

## SUWANNEE RIVER WATER MANAGEMENT DISTRICT

### MEMORANDUM

TO: Governing Board

FROM: Robbie McKinney, Hydrologic Program Manager, Office of Water Resources

THRU: Hugh Thomas, Executive Director

DATE: May 31, 2025

RE: May 2025 Hydrologic Conditions Report

#### RAINFALL

- Districtwide average rainfall for the month was 3.76", which was about 8 percent higher than the 1932-2024 average of 3.48" (Table 1, Figure 1). The 12-month period ending May 31 reflected a Districtwide rainfall deficit of 3.33", which was an increase to the 2.54" deficit seen at the end of April. District counties ranged from 2" to 5" of rainfall on average, with parts of Dixie, Lafayette, Hamilton, Columbia, Alachua, and Union counties receiving more than 6" of rainfall (Figure 2).
- Overall, a 12-month rainfall deficit was present in 4 of the basins, with the Waccasassa Basin maintaining a small surplus at the end of May (Figure 3). Areas of 12-month surpluses greater than 10" were represented in the Waccasassa Basin, while sections with deficits greater than 10" were observed in each of the 5 river basins. Only the Aucilla Basin showed an overall 3-month rainfall surplus, but each of the other 4 basins saw decreased deficits by the end of May (Figure 4). Over the past 3 months, the Aucilla, Coastal, Waccasassa, and Suwannee basins showed portions with surpluses greater than 3", while areas with greater than 3" of rainfall deficits were scattered throughout each of the basins.

#### SURFACE WATER

- **Rivers:** Many of the river gages in Figure 5 finished the month in the normal (25<sup>th</sup> – 75<sup>th</sup> percentile) range, with the Worthington Springs gage on the Santa Fe River showing flows in the below normal (10<sup>th</sup> – 25<sup>th</sup> percentile) category. Most of the monitored river gages in South Georgia had below normal flows to begin May but ended the month in the normal range. The North Florida gages, however, had flows mostly in the normal range to begin and end May except for Graham and Worthington Springs, which were both below normal to end the month (Figure 6).
- **Lakes:** Water levels decreased at a majority of the monitored lakes in the District this month (Figure 7). The median decrease in stage across all measured lakes was about 0.4', with 10 of the monitored lakes ending the month of May below their respective long-term average. Alligator Lake represented the largest water level decrease with a drop of around 2' since last month.
- **Springs:** Flow measurements were made at 9 springs in May by the U.S. Geological Survey (USGS), District staff, and contractors. Fanning Springs saw flows in the above normal (75<sup>th</sup> – 100<sup>th</sup> percentile) and normal categories throughout May (Figure 8). Similarly, Manatee Springs showed above normal flows for most of May but fell into the normal flow range at the end of the month (Figure 9).

## **GROUNDWATER**

Upper Floridan Aquifer (UFA) levels across the District reflected low, normal, high, and extremely high (>90<sup>th</sup> percentile) levels this month (Figure 10). Overall, groundwater levels decreased by a median of about 1' since the end of April and ended May with a Districtwide average around the 54<sup>th</sup> percentile.

Each of the index wells except Jasper, Perry, Lake Butler, and Cross City was higher than its respective historical monthly average level at the end of the month (Figure 11). Long-term District UFA well levels ended May in the low, normal, or high categories (Figure 12a). Monitored long-term wells with records that extend back to at least 1964 showed mostly decreasing water levels this month relative to last month (Figure 12b).

## **CLIMATE AND DROUGHT OUTLOOK**

El Niño Southern Oscillation neutral conditions currently present and favored through the summer (74% chance from June to August) and chances exceed 50% through August to October.

The NOAA three-month seasonal outlook suggests above normal temperatures along with above normal precipitation within the District from June to August 2025.

The U.S. Drought Monitor report released on Thursday, June 5<sup>th</sup>, shows all or parts of each District county except Suwannee, Hamilton, Lafayette, and Taylor with Abnormally Dry (D0) conditions.

## **CONSERVATION**

Water conservation continues to be necessary to sustain healthy groundwater levels and flows in District springs and rivers. All users are urged to eliminate unnecessary uses. Landscape irrigation during Daylight Saving Time (March 9, 2025, to November 2, 2025) is limited to twice per week based on a District water conservation rule that applies to residential landscaping, public or commercial recreation areas, and businesses that are not regulated by a District-issued water use permit. Information about SRWMD's year-round conservation measures is available at <http://www.srwmd.org/index.aspx?NID=337>.

## **ACKNOWLEDGMENTS**

The Hydrologic Conditions Report is a monthly combined effort between the Offices of Water Resources and Hydrologic Data Services data collection and review programs. Acknowledgment is made to the following staff for their contributions to the timely production of this report:

- Data Collection: Matthew Jordan, Dylan Mock, Kevin Posada, and Vince Robinson
- QA/QC and Reporting: Susie Hetrick, Robbie McKinney, Brandi Sistrunk, and Mitch Valerio
- Administrative Support/Document Preparation/IT: Paul Buchanan, Bo Cameron, Tyler Jordan, Andrew Neel, and Ashley Kirby

*This report is compiled in compliance with Chapter 40B-21.211, Florida Administrative Code, using rainfall (gage-adjusted radar-derived estimates), groundwater (122 wells), surface water (35 stations), and general information such as drought indices and forecasts. Data are provisional and updated as revised data become available. Data are available at <http://www.mysuwanneeriver.com/507/Water-Data-Portal> or upon request.*

**Table 1:** Nexrad Monthly Rainfall Totals by County (inches)

County	May 2025	May Average*	Month % of Normal	Total Last 12 Months	Annual % of Normal*
Alachua	2.97	3.57	83%	46.45	88%
Baker	4.32	3.52	123%	49.31	93%
Bradford	3.21	3.53	91%	48.01	92%
Columbia	3.79	3.60	105%	50.31	95%
Dixie	3.95	3.11	127%	54.36	94%
Gilchrist	2.98	3.42	87%	51.61	94%
Hamilton	4.42	3.38	131%	48.86	94%
Jefferson	3.14	3.60	87%	45.98	82%
Lafayette	4.12	3.41	121%	55.58	100%
Levy	3.45	3.10	111%	55.19	98%
Madison	3.50	3.32	106%	50.05	94%
Suwannee	4.04	3.33	121%	53.68	101%
Taylor	4.18	3.40	123%	49.31	87%
Union	3.91	3.57	110%	48.83	93%

\*Based on PRISM LT81 monthly rainfall averages by county (1927-2023)

May 2025 District Average	3.76
May Long-Term Average (1932-2024)	3.48
Historical 12-month Average (1932-2024)	54.76
Past 12-Month Total	51.43
12-Month Rainfall <b>Surplus/Deficit</b>	<b>-3.33</b>

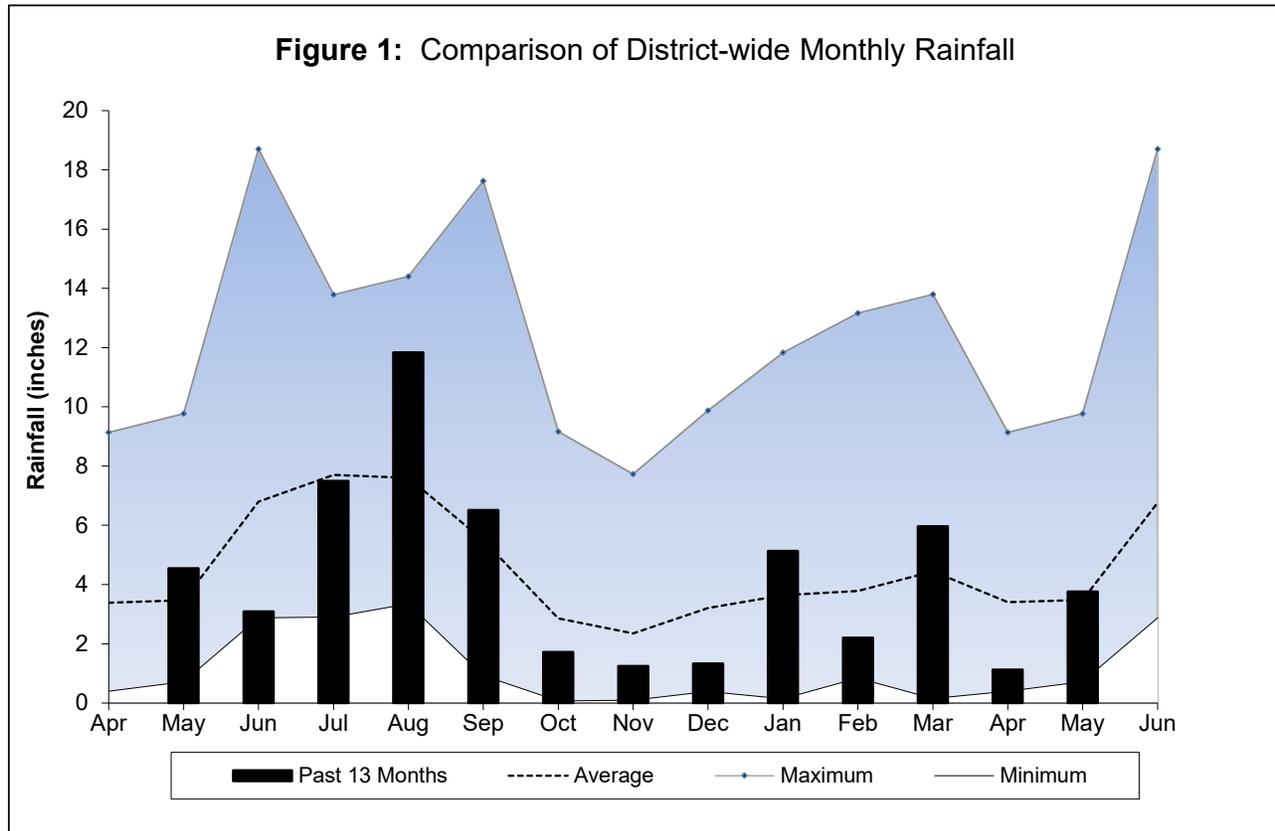
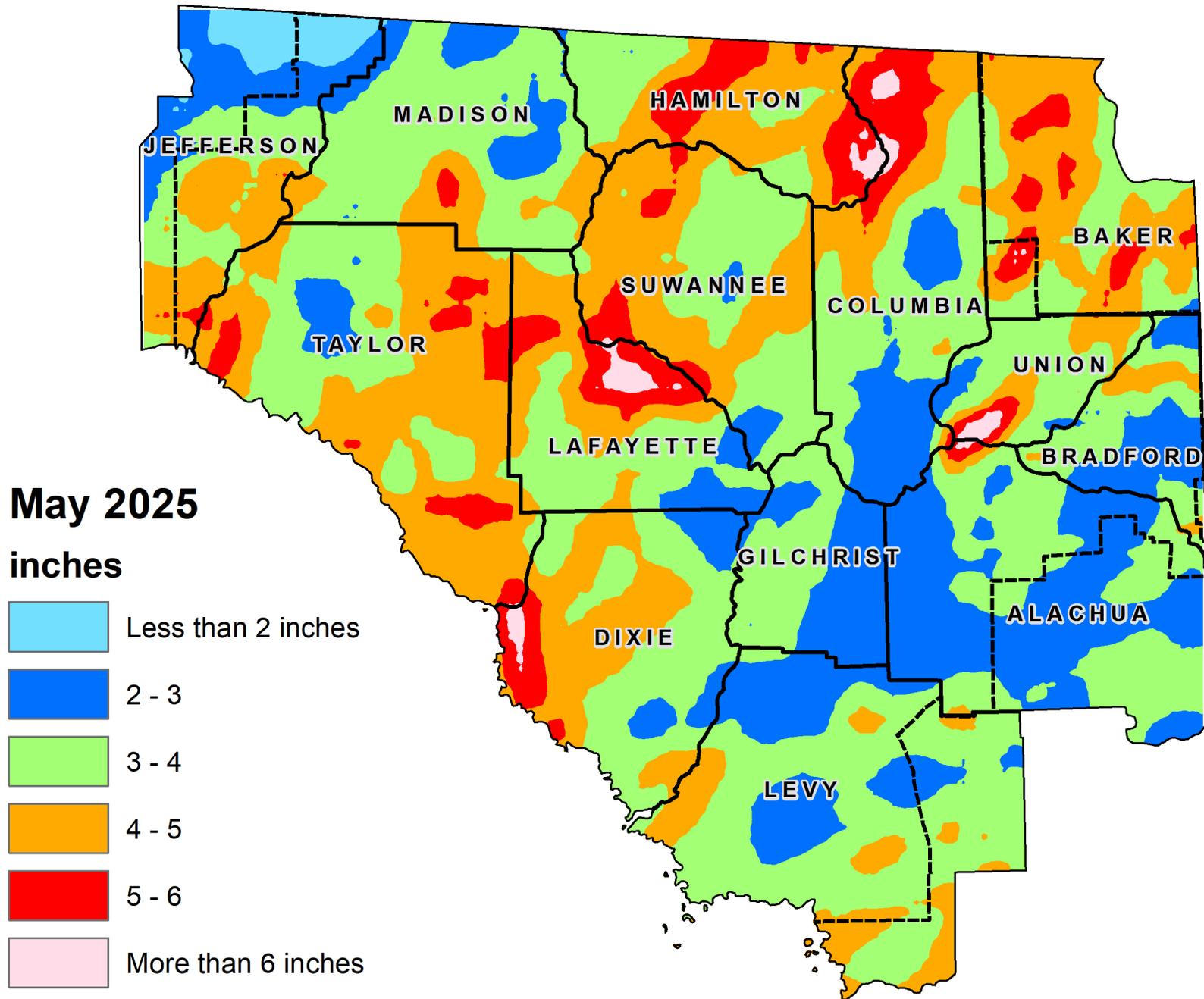
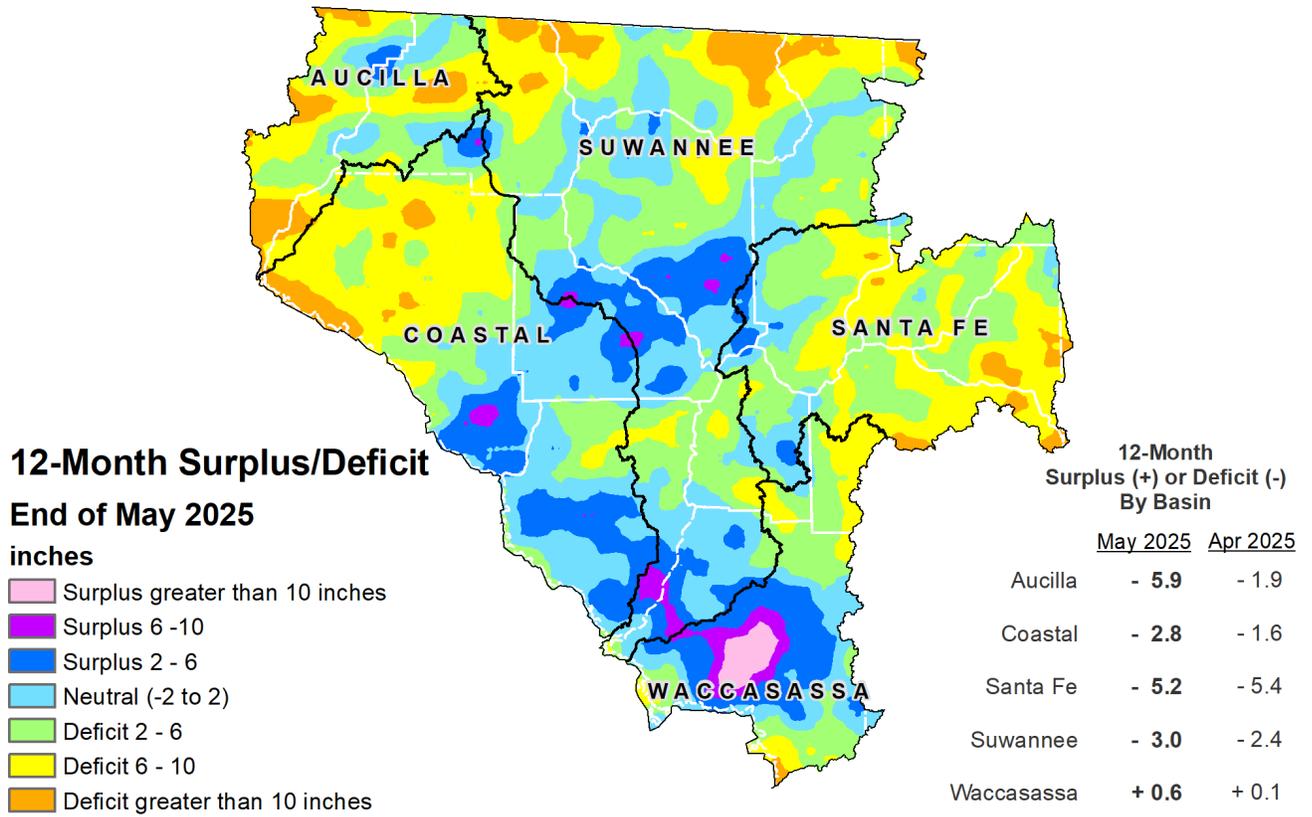


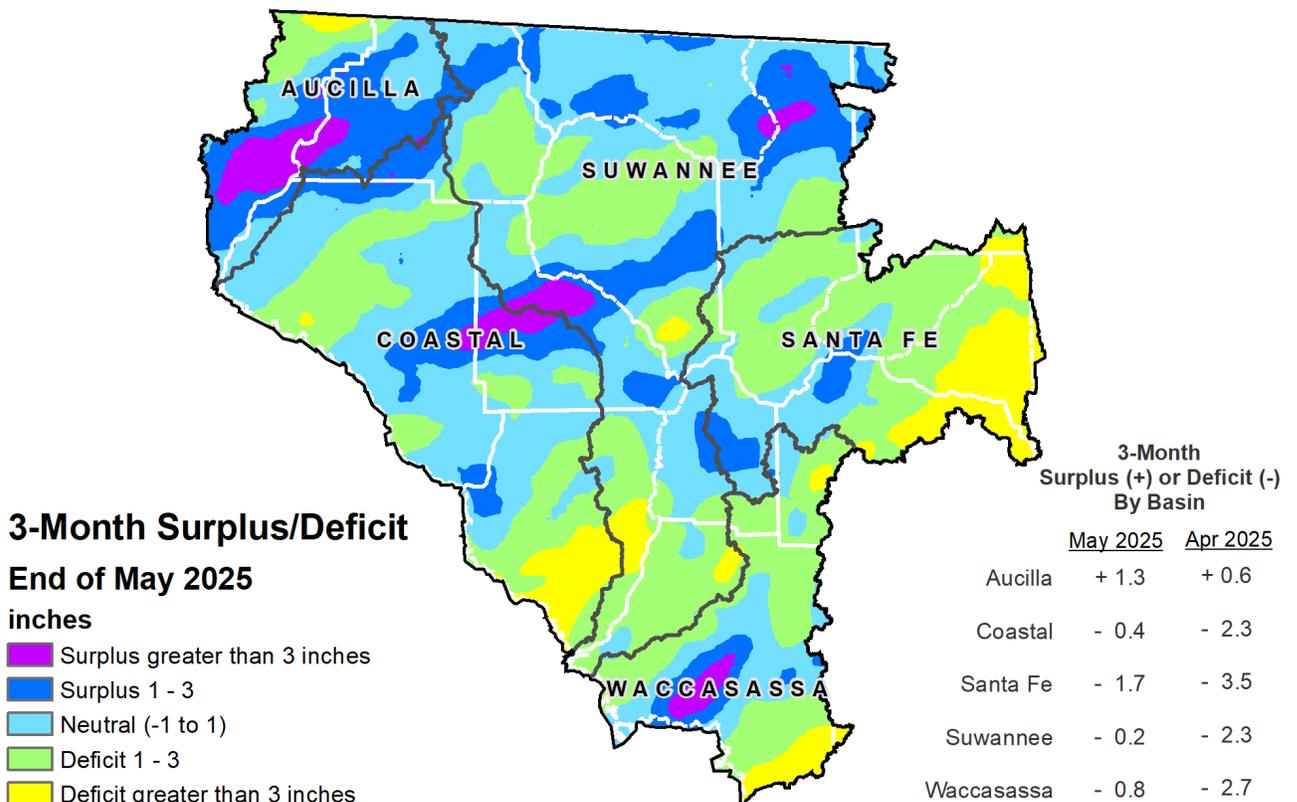
Figure 2: May 2025 SRWMD Gage-adjusted Radar Rainfall



**Figure 3: 12 - Month Rainfall Surplus/Deficit by River Basin through May 31, 2025**

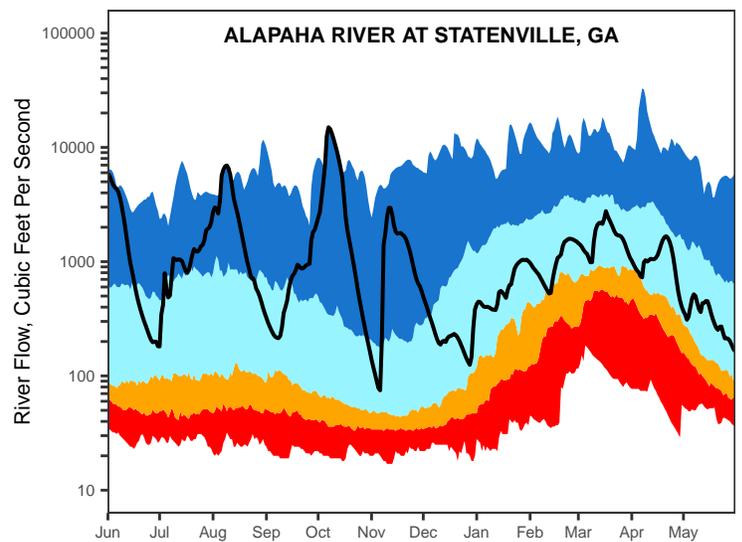
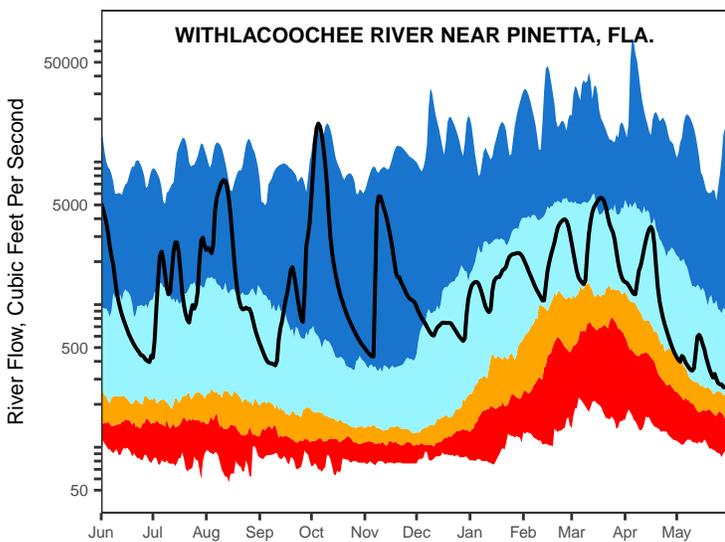
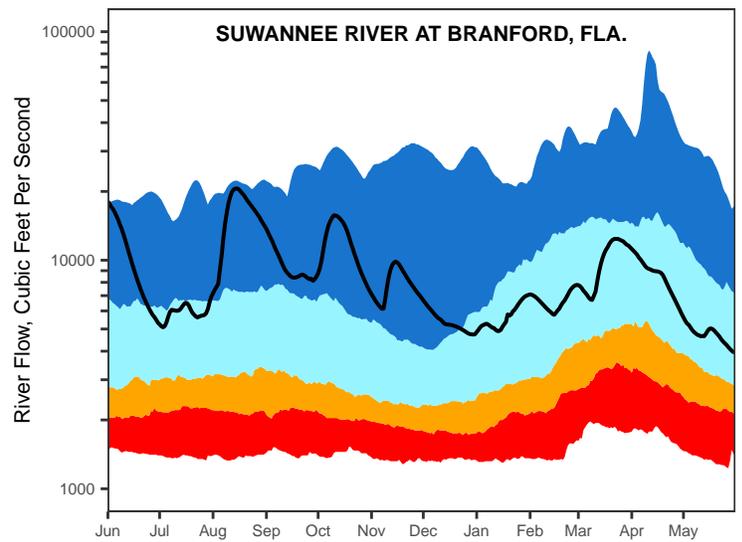
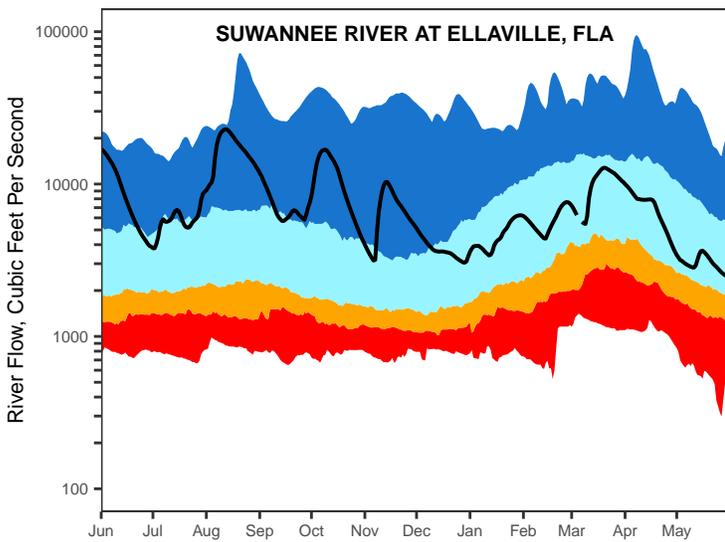
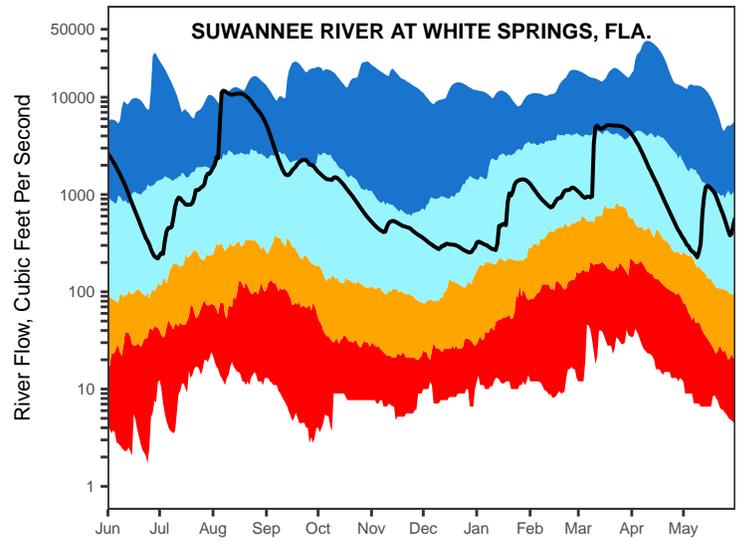
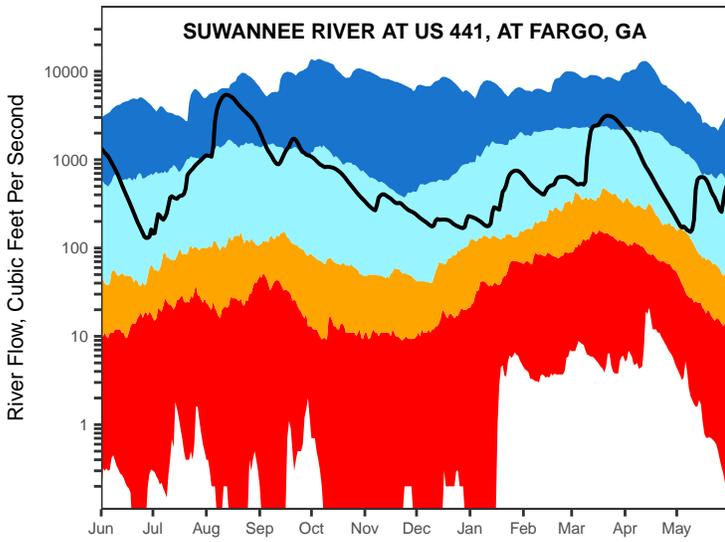
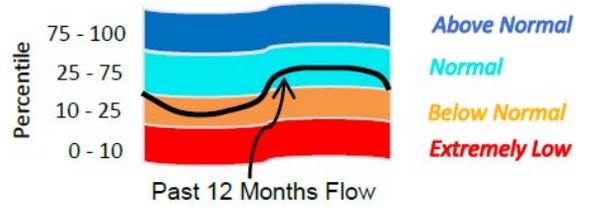


**Figure 4: 3 - Month Rainfall Surplus/Deficit by River Basin through May 31, 2025**



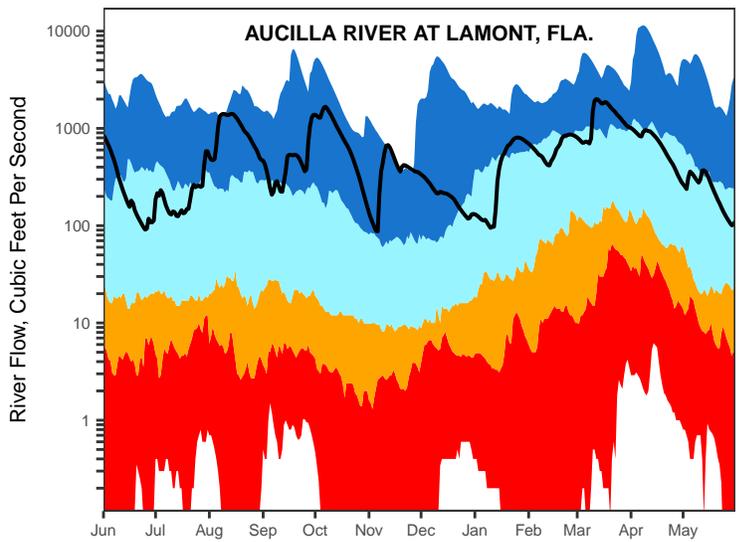
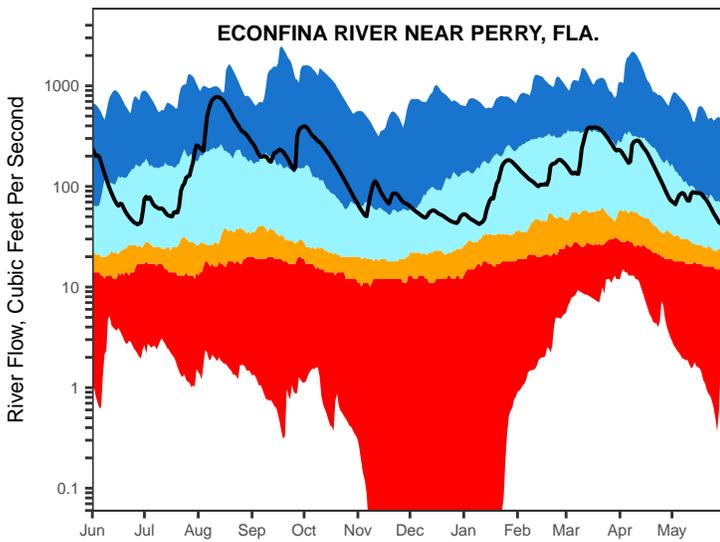
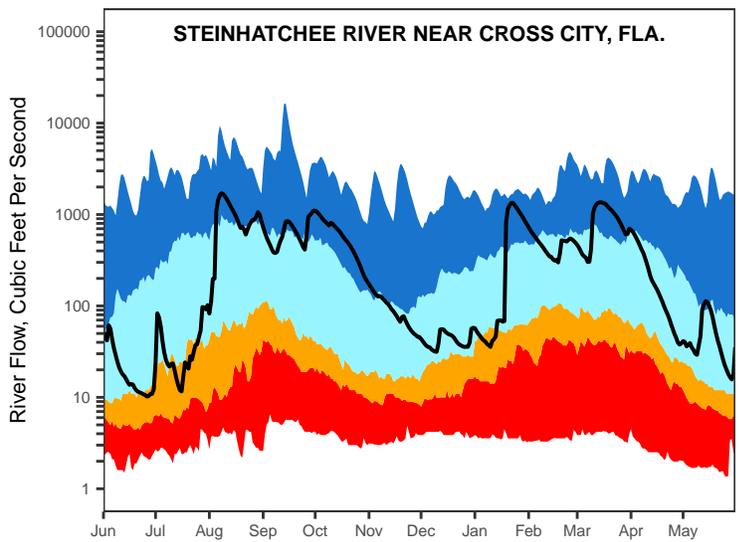
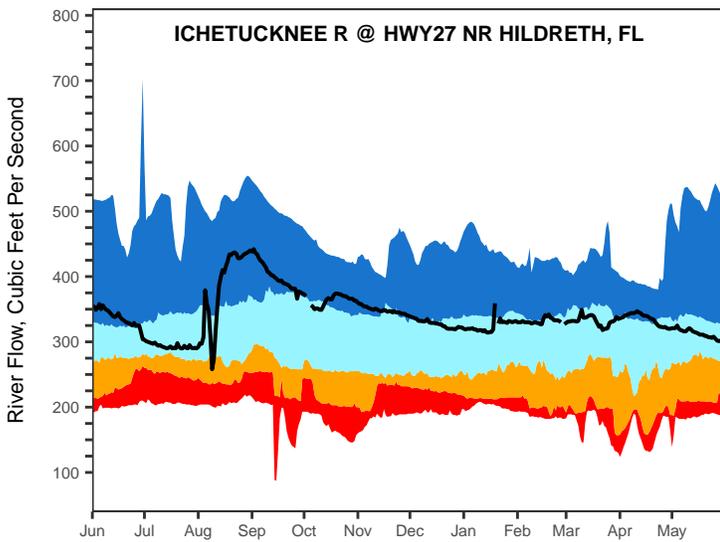
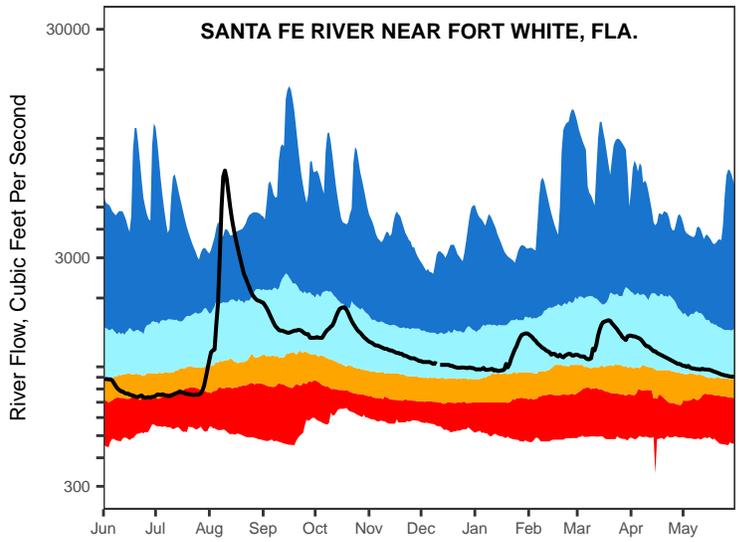
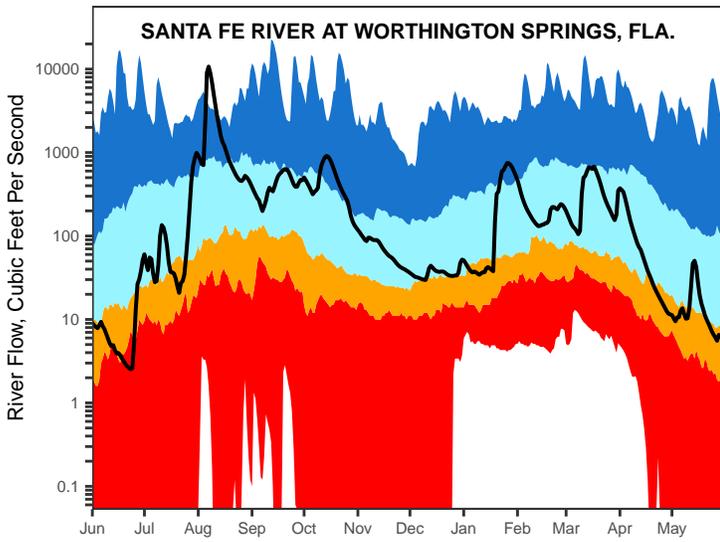
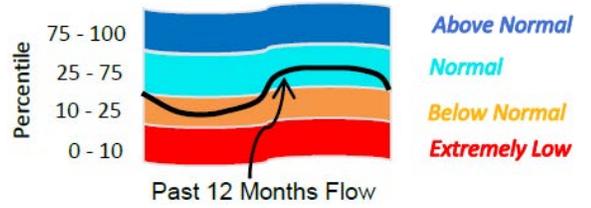
# Figure 5: Daily River Flow Statistics

June 1, 2024 through May 31, 2025



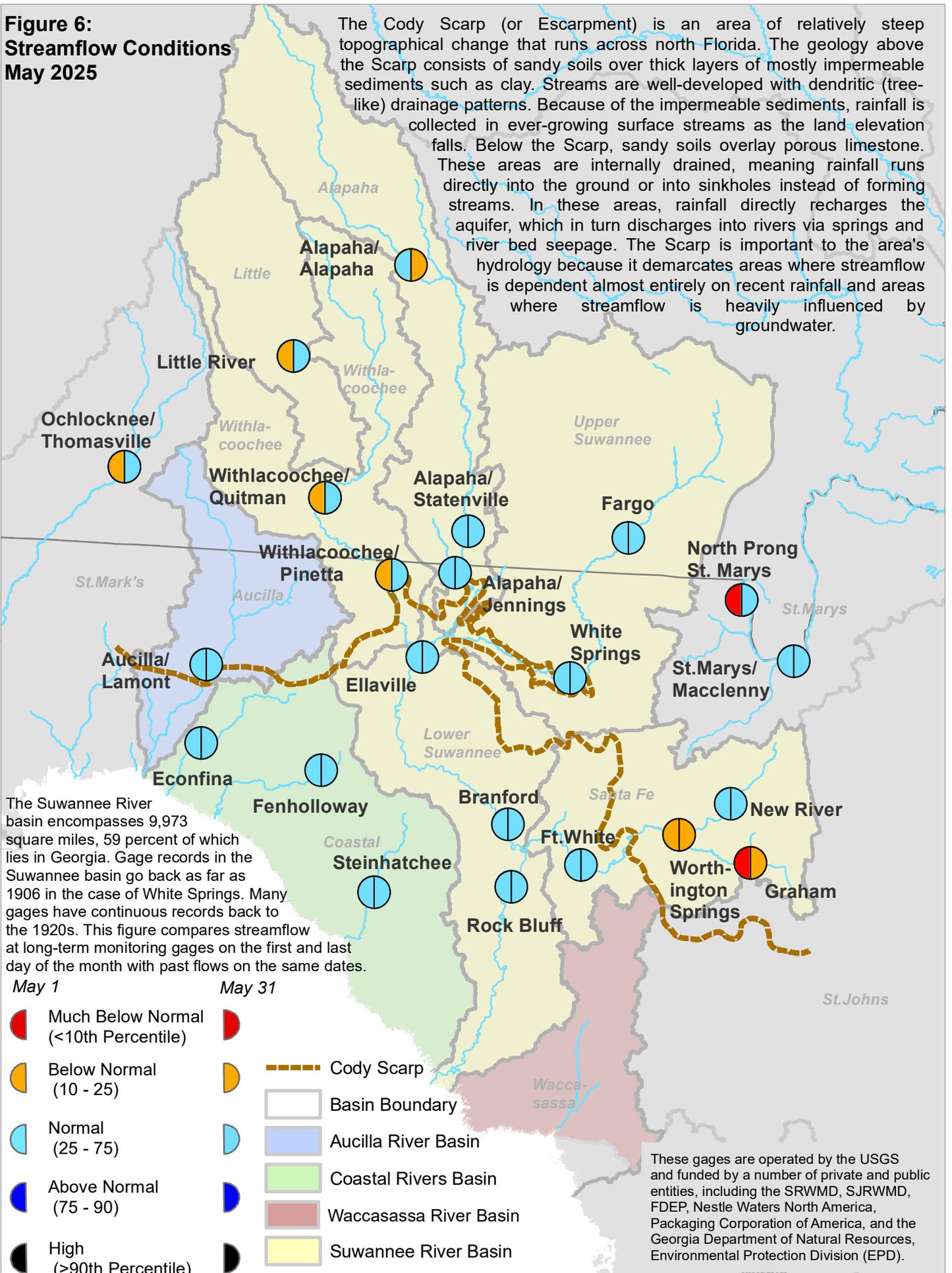
# Figure 5, cont.: Daily River Flow Statistics

June 1, 2024 through May 31, 2025



**Figure 6:  
Streamflow Conditions  
May 2025**

The Cody Scarp (or Escarpment) is an area of relatively steep topographical change that runs across north Florida. The geology above the Scarp consists of sandy soils over thick layers of mostly impermeable sediments such as clay. Streams are well-developed with dendritic (tree-like) drainage patterns. Because of the impermeable sediments, rainfall is collected in ever-growing surface streams as the land elevation falls. Below the Scarp, sandy soils overlay porous limestone. These areas are internally drained, meaning rainfall runs directly into the ground or into sinkholes instead of forming streams. In these areas, rainfall directly recharges the aquifer, which in turn discharges into rivers via springs and river bed seepage. The Scarp is important to the area's hydrology because it demarcates areas where streamflow is dependent almost entirely on recent rainfall and areas where streamflow is heavily influenced by groundwater.



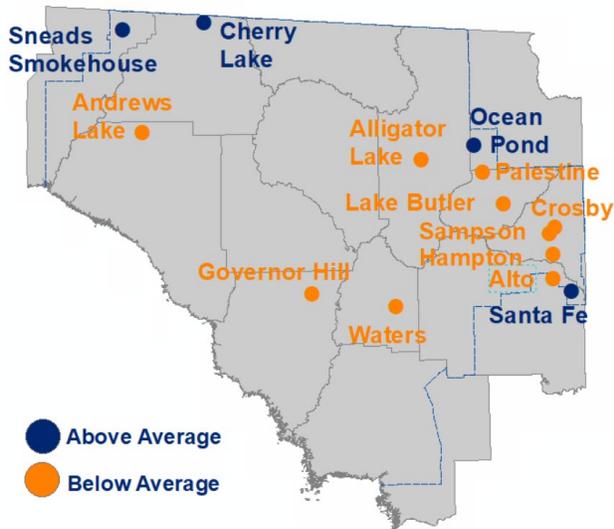
The Suwannee River basin encompasses 9,973 square miles, 59 percent of which lies in Georgia. Gage records in the Suwannee basin go back as far as 1906 in the case of White Springs. Many gages have continuous records back to the 1920s. This figure compares streamflow at long-term monitoring gages on the first and last day of the month with past flows on the same dates.

- |                                      |        |
|--------------------------------------|--------|
| May 1                                | May 31 |
|                                      |        |
| Much Below Normal (<10th Percentile) |        |
|                                      |        |
| Below Normal (10 - 25)               |        |
|                                      |        |
| Normal (25 - 75)                     |        |
|                                      |        |
| Above Normal (75 - 90)               |        |
|                                      |        |
| High (>90th Percentile)              |        |

- Cody Scarp
- Basin Boundary
- Aucilla River Basin
- Coastal Rivers Basin
- Waccasassa River Basin
- Suwannee River Basin

These gages are operated by the USGS and funded by a number of private and public entities, including the SRWMD, SJRWMD, FDEP, Nestle Waters North America, Packaging Corporation of America, and the Georgia Department of Natural Resources, Environmental Protection Division (EPD).

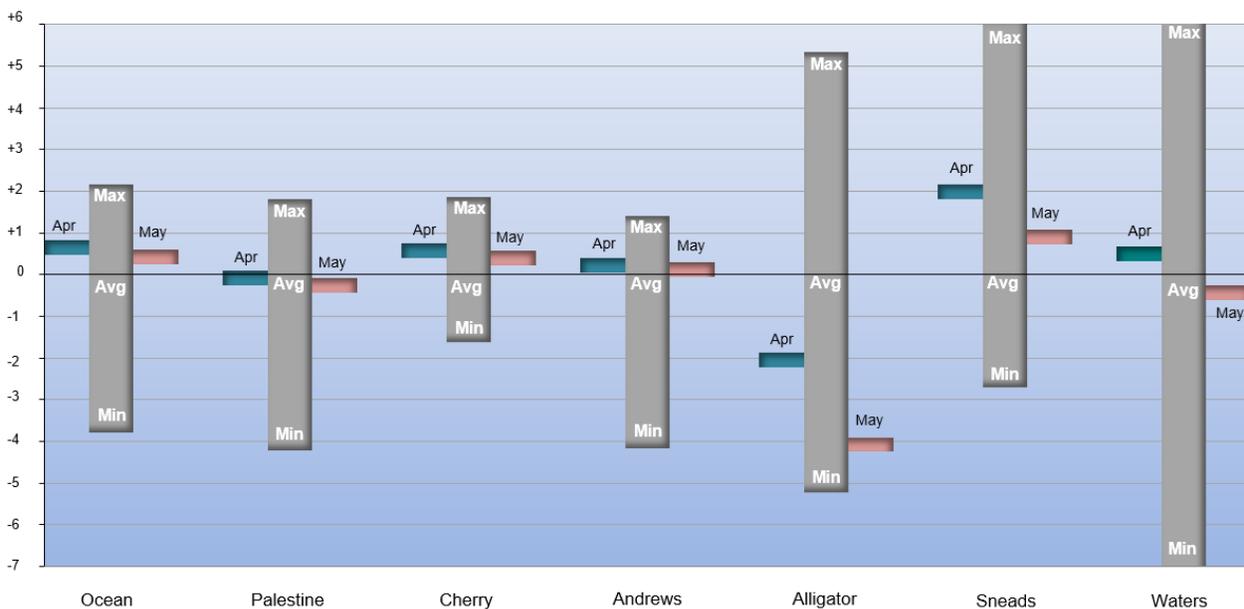
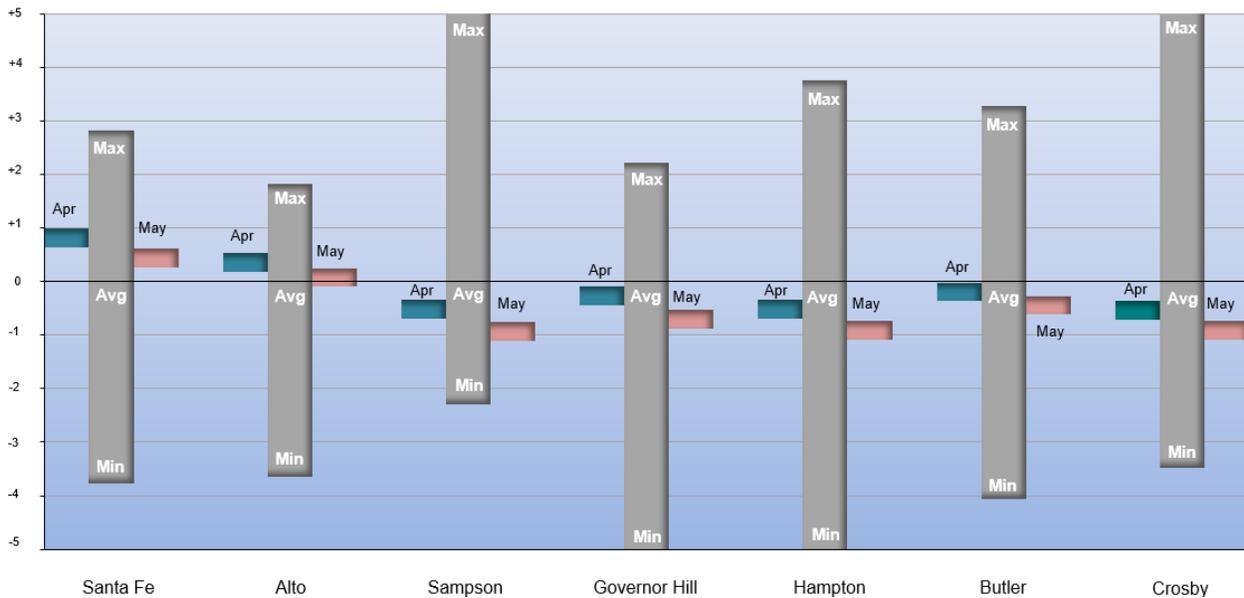
**Figure 7: May 2025 Lake Levels**



SRWMD lakes react differently to climatic changes depending on their location in the landscape. Some lakes, in particular in the eastern part of the District, are embedded in a surficial or intermediate aquifer over relatively impermeable clay deposits. These lakes rise and fall according to local rainfall and surface runoff. They retain water during severe droughts since most losses occur from evaporation. Other lakes, such as Governor Hill and Waters Lake, have porous or “leaky” bottoms that interact with the Floridan aquifer. These lakes depend on groundwater levels to stay high. If aquifer levels are low, these lakes go dry even if rainfall is normal.

The District currently monitors 14 lakes on a long-term basis; much of the data was originally provided by volunteer observers. Monitoring records began in the 1970s, except for Lakes Butler, Sampson, and Santa Fe, which started in 1957.

Feet Above or Below Historic Average



**Figure 8:** Flow Over the Past 12 Months, Fanning Springs (cubic feet per second)

Note: This graph is based on provisional data that are subject to revision

Period 12 Month 06/01/2024 to 06/01/2025

2024-25

Percentile statistics are calculated using data from 10/01/1930 to 09/30/2023

Fanning\_spg

■ Max-Q75

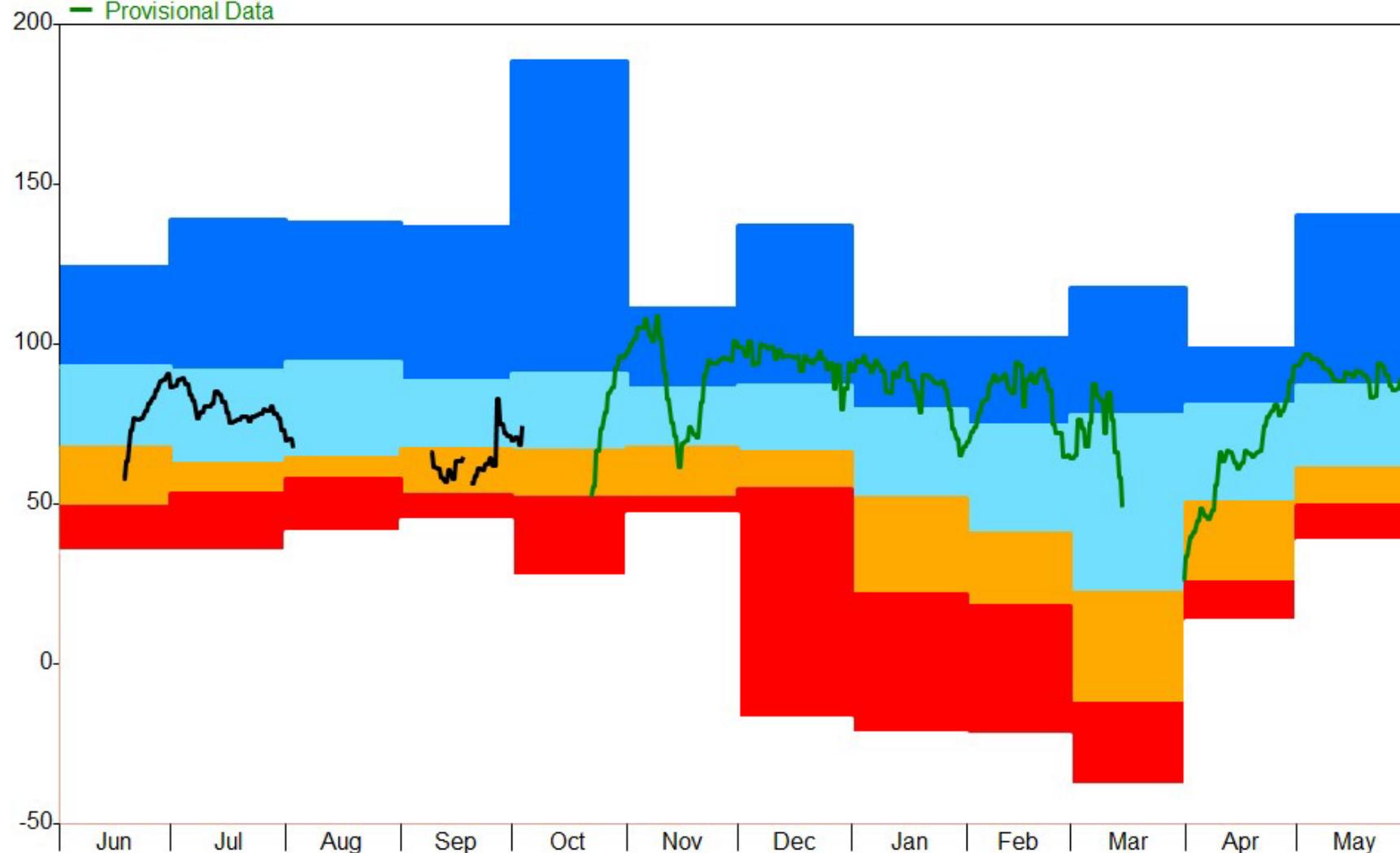
■ Q75-Q25

■ Q25-Q10

■ Q10-Min

— Archived Data

— Provisional Data



**Figure 9:** Flow Over the Past 12 Months, Manatee Springs (cubic feet per second)

Note: This graph is based on provisional data that are subject to revision

Period 12 Month 06/01/2024 to 06/01/2025

2024-25

Percentile statistics are calculated using data from 03/01/1932 to 09/30/2023

Manatee\_Spg

■ Max-Q75

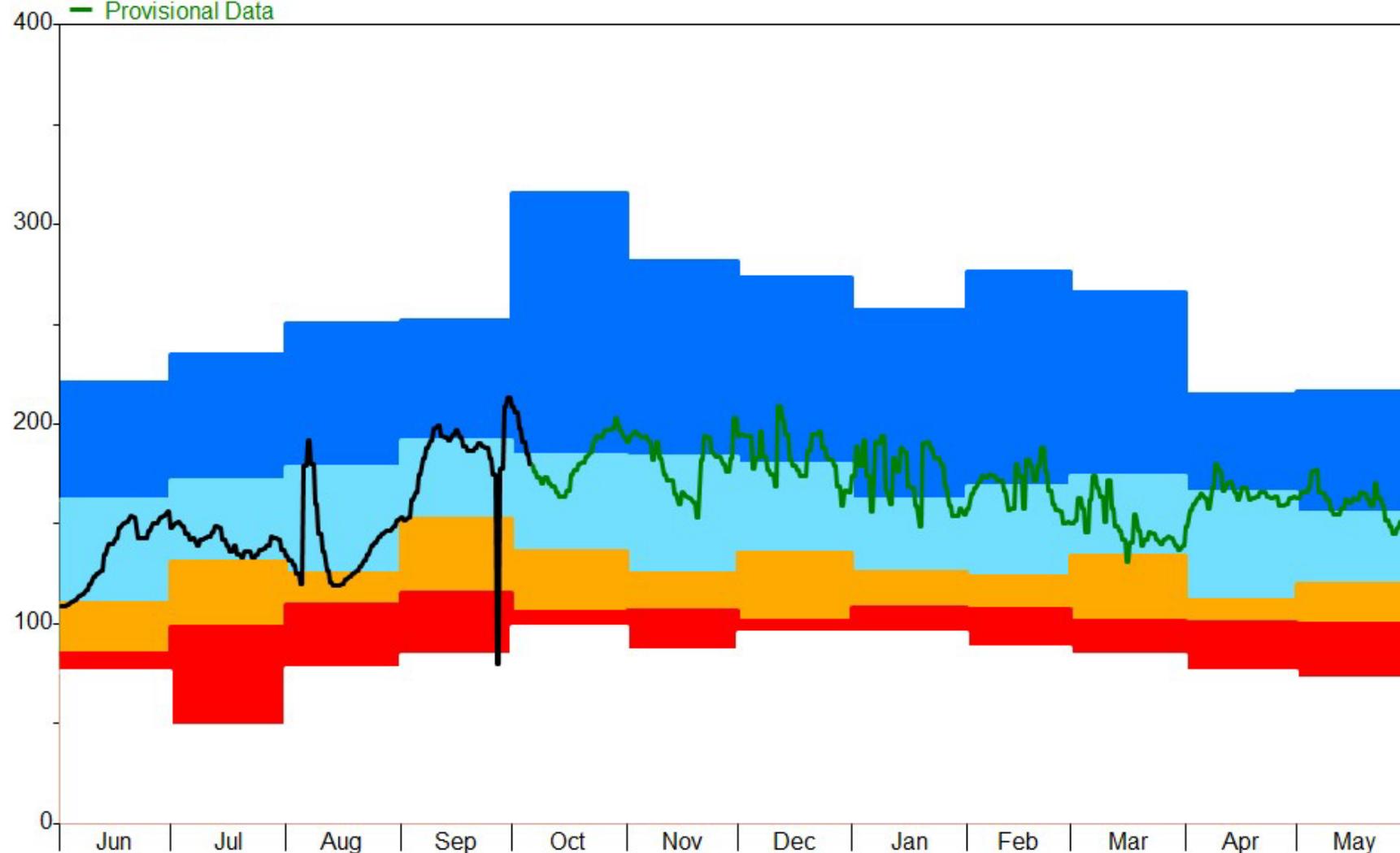
■ Q75-Q25

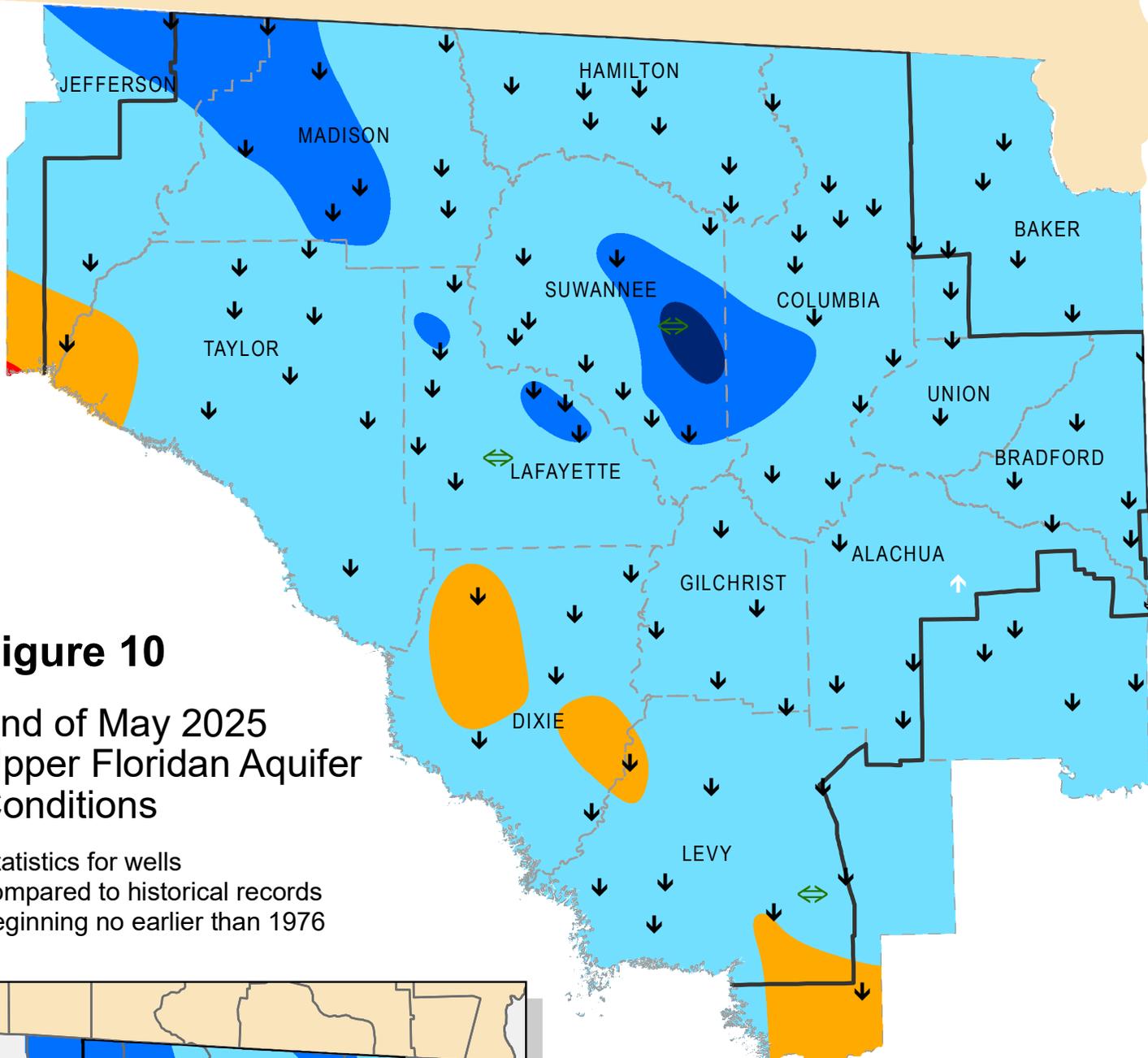
■ Q25-Q10

■ Q10-Min

— Archived Data

— Provisional Data

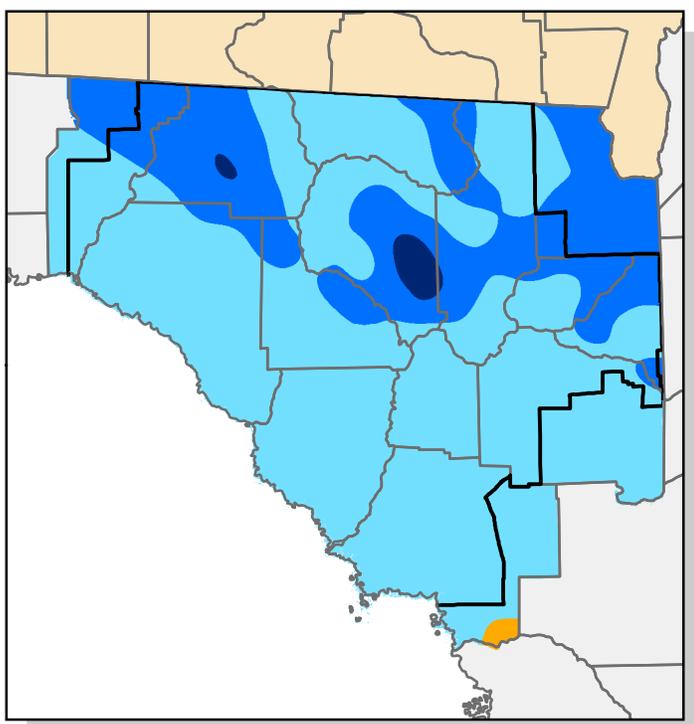




# Figure 10

## End of May 2025 Upper Floridan Aquifer Conditions

Statistics for wells compared to historical records beginning no earlier than 1976



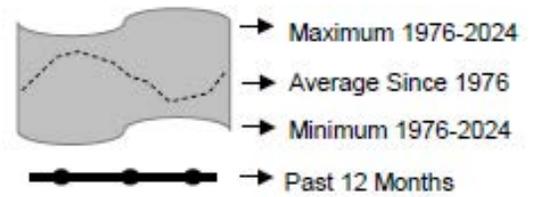
Inset: April Groundwater Percentiles

Additional wells courtesy of SJRWMD, SWFWMD and USGS

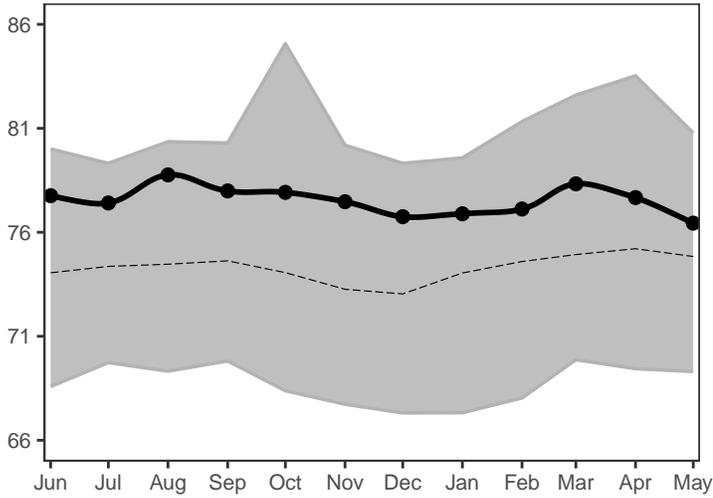
- Extremely High  
(Greater than 90th Percentile)
- High  
(75th to 90th Percentile)
- Normal  
(25th to 75th Percentile)
- Low  
(10th to 25th Percentile)
- Extremely Low  
(Less than 10th Percentile)
- ↑ ↓ Increase/decrease in level since last month
- ↔ Increase/decrease since last month less than one percent of historic range
- District Boundary

# Figure 11: Monthly Groundwater Statistics

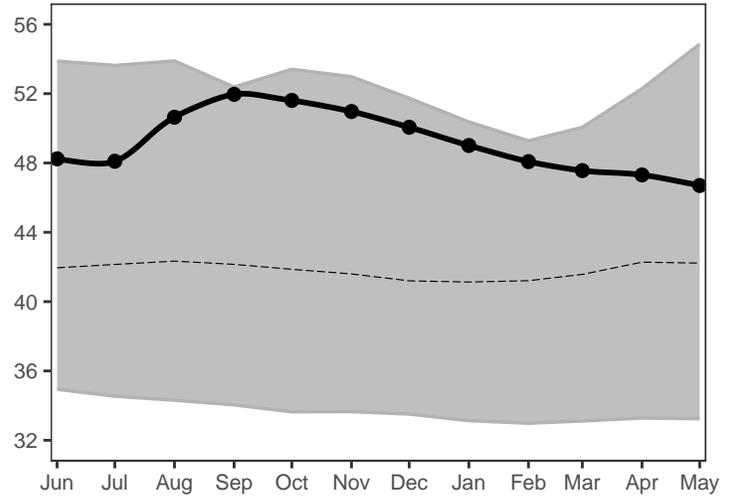
Levels June 2024 through May 2025  
 Period of Record Beginning 1976



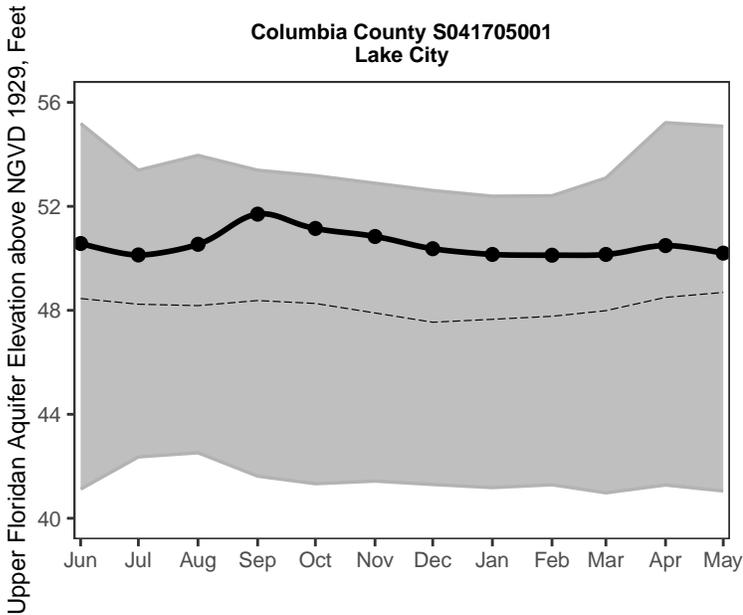
**Madison County N010719001**  
near Greenville



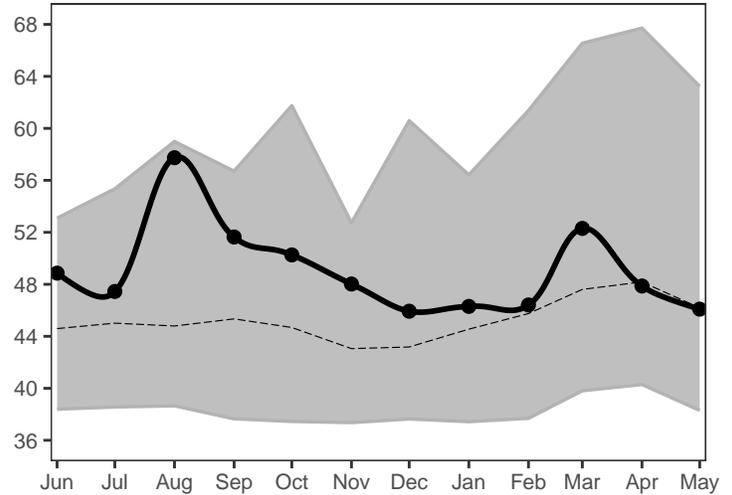
**Suwannee County S021335001**  
near Live Oak



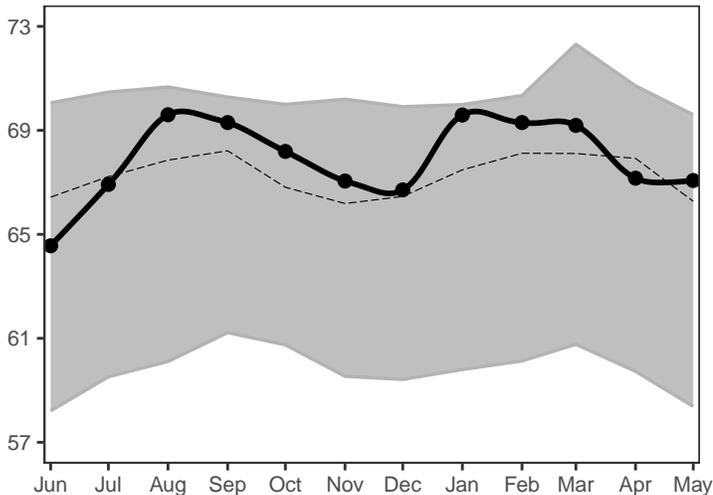
**Columbia County S041705001**  
Lake City



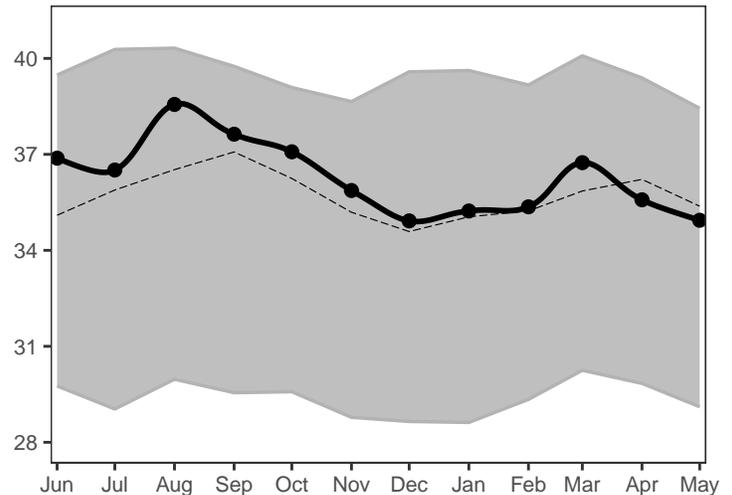
**Hamilton County N011422007**  
near Jasper



**Lafayette County S061114001**  
near Mayo

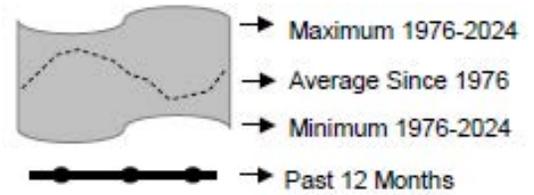


**Taylor County S040736005**  
Perry

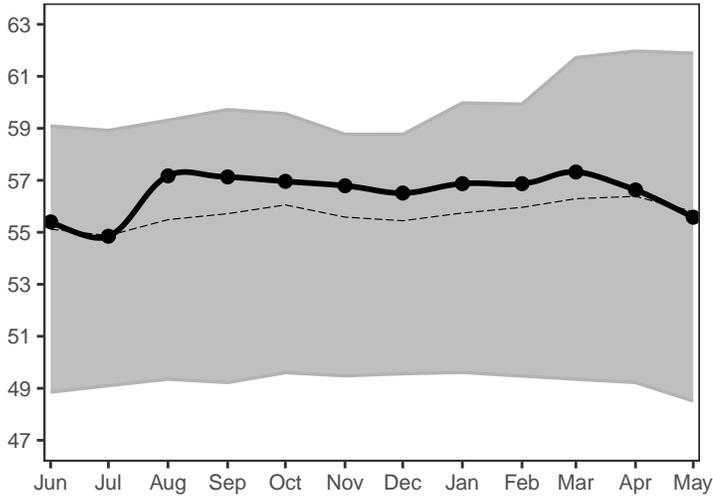


# Figure 11, cont.: Monthly Groundwater Statistics

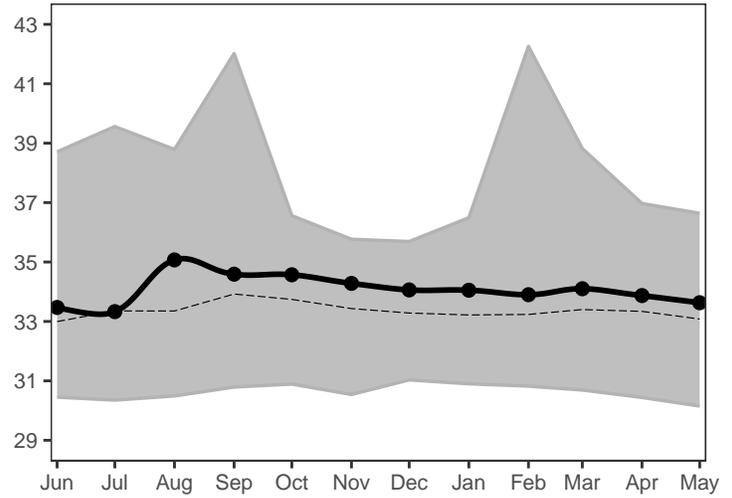
Levels June 2024 through May 2025  
 Period of Record Beginning 1976



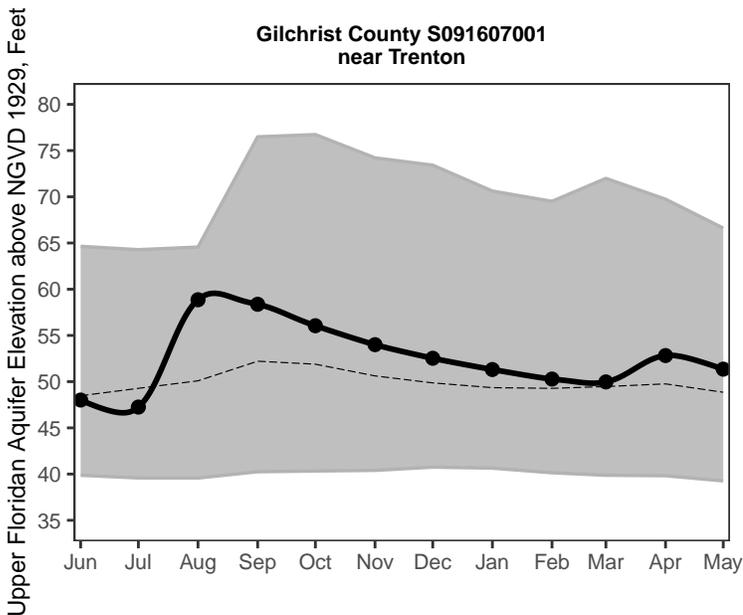
**Union County S051933001**  
near Lake Butler



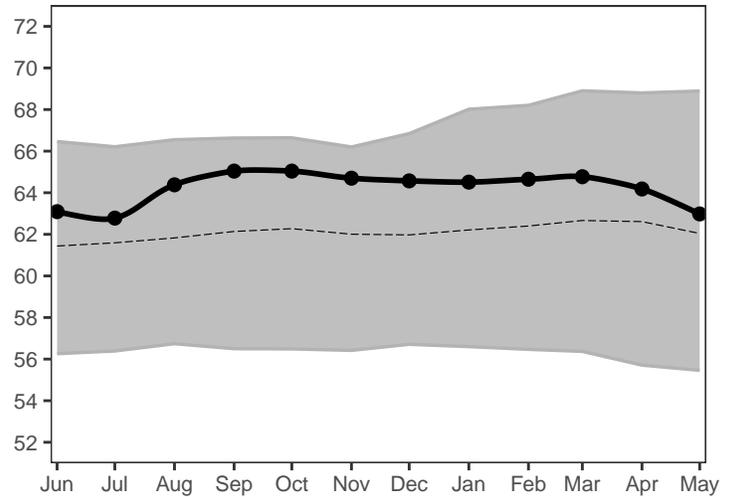
**Alachua County S081703001**  
at High Springs



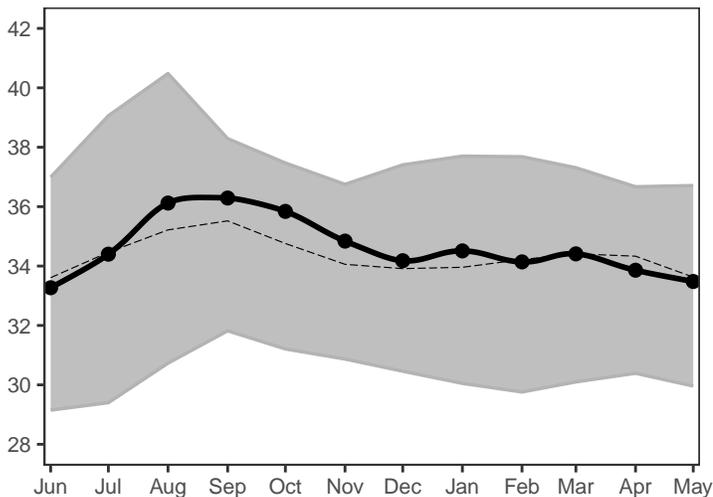
**Gilchrist County S091607001**  
near Trenton



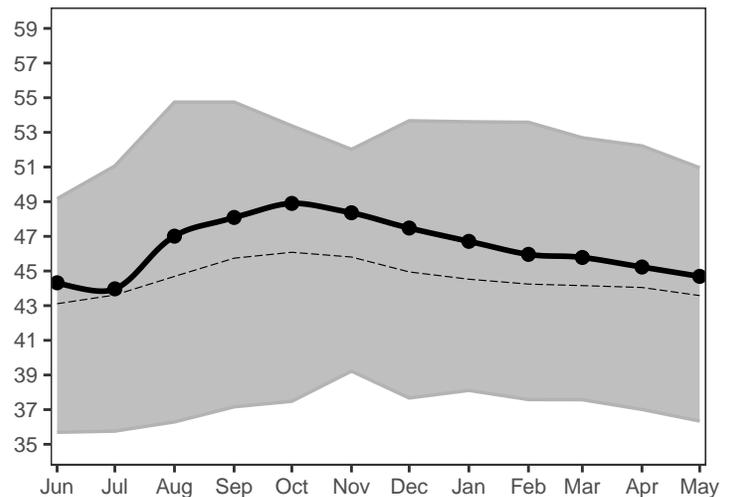
**Bradford County S072132001**  
near Graham

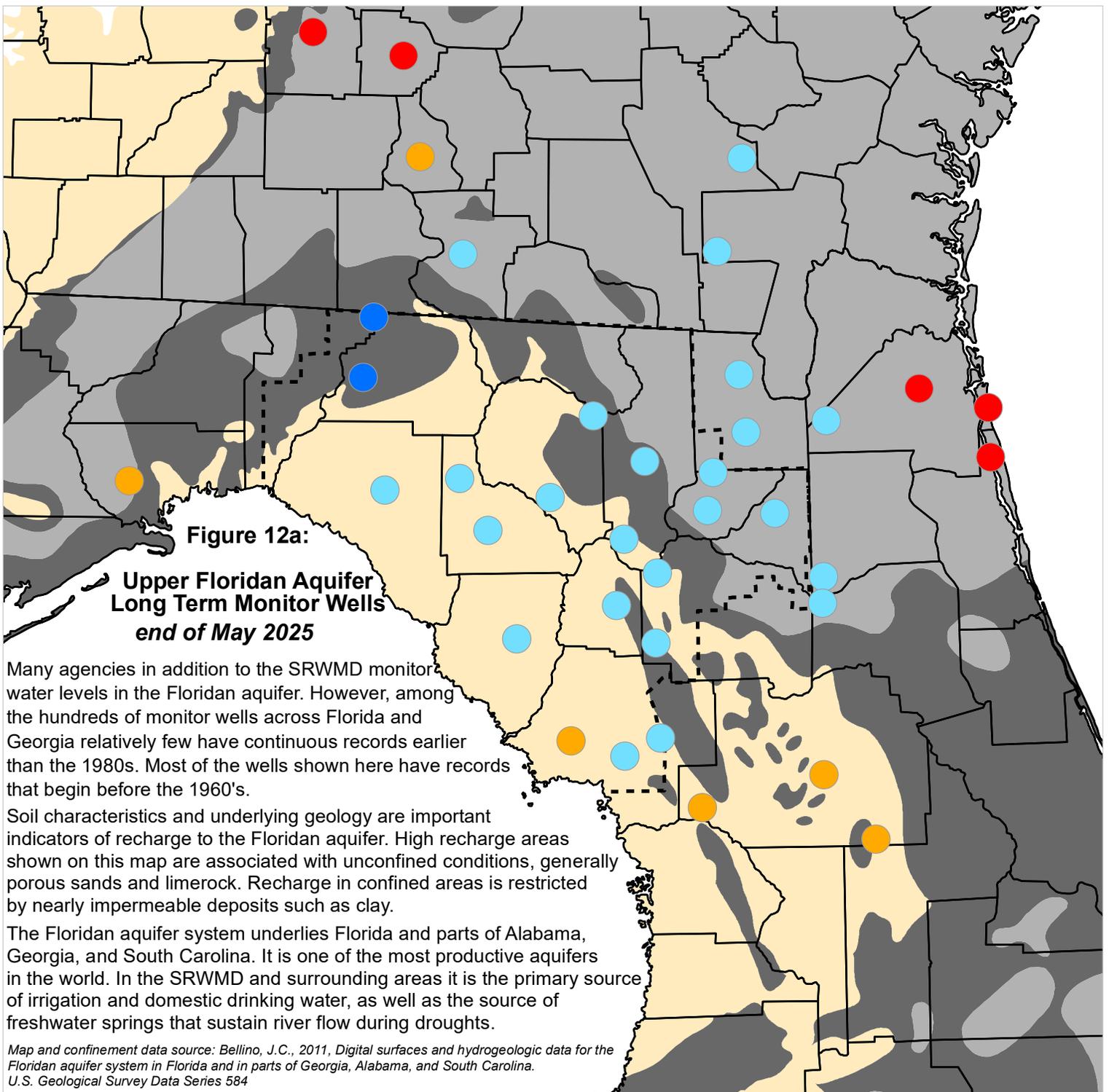


**Dixie County S101210001**  
at Cross City



**Levy County S131736001**  
near Bronson





**Occurrence of Confined and Unconfined Conditions in the Upper Floridan Aquifer**

-  Confined: Upper confining unit is generally greater than 100 feet thick and unbreached. Recharge is low.
-  Semi-confined: Upper confining unit is generally less than 100 feet thick, breached, or both. Recharge is moderate.
-  Unconfined: Upper confining unit is absent or very thin. Recharge is high.
-  SRWMD Boundary

**Percentile of Most Recent Water Level Relative to Entire Record**

-  Very High (Greater than 90th Percentile)
-  High (75th to 90th Percentile)
-  Normal (25th to 75th Percentile)
-  Low (10th to 25th Percentile)
-  Very Low (Less than 10th Percentile)
-  Data Not Available

# Figure 12b: Regional Long Term Upper Floridan Aquifer Levels

Data through May 2025

