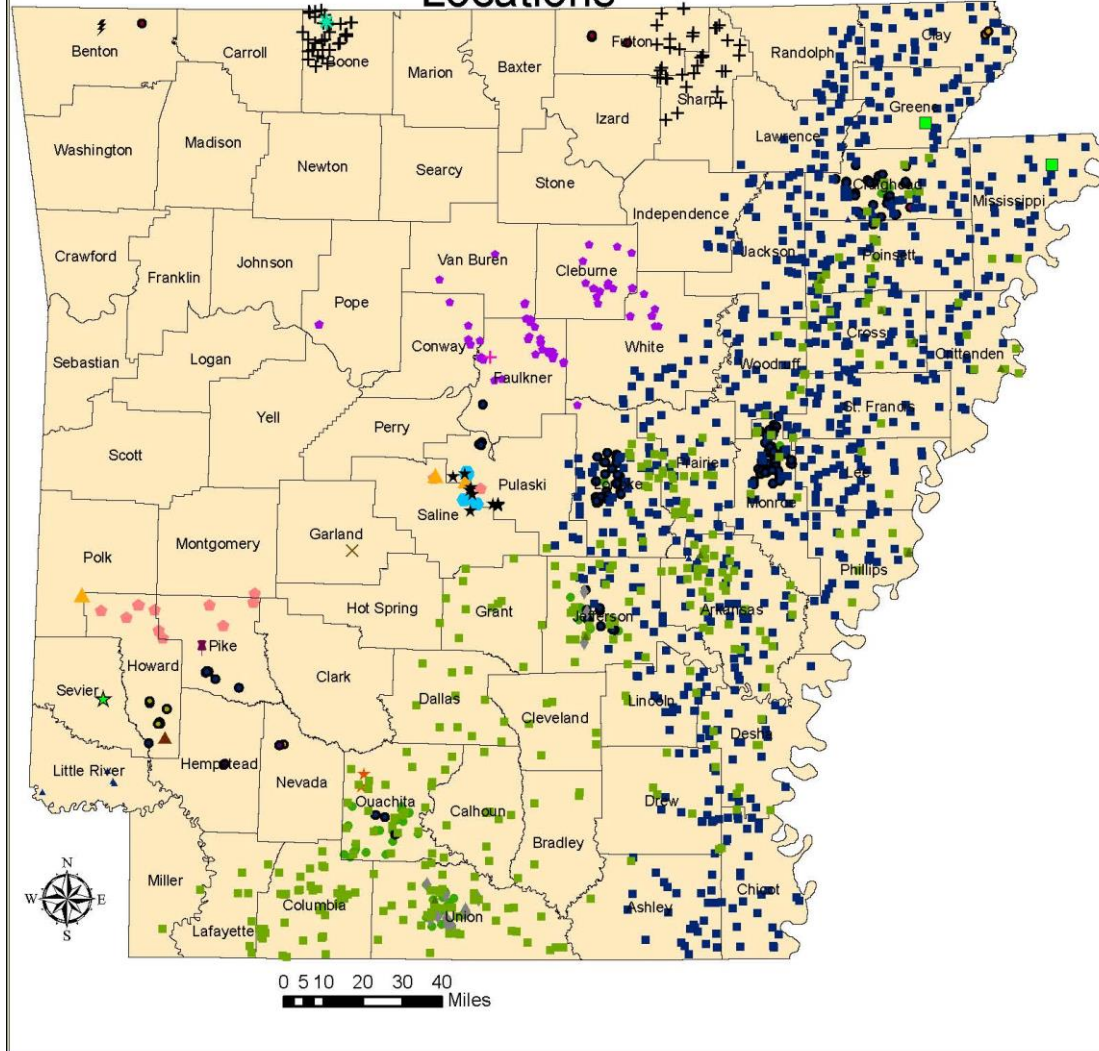




**NATURAL RESOURCES  
DIVISION**

# **2020 Groundwater Protection & Management Report**

# Current ANRC, USGS, NRCS and ADEQ Groundwater Monitoring Locations

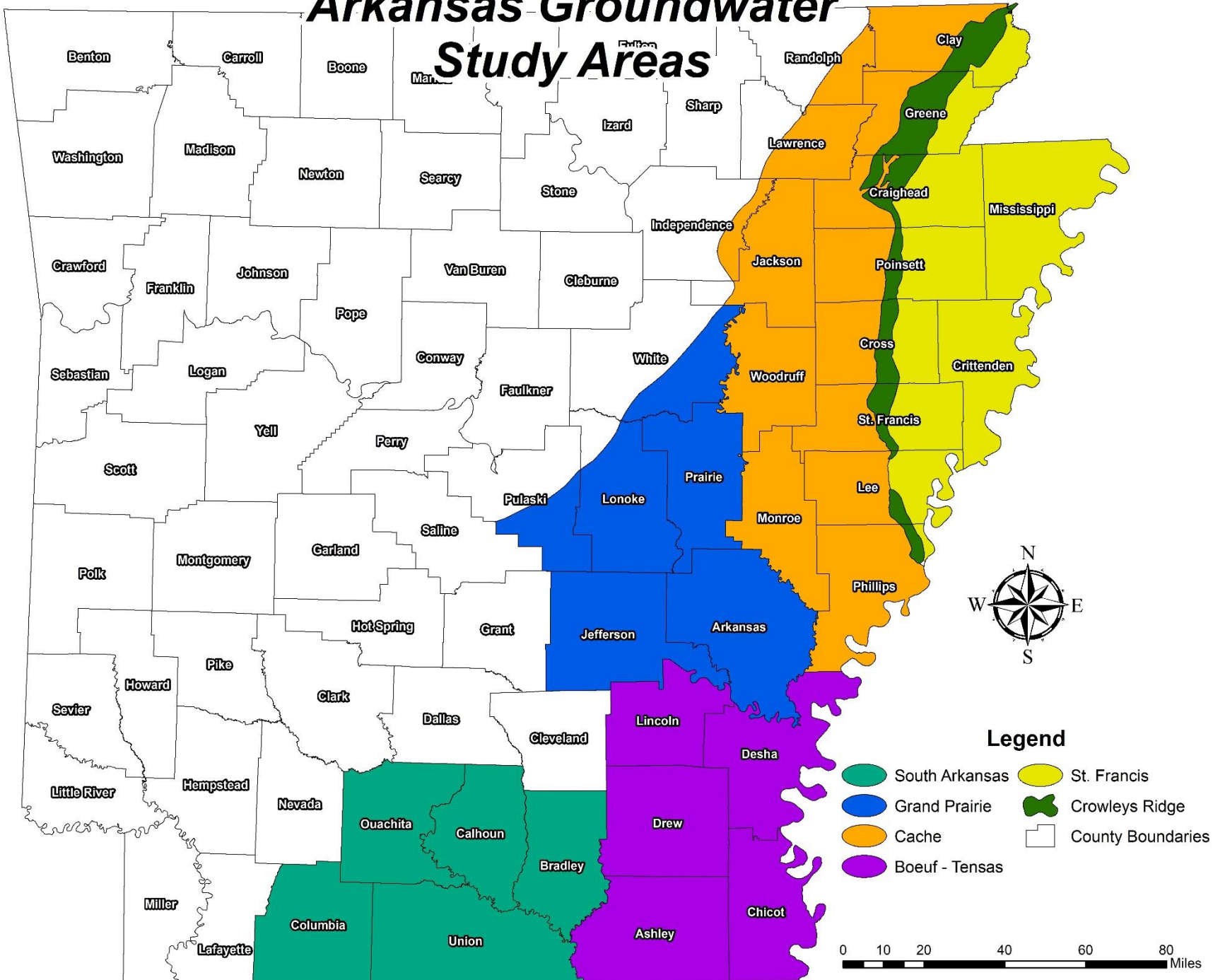


## Legend

- |  |  |                                      |                                    |
|--|--|--------------------------------------|------------------------------------|
| ■ USGS Master Wilcox (2 wells)           | × USGS Master Big Fork Chert (2 wells)   | ● ADEQ Tokio (4 wells)               | ● ADEQ Bigfork Chert (4 wells)     |
| ★ USGS Master Trinity (1 well)           | + USGS Master Atoka (2 wells)            | ▲ ADEQ Ozan Formation (1 well)       | ● ADEQ Alluvial (143 wells)        |
| ● USGS Master Tokio (3 wells)            | ▲ USGS Master Alluvial (11 wells)        | ★ ADEQ Ordovician Dolomite (1 well)  | + ADEQ Boone Formation (147 wells) |
| ● USGS Master Nacatoch (4 wells)         | ▲ ANRC/USGS Sparta Network (344 wells)   | ★ ADEQ Jackfork Sandstone (1 well)   | ● ADEQ Stanley Shale (15 wells)    |
| ▲ USGS Master Sparta/Memphis (9 wells)   | ● NRCS Alluvial Network (227 wells)      | ◆ ADEQ Cockfield (18 wells)          | ● ADEQ Sparta/Memphis (71 wells)   |
| ● USGS Master Gunter/Roubidoux (6 wells) | ■ ANRC/USGS Alluvial Network (782 wells) | ★ ADEQ Cane River (3 wells)          | □ County Boundaries                |
| ⚡ USGS Master Boone (2 wells)            | ★ ADEQ Womble Shale (18 wells)           | ▲ ADEQ Arkansas Novaculite (3 wells) |                                    |
|  | ● ADEQ Wilcox (1 well)                   | ● ADEQ Atoka (72 wells)              |                                    |

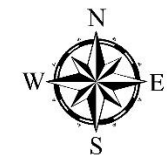
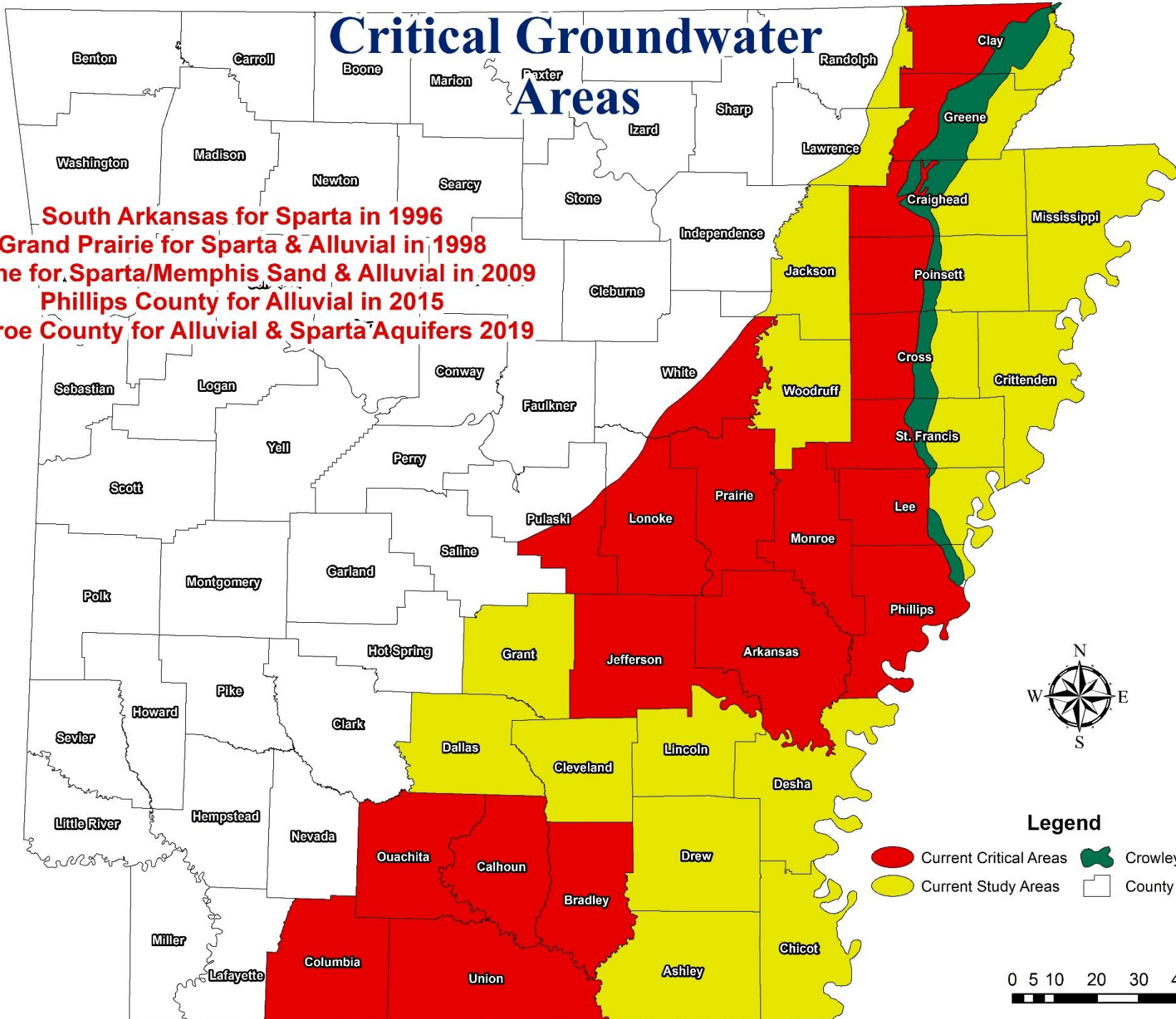


# Arkansas Groundwater Study Areas



# 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 Aquifers 2019**

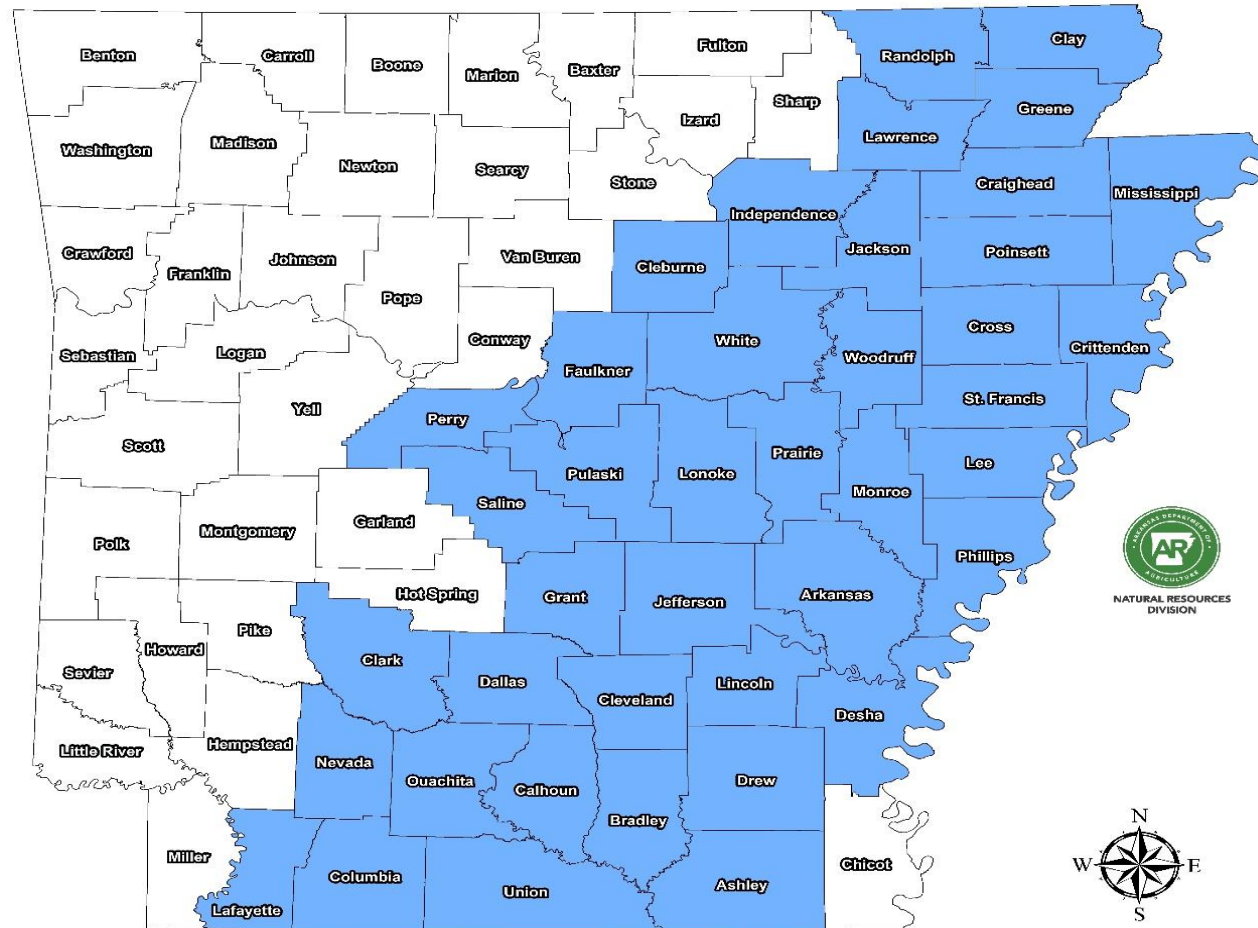


**Legend**

- Current Critical Areas
- Current Study Areas
- Crowleys Ridge
- County Boundaries

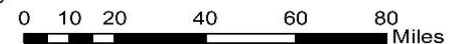


# Critical Groundwater Area for Groundwater Conservation Tax Credits



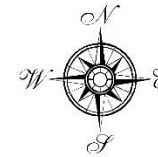
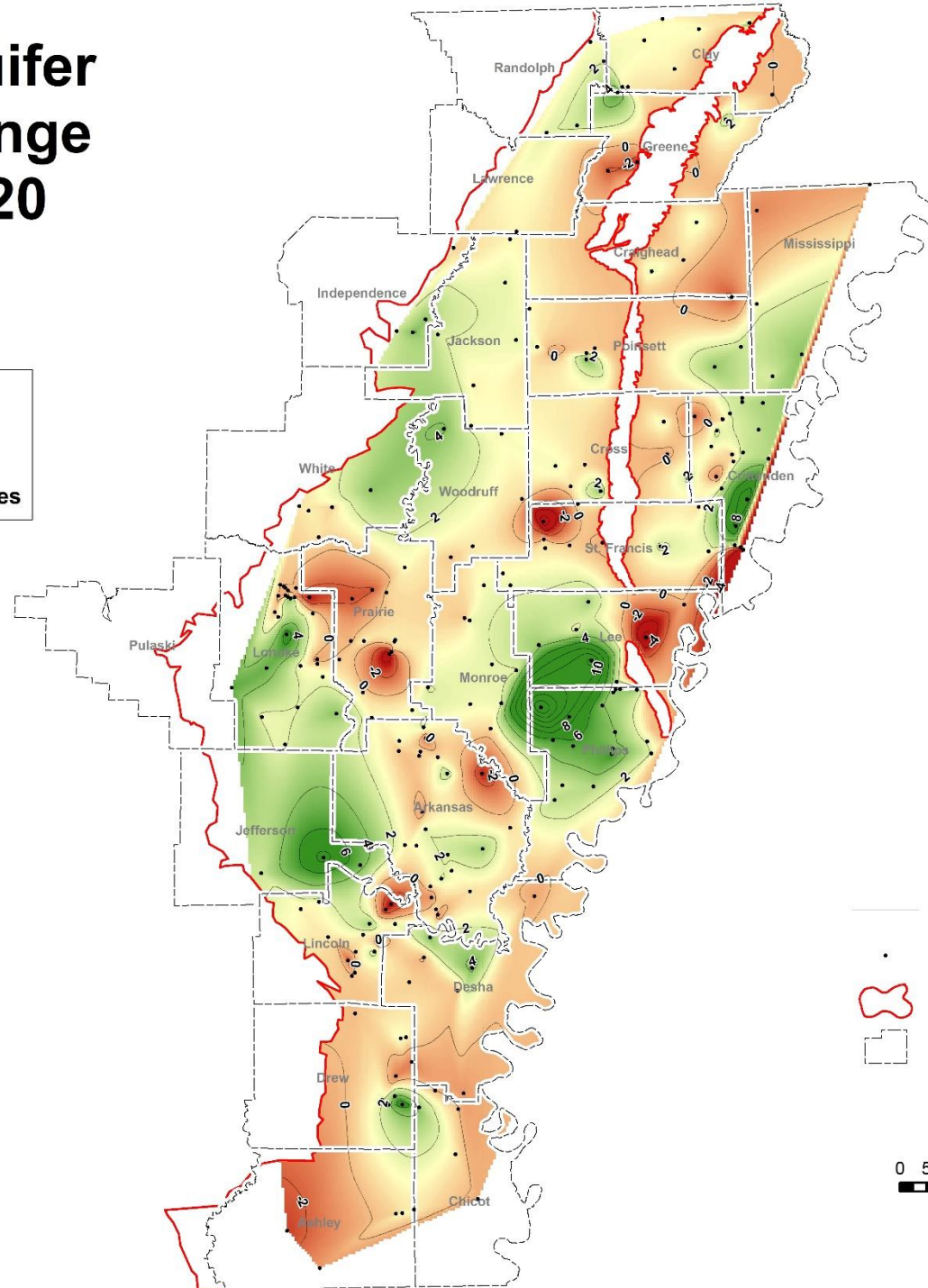
### Legend

- Critical Groundwater Water Area for Groundwater Conservation Tax Credits
- County Boundaries



# Alluvial Aquifer 1 Year Change 2019 - 2020

**Alluvial Aquifer  
1 Year Change:**  
**Average Change: +1.48 feet**  
**46 of 232 Wells Showed Declines**



## Legend

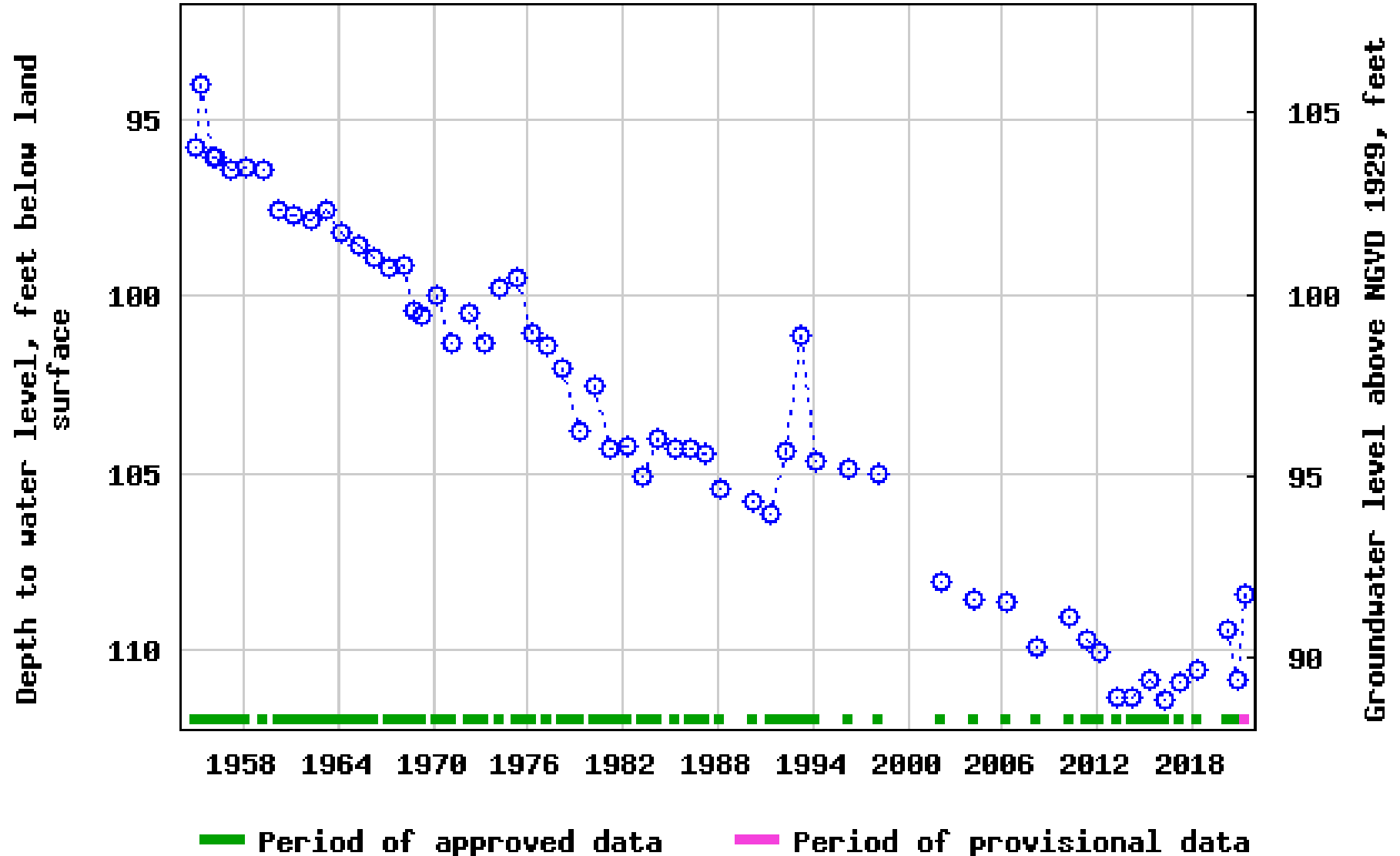
- 2 Foot Contour Lines
- Data Points
- 🔴 Alluvial Extent
- ▭ County Boundaries

0 5 10 20 30 40 Miles



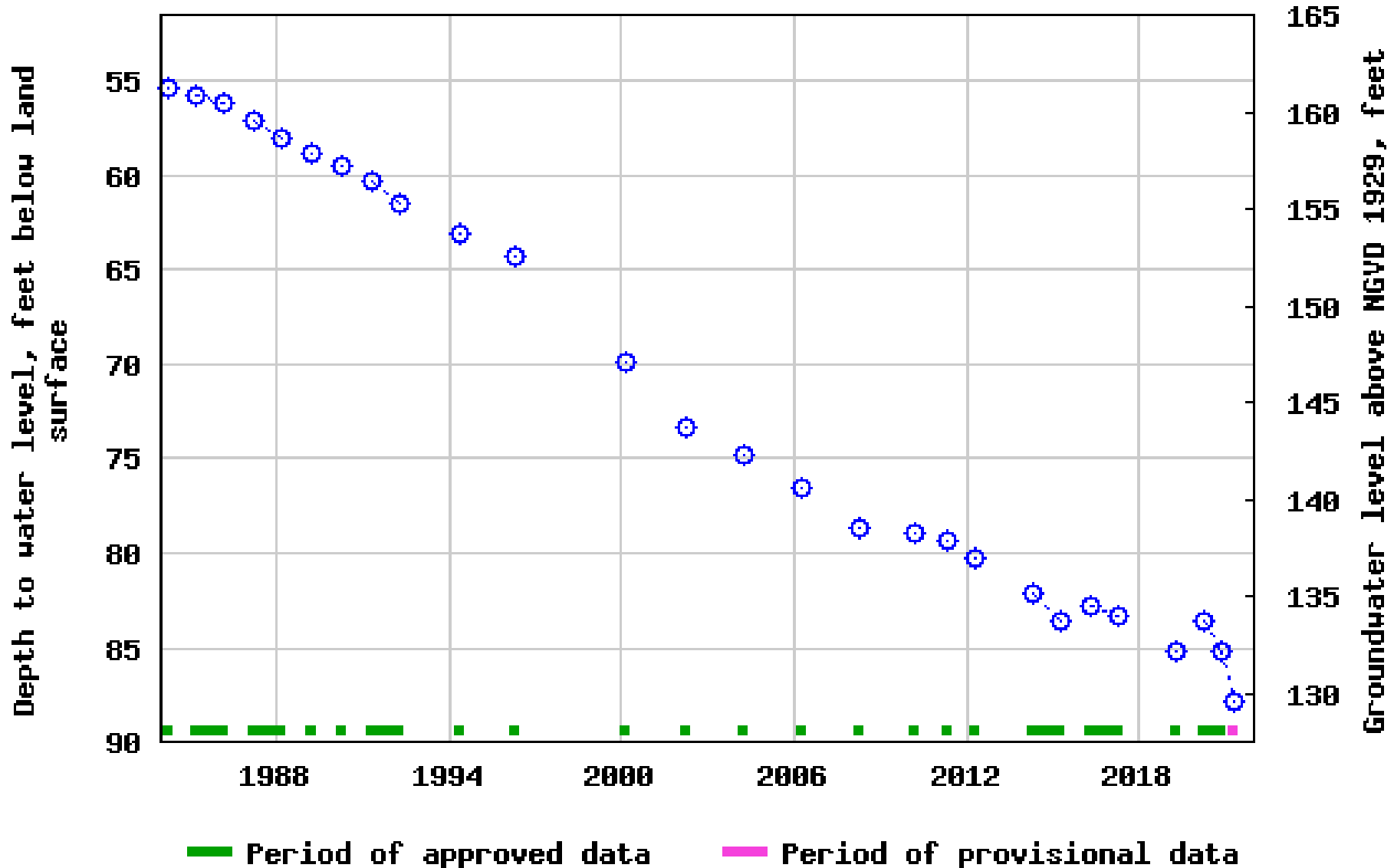
USGS 342312091242601 04S04W02ABB1

# Arkansas County



USGS 351501090570701 07N01E11AAA1

Cross  
County

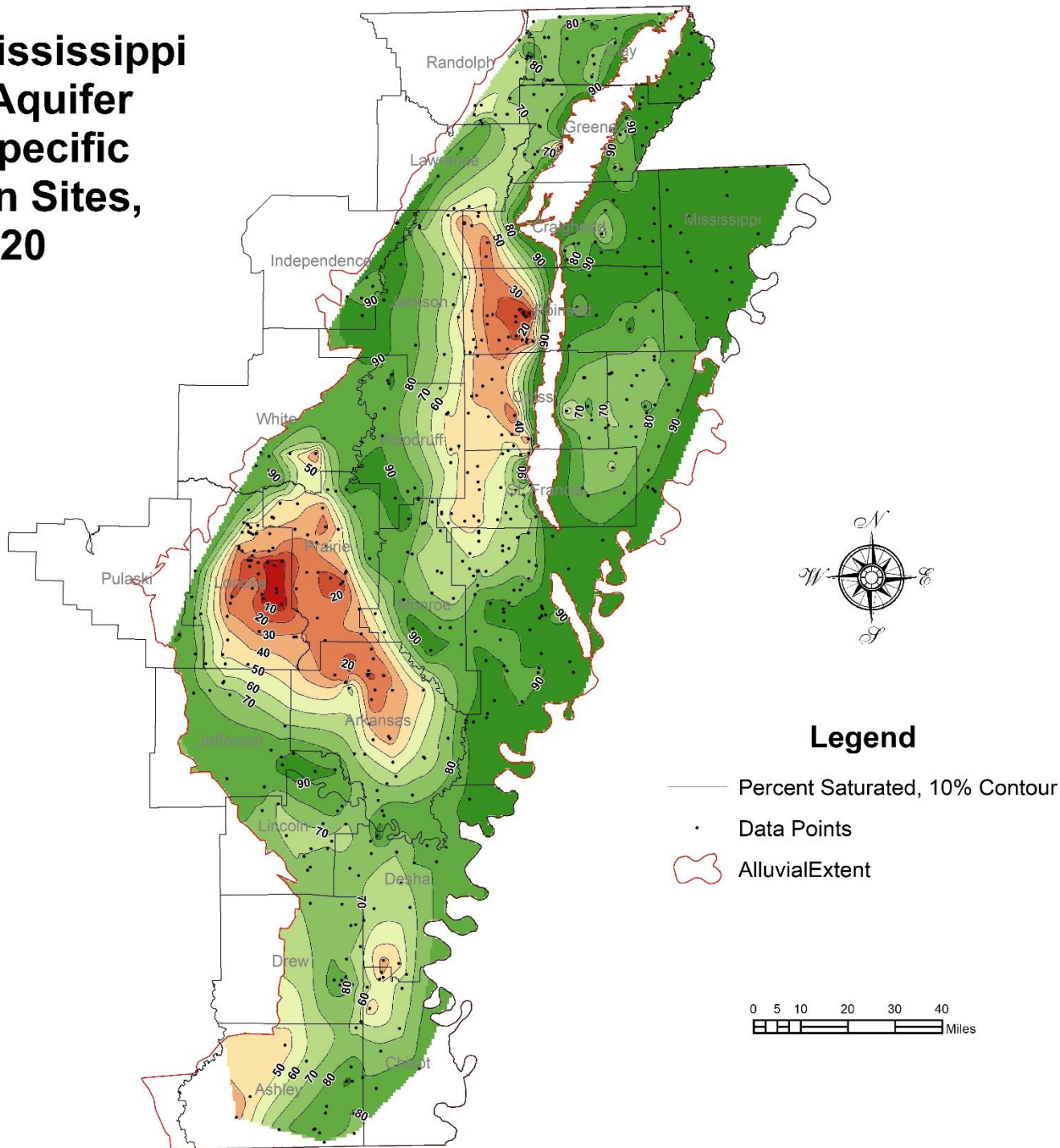




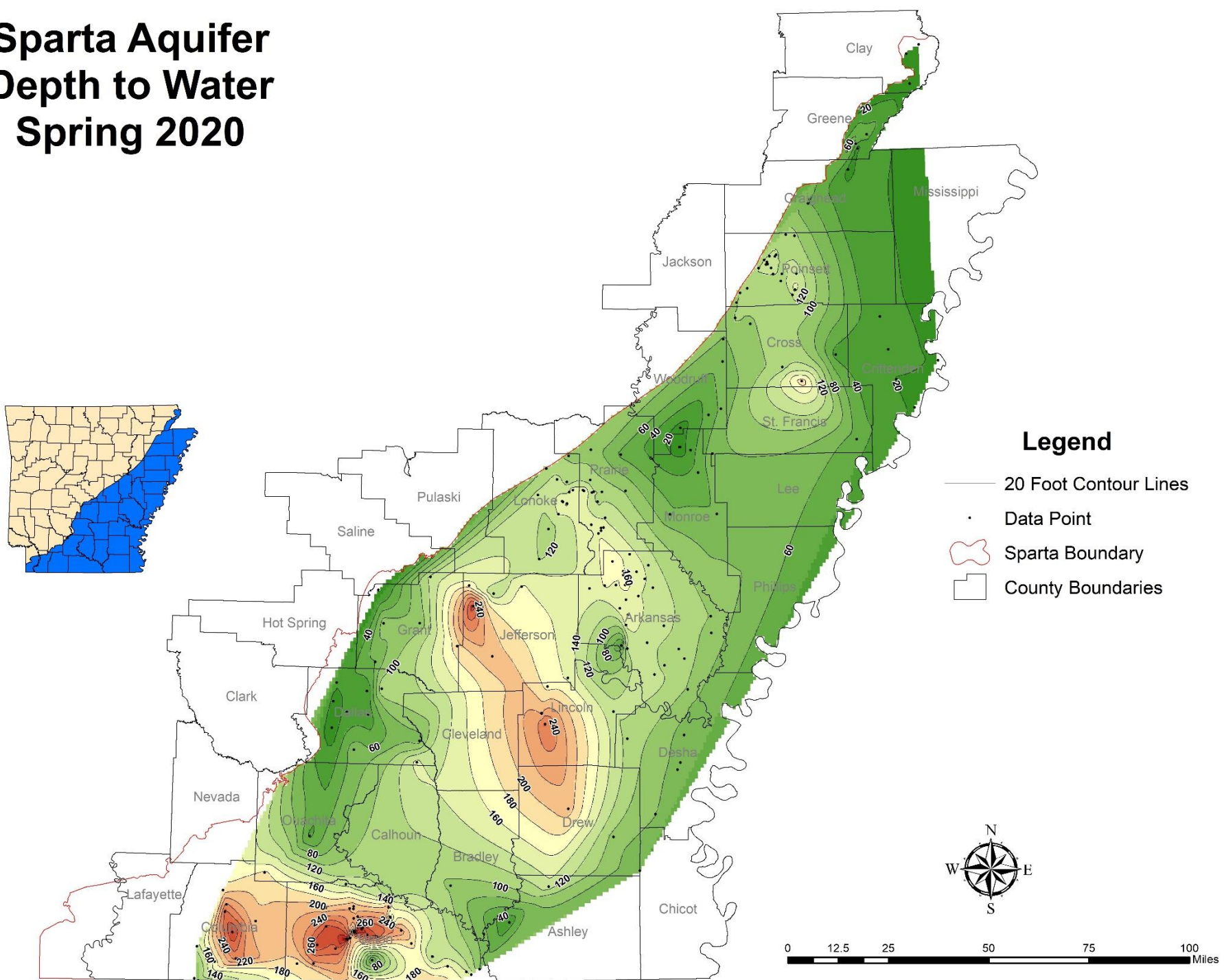
# Percent of the Mississippi River Alluvial Aquifer Saturated at Specific Data Collection Sites, Spring 2020



Based on USGS MERAS model aquifer thickness, and Spring 2020 water level measurements.



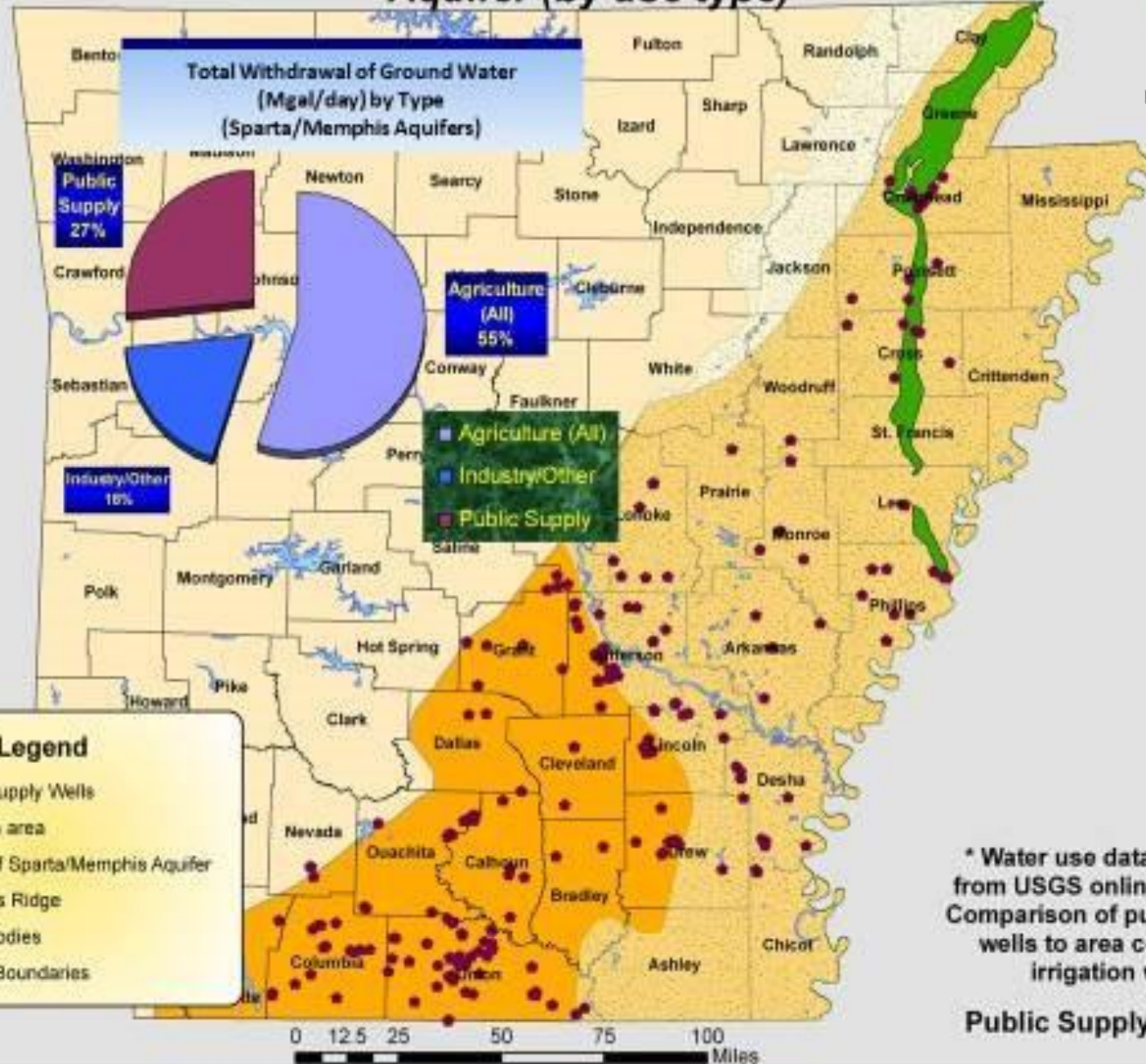
# Sparta Aquifer Depth to Water Spring 2020



# Public Supply Well Locations and Water Use from the Sparta/ Memphis Aquifer (by use type)



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\* Water use data obtained from USGS online database, Comparison of public supply wells to area containing irrigation wells

**Public Supply Wells: 298**



# South Arkansas Study Area 2010-2020 Water Level Changes (Sparta Aquifer)



**South Arkansas Study Area  
10 Year Change:**  
  
**Average Change: +15.70 feet**  
**2 of 29 Wells Showed Declines**

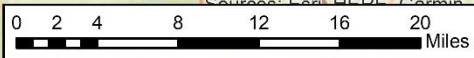
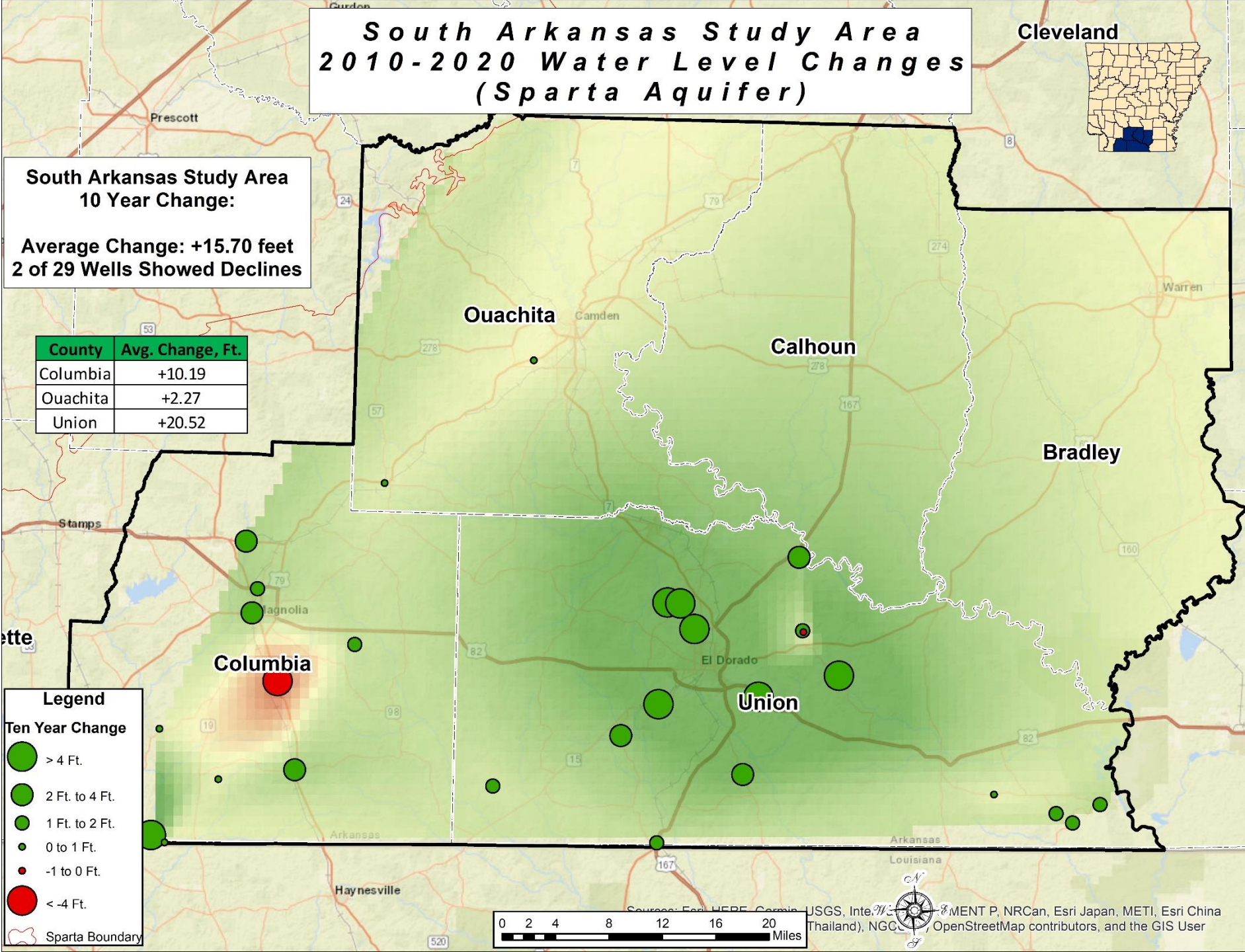
County	Avg. Change, Ft.
Columbia	+10.19
Ouachita	+2.27
Union	+20.52

**Legend**

**Ten Year Change**

- > 4 Ft.
- 2 Ft. to 4 Ft.
- 1 Ft. to 2 Ft.
- 0 to 1 Ft.
- -1 to 0 Ft.
- < -4 Ft.

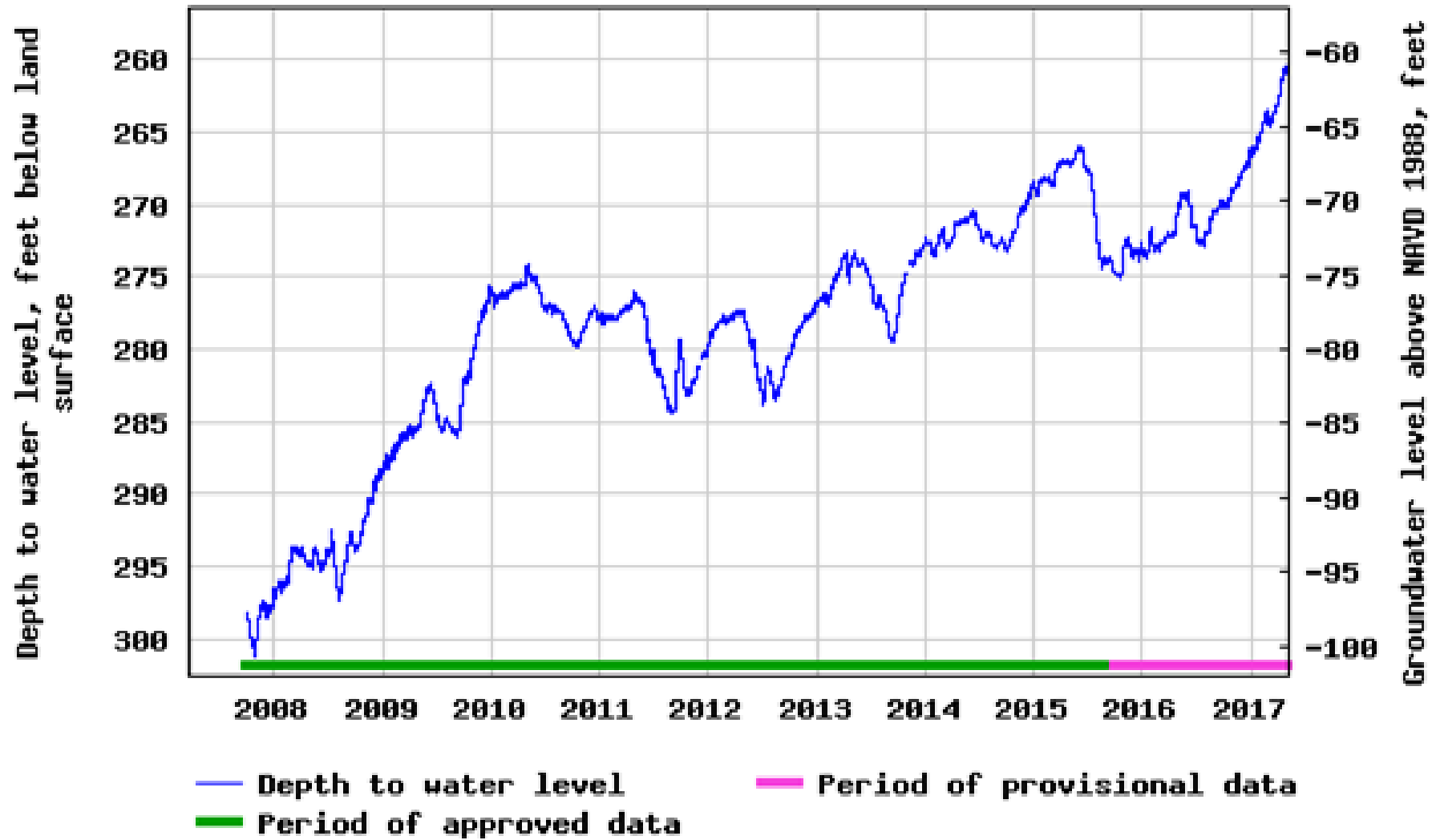
Sparta Boundary



Source: Esri, HERE, Garmin, USGS, Intel, NRCAN, Esri Japan, METI, Esri China (Thailand), NGC, OpenStreetMap contributors, and the GIS User



### USGS 331354092322401 17S14W22BAB1 Union School



# QUESTIONS?

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501-682-3904

