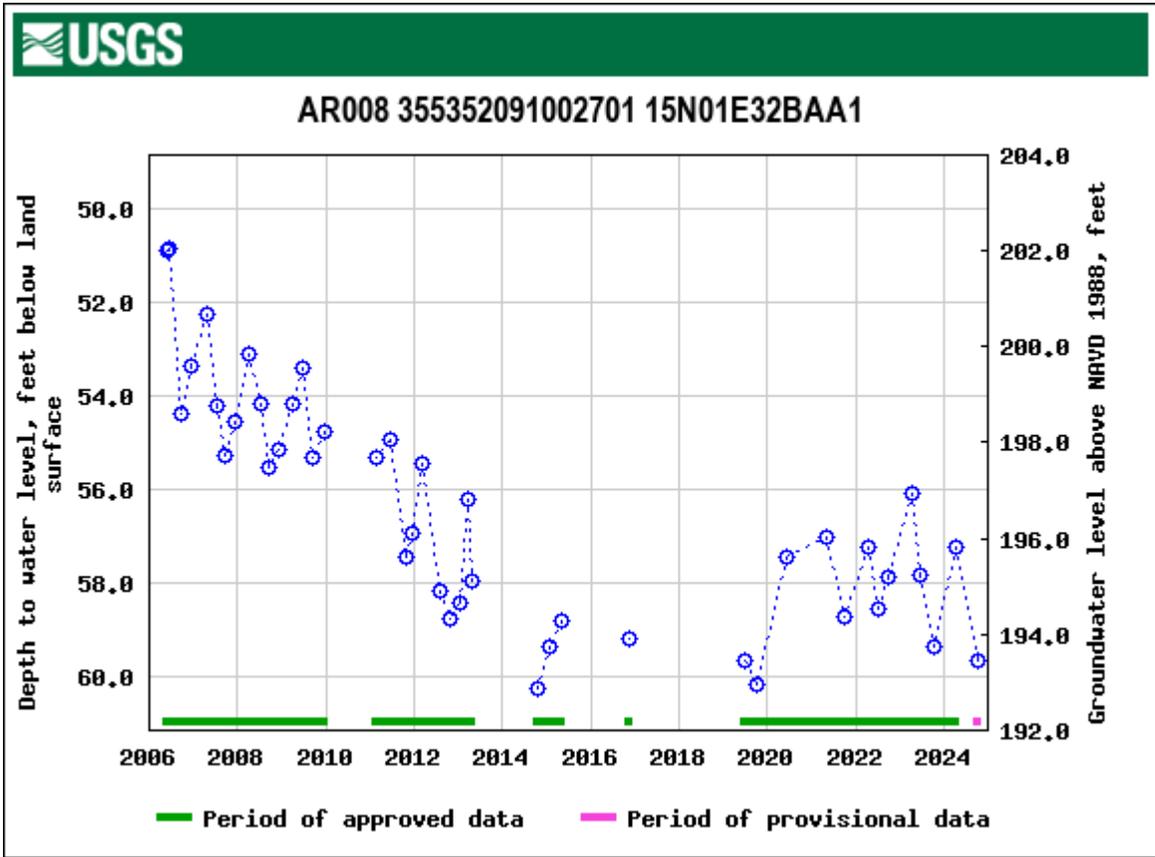
Figure 13. Selected water level hydrographs from the Alluvial aquifer



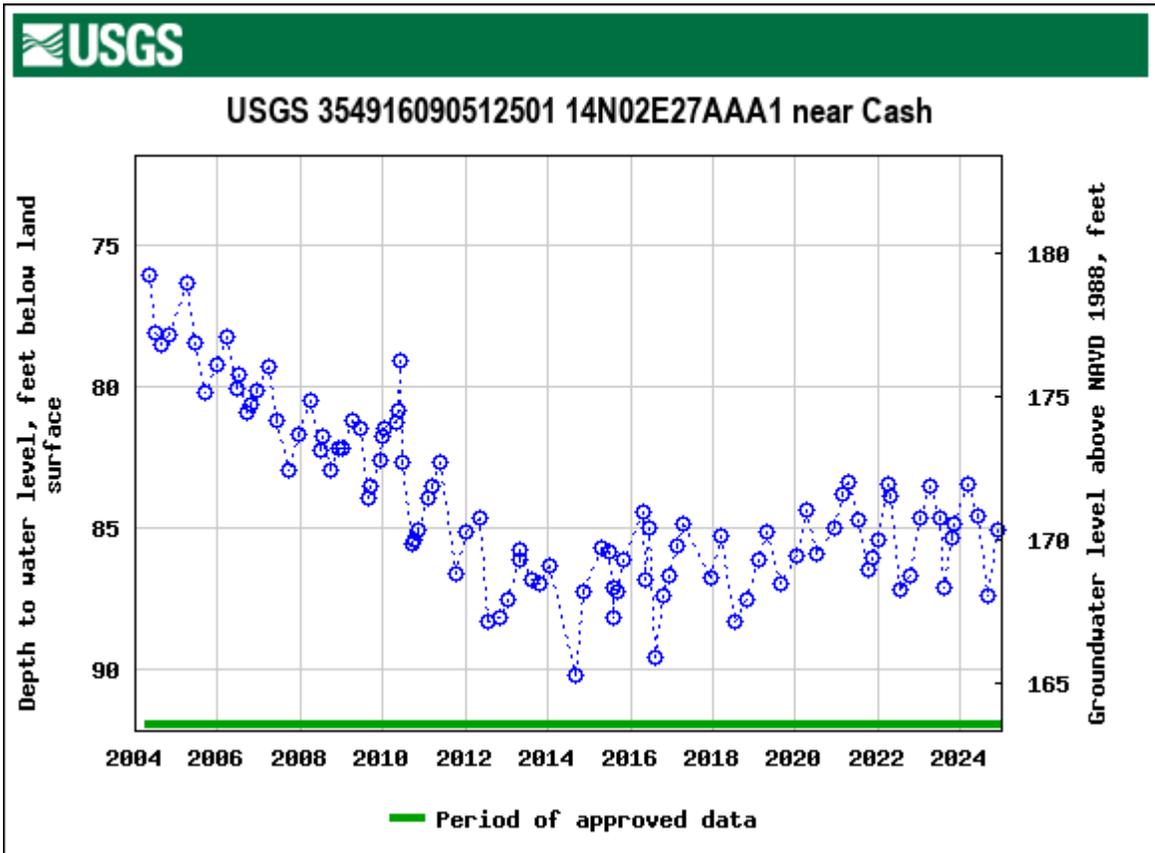
A. Greene County, Well 17N04E28DAA1



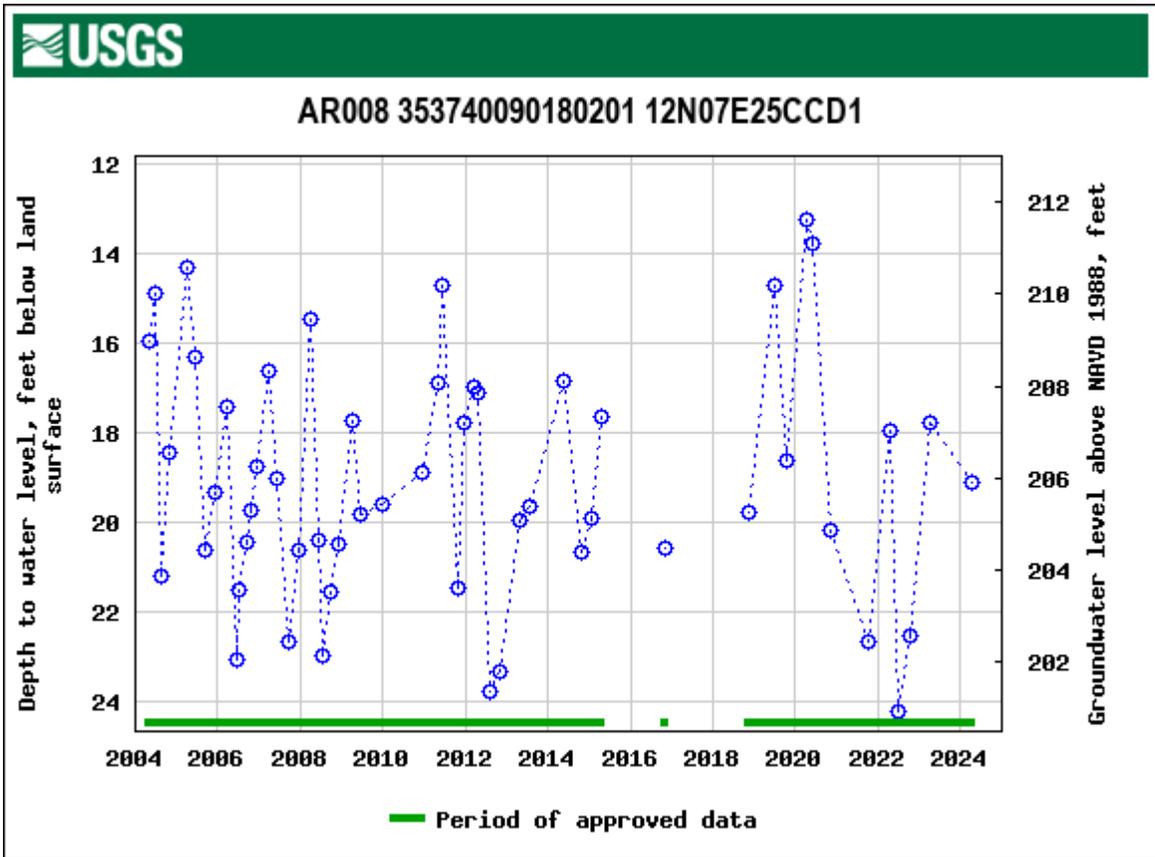
B. Lawrence County, Well 15N01E09ABD1



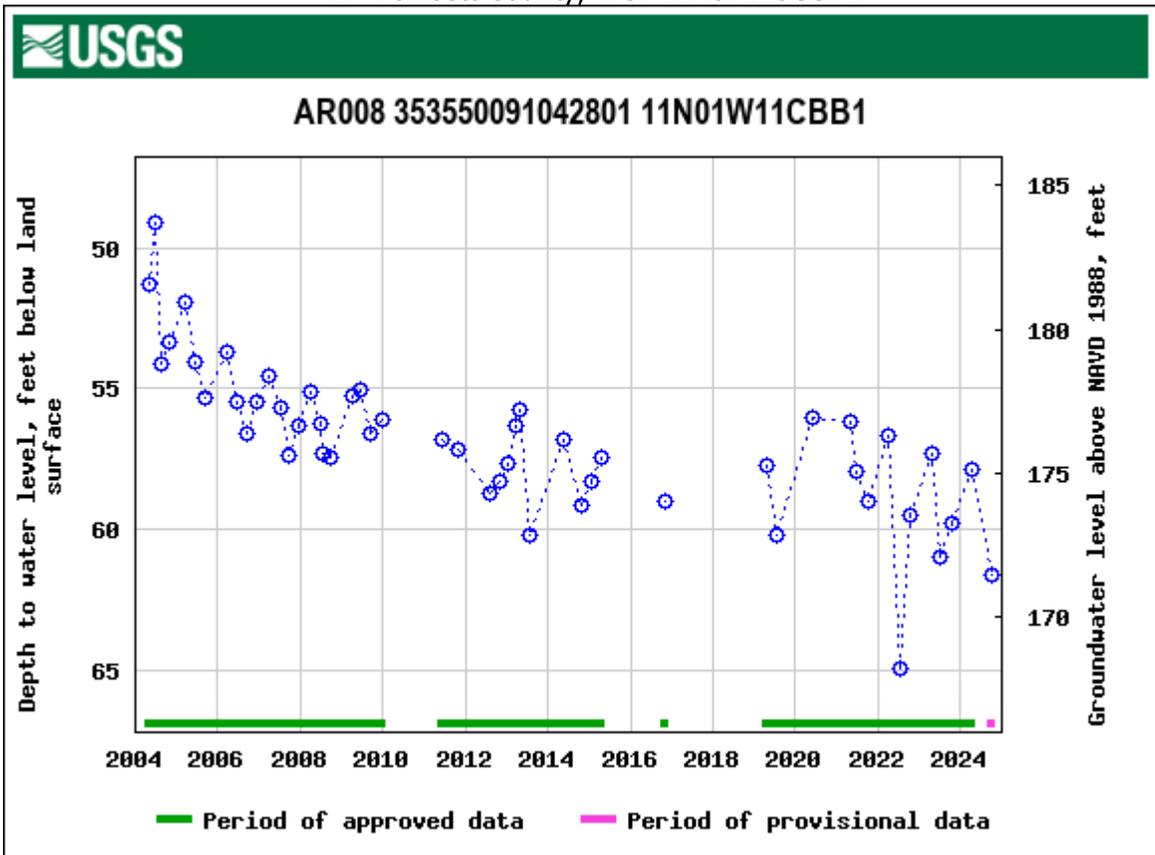
C. Lawrence County, Well 15N01E32BAA1



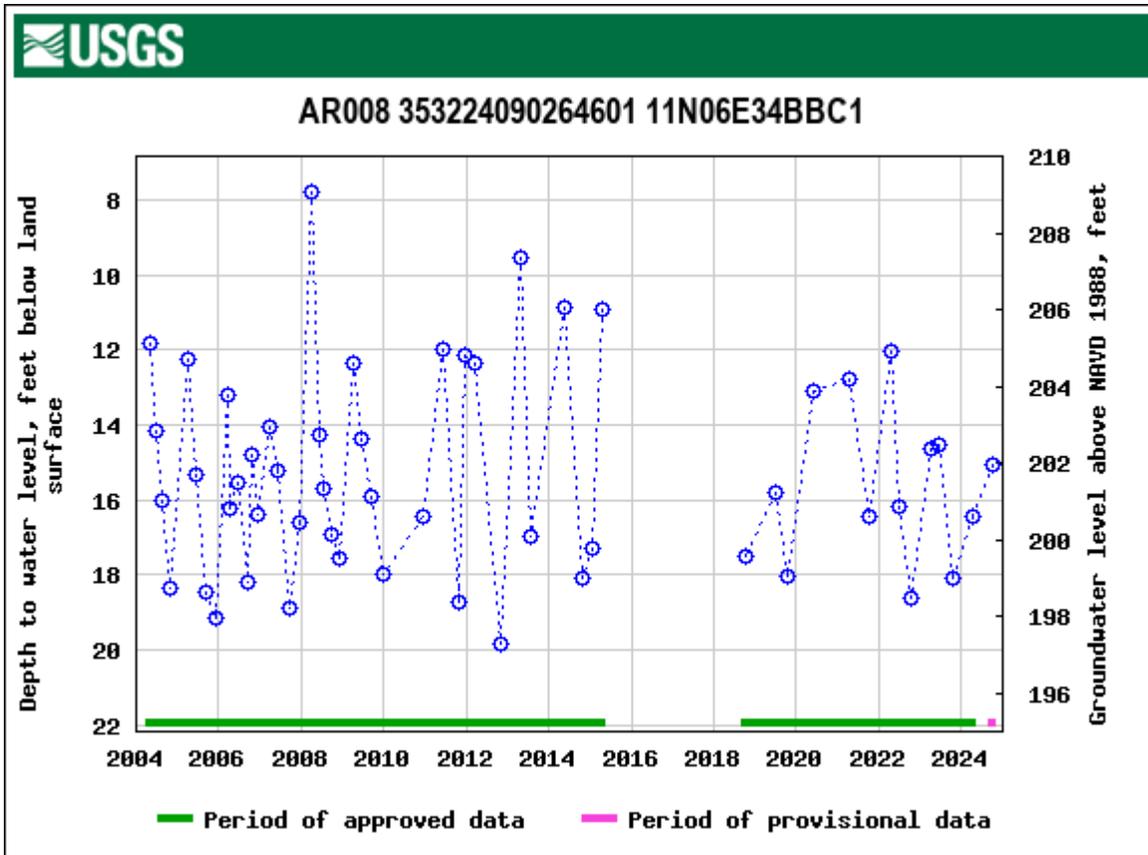
D. Craighead County, Well 14N02E27AAA1



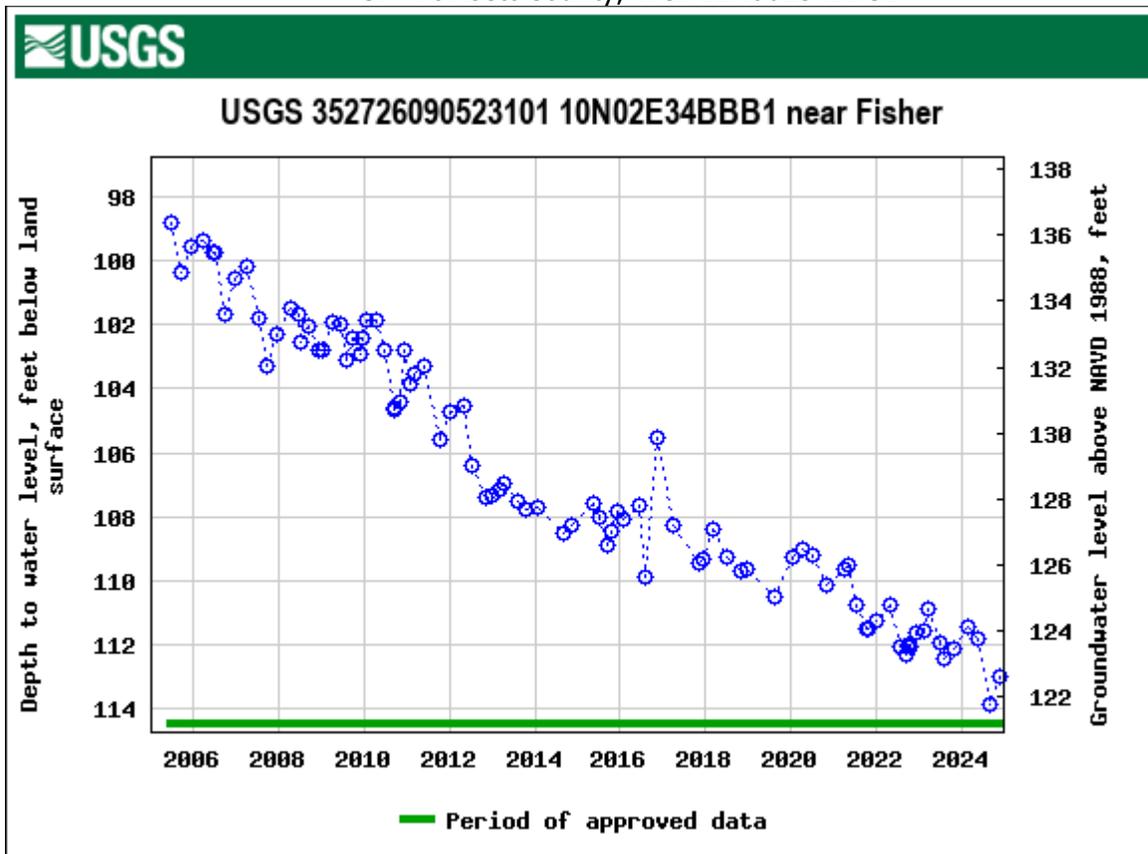
E. Poinsett County, Well 12N07E25CCD1



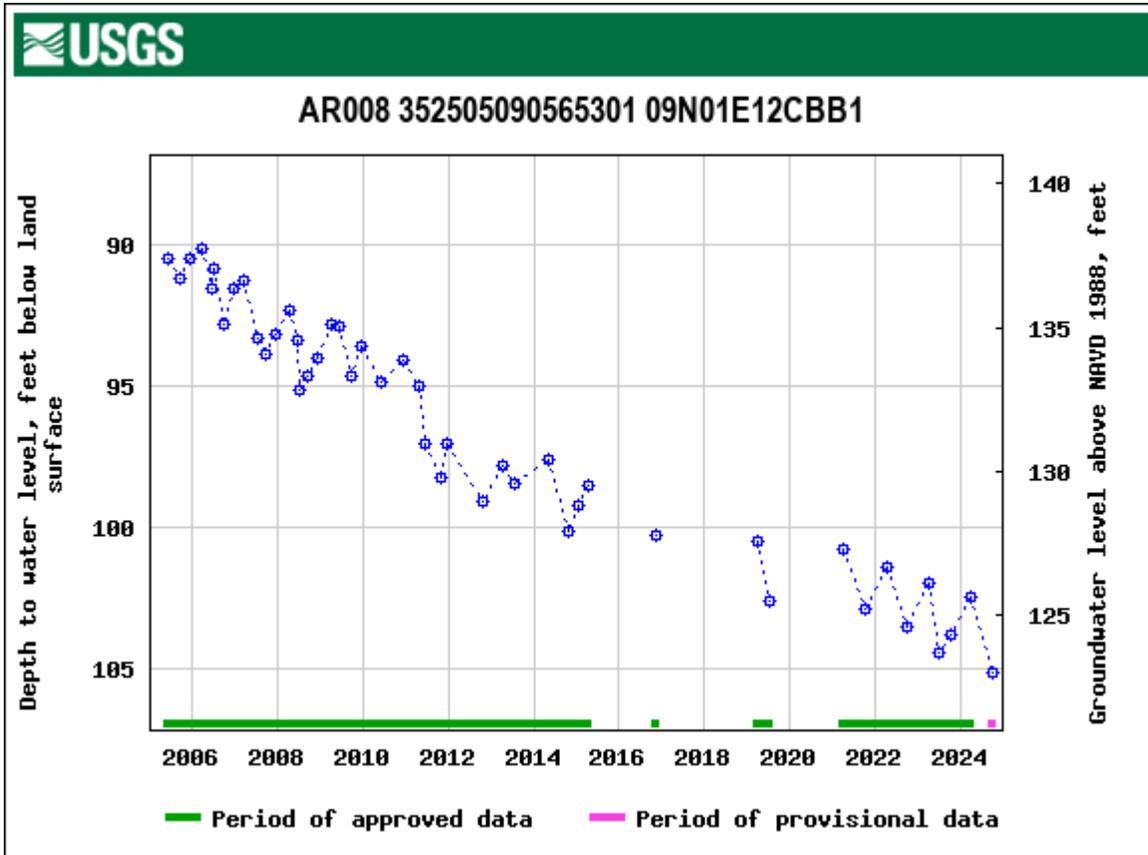
F. Jackson County, Well 11N01W11CCB1



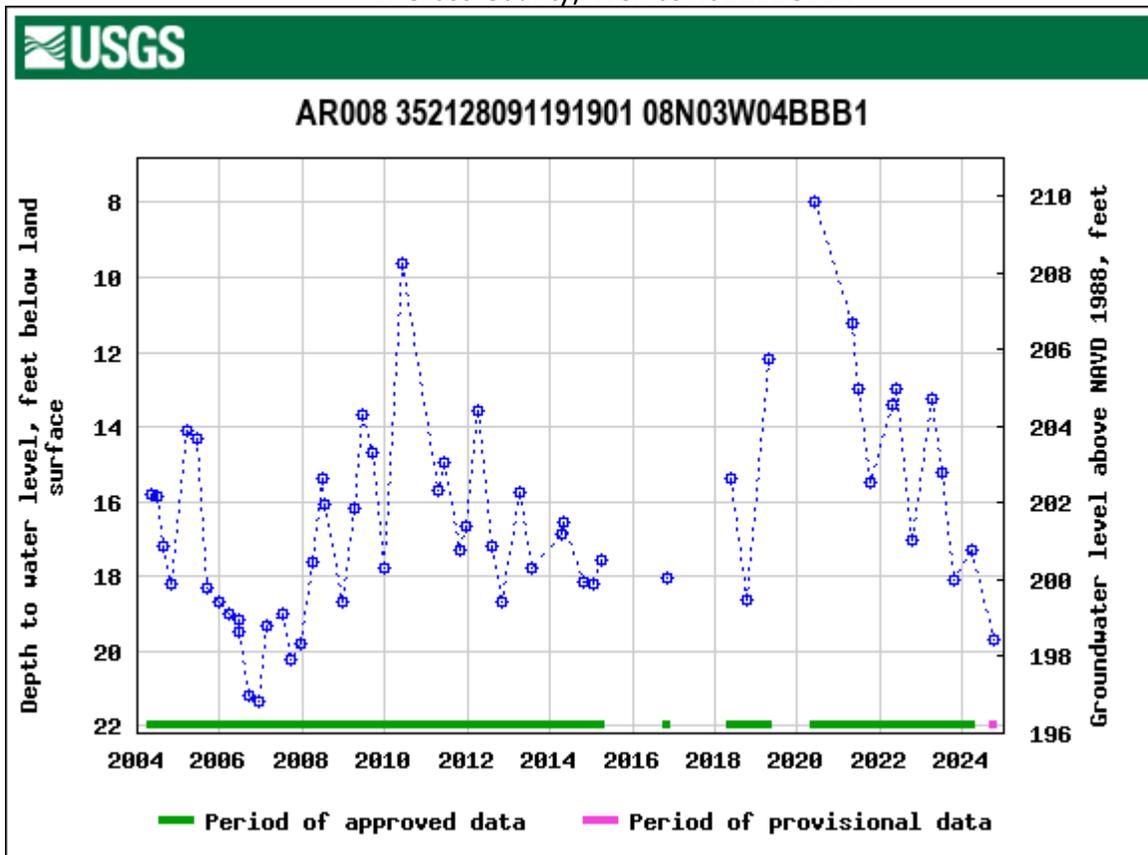
G. Poinsett County, Well 11N06E34BBC1



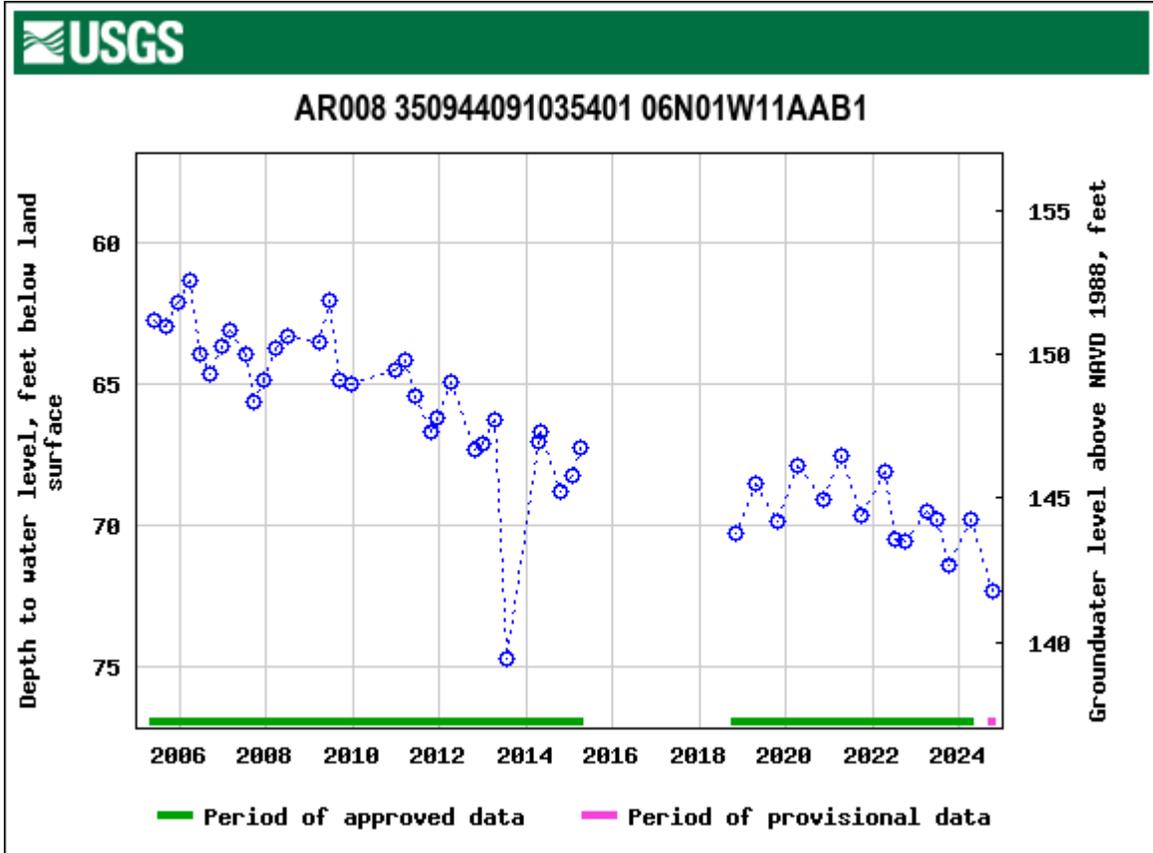
H. Poinsett County, Well 10N02E34BBB1



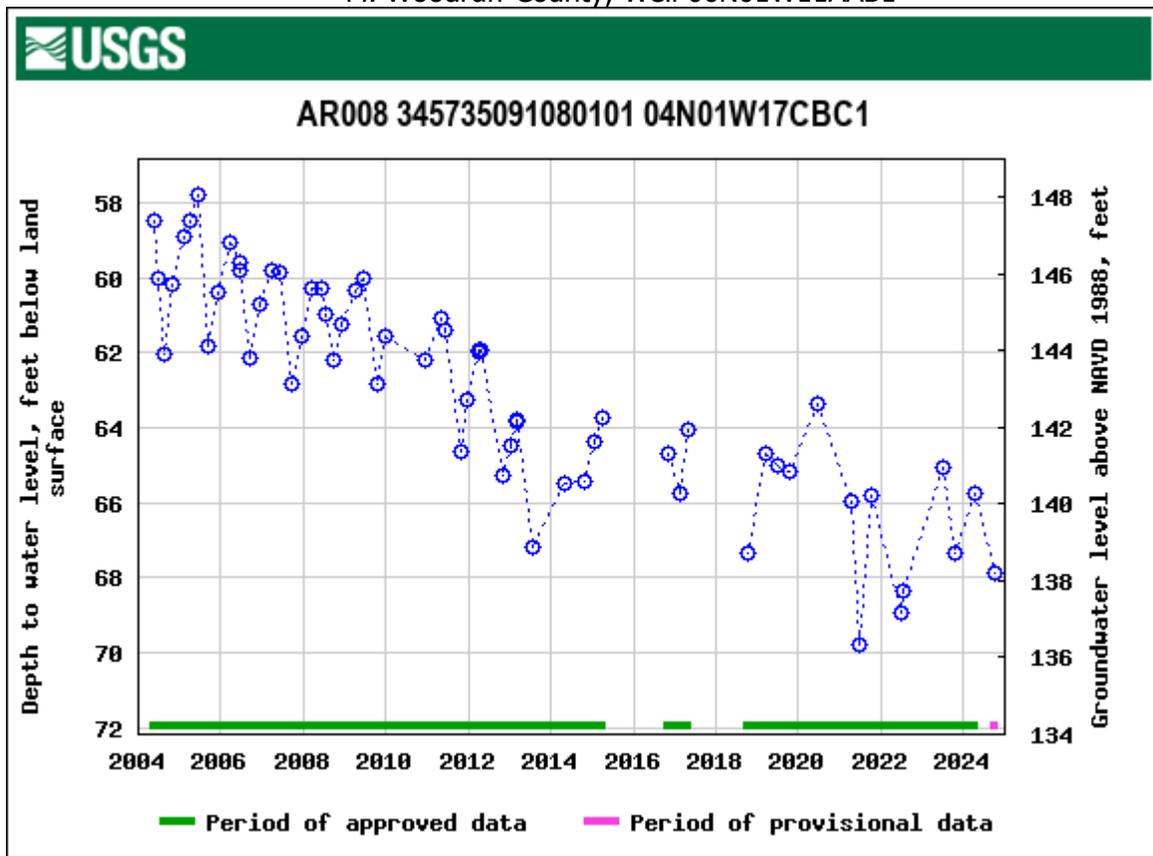
I. Cross County, Well 09N01E12CBB1



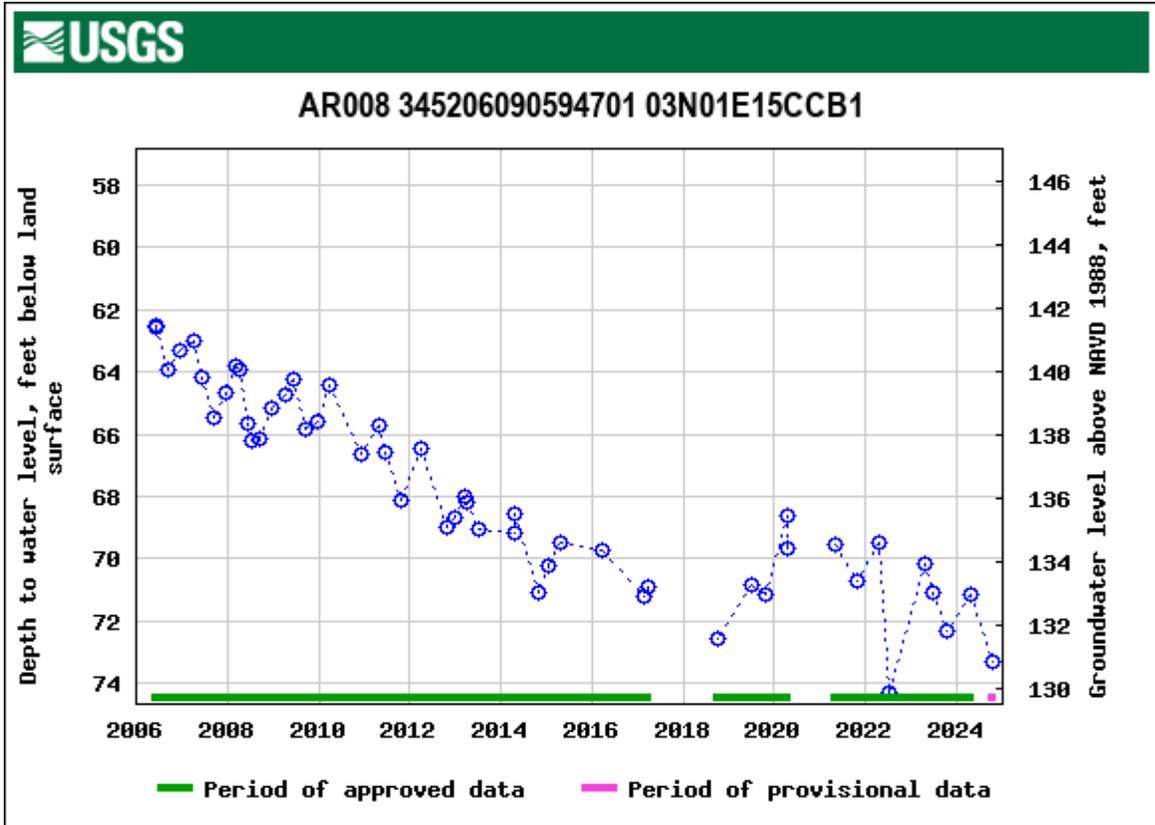
J. Woodruff County, Well 08N03W04BBB1



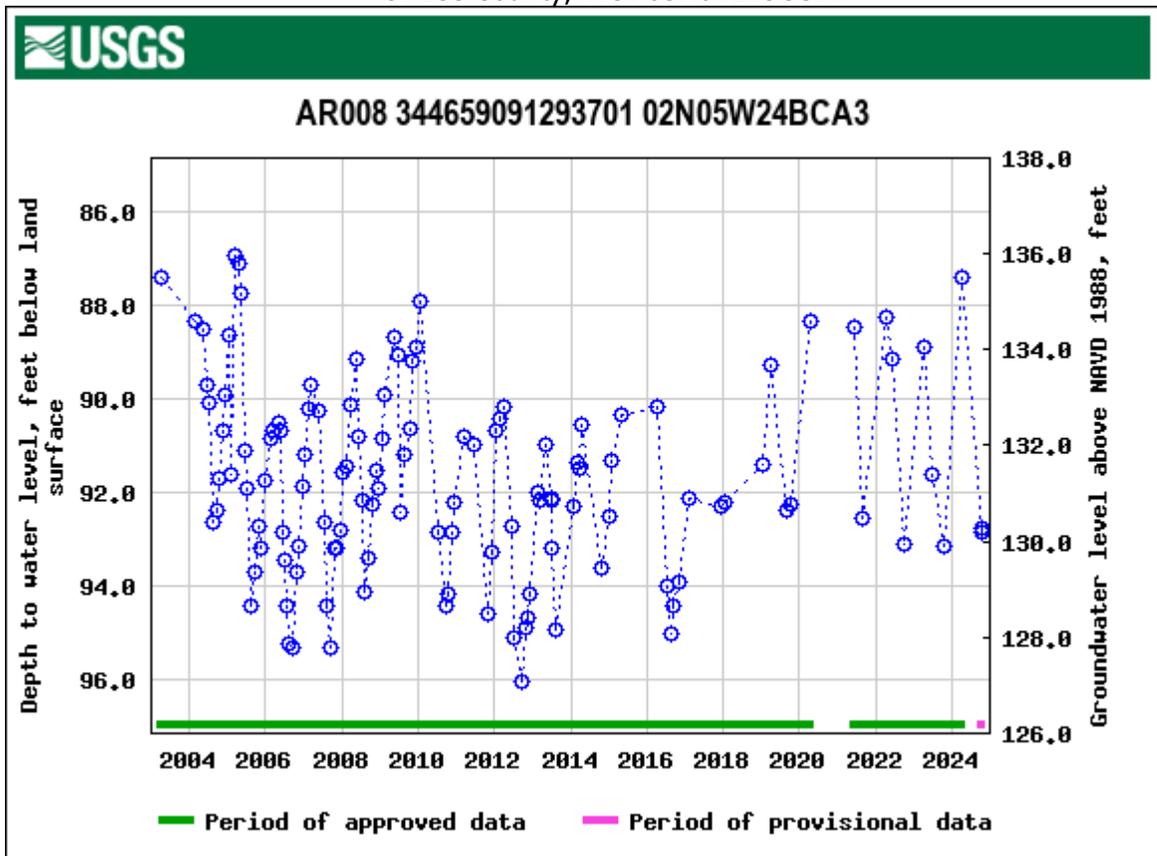
M. Woodruff County, Well 06N01W11AAB1



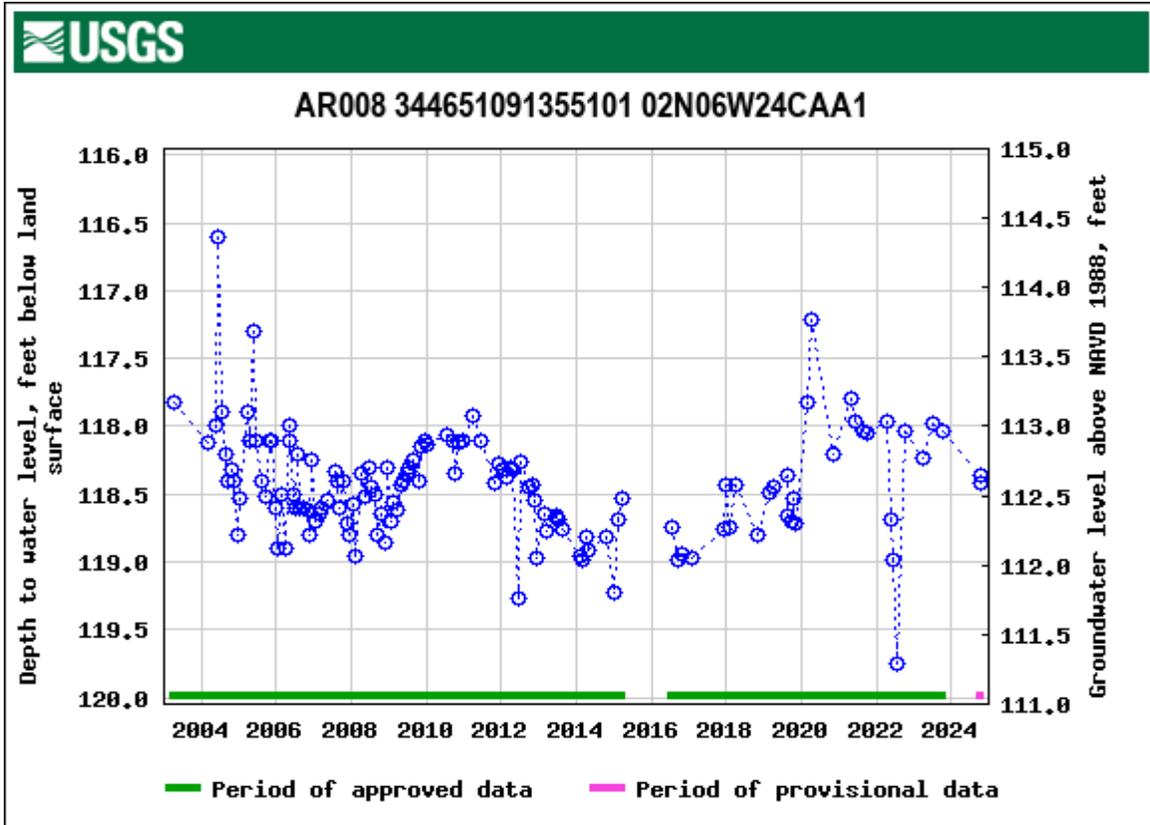
N. St. Francis County, Well 04N01W17CBC1



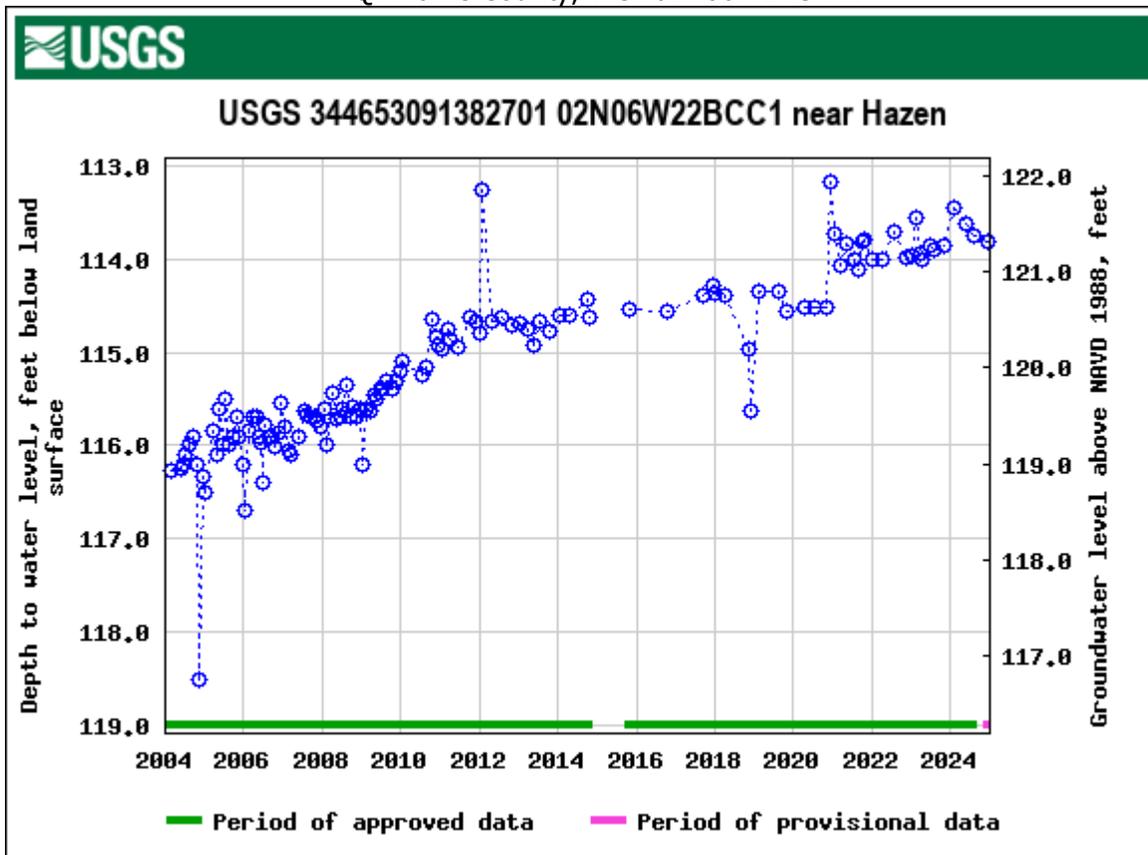
O. Lee County, Well 03N01E15CCB1



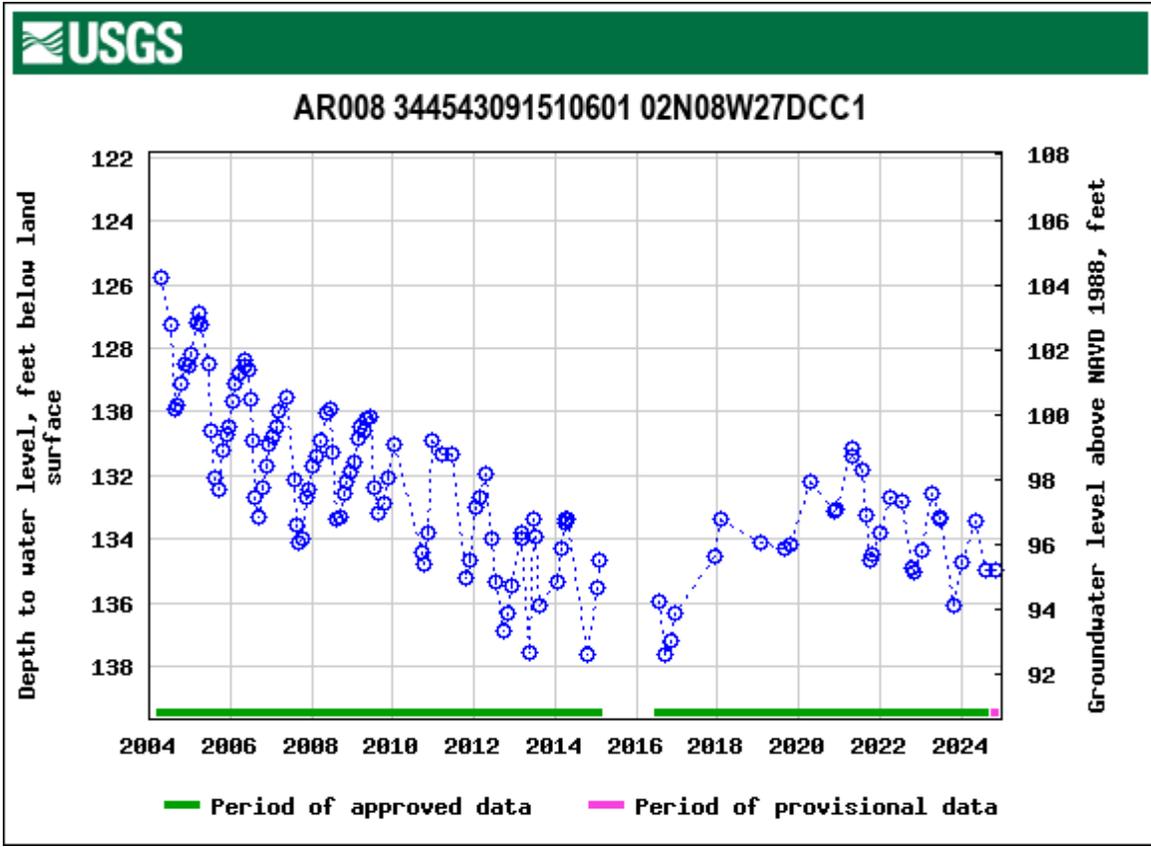
P. Prairie County, Well 02N05W24BCA3



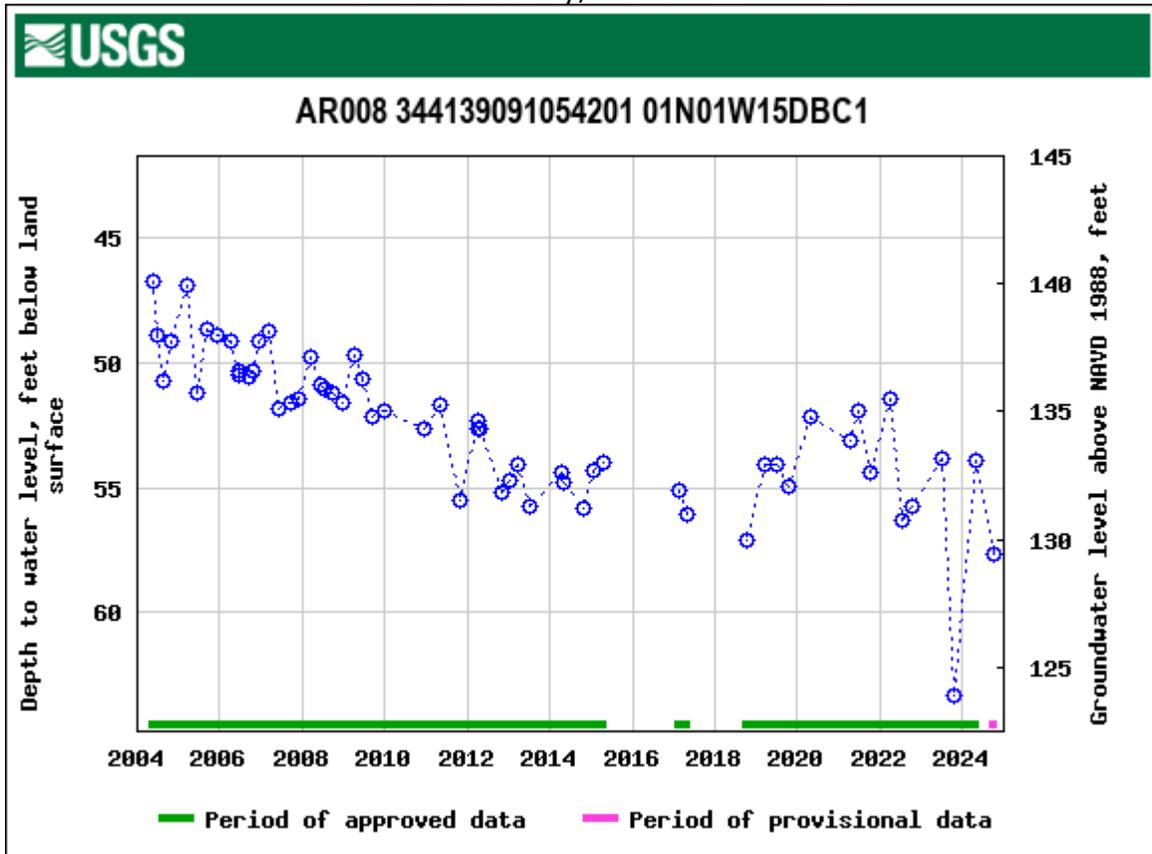
Q. Prairie County, Well 02N06W24CAA1



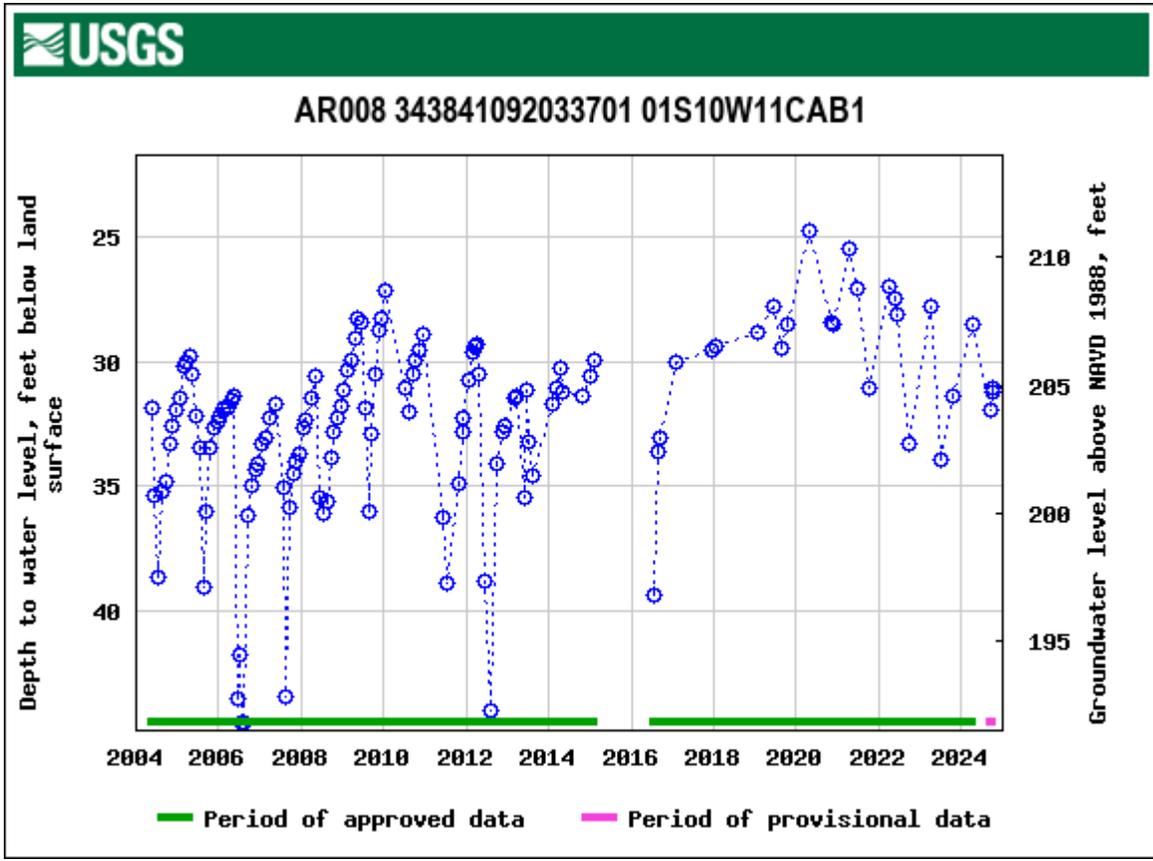
R. Prairie County, Well 02N06W22BCC1



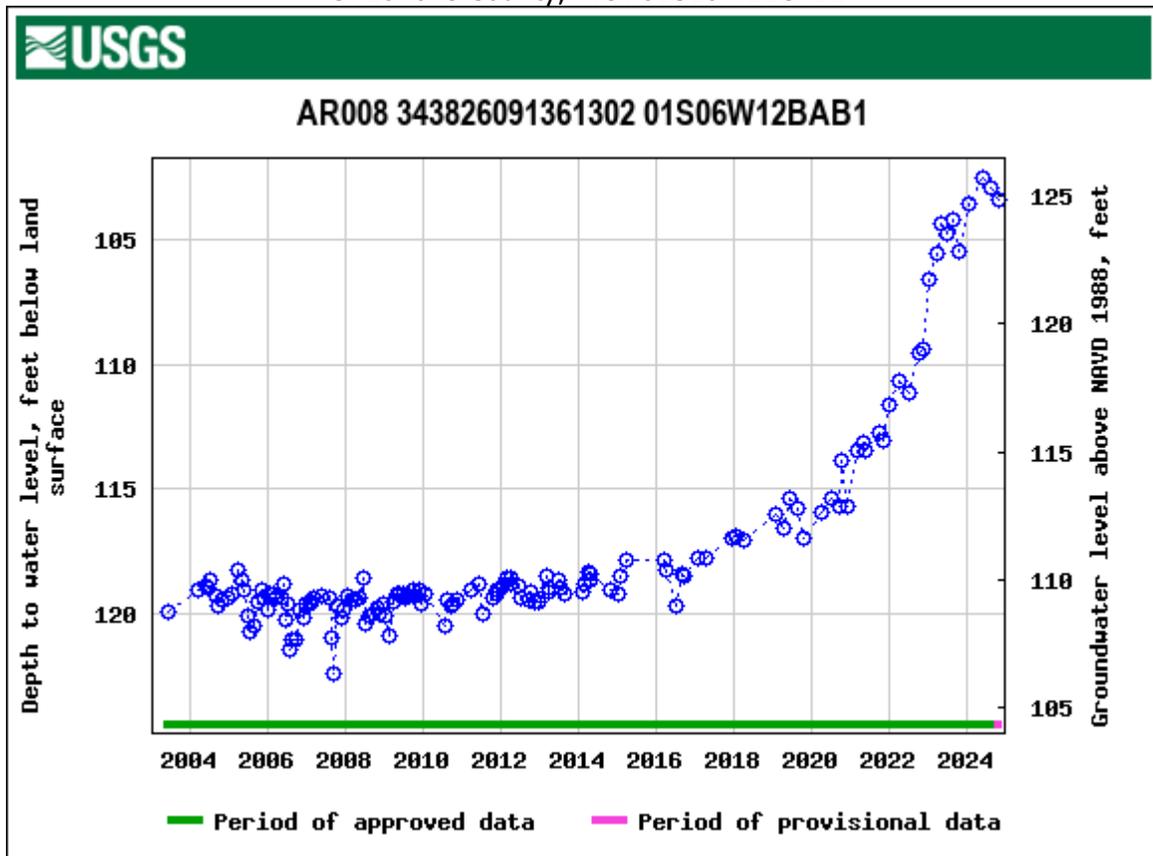
S. Lonoke County, Well 02N08W27DCC1



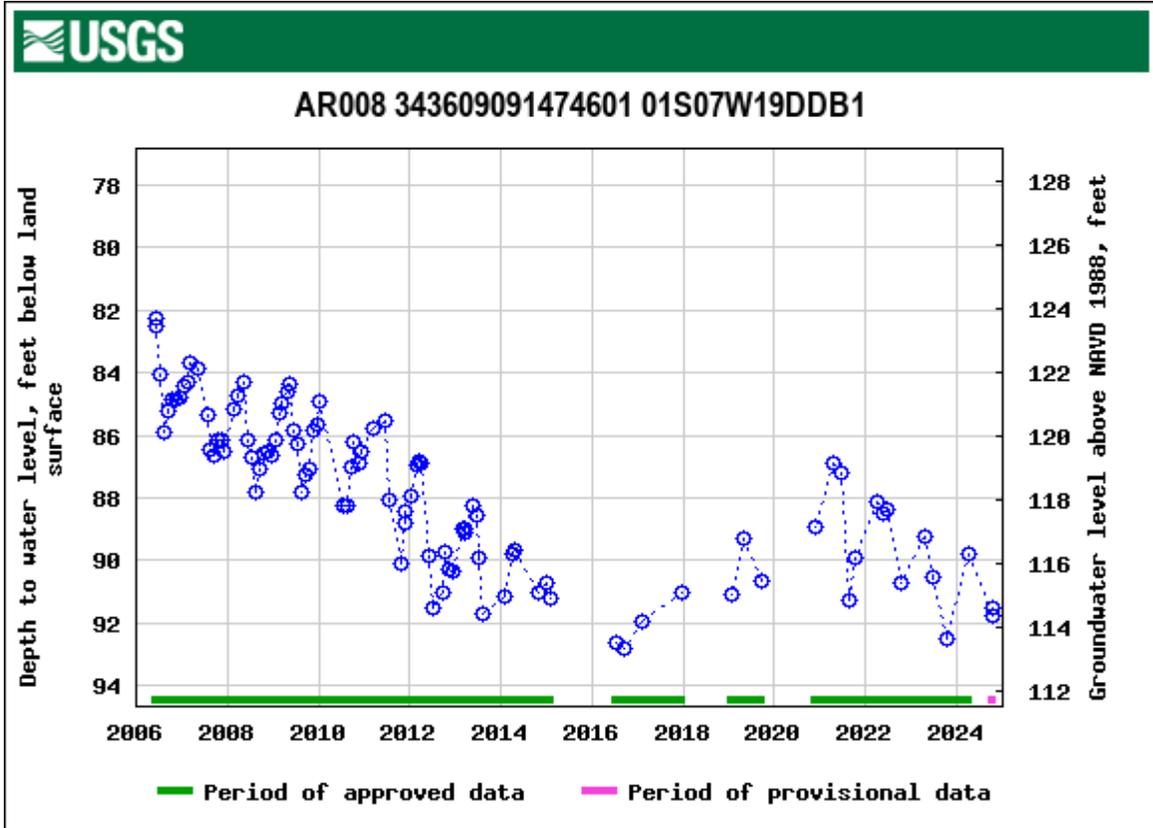
T. Monroe County, Well 01N01W15DBC1



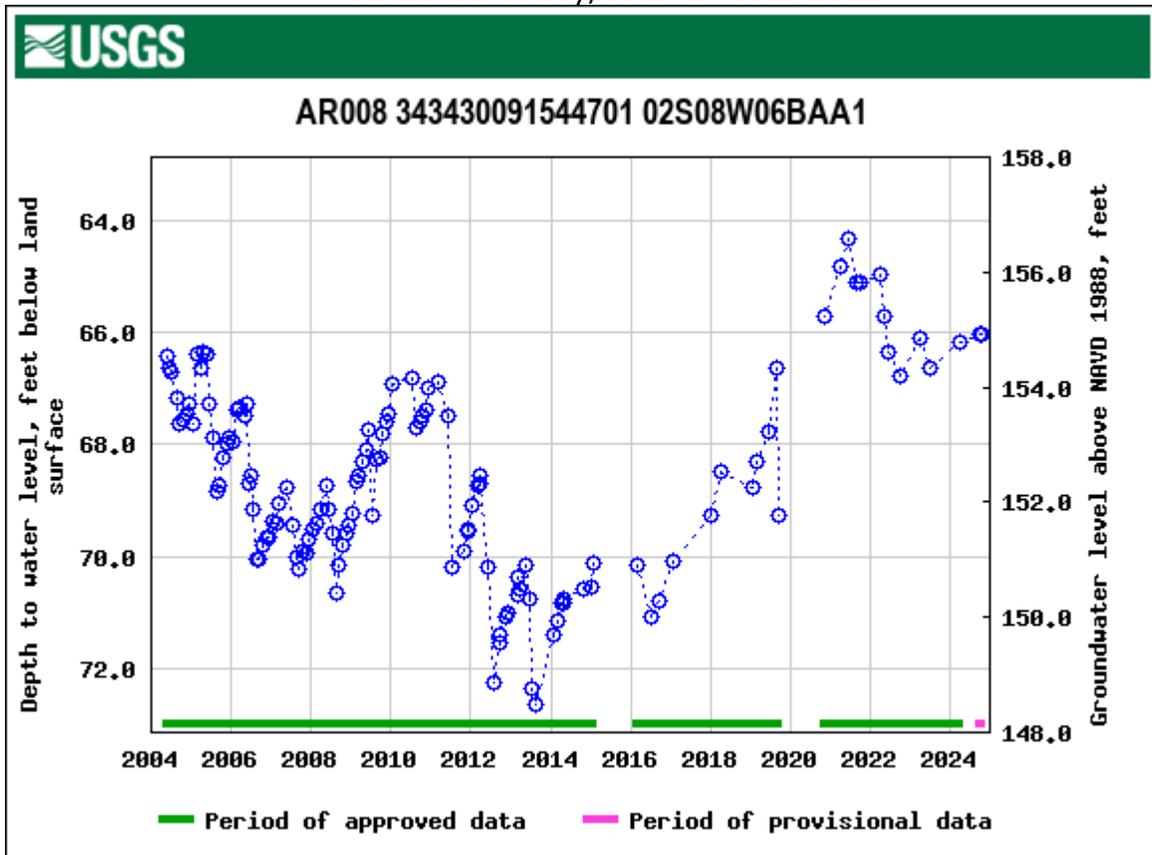
U. Lonoke County, Well 01S10W11CAB1



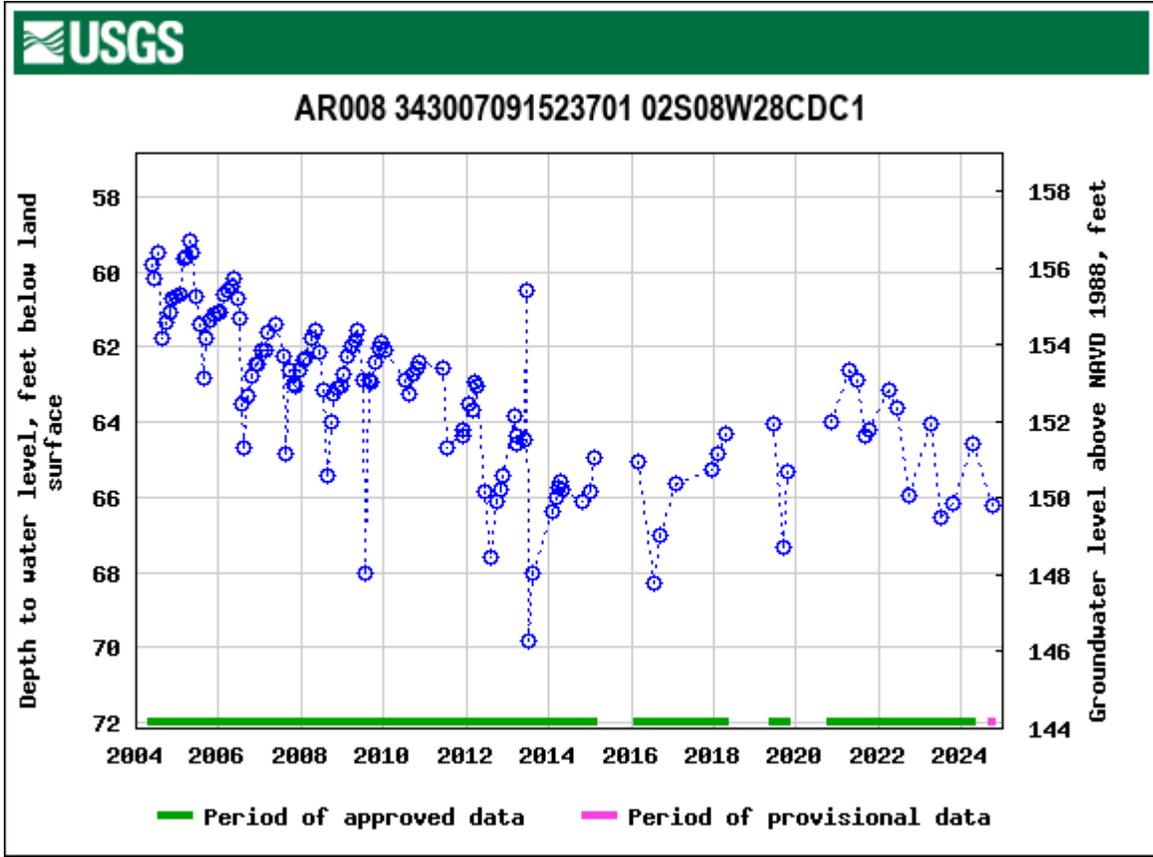
V. Prairie County, Well 01S06W12BAB1



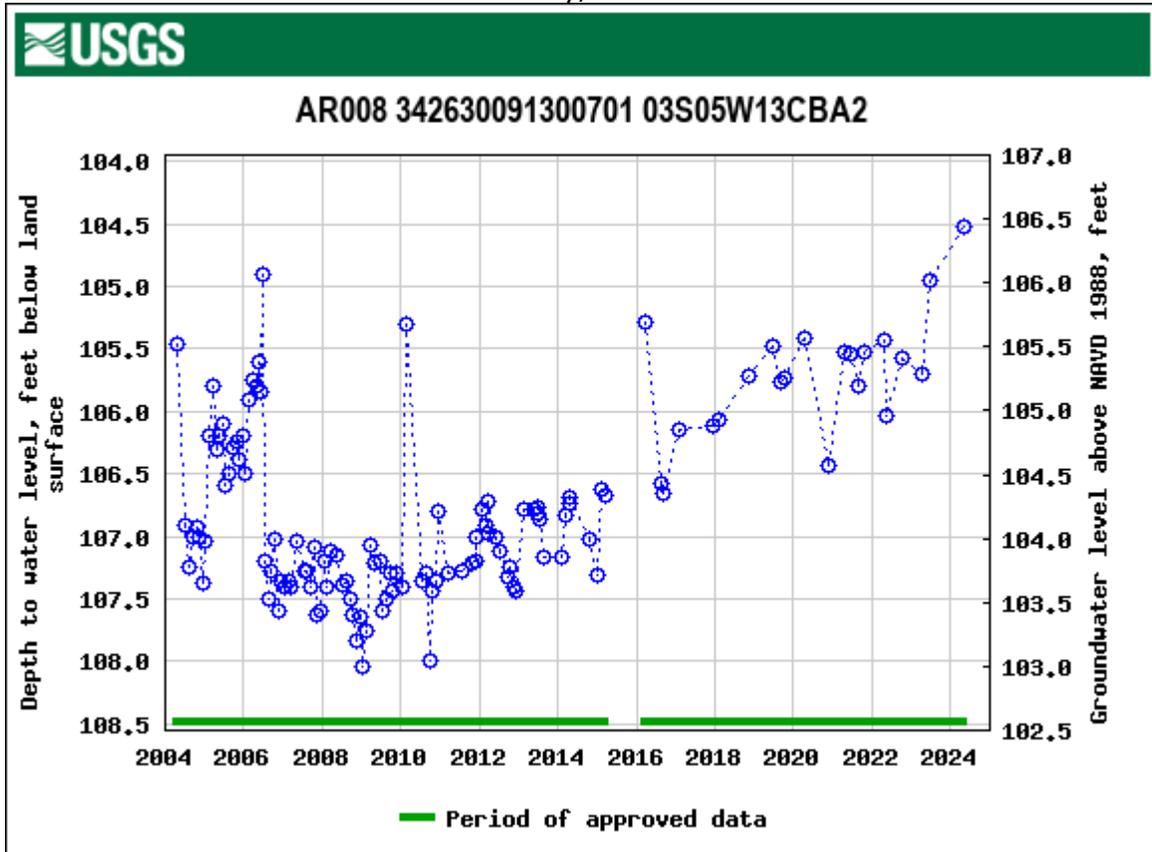
W. Lonoke County, Well 01S07W19DDB1



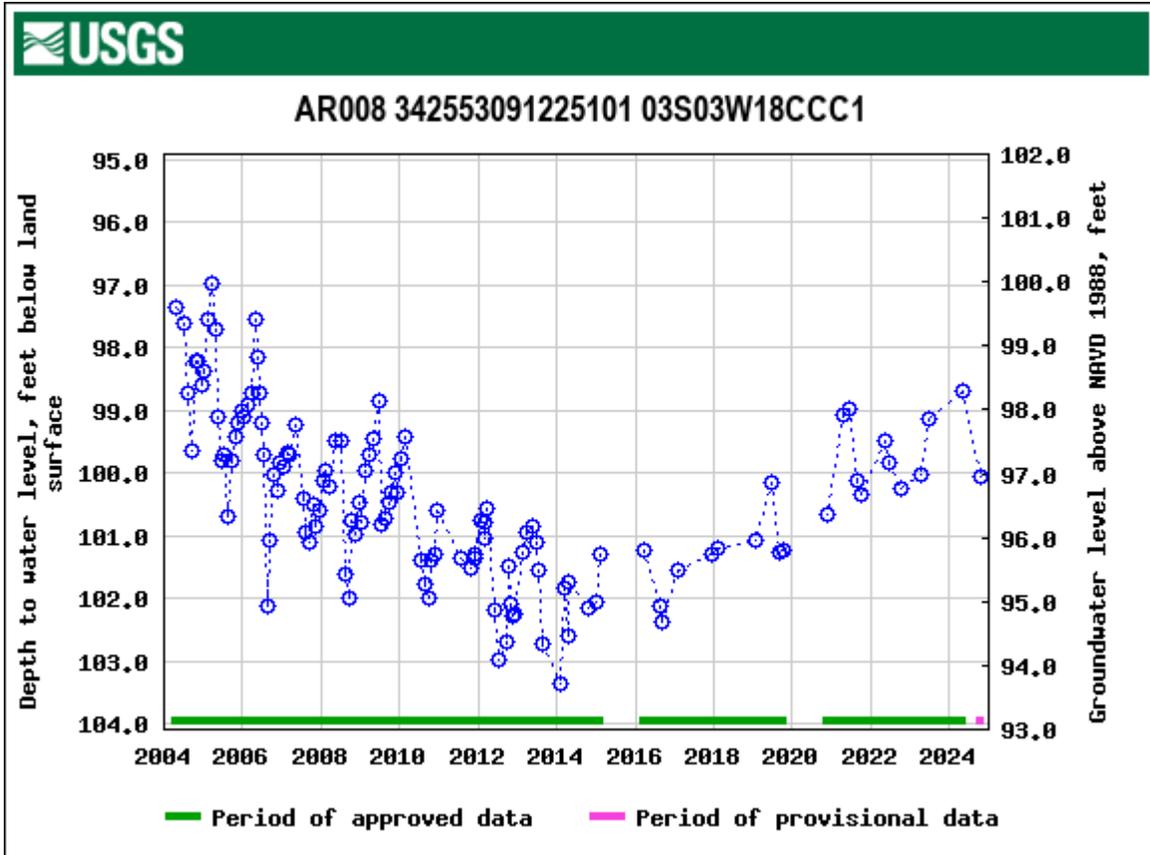
X. Lonoke County, Well 02S08W06BAA1



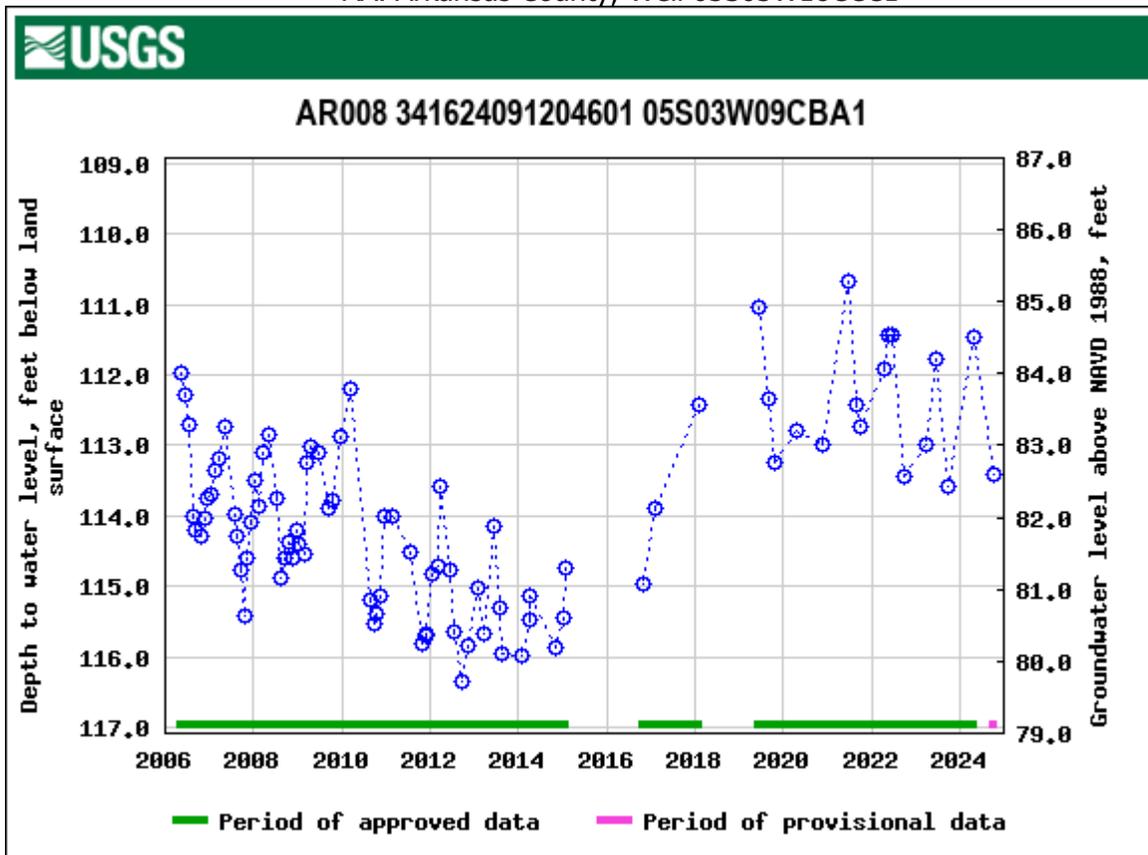
Y. Lonoke County, Well 02S08W28CDC1



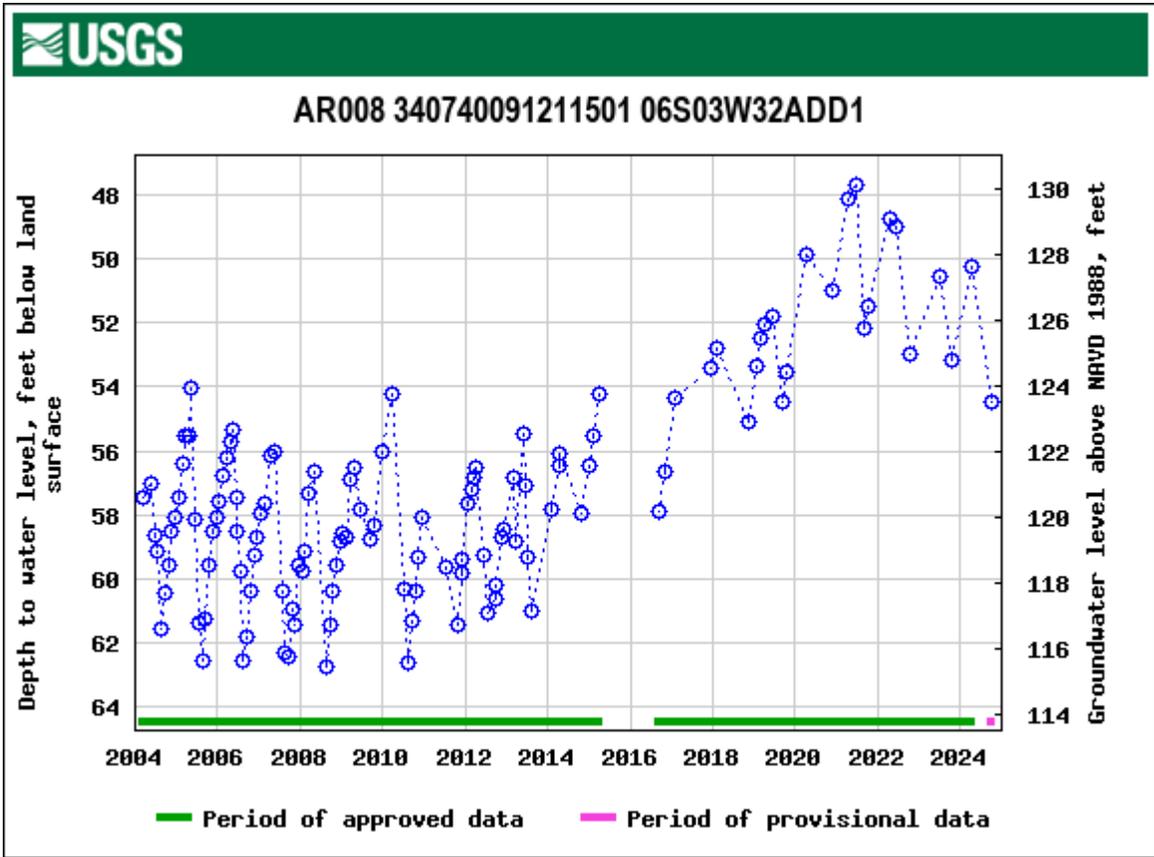
Z. Arkansas County, Well 03S05W13CBA2



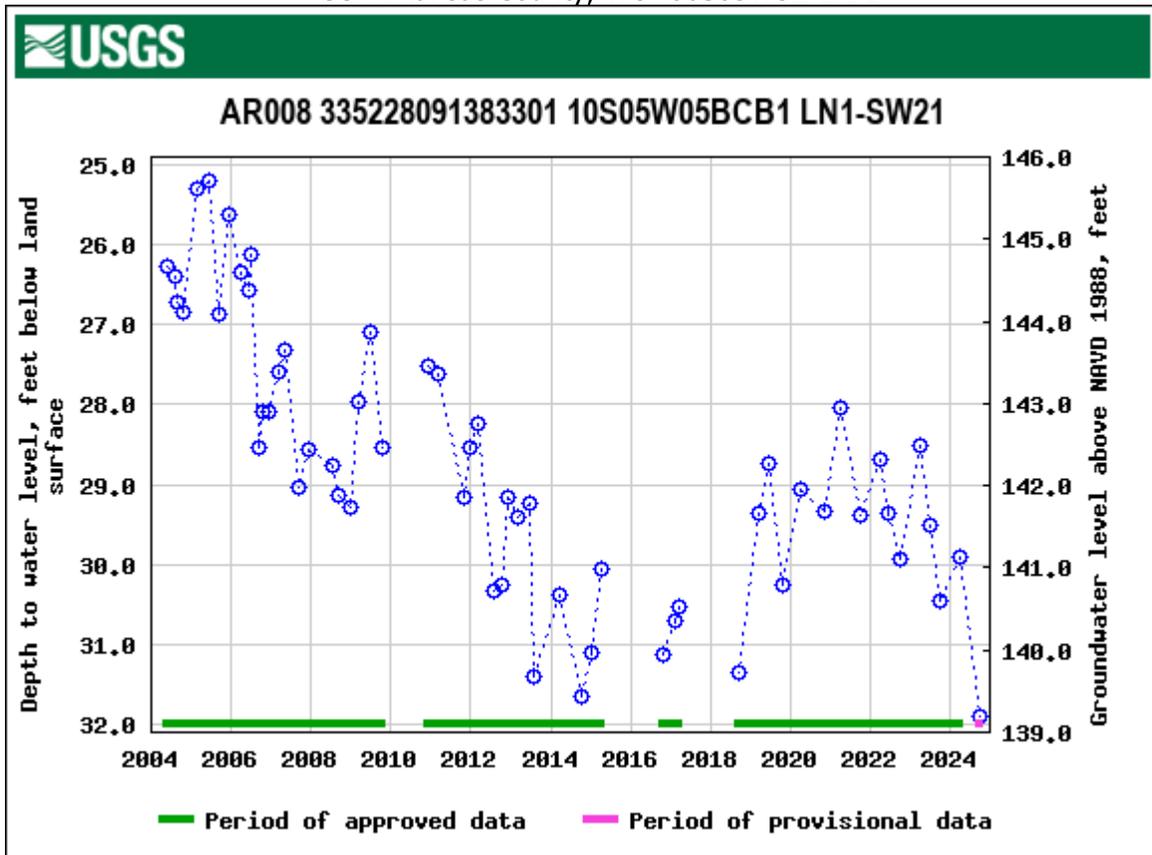
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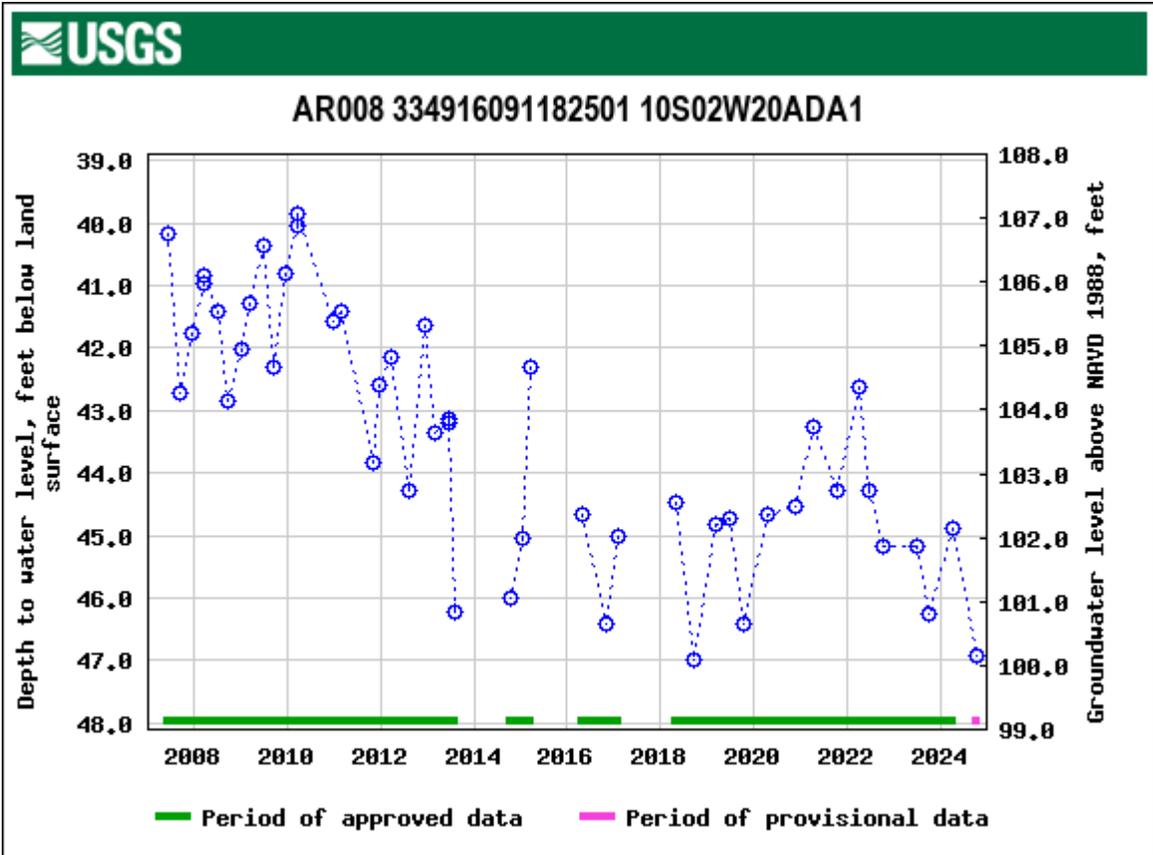
BB. Arkansas County, Well 05S03W09CBA1



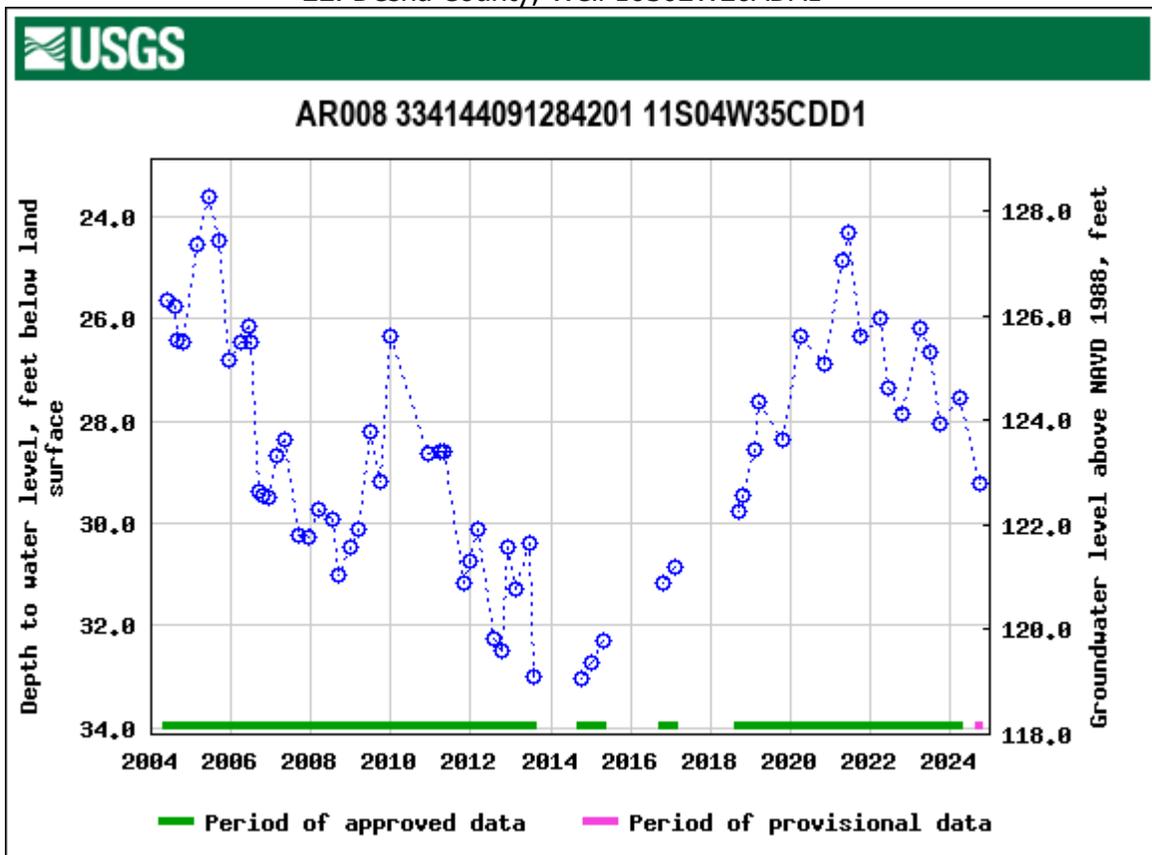
CC. Arkansas County, Well 06S03W32ADD1



DD. Lincoln County, Well 10S05W05BCB1 LN1-SW21



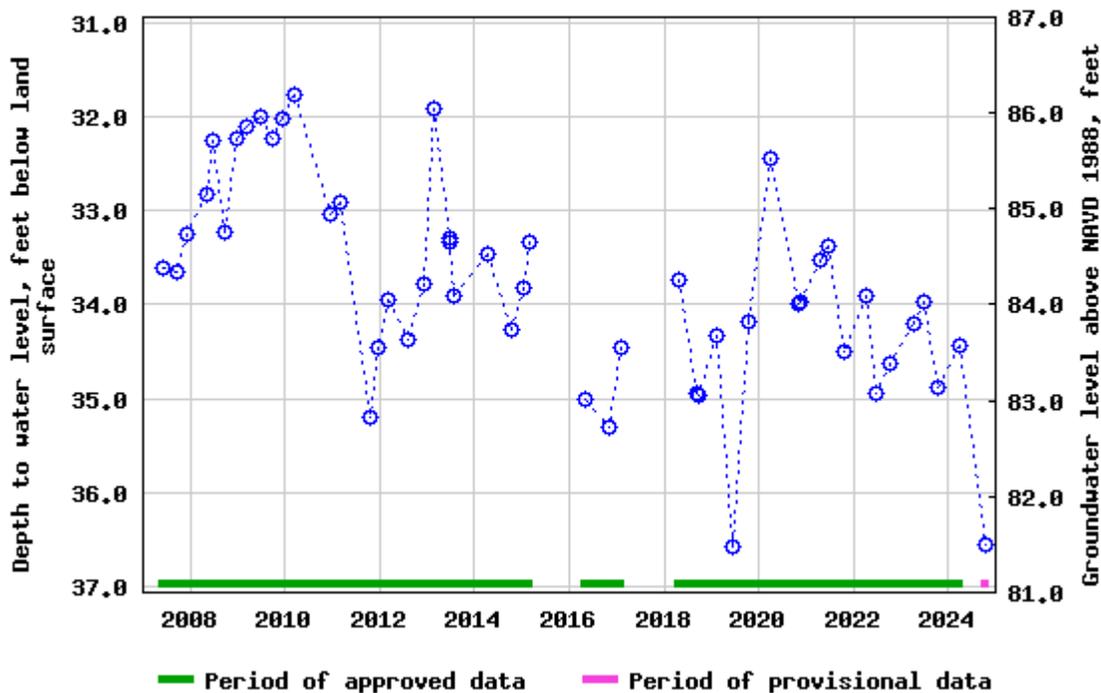
EE. Desha County, Well 10S02W20ADA1



FF. Drew County, Well 11S04W35CDD1



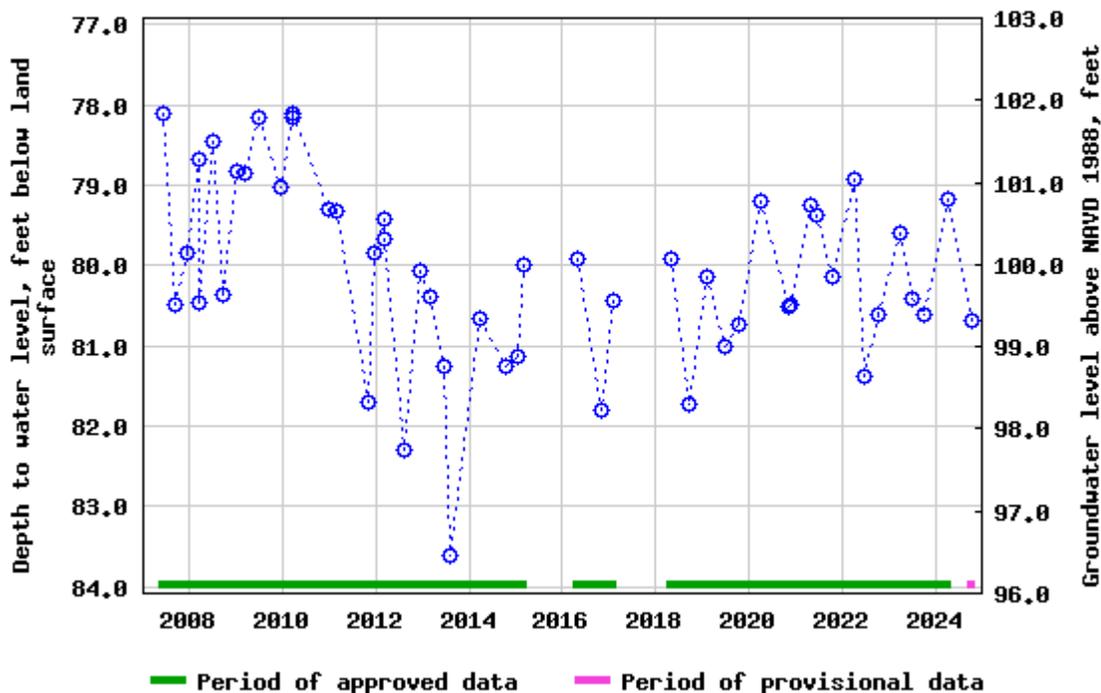
AR008 331818091233401 16S03W15DAD1



GG. Chicot County, Well 16S03W15DAD1



AR008 331640091395801 16S06W25DDD1



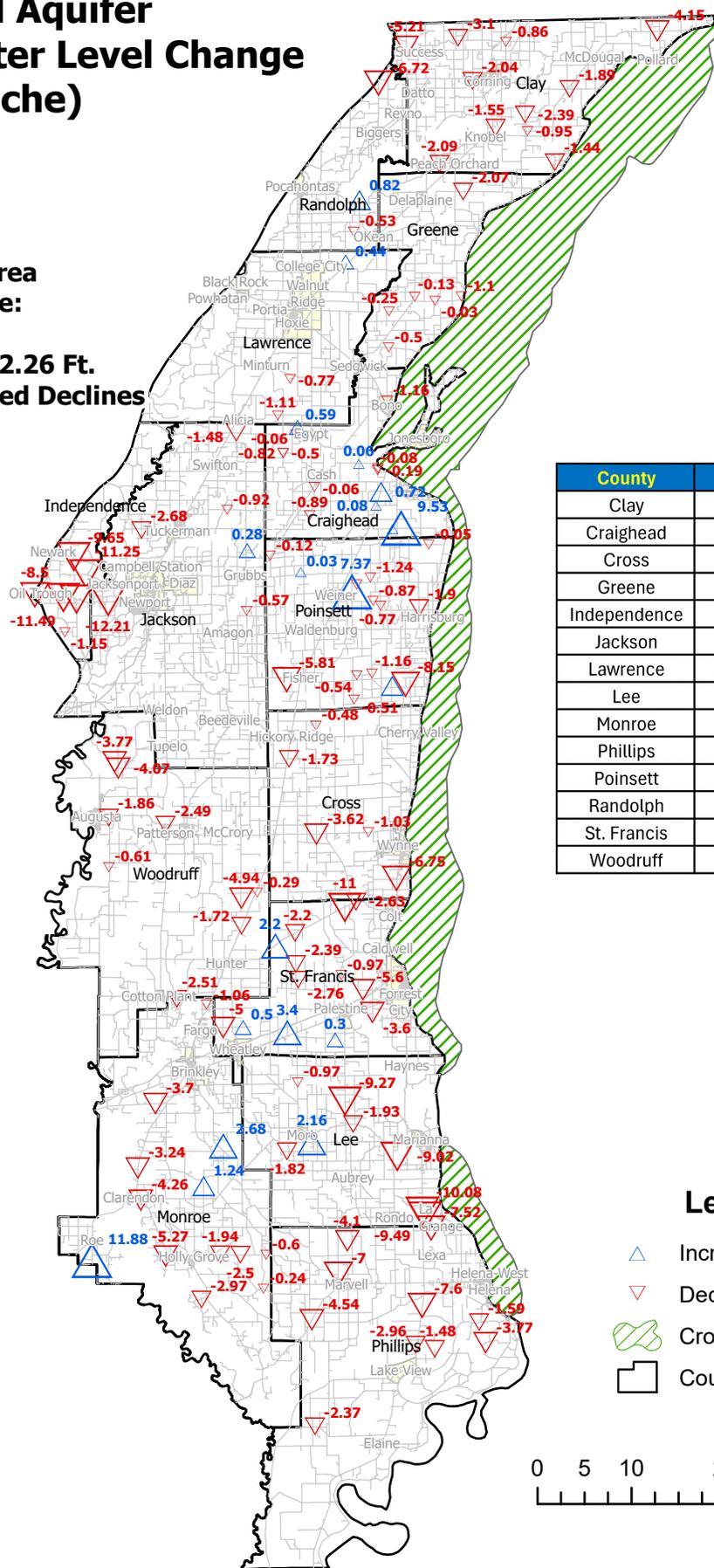
HH. Ashley County, Well 16S06W25DDD1

Alluvial Aquifer 2023-2024 Water Level Change (Cache)



**Cache Study Area
1 Year Change:**

**Average Change: -2.26 Ft.
102 of 122 Wells Showed Declines**



County	Avg. Change, Ft.
Clay	-2.33
Craighead	+0.53
Cross	-2.72
Greene	-0.68
Independence	-9.35
Jackson	-2.93
Lawrence	-0.48
Lee	-5.05
Monroe	-0.89
Phillips	-4.29
Poinsett	-0.89
Randolph	-2.14
St. Francis	-2.29
Woodruff	-2.47



Legend

- ▲ Increases
- ▼ Declines
- Crowley's Ridge
- County Boundaries



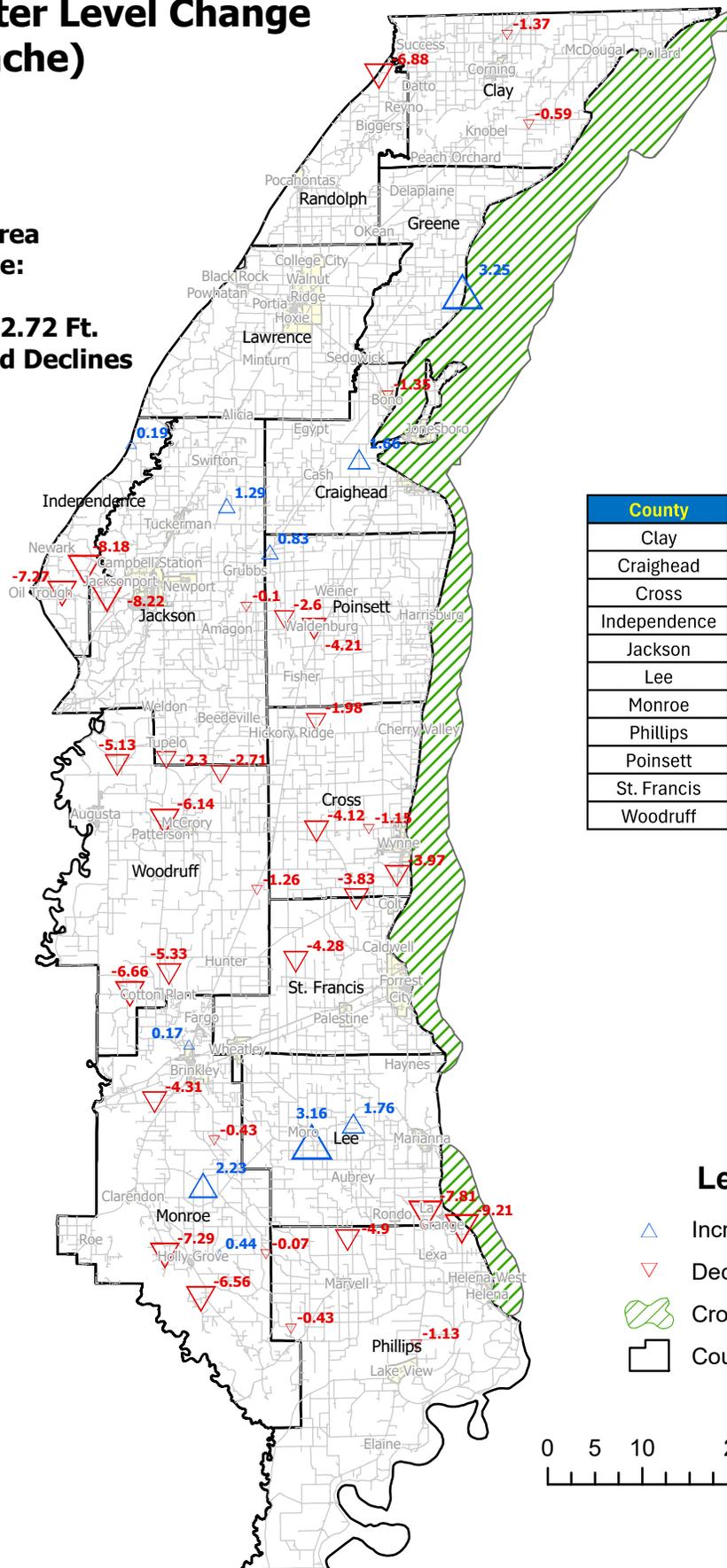
Figure 14

Alluvial Aquifer 2019-2024 Water Level Change (Cache)



**Cache Study Area
5 Year Change:**

**Average Change: -2.72 Ft.
33 of 43 Wells Showed Declines**



County	Avg. Change, Ft.
Clay	-0.98
Craighead	+0.16
Cross	-2.81
Independence	-5.09
Jackson	-2.33
Lee	-0.96
Monroe	-1.98
Phillips	-3.92
Poinsett	-1.99
St. Francis	-4.06
Woodruff	-4.54

Legend

- Increases
- Declines
- Crowley's Ridge
- County Boundaries

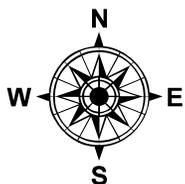


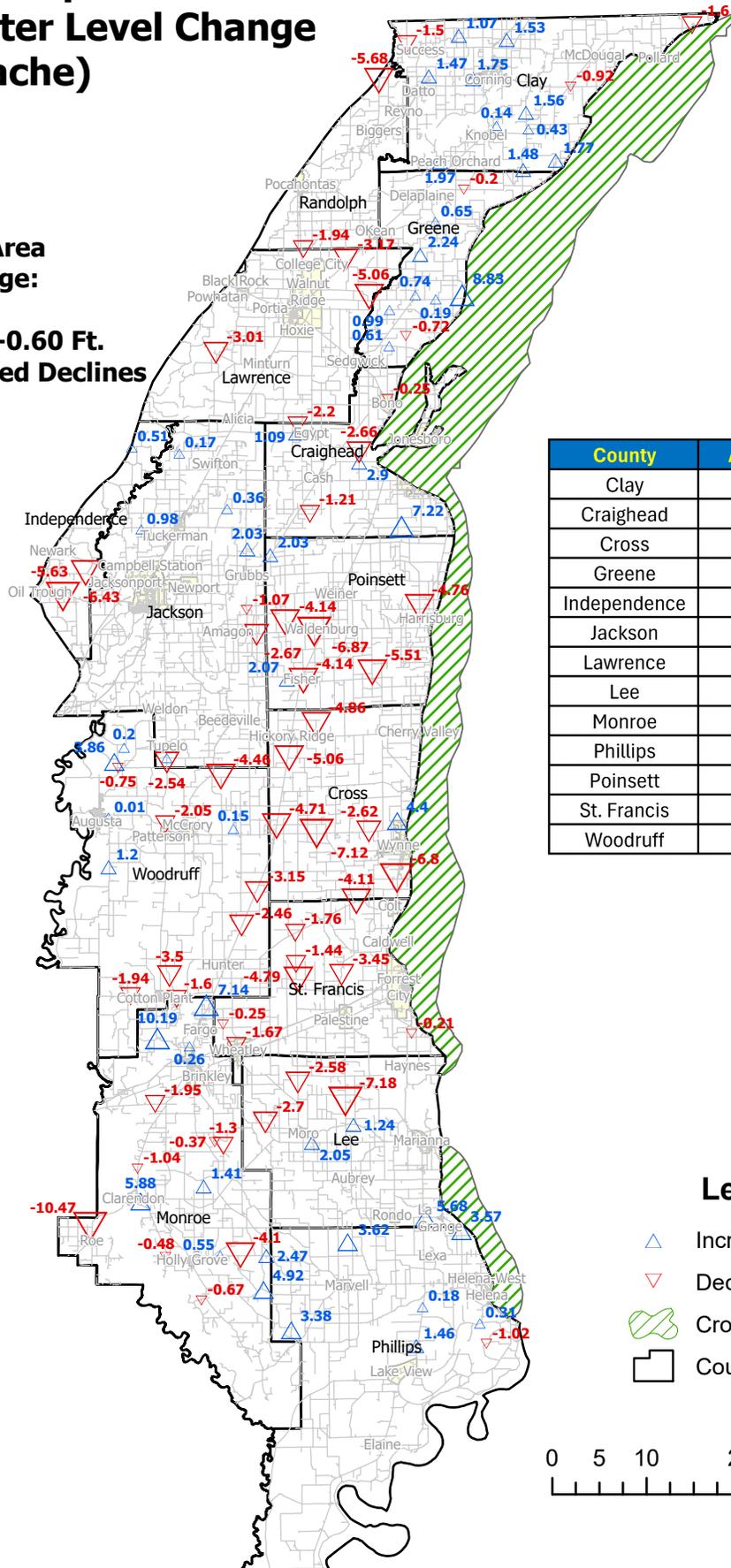
Figure 15

Alluvial Aquifer 2014-2024 Water Level Change (Cache)

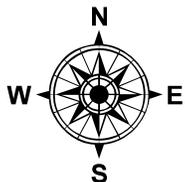


**Cache Study Area
10 Year Change:**

**Average Change: -0.60 Ft.
58 of 109 Wells Showed Declines**



County	Avg. Change, Ft.
Clay	+0.70
Craighead	+0.70
Cross	-3.82
Greene	+1.48
Independence	-3.85
Jackson	-0.30
Lawrence	-3.30
Lee	-0.60
Monroe	+0.64
Phillips	+1.64
Poinsett	-3.05
St. Francis	-2.21
Woodruff	-1.07



Legend

- ▲ Increases
- ▼ Declines
- Crowley's Ridge
- County Boundaries



Figure 16

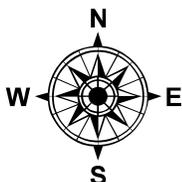
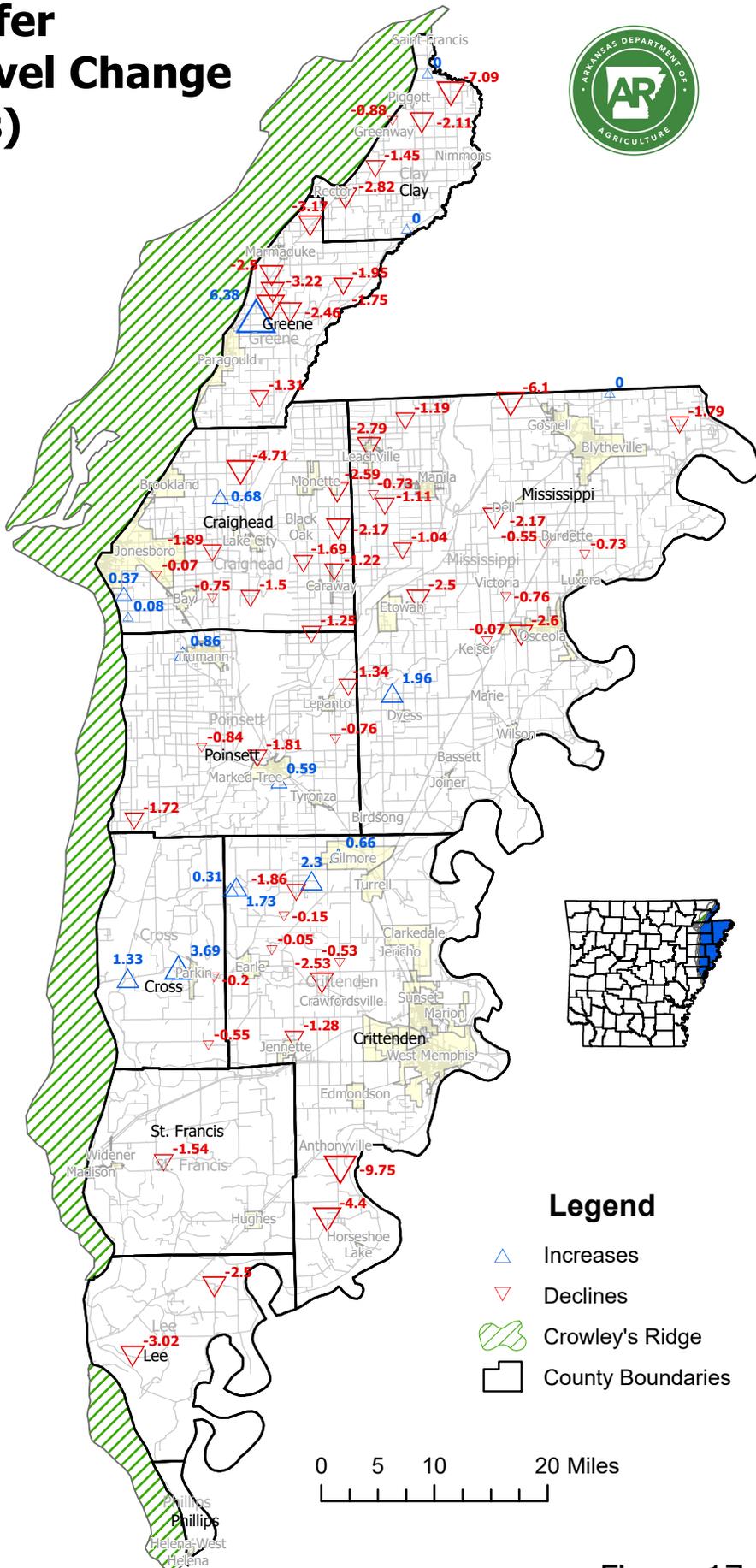
Alluvial Aquifer 2023-2024 Water Level Change (St. Francis)



**St. Francis Study Area
1 Year Change:**

**Average Change: -1.29 Ft.
55 of 71 Wells Showed Declines**

County	Avg. Change, Ft.
Clay	-2.05
Craighead	-1.29
Crittenden	-1.30
Cross	+1.07
Greene	-1.64
Lee	-2.76
Mississippi	-1.39
Poinsett	-0.78



Legend

- ▲ Increases
- ▼ Declines
- ▨ Crowley's Ridge
- County Boundaries



Figure 17

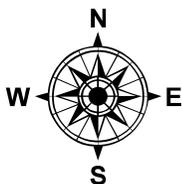
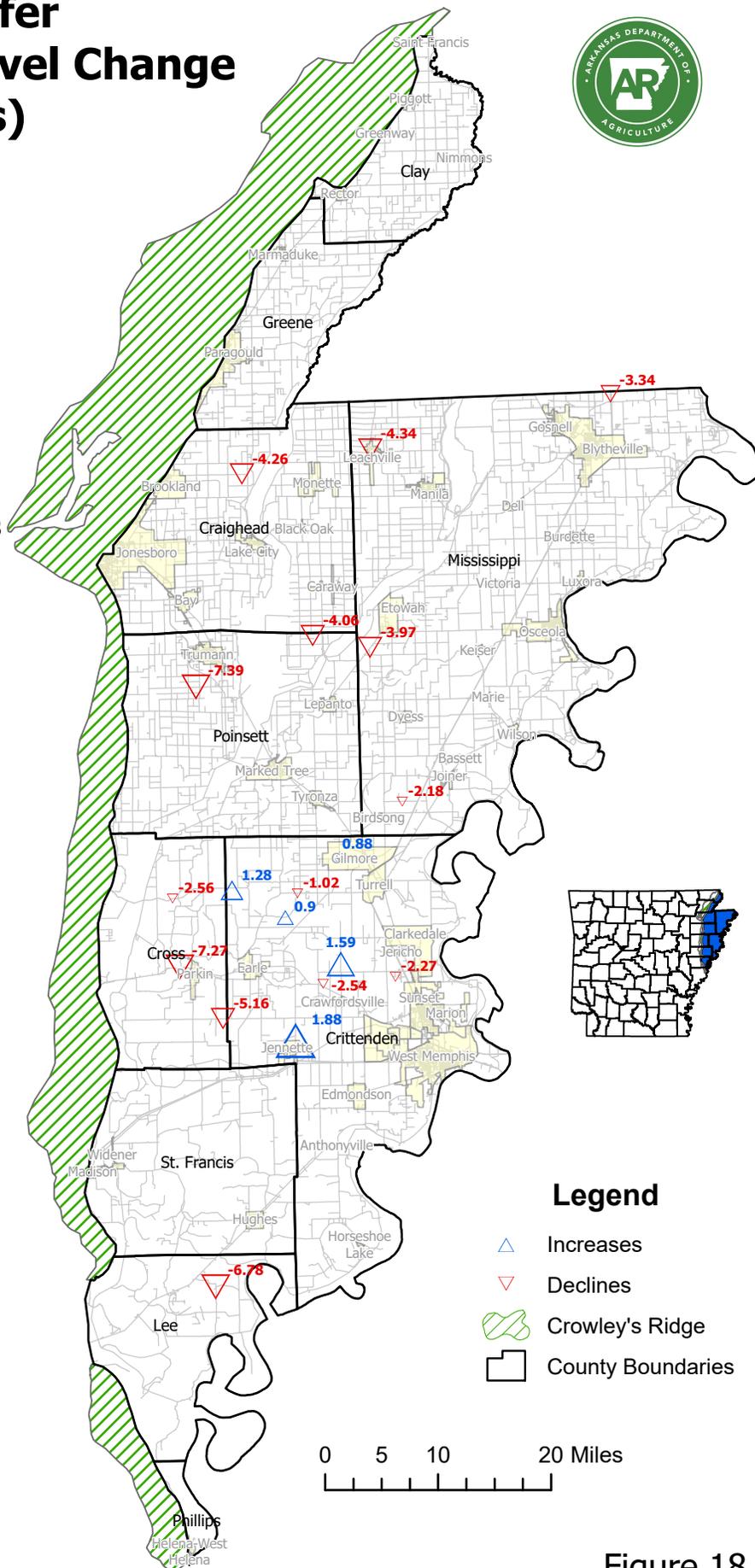
Alluvial Aquifer 2019-2024 Water Level Change (St. Francis)



**St. Francis Study Area
5 Year Change:**

**Average Change: -2.66 Ft.
14 of 19 Wells Showed Declines**

County	Avg. Change, Ft.
Crittenden	+0.09
Cross	-5.00
Mississippi	-3.46
Poinsett	-5.73



Legend

- ▲ Increases
- ▼ Declines
- ▨ Crowley's Ridge
- County Boundaries

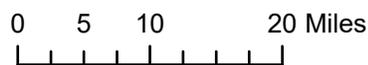


Figure 18

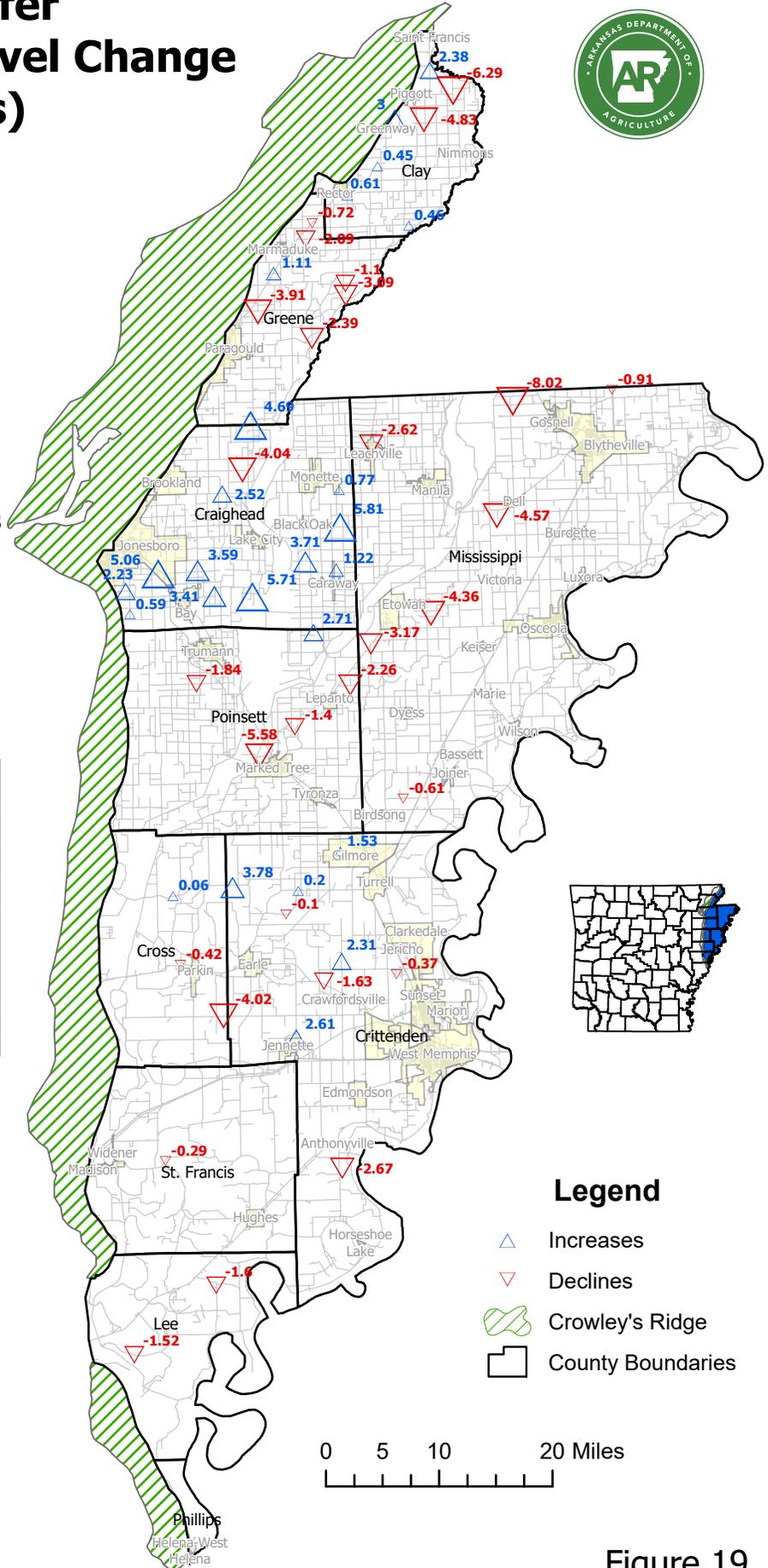
Alluvial Aquifer 2014-2024 Water Level Change (St. Francis)



**St. Francis Study Area
10 Year Change:**

**Average Change: -0.29 Ft.
29 of 54 Wells Showed Declines**

County	Avg. Change, Ft.
Clay	-0.60
Craighead	+2.71
Crittenden	+0.63
Cross	-1.46
Greene	-1.74
Lee	-1.56
Mississippi	-3.47
Poinsett	-1.67



Legend

- ▲ Increases
- ▼ Declines
- ▨ Crowley's Ridge
- County Boundaries

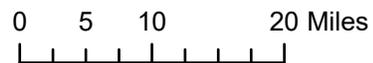
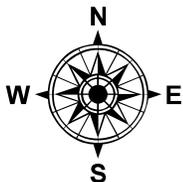


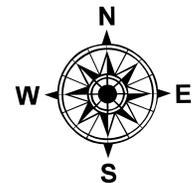
Figure 19

Alluvial Aquifer 2023-2024 Water Level Change (Grand Prairie)



**Grand Prairie Study Area
1 Year Change:**

**Average Change: -0.11 Ft.
44 of 78 Wells Showed Declines**



Legend

- ▲ Increases
- ▼ Declines
- County Boundaries

County	Avg. Change, Ft.
Arkansas	+1.39
Jefferson	-1.19
Lonoke	-0.18
Prairie	-0.47
Pulaski	-1.27
White	-1.18

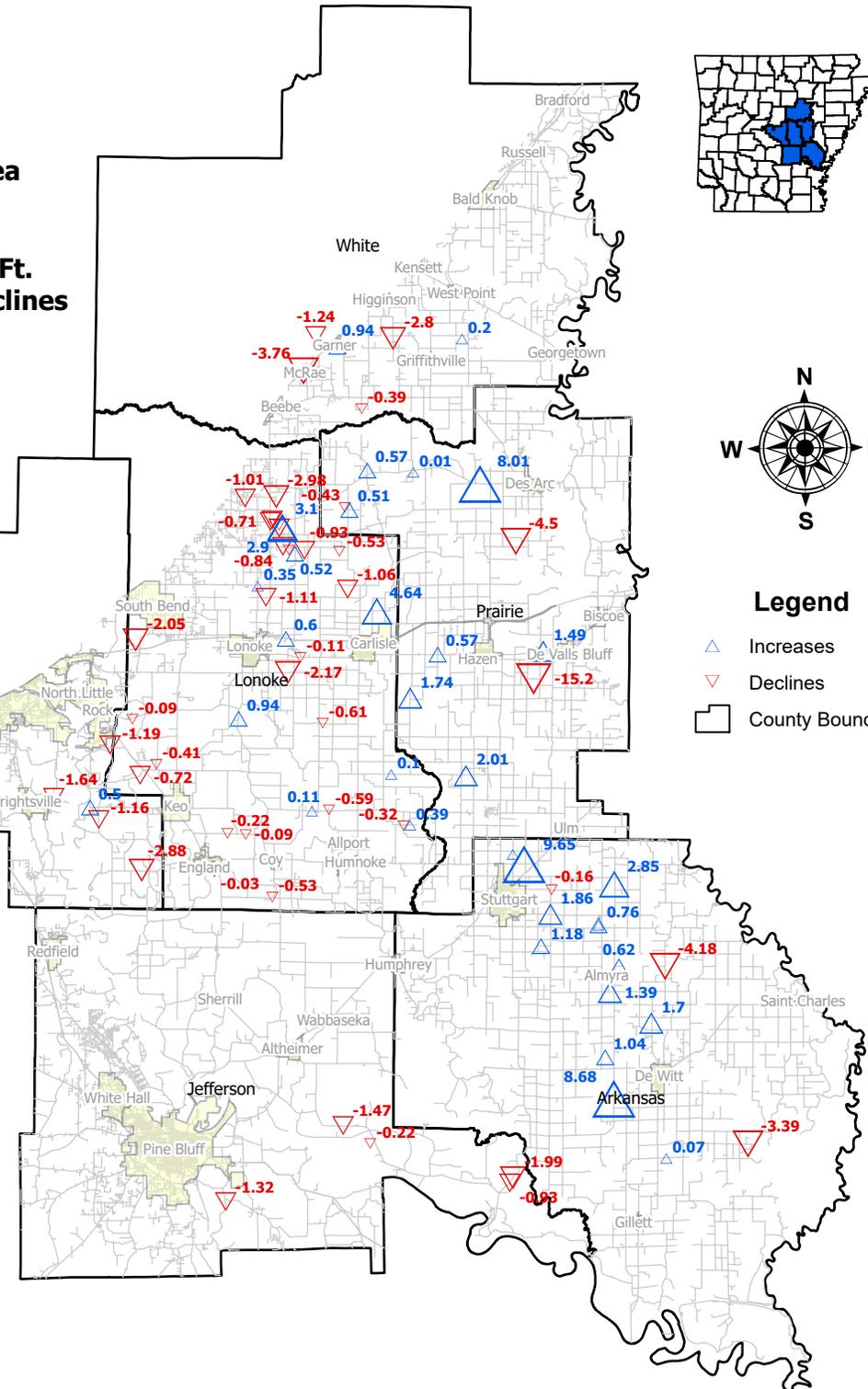


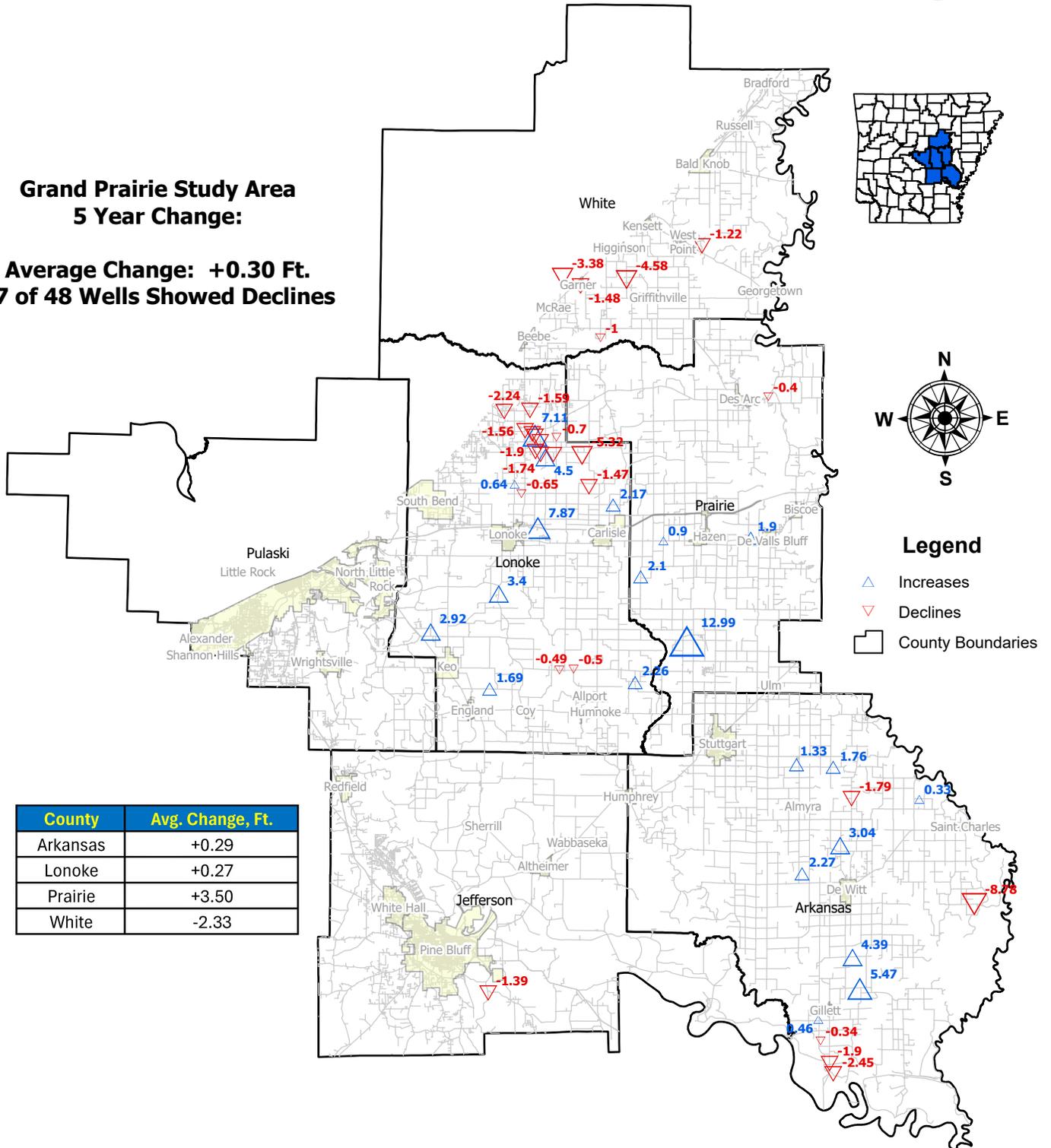
Figure 20

Alluvial Aquifer 2019-2024 Water Level Change (Grand Prairie)



**Grand Prairie Study Area
5 Year Change:**

**Average Change: +0.30 Ft.
27 of 48 Wells Showed Declines**



County	Avg. Change, Ft.
Arkansas	+0.29
Lonoke	+0.27
Prairie	+3.50
White	-2.33

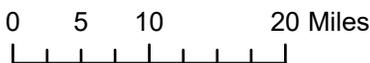


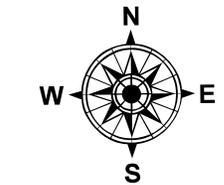
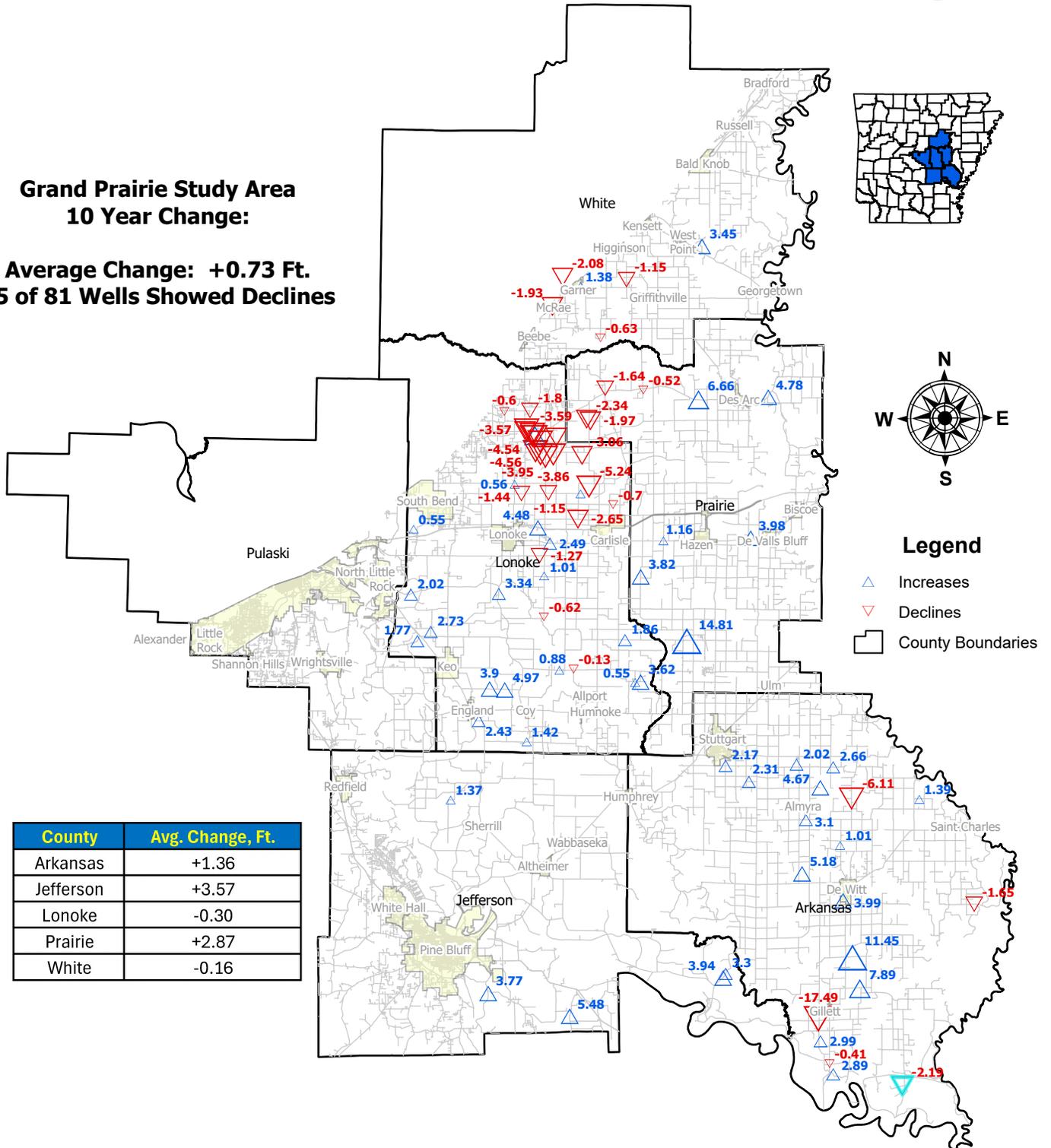
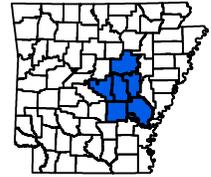
Figure 21

Alluvial Aquifer 2014-2024 Water Level Change (Grand Prairie)



**Grand Prairie Study Area
10 Year Change:**

**Average Change: +0.73 Ft.
35 of 81 Wells Showed Declines**



Legend

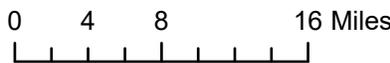
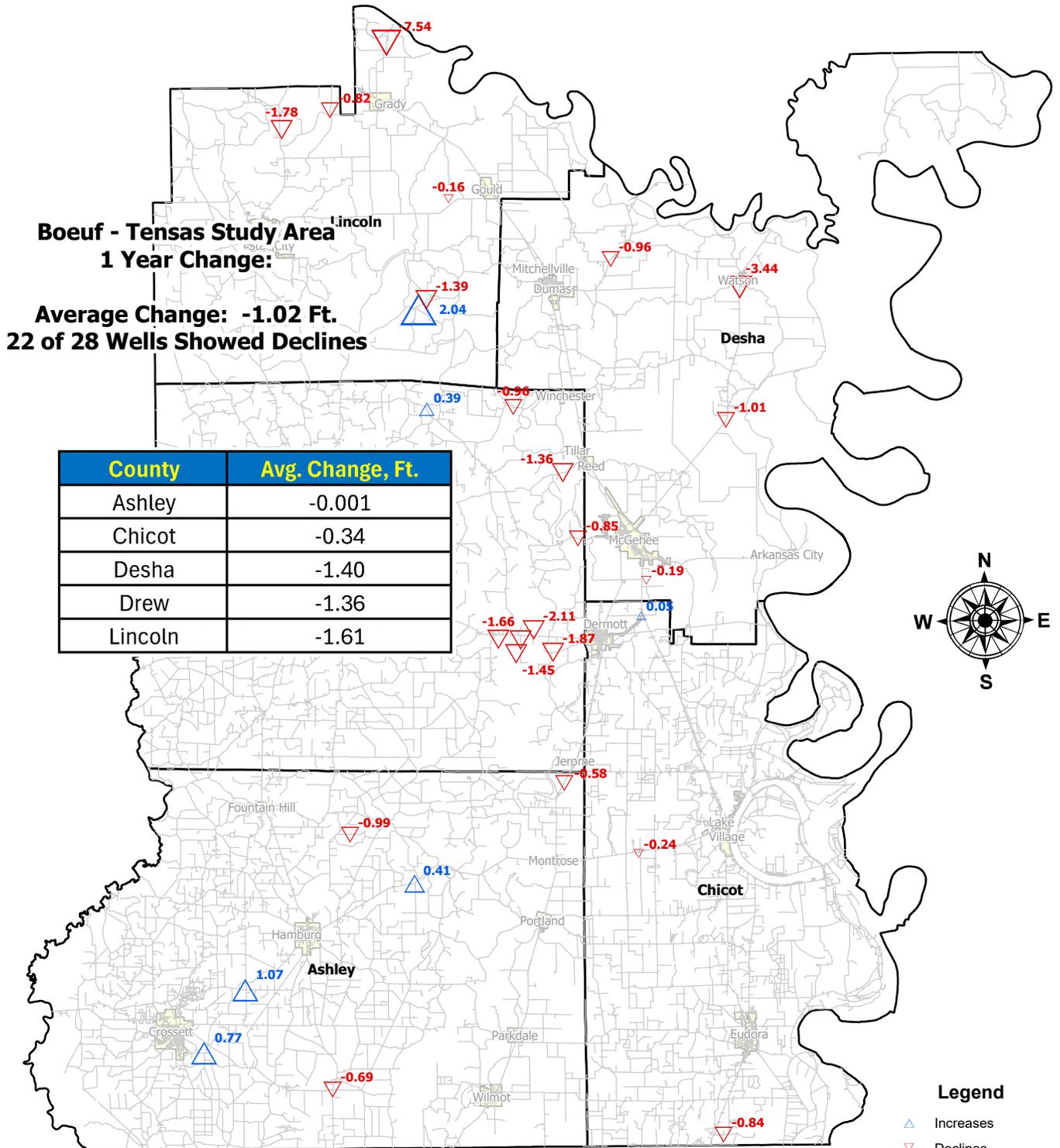
- ▲ Increases
- ▼ Declines
- County Boundaries

County	Avg. Change, Ft.
Arkansas	+1.36
Jefferson	+3.57
Lonoke	-0.30
Prairie	+2.87
White	-0.16



Figure 22

Alluvial Aquifer 2023-2024 Water Level Change (Boeuf - Tensas)

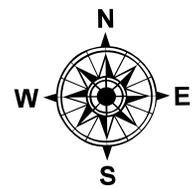
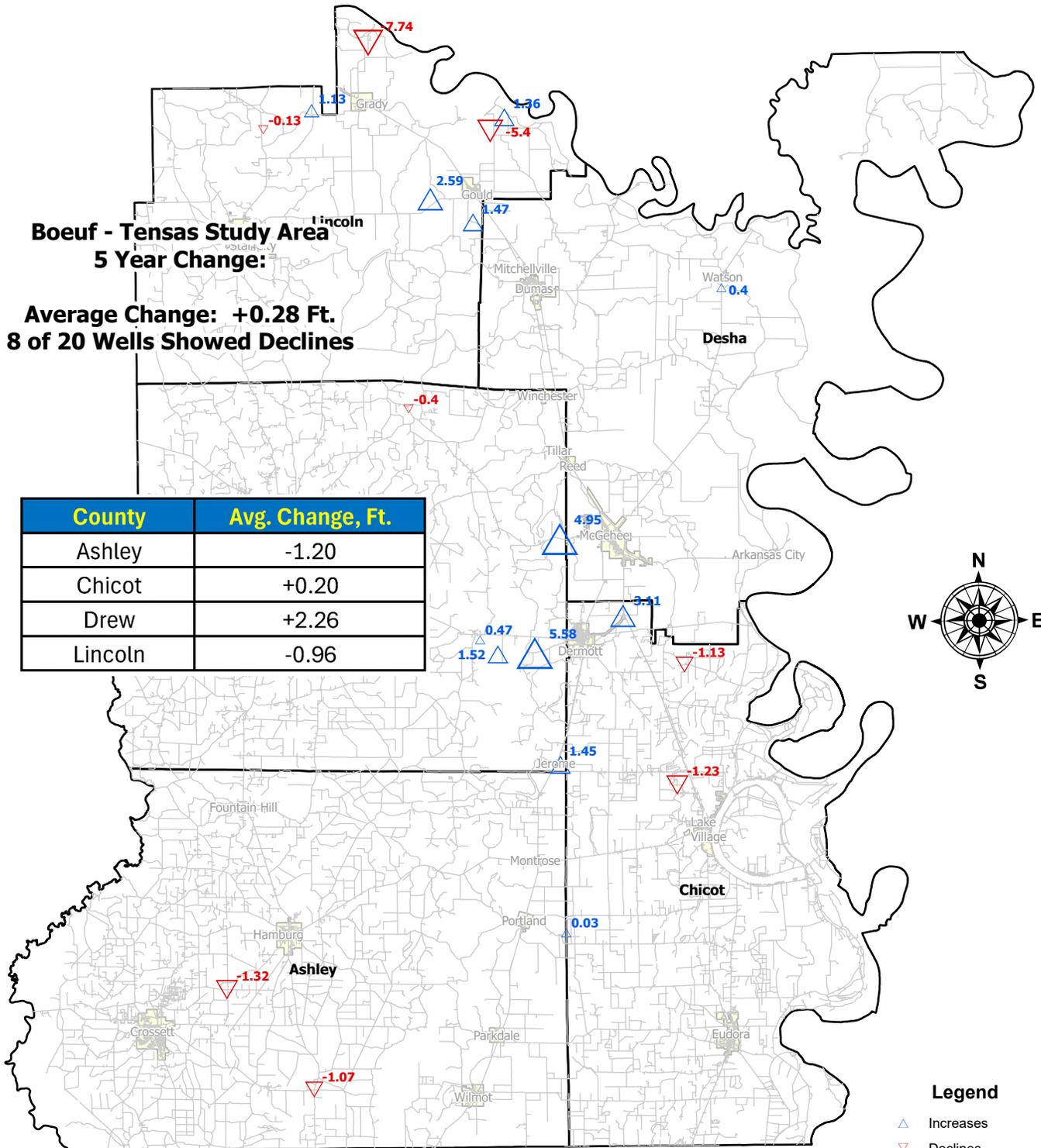


Legend

- ▲ Increases
- ▼ Declines
- County Boundaries

Figure 23

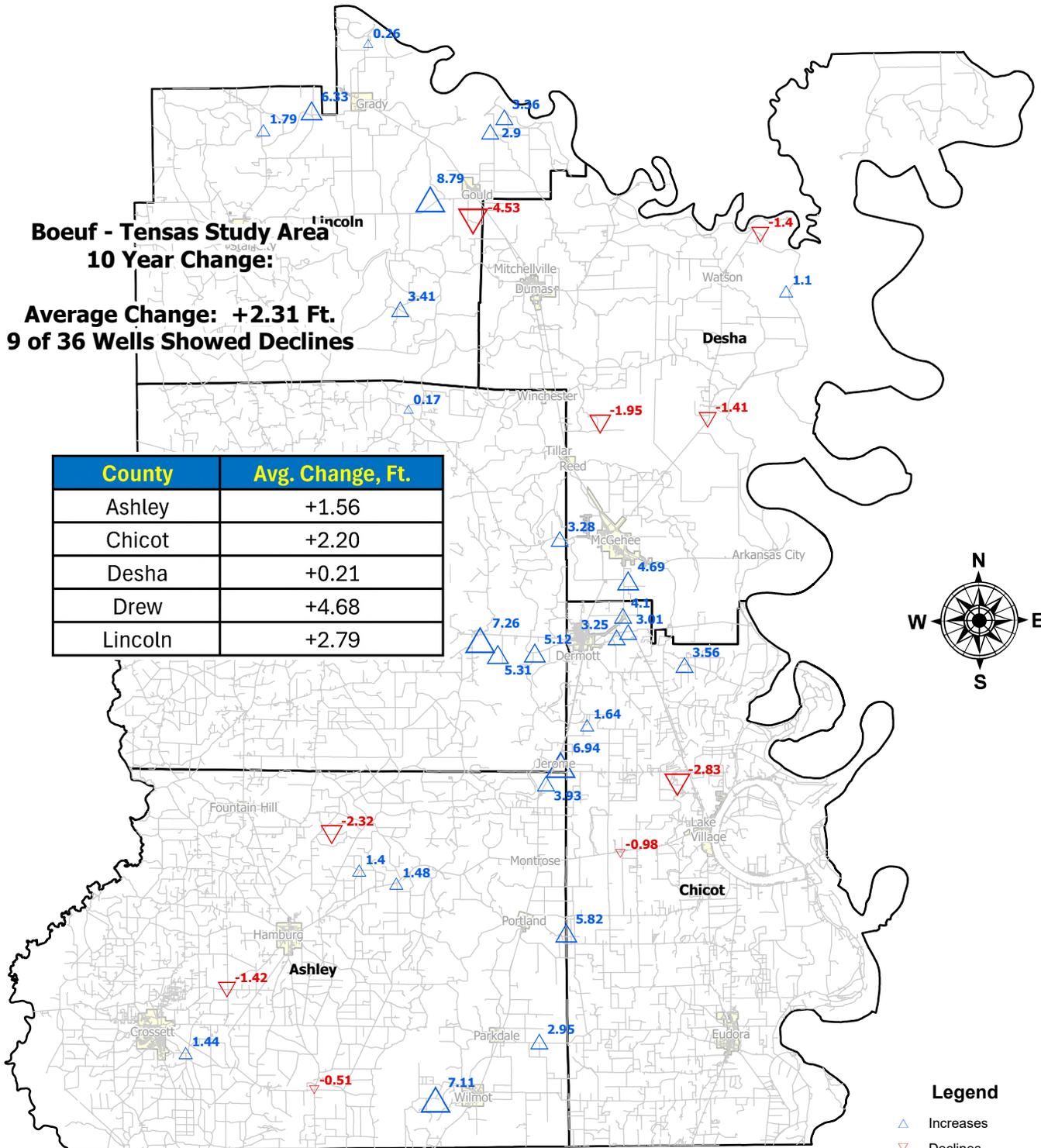
Alluvial Aquifer 2019-2024 Water Level Change (Boeuf - Tensas)



- Legend**
- ▲ Increases
 - ▼ Declines
 - County Boundaries

Figure 24

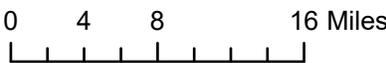
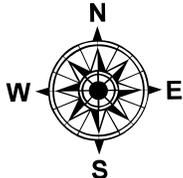
Alluvial Aquifer 2014-2024 Water Level Change (Boeuf - Tensas)



**Boeuf - Tensas Study Area
10 Year Change:**

**Average Change: +2.31 Ft.
9 of 36 Wells Showed Declines**

County	Avg. Change, Ft.
Ashley	+1.56
Chicot	+2.20
Desha	+0.21
Drew	+4.68
Lincoln	+2.79



- Legend**
- ▲ Increases
 - ▼ Declines
 - County Boundaries

Figure 25

Sparta/Memphis Aquifer

The Sparta/Memphis (Sparta) aquifer, also known as the Sparta Sand, the Memphis Sand/Memphis aquifer, and the middle Claiborne formation, is a tertiary-aged water bearing assemblage composed mainly of sand with considerable amounts of silt, clay, shale, and lignite found in lenses throughout the unit. The formation outcrops along the western edge of the Mississippi Embayment in southern Arkansas and is overlain by the Mississippi River Valley Alluvial aquifer throughout central and northeastern Arkansas. The Sparta Sand is the thickest sand unit in the Mississippi Embayment system, ranging in thickness from zero to 200 feet along the outcrop and up to 900 feet in the southeastern part of the state. Generally, the Sparta Sand is a confined aquifer system as it is confined by the underlying Cook Mountain formation and overlying Cane River formation. Lithological differences occur in the Sparta aquifer in southern Arkansas and northeastern Arkansas. In southern Arkansas, the Sparta aquifer is divided into two units, the Greensand (upper Sparta) and the El Dorado sand (lower Sparta), by a confining layer. In northeastern Arkansas, the underlying Cane River and Carrizo Sand formations become sand and are generally indistinguishable from the Sparta Sand; because of this, the three formations are grouped together and referred to as the Memphis Sand, or the Memphis aquifer, in this region (Kresse, T. M., et al., 2014).

Groundwater levels were collected from 233 water wells in the Sparta aquifer during the spring of 2024. Figure 26 depicts the spring 2024 potentiometric surface as water level altitude in feet above mean sea level, and Figure 27 presents the depth to water as feet below ground surface for the Sparta aquifer.

Water Level Trends

Water level data from the 233 wells collected in spring 2024 were compared with historical data in one, five, and ten-year intervals. The one-year interval had 149 comparable wells giving a total average water level change of -0.70 feet with 91 (61.07 percent) of the wells in decline. The five-year change had data for 93 comparable wells with a total average change of +3.29 feet with 39 (41.93 percent) wells in decline. As for the ten-year interval, water level data was compared for 144 wells with total average water level change of +7.42 feet with 32 (22.22 percent) wells in decline. Aquifer-wide water level change maps were created for the one, five, and ten-year periods and are presented as Figure 28, Figure 29, and Figure 30, respectively.

Selected water level hydrographs from the Sparta aquifer are presented in Figure 31 and illustrate the changes in water level over time back to the early 2000s. These hydrographs correspond with the wells shown in Figure 27. All the hydrographs in this figure are from monitoring wells maintained by the Arkansas Department of Agriculture, Union County Water Conservation Board, or USGS and are measured semi-annually or more during the year or have real-time data loggers installed for continuous water level data.

Overall recovery continues in the areas where historical drawdown has been the most significant in south Arkansas with the study area having positive average water level change values of +0.81, +7.99, and +14.53 feet in the one, five, and ten-year intervals, respectively. These values are very consistent

with those presented in last year's report (NRD, 2024). The area of most significant recovery continues to be Union County where several wells have positive water level change values as much as 50 feet over the ten-year period. The historical depression in Jefferson County continues to rebound with moderate increases in water levels observed throughout the county in the ten-year comparison. Figures 32, 33, and 34 depict the south Arkansas water level change data.

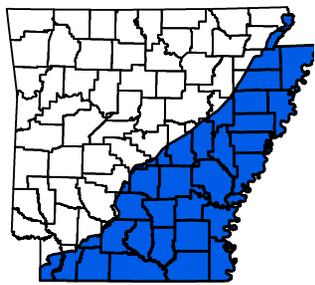
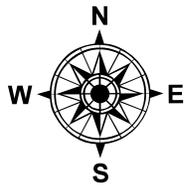
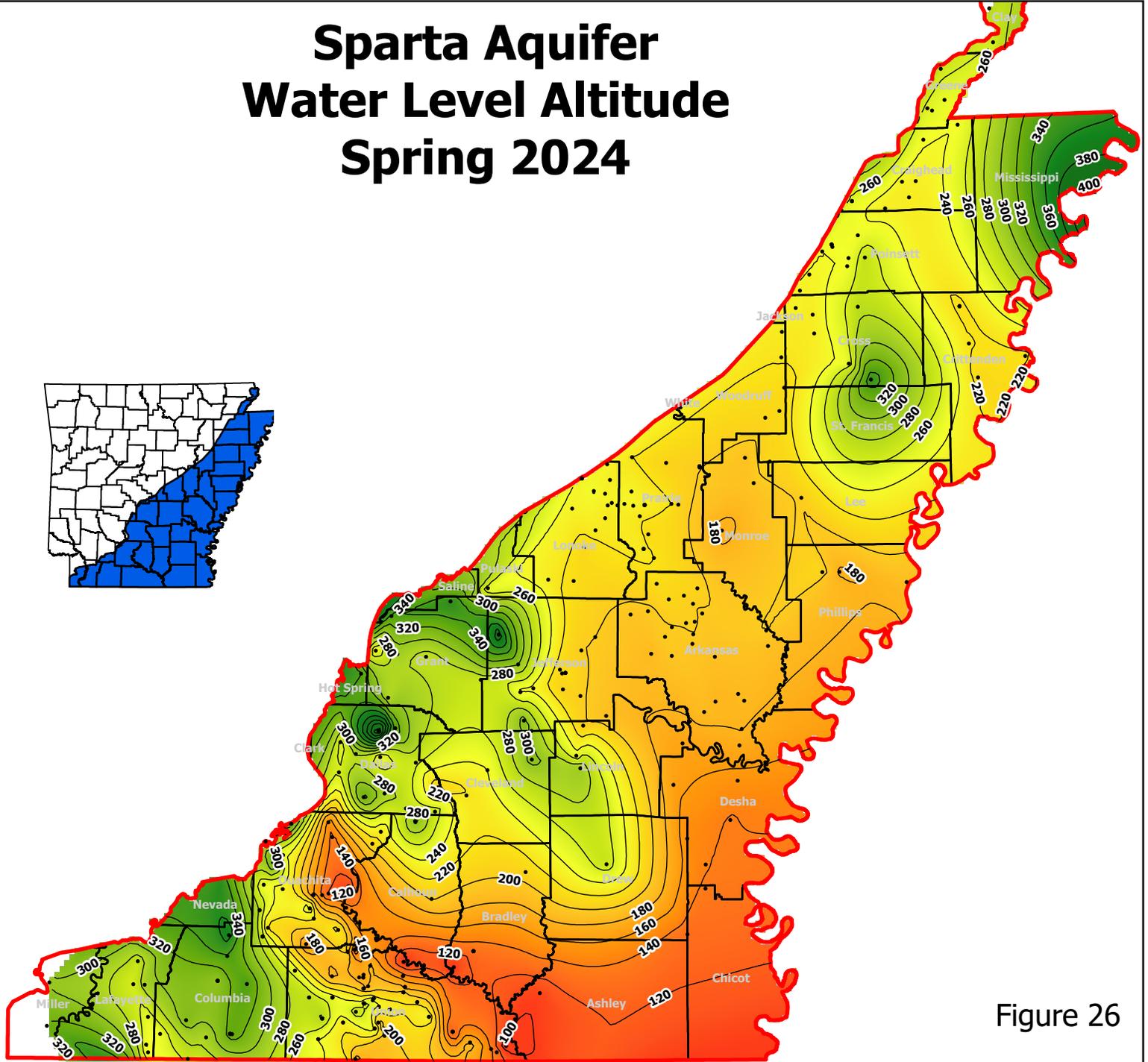
Declining water levels were observed in wells throughout the aquifer in each comparison, but there are some observable patterns. In the one-year comparison, the western edge of the aquifer has a high concentration of declining water level values. This area is where the aquifer is the shallowest and close to, or in, the recharge zone for the aquifer. This pattern does not occur in the five and ten-year comparisons in the southern part of the state, but it continues to be very noticeable in the northern portion, from Lonoke County extending up along the aquifer's extent into Craighead County. This pattern appears to continue in the five and ten-year comparisons.

We believe that this pattern of water level decline is highlighting a change in the hydrogeologic structure of the region. Within the Lonoke and Prairie County area, the Sparta aquifer goes from outcropping at the ground surface at its western extent to subcropping beneath the overlying Alluvial aquifer deposits. In other words, the sediments of the Sparta aquifer directly underlie those of the Alluvial aquifer with no significant confining unit or aquitard between them. It is our presumption that this pattern of long-term declining water levels in the Sparta aquifer along this trace is due to the stresses on the overlying Alluvial aquifer along this area where the Alluvial and Sparta aquifers are hydraulically connected.

Appendix B presents a table of specific water-level monitoring data for the Sparta aquifer from the 2024 monitoring period, as well as the one, five, and ten-year water level change data.



Sparta Aquifer Water Level Altitude Spring 2024



Legend

- Data Points
- Sparta 20 Ft. Contour
- ▭ Sparta Boundary
- ▭ Arkansas County Boundaries

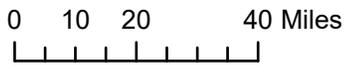


Figure 26



Sparta Aquifer Depth to Water Spring 2024

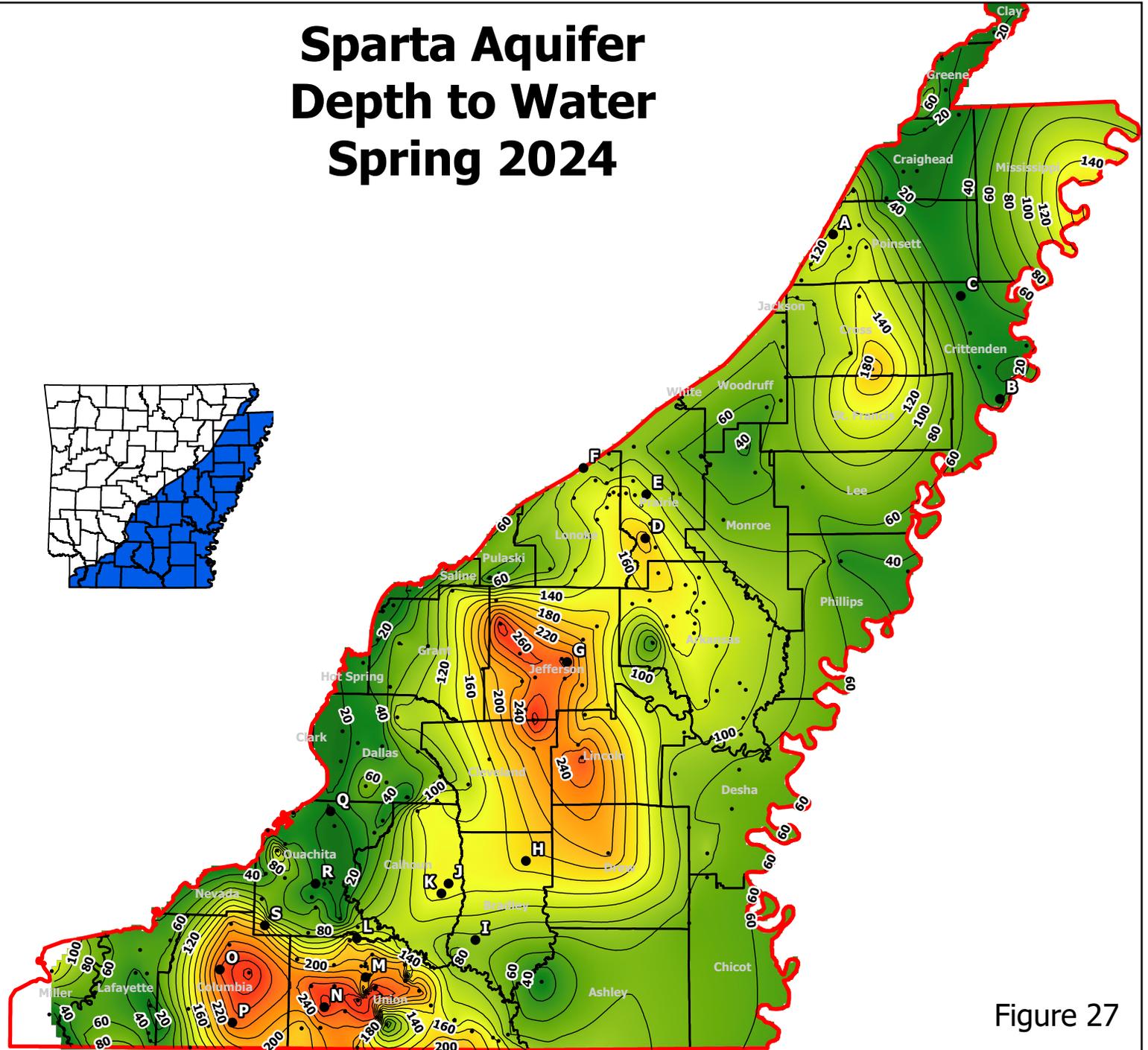


Figure 27

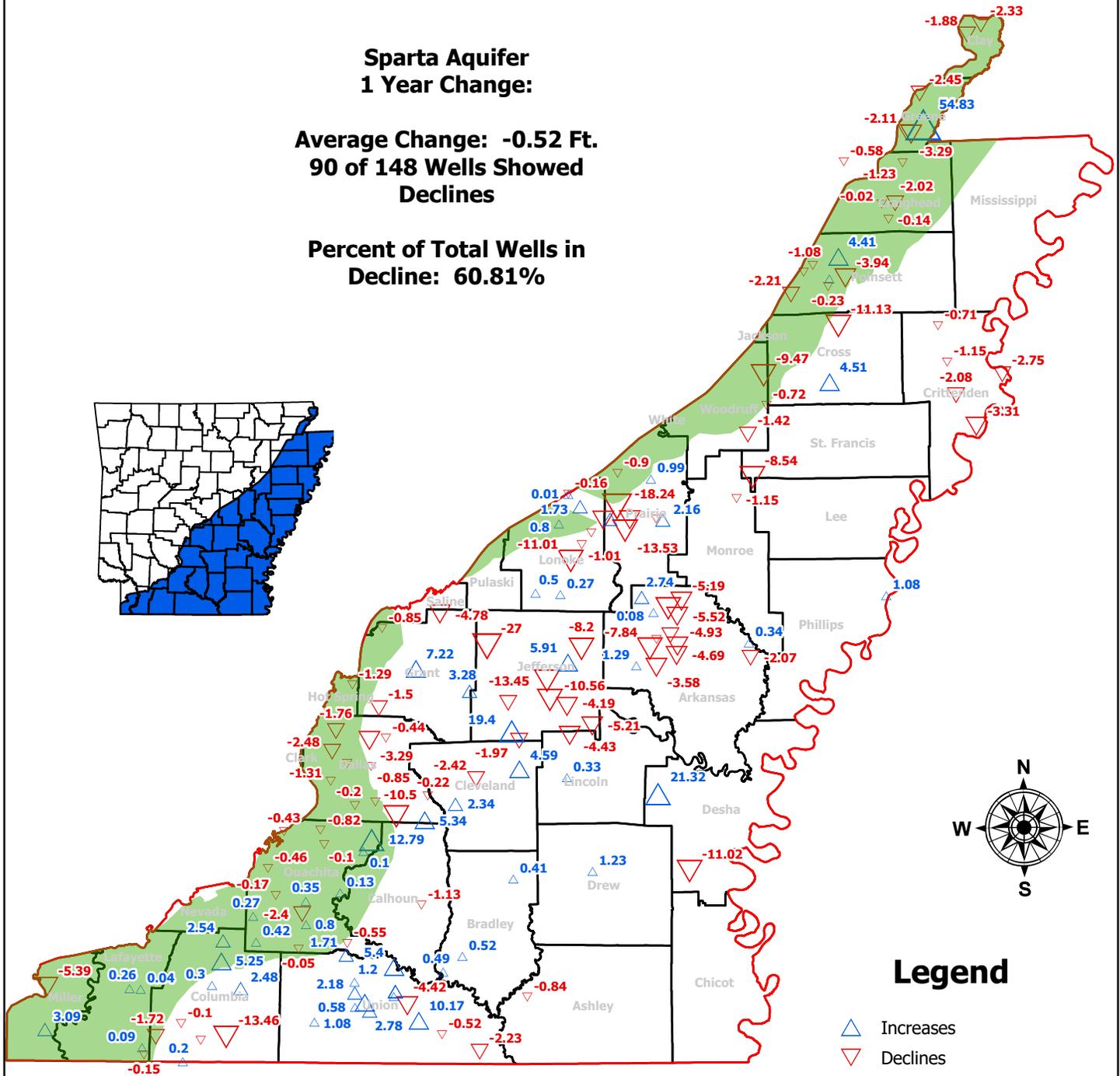
Sparta Aquifer 1 Year Change 2023 - 2024



Sparta Aquifer 1 Year Change:

Average Change: -0.52 Ft.
90 of 148 Wells Showed Declines

Percent of Total Wells in Decline: 60.81%



Legend

- △ Increases
- ▽ Declines
- Approximate Sparta/Memphis Outcrop Area
- County Boundaries

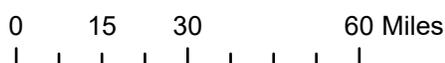


Figure 28

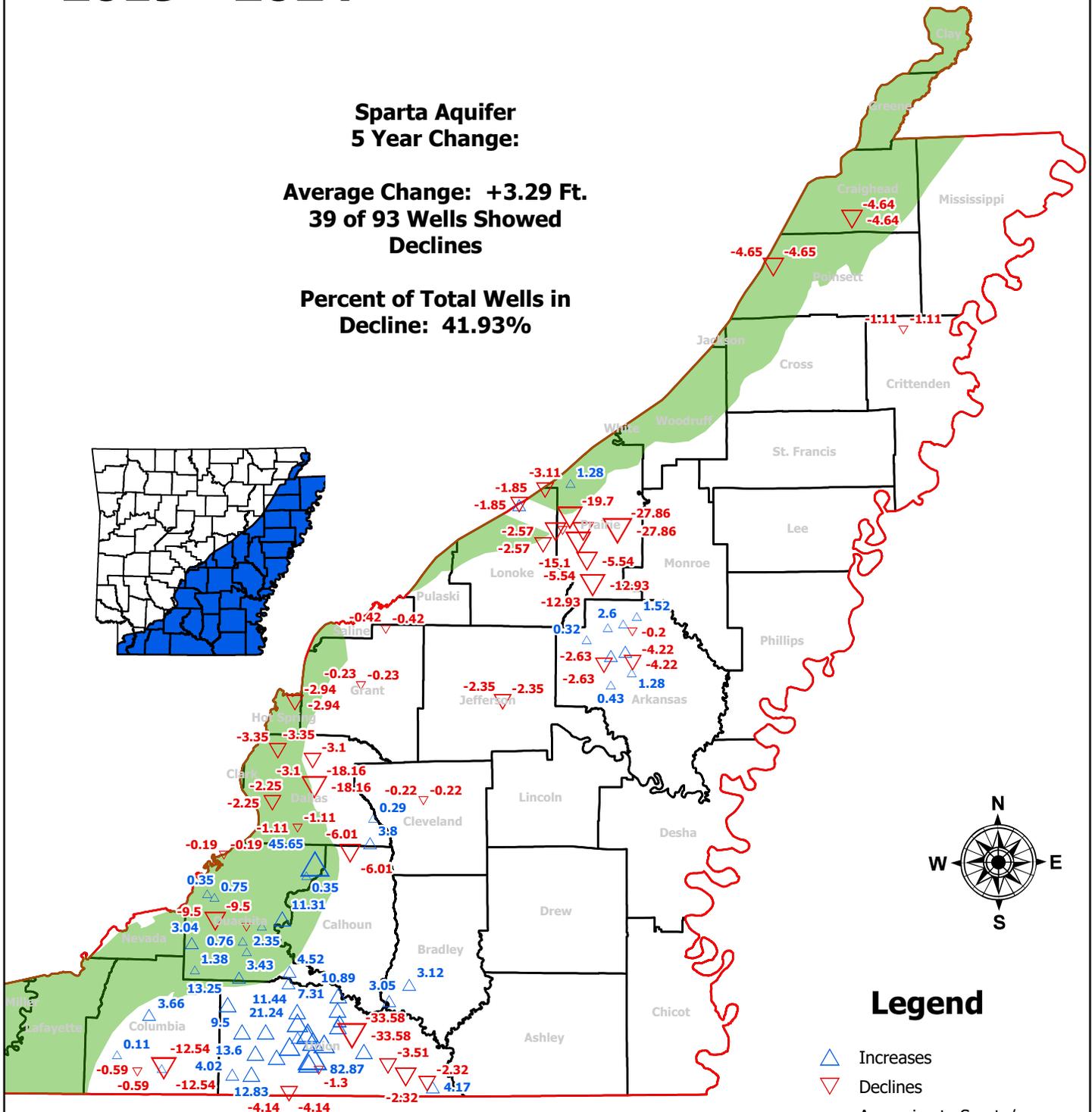
Sparta Aquifer 5 Year Change 2019 - 2024



Sparta Aquifer 5 Year Change:

Average Change: +3.29 Ft.
39 of 93 Wells Showed Declines

Percent of Total Wells in Decline: 41.93%



Legend

- ▲ Increases
- ▼ Declines
- Approximate Sparta/Memphis Outcrop Area
- County Boundaries



Figure 29

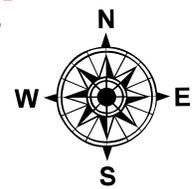
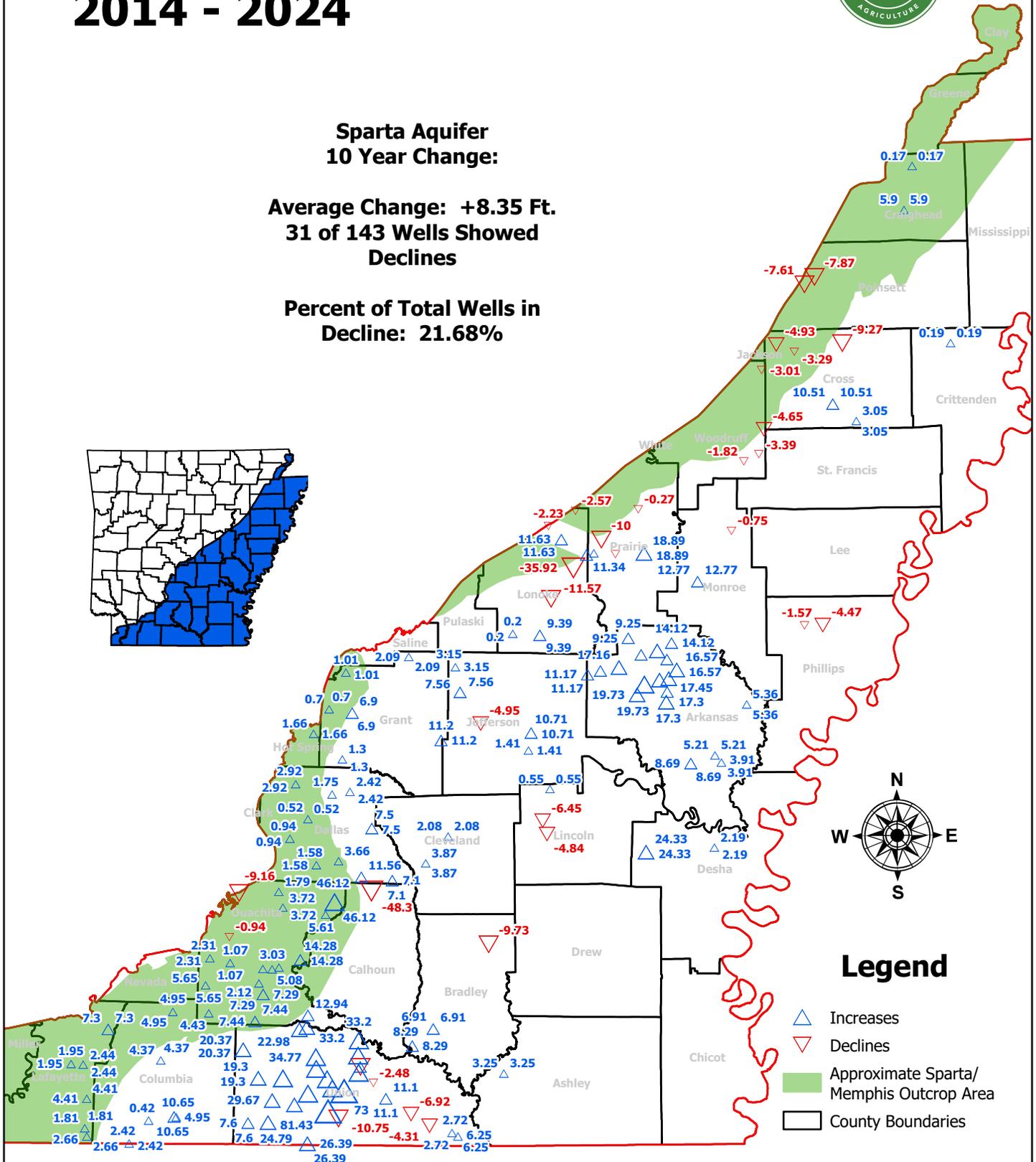
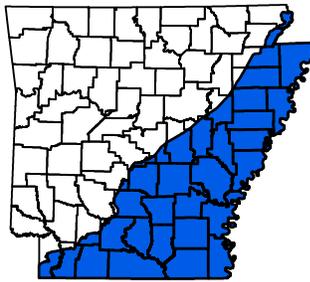
Sparta Aquifer 10 Year Change 2014 - 2024



Sparta Aquifer 10 Year Change:

Average Change: +8.35 Ft.
31 of 143 Wells Showed Declines

Percent of Total Wells in Decline: 21.68%



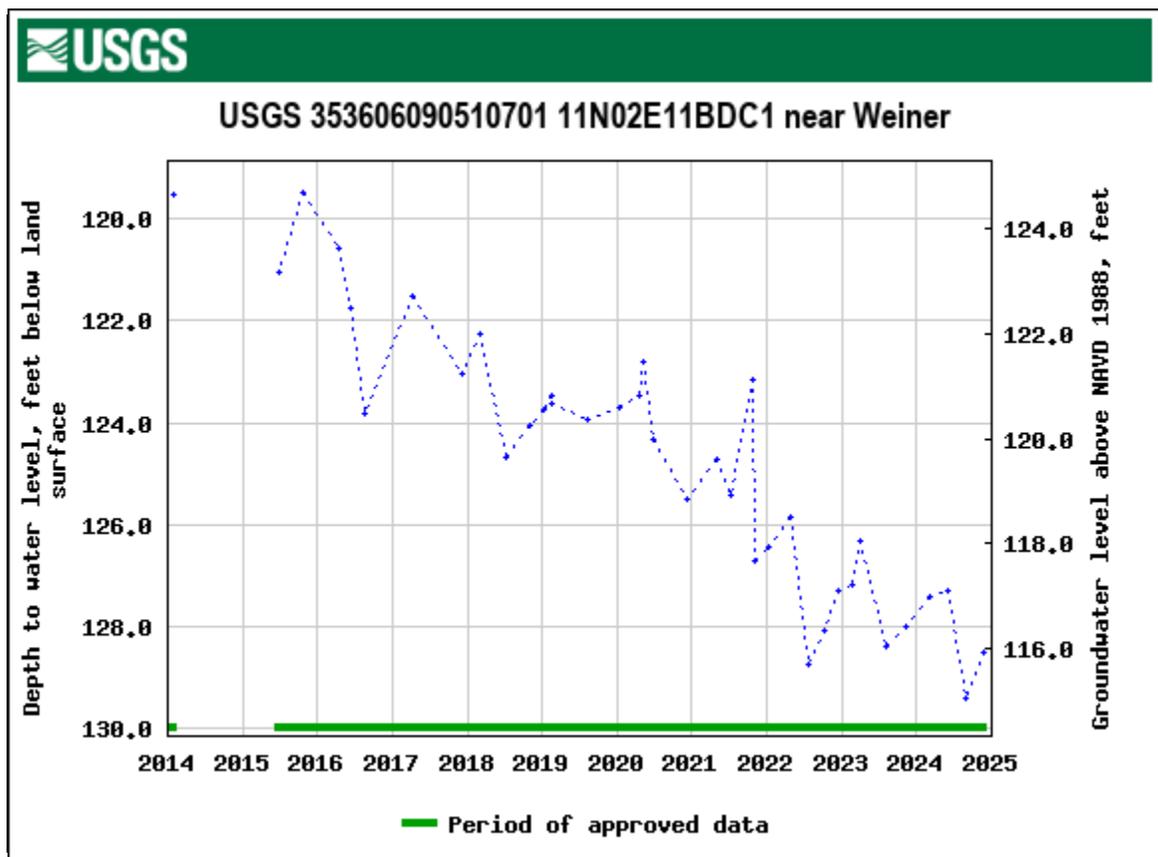
- Legend**
- ▲ Increases
 - ▼ Declines
 - Approximate Sparta/Memphis Outcrop Area
 - County Boundaries

0 15 30 60 Miles

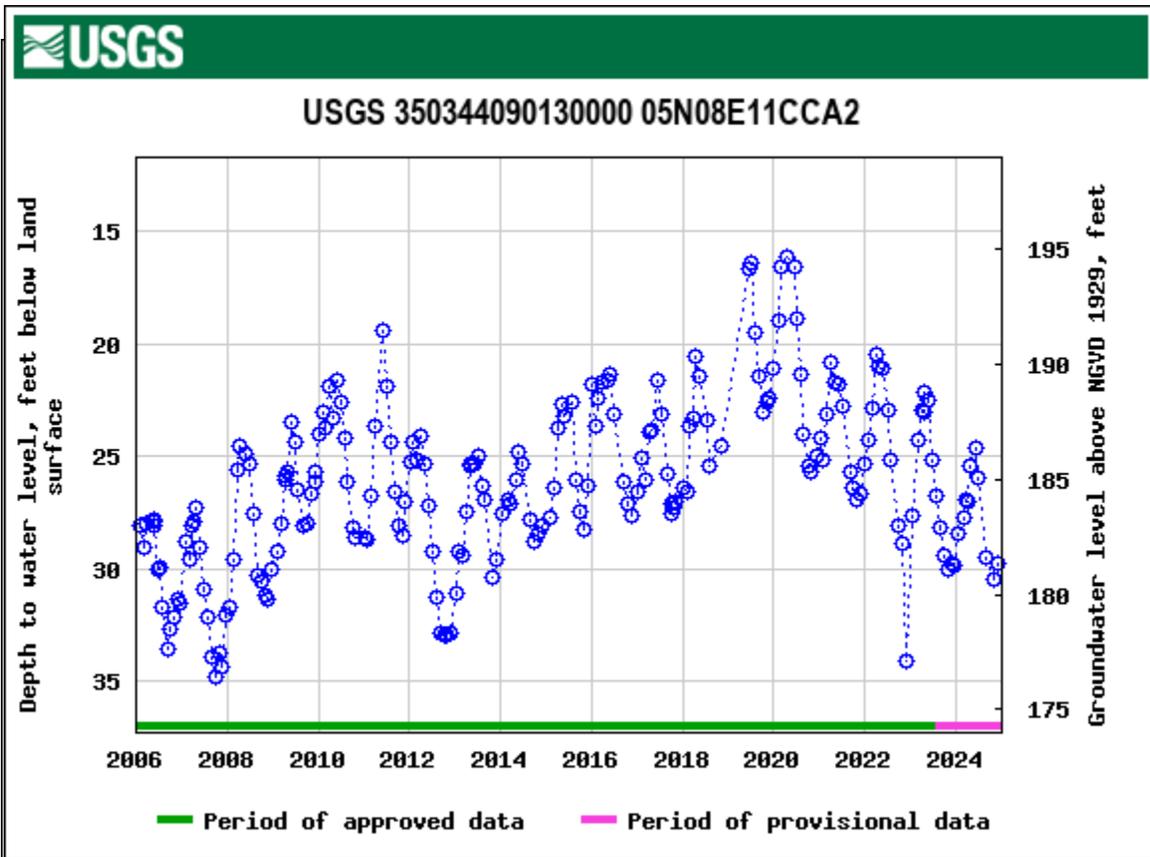
Figure 30

Selected water level hydrographs from the Sparta aquifer are presented in Figure 31 and illustrate the changes in water level overtime back to the early 2000s. These hydrographs correspond with the wells shown on Figure 27 – Sparta Aquifer Depth to Water Spring 2021. All the hydrographs in this figure are from monitoring wells maintained by the ADA Natural Resources, the Union County Water Conservation Board, or the United States Geologic Survey and are measured semi-annually or more during the year or have real-time data loggers installed for continuous water level data.

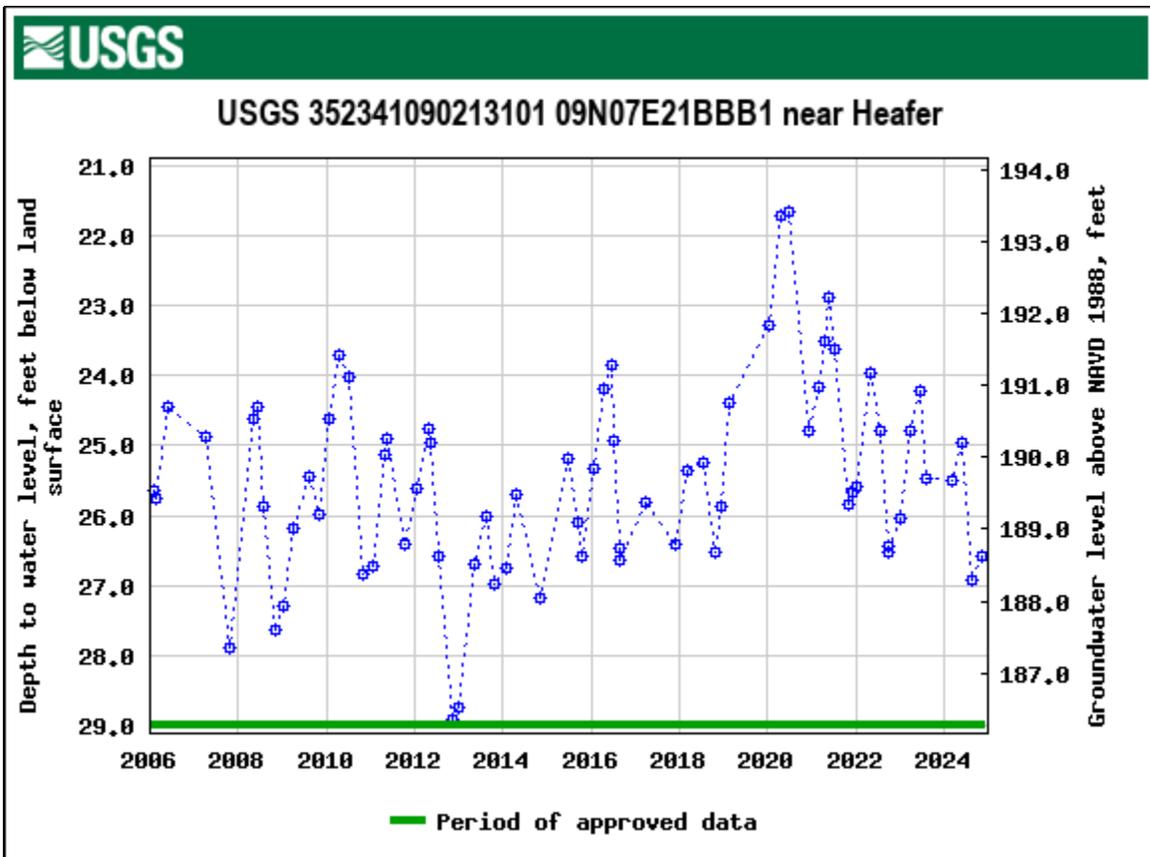
Figure 31. Selected water level hydrographs from the Sparta aquifer



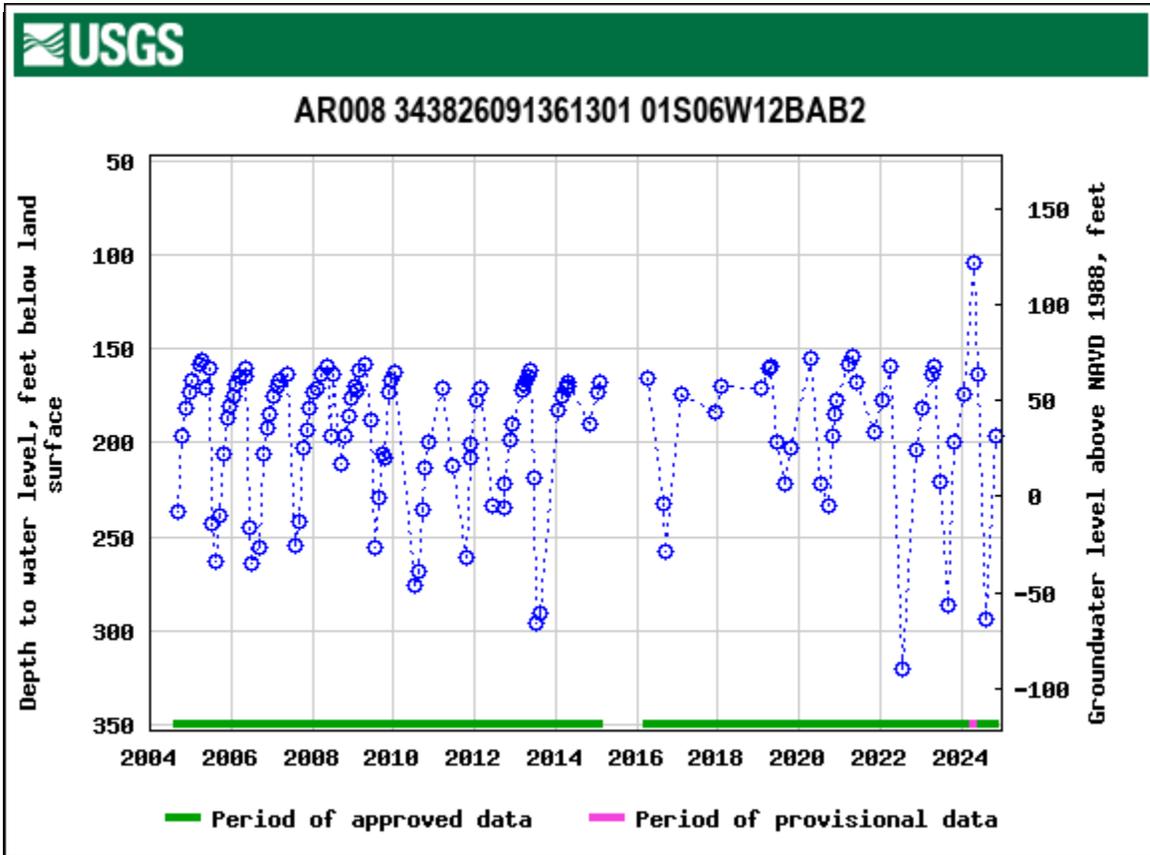
A. Poinsett County, Well 11N02E11BDC1



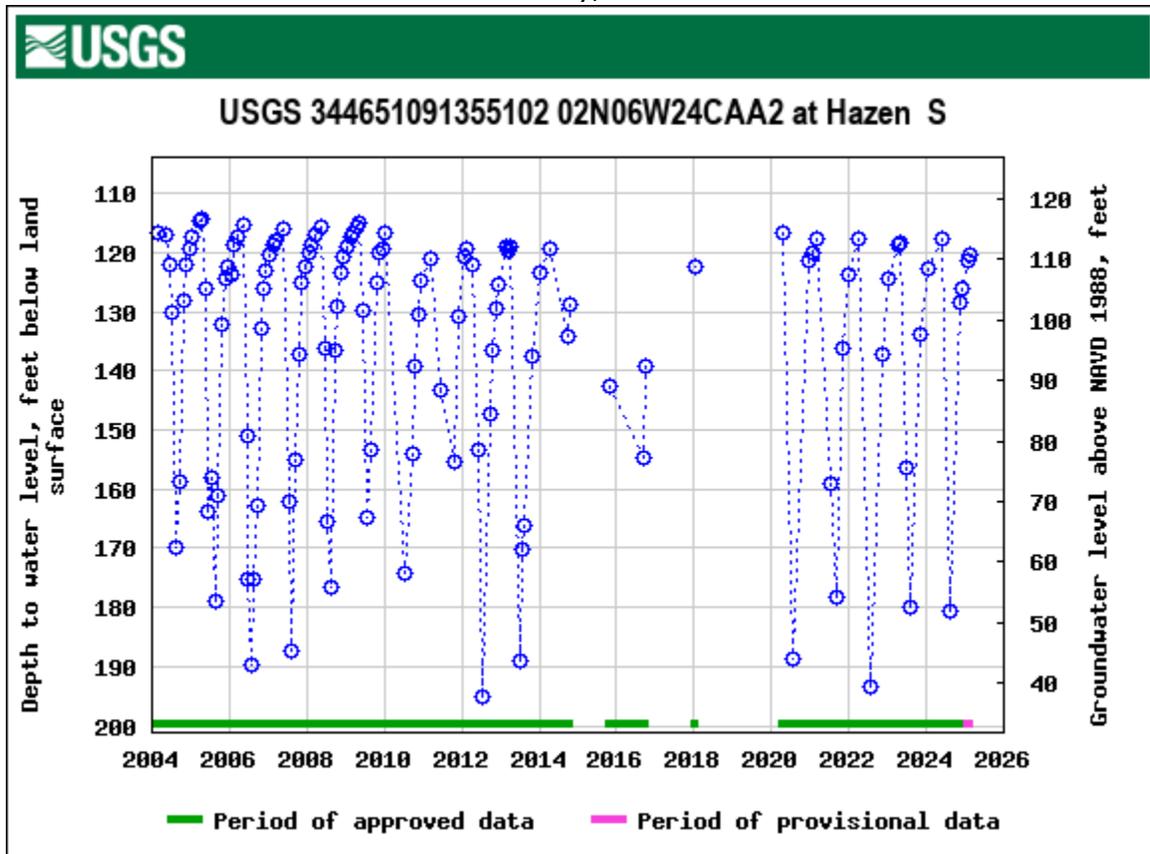
B. Crittenden County, Well 05N08E11CCA2



C. Crittenden County, Well 09N07E21BBB1

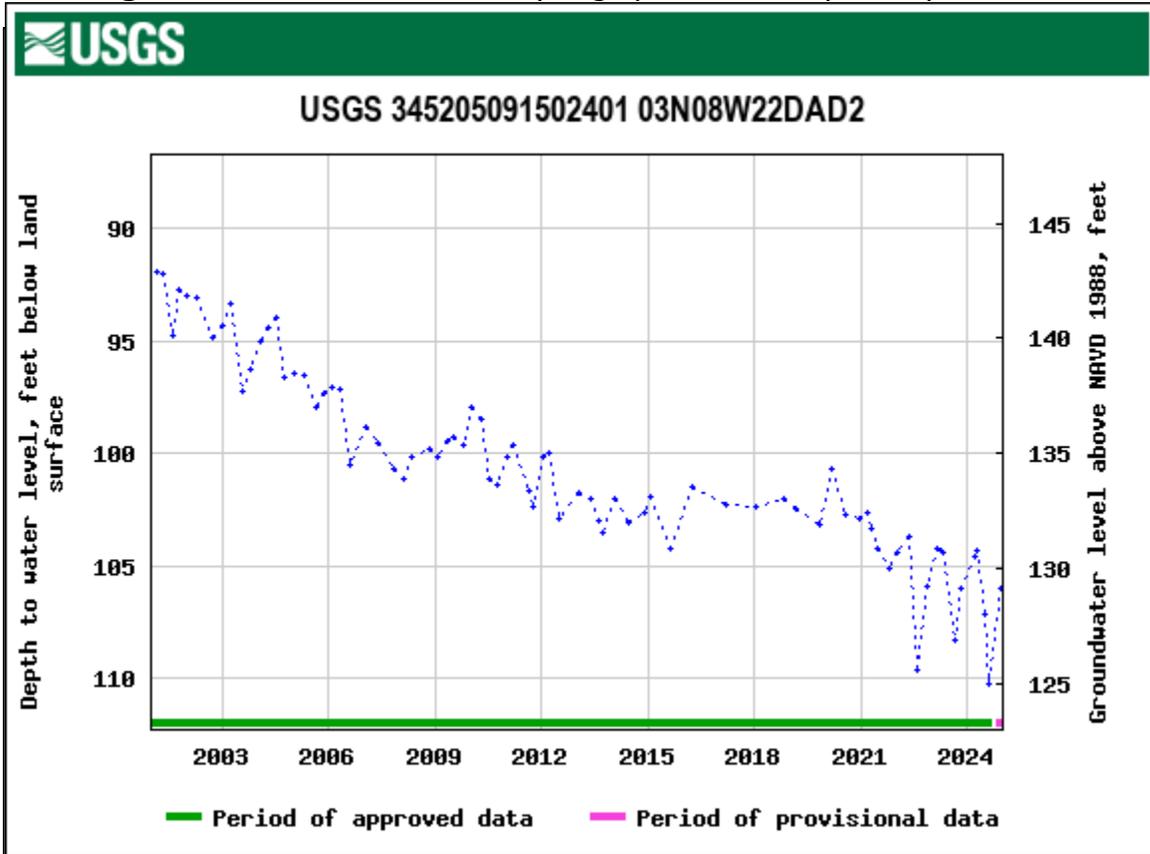


D. Prairie County, Well 01S06W12BAB2

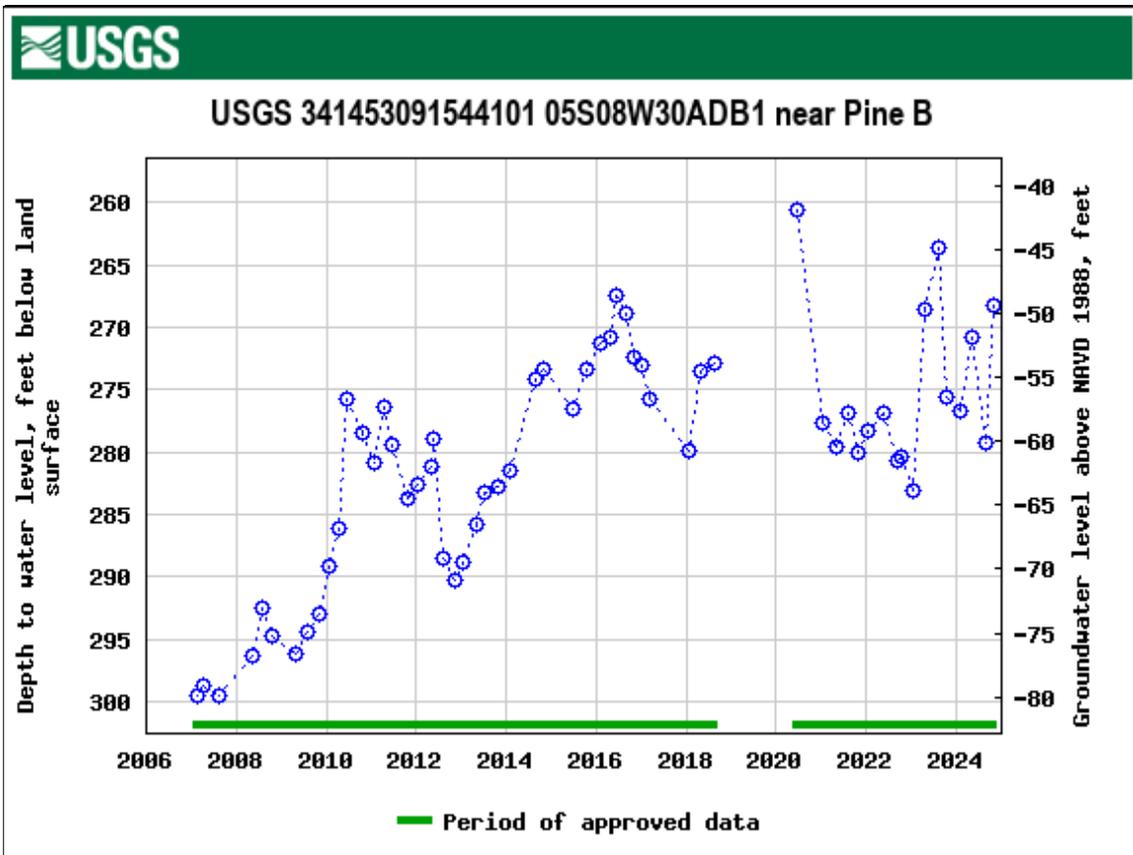


E. Prairie County, Well 02N06W24CAA2

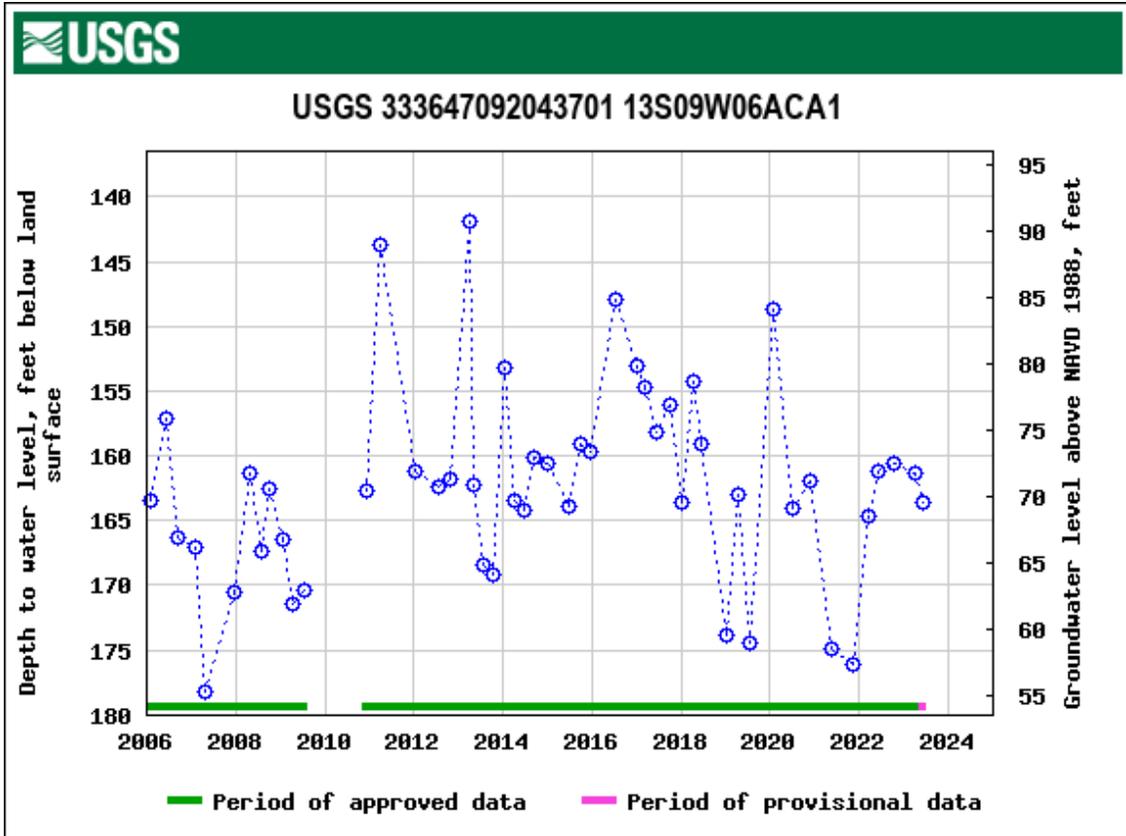
Figure 31. Selected water level hydrographs from the Sparta aquifer



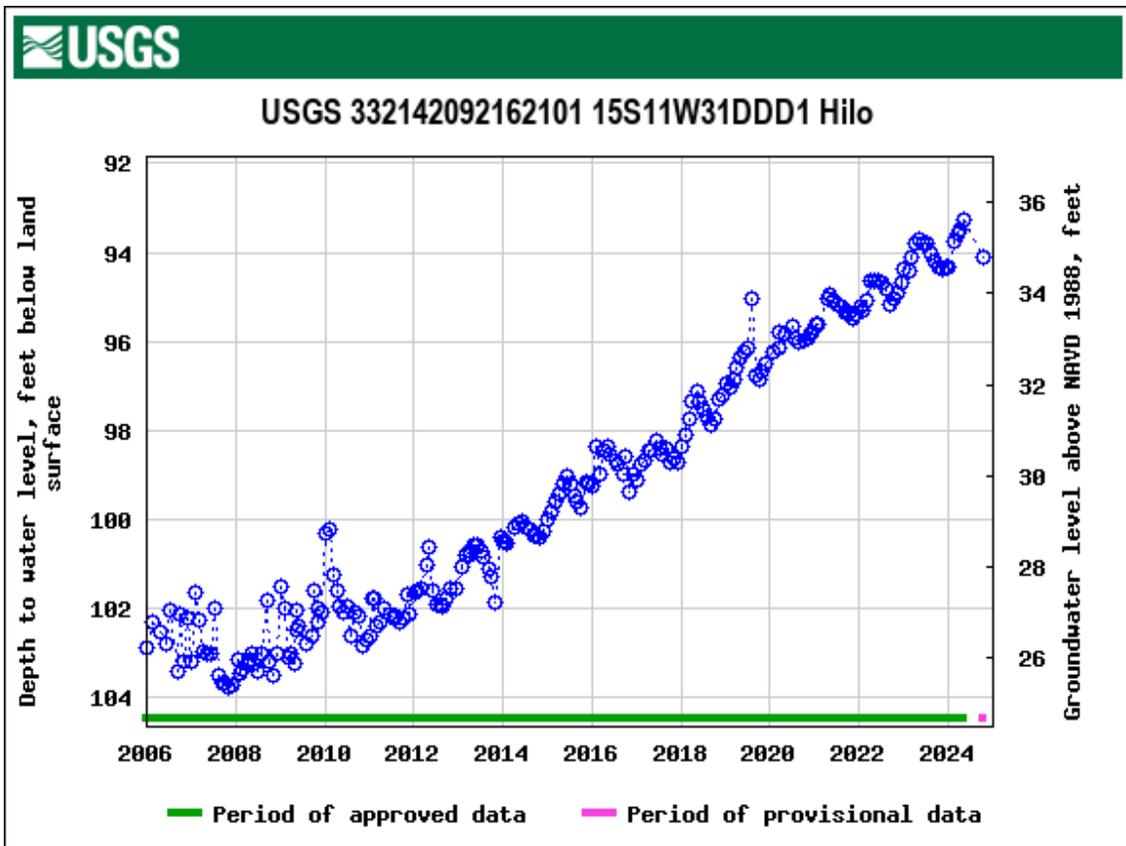
F. Lonoke County, Well 03N08W22DAD2



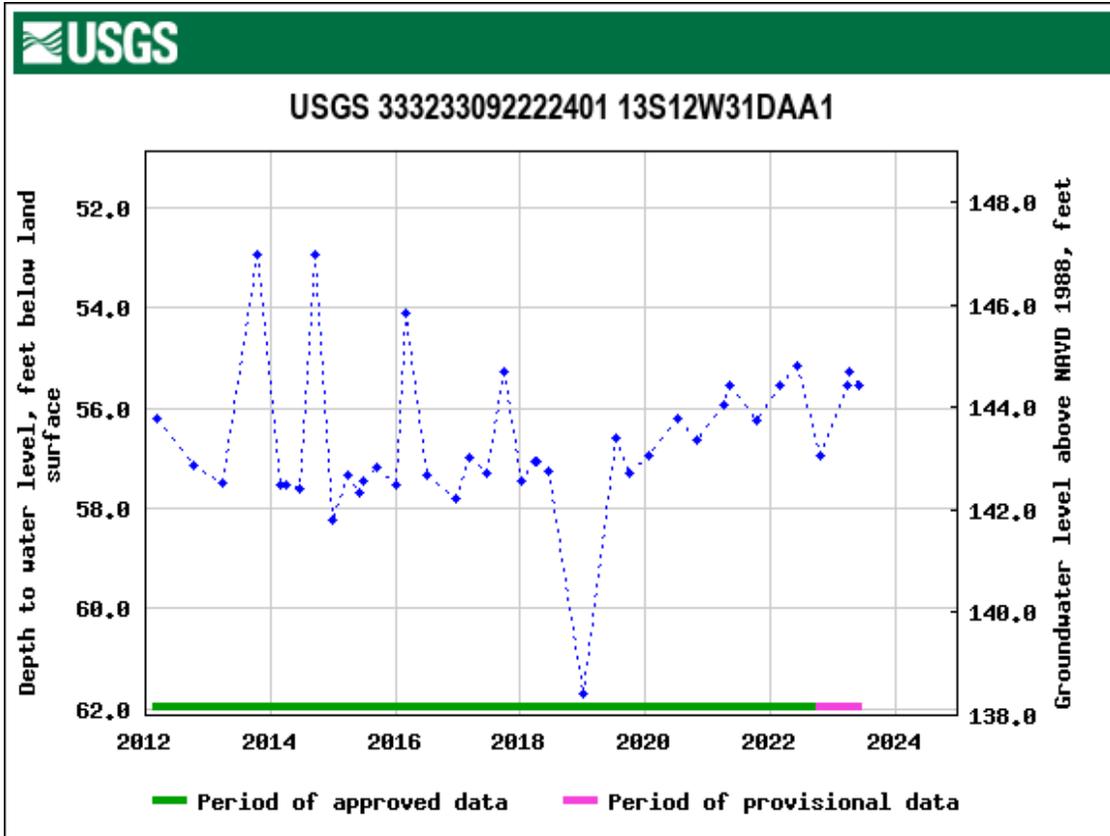
G. Jefferson County, Well 05S08W30ADB1



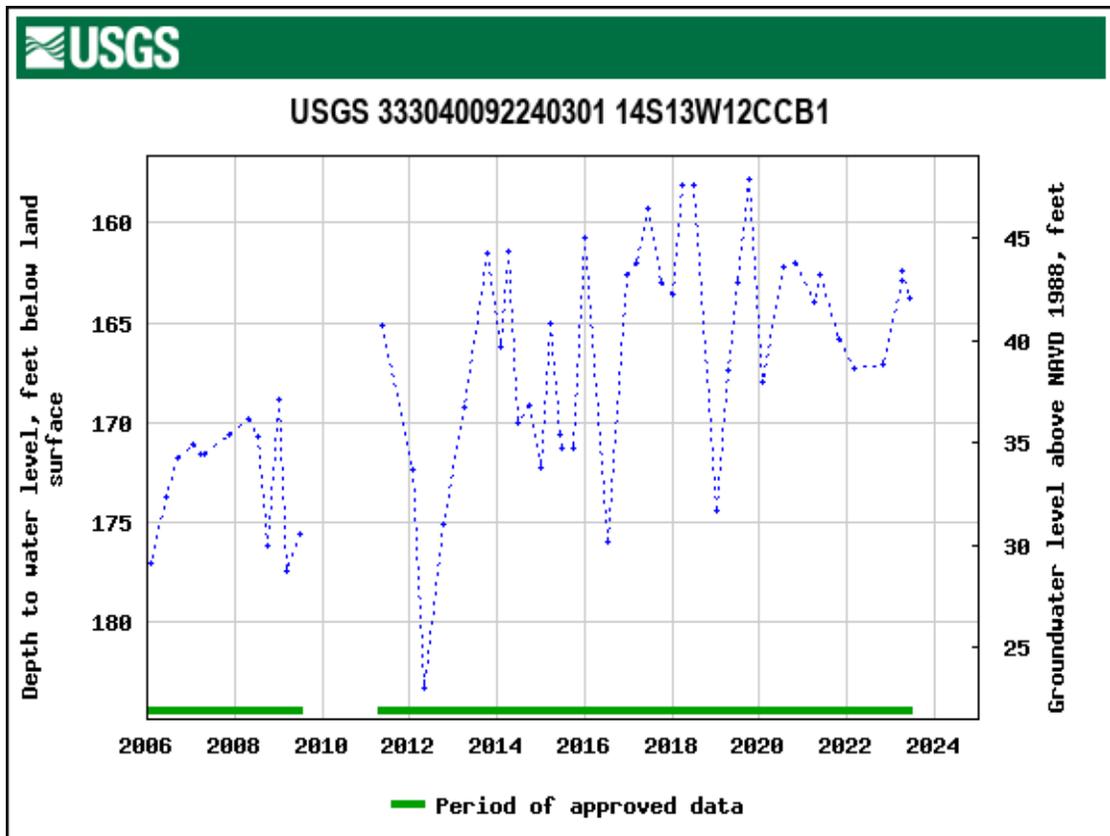
H. Bradley County, Well 13S09W06ACA1



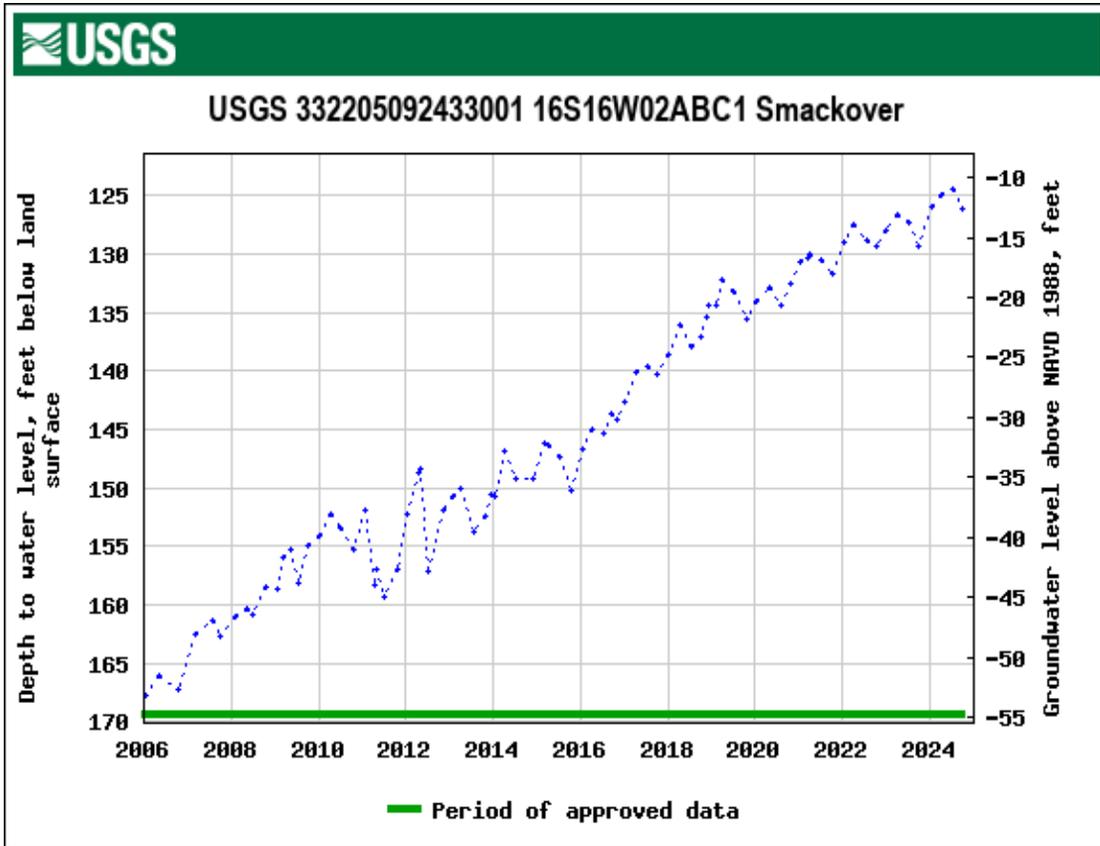
I. Bradley County, Well 15S11W31DDD1



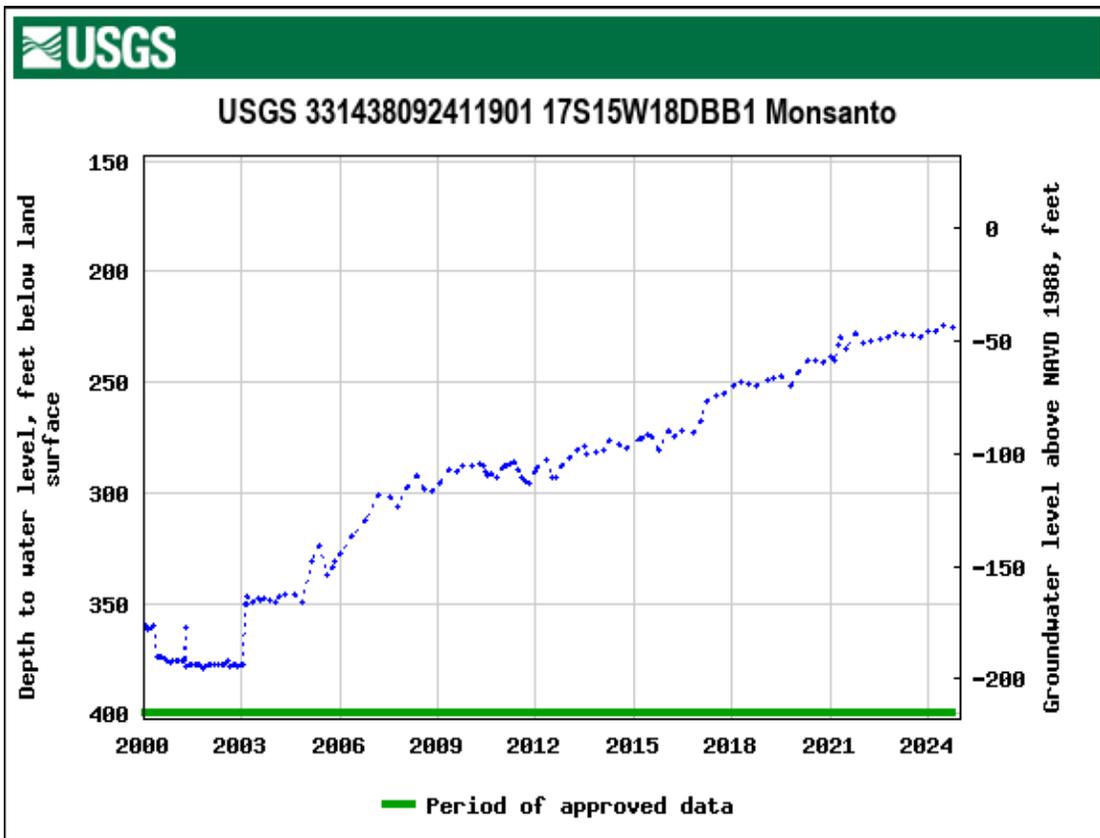
J. Calhoun County, Well 13S12W31DAA1



K. Calhoun County, Well 14S13W12CCB1

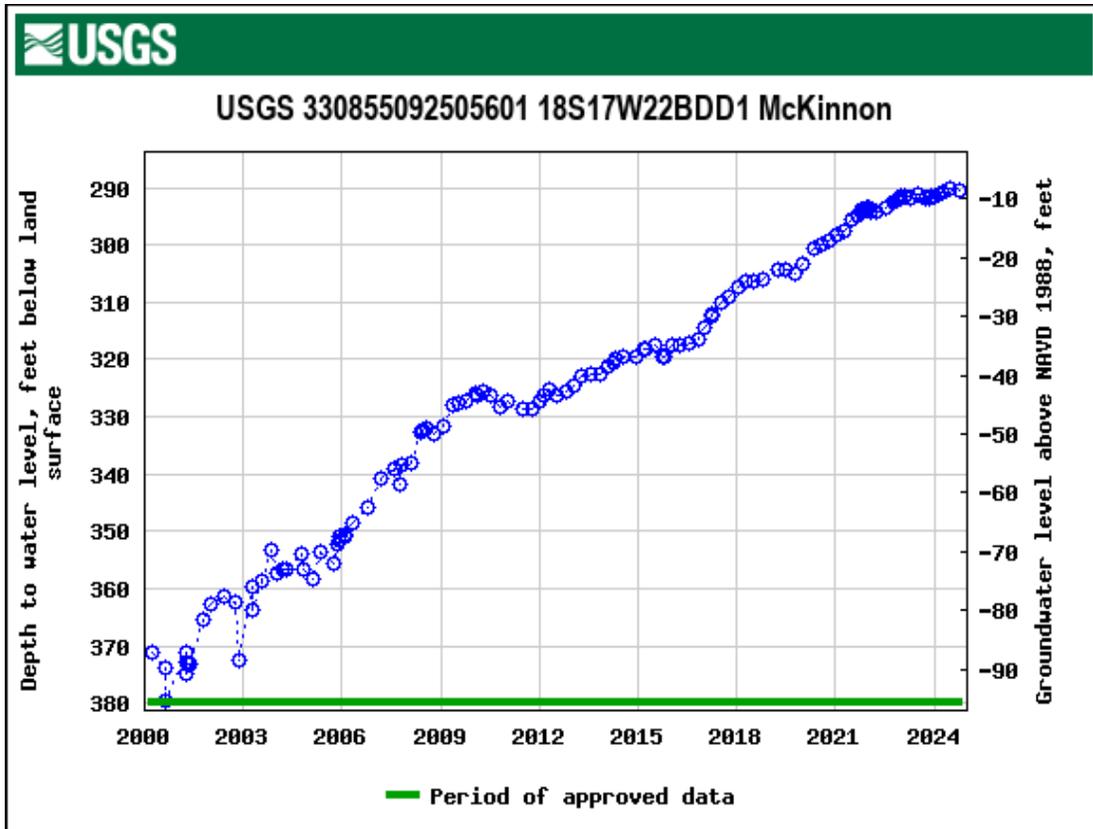


L. Union County, Well 16S16W02ABC1

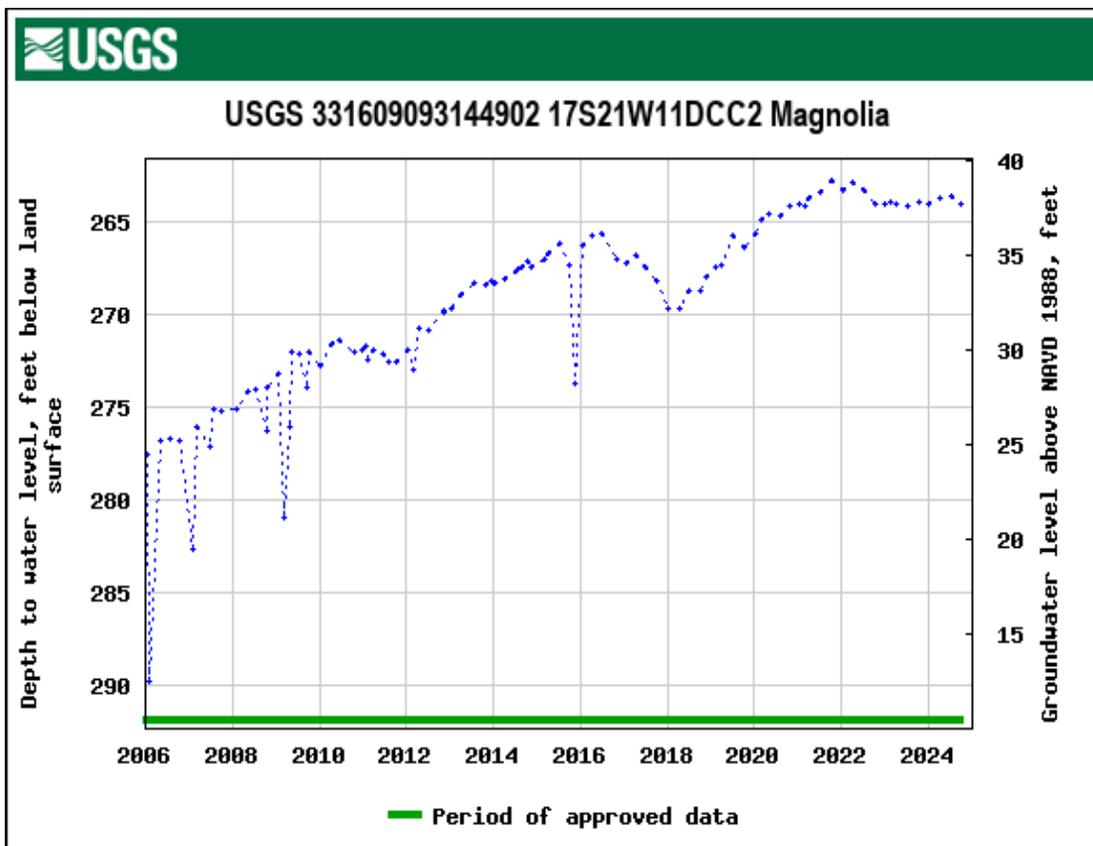


M. Union County, Well 17S15W18DBB1

Figure 31. Selected water level hydrographs from the Sparta aquifer



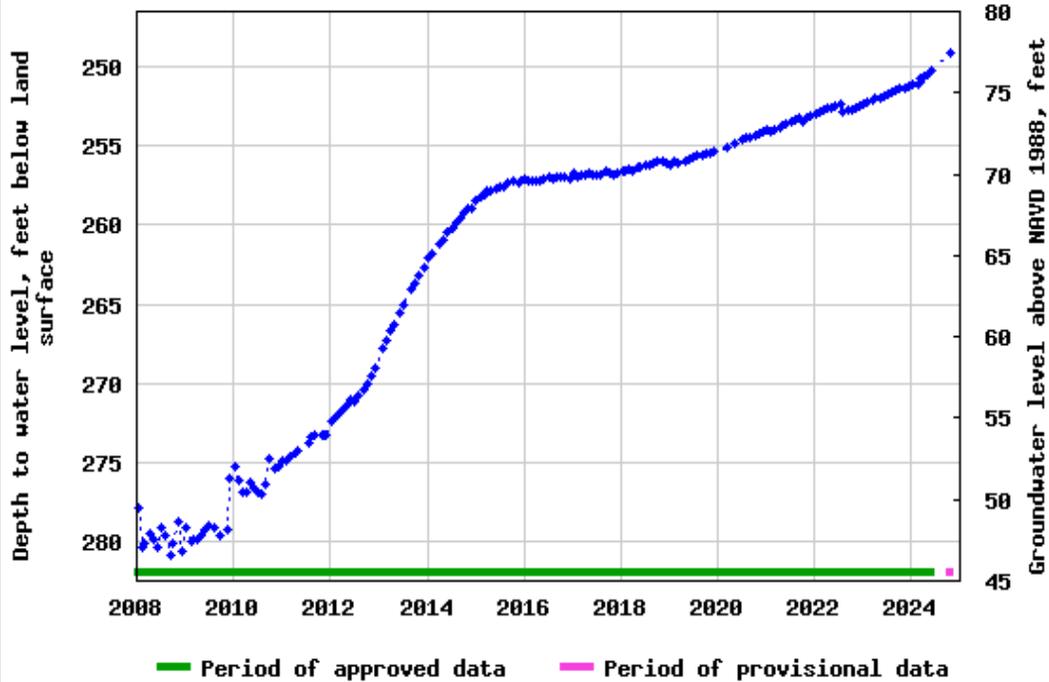
N. Union County, Well 18S17W22BDD1



O. Columbia County, Well 17S21W11DCC2



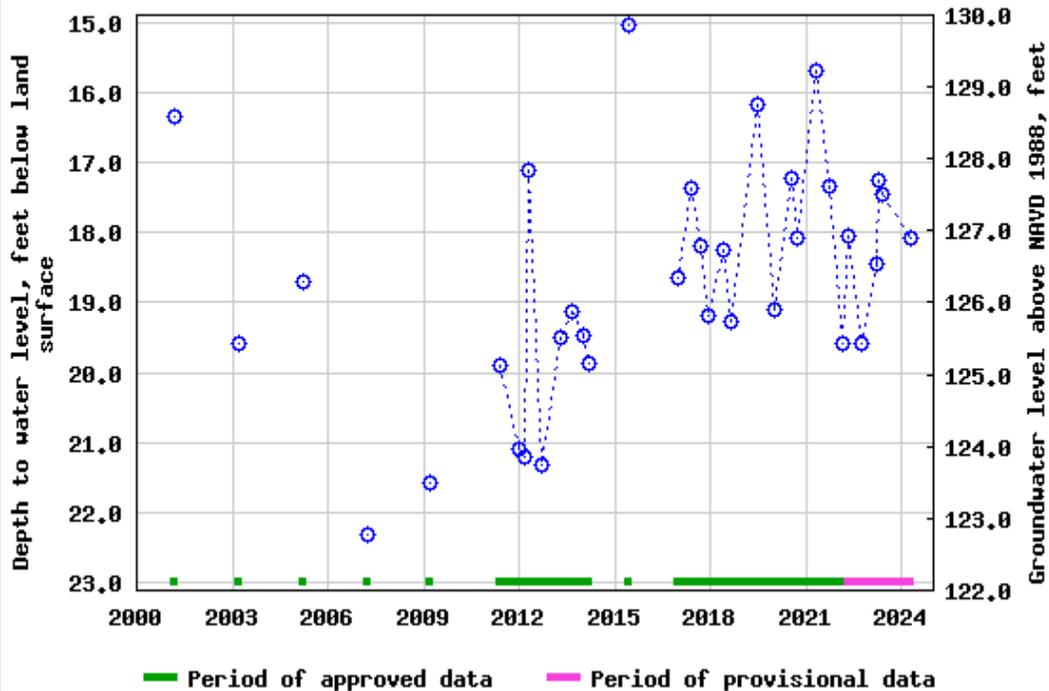
USGS 330558093115601 19S20W08DAB1 Emerson



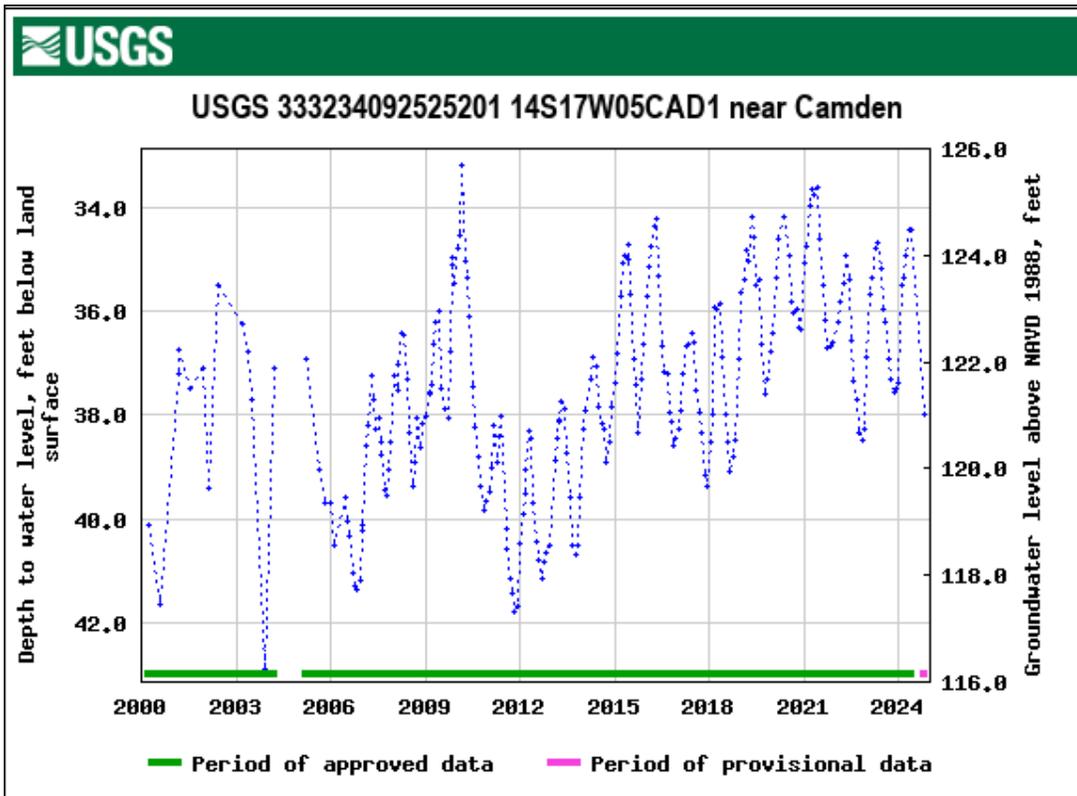
P. Columbia County, Well 19S20W08DAB1



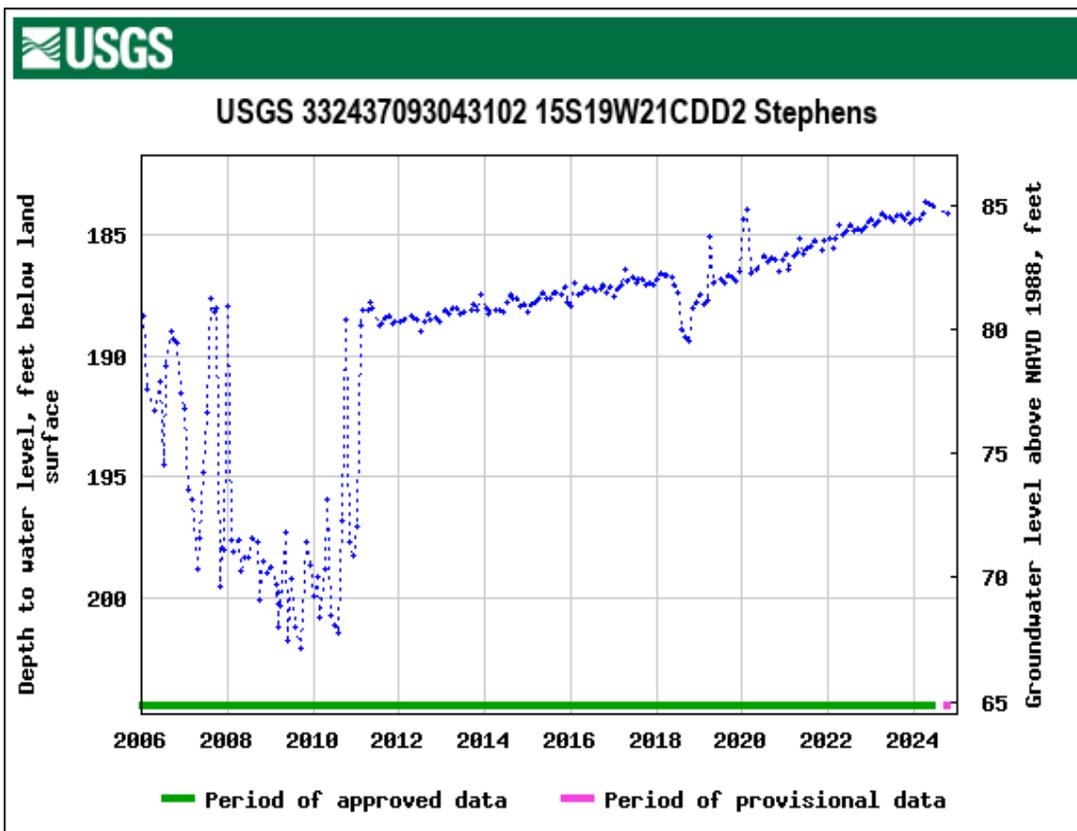
USGS 334631092492701 11S17W14CAC1



Q. Ouachita County, Well 11S17W14CAC1



R. Ouachita County, Well 14S17W05CAD1



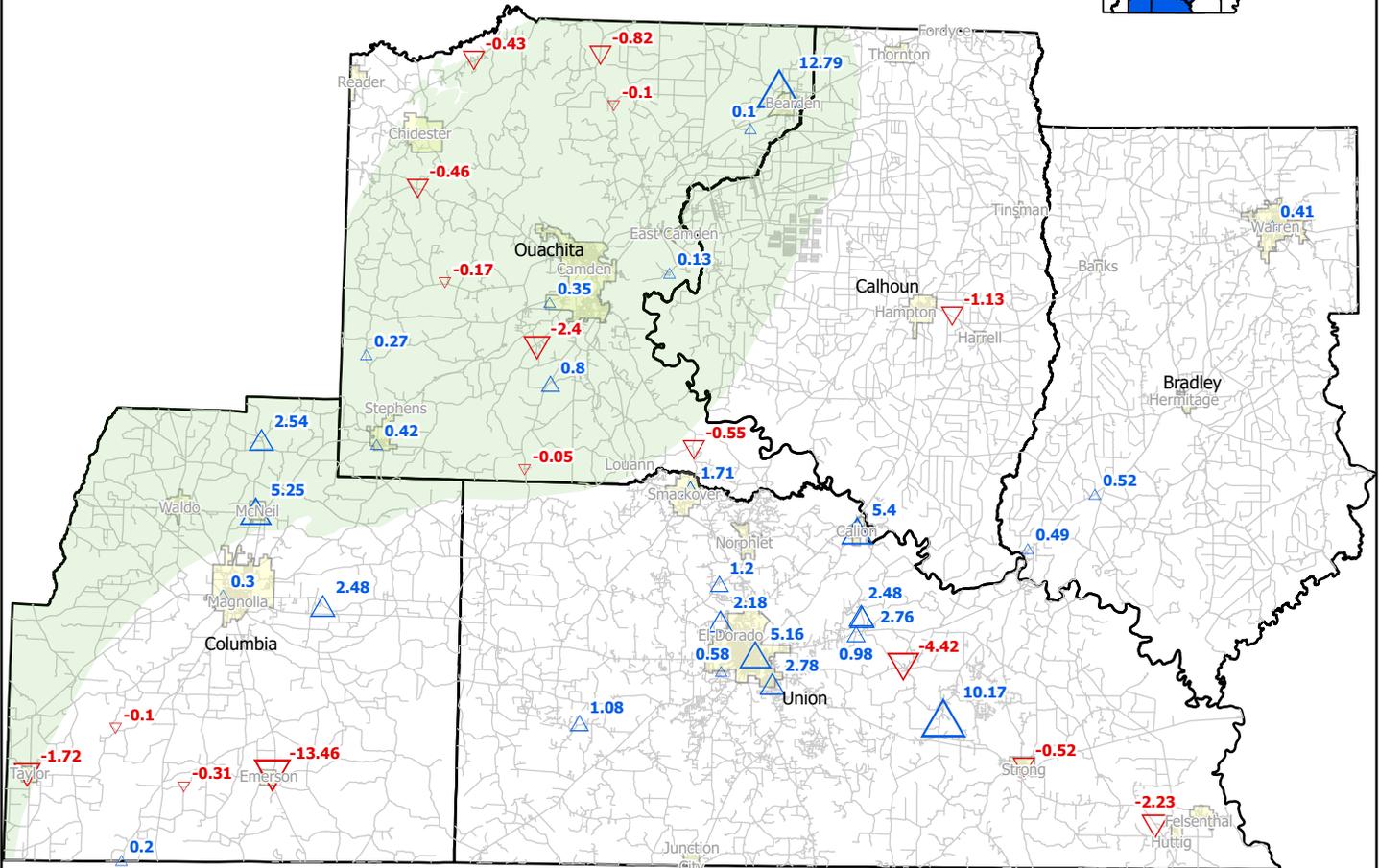
S. Ouachita County, Well 15S19W21CDD2

Sparta Aquifer 2023-2024 Water Level Change (South Arkansas)

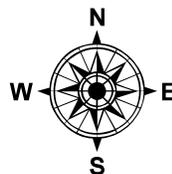


**South Arkansas Study Area
1 Year Change:**

**Average Change: +0.81 Ft.
16 of 43 Wells Showed Declines**



County	Avg. Change, Ft.
Bradley	+0.47
Columbia	-0.54
Ouachita	+0.66
Union	+1.95



- ▲ Increases
- ▼ Decreases
- Approximate Sparta Outcrop Area
- South Arkansas Area



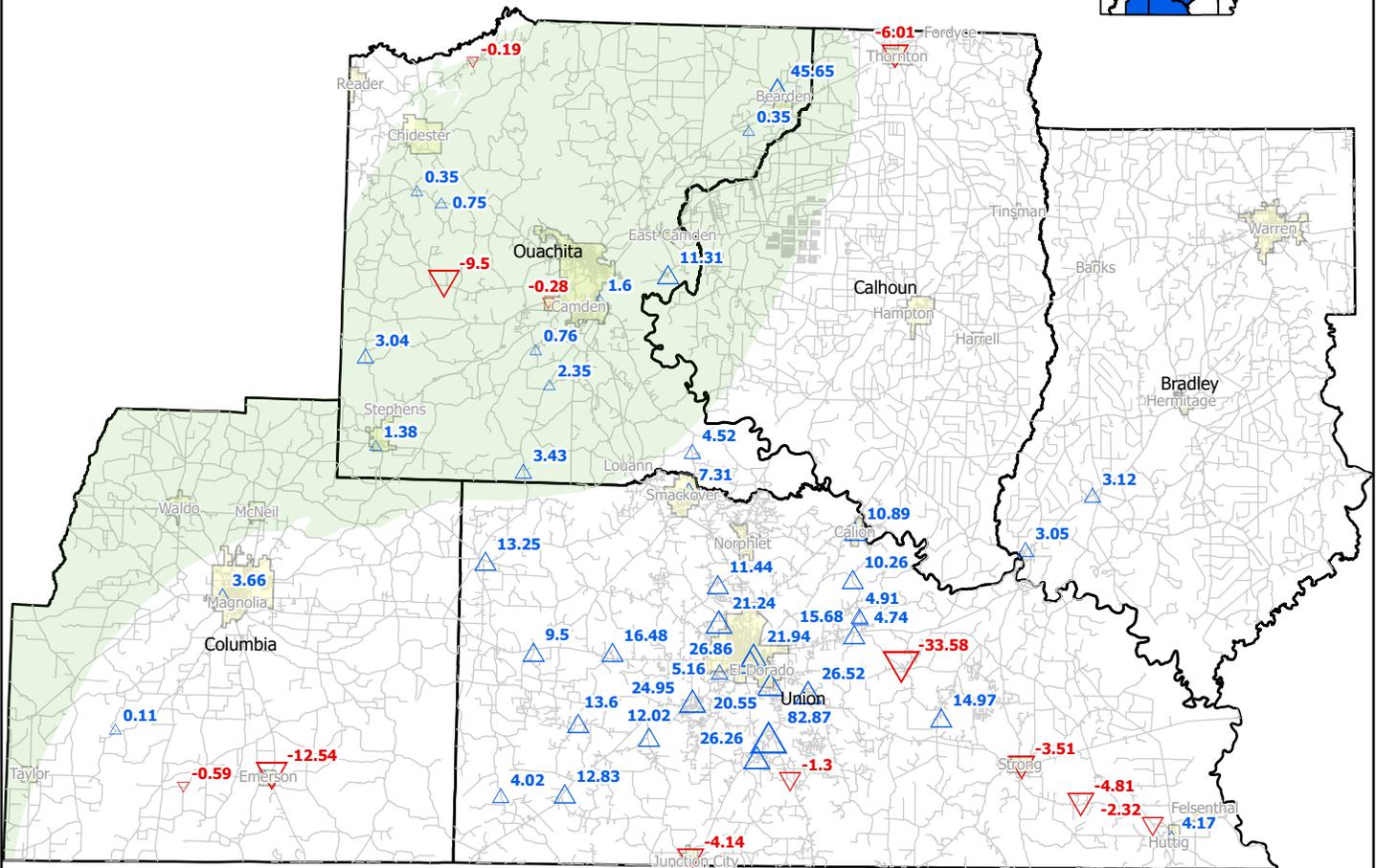
Figure 32

Sparta Aquifer 2019-2024 Water Level Change (South Arkansas)

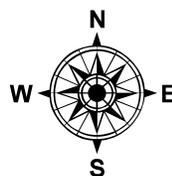


**South Arkansas Study Area
5 Year Change:**

**Average Change: +7.99 Ft.
12 of 54 Wells Showed Declines**



County	Avg. Change, Ft.
Bradley	+3.09
Columbia	-1.37
Ouachita	+4.37
Union	+12.02



- ▲ Increases
- ▼ Decreases
- Approximate Sparta Outcrop Area
- South Arkansas Area



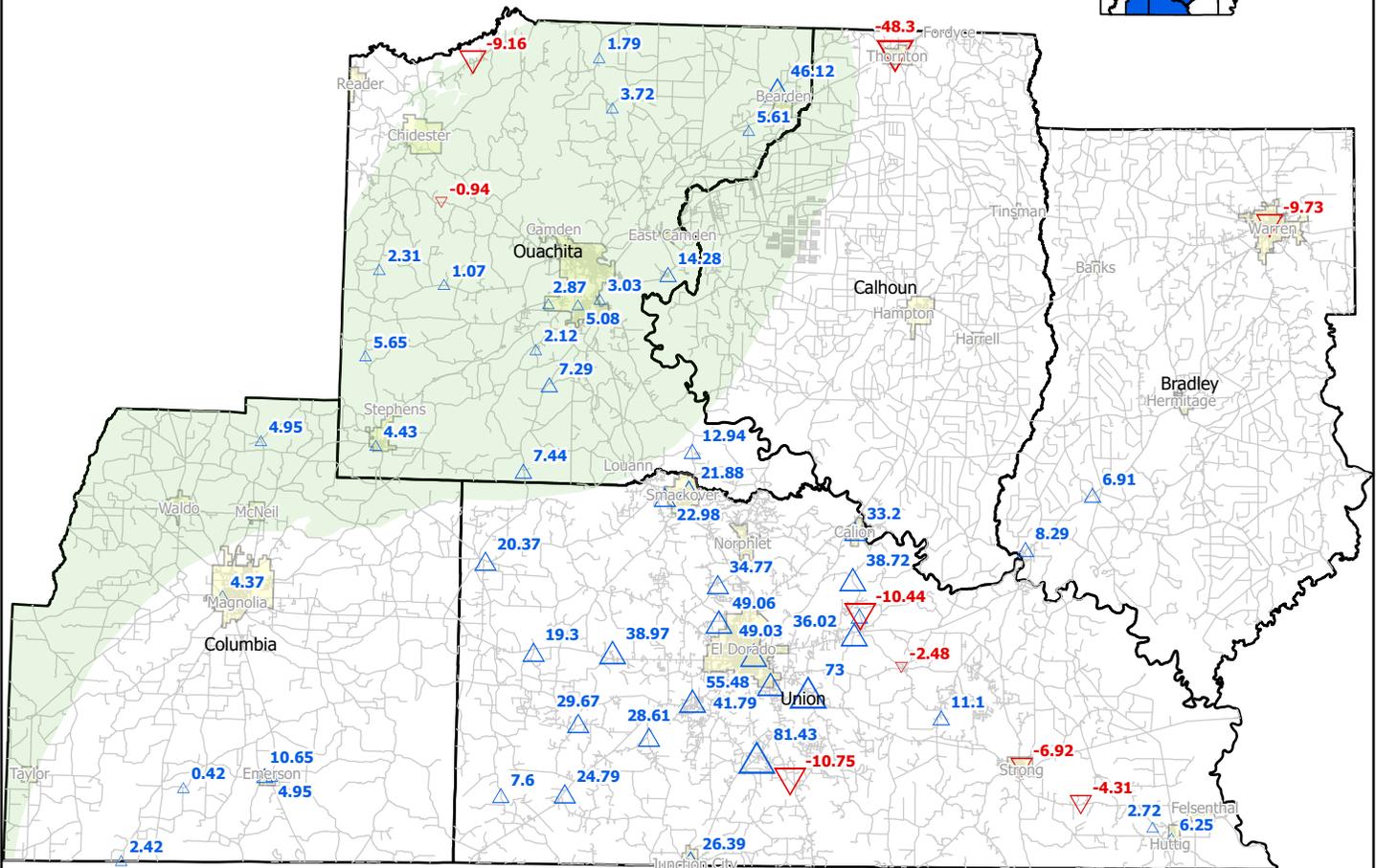
Figure 33

Sparta Aquifer 2014-2024 Water Level Change (South Arkansas)

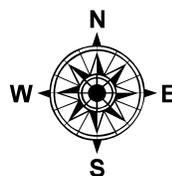


**South Arkansas Study Area
10 Year Change:**

**Average Change: +14.53 Ft.
9 of 57 Wells Showed Declines**



County	Avg. Change, Ft.
Bradley	+1.82
Columbia	+4.63
Ouachita	+6.43
Union	+25.08



- ▲ Increases
- ▼ Decreases
- Approximate Sparta Outcrop Area
- South Arkansas Area



Figure 34

Cockfield and Wilcox Aquifers

In addition to the Alluvial and Sparta/Memphis aquifers, the USGS also monitors lesser utilized aquifers throughout the state on a rotational basis. Every third year, the USGS monitors wells in the Cockfield and Wilcox aquifers, the Tokio and Nacatoch aquifers, and Paleozoic Age aquifers. The 2024 monitoring year was designated for the Cockfield and Wilcox aquifers.

Cockfield

Static water level measurements were collected from 22 wells across the Cockfield aquifer during the 2024 measurement season. Figure 35 depicts the 2024 potentiometric surface as water level altitude in feet above mean sea level.

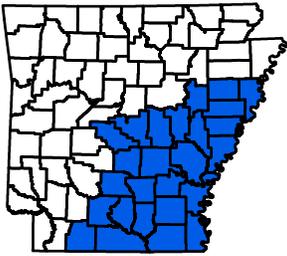
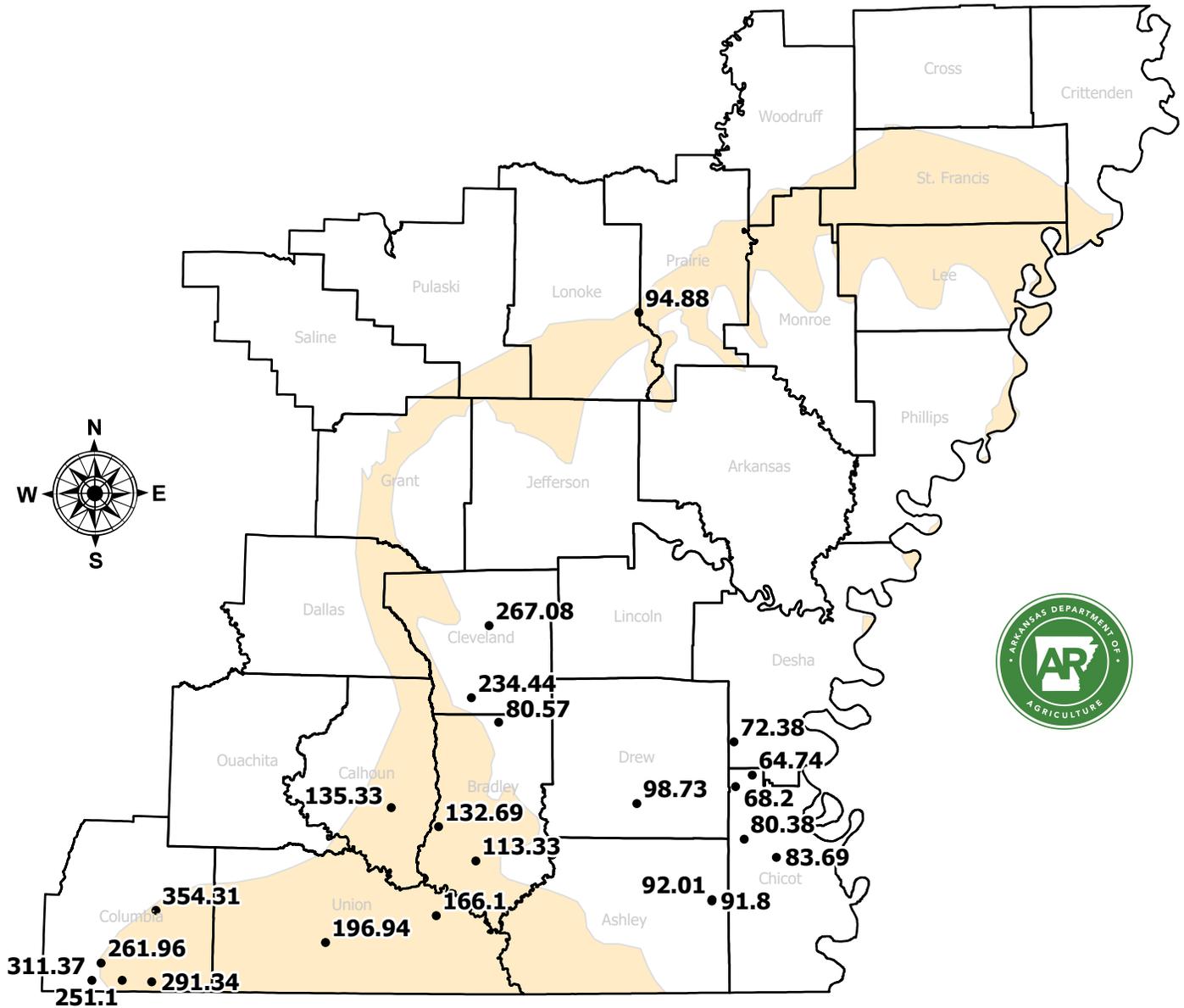
Figure 36 shows a comparison of water level data from the current year on a well-to-well basis with a 12-year interval to illustrate the water level change of the aquifer over time. Overall, the aquifer level increased +2.23 ft. over that time with six out of 18 wells (33.33 percent) showing declines. Wells with increasing aquifer levels are concentrated in the shallower parts of the aquifer along the southern extent, while the greater declining values occur in the eastern extent where the aquifer is deeper.

Wilcox

Static water level measurements were collected from 36 wells across the Wilcox aquifer during the 2024 measurement season. Figure 37 presents the potentiometric surface as water level altitude in feet above mean sea level.

Figure 38 presents a comparison of water level data collected in 2024 with data from a 12-year interval. Overall, the aquifer increased +2.97 ft. over that period with nine out of 25 wells (36.00 percent) showing declines. Wells in the northeast showed higher variability in level than wells in the southwest, with eight of the nine Wilcox wells showing declines found in the northern extent.

Cockfield Aquifer Water Level Altitude Spring 2024



Legend

- Data Points, Ft.
- Cockfield Outcrop Area
- County Boundaries

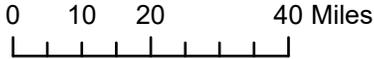


Figure 35

Cockfield Aquifer 12 Year Change 2012 - 2024

County	Avg. Change, Ft.
Ashley	+8.37
Bradley	+2.92
Chicot	-2.32
Cleveland	+0.97
Columbia	+2.45

**Cockfield Aquifer
12 Year Change:**

**Average Change: +2.23 Ft.
6 of 18 Wells Showed
Declines**

**Percent of Total Wells in
Decline: 33.33%**

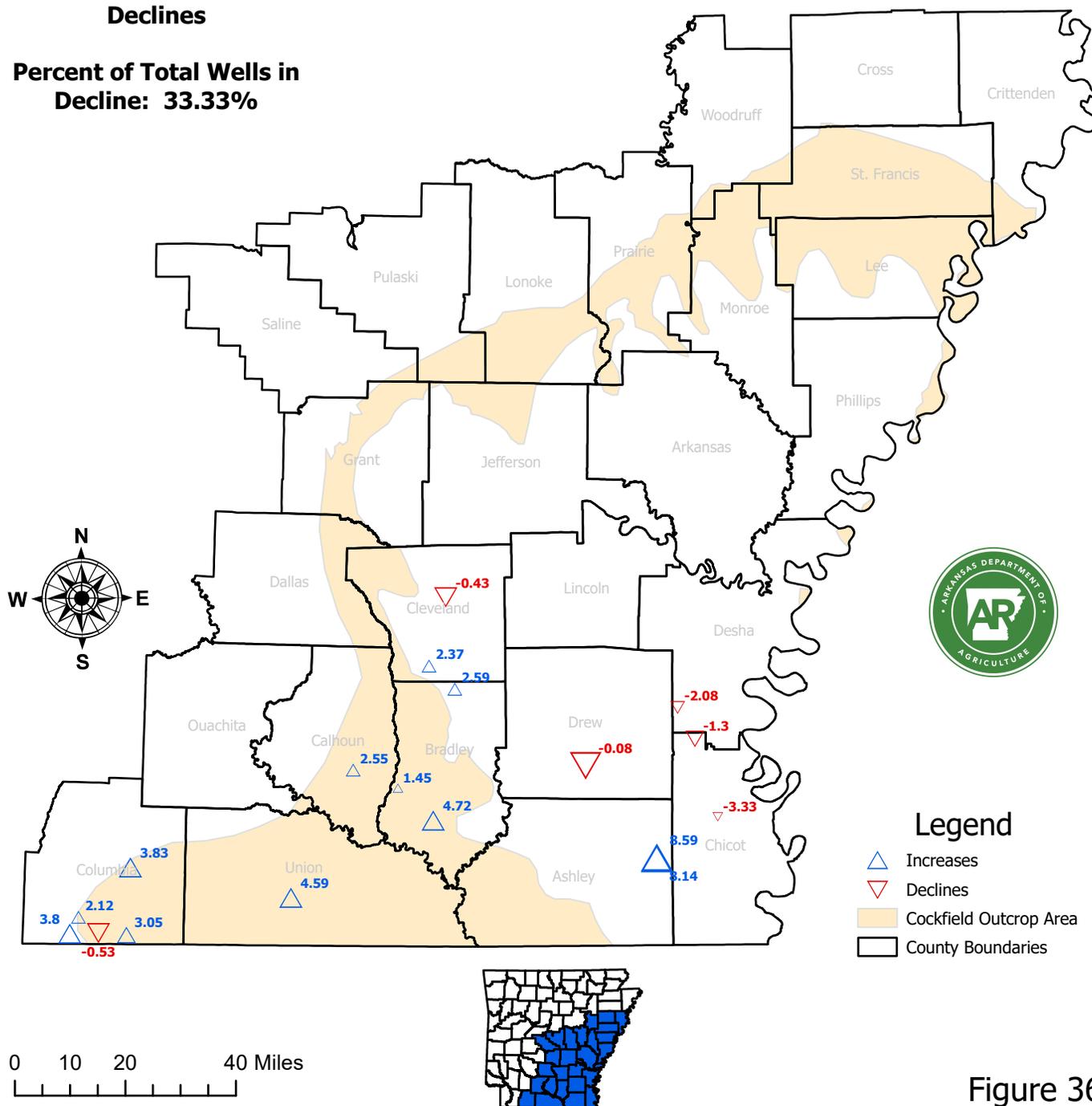


Figure 36

Wilcox Aquifer Water Level Altitude Spring 2024

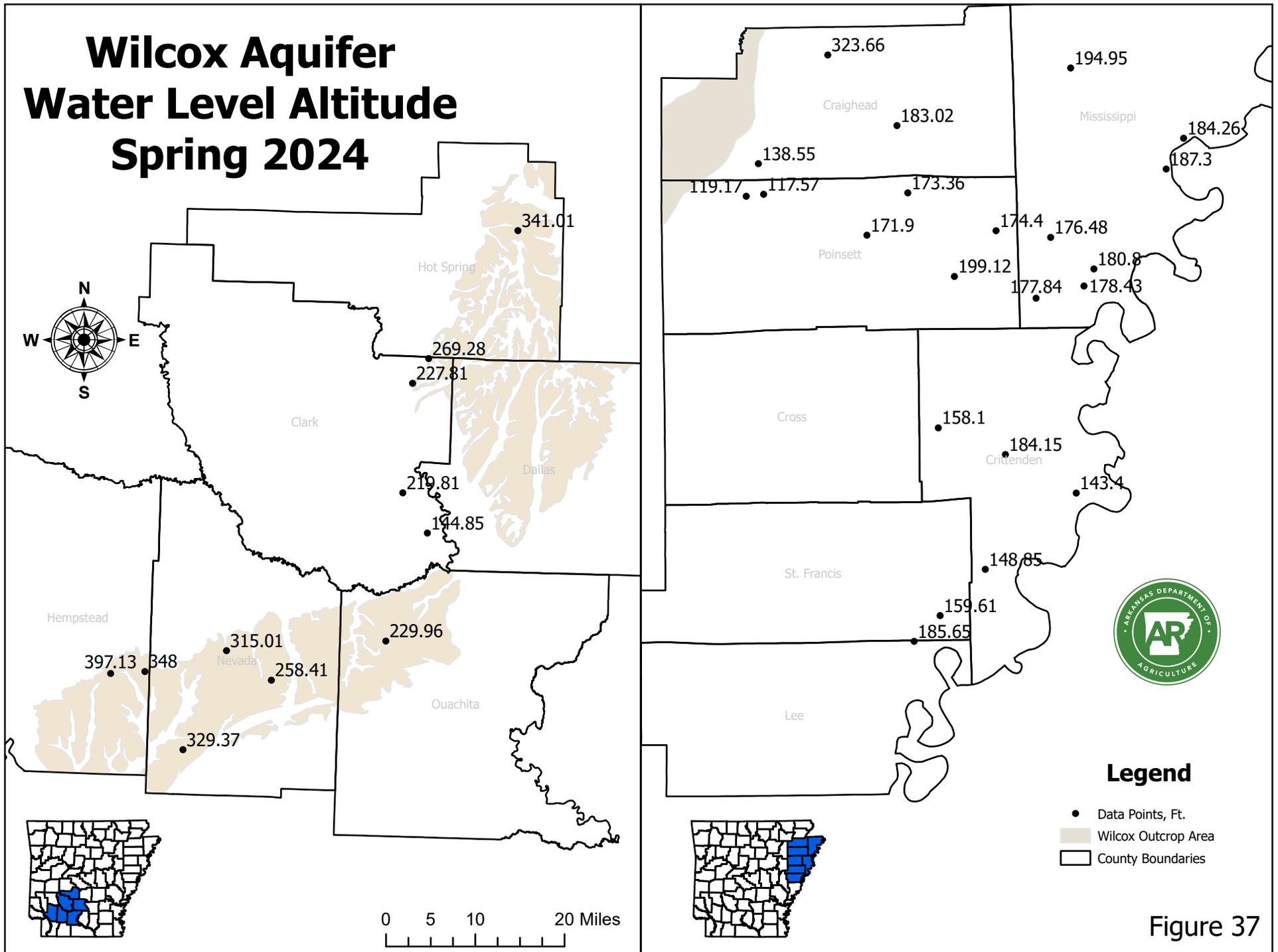


Figure 37

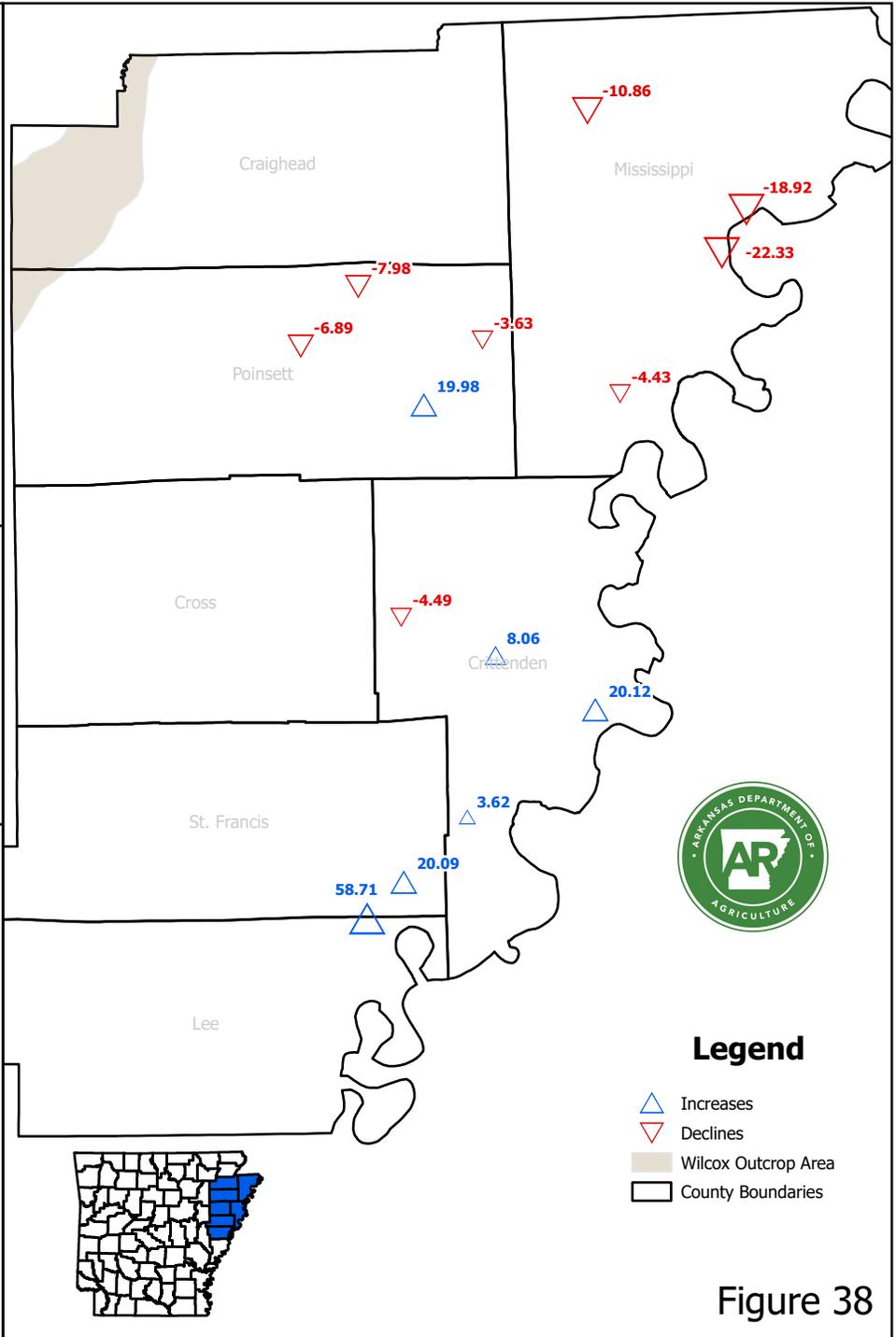
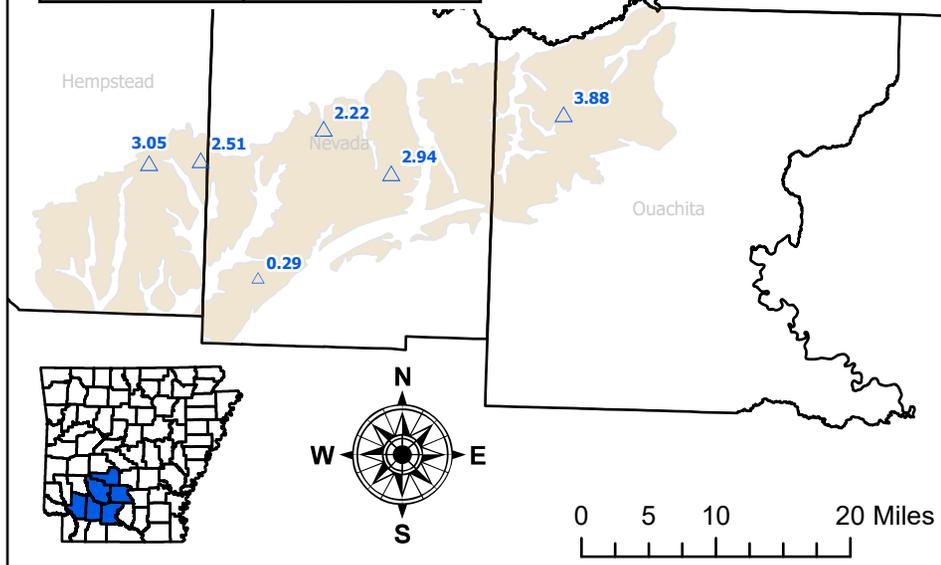
Wilcox Aquifer 12 Year Change 2012 - 2024

**Wilcox Aquifer
12 Year Change:**

**Average Change: +2.97 Ft.
9 of 25 Wells Showed
Declines**

**Percent of Total Wells in
Decline: 36.00%**

County	Avg. Change, Ft.
Clark	+2.36
Crittenden	+6.83
Hempstead	+2.78
Mississippi	-14.14
Nevada	+1.82
Poinsett	+0.37



Legend

- △ Increases
- ▽ Declines
- Wilcox Outcrop Area
- County Boundaries

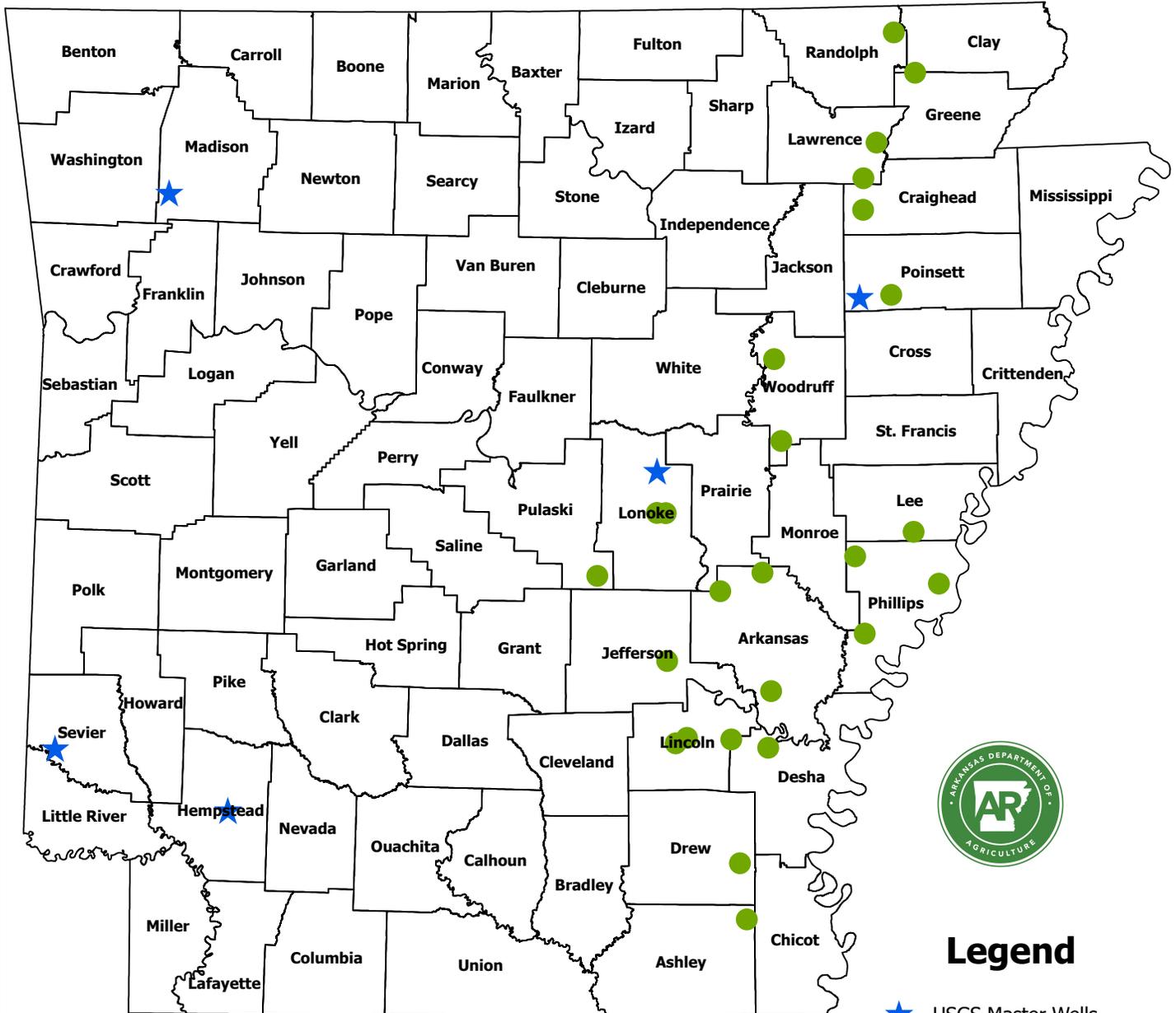
Figure 38

Groundwater Quality

Our U.S. Geological Survey (USGS) partners contribute groundwater salinity data every year from a network of 100 wells, 50 in the Mississippi River Valley Alluvial (Alluvial) aquifer and 50 in the Sparta/Memphis (Sparta) aquifer. This network is sampled on a rotation of 25 wells per year alternating years between the Alluvial and Sparta aquifers. In 2024, field measurements from 25 wells in the Alluvial aquifer were performed recording pH values, temperature, specific conductance, and concentrations of chloride and bromide. In 2025, 25 wells from the Sparta aquifer will be sampled per the contracted schedule. Results from the 2024 sampling event are presented in Figures 39 and 40.

In addition to the Groundwater Salinity Program, the state is interested in monitoring additional water quality parameters in other aquifers across the state. To achieve this, the Arkansas Department of Agriculture partners with the USGS to maintain the Arkansas Masterwell Network Program, a long-term groundwater quality network that is comprised of 47 active wells and springs in 14 different aquifers across the state. Five sites are sampled each year for a variety of water quality constituents including common ions, metals, nutrients, and radiochemistry. In 2024, five different aquifers were represented by this sampling effort. The results can be seen in Figures 39 and 41.

2024 Water Quality Site Locations



Legend

-  USGS Master Wells
-  Water Quality Data Stations
-  County Boundaries

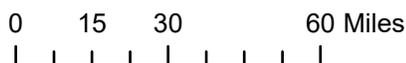


Figure 39

Figure 40
Salinity

Site ID	Aquifer	Date	Bromide (mg/L)	Chloride (mg/L)	pH (standard units)	Specific conductance, field (uS/cm)	Specific conductance, lab (uS/cm)	Temperature ©
16S04W02BCC1	110ALVM	7/10/2024	0.072	15.6	7	650	609	25.2
13S04W33BAA1	110ALVM	7/10/2024	0.465	107	6.6	636	544	20.7
09S03W09ADC1	110ALVM	7/16/2024	0.075	23.1	6.8	575	554	20
09S07W01DC1	110ALVM	7/10/2024	0.418	56.9	6.4	598	559	19.5
09S04W06BCA1	110ALVM	7/16/2024	0.376	108	6.7	932	901	19.8
09S06W04BCD1	110ALVM	7/16/2024	0.06	11.4	6.7	439	386	19.1
06S03W30AC1 AR-97-H WU	110ALVM	7/16/2024	3.69	165	7	1230	1210	20
05S07W30CD1	110ALVM	7/12/2024	0.15	28.2	7.1	839	874	20.7
04S01E23CCA1	110ALVM	7/17/2024	0.111	14.2	7.3	888	880	19.5
03S05W06ABA2	110ALVM	7/12/2024	0.264	79.1	6.9	1210	1210	20
02S04E27CC1	110ALVM	7/17/2024	0.056	5.21	7.1	681	666	19.1
02S10W16CCA1	110ALVM	7/16/2024	0.132	55	6.7	700	662	19.8
02S04W11DBB1	110ALVM	7/16/2024	0.23	48.9	7	976	973	20.4
01S01E21CB2	110ALVM	7/17/2024	0.17	21.8	6.9	951	917	19.9
01N03E23CCC1	110ALVM	7/17/2024	0.097	13	7.9	797	741	26.7
08N03W31AAD1	110ALVM	7/3/2024	0.226	53.2	7.4	872	867	20.2
13N01E02AB1	110ALVM	7/31/2024	0.083	16.9	7	1070	1030	25.3
15N01E26DDA1	110ALVM	7/31/2024	0.074	13.3	7	1110	1080	20.2
16N02E17AA1	110ALVM	7/2/2024	0.07	7.84	7.4	817	817	20.3
19N03E26AD1	110ALVM	7/2/2024	0.054	11.1	7.2	471	492	19.4
20N02E01ADD1	110ALVM	7/2/2024	0.054	12.9	6.5	243	251	19.9
04N03W03AB1	110ALVM	8/2/2024	0.022	8.56	6.7	266	244	20.9
02N07W31CB1	110ALVM	8/8/2024	0.412	85.4	6.6	979	987	18.9
02N08W34DA1	110ALVM	8/8/2024	0.069	20.3	6.7	682	692	19.4
10N02E13BCC1	112TRRC	8/1/2024	0.523	96.5	7.2	1060	1050	20.9

Figure 41
Masterwells

Site ID	Aquifer	Date	Aluminum (ug/L)	Antimony (ug/L)	Arsenic (ug/L)	Barium (ug/L)	Beryllium (ug/L)	Boron (ug/L)	Bromide (mg/L)	Calcium (mg/L)
12S25W12ABD1	Tokio	7/18/2024	6		0.44	2.46		1770	0.663	7.09
03N08W10ADD1	MRVA	8/9/2024			6.3	216		8	0.05	40.7
14N28W24DBB1	Bloyd Shale	8/9/2024		0.093	2.3	36.3		23	0.041	50.9
10N01E15DBB1	Sparta/Memphis	8/8/2024				215		41	0.138	56.3
10S32W01ABB1	Trinity	7/18/2024				12.5	0.076	8	0.018	9.5

Site ID	Aquifer	Date	Chloride (mg/L)	Cobalt (ug/L)	Copper (ug/L)	Iron (ug/L)	Lead (ug/L)	Lithium (ug/L)	Magnesium (mg/L)	Manganese (ug/L)
12S25W12ABD1	Tokio	7/18/2024	82			39.6	0.19	18.5	0.523	4.05
03N08W10ADD1	MRVA	8/9/2024	6.48	0.062		768		11.8	8.6	684
14N28W24DBB1	Bloyd Shale	8/9/2024	5.99	0.273	2	11		0.98	11.1	130
10N01E15DBB1	Sparta/Memphis	8/8/2024	3.3	0.041		1420		5.93	16.5	160
10S32W01ABB1	Trinity	7/18/2024	2.48	1.11		4650	0.079	10.6	2.65	488

Site ID	Aquifer	Date	Molybdenum (ug/L)	Nickel (ug/L)	pH (stand. Units)	Selenium (ug/L)	Silica (mg/L)	Sodium (mg/L)	Specific conductance (uS/cm)	Specific conductance (uS/cm)
12S25W12ABD1	Tokio	7/18/2024	0.417		7.3		16.2	168	888	808
03N08W10ADD1	MRVA	8/9/2024	0.801	0.33		1.6	46.1	11.9	311	311
14N28W24DBB1	Bloyd Shale	8/9/2024	0.302	0.51	7.7		9.42	3.96	315	334
10N01E15DBB1	Sparta/Memphis	8/8/2024	0.446	0.52			23	41.2	54	543
10S32W01ABB1	Trinity	7/18/2024		3.2	6.3		14.8	2.21	102	86

Site ID	Aquifer	Date	Strontium (ug/L)	Sulfate (Mg/L)	Temperature ©	Uranium (ug/L)	Vanadium (ug/L)	Zinc (ug/L)
12S25W12ABD1	Tokio	7/18/2024	92.5	47	19.5			5.6
03N08W10ADD1	MRVA	8/9/2024	180	2.88	20	0.553	1.3	
14N28W24DBB1	Bloyd Shale	8/9/2024	656	3.48	19.1	0.176		13.3
10N01E15DBB1	Sparta/Memphis	8/8/2024	446	4.57	20.2			2.1
10S32W01ABB1	Trinity	7/18/2024	69.4	5.28	20.9			19.3

Groundwater Use

Registered Wells

In accordance with Act 1051 of 1985, all wells in Arkansas that have the capacity to produce fifty thousand (50,000) gallons per day must be registered with the Arkansas Department of Agriculture. Domestic wells are exempt. The quantity used must be reported by March 1 of the following year. The U.S. Geological Survey (USGS) reports that there are approximately 50,000 registered wells in the state and over 97 percent are agricultural wells used primarily for irrigation in eastern Arkansas. The remaining approximate three percent of reported wells are used predominately for commercial, industrial, and public water supply purposes.

Reported Water Use

In 2015, an estimated total of 8,254.60 million gallons per day (Mgal/d) of water were reportedly withdrawn from all of the state's aquifers. The greatest reported volumes are from the Mississippi River Valley Alluvial (Alluvial) aquifer and the Sparta/Memphis (Sparta) aquifer. Approximately 7,636.08 Mgal/d is used from the Alluvial aquifer and approximately 160 Mgal/d is used from the Sparta aquifer. The 2015 total water use data is still the most recent accurate figure for total water use across the state for various reasons; however, reported agricultural irrigation water use numbers for 2020 have been provided by the USGS.

Reported agricultural irrigation water use in 2020 estimates that a total of 5,583 Mgal/d of groundwater was used for irrigation from all aquifer sources in eastern Arkansas, with 5,092 Mgal/d from 36,166 wells in the Alluvial aquifer and 76 Mgal/d from 571 wells in the Sparta aquifer (USGS, 2022). This is a reduction of over 2,000 Mgal/d from the estimated agricultural irrigation water use in 2018 of 7,590 Mgal/d (USGS, 2019). In 2015, reported irrigation groundwater use is estimated to have been 7,434 Mgal/d from 48,410 wells in the Alluvial aquifer. Based on these numbers, irrigation groundwater use from the Alluvial aquifer in 2020 was approximately 2,342 Mgal/d less than in 2015 with 12,000 fewer wells reported. This reduction in reporting can be partially attributed to the pandemic and the related difficulties it caused that year, but the 2018 data used in previous reports also showed a considerable reduction from 2015. Reported irrigation groundwater use from the Sparta aquifer in 2020 increased by 12 Mgal/d from 2015 with 286 more wells reported.

The sustainable yield of the Alluvial aquifer has been estimated at approximately 3,374 Mgal/d using the Mississippi Embayment Regional Aquifer Study (MERAS) modeling scenarios in which the aquifer was maintained at 50 percent saturated or 30 feet above the base of the aquifer, whichever was greater (Clark, B.R., Westerman, D.A., and Fugitt, D.T., 2013). Based on this sustainable yield, approximately 66 percent of reported 2020 irrigation groundwater use is sustainable using an incomplete, conservative estimate. Regarding the Sparta aquifer, 2020 irrigation water use estimates of 76 Mgal/d would account for approximately 86 percent of the estimated sustainable yield of 87 Mgal/d. This sustainable yield estimate is derived from USGS conjunctive use optimization modeling where drawdown constraints were

defined as the hydraulic head at the top of the Sparta aquifer formation where the formation is confined and the hydraulic head at 50 percent saturated along the outcrop areas (McKee, P.W., Clark, B.R., and Czarnecki, J.B., 2004).

Historically, counties that report the largest groundwater withdrawals from the Alluvial aquifer are the same counties with groundwater depletion issues. Arkansas, Clay, Cross, Desha, Lonoke, Poinsett, and Woodruff counties used the most groundwater for irrigation, based on 2020 reported water use numbers. This is mostly consistent with the areas of significant drawdown in the Alluvial aquifer. Figure 42 presents the 2020 agricultural irrigation water use.

In consideration of the significant reduction in stations reporting in 2020 when compared to 2015, an effort was made to estimate the change in usage if reporting numbers were similar. Figure 43 shows the 2020 reported usage per county in Mgal/d. A graph comparing the number of stations reporting water use data from 2015, 2018, and 2020 can be seen in Figure 44.

Using this information, Figure 45 was created presenting the change in number of stations reporting between 2015 and 2020, as well as calculating the average usage per station in each county in Mgal/d. This allowed for creation of estimated usage numbers for each county based on the average reported use per station. These values are approximate and cannot be considered exact representations of usage, but they may give a closer to accurate estimate of irrigation water use per county in 2020. Figure 46 gives the projected water use per county for 2020 by combining actual reported use with estimated usage as described. In this analysis, several counties in critical areas of interest are shown to have significantly underreported usage.

Based on this estimated data, we can compare the 2015 total agricultural irrigation usage number reported of 8,240 Mgal/d to the 2020 reported of 5,583 plus the average estimated usage of 2,443 Mgal/d, giving a total for 2020 of 8,026 Mgal/d, suggesting a decrease in usage from 2015 to 2020 of 214 Mgal/d. While merely an estimate based on averages, this information demonstrates the importance of increased reporting on accurate usage data and concurrently our ability to quantify the value of conservation methods on overall water usage and aquifer levels.

Figure 47 presents the 2020 water use reported per crop type for the state. The pie chart shows the percentage of total reported groundwater use per crop. The principal agricultural uses of groundwater in the state are for poultry watering and rice, soybean, corn, and cotton irrigation.



Agriculture/ Irrigation Groundwater Use in Eastern Arkansas for 2020 (Mgal/day)

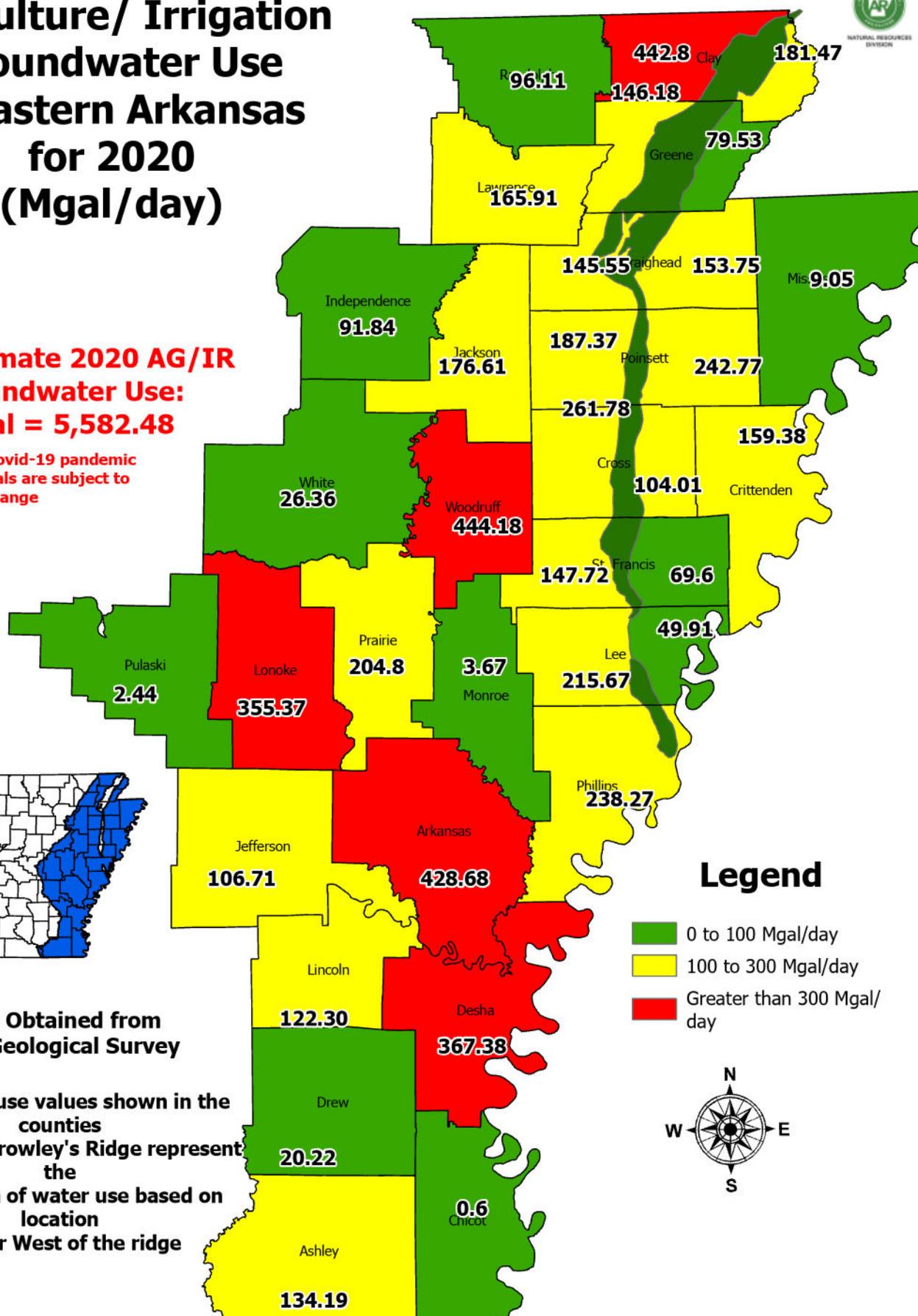
**Approximate 2020 AG/IR
Groundwater Use:
Total = 5,582.48**

*** Due to the Covid-19 pandemic
water use totals are subject to
change**



*** Data Obtained from
United Geological Survey**

**The water use values shown in the
counties
divided by Crowley's Ridge represent
the
separation of water use based on
location
East or West of the ridge**



Legend

- 0 to 100 Mgal/day
- 100 to 300 Mgal/day
- Greater than 300 Mgal/day

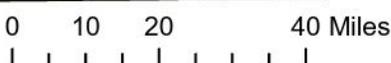
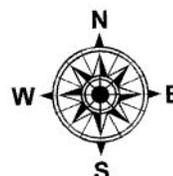
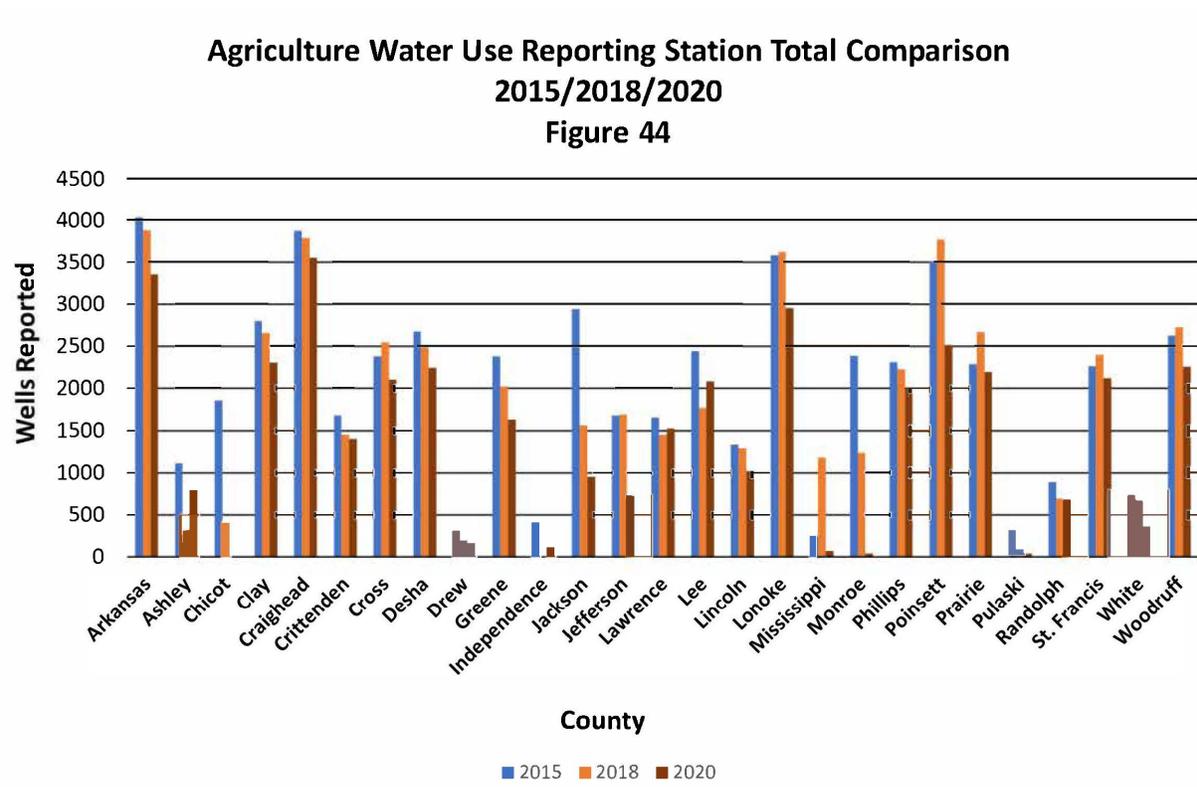
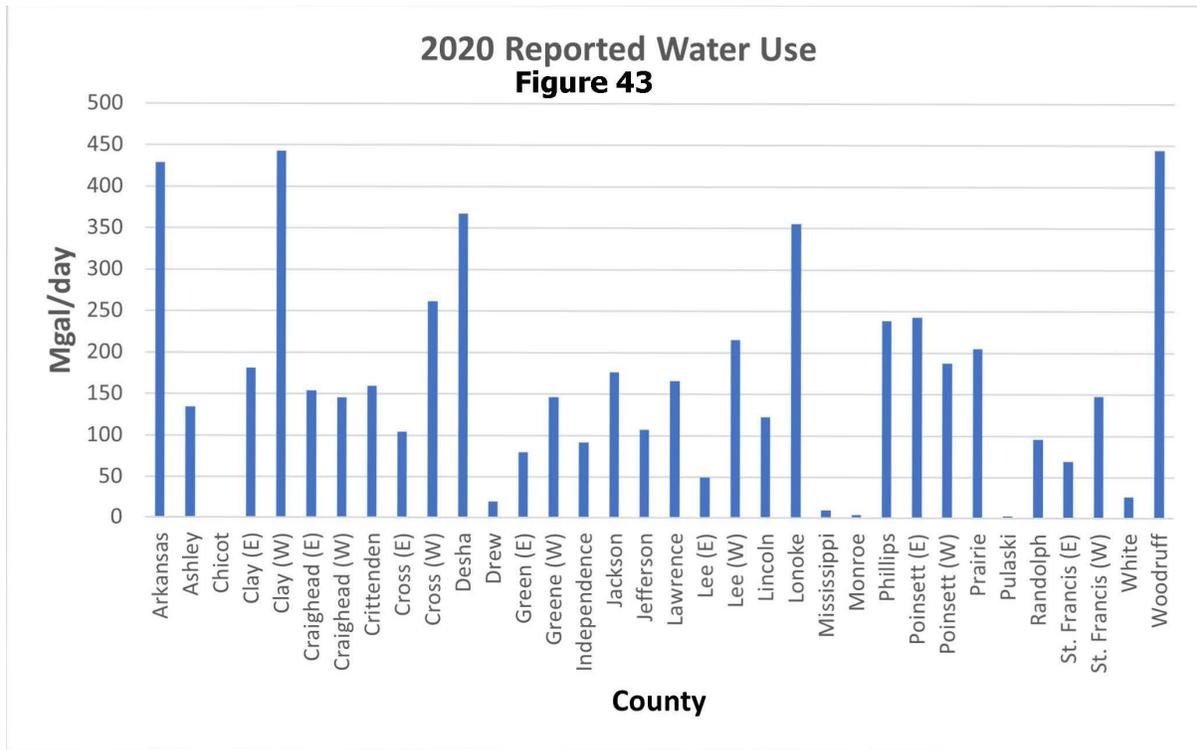


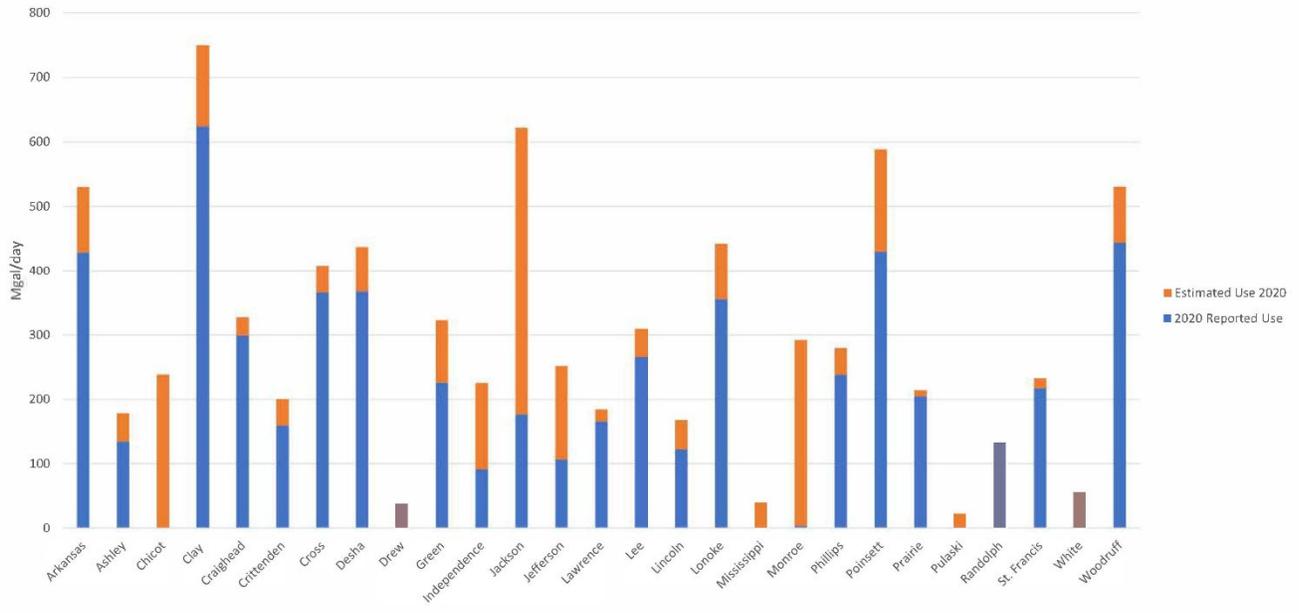
Figure 42



2020 Estimated Usage Table
Figure 45

County	2015	2018	2020	Range of use per station		Avg yrly use/station	Change in # Stations	Estimated Usage	Low end	High end
	Avg use/station	Avg use/station	Avg use/station	2015-2018-2020		2015-2018-2020	2015-2020	2015-2020	2015-2020	2015-2020
Arkansas	0.1140	0.2085	0.1277	0.1140	0.2085	0.1501	676	101.44	77.04	140.94
Ashley	0.1187	0.1347	0.1692	0.1187	0.1692	0.1408	316	44.51	37.50	53.47
Chicot	0.1071	0.1294	0.1500	0.1071	0.1500	0.1288	1847	237.93	197.74	277.05
Clay	0.2121	0.2722	0.2713	0.2121	0.2722	0.2519	498	125.43	105.61	135.57
Craighead	0.0767	0.0982	0.0843	0.0767	0.0982	0.0864	325	28.08	24.92	31.92
Crittenden	0.2012	0.1371	0.1134	0.1134	0.2012	0.1506	274	41.25	31.08	55.12
Cross	0.1469	0.1275	0.1744	0.1275	0.1744	0.1496	283	42.33	36.09	49.34
Desha	0.1484	0.1813	0.1636	0.1484	0.1813	0.1644	427	70.22	63.37	77.40
Drew	0.1196	0.1124	0.1280	0.1124	0.1280	0.1200	149	17.88	16.75	19.07
Greene	0.1190	0.1331	0.1384	0.1190	0.1384	0.1302	750	97.61	89.26	103.79
Independence	0.0998	0.0000	0.8127	0.0998	0.8127	0.4563	293	133.69	29.25	238.13
Jackson	0.2970	0.1873	0.1861	0.1861	0.2970	0.2235	1992	445.14	370.71	591.63
Jefferson	0.1356	0.1687	0.1482	0.1356	0.1687	0.1508	961	144.95	130.33	162.10
Lawrence	0.1958	0.1156	0.1088	0.1088	0.1958	0.1400	131	18.35	14.25	25.65
Lee	0.1198	0.1200	0.1276	0.1198	0.1276	0.1225	360	44.09	43.13	45.94
Lincoln	0.1517	0.1595	0.1201	0.1201	0.1595	0.1438	315	45.30	37.84	50.25
Lonoke	0.1117	0.1808	0.1205	0.1117	0.1808	0.1377	633	87.13	70.68	114.47
Mississippi	0.2548	0.1404	0.1275	0.1275	0.2548	0.1742	178	31.01	22.69	45.36
Monroe	0.1597	0.1129	0.0966	0.0966	0.1597	0.1231	2348	288.95	226.77	374.95
Phillips	0.1578	0.1147	0.1196	0.1147	0.1578	0.1307	319	41.69	36.59	50.33
Poinsett	0.1269	0.1781	0.1713	0.1269	0.1781	0.1587	999	158.59	126.73	177.90
Prairie	0.0826	0.1166	0.0934	0.0826	0.1166	0.0975	95	9.27	7.85	11.07
Pulaski	0.0893	0.0620	0.0678	0.0620	0.0893	0.0730	279	20.38	17.30	24.92
Randolph	0.1783	0.2022	0.1415	0.1415	0.2022	0.1740	212	36.89	30.01	42.87
St Francis	0.1242	0.0998	0.1025	0.0998	0.1242	0.1089	142	15.46	14.18	17.64
White	0.0720	0.0901	0.0734	0.0720	0.0901	0.0785	376	29.52	27.07	33.87
Woodruff	0.3159	0.1849	0.1970	0.1849	0.3159	0.2326	372	86.52	68.79	117.50
Totals								2443.61	1953.55	3068.26

Figure 46
Estimated Water Use for 2020 by County



2020 Water Use by Crop

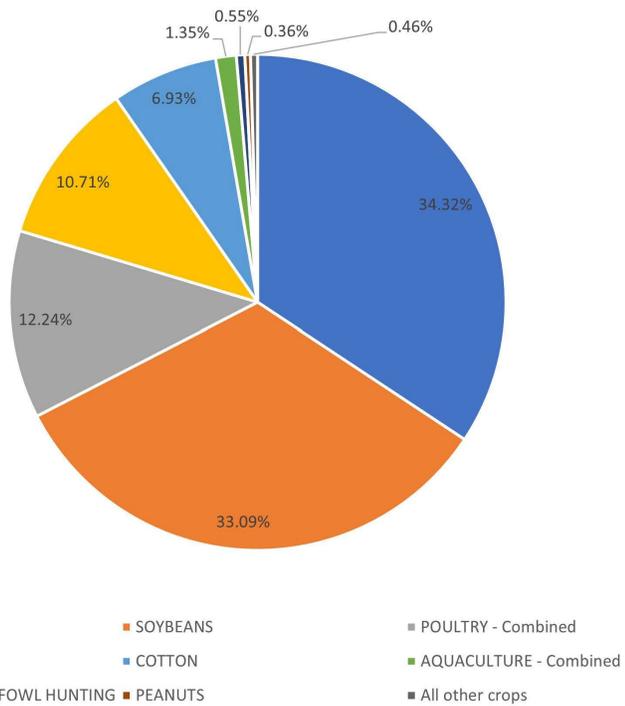


Figure 47

Water Conservation Tax Incentive Program

The Water Conservation Tax Incentive Program encourages water users to invest in water conservation practices by offering a tax credit equal to 25 percent (statewide) or 50 percent (in a critical groundwater area) of the cost to implement the practice. The following water conservation practices are eligible for tax credits:

- The construction of impoundments to utilize available surface water and reduce our dependence on groundwater;
- The conversion from groundwater use to surface water use when surface water is available;
- Land leveling to reduce agricultural irrigation water use; and
- The installation of water meters to monitor groundwater usage.

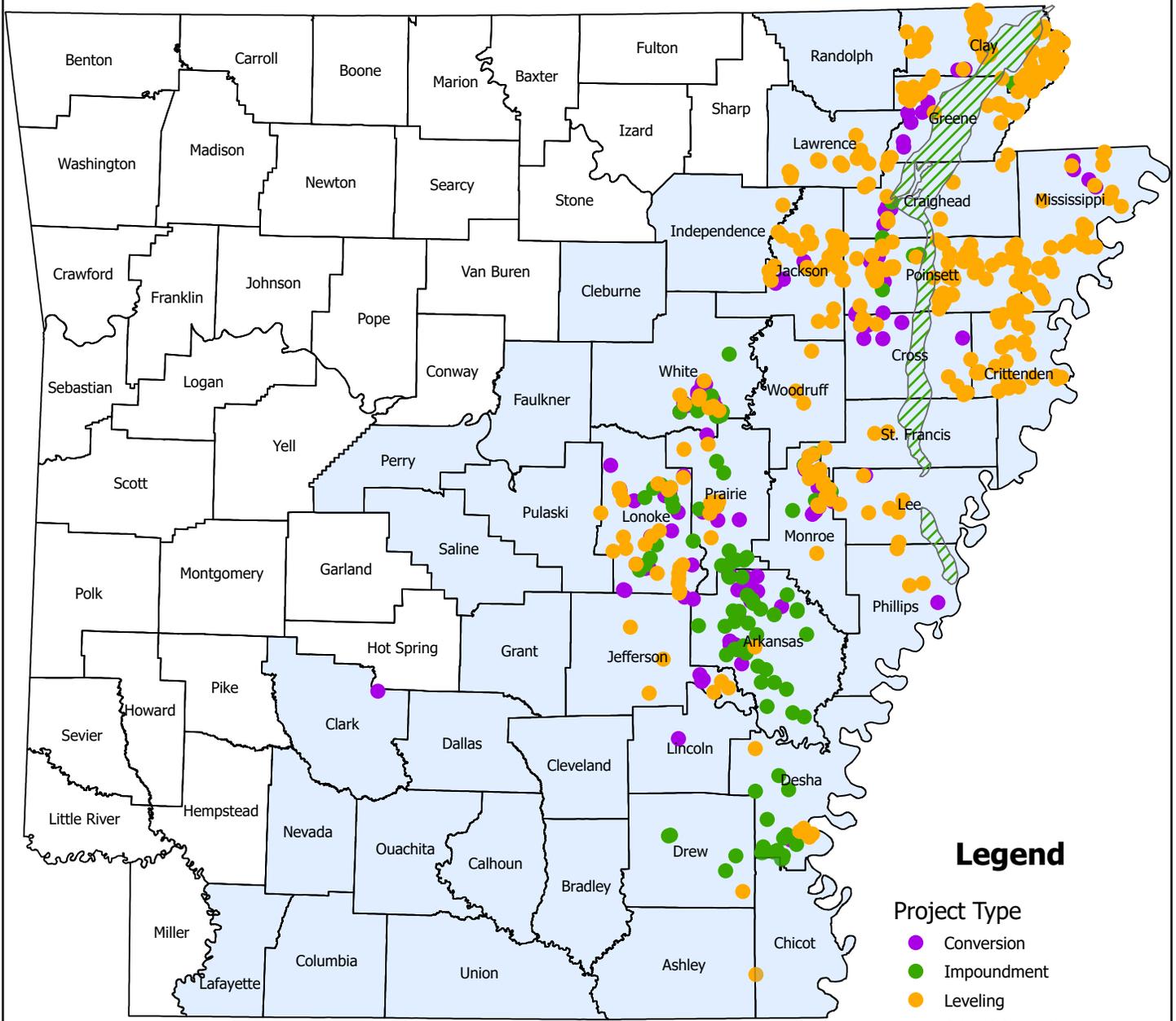
Figure 48 shows the locations of the water conservation projects that were approved for a tax credit for the years 2016 through 2024. A summary table of the number and types of conservation practices approved for a tax credit can be found below.

	Impoundments	Land Leveling	Surface Water Conversion	Totals
2016	22	64	10	96
2017	12	45	8	65
2018	13	22	15	50
2019	9	27	12	48
2020	7	29	10	46
2021	15	43	10	68
2022	3	42	7	52
2023	13	64	12	89
2024	10	54	13	77

In 2024, 77 projects were approved. Land leveling constituted the largest number of these projects (54), but there were also significant increases in impoundments (10) and surface water conversions (13).

These 77 projects increased the total land acres covered by groundwater tax credit conservation practices to 13,375 acres. All of these projects are critically important parts of the effort to sustainably manage groundwater resources.

Water Conservation Tax Credits Approved from 2016 to 2024



Legend

Project Type

- Conversion
- Impoundment
- Leveling

- Critical Groundwater Area for Groundwater Conservation Tax Credits

- Crowley's Ridge
- County Boundaries

2023 land acres covered by approved tax credit projects = 13,248.30 acres

2024 land acres covered by approved tax credit projects = 13,375.05 acres

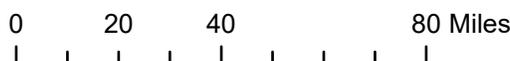
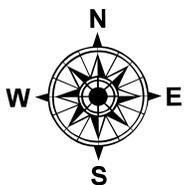


Figure 48

Summary

The 2024 Groundwater Protection and Management Report is a summary of the activities and significant findings of the Arkansas Department of Agriculture's Groundwater Section staff. This report is prepared annually in response to legislative mandates that direct the Arkansas Department of Agriculture to study the state's groundwater resources.

The purposes of the programs outlined in this report are to monitor the condition of the state's groundwater resources and to evaluate trends in water level and water quality fluctuations. The Arkansas Department of Agriculture, United States Department of Agriculture Natural Resources Conservation Service, and U.S. Geological Survey (USGS) monitor up to approximately 1,000 water wells each year for water levels and prescribed water quality parameters. This monitoring is accomplished through a cooperative agreement between the Arkansas Department of Agriculture and the USGS.

In the Mississippi River Valley Alluvial (Alluvial) aquifer, 467 water wells were measured in the spring of 2024, most of which were collected during the month of April prior to irrigation stresses during the growing season. As in previous reports, the spring 2024 data was compared with historical spring data in one, five, and ten-year intervals, and average water level change values were calculated to generally represent the water level trend over time. For the one-year comparison, 2023 to 2024, an average water level decrease of 1.35 feet was calculated. For the five-year comparison, 2019 to 2024, and the ten-year comparison, 2014 to 2024, average water level changes of -1.28 feet (five-year) and +0.22 feet (ten-year) were calculated. The spring to fall 2024 data comparison resulted in an average water level change of -2.63 feet, which is relatively consistent with the changes calculated in recent years. The areas with the most severe groundwater declines continue to be the Grand Prairie and Cache River study areas, particularly in the areas of the aquifer furthest from a major surface water source (i.e. the Arkansas, White, and Mississippi rivers). Water level decline in the Cache River study area continues in the southern part of the area moving into St. Francis, Monroe, and Lee counties. Some water level decline has been observed in the St. Francis and Beouf-Tensas study areas, but it is unclear if these declines are causing significant aquifer drawdown at this time.

These results show a slightly positive average change in the ten-year trend representative of an overall rebound in aquifer water level, but a negative average change in the one-year and five-year. The decrease in the one-year comparison of -1.35 feet is a continuation of the negative change in the one-year value in the 2023 report of -0.7 feet. Being that these are simple comparisons of synoptic water level data from one year to another, it is difficult to explain definitively what causes these changes in trends. Changes in the timing and span of collected datasets in recent years lend to more accurate illustrations of the aquifer levels and will continue to do so for years to come as similar datasets are collected. However, it is important to keep in mind that this is limited data and that the year-to-year change comparisons are average numbers representing a large dataset in a complex and dynamic system.

In the Sparta/Memphis (Sparta) aquifer, 233 synoptic water level measurements were collected for the spring 2024 dataset. When compared with historical spring data, the 2024 data shows average water level change values of -0.52, +3.29, and +8.35 feet in the one, five, and ten-year intervals, respectively.

The Sparta aquifer in the south Arkansas study area continues to see recovery where historical drawdown has been the most severe. Union County continues to experience the most recovery, having the greatest average change in the five and ten-year intervals. The historical cone of depression in Jefferson County is recovering with significant rising water level values across the county in the time periods compared in this report. An apparent long-term pattern in declining Sparta levels is observable near the western extent of the aquifer where the Alluvial and Sparta aquifers are hydraulically connected. It is presumed that the over-production of the Alluvial aquifer is impacting the underlying Sparta aquifer in this area.

While some positive average change values were observed in the five and ten-year intervals in this report, it is important to remember that, overall, Arkansas is withdrawing groundwater from the Alluvial and Sparta aquifers in eastern and southern Arkansas at a rate above that which is estimated to be sustainable. Wells in certain areas where there have been historical declines do appear to show a slowing of the decline, or even a rebounding trend in water level in recent years but is difficult to determine what the primary causes are for rebound trends in these areas. It is suspected that the water conservation efforts and efficiency programs that have been implemented in recent years may be having the desired effect on the aquifers.

Further research and analysis of these areas and the many factors that determine their groundwater usage may give valuable guidance for future efforts to protect groundwater reserves. The Arkansas Department of Agriculture should continue to monitor these resources and promote conservation, education, and the conjunctive use of ground and surface water at rates that are sustainable for current and future water use needs.

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Appendix A

Alluvial Aquifer Water Level Monitoring Data

Mississippi River Alluvial Aquifer
Hydrologic Data 2014, 2019, 2023, 2024

County	Aquifer Code	Station ID Number	Latitude	Longitude	Date	Land Surface Altitude	2024 Depth to Water (ft.)	2023 Depth to Water (ft.)	2019 Depth to Water (ft.)	2014 Depth to Water (ft.)	1 Year Change ('23 to '24)	5 Year Change ('19 to '24)	10 Year Change ('14 to '24)
White	110ALVM	06N08W26DDB1	35.111192	-91.824678	4/1/2024	226	12.56	8.8		10.63	(3.76)		(1.93)
White	110ALVM	07N05W32BAB1	35.193508	-91.568386	4/2/2024	213.83	23.38		22.16	26.83		(1.22)	3.45
White	112MRVAA	N05W34CAC2 HS-02	35.270989	-91.529194	4/9/2024	207	11.06						
									Wells in Decline:		4	5	4
									Total Wells:		6	5	6
									Average Change:		(1.18)	(2.33)	(0.16)
Woodruff	110ALVM	04N03W03AB1	35.005814	-91.305519	4/1/2024	190	13.54		6.88	11.6		(6.66)	(1.94)
Woodruff	110ALVM	05N02W20DCB1	35.035469	-91.232219	4/1/2024	191	17.45		12.12	13.95		(5.33)	(3.50)
Woodruff	112TRRC	05N03W25DDB1	35.022706	-91.260244	4/1/2024	190	15.45						
Woodruff	110ALVM	06N01W11AAB1	35.162222	-91.1065	4/2/2024	214	69.8	69.51	68.54	66.65	(0.29)	(1.26)	(3.15)
Woodruff	110ALVM	06N01W11CBC1	35.1539	-91.09485	4/1/2024	222	77.5	72.56			(4.94)		
Woodruff	110ALVM	06N01W27BCC1	35.111389	-91.095556	4/2/2024	202	58.78	57.06		56.32	(1.72)		(2.46)
Woodruff	110ALVM	07N01W04ACB1	35.261476	-91.107344	4/1/2024	225	67.35			67.5			0.15
Woodruff	112MRVAA	02W19CCA1 CR-03	35.218111	-91.242739	4/4/2024	191	5.2						
Woodruff	110ALVM	07N03W31BBA1	35.205708	-91.342694	4/1/2024	204	7.8	7.19		9	(0.61)		1.20
Woodruff	110ALVM	08N01W06DDD1	35.341125	-91.129078	4/1/2024	218	49.71		47	45.25		(2.71)	(4.46)
Woodruff	112MRVAA	08N02W31 Patterso	35.269611	-91.235025	3/5/2024	195.09	5.11	2.62	-1.03	3.06	(2.49)	(6.14)	(2.05)
Woodruff	110ALVM	08N03W04BBB1	35.357778	-91.321944	4/1/2024	218	17.32	13.25	12.19	16.57	(4.07)	(5.13)	(0.75)
Woodruff	110ALVM	08N03W31AAD1	35.282111	-91.341367	4/1/2024	213	20.01	18.15		20.02	(1.86)		0.01
Woodruff	110ALVM	09N03W28ABB1	35.3892	-91.309764	4/1/2024	224	21.8			22			0.20
Woodruff	110ALVM	09N03W32ACA1	35.367803	-91.328594	4/1/2024	218	18.14	14.37		22	(3.77)		3.86
									Wells in Decline:		8	6	7
									Total Wells:		8	6	12
									Average Change:		(2.47)	(4.54)	(1.07)
									Total wells:		299	130	280
									Total wells in decline:		223	82	131
									Percent of wells in decline:		74.58%	63.08%	46.79%
									Total Average Change (ft):		(1.35)	(1.13)	0.22

Mississippi River Alluvial Aquifer
Hydrologic Data Spring/Fall 2024

County	Station ID Number	Latitude	Longitude	Aquifer Code	Spring Date	Land Surface Altitude	Spring Depth to Water (ft.)	Fall Date	Fall Depth to Water (ft.)	Spring to Fall Change
Arkansas	02S04W19AA1	34.50635	-91.4860306	110ALVM	2024-04-01	205	105.86	2024-10-07	106.5	(0.64)
Arkansas	02S04W23DA1	34.5123194	-91.3981194	112MRVAA	2024-05-01	207	93.11	2024-10-07	95.37	(2.26)
Arkansas	02S05W15AAB1	34.5370194	-91.5239444	110ALVM	2024-05-01	212	113.2	2024-10-10	114.76	(1.56)
Arkansas	02S05W36DDD1	34.4785194	-91.4881194	110ALVM	2024-04-01	212	95.11	2024-10-07	94.68	0.43
Arkansas	03S03W18CCC1	34.4318889	-91.3813056	110ALVM	2024-05-02	197	98.68	2024-10-10	100.05	(1.37)
Arkansas	03S03W27BBC1	34.4152028	-91.3289111	110ALVM	2024-05-02	198	96.98	2024-10-21	93.23	3.75
Arkansas	03S04W02BBB1	34.4759722	-91.4160556	110ALVM	2024-05-01	197.46	91.58	2024-10-10	91.51	0.07
Arkansas	S04W03DCA16 Rice Res	34.4647333	-91.4209361	110ALVM	2024-05-01	203.62	99.63	2024-10-30	99.64	(0.01)
Arkansas	03S05W03CCC1	34.4646111	-91.5410278	110ALVM	2024-05-01	215	101.47	2024-10-07	103.16	(1.69)
Arkansas	04S04W02ABB1	34.387	-91.4065806	110ALVM	2024-05-02	200	108.21	2024-10-10	111.58	(3.37)
Arkansas	04S04W35ABC1	34.3116889	-91.4145194	110ALVM	2024-05-02	193	101.22	2024-10-10	101.61	(0.39)
Arkansas	05S01W16BAB1	34.2643306	-91.1248583	110ALVM	2024-04-07	186	50.33	2024-10-08	50	0.33
Arkansas	05S03W09CBA1	34.2732222	-91.3461667	110ALVM	2024-05-02	196	111.47	2024-10-08	113.41	(1.94)
Arkansas	05S04W14AAD1	34.26365	-91.4034417	110ALVM	2024-04-19	189	88.62	2024-10-08	94.05	(5.43)
Arkansas	06S03W10BBA1	34.193325	-91.3316167	110ALVM	2024-04-15	184	75.2	2024-10-08	78.21	(3.01)
Arkansas	06S03W32ADD1	34.1277778	-91.3541667	110ALVM	2024-04-17	178	50.24	2024-10-10	54.49	(4.25)
Arkansas	07S03W18CCD1	34.0764667	-91.3878028	110ALVM	2024-04-14	185	39.49	2024-10-10	43.12	(3.63)
Arkansas	07S03W32BBC1	34.0443778	-91.3732194	110ALVM	2024-04-14	176.56	24.67	2024-10-09	26.75	(2.08)
Arkansas	07S04W01DDD1	34.1070139	-91.390875	110ALVM	2024-04-14	181	43.24	2024-10-10	48.47	(5.23)
									Wells in Decline:	15
									Total Wells:	19
									Average Change:	(1.70)
Ashley	15S04W23DB1	33.3781306	-91.4821	110ALVM	2024-04-04	125	29.78	2024-10-08	31.47	(1.69)
Ashley	16S06W08CAA1	33.32815	-91.7439611	110ALVM	2024-04-04	184	80.15	2024-10-07	80.5	(0.35)
Ashley	16S06W25DDD1	33.2777778	-91.6661111	110ALVM	2024-04-04	180	79.18	2024-10-07	80.69	(1.51)
Ashley	16S06W27BAB1	33.2916944	-91.7110278	110ALVM	2024-04-04	183	85.35	2024-10-07	87.56	(2.21)
Ashley	18S08W01AAB1	33.170825	-91.8736444	110ALVM	2024-04-16	178	86.88	2024-10-07	89.95	(3.07)
Ashley	S08W28DDD2 near Cros	33.1068889	-91.9245722	110ALVM	2024-04-03	164.19	83.36	2024-10-02	83.49	(0.13)
Ashley	19S06W07BCC1	33.0676556	-91.7688667	110ALVM	2024-04-03	134.41	31.96	2024-10-07	32.12	(0.16)
									Wells in Decline:	7
									Total Wells:	7
									Average Change:	(1.30)
Chicot	13S03W27AAA1	33.54855	-91.3851222	110ALVM	2024-04-04	138	45.9	2024-10-09	47.03	(1.13)
Chicot	13S03W35BAC1	33.5318333	-91.3791667	110ALVM	2024-04-25	133	41.26	2024-10-09	43.01	(1.75)
Chicot	14S02W09BDD1	33.4971472	-91.3110194	110ALVM	2024-04-04	136	30.44	2024-10-09	32.44	(2.00)
Chicot	14S03W32CDB2	33.437075	-91.4309583	110ALVM	2024-04-04	134	40.16	2024-10-09	43.22	(3.06)
Chicot	15S02W20DDC1	33.3740528	-91.322175	110ALVM	2024-04-04	126	35.9	2024-10-08	38.62	(2.72)
Chicot	16S03W15DAD1	33.305	-91.3927778	110ALVM	2024-04-03	118	34.44	2024-10-08	36.56	(2.12)
Chicot	17S02W25CBA1	33.1920889	-91.2568111	110ALVM	2024-04-03	131	39.38	2024-10-08	41.67	(2.29)

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Chicot	19S02W27ACC1	33.0159806	-91.29495	110ALVM	2024-04-03	129	41.18	2024-10-08	42.47	(1.29)
									Wells in Decline:	8
									Total Wells:	8
									Average Change:	(2.15)
Clay	20N05E34DBA1	36.3275861	-90.5214361	112TRRC	2024-04-10	285	33.48	2024-10-08	35.85	(2.37)
Clay	20N08E24DDA1	36.3490972	-90.1592944	110ALVM	2024-04-09	276	10.38	2024-10-08	13.76	(3.38)
Clay	21N05E17ABB1	36.46595	-90.5581111	110ALVM	2024-04-10	300	24.01	2024-10-08	26.63	(2.62)
									Wells in Decline:	3
									Total Wells:	3
									Average Change:	(2.79)
Craighead	13N01E01BDC1	35.7863611	-90.9415	110ALVM	2024-04-04	250	72.37	2024-10-08	75.73	(3.36)
Craighead	13N01E23DAA1	35.7429889	-90.9516889	112TRRC	2024-04-04	240	72.01	2024-10-08	74.06	(2.05)
Craighead	13N02E13DA1	35.7561667	-90.82585	110ALVM	2024-04-03	247	101.32	2024-10-08	101.81	(0.49)
Craighead	13N02E25DC1	35.7223861	-90.8309472	110ALVM	2024-04-04	252	114.27	2024-10-08	115.88	(1.61)
Craighead	13N03E07BA1	35.7774	-90.8158194	110ALVM	2024-04-03	250	92.63	2024-10-08	95.19	(2.56)
Craighead	13N03E28CDB1	35.72125	-90.7793306	112TRRC	2024-04-11	251	109.78	2024-10-08	121.73	(11.95)
Craighead	13N03E32BA1	35.7194667	-90.7956139	110ALVM	2024-04-04	251	120.81	2024-10-08	122.3	(1.49)
Craighead	13N04E15DBA1	35.7559099	-90.6492775	112TRRC	2024-04-10	231	25.07	2024-10-07	30.58	(5.51)
Craighead	13N04E26BCC1	35.7266	-90.6434389	112TRRC	2024-04-10	225	26.91	2024-10-07	28.2	(1.29)
Craighead	13N05E02CCC1	35.7805389	-90.5353694	112TRRC	2024-04-10	229	14.31	2024-10-09	15.89	(1.58)
Craighead	13N05E06DCC1	35.7777	-90.5975306	112TRRC	2024-04-10	231	20.94	2024-10-07	23.44	(2.50)
Craighead	13N05E24BAC1	35.7469611	-90.51025	110ALVM	2024-04-10	226	9.39	2024-10-09	12.84	(3.45)
Craighead	13N06E21AAA1	35.7451806	-90.4505	110ALVM	2024-04-09	222	8.09	2024-10-09	8.85	(0.76)
Craighead	13N07E05ABB1	35.7880889	-90.3658194	110ALVM	2024-04-09	229	7.79	2024-10-09	10.72	(2.93)
Craighead	14N01E03ACB1	35.8795185	-90.9712313	112TRRC	2024-04-11	249	58.1	2024-10-08	59.99	(1.89)
Craighead	14N01E10BAB1	35.867852	-90.9745648	110ALVM	2024-04-11	246	57.41	2024-10-08	59.57	(2.16)
Craighead	14N01E21BBB1	35.839475	-90.9994417	112TRRC	2024-04-11	252	60.16	2024-10-08	64.46	(4.30)
Craighead	14N02E22AAA1	35.836	-90.8564167	112TRRC	2024-04-05	258	79.16	2024-10-08	81.15	(1.99)
Craighead	14N02E25DD1	35.8100556	-90.821375	110ALVM	2024-04-04	269	79.4	2024-10-08	79.36	0.04
Craighead	4N02E27AAA1 near Cas	35.8210278	-90.8568056	110ALVM	2024-03-06	255.36	83.47	2024-11-19	85.1	(1.63)
Craighead	14N03E30CBC1	35.8128222	-90.8208472	110ALVM	2024-04-04	276	86.25	2024-10-08	86.22	0.03
Craighead	5E36BAD1 near Jonesbo	35.8048917	-90.5086056	110ALVM	2024-03-06	230.29	45.77	2024-11-19	47.77	(2.00)
Craighead	14N06E06BAA1	35.8777611	-90.4937111	110ALVM	2024-04-10	243	20.78	2024-10-09	24.67	(3.89)
Craighead	15N03E19ADA1	35.9173056	-90.8005667	112TRRC	2024-04-07	262	55.25	2024-10-16	55.91	(0.66)
Craighead	15N06E20DDD1	35.9070083	-90.460875	110ALVM	2024-04-08	235	12.81	2024-10-09	11.53	1.28
Craighead	15N07E35DCB1	35.8786	-90.3096306	112TRRC	2024-04-01	234	11.63	2024-10-09	13.53	(1.90)
									Wells in Decline:	23
									Total Wells:	26
									Average Change:	(2.33)

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Crittenden	04N07E21AAD1	34.9455083	-90.3559694	110ALVM	2024-04-04	202	12.02	2024-10-07	9.65	2.37
Crittenden	07N07E31CCC1	35.1783056	-90.3997139	110ALVM	2024-04-04	209	34.26	2024-10-10	36.65	(2.39)
Crittenden	08N06E01DCC1	35.336425	-90.4107361	110ALVM	2024-04-11	217	32.1	2024-10-23	33	(0.90)
Crittenden	08N06E26BB1	35.2936111	-90.4311111	110ALVM	2024-04-05	211	32.51	2024-10-10	34.17	(1.66)
Crittenden	08N07E34BD1	35.3363365	-90.2716524	110ALVM	2024-04-12	223	26.05	2024-10-09	28.94	(2.89)
Crittenden	09N05E29DA1	35.37665	-90.4842583	110ALVM	2024-04-12	213.18	29.48	2024-10-10	31.26	(1.78)
Crittenden	09N06E30ADD1	35.373275	-90.49325	110ALVM	2024-04-12	216.17	28.22	2024-10-10	30.57	(2.35)
Crittenden	09N07E10DDA1	35.4132167	-90.3235111	110ALVM	2024-04-11	219	27.65	2024-10-08	31.5	(3.85)
Crittenden	09N07E20DCC1	35.3822222	-90.3661111	110ALVM	2024-04-11	213	27.01	2024-10-08	34.49	(7.48)
Crittenden	09N07E31BAB1	35.366625	-90.3907139	110ALVM	2024-04-11	221	33.98	2024-10-08	32.95	1.03
									Wells in Decline:	8
									Total Wells:	10
									Average Change:	(1.99)
Cross	06N02E11BDB1	35.1597778	-90.8605833	110ALVM	2024-04-17	218	71.62	2024-10-23	72.72	(1.10)
Cross	06N05E05AAA1	35.1736861	-90.5342083	110ALVM	2024-04-04	207	38.22	2024-10-10	40.13	(1.91)
Cross	07N01E06ACC1	35.2632	-91.0262611	110ALVM	2024-04-04	220	82.45	2024-10-10	84.55	(2.10)
Cross	07N01E11AAA1	35.2503472	-90.9514694	110ALVM	2024-04-02	219	89.25	2024-10-08	90.7	(1.45)
Cross	7N02E02CDD1 CS1-SW	35.2522222	-90.8536111	110ALVM	2024-03-05	227.18	88.25	2024-11-18	89.2	(0.95)
Cross	07N03E05AAD1	35.2682889	-90.7999306	112TRRC	2024-04-17	250	109.79	2024-10-23	111.12	(1.33)
Cross	07N03E32DCC1	35.1792472	-90.8028556	110ALVM	2024-04-17	249	108.64	2024-10-08	104.36	4.28
Cross	07N05E02AAB1	35.2607972	-90.5227583	110ALVM	2024-04-05	216	39.63	2024-10-10	40.92	(1.29)
Cross	07N05E25ABA1	35.2080194	-90.5124417	110ALVM	2024-04-04	205	41.96	2024-10-10	37.13	4.83
Cross	08N02E17AAA1	35.3242389	-90.901025	110ALVM	2024-04-03	226	95.45	2024-10-09	98.44	(2.99)
Cross	08N04E34DC1	35.2629611	-90.65735	110ALVM	2024-04-17	207.05	26.11	2024-10-10	27.94	(1.83)
Cross	08N05E32ADD1	35.2754583	-90.5779028	110ALVM	2024-04-05	206	28.1	2024-10-10	27.81	0.29
Cross	09N01E12CBB1	35.4180556	-90.9480556	110ALVM	2024-04-03	228	102.48	2024-10-09	105.15	(2.67)
Cross	09N01E33BBA2	35.3674333	-91.0001667	112TRRC	2024-04-03	225	92.52	2024-10-08	93.19	(0.67)
Cross	09N01E36AAB1	35.3662861	-90.9345722	110ALVM	2024-04-11	224	102.34	2024-10-23	98.79	3.55
Cross	09N02E20AAA1	35.3937278	-90.8952472	110ALVM	2024-04-03	230	104.2	2024-10-08	105.79	(1.59)
Cross	09N05E32BDB1	35.3640361	-90.5866972	110ALVM	2024-04-12	213	28.5	2024-10-10	30.24	(1.74)
									Wells in Decline:	13
									Total Wells:	17
									Average Change:	(0.51)
Desha	08S03W33ABD1	33.9674778	-91.3939389	110ALVM	2024-04-05	164.72	8.09	2024-10-09	10.52	(2.43)
Desha	09S01W08BDA1	33.9354389	-91.2094806	110ALVM	2024-04-05	156	29	2024-10-09	30.4	(1.40)
Desha	S02W26DDC1 near Wats	33.8823806	-91.2582333	110ALVM	2024-02-02	149	31.14	2024-10-30	34.46	(3.32)
Desha	09S03W17DCB1	33.9133972	-91.4157389	110ALVM	2024-04-05	154.7	38.69	2024-10-09	40.91	(2.22)
Desha	10S02W20ADA1	33.8211111	-91.3069444	110ALVM	2024-04-05	147	44.89	2024-10-09	46.93	(2.04)
Desha	11S02W15ADD1	33.7469167	-91.2778333	110ALVM	2024-04-05	144	38.41	2024-10-09	40.92	(2.51)
Desha	11S03W16CBA1	33.7442778	-91.4093889	110ALVM	2024-04-05	143	41.35	2024-10-09	42.83	(1.48)

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Desha	13S02W27CAC1	33.5399972	-91.2929889	110ALVM	2024-04-04	138	33.6	2024-10-09	36.95	(3.35)
Desha	13S03W11CAB1	33.5842775	-91.3781742	110ALVM	2024-04-04	142	52.81	2024-10-09	53	(0.19)
									Wells in Decline:	9
									Total Wells:	9
									Average Change:	(2.10)
Drew	11S04W08DD1	33.7634611	-91.5377806	110ALVM	2024-04-02	161	29.61	2024-10-09	32.42	(2.81)
Drew	11S04W35CDD1	33.6955556	-91.4783333	110ALVM	2024-04-02	152	27.55	2024-10-09	29.23	(1.68)
Drew	11S05W08CCC1	33.7629111	-91.6436556	110ALVM	2024-04-25	185	39.22	2024-10-09	40.12	(0.90)
Drew	13S04W32BAD1	33.5250889	-91.5327722	110ALVM	2024-04-04	134	16.64	2024-10-09	23.32	(6.68)
Drew	14S04W03DA1	33.5119028	-91.4934861	110ALVM	2024-04-04	142	25.88	2024-10-09	29.56	(3.68)
Drew	14S04W05CBC1	33.5109444	-91.5385278	110ALVM	2024-04-25	132	12.69	2024-10-09	20.79	(8.10)
Drew	15S04W13DAD1	33.3970972	-91.4640722	110ALVM	2024-04-05	125	36.06	2024-10-09	38.51	(2.45)
									Wells in Decline:	7
									Total Wells:	7
									Average Change:	(3.76)
Greene	16N03E16DDD1	36.0136817	-90.7631699	110ALVM	2024-04-12	258	37.52	2024-10-09	39.29	(1.77)
Greene	16N03E20CDA1	35.9991472	-90.7951528	110ALVM	2024-04-07	257	36.59	2024-10-09	39.4	(2.81)
Greene	16N06E22DA1	36.00125	-90.4279694	110ALVM	2024-04-08	243	18	2024-10-09	21.68	(3.68)
Greene	17N03E32CDC1	36.0547389	-90.7930556	110ALVM	2024-04-07	259	35.91	2024-10-09	39.43	(3.52)
Greene	17N03E35CB1	36.0765806	-90.7434472	110ALVM	2024-04-07	265	38.36	2024-10-09	41.35	(2.99)
Greene	17N04E28DAA1	36.0752778	-90.6547222	110ALVM	2024-04-07	317	85.55	2024-10-09	86.38	(0.83)
Greene	17N04E30CDC1	36.0694083	-90.7048583	110ALVM	2024-04-07	267	43.48	2024-10-09	45.85	(2.37)
Greene	17N06E02AD1	36.1369528	-90.4026028	110ALVM	2024-04-09	258	30.1	2024-10-08	33.47	(3.37)
Greene	17N06E11DA1	36.118175	-90.4065389	110ALVM	2024-04-08	255	38.99	2024-10-08	34.51	4.48
Greene	17N07E01BBA1	36.1425	-90.29075	110ALVM	2024-04-08	247	6.5	2024-10-08	7.1	(0.60)
Greene	17N07E18ABB1	36.1103	-90.3761389	110ALVM	2024-04-08	248	11.4	2024-10-08	17.62	(6.22)
Greene	18N03E24ACA1	36.1890028	-90.7022306	110ALVM	2024-04-12	271	35.25	2024-10-08	37.1	(1.85)
Greene	18N06E26CDD1	36.1584	-90.4036889	110ALVM	2024-04-09	266	24.8	2024-10-08	34.28	(9.48)
Greene	18N07E05DAB1	36.2209667	-90.3406333	110ALVM	2024-04-09	270	17.52	2024-10-08	22.25	(4.73)
Greene	18N07E17BAB1	36.2007694	-90.3513472	110ALVM	2024-04-09	261	14.39	2024-10-08	19.66	(5.27)
Greene	18N07E35DCD1	36.1425833	-90.2911667	110ALVM	2024-04-08	248	6.78	2024-10-08	7.69	(0.91)
									Wells in Decline:	15
									Total Wells:	16
									Average Change:	(2.87)
Independence	11N04W22BBA1	35.5692444	-91.4182944	110ALVM	2024-04-12	217	2.44	2024-10-10	5.1	(2.66)
Independence	12N04W10BBC1	35.6850806	-91.3991333	110ALVM	2024-04-01	236	24.35	2024-10-09	28.16	(3.81)
Independence	12N04W14DD1	35.658175	-91.3765667	110ALVM	2024-04-12	233	24.44	2024-10-09	27.11	(2.67)
Independence	12N04W34CBB1	35.62225	-91.4201389	110ALVM	2024-04-12	226	21.5	2024-10-10	23.97	(2.47)

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Independence	12N04W35CBB1	35.6195028	-91.3954	110ALVM	2024-04-12	228	20.07	2024-10-09	23.7	(3.63)
Independence	12N05W36AAA1	35.6272333	-91.4742278	110ALVM	2024-04-12	239	21.65	2024-10-09	25.02	(3.37)
									Wells in Decline:	6
									Total Wells:	6
									Average Change:	(3.10)
Jackson	09N02W32CBB1	35.3643861	-91.2299417	110ALVM	2024-04-01	222	32.18	2024-10-10	34.26	(2.08)
Jackson	10N01W29BA1	35.4444806	-91.1128194	110ALVM	2024-04-12	218	53.4	2024-10-10	51	2.40
Jackson	11N01W11CBB1	35.5972222	-91.0744444	110ALVM	2024-04-02	233	57.87	2024-10-09	61.6	(3.73)
Jackson	11N03W06DAB1	35.6153139	-91.3356944	110ALVM	2024-04-09	224	16.74	2024-10-09	20.91	(4.17)
Jackson	12N01W11BCB1	35.6911333	-91.0711806	110ALVM	2024-04-11	234	38.87	2024-10-09	41.74	(2.87)
Jackson	13N01W20AAA1	35.7539278	-91.1076306	110ALVM	2024-04-11	244	41.2	2024-10-09	43.49	(2.29)
Jackson	13N03W35AA1	35.7248167	-91.270375	110ALVM	2024-04-09	237	9.32	2024-10-09	13.48	(4.16)
Jackson	14N01W09AAA1	35.8723222	-91.0875444	110ALVM	2024-04-11	255	46.57	2024-10-09	48.69	(2.12)
									Wells in Decline:	7
									Total Wells:	8
									Average Change:	(2.38)
Jefferson	05S07W29DDD1	34.2362556	-91.7816333	110ALVM	2024-04-19	192	17.86	2024-10-10	15.5	2.36
Jefferson	06S05W15BCA1	34.1730417	-91.5458333	110ALVM	2024-04-19	176.89	14.94	2024-10-10	14.8	0.14
Jefferson	07S07W16BAA1	34.116425	-91.8094944	110ALVM	2024-04-02	188	22.62	2024-10-10	31.45	(8.83)
Jefferson	07S08W06BAA1	34.1495917	-91.9464611	110ALVM	2024-04-30	202	16.68	2024-10-10	20.15	(3.47)
									Wells in Decline:	2
									Total Wells:	4
									Average Change:	(2.45)
Lawrence	15N01E09ABD1	35.9538889	-90.9833333	110ALVM	2024-04-11	260	59.86	2024-10-07	61.58	(1.72)
Lawrence	15N01E32BAA1	35.8978806	-91.0081	110ALVM	2024-04-11	253	57.21	2024-10-07	59.64	(2.43)
Lawrence	16N01W30DDC1	35.9935917	-91.1231278	112TRRC	2024-04-04	253.77	23.01	2024-10-07	24.95	(1.94)
Lawrence	17N01E02BBA1	36.1503639	-90.9537972	112TRRC	2024-04-04	261	19.54	2024-10-07	22.93	(3.39)
Lawrence	17N01W36AAB1	36.0769444	-91.0283333	112TRRC	2024-04-04	265.07	14.27	2024-10-07	15.97	(1.70)
Lawrence	17N02E04DCA1	36.1330889	-90.8732389	112TRRC	2024-04-10	272	45.17	2024-10-07	47.53	(2.36)
									Wells in Decline:	6
									Total Wells:	6
									Average Change:	(2.26)
Lee	01N02E09BBA2	34.7163806	-90.9047139	110ALVM	2024-04-23	200	35.48	2024-10-16	39.18	(3.70)
Lee	01N02E33CBB1	34.65825	-90.9096667	110ALVM	2024-04-24	184	15.13	2024-10-09	25.36	(10.23)
Lee	01N02E33CCB1	34.6471111	-90.9098889	110ALVM	2024-04-24	184	14.47	2024-10-09	26.27	(11.80)
Lee	01N03E35BBA1	34.6570194	-90.7640167	110ALVM	2024-04-16	202	17.39	2024-10-08	32.18	(14.79)

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Lee	02N01E23BA1	34.7756139	-90.9720194	110ALVM	2024-04-18	201	54.81	2024-10-10	58.86	(4.05)
Lee	02N01E29AA1	34.76205	-91.0186917	110ALVM	2024-04-23	194	57.19	2024-10-10	60.27	(3.08)
Lee	02N02E08ADC1	34.8020389	-90.8940972	110ALVM	2024-04-15	207	48.06	2024-10-07	49.87	(1.81)
Lee	02N02E36DDC1	34.731	-90.8392222	112TRRC	2024-04-24	205	33.66	2024-10-11	39.92	(6.26)
Lee	02N03E29CAD1	34.7500976	-90.8128907	112TRRC	2024-04-24	220	45.91	2024-10-11	49.4	(3.49)
Lee	02N04E15DAC1	34.7768694	-90.6639972	110ALVM	2024-04-16	192	21.34	2024-10-07	22.71	(1.37)
Lee	03N01E15CCB1	34.8681056	-90.9961111	110ALVM	2024-04-15	204	71.13	2024-10-07	73.3	(2.17)
Lee	03N02E29DAD1	34.8371167	-90.9082722	112TRRC	2024-04-15	205	56.76	2024-10-07	56.16	0.60
Lee	03N04E07CBB1	34.8799444	-90.7201667	110ALVM	2024-04-16	205	31.57	2024-10-07	32.9	(1.33)
Lee	03N05E14DDA1	34.8633556	-90.5342361	110ALVM	2024-04-03	195	14.89	2024-10-07	17.45	(2.56)
									Wells in Decline:	13
									Total Wells:	14
									Average Change:	(4.72)
Lincoln	07S06W03CCA2	34.1376306	-91.6874111	110ALVM	2024-04-02	187	20.74	2024-10-09	22.32	(1.58)
Lincoln	07S07W36CBD1	34.0696	-91.7578	110ALVM	2024-04-02	182	36.67	2024-10-09	38.6	(1.93)
Lincoln	08S04W06ABD1	34.0602972	-91.5212278	110ALVM	2024-04-01	173	13.64	2024-10-09	17.66	(4.02)
Lincoln	08S04W20DC1	34.0055139	-91.5086639	110ALVM	2024-04-01	165	32.71	2024-10-09	36.35	(3.64)
Lincoln	08S05W12AAD1	34.0458083	-91.5388	110ALVM	2024-04-01	173	20.1	2024-10-09	24.95	(4.85)
Lincoln	08S07W05DDD1	34.050225	-91.8174222	110ALVM	2024-04-02	190	29.55	2024-10-09	31.32	(1.77)
Lincoln	09S04W06CBB1 G-7	33.9532694	-91.5614806	110ALVM	2024-04-05	168	45.53	2024-10-09	48.12	(2.59)
									Wells in Decline:	7
									Total Wells:	7
									Average Change:	(2.91)
Lonoke	01N08W13AAD1	34.7146306	-91.8087306	110ALVM	2024-04-12	225	142.62	2024-10-11	143.92	(1.30)
Lonoke	01N08W26CCB1	34.6762806	-91.8453972	110ALVM	2024-04-11	213	108.17	2024-10-09	109.91	(1.74)
Lonoke	01N09W13DAB1	34.7097694	-91.9213917	110ALVM	2024-04-11	226	83.38	2024-10-11	86.01	(2.63)
Lonoke	01N10W15CDA1	34.7099833	-92.0704306	110ALVM	2024-04-12	244.89	19.98	2024-10-11	19.97	0.01
Lonoke	01S06W31ABB1	34.5831639	-91.6920778	110ALVM	2024-04-11	203	81.27	2024-10-08	81.28	(0.01)
Lonoke	01S06W32BBB1	34.58385	-91.6827806	110ALVM	2024-04-11	202.18	78.38	2024-10-11	77.84	0.54
Lonoke	01S07W12ABA1	34.6428639	-91.7082889	110ALVM	2024-04-11	207	92.1	2024-10-17	92.26	(0.16)
Lonoke	01S07W19DDB1	34.6025	-91.7961111	110ALVM	2024-04-11	206	89.79	2024-10-17	91.48	(1.69)
Lonoke	01S09W02DDD1	34.6490806	-91.939325	110ALVM	2024-04-11	231.16	82.35	2024-10-11	83.77	(1.42)
Lonoke	01S09W36CCC1	34.576475	-91.9386056	110ALVM	2024-04-05	220	61.62	2024-10-11	62.08	(0.46)
Lonoke	01S10W11CAB1	34.6447222	-92.0602778	110ALVM	2024-04-05	236	28.48	2024-10-11	31.08	(2.60)
Lonoke	02N07W07DAA1	34.812575	-91.7856194	112TRRC	2024-04-11	233.09	139.65	2024-10-09	140.99	(1.34)
Lonoke	02N08W12CB2	34.81325	-91.8214306	110ALVM	2024-04-11	242	137.56	2024-10-17	141.78	(4.22)
Lonoke	02N08W27DCB1	34.7619444	-91.8516667	110ALVM	2024-01-11	230.09	134.75	2024-11-04	135	(0.25)
Lonoke	02N10W15ACC1	34.8016194	-92.0649111	110ALVM	2024-04-11	242.04	30.45	2024-10-08	32.91	(2.46)
Lonoke	02S08W06BAA1	34.575	-91.9130556	110ALVM	2024-04-05	221	66.18	2024-10-08	66.03	0.15
Lonoke	02S08W28CDC1	34.5019444	-91.8769444	110ALVM	2024-04-05	216	64.58	2024-10-11	66.22	(1.64)

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Lonoke	02S09W22AAA1	34.5318111	-91.9575	110ALVM	2024-04-11	227.24	63.57	2024-10-11	63.98	(0.41)
Lonoke	03N07W29ADA1	34.857925	-91.7662222	110ALVM	2024-04-02	232	100.42	2024-10-09	100.22	0.20
Lonoke	03N07W29CDD1	34.8487806	-91.7807	110ALVM	2024-04-02	230	103.88	2024-10-16	109.01	(5.13)
Lonoke	03N08W11ACA1	34.9035333	-91.8261833	110ALVM	2024-04-03	257.17	110.94	2024-11-04	112.73	(1.79)
Lonoke	03N08W29BBB1	34.8630833	-91.8924472	110ALVM	2024-04-02	249	114.44	2024-10-09	116.7	(2.26)
Lonoke	N08W32ABB1 UAPB Lon	34.849475	-91.8811167	110ALVM	2024-01-25	250.22	123.34	2024-10-31	124.43	(1.09)
Lonoke	04N08W19BBB1	34.9648333	-91.9088333	110ALVM	2024-04-02	300	4.45	2024-10-10	21.71	(17.26)
Lonoke	04N08W36DBB1	34.927925	-91.8206722	110ALVM	2024-03-26	259	99.1	2024-10-10	100.58	(1.48)
									Wells in Decline:	21
									Total Wells:	25
									Average Change:	(2.02)
Mississippi	10N08E22ABA2	35.4808417	-90.222525	110ALVM	2024-04-12	224	26.27	2024-10-08	29.85	(3.58)
Mississippi	12N08E08BCB1	35.6797389	-90.2664583	110ALVM	2024-04-10	225	11.21	2024-10-09	13.25	(2.04)
Mississippi	12N09E12ABC1	35.68195	-90.0806306	110ALVM	2024-04-09	232	22.74	2024-10-09	33.04	(10.30)
Mississippi	12N10E21DBA1	35.6451389	-90.0229111	110ALVM	2024-04-09	238	19.76	2024-10-09	25.04	(5.28)
Mississippi	13N09E30CCD1	35.7166472	-90.1707944	110ALVM	2024-04-10	222	13.6	2024-10-09	18.33	(4.73)
Mississippi	13N10E20B 1	35.7383361	-90.0488167	110ALVM	2024-04-09	229	8.49	2024-10-09	23.94	(15.45)
Mississippi	14N08E04DD2	35.8589472	-90.2351028	110ALVM	2024-04-09	231	5.85	2024-10-09	6.8	(0.95)
Mississippi	14N08E20DAA1	35.8231389	-90.2533389	110ALVM	2024-04-09	225	3.4	2024-10-09	5.11	(1.71)
Mississippi	14N08E26CC1	35.8007694	-90.2092194	110ALVM	2024-04-09	228	3.38	2024-10-09	5.16	(1.78)
Mississippi	14N10E18ABC1	35.83935	-90.0626694	110ALVM	2024-04-09	239	14.2	2024-10-09	23.87	(9.67)
Mississippi	14N10E26DAC1	35.8041778	-89.9854417	110ALVM	2024-04-09	234	8.33	2024-10-09	14.8	(6.47)
Mississippi	14N10E27AD1	35.8093111	-89.9992667	110ALVM	2024-04-09	233	6.46	2024-10-09	16.09	(9.63)
Mississippi	14N11E17CCB1	35.8324111	-89.945	110ALVM	2024-04-09	240	6.78	2024-10-09	13.43	(6.65)
Mississippi	15N08E08DBC2	35.9346111	-90.2573111	112TRRC	2024-04-09	238	11.51	2024-10-09	12.91	(1.40)
Mississippi	15N08E32DD1	35.8738722	-90.2527944	110ALVM	2024-04-09	228	4.76	2024-10-09	5.94	(1.18)
Mississippi	15N12E01BCD1	35.9514889	-89.7669889	110ALVM	2024-04-09	255	12.93	2024-10-09	13.57	(0.64)
Mississippi	16N08E35DA1	35.96735	-90.1990556	110ALVM	2024-04-09	239	8.19	2024-10-09	9.13	(0.94)
Mississippi	16N11E23ADA1	35.996325	-89.8753778	110ALVM	2024-04-09	256	12.13	2024-10-09	15.16	(3.03)
									Wells in Decline:	18
									Total Wells:	18
									Average Change:	(4.75)
Monroe	01N01W15DBC1	34.6945556	-91.0956111	110ALVM	2024-04-23	187	53.92	2024-10-10	57.64	(3.72)
Monroe	01N02W12CBC1	34.71175	-91.1755278	112VLTR	2024-04-23	182	42.89	2024-10-10	44.47	(1.58)
Monroe	01N03W23BAC1	34.6904889	-91.2934	110ALVM	2024-04-23	173	12.12	2024-10-09	14.52	(2.40)
Monroe	01S01W13CDD1	34.6030389	-91.0612611	110ALVM	2024-04-16	175	22.01	2024-10-09	24.77	(2.76)
Monroe	01S02W20BBB1	34.6035278	-91.2489167	110ALVM	2024-04-23	171	12.27	2024-10-09	14.09	(1.82)
Monroe	01S03W20BBA1	34.6004389	-91.3864694	110ALVM	2024-05-02	209	63.72	2024-10-09	79.56	(15.84)
Monroe	02N01W19ADD1	34.7731	-91.1374389	110ALVM	2024-04-02	189	57.3	2024-10-10	60.31	(3.01)
Monroe	02N01W19BBA1	34.779225	-91.1534611	110ALVM	2024-04-23	192	58.07	2024-10-10	61.6	(3.53)

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Monroe	02N03W35BCA1	34.7402889	-91.2980306	112TRRC	2024-04-02	186	29.04	2024-10-09	31.4	(2.36)
Monroe	02S01W01BCD1	34.5508806	-91.0675389	110ALVM	2024-04-02	176	18.08	2024-10-09	21.43	(3.35)
Monroe	02S02W11DAC1	34.535825	-91.1834944	110ALVM	2024-04-23	164	9.67	2024-10-09	12.48	(2.81)
Monroe	04N02W01BCC1	34.9911389	-91.16435	112TRRC	2024-04-02	195	33.86	2024-10-08	40.19	(6.33)
Monroe	04N02W05BBB1	35.0004667	-91.2195222	112TRRC	2024-04-02	188	15.6	2024-10-08	17.2	(1.60)
Monroe	04N02W27CDD3	34.9278389	-91.1971472	112TRRC	2024-04-15	202	46.77	2024-10-08	48.87	(2.10)
Monroe	04N02W30BBB1	34.9411111	-91.2568389	112TRRC	2024-04-15	185.16	3.48	2024-10-09	15.39	(11.91)
									Wells in Decline:	15
									Total Wells:	15
									Average Change:	(4.34)
Phillips	01S02E09CBB1	34.6218694	-90.9094611	110ALVM	2024-04-24	185	13.28	2024-10-09	27.78	(14.50)
Phillips	01S02E32BBB1	34.5703528	-90.9274917	110ALVM	2024-04-16	197	29.16	2024-10-09	37.38	(8.22)
Phillips	01S03E02ADD1	34.6385028	-90.7525917	110ALVM	2024-04-16	202	18.67	2024-10-08	34.19	(15.52)
Phillips	01S03E10ABB1	34.6285254	-90.7753607	112TRRC	2024-04-16	203	21.18	2024-10-08	37.79	(16.61)
Phillips	01S04E05DCD1	34.6350278	-90.6970833	112TRRC	2024-04-16	247	51.54	2024-10-08	63.68	(12.14)
Phillips	02S01E23CA1	34.5011389	-90.9784833	110ALVM	2024-05-02	177	18.61	2024-10-09	22.08	(3.47)
Phillips	2S03E15ACD1 near Barto	34.5194333	-90.7726333	110ALVM	2024-02-02	174	17.19	2024-10-16	18.92	(1.73)
Phillips	02S04E27AAC1	34.4921028	-90.6669694	110ALVM	2024-04-16	180	8.97	2024-10-10	16.56	(7.59)
Phillips	03S03E02DD1	34.4524056	-90.7507417	110ALVM	2024-04-08	174	21	2024-10-10	22.43	(1.43)
Phillips	03S03E04DAA1	34.4595889	-90.7860917	110ALVM	2024-04-08	171	20.16	2024-10-10	22.44	(2.28)
Phillips	03S04E02CAA1	34.4599444	-90.6557639	110ALVM	2024-04-16	179	15.98	2024-10-10	18.52	(2.54)
Phillips	04S01E29CDC1	34.3076944	-91.0265278	110ALVM	2024-04-07	151	8.17	2024-10-10	12.96	(4.79)
Phillips	04S02E03AB1	34.3873611	-90.8489444	110ALVM	2024-04-16	166	20.15	2024-10-10	20.41	(0.26)
									Wells in Decline:	13
									Total Wells:	13
									Average Change:	(7.01)
Poinsett	10N01E14CC1	35.4861294	-90.9705023	110ALVM	2024-04-15	231	104.15	2024-10-07	106.54	(2.39)
Poinsett	10N01E16CCB1	35.4894083	-91.0014861	110ALVM	2024-04-15	225	88.1	2024-10-07	88.42	(0.32)
Poinsett	10N02E13BCC1	35.4968111	-90.8406361	112TRRC	2024-04-15	237.16	115.85	2024-10-08	117.54	(1.69)
Poinsett	0N02E34BBB1 near Fish	35.4571667	-90.8753611	110ALVM	2024-03-05	235.39	111.4	2024-11-19	112.95	(1.55)
Poinsett	10N03E20CC1	35.4778056	-90.8025472	110ALVM	2024-04-15	239	110	2024-10-08	111.04	(1.04)
Poinsett	10N03E21CD1	35.4782694	-90.7776889	110ALVM	2024-04-09	239	114.12	2024-10-08	106.87	7.25
Poinsett	10N06E11AAA1	35.5109694	-90.4129611	110ALVM	2024-04-11	213	4.78	2024-10-09	2.95	1.83
Poinsett	10N07E28CBB1	35.4592501	-90.3578776	110ALVM	2024-04-11	217	29.1	2024-10-09	30.98	(1.88)
Poinsett	11N01E17DDC1	35.5769722	-91.0036944	112TRRC	2024-04-02	230	89.48	2024-10-07	93.27	(3.79)
Poinsett	11N01E17DDD1	35.5768333	-91.0026667	112TRRC	2024-04-02	230	88.82	2024-10-07	92.29	(3.47)
Poinsett	11N01E26AA1	35.5613444	-90.9482111	110ALVM	2024-04-02	236	110.13	2024-10-08	113.71	(3.58)
Poinsett	11N02E01CC1	35.6085694	-90.8354028	110ALVM	2024-04-02	242	123.93	2024-10-08	125.36	(1.43)
Poinsett	11N02E07CA1	35.5983611	-90.9196944	110ALVM	2024-04-02	244	121.42	2024-10-08	123.83	(2.41)
Poinsett	11N02E30BBB1	35.5653056	-90.9263333	110ALVM	2024-04-02	239	119.25	2024-10-08	121.96	(2.71)

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Poinsett	11N03E07CBB1	35.601	-90.8216389	110ALVM	2024-04-03	243	123.09	2024-10-08	124.49	(1.40)
Poinsett	11N03E10DDA1	35.596025	-90.7490389	110ALVM	2024-04-12	251	115.85	2024-10-08	117.92	(2.07)
Poinsett	11N04E13DDA1	35.5803583	-90.6083	110ALVM	2024-04-11	213	16.52	2024-10-09	17.7	(1.18)
Poinsett	11N05E26BDB1	35.5556389	-90.5331611	110ALVM	2024-04-11	213	12.7	2024-10-07	16.4	(3.70)
Poinsett	11N06E34BBC1	35.54	-90.4461111	110ALVM	2024-04-11	217	16.44	2024-10-08	15.07	1.37
Poinsett	11N07E18CAB1	35.5763111	-90.3892111	110ALVM	2024-04-11	220	14.65	2024-10-08	16.53	(1.88)
Poinsett	11N07E22ADD1	35.5621611	-90.3229111	110ALVM	2024-04-10	221	26.11	2024-10-08	28.21	(2.10)
Poinsett	12N01E07CDA1	35.6815806	-91.028125	110ALVM	2024-04-11	241	54.1	2024-10-08	56.97	(2.87)
Poinsett	12N01E22DAB1	35.6560417	-90.9706861	110ALVM	2024-04-11	234	81.92	2024-10-08	83.31	(1.39)
Poinsett	2N02E26CCC1 SW-MW	35.6379111	-90.8535611	110ALVM	2024-04-02	245	125.98	2024-10-31	126.53	(0.55)
Poinsett	12N02E26CCC2 SE-MW	35.6381306	-90.8532111	110ALVM	2024-04-02	246	127.41	2024-10-30	127.94	(0.53)
Poinsett	12N02E26CCC3 SE-MW	35.6384806	-90.8534111	110ALVM	2024-04-03	243	125.14	2024-10-30	125.68	(0.54)
Poinsett	2N02E26DAD1 PN3-SW2	35.6447667	-90.8397	110ALVM	2024-03-05	245	127.34	2024-11-19	129.2	(1.86)
Poinsett	12N02E34CCC1	35.6245778	-90.8747833	112TRRC	2024-04-12	247	131.7	2024-10-08	133.26	(1.56)
Poinsett	12N02E34DA1	35.63455	-90.8657139	110ALVM	2024-04-02	244	126.45	2024-10-08	128.18	(1.73)
Poinsett	12N03E01CBD1	35.69375	-90.7277889	110ALVM	2024-04-12	248	107.49	2024-10-07	109.73	(2.24)
Poinsett	12N03E35AD1	35.6295045	-90.7313329	110ALVM	2024-04-12	249	110.84	2024-10-10	126.39	(15.55)
Poinsett	12N05E16ABA1	35.67775	-90.5589694	110ALVM	2024-04-11	220	10.55	2024-10-09	13.61	(3.06)
Poinsett	12N05E34ABA1	35.6348278	-90.5417917	110ALVM	2024-04-11	215	10.72	2024-10-09	13.32	(2.60)
Poinsett	12N07E04BAA1	35.6970611	-90.35605	110ALVM	2024-04-10	220	6.15	2024-10-09	6.4	(0.25)
Poinsett	12N07E10CBB1	35.6789194	-90.3455389	110ALVM	2024-04-10	221	6.71	2024-10-09	7.07	(0.36)
									Wells in Decline:	32
									Total Wells:	35
									Average Change:	(1.81)
Prairie	01N06W05CCB1	34.7313806	-91.6803	110ALVM	2024-04-23	220	117.09	2024-10-07	117.82	(0.73)
Prairie	01S05W31DDA1	34.5713889	-91.5755833	110ALVM	2024-05-01	205.92	97.01	2024-10-08	99.12	(2.11)
Prairie	01S06W12BAB1	34.6405556	-91.6036111	110ALVM	2024-01-30	228.49	103.57	2024-10-30	103.36	0.21
Prairie	02N05W24BCA3	34.7834028	-91.492625	110ALVM	2024-04-02	223	87.4	2024-10-11	92.78	(5.38)
Prairie	N06W22BCC1 near Haz	34.7813333	-91.6409444	110ALVM	2024-01-25	235.19	113.45	2024-12-05	113.81	(0.36)
Prairie	03N05W03BDD2	34.9122389	-91.5209306	110ALVM	2024-04-02	207	66.7	2024-10-17	67.75	(1.05)
Prairie	03N06W20CDD1	34.8611778	-91.6677583	110ALVM	2024-04-11	228	87.72	2024-10-09	89.61	(1.89)
Prairie	04N06W05CCC1	34.9927111	-91.6716556	110ALVM	2024-04-02	205.99	63.22	2024-10-10	64.01	(0.79)
Prairie	04N07W03DCB1	34.9956472	-91.7365194	110ALVM	2024-04-02	256	90.84	2024-10-10	91.05	(0.21)
Prairie	04N07W28BBA1	34.9501472	-91.7624667	110ALVM	2024-04-02	258	100.37	2024-10-10	101.16	(0.79)
									Wells in Decline:	9
									Total Wells:	10
									Average Change:	(1.31)

Mississippi River Alluvial Aquifer
Hydrologic Data Spring/Fall 2024

County	Station ID Number	Latitude	Longitude	Aquifer Code	Spring Date	Land Surface Altitude	Spring Depth to Water (ft.)	Fall Date	Fall Depth to Water (ft.)	Spring to Fall Change
Pulaski	01S10W29CC1	34.5938278	-92.1187944	110ALVM	2024-04-05	239	13	2024-10-11	16.54	(3.54)
Pulaski	02S10W14DC1	34.5346417	-92.059375	110ALVM	2024-04-05	225	24.02	2024-10-21	23.51	0.51
									Wells in Decline:	1
									Total Wells:	2
									Average Change:	(1.52)
Randolph	18N01E11CCC1	36.2088972	-90.953825	110ALVM	2024-04-02	266.03	14.27	2024-10-07	22.6	(8.33)
Randolph	18N01E16ABA1	36.2084111	-90.9766833	110ALVM	2024-04-02	263	16.79	2024-10-07	18.61	(1.82)
Randolph	18N02E27BA1	36.1791028	-90.8568472	110ALVM	2024-04-02	274.02	40.67	2024-10-07	43.73	(3.06)
Randolph	18N02E30BA1	36.178679	-90.9004385	110ALVM	2024-04-02	276.33	37.94	2024-10-07	40.38	(2.44)
Randolph	20N03E29AD1	36.3489889	-90.7778472	110ALVM	2024-04-02	287	7.67	2024-10-08	4.48	3.19
									Wells in Decline:	4
									Total Wells:	5
									Average Change:	(2.49)
St. Francis	04N01W17CBC1	34.9599194	-91.1339194	110ALVM	2024-04-15	206	65.74	2024-10-07	67.85	(2.11)
St. Francis	04N01W28CDD1	34.9264167	-91.1095278	110ALVM	2024-04-15	210	77.06	2024-10-07	79.49	(2.43)
St. Francis	05N01E15BCB1	35.0507139	-90.9951139	110ALVM	2024-04-17	209	77.76	2024-10-16	78.11	(0.35)
St. Francis	05N02E20ADC1	35.0324722	-90.9103222	110ALVM	2024-04-17	211	63.18	2024-10-07	65.05	(1.87)
St. Francis	05N05E19DCA1	35.024325	-90.6084306	110ALVM	2024-04-04	205	32.24	2024-10-08	32.71	(0.47)
St. Francis	06N02E15BDD1	35.144975	-90.8798083	110ALVM	2024-04-17	214.73	70.78	2024-10-07	69.68	1.10
									Wells in Decline:	5
									Total Wells:	6
									Average Change:	(1.02)
White	05N07W10CCC1	35.0667278	-91.7433333	110ALVM	2024-04-11	200	8.85	2024-10-17	8.03	0.82
White	06N07W17DCC1	35.139575	-91.7763139	110ALVM	2024-04-01	218	8.1	2024-10-11	14.47	(6.37)
White	06N08W13ABA1	35.1521472	-91.8067694	110ALVM	2024-04-11	228	8.53	2024-10-08	12.22	(3.69)
White	06N08W26DDB1	35.1111917	-91.8246778	110ALVM	2024-04-01	226	12.56	2024-10-08	15.04	(2.48)
White	8N05W34CAC2 HS-02-E	35.2709889	-91.5291944	112MRVAA	2024-04-09	207	11.06	2024-10-08	11.58	(0.52)
									Wells in Decline:	4
									Total Wells:	5
									Average Change:	(2.45)
Woodruff	04N03W03AB1	35.0058139	-91.3055194	110ALVM	2024-04-01	190	13.54	2024-10-09	15.95	(2.41)
Woodruff	05N02W20DCB1	35.0354694	-91.2322194	110ALVM	2024-04-01	191	17.45	2024-10-08	20.07	(2.62)
Woodruff	05N03W25DDB1	35.0227056	-91.2602444	112TRRC	2024-04-01	190	15.45	2024-10-16	15.78	(0.33)
Woodruff	06N01W11AAB1	35.1622222	-91.065	110ALVM	2024-04-02	214	69.8	2024-10-08	72.32	(2.52)
Woodruff	06N01W27BCC1	35.1113889	-91.0955556	110ALVM	2024-04-02	202	58.78	2024-10-08	60.59	(1.81)
Woodruff	N02W19CCA1 CR-03a-E	35.2181111	-91.2427389	112MRVAA	2024-04-04	191	5.2	2024-10-09	5.62	(0.42)
Woodruff	07N03W31BBA1	35.2057083	-91.3426944	110ALVM	2024-04-01	204	7.8	2024-10-09	12.77	(4.97)

Mississippi River Alluvial Aquifer
Hydrologic Data Spring/Fall 2024

County	Station ID Number	Latitude	Longitude	Aquifer Code	Spring Date	Land Surface Altitude	Spring Depth to Water (ft.)	Fall Date	Fall Depth to Water (ft.)	Spring to Fall Change
Woodruff	08N01W06DDD1	35.341125	-91.1290778	110ALVM	2024-04-01	218	49.71	2024-10-08	49.57	0.14
Woodruff	08N02W31 Patterson	35.2696111	-91.235025	112MRVAA	2024-03-05	195.09	5.11	2024-11-18	6.7	(1.59)
Woodruff	08N03W04BBB1	35.3577778	-91.3219444	110ALVM	2024-04-01	218	17.32	2024-10-08	19.71	(2.39)
Woodruff	08N03W31AAD1	35.2821111	-91.3413667	110ALVM	2024-04-01	213	20.01	2024-10-09	21.58	(1.57)
Woodruff	09N03W28ABB1	35.3892	-91.3097639	110ALVM	2024-04-01	224	21.8	2024-10-10	25.15	(3.35)
Woodruff	09N03W32ACA1	35.3678028	-91.3285944	110ALVM	2024-04-01	218	18.14	2024-10-08	24.45	(6.31)
									Wells in Decline:	12
									Total Wells:	13
									Average Change:	(2.32)

Total Wells: 314
Total Wells in Decline: 283
Percent of Total Wells in Decline: 90.13%
Total Average Change (ft.): (2.63)

Appendix B

Sparta/Memphis Aquifer Water Level Monitoring Data

Sparta/Memphis Aquifer
Hydrologic Data 2014, 2019, 2023, 2024

County	Station ID	Latitude	Longitude	Aquifer Code	Land Surface Altitude	Date	2024 Depth to Water (ft.)	2023 Depth to Water (ft.)	2019 Depth to Water (ft.)	2014 Depth to Water (ft.)	1 Year Change ('23 to '24)	5 Year Change ('19 to '24)	10 Year Change ('14 to '24)
									Wells in Decline:		5		
									Total Wells:		5		
									Average Change:		(2.00)		
Cross	06N04E06ACA1	35.1678583	-90.710478	12405MP	355	4/18/2024	198.7			201.75			3.05
Cross	07N03E17CAD1	35.2204722	-90.795083	12405MP	248	5/2/2024	111.98	116.49		122.49	4.51		10.51
Cross	08N02E18BDB1	35.31894167	-90.927353	12405MP	228	4/11/2024	98.24						
Cross	09N01E16CAC1	35.40138889	-90.997431	12405MP	234	4/11/2024	101.32			96.39			(4.93)
Cross	09N01E25AAD1	35.378975	-90.931667	12405MP	226	4/3/2024	97.6			94.31			(3.29)
Cross	09N03E22AAB2	35.4010611	-90.755108	12405MP	276	4/11/2024	145.75	134.62		136.48	(11.13)		(9.27)
									Wells in Decline:		1		3
									Total Wells:		2		5
									Average Change:		(3.31)		(0.79)
Dallas	07S14W30DCC1	34.07524167	-92.566625	124SPRT	335	4/4/2024	118.98	118.54		121.4	(0.44)		2.42
Dallas	07S15W33DAC1	34.06735	-92.631228	124SPRT	473	4/4/2024	24.25	20.96	21.15	26	(3.29)	(3.10)	1.75
Dallas	07S16W20CAB1	34.0986583	-92.762519	124SPRT	322	4/4/2024	24.98	23.22	21.63	27.9	(1.76)	(3.35)	2.92
Dallas	08S15W34BDC1	33.9829861	-92.625031	124SPRT	240	4/12/2024	25.53	24.68	7.37		(0.85)	(18.16)	
Dallas	08S16W18ACC1	34.03124167	-92.777603	124SPRT	251	4/4/2024	4.18	1.7			(2.48)		
Dallas	08S16W27DDD1	33.99354167	-92.718658	124SPRT	280	4/12/2024	32.18	31.86		32.7	(0.32)		0.52
Dallas	09S13W35CCD1	33.8859111	-92.403722	124SPRT	200	4/4/2024	70.2	69.98	70.49		(0.22)	0.29	
Dallas	09S14W01BDC1	33.9648972	-92.48855	124SPRT	264	4/4/2024	77.8			85.3			7.50
Dallas	09S16W19CAA1	33.93485556	-92.783658	124SPRT	260	4/4/2024	6.96	5.65	4.71	7.9	(1.31)	(2.25)	0.94
Dallas	10S13W34ACA2	33.8081833	-92.416003	124SPRT	272	4/16/2024	144.8	150.14	148.6	151.9	5.34	3.80	7.10
Dallas	10S14W27CDB1	33.81877778	-92.527219	124SPRT	271	4/4/2024	12.84	2.34		24.4	(10.50)		11.56
Dallas	10S15W11DBB1	33.86694444	-92.608889	124SPRT	291	4/4/2024	55.74	54.95		59.4	(0.79)		3.66
Dallas	10S15W18BCC1	33.855425	-92.688911	124SPRT	328	4/4/2024	76.32	76.12	75.21	77.9	(0.20)	(1.11)	1.58
									Wells in Decline:		11	5	0
									Total Wells:		12	7	10
									Average Change:		(1.40)	(3.41)	4.00
Desha	09S02W26AAC1	33.8961111	-91.255783	124SPRT	153	5/8/2024	71.89			74.08			2.19
Desha	09S04W28DDD1	33.886	-91.501864	124SPRT	165	4/17/2024	88.72	110.04		113.05	21.32		24.33
Desha	11S02W03CCA1	33.77105	-91.286397	124SPRT	138	4/5/2024	69						
Desha	12S03W26CBB1	33.63016667	-91.383106	124SPRT	143	5/8/2024	102.66	91.64			(11.02)		
									Wells in Decline:		1		0
									Total Wells:		2		2
									Average Change:		5.15		13.26
Drew	11S04W25DAA1	33.71373889	-91.451939	124SPRT	149	5/8/2024	80.48						
Drew	12S06W30BBB1	33.63531944	-91.761967	124SPRT	271	5/8/2024	205.97	207.2			1.23		
Grant	03S13W12AAA1	34.4793472	-92.351733	124SPRT	362	4/5/2024	129.21	124.43	128.79	131.3	(4.78)	(0.42)	2.09
Grant	03S15W26DAA1	34.43347778	-92.579725	124SPRT	337	4/19/2024	6.19	5.34		7.2	(0.85)		1.01
Grant	05S13W07ADB1	34.30277778	-92.447153	124SPRT	270	4/5/2024	77.98	85.2	77.75		7.22	(0.23)	
Grant	05S14W06DCC1	34.31180556	-92.557414	124SPRT	293	4/16/2024	81.5			88.4			6.90
Grant	05S15W05ABD1	34.3232722	-92.640797	124SPRT	236	4/16/2024	12.7			13.4			0.70

Sparta/Memphis Aquifer
Hydrologic Data 2014, 2019, 2023, 2024

County	Station ID	Latitude	Longitude	Aquifer Code	Land Surface Altitude	Date	2024 Depth to Water (ft.)	2023 Depth to Water (ft.)	2019 Depth to Water (ft.)	2014 Depth to Water (ft.)	1 Year Change ('23 to '24)	5 Year Change ('19 to '24)	10 Year Change ('14 to '24)
									Wells in Decline:		1		0
									Total Wells:		4		6
									Average Change:		0.06		3.43
Lee	02N01E10CAD1	34.79537778	-90.990206	124SPRT	201	4/18/2024	62.4						
Lincoln	07S07W30CDC1	34.07886944	-91.845239	124SPRT	202	5/8/2024	170.85	166.42		171.4	(4.43)		0.55
Lincoln	08S04W22AAA1	34.01801667	-91.464664	124SPRT	167	5/8/2024	111.13						
Lincoln	08S08W35DDB1	33.982875	-91.872889	124SPRT	244	4/17/2024	218.41			211.96			(6.45)
Lincoln	09S07W07DAD1	33.9427472	-91.857864	124SPRT	296	4/17/2024	267.84	268.17		263	0.33		(4.84)
									Wells in Decline:		1		2
									Total Wells:		2		3
									Average Change:		(2.05)		(3.58)
Lonoke	01N07W03BCC1	34.7403722	-91.750911	124SPRT	224	4/23/2024	140.98	140.61	138.41	105.06	(0.37)	(2.57)	(35.92)
Lonoke	01N07W17CCC1	34.70216944	-91.788961	124SPRT	228	4/12/2024	145.42	144.41			(1.01)		
Lonoke	01S08W02DBD1	34.6485333	-91.833258	124SPRT	210	4/11/2024	108.77	97.76		97.2	(11.01)		(11.57)
Lonoke	02N07W06ACD1	34.82751389	-91.793619	124SPRT	242	4/4/2024	126.95	128.68		138.58	1.73		11.63
Lonoke	02N07W23BAA1	34.7887833	-91.72445	124SPRT	235	4/12/2024	162.93						
Lonoke	02N07W24DAC1	34.78061944	-91.702603	124SPRT	231	4/11/2024	161.56	157.01	153.02	172.9	(4.55)	(8.54)	11.34
Lonoke	02N08W28BC2	34.77218889	-91.878231	124SPRT	233	4/11/2024	126	126.8			0.80		
Lonoke	02S08W16BDA1	34.5410222	-91.875692	124SPRT	215	4/23/2024	121.21	121.48		130.6	0.27		9.39
Lonoke	02S09W15BBB2	34.54625	-91.973611	124SPRT	227	4/23/2024	72	72.5		72.2	0.50		0.20
Lonoke	03N07W03CAA1	34.9124722	-91.740639	12405MP	235	4/2/2024	87.09		83.98	84.52		(3.11)	(2.57)
Lonoke	03N07W23CCC1	34.862275	-91.730464	124SPRT	228	4/17/2024	97.95						
Lonoke	03N08W22DAD2	34.86793889	-91.839964	12405MP	235	4/2/2024	104.28	104.29	102.43	102.05	0.01	(1.85)	(2.23)
Lonoke	03N08W22DAD3	34.86777778	-91.84	12405MP	235	3/26/2024	103.51	103.35	111.16		(0.16)	7.65	
									Wells in Decline:		5	4	4
									Total Wells:		10	5	8
									Average Change:		(1.38)	(1.68)	(2.47)
Miller	17S27W22DBB2	33.26099167	-93.887017	124SPRT	297	4/17/2024	133.6	128.21			(5.39)		
Miller	19S27W10BBA1	33.1222472	-93.895003	124SPRT	323	4/17/2024	6.59	9.68			3.09		
									Wells in Decline:		1		
									Total Wells:		2		
									Average Change:		(1.15)		
Monroe	01N03W14CCB1	34.6955361	-91.300311	124SPRT	173	5/7/2024	62.7			75.47			12.77
Monroe	03N02W26DAB1	34.8450583	-91.173775	124SPRT	195	4/17/2024	53.32	52.17		52.57	(1.15)		(0.75)
Monroe	04N02W28DDD4	34.9263611	-91.205758	12405MP	191	4/15/2024	33.86						
									Wells in Decline:				1
									Total Wells:				2
									Average Change:				6.01
Nevada	13S21W11BDA1	33.6271472	-93.242106	124CRVR	333	4/18/2024	21.81						
Nevada	13S21W23ABC1	33.59882778	-93.239747	124CRVR	361	4/18/2024	12.01						

Sparta/Memphis Aquifer
Hydrologic Data 2014, 2019, 2023, 2024

County	Station ID	Latitude	Longitude	Aquifer Code	Land Surface Altitude	Date	2024 Depth to Water (ft.)	2023 Depth to Water (ft.)	2019 Depth to Water (ft.)	2014 Depth to Water (ft.)	1 Year Change ('23 to '24)	5 Year Change ('19 to '24)	10 Year Change ('14 to '24)
Union	19S18W14ADA1	33.08102778	-92.935528	124SPRT	259	4/4/2024	181.31		185.33	188.91		4.02	7.60
									Wells in Decline:		3	6	5
									Total Wells:		15	31	29
									Average Change:		1.95	12.02	25.08
Woodruff	05N01W11ABA1	35.0738361	-91.068664	12405MP	210	4/4/2024	66.4			63.01			(3.39)
Woodruff	05N01W17DBB1	35.05296667	-91.124197	12405MP	208	4/4/2024	50.65	49.23		48.83	(1.42)		(1.82)
Woodruff	06N01W13ABA1	35.147725	-91.048239	12405MP	212	4/2/2024	77.83	77.11		73.18	(0.72)		(4.65)
Woodruff	07N01W12BCB1	35.2448833	-91.057269	12405MP	222	4/4/2024	85.1	75.63			(9.47)		
Woodruff	08N01W12CDA1	35.32611944	-91.052936	12405MP	225	5/9/2024	81.39			78.38			(3.01)
									Wells in Decline:		3		4
									Total Wells:		3		4
									Average Change:		(3.87)		(3.22)
									Total wells:		148	93	143
									Total wells in decline:		90	39	31
									Percent of wells in decline:		60.81%	41.94%	21.68%
									Total Average Change (ft):		(0.71)	3.29	8.35