

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: March 31, 2025

RE: March 2025 Hydrologic Conditions Report

RAINFALL

- Districtwide average rainfall for the month was 5.97", which was about 35 percent higher than the 1932-2024 average of 4.44" (Table 1, Figure 1). The 12-month period ending March 31 reflected a Districtwide rainfall surplus of 0.51", which was a marked improvement to the 0.64" deficit seen at the end of February. District counties received between 3" and 7" of rainfall on average, with parts of Taylor, Jefferson, Madison, Lafayette, Suwannee, Columbia, Gilchrist, Alachua, and Levy counties receiving more than 8" of rainfall (Figure 2).
- Overall, a 12-month rainfall surplus was present in 4 of the basins, with the Waccasassa Basin transitioning from a deficit to a surplus at the end of March (Figure 3). Areas of 12-month surpluses greater than 10" were represented in each basin except the Santa Fe, while deficits greater than 10" were observed in a small part of the Waccasassa Basin. Four of the river basins showed overall 3-month rainfall surpluses, with each of the 4 transitioning from a deficit to a surplus by the end of March (Figure 4). Over the past 3 months, the Aucilla, Coastal, Santa Fe, and Suwannee basins showed portions with surpluses greater than 5", while areas with greater than 5" of rainfall deficits were concentrated in each of the basins except the Aucilla.

SURFACE WATER

- **Rivers:** Most of the river gages in Figure 5 finished the month in either the normal (25th – 75th percentile) or above normal (75th – 100th percentile) flow ranges. Each of the monitored river gages in South Georgia and North Florida excluding the gages at Fargo, White Springs, and Steinhatchee, which saw above normal (75th – 90th percentile) flows at the end of March, began and ended the month in the normal flow range (Figure 6).
- **Lakes:** Water levels increased at a majority of the monitored lakes in the District this month (Figure 7). The median increase in stage across all measured lakes was about 0.1', with 4 of the monitored lakes ending the month of March below their respective long-term average. Alligator Lake represented the largest water level increase with a rise of 0.9' since last month. Conversely, Lake Sampson saw a stage decrease of 0.7' since last month.
- **Springs:** Flow measurements were made at 13 springs in March by the U.S. Geological Survey (USGS), District staff, and contractors. Fanning Springs saw flows in the above normal, normal, and below normal (10th – 25th percentile) flow categories throughout March (Figure 8). Manatee Springs showed mostly normal flows but fell into the below normal range by month's end (Figure 9).

GROUNDWATER

Upper Floridan Aquifer (UFA) levels across the District reflected normal, high, and very high (>90th percentile) levels this month (Figure 10). Overall, groundwater levels increased by a median about 0.6' since the end of February and ended March with a Districtwide average around the 79th percentile.

Each of the index wells except Cross City, which was close to the long-term mean, exceeded its respective historical monthly average level at the end of the month (Figure 11). Long-term District UFA well levels ended March in the normal, above normal, or high categories (Figure 12a). Monitored long-term wells with records that extend back to at least 1964 showed slightly decreasing water levels this month relative to last month (Figure 12b).

CLIMATE AND DROUGHT OUTLOOK

El Niño Southern Oscillation neutral conditions are favored to develop in the next month and persist through the summer (62% chance in June to August 2025).

The NOAA three-month seasonal outlook suggests above normal temperatures along with equal chances of above, near, or below normal temperatures throughout the District from April to June 2025.

The U.S. Drought Monitor report released on Thursday, April 3rd, shows no areas with drought conditions within the District boundary.

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: Jamie Gaylord, Matthew Jordan, Dylan Mock, Gene Page, Kevin Posada, and Vince Robinson
- QA/QC and Reporting: Stephanie Armstrong, Susie Hetrick, Robbie McKinney, Brandi Sistrunk, and Mitch Valerio
- Administrative Support/Document Preparation/IT: Paul Buchanan, Bo Cameron, Tyler Jordan, Andrew Neel, and April Olive

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	March 2025	March Average*	Month % of Normal	Total Last 12 Months	Annual % of Normal*
Alachua	4.98	3.91	127%	48.47	92%
Baker	5.42	4.11	132%	51.08	97%
Bradford	3.90	3.84	102%	49.65	96%
Columbia	6.44	4.31	149%	53.48	101%
Dixie	5.17	4.21	123%	56.88	98%
Gilchrist	7.33	4.10	179%	54.21	99%
Hamilton	6.14	4.65	132%	54.61	105%
Jefferson	6.56	5.17	127%	55.04	98%
Lafayette	6.68	4.39	152%	58.57	106%
Levy	5.74	3.98	144%	55.48	99%
Madison	6.23	4.94	126%	57.59	108%
Suwannee	6.01	4.59	131%	57.82	109%
Taylor	5.65	4.60	123%	54.49	96%
Union	4.88	4.04	121%	49.96	95%

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

March 2025 District Average 5.97
 March Long-Term Average (1932-2024) 4.44
 Historical 12-month Average (1932-2024) 54.76
 Past 12-Month Total 55.27
 12-Month Rainfall **Surplus/Deficit** **0.51**

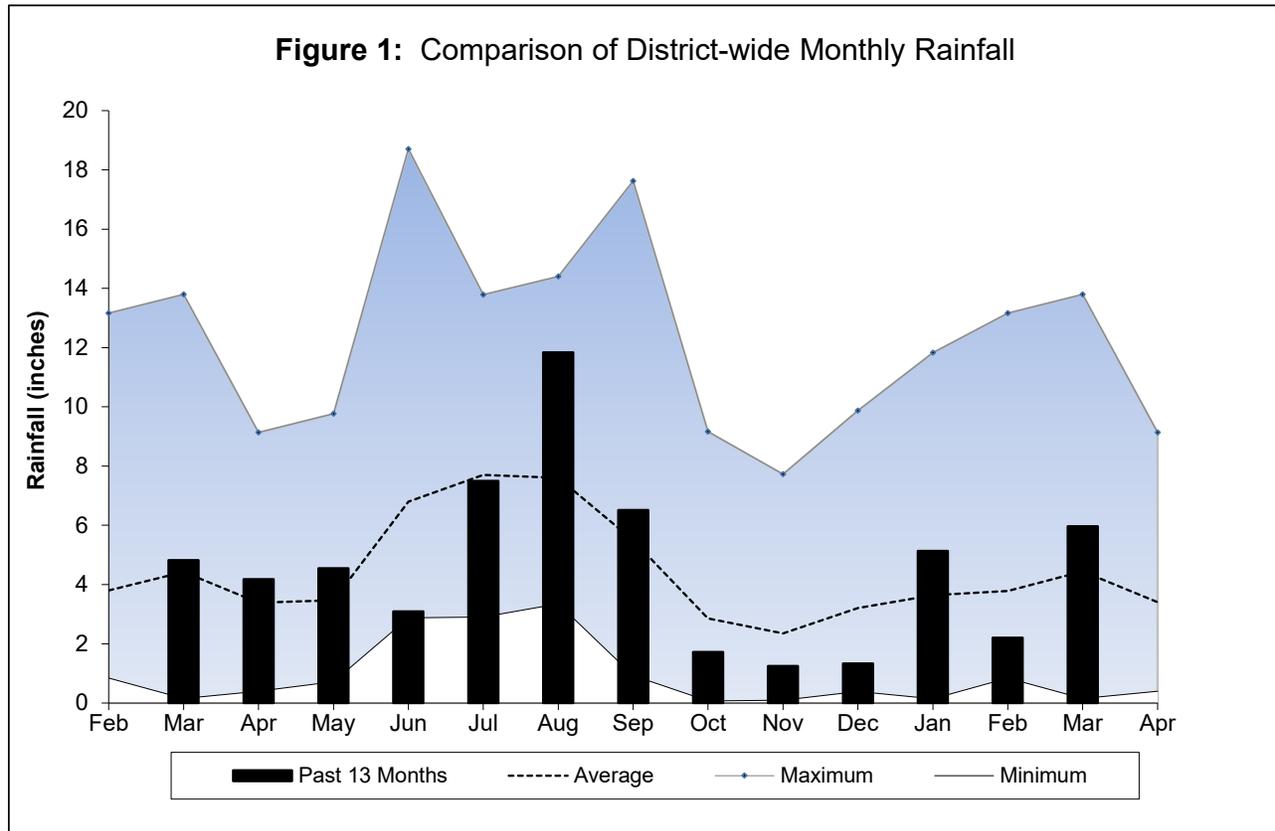


Figure 2: March 2025 SRWMD Gage-adjusted Radar Rainfall

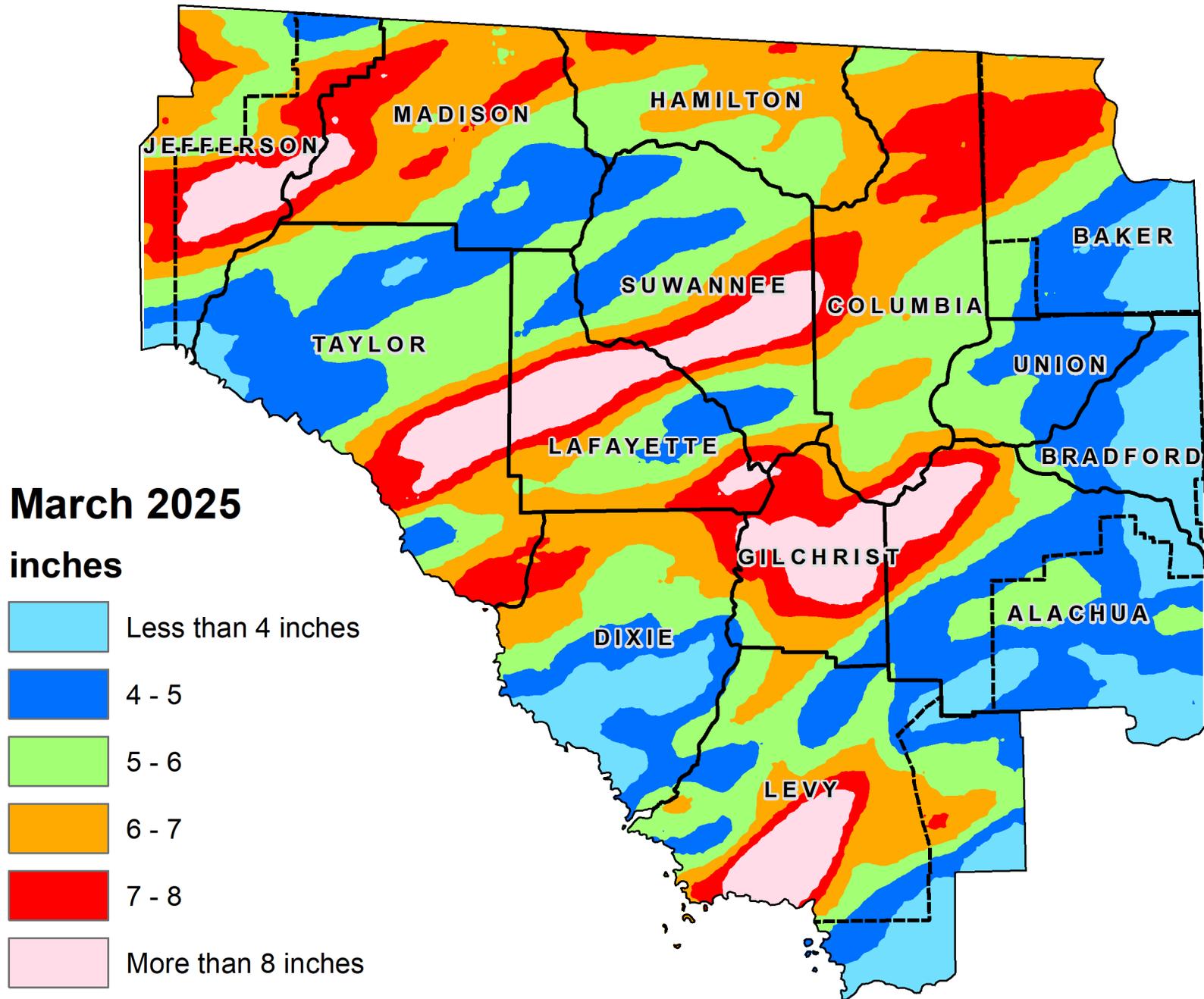


Figure 3: 12 - Month Rainfall Surplus/Deficit by River Basin through March 31, 2025

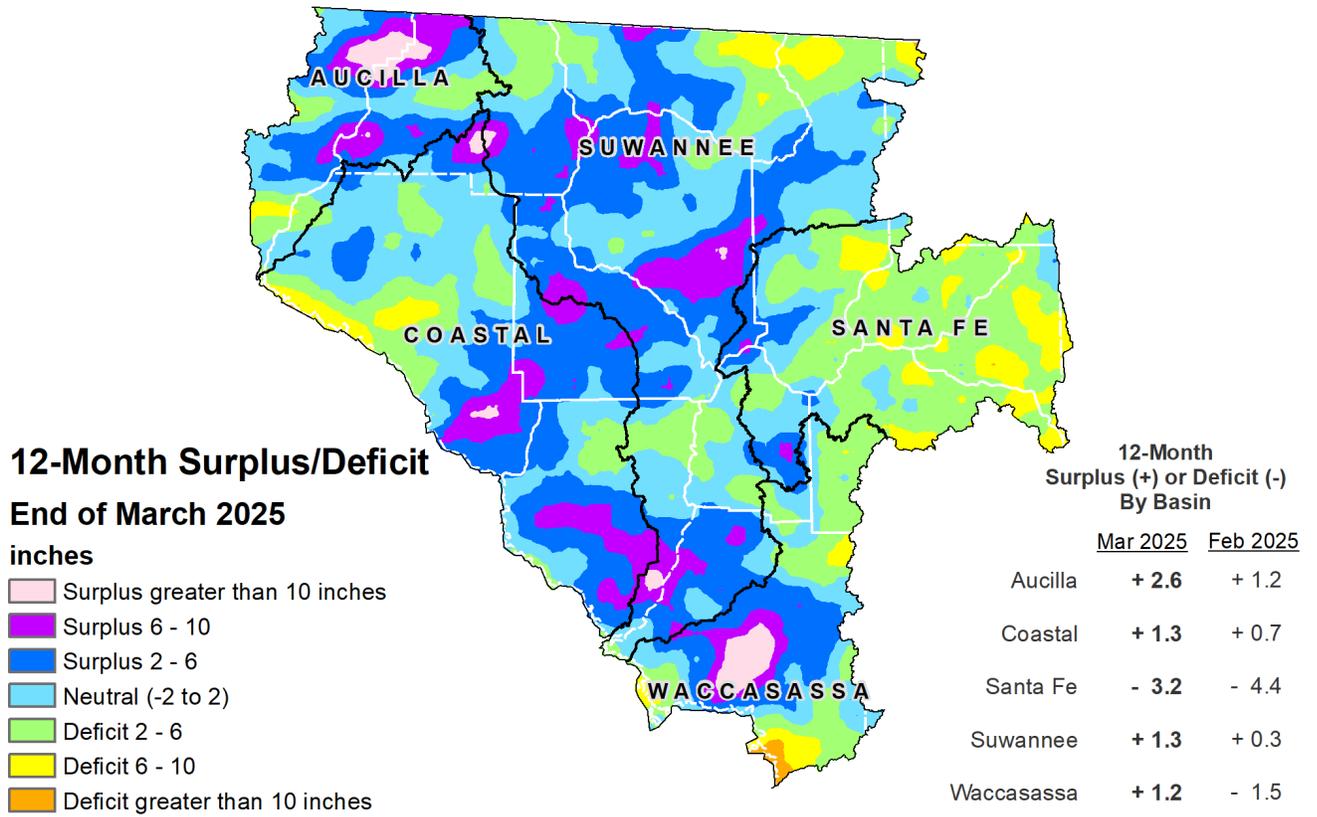


Figure 4: 3 - Month Rainfall Surplus/Deficit by River Basin through March 31, 2025

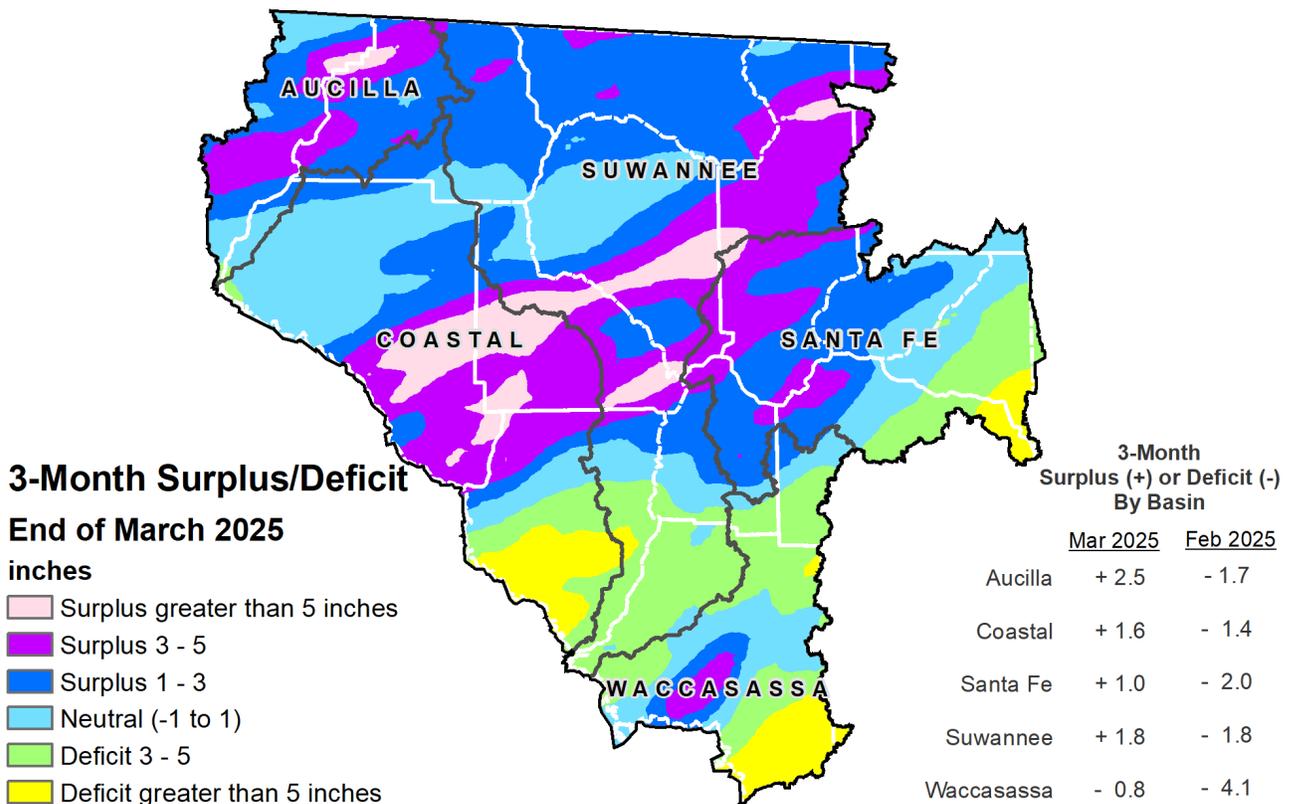


Figure 5: Daily River Flow Statistics

April 1, 2024 through March 31, 2025

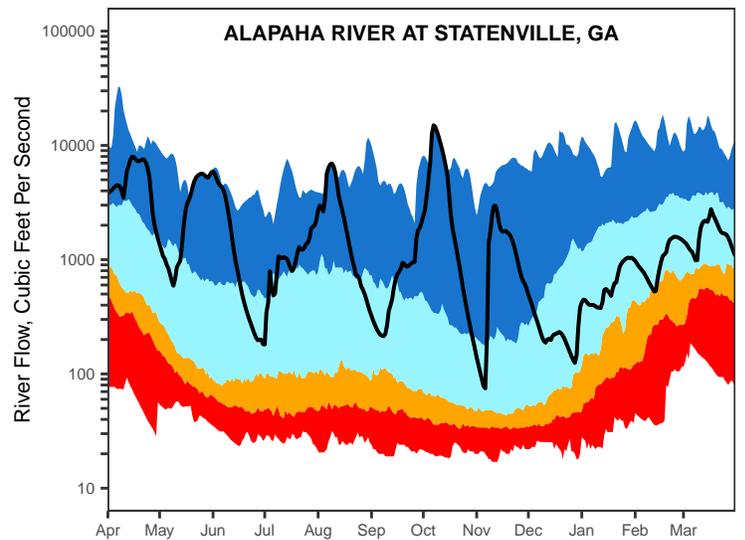
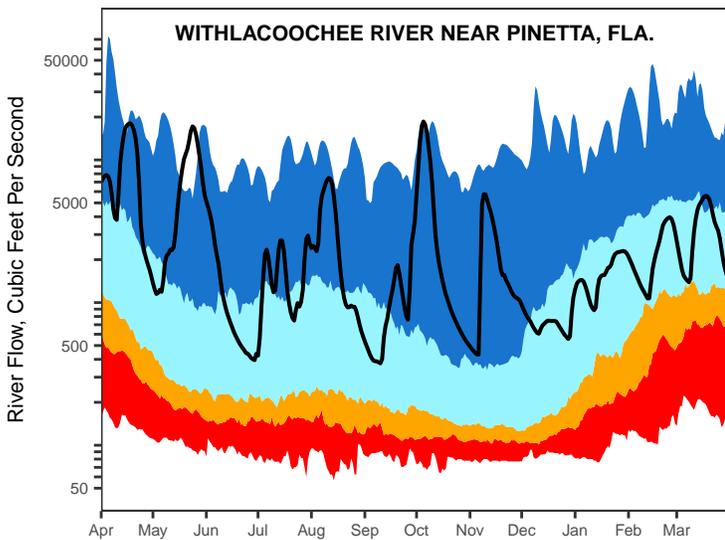
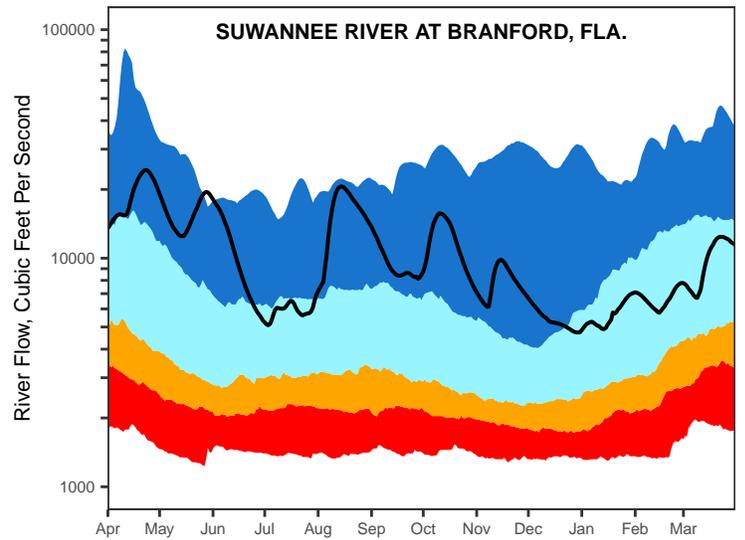
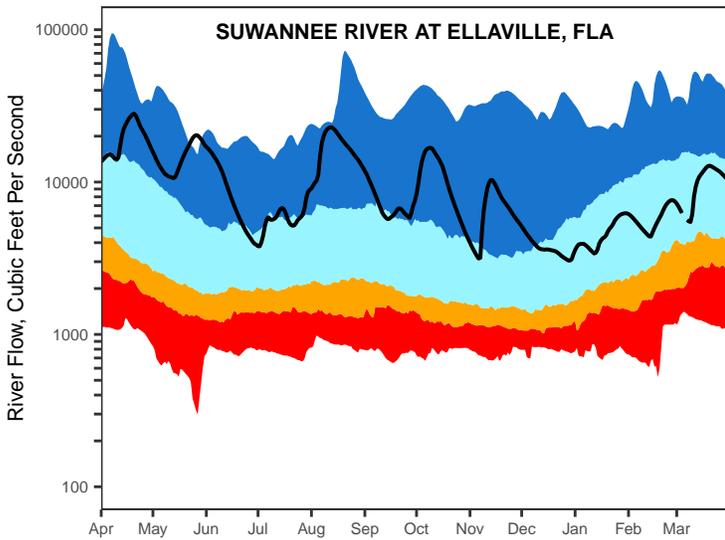
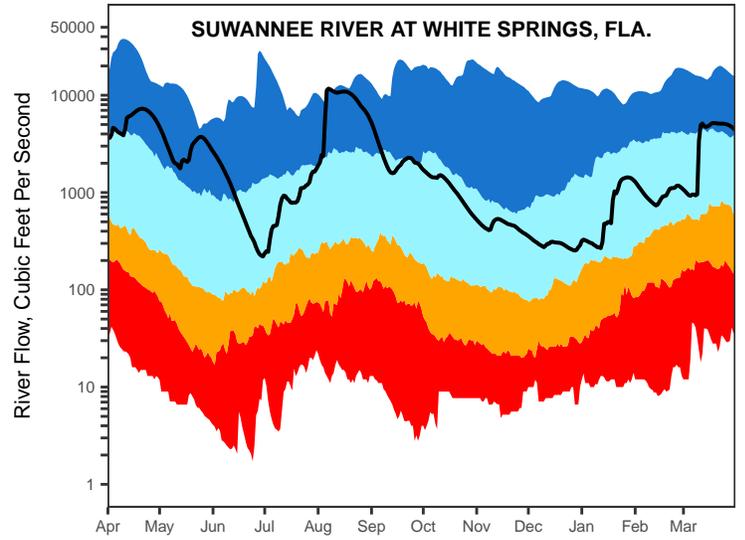
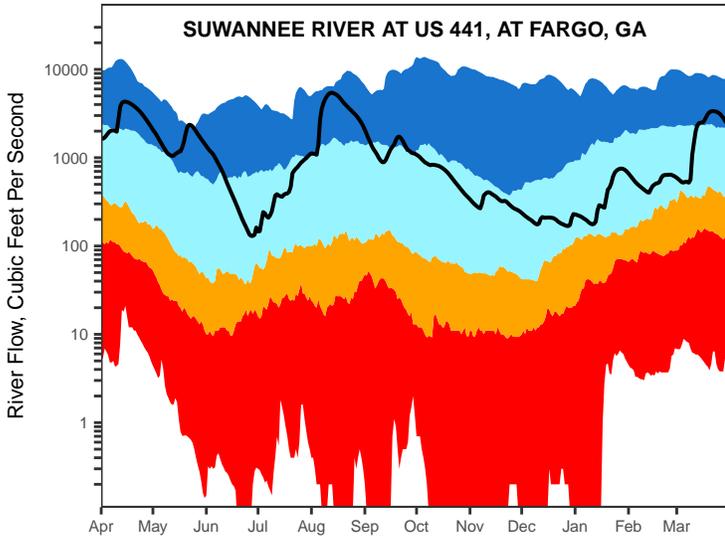
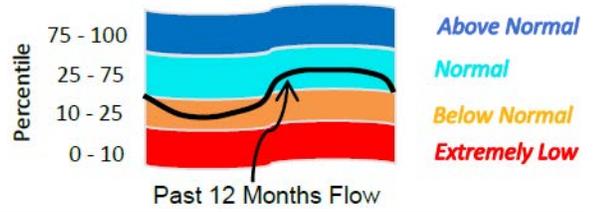
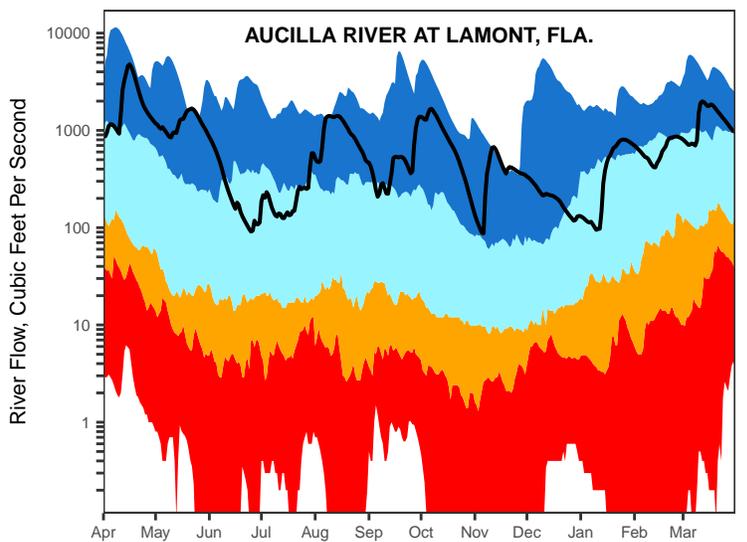
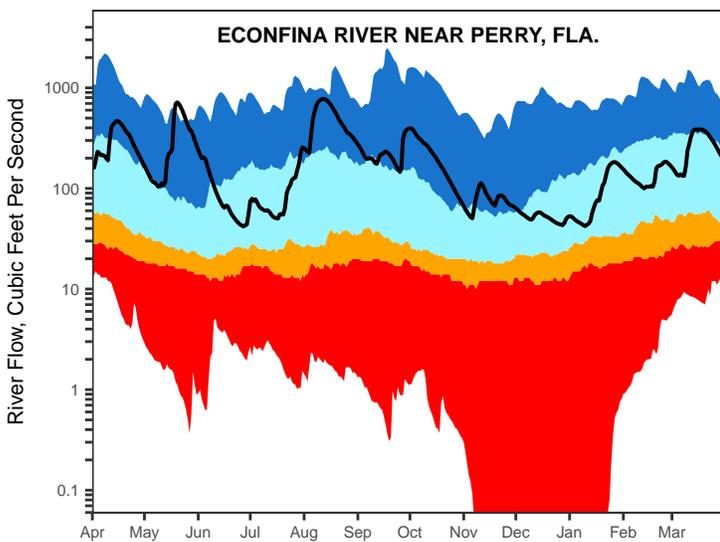
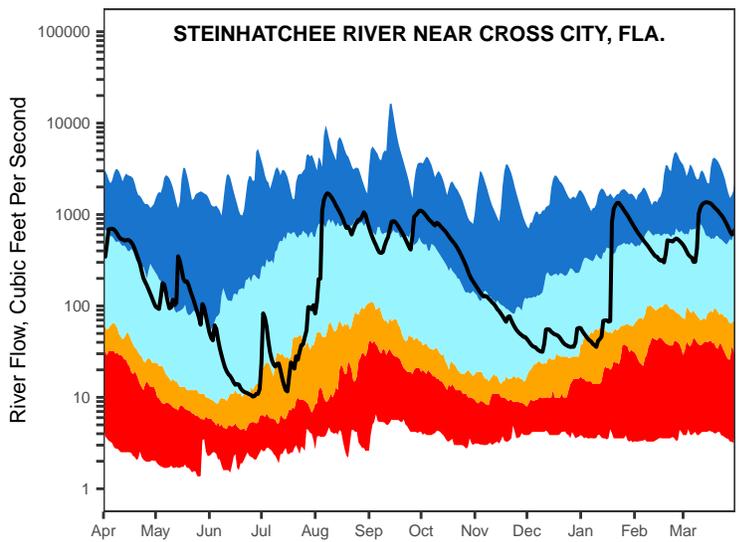
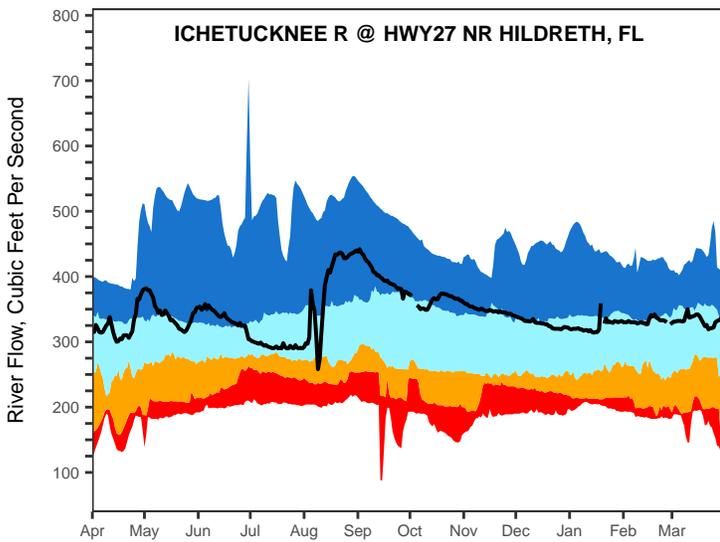
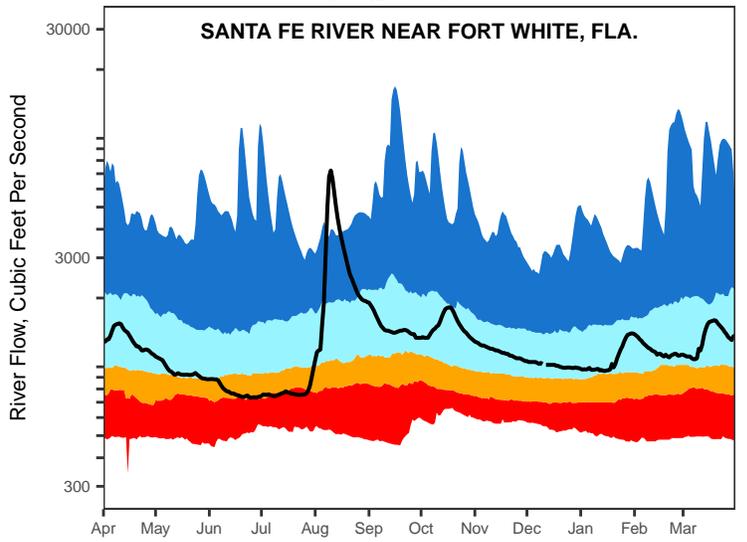
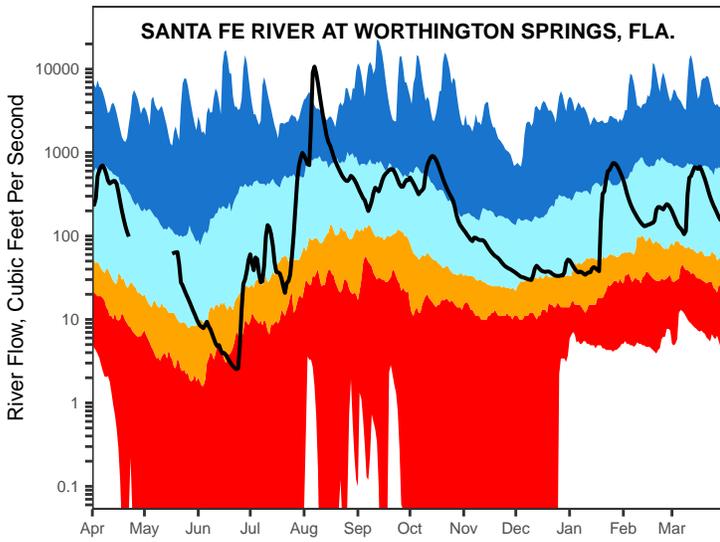
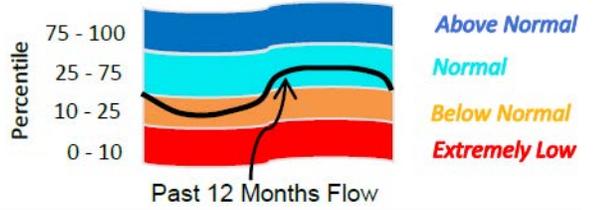


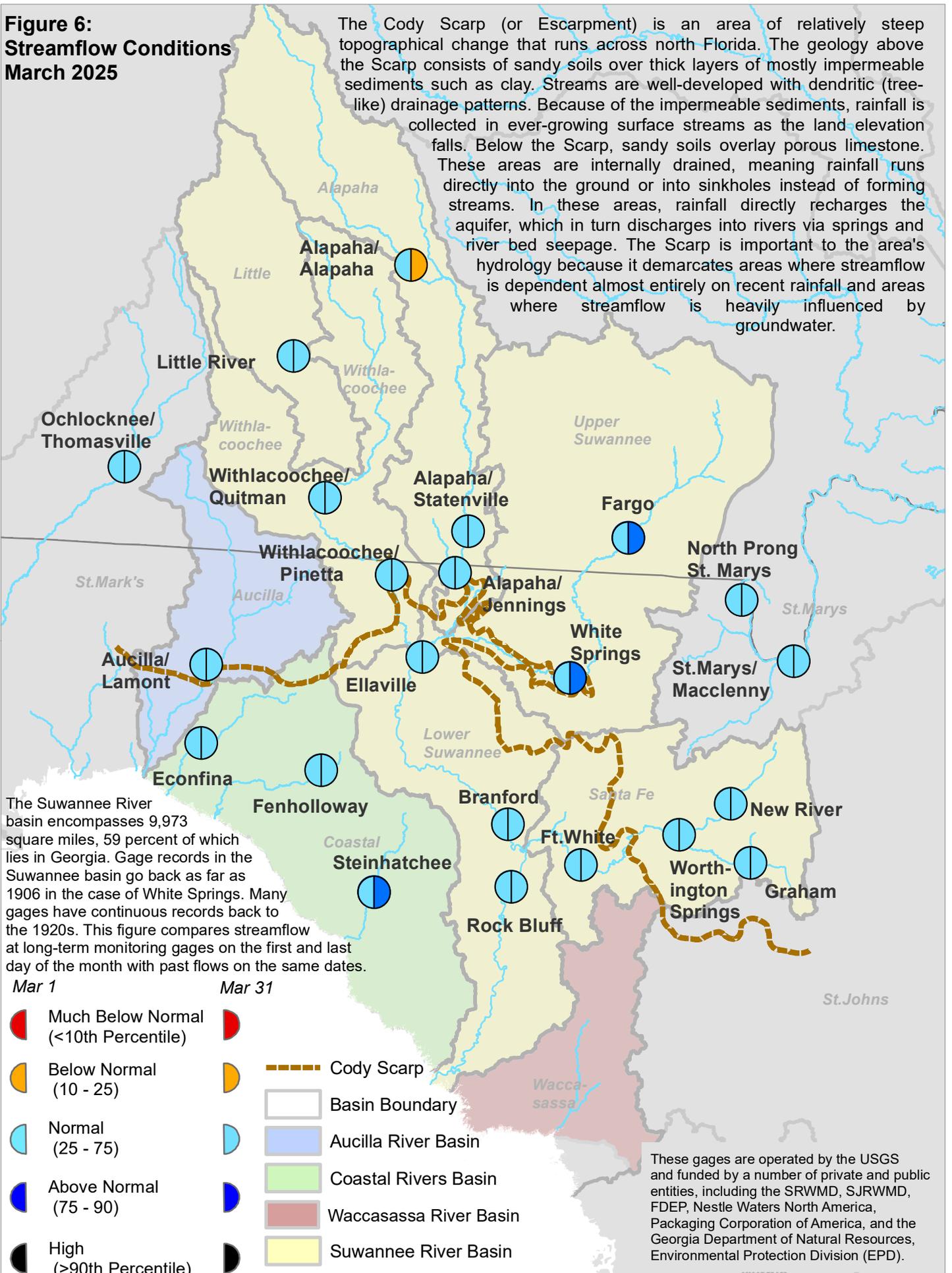
Figure 5, cont.: Daily River Flow Statistics

April 1, 2024 through March 31, 2025



**Figure 6:
Streamflow Conditions
March 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.



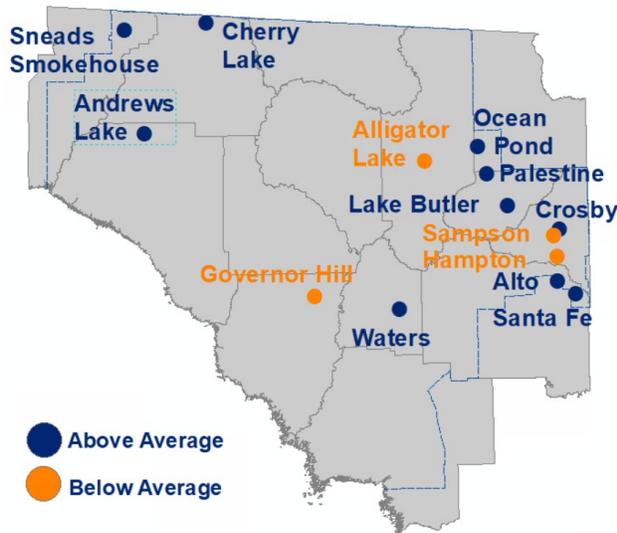
The Suwannee River basin encompasses 9,973 square miles, 59 percent of which lies in Georgia. Gage records in the Suwannee basin go back as far as 1906 in the case of White Springs. Many gages have continuous records back to the 1920s. This figure compares streamflow at long-term monitoring gages on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

- | | |
|--------------------------------------|--------|
| Mar 1 | Mar 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: March 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

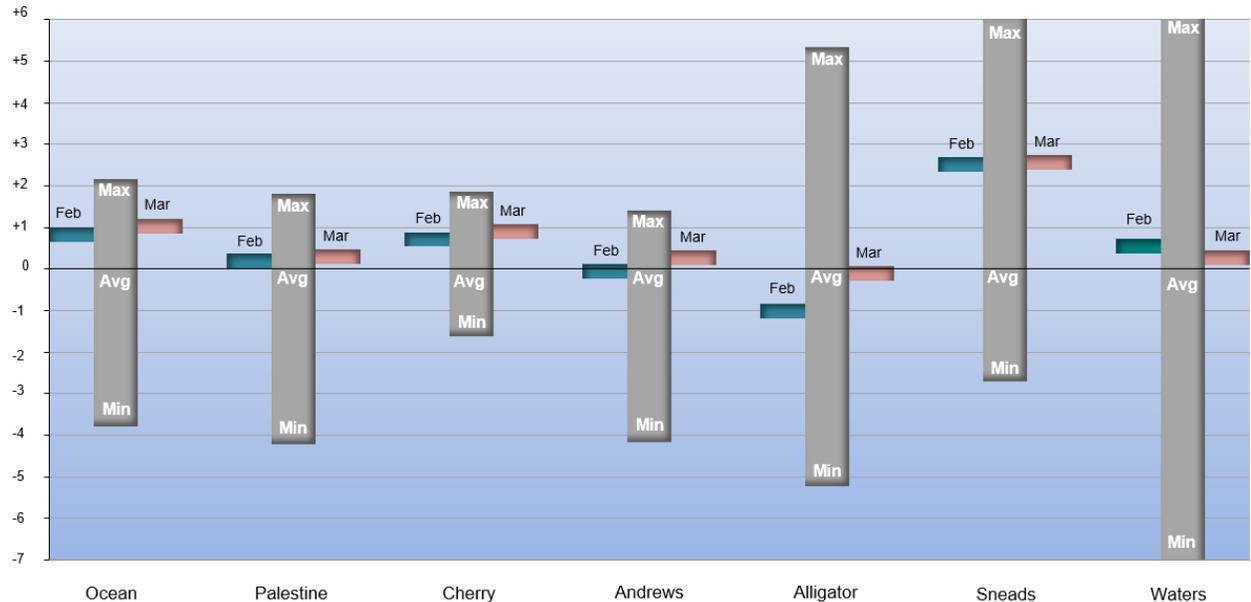
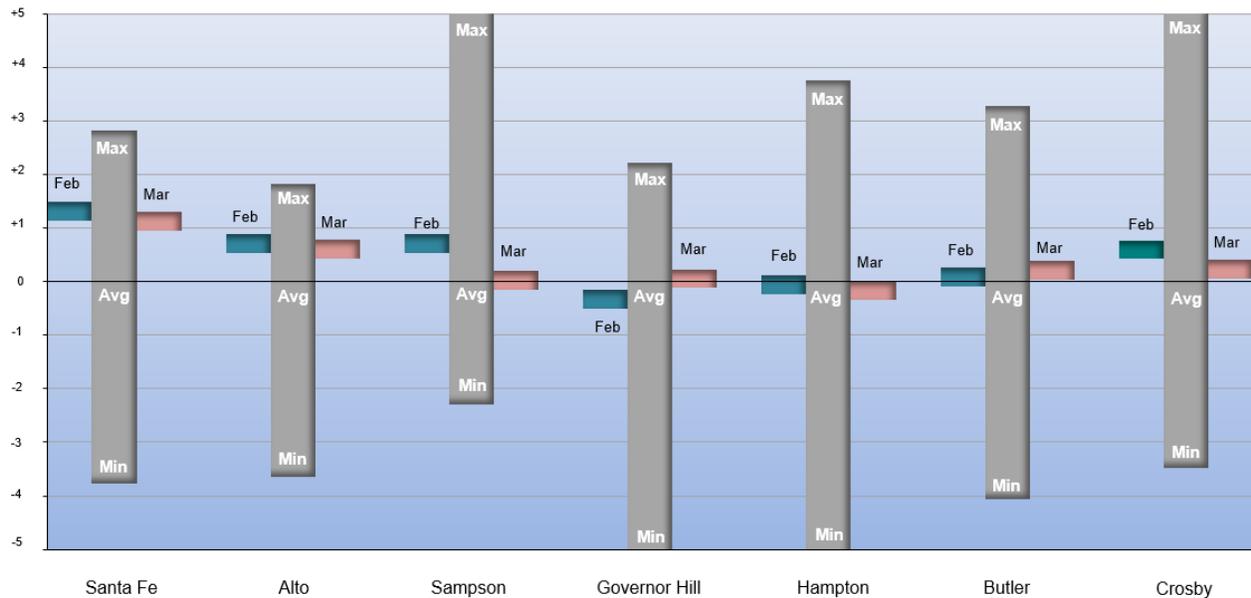


Figure 8: Flow Over the Past 12 Months, Fanning Springs (cubic feet per second)

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

Period 12 Month 04/01/2024 to 04/01/2025

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

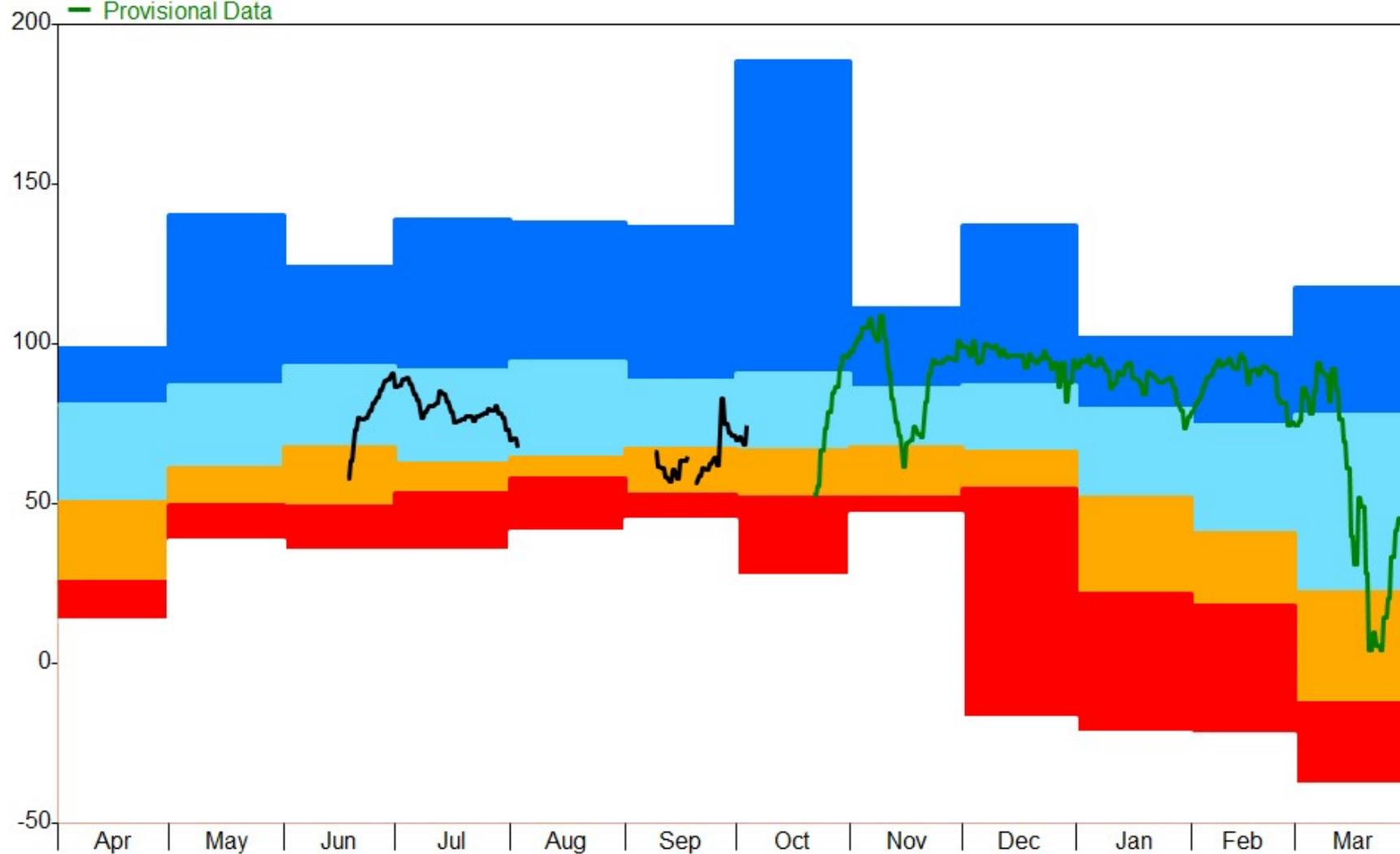


Figure 9: Flow Over the Past 12 Months, Manatee Springs (cubic feet per second)

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

Period 12 Month 04/01/2024 to 04/01/2025

2024-25

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

Manatee_Spg

■ Max-Q75

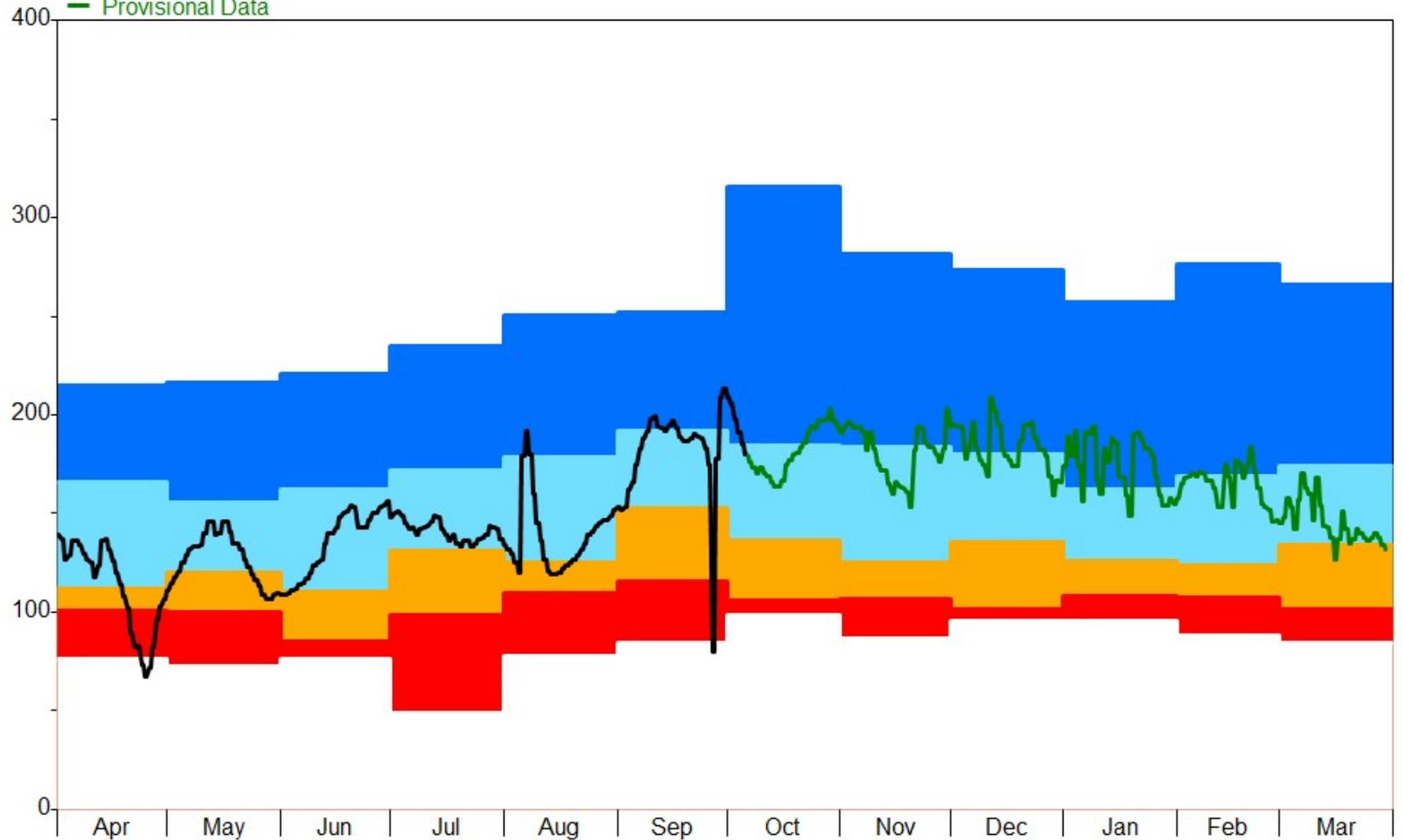
■ Q75-Q25

■ Q25-Q10

■ Q10-Min

— Archived Data

— Provisional Data



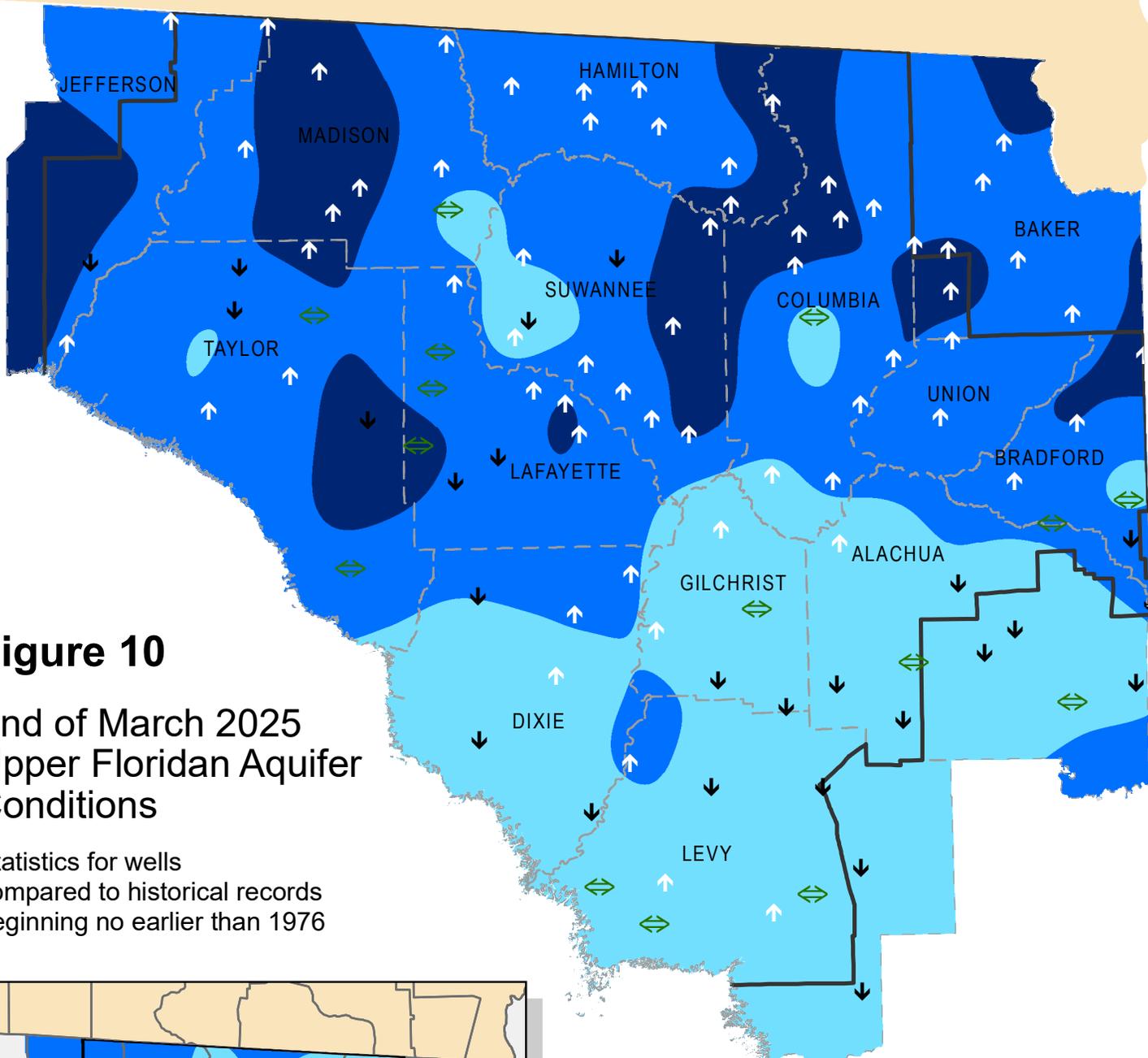
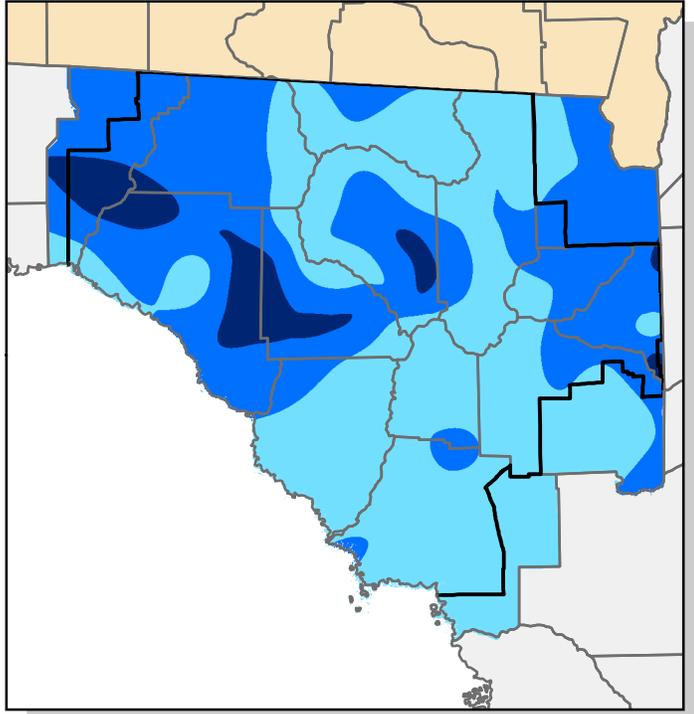


Figure 10

End of March 2025 Upper Floridan Aquifer Conditions

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



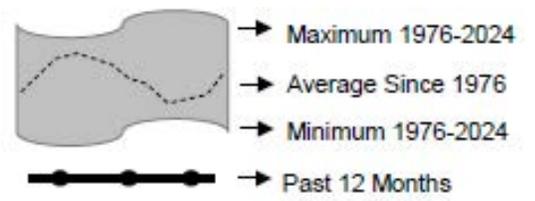
Inset: February Groundwater Percentiles

Additional wells courtesy of SJRWMD, SWFWMD and USGS

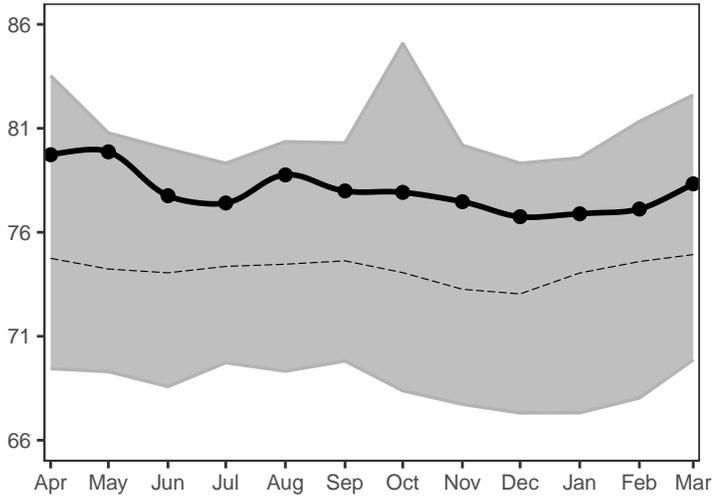
- Extremely High
(Greater than 90th Percentile)
- High
(75th to 90th Percentile)
- Normal
(25th to 75th Percentile)
- Low
(10th to 25th Percentile)
- Extremely Low
(Less than 10th Percentile)
- ↑ ↓ Increase/decrease in level since last month
- ↔ Increase/decrease since last month less than one percent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

Figure 11: Monthly Groundwater Statistics

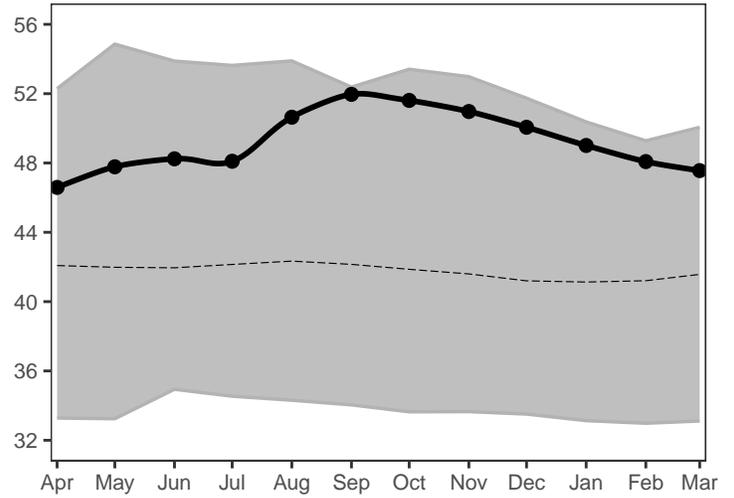
Levels April 2024 through March 2025
 Period of Record Beginning 1976



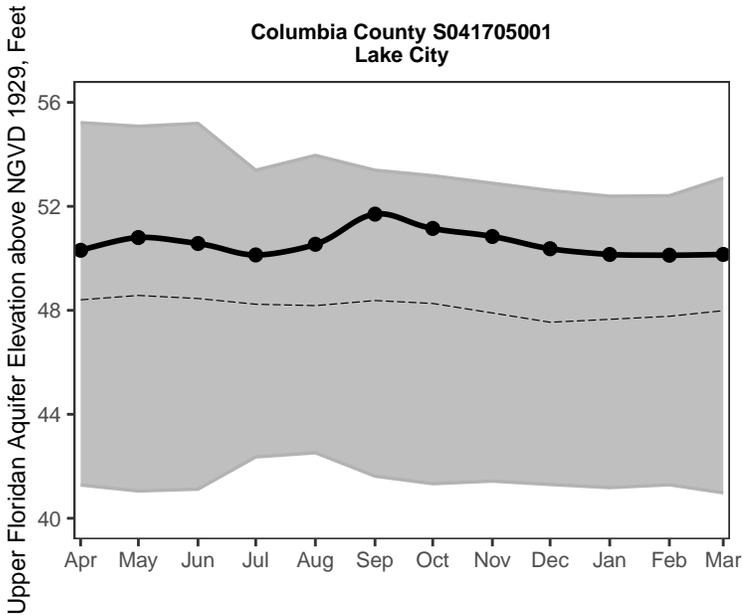
Madison County N010719001
near Greenville



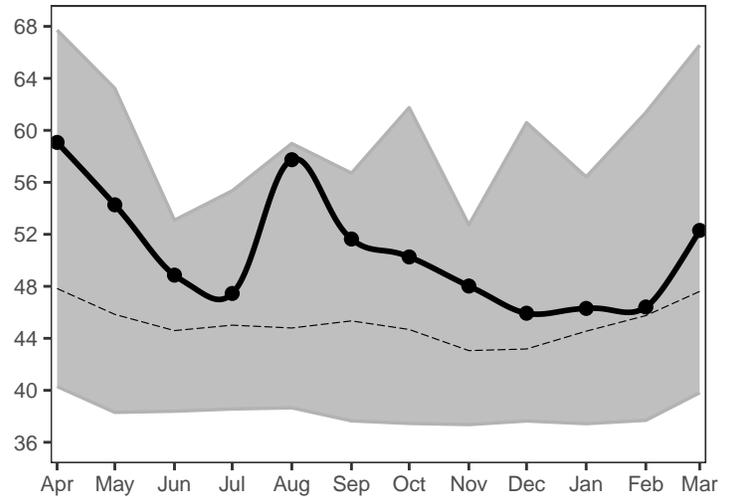
Suwannee County S021335001
near Live Oak



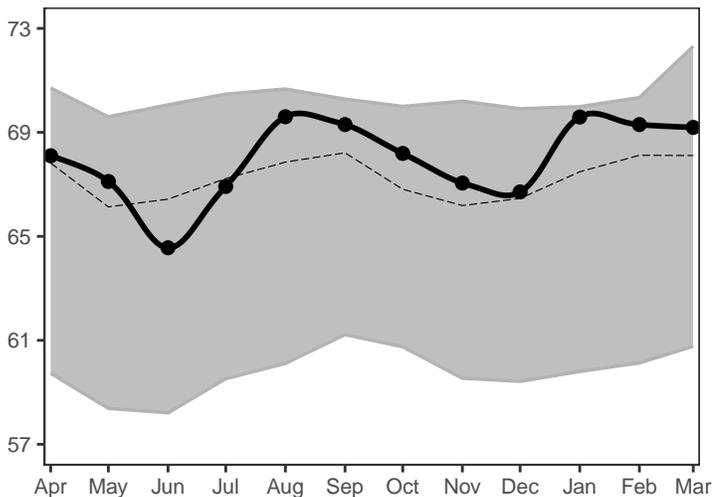
Columbia County S041705001
Lake City



Hamilton County N011422007
near Jasper



Lafayette County S061114001
near Mayo



Taylor County S040736005
Perry

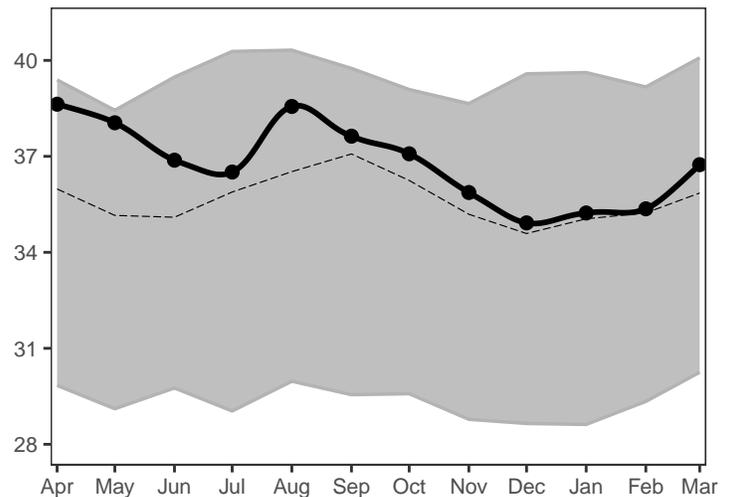
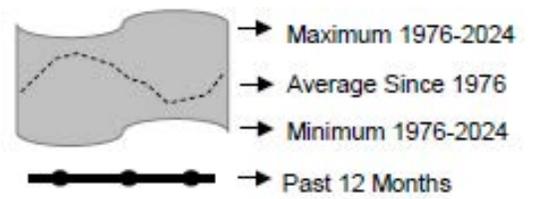
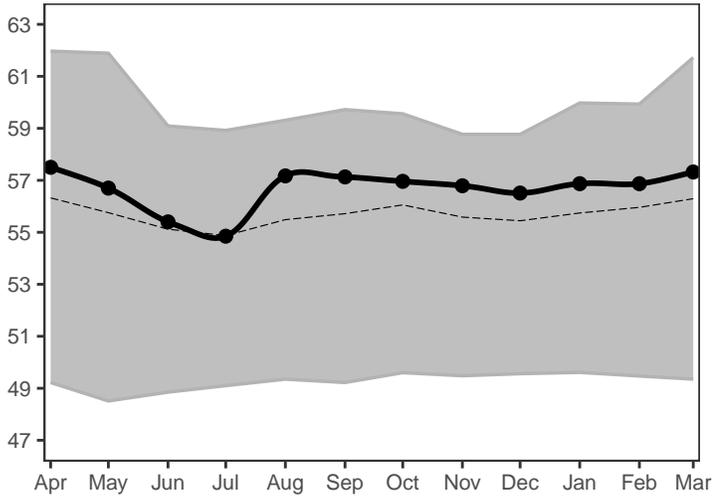


Figure 11, cont.: Monthly Groundwater Statistics

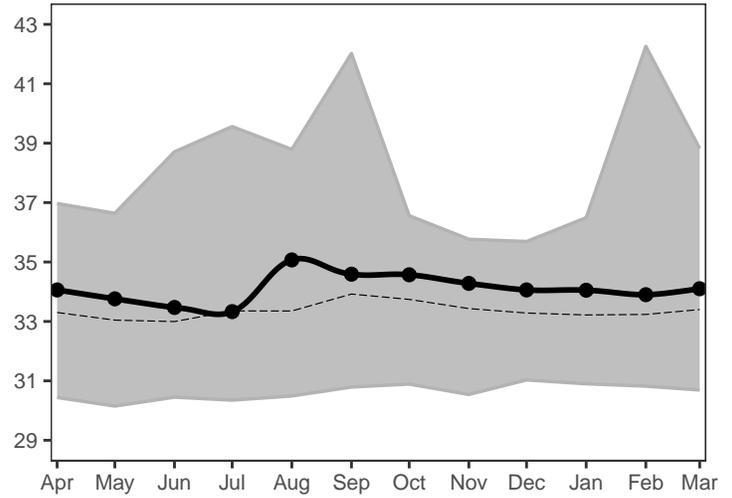
Levels April 2024 through March 2025
 Period of Record Beginning 1976



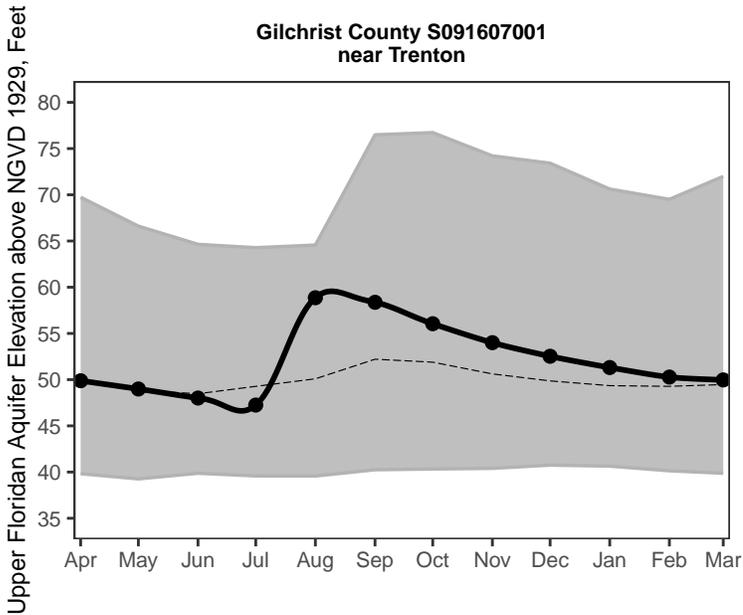
**Union County S051933001
 near Lake Butler**



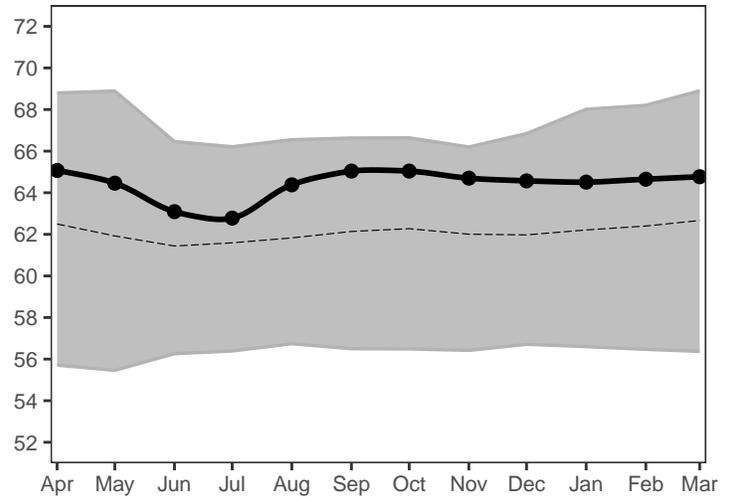
**Alachua County S081703001
 at High Springs**



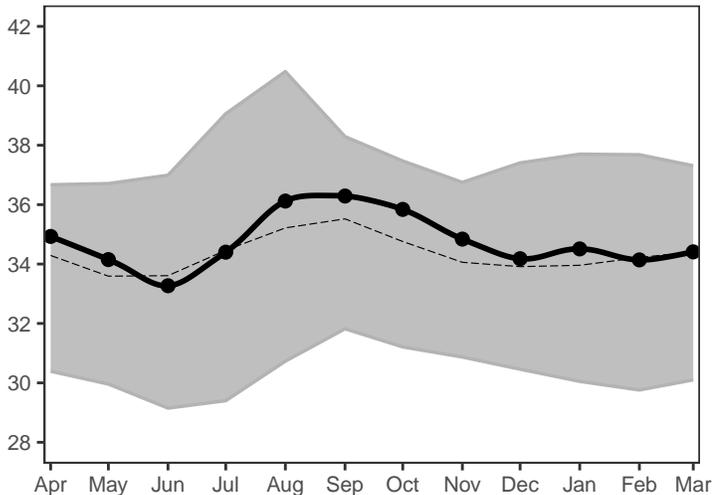
**Gilchrist County S091607001
 near Trenton**



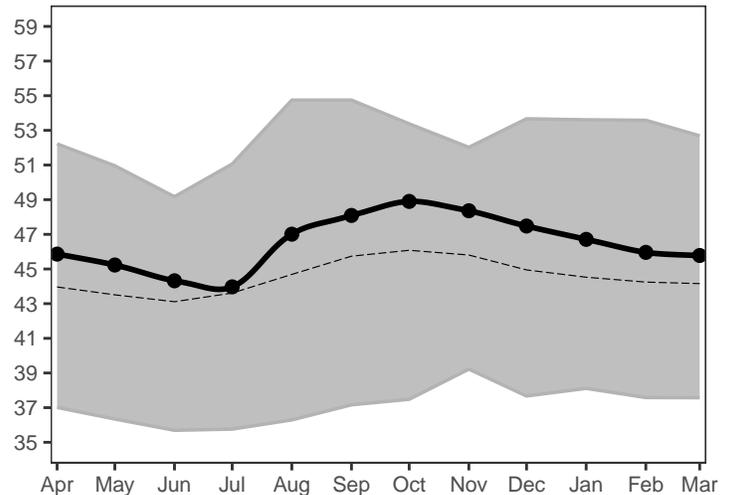
**Bradford County S072132001
 near Graham**

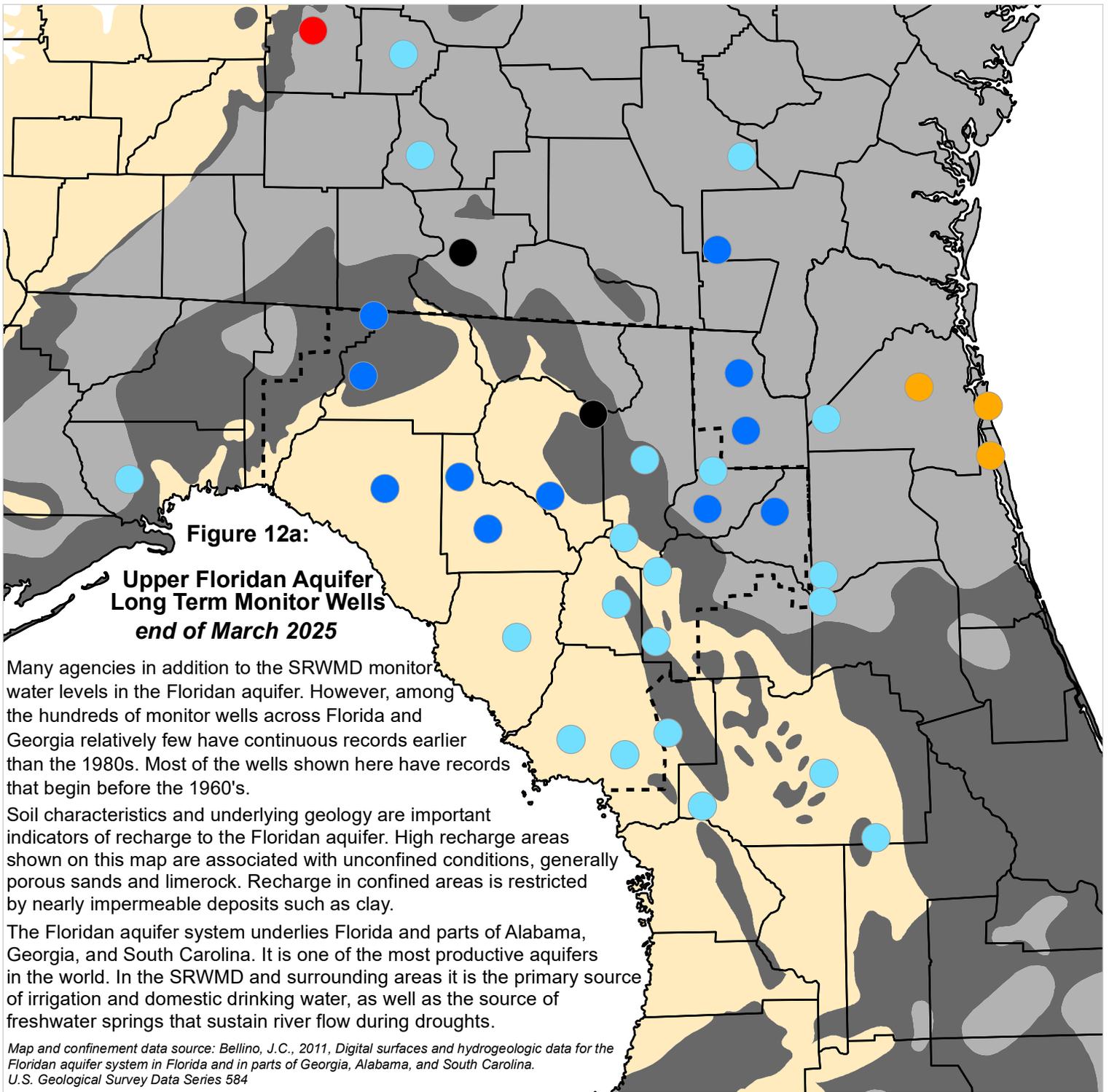


**Dixie County S101210001
 at Cross City**



**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 March 2025

