Northwest Florida Water Management District

Hydrologic Conditions Report

February 2025

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Summary

February 2025 was characterized by below-normal precipitation and above-normal temperatures (averaging around 59.1 degrees Fahrenheit) that contributed to generally normal or below-normal hydrologic conditions across the Panhandle. Abnormally dry conditions returned to the District in the middle of February 2025 and were alleviated toward the end of the month except in northeast Jackson County.

Rainfall

In February 2025, an average of 3.75 inches of rain was recorded across the Panhandle. This amount was 0.99 inches (23.3%) below the District normal rainfall amount for the month of February, which is 4.74 inches (**Table 1; Figures 1 - 7**). Normal rainfall is defined as average monthly rainfall for the 1991-2020 reference period. The distribution of precipitation amounts for the month was fairly uniform across the District (**Figure 1**).

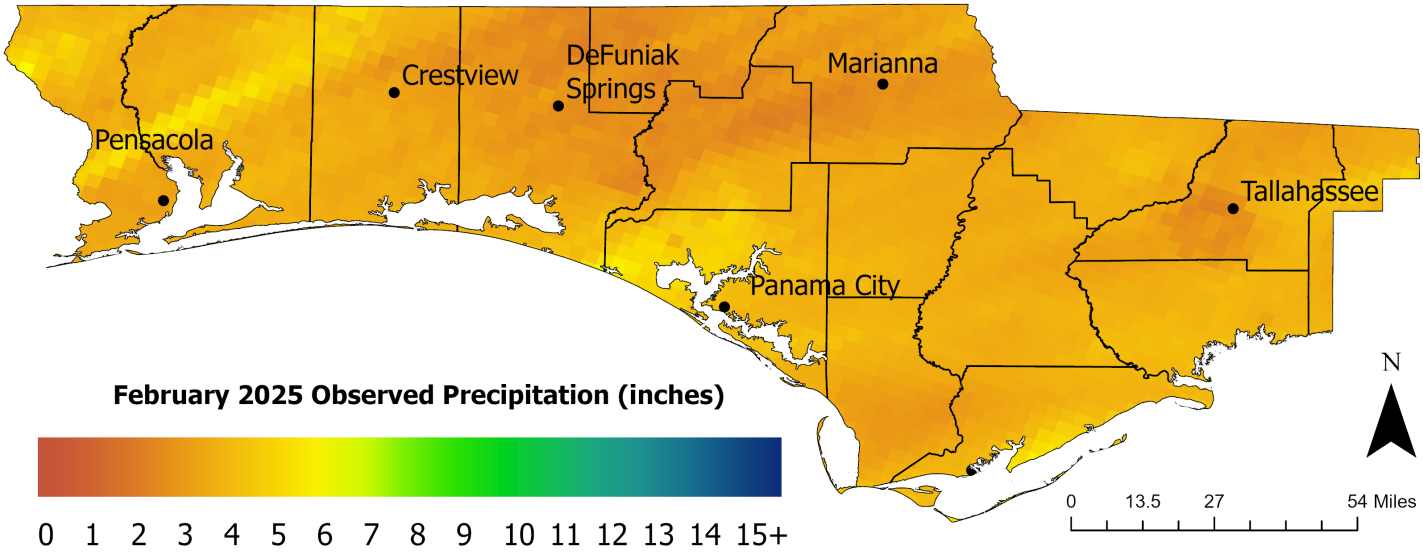
The most significant precipitation event occurred on February 19-20, 2025, when a weak Gulf Low moved into the Panhandle, producing between 1.00 and 2.50 inches of rain. The highest amount of rainfall occurred near the Gulf Coast, particularly in coastal Bay County which received about 2.40 inches of rain.

Table 1: February 2025 rainfall compared to 30-year normal monthly rainfall for Tallahassee, Marianna, Niceville, and Pensacola

Station	February Normal Rainfall (1991 to 2020)	February 2025 Observed Rainfall	Percent Difference
Tallahassee Regional Airport	4.28	3.02	-34.5%
Marianna Regional Airport	4.49	2.95	-41.4%
Niceville, FL	5.25	3.76	-33.1%
Pensacola Regional Airport	4.77	3.08	-43.1%

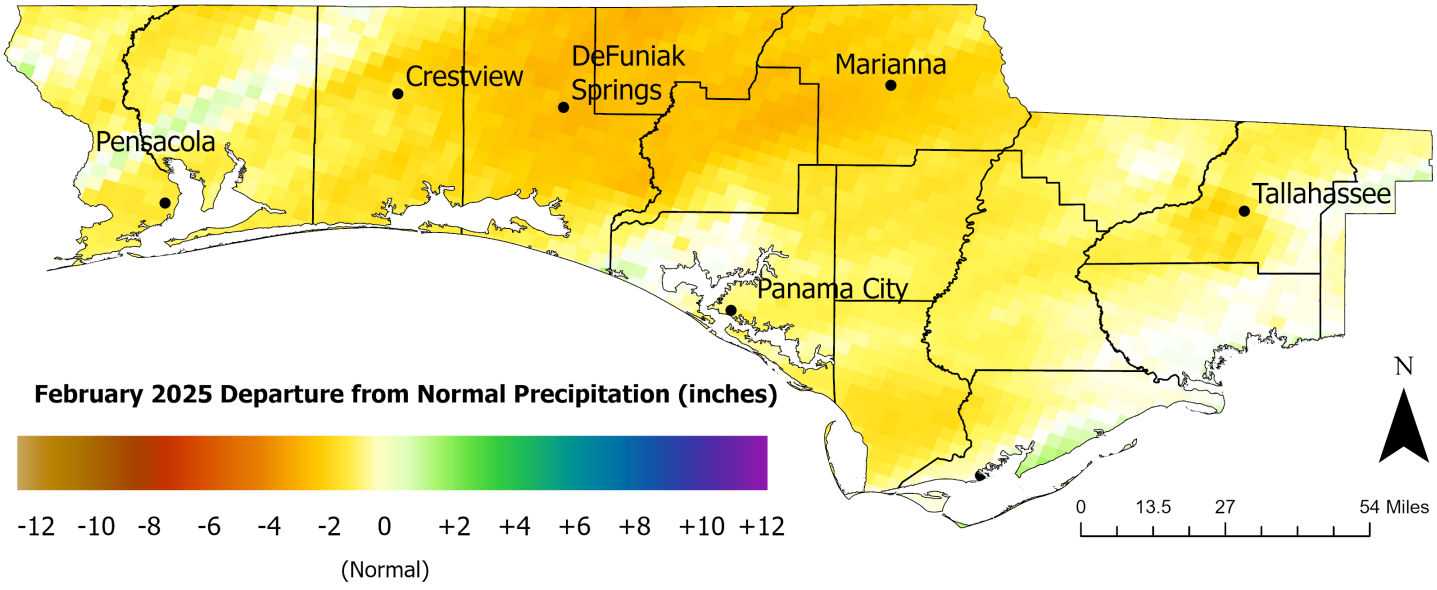
Source: https://www.weather.gov/wrh/Climate?wfo=tae
https://www.weather.gov/wrh/Climate?wfo=mob

Figure 1: District-wide February 2025 observed rainfall



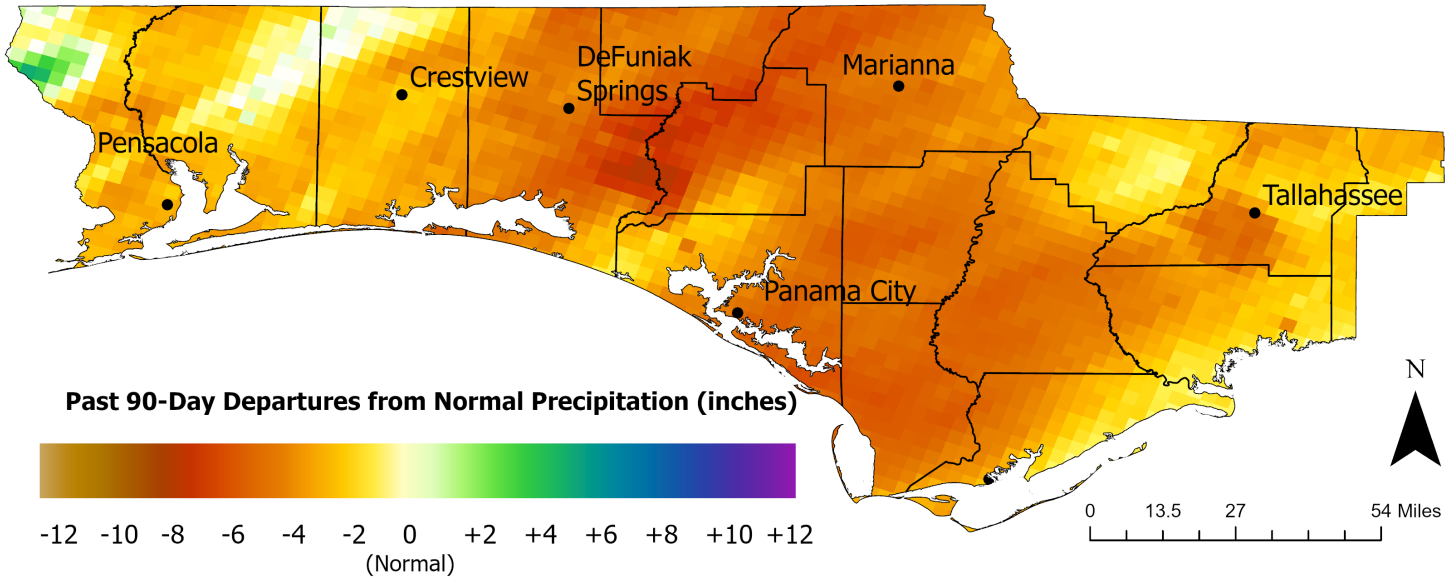
Source: https://water.weather.gov/precip/download.php

Figure 2: District-wide February 2025 precipitation departure from normal



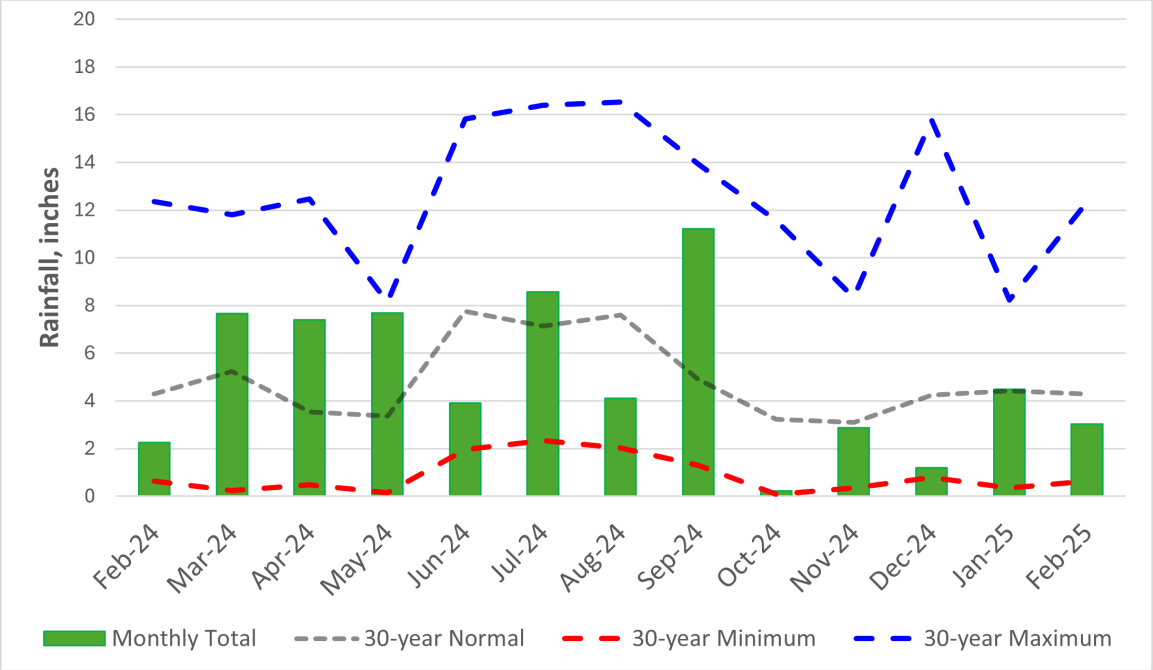
Source: https://water.weather.gov/precip/download.php

Figure 3: District-wide precipitation departure from normal precipitation for the previous 90 days



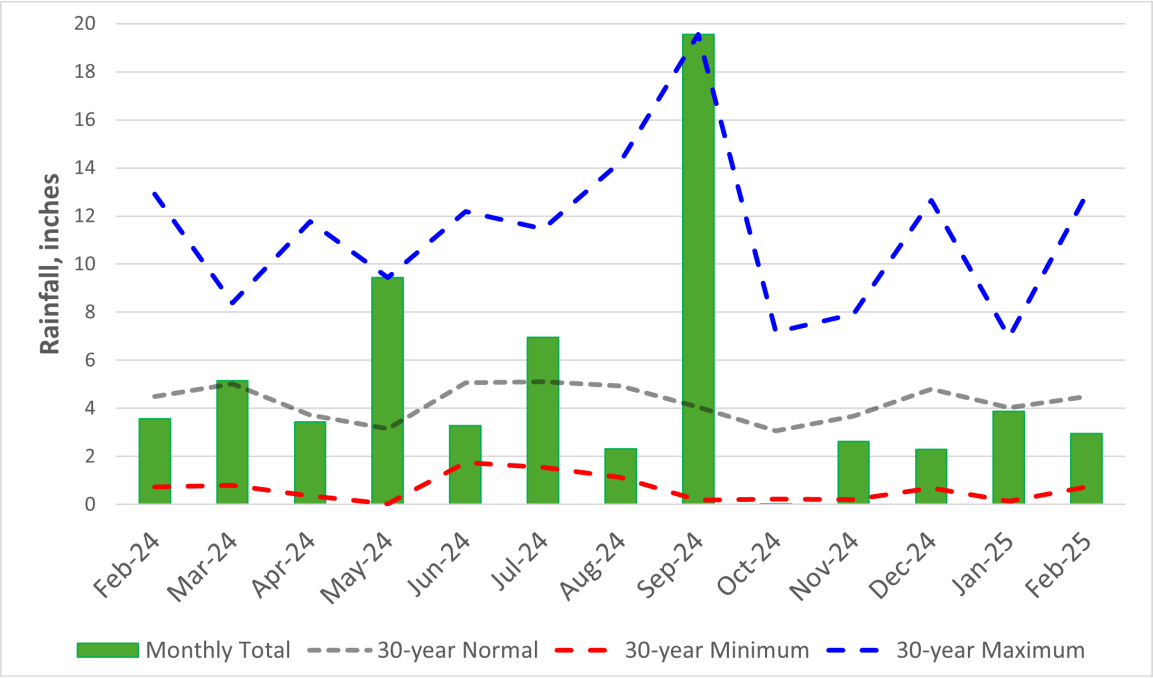
Source: https://water.weather.gov/precip/download.php

Figure 4: Observed rainfall at Tallahassee Regional Airport for February 2024 to February 2025 compared to the 30-year normal, minimum, and maximum precipitation for each month



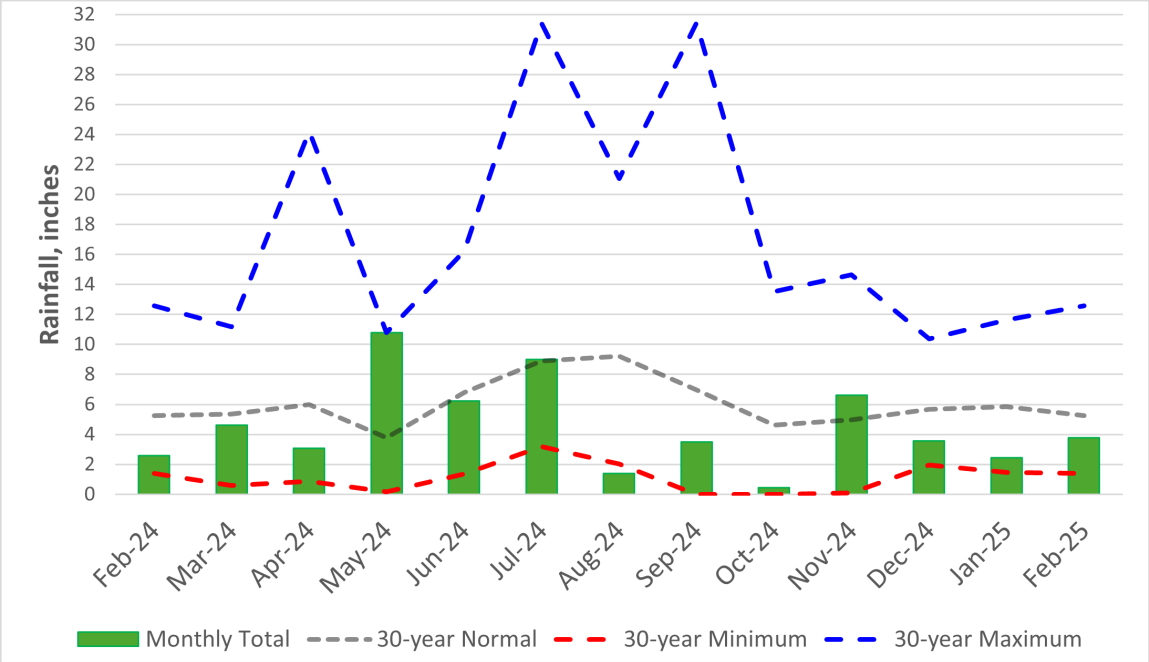
Source: https://www.weather.gov/wrh/Climate?wfo=tae

Figure 5: Observed rainfall at Marianna Regional Airport for February 2024 to February 2025 compared to the 30-year normal, minimum, and maximum precipitation for each month



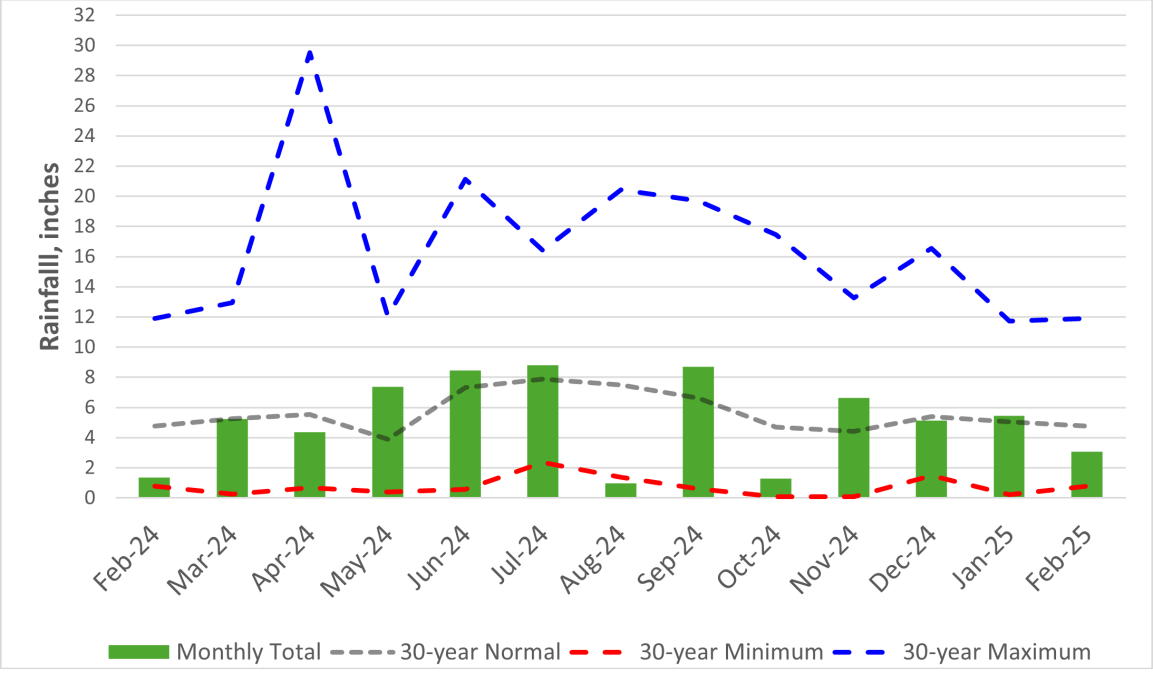
Source: https://www.weather.gov/wrh/Climate?wfo=tae

Figure 6: Observed rainfall in Niceville for February 2024 to February 2025 compared to the 30-year normal, minimum, and maximum precipitation for each month



Source: https://www.weather.gov/wrh/Climate?wfo=mob

Figure 7: Observed rainfall at Pensacola Regional Airport for February 2024 to February 2025 compared to the 30-year normal, minimum, and maximum precipitation for each month



Source: https://www.weather.gov/wrh/Climate?wfo=mob

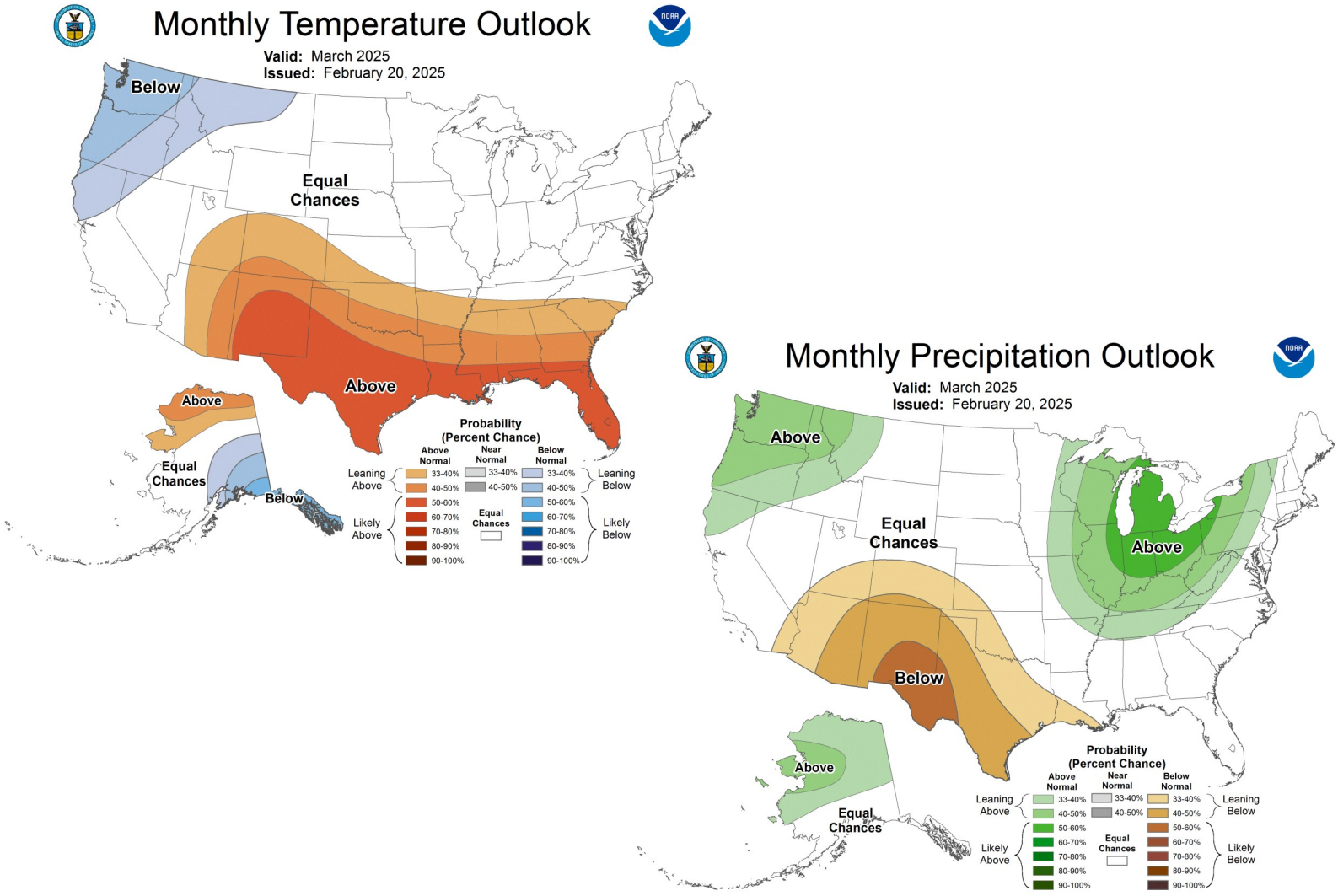
Climate Outlook

According to NOAA's Climate Prediction Center, the forecast issued February 20, 2025, for March 2025 shows a likely chance for above normal temperatures and equal chances for above or below normal rainfall amounts across the Panhandle. (Figure 8).

As of February 24, 2025, La Niña conditions are present and a transition to ENSO-neutral is likely sometime between March and May 2025 (66% chance). In the spring, La Niña is associated with warmer and drier conditions than usual for the southern United States.

Source: https://www.cpc.ncep.noaa.gov/products/predictions/30day/
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

Figure 8: March 2025 Temperature and Precipitation Outlooks for the United States



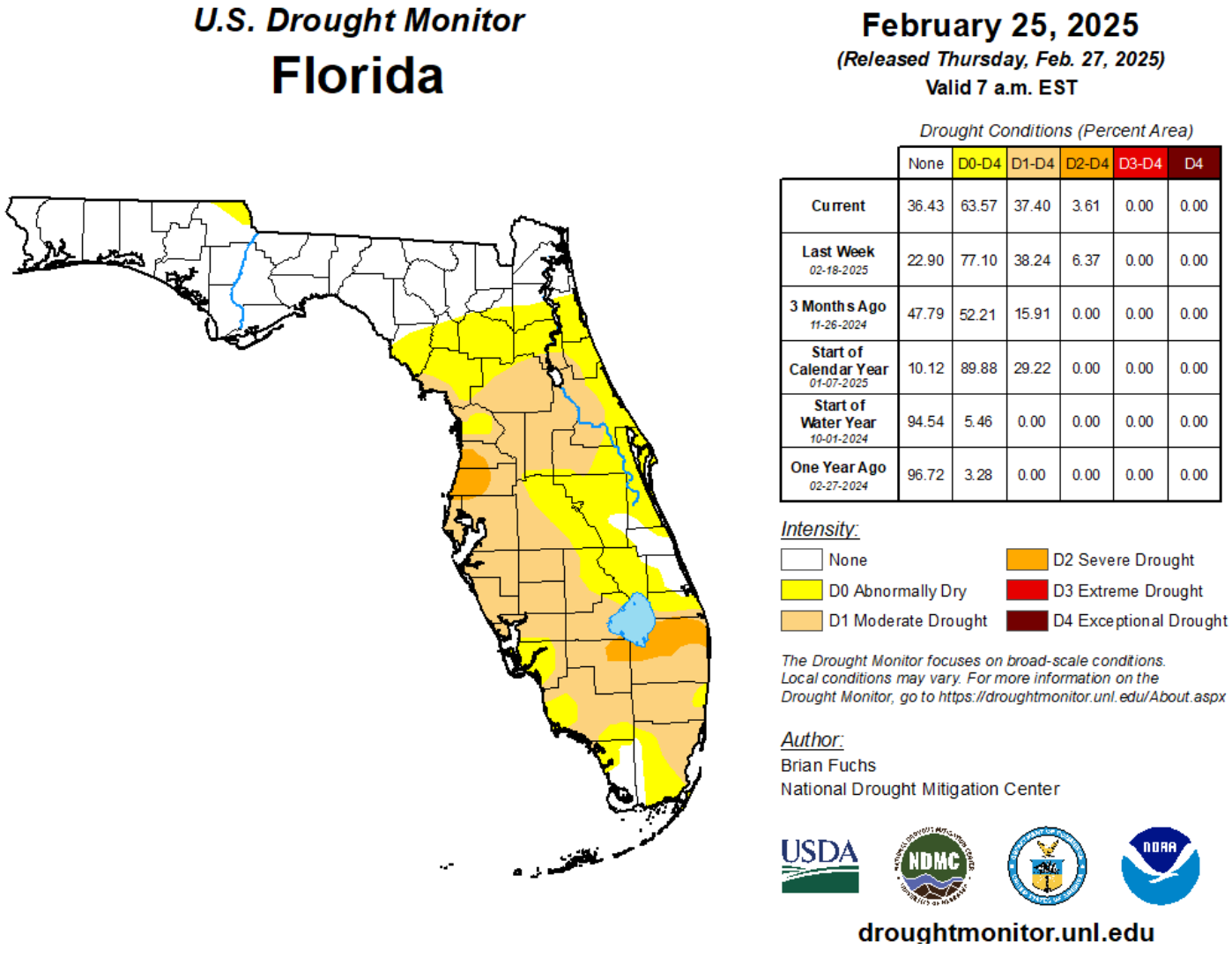
Source: https://www.cpc.ncep.noaa.gov/products/predictions/30day/

Drought Conditions

In the middle of February 2025, abnormally dry conditions formed in the central and eastern regions of the District. The U.S. Drought Monitor report released for February 25, 2025, showed abnormally dry conditions had been alleviated for the District except for a small region in northeast Jackson County. The rest of the District remained free of drought conditions through February 2025 (Figure 9).

According to the U.S. Monthly Drought Outlook for March 2025, drought is not expected to develop in the District.

Figure 9: Florida Drought Conditions on February 25, 2025



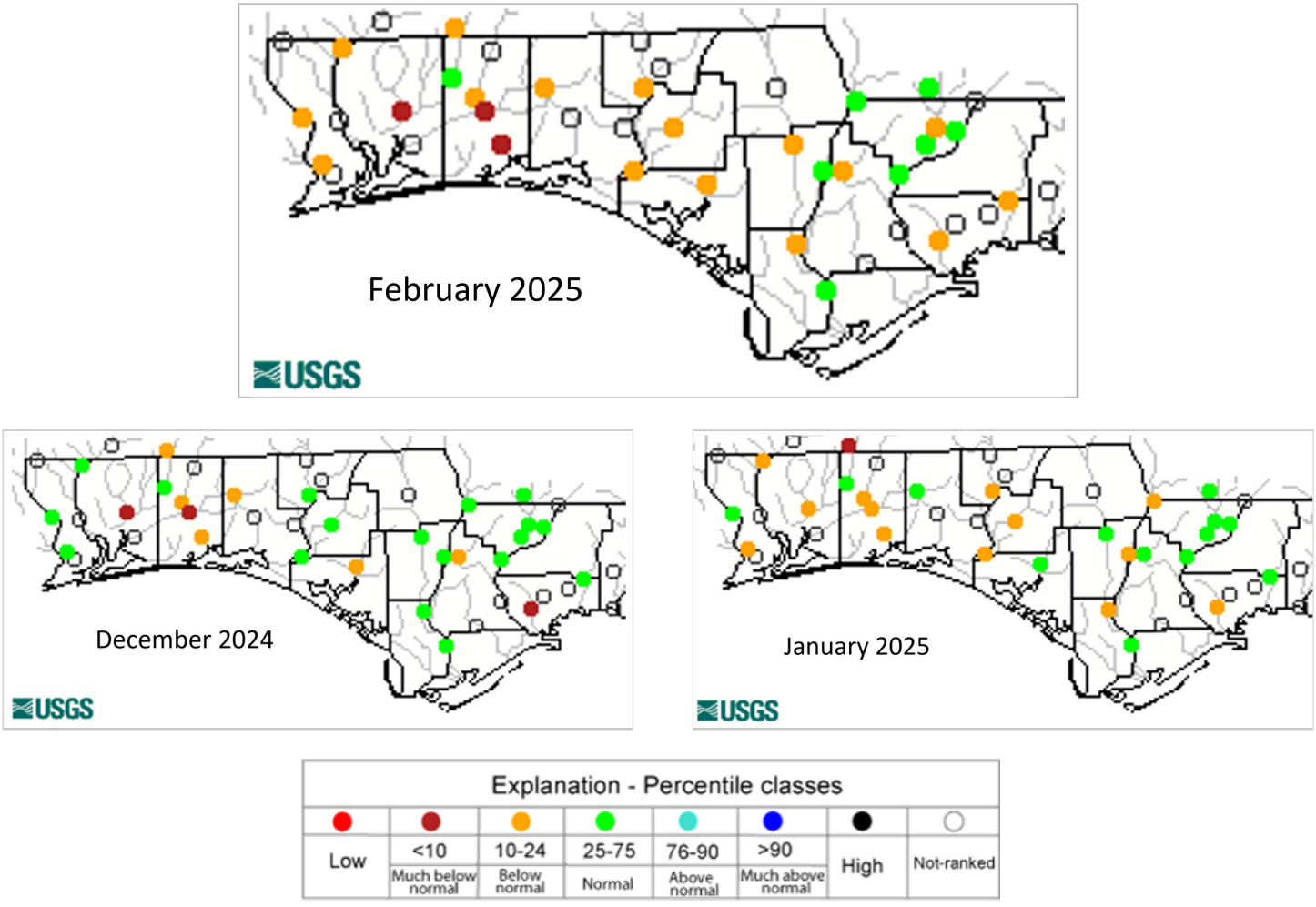
Source: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?FL

Surface Water

Streamflows. Below-normal rainfall amounts throughout February 2025 (**Figures 1 & 2**) contributed to a majority of below-normal streamflow percentiles across the Panhandle (**Figures 10–16**). This is likely a result of the precipitation deficit built between December 2024 and February 2025 (**Figure 3**). Three stations, one in central Santa Rosa County and two in Okaloosa County, recorded flows classified as much below normal.

In many of the time-series plots, a steep increase in flow can be seen around the significant precipitation event that occurred February 19-20, 2025 (**Figures 11–16**).

Figure 10: Northwest Florida December 2024 to February 2025 monthly streamflow percentiles



Source: http://waterwatch.usgs.gov/index.php

Figure 11: Daily streamflows and percentile ranges for USGS station 02326900 St. Marks River Near Newport, Florida

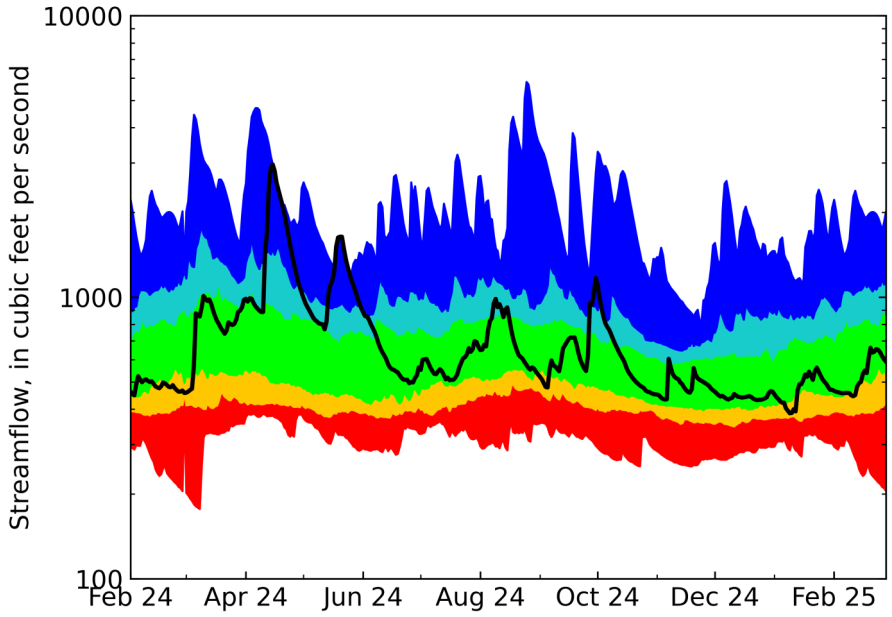


Figure 12: Daily streamflows and percentile ranges for USGS Station 02329000 Ochlockonee River Near Havana, Florida

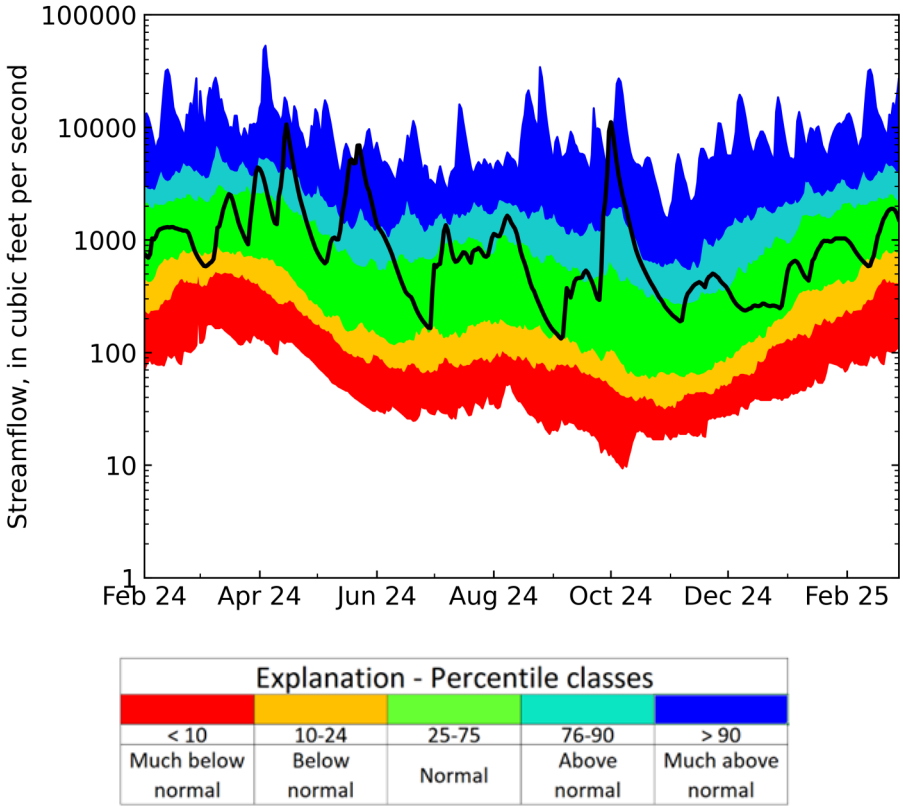


Figure 13: Daily streamflows and percentile ranges for USGS Station 02358700 Apalachicola River Near Blountstown, Florida

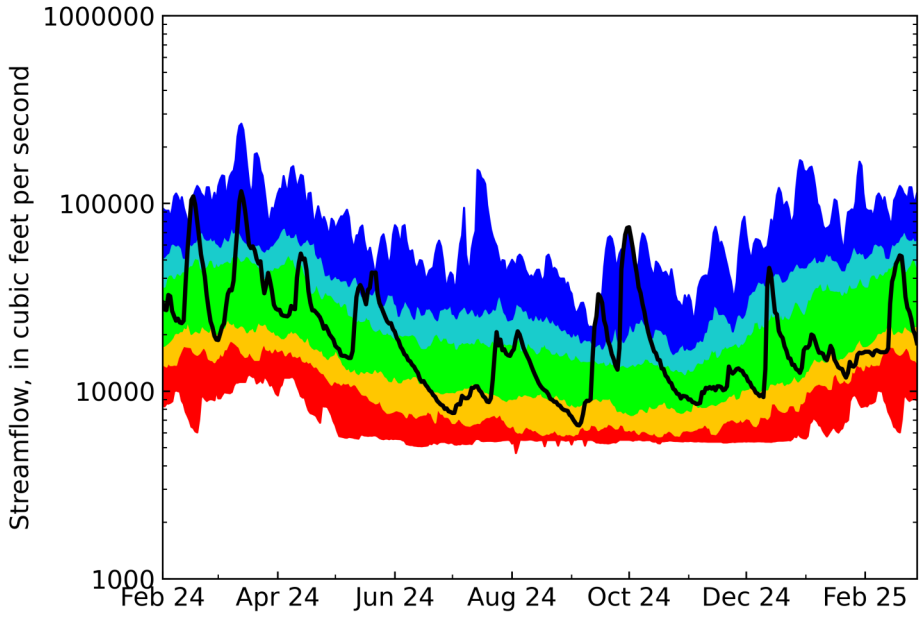


Figure 14: Daily streamflows and percentile ranges for USGS Station 02366500 Choctawhatchee River Near Bruce, Florida

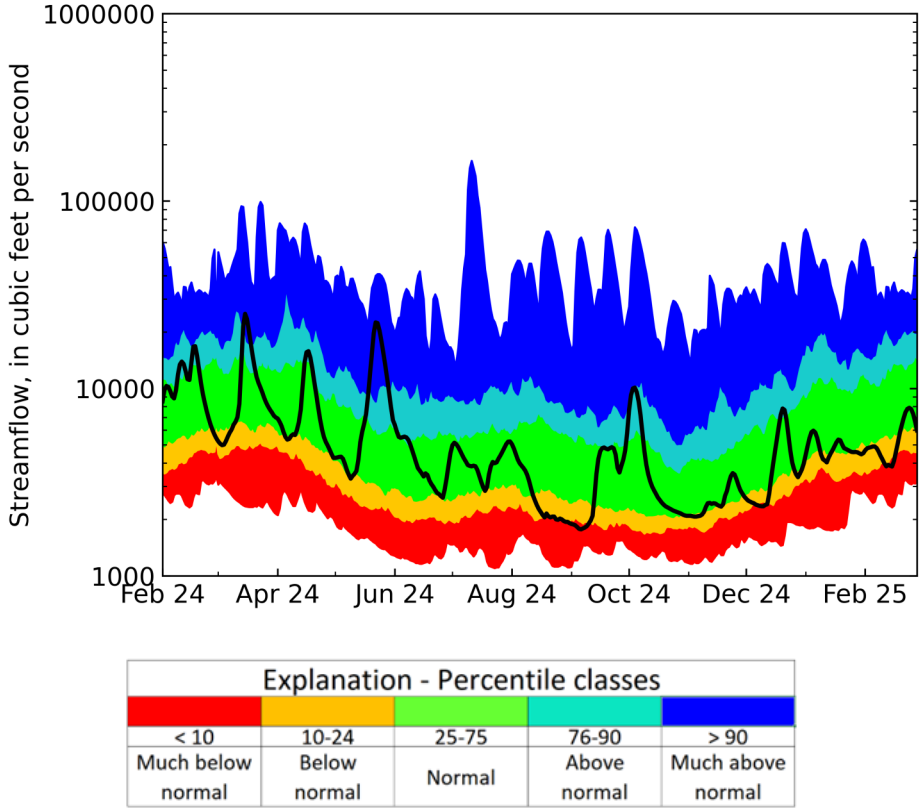


Figure 15: Daily streamflows and percentile ranges for USGS Station 02370000 Blackwater River Near Baker, Florida

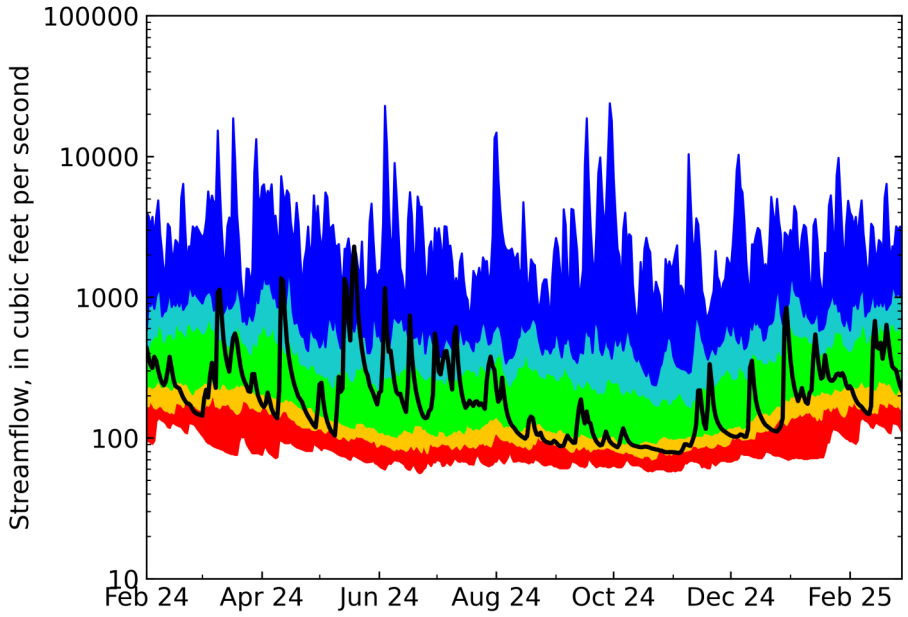
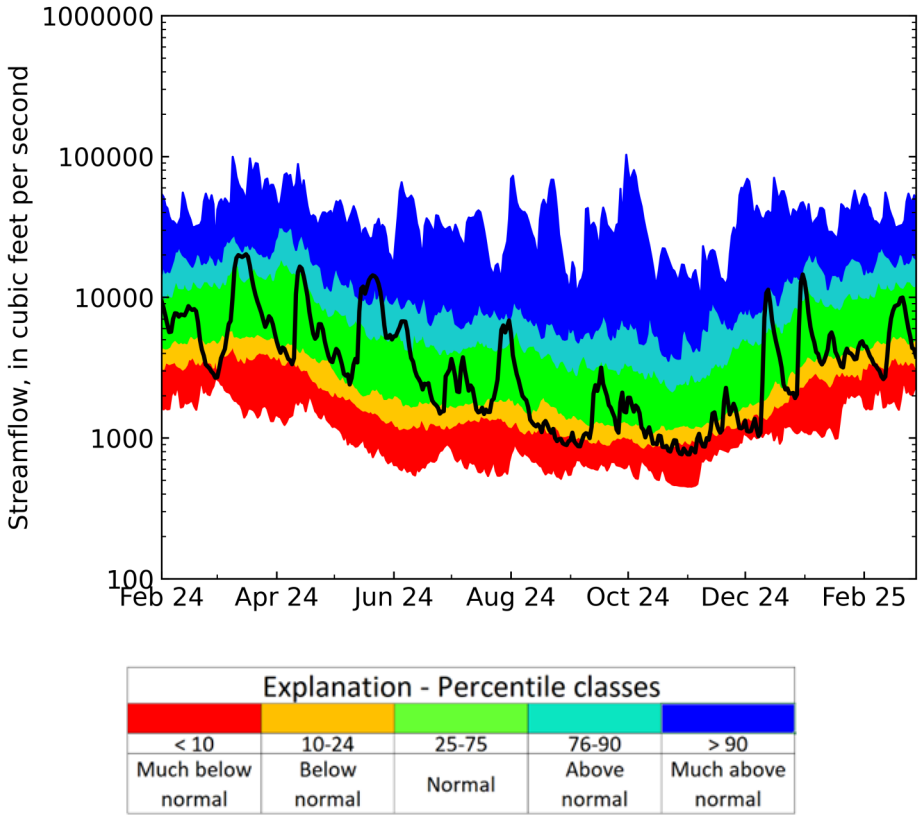


Figure 16: Daily streamflows and percentile ranges for USGS Station 02375500 Escambia River Near Century, Florida



Lake Levels. Water levels at Lake Jackson in Leon County remained generally stable around 81.41 feet, NAVD 1988 in February 2025 (**Figure 17**). The long-term (January 29, 2003, to January 31, 2025) average stage level for Lake Jackson is 80.89 feet, NAVD 1988, and the full pool level is 85.74 feet, NAVD 1988.

At Piney Lake in southern Washington County, water levels generally decreased by 0.30 feet throughout February 2025, reaching the lowest level since monitoring began during the 2022 flooding event. Piney Lake ended the month with a stage level of 48.59 feet, NAVD 1988 (**Figure 18**).

Figure 17: Daily water levels at Lake Jackson at Miller Landing, Leon County

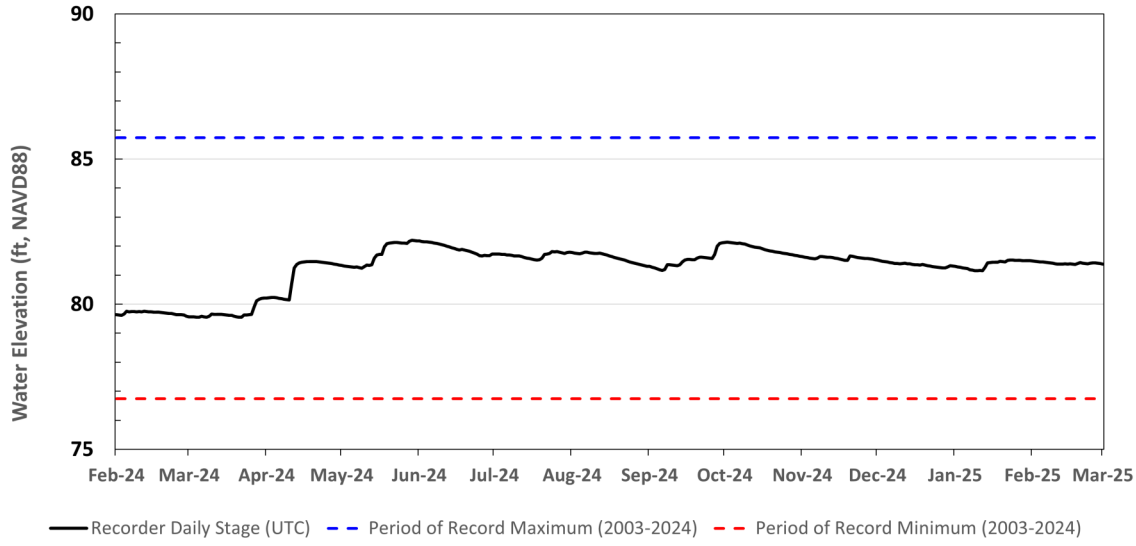
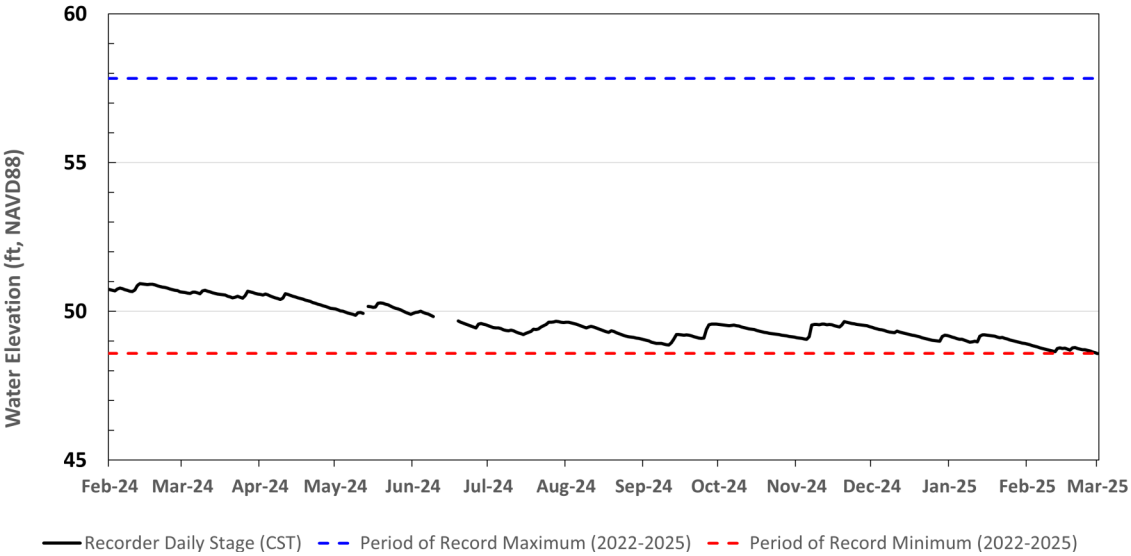


Figure 18: Daily water levels at Piney Lake, Washington County



Spring Flows

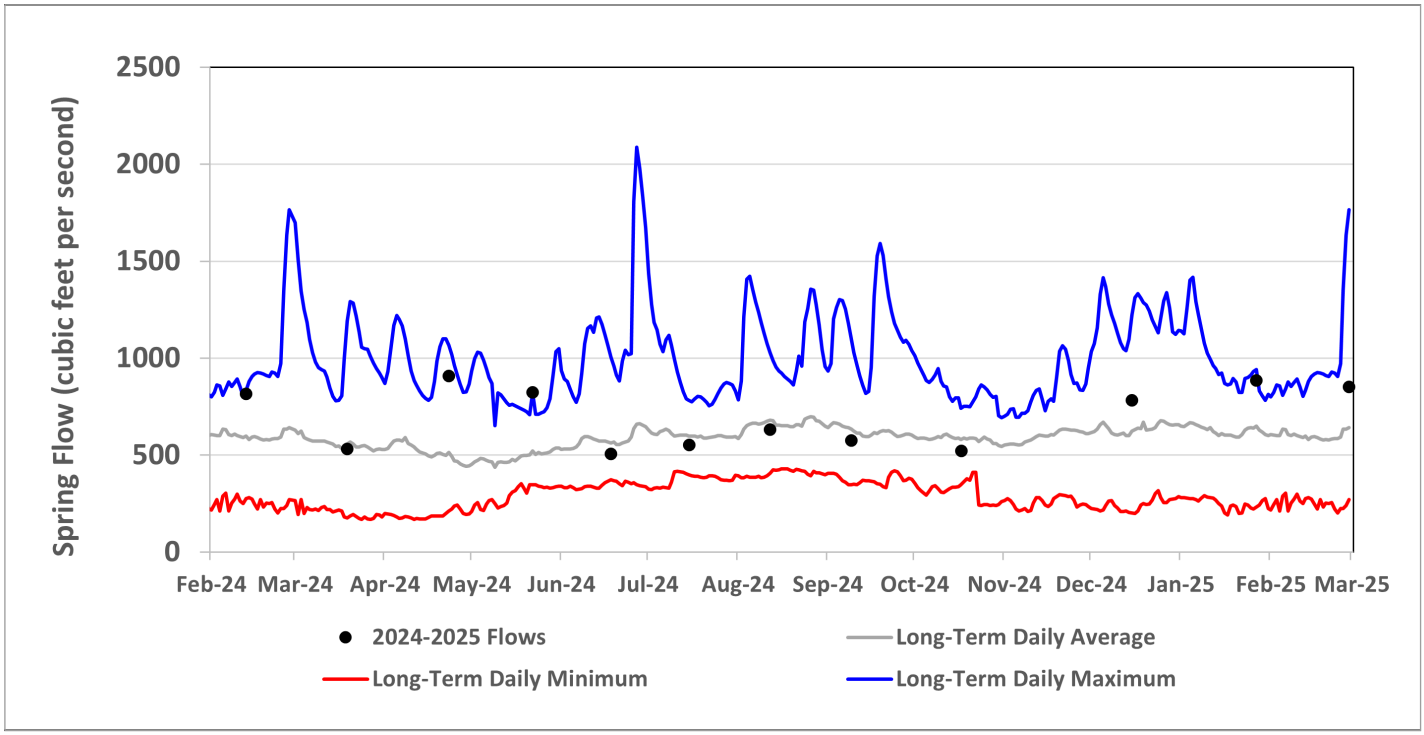
Wakulla and Sally Ward Spring System. Flow at Wakulla Spring decreased slightly between the measurements taken in January and February 2025 but remains above the long-term average flow for this time of year. The most recent flow measurement for Wakulla Spring was 852 cubic feet per second (cfs), which was conducted on February 28, 2025 (Figure 19). The long-term (October 23, 2024, to February 28, 2025) average flow for the month of February is 601 cfs.

Flow at Sally Ward Spring increased by 0.5 cfs between the measurements taken in January and February 2025. The most recent flow measurement for Sally Ward was 27.5 cfs on February 26, 2025. This measurement was 1.1 cfs lower than the long-term (November 1, 2004, to February 26, 2025) average flow of 28.6 cfs for the month of February.

The Minimum Flow established for the combined Wakulla and Sally Ward Spring System under Florida Administrative Code chapter 40A-8.041 continue to be met. The long-term (October 23, 2004, through January 27, 2025) average flows for Wakulla and Sally Ward Springs are 589 cfs and 24.3 cfs, respectively. The combined long-term spring flow for both systems is 613 cfs, which exceeds the established Minimum Flow of 539 cfs by 73 cfs.

Figure 19: Daily Wakulla Spring flows

Data from November 1, 2023, through December 31, 2024, represent discrete measurements. Daily statistics are based on the October 23, 2004, through February 28, 2025 period of record.

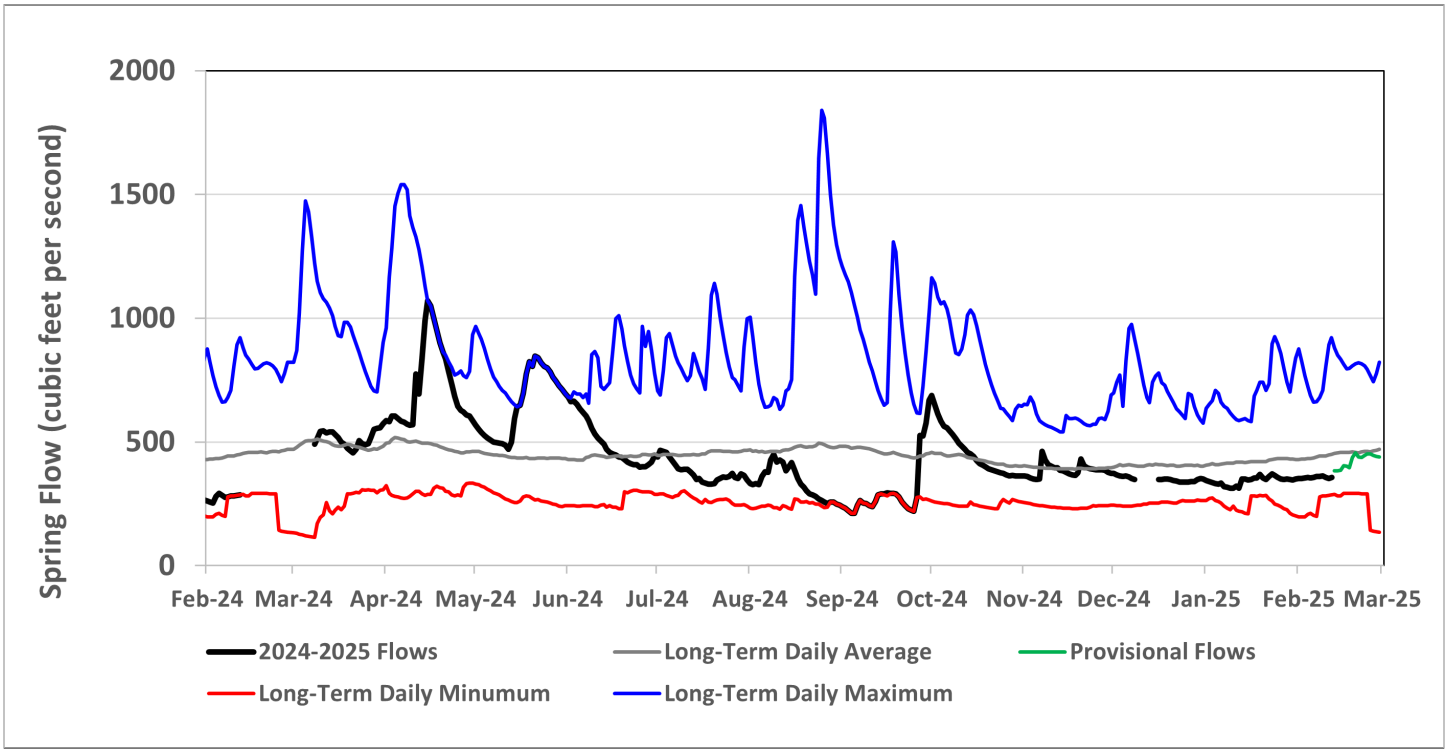


St. Marks River Rise. The mean daily spring flow for February 2025 at the St. Marks River Rise was 395 cfs, based on the available USGS provisional data which extends through February 28, 2025 (**Figure 20**).

The current 30-year moving average spring flow for the St. Marks River Rise based on the most recent approved USGS data (November 15, 1993, through December 3, 2024) is 423 cfs. If the provisional data from December 4, 2024, through February 28, 2025, are included, the 30-year moving average spring flow for the St. Marks River Rise is 422 cfs.

The established Minimum Flow for the St. Marks River Rise is 419 cfs. Whether using the approved or provisional data, the 30-year moving average flow exceeded the established Minimum Flow for the St. Marks River Rise by 4 cfs and 3 cfs, respectively.

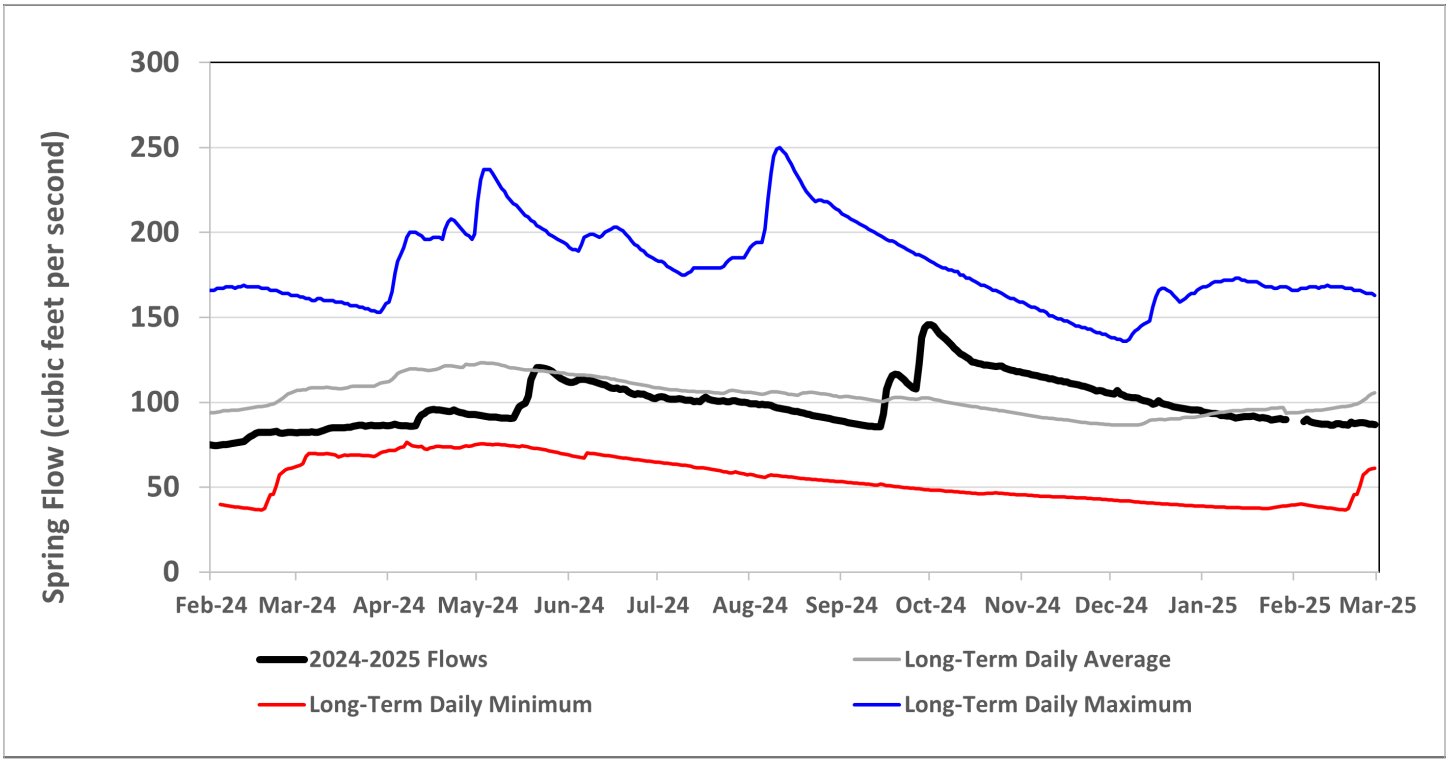
Figure 20: Daily spring flows for the St. Marks River Rise



Jackson Blue Spring. Daily flows at Jackson Blue Spring for the month of February 2025 averaged 87.0 cfs. This was below the long-term (December 21, 2004, through February 28, 2025) average flow for the month of February of 97.0 cfs (**Figure 21**).

Figure 21: Daily spring flows for Jackson Blue Spring

Data represents daily averages. Long-term flows represent the daily average between December 21, 2004, and February 28, 2025

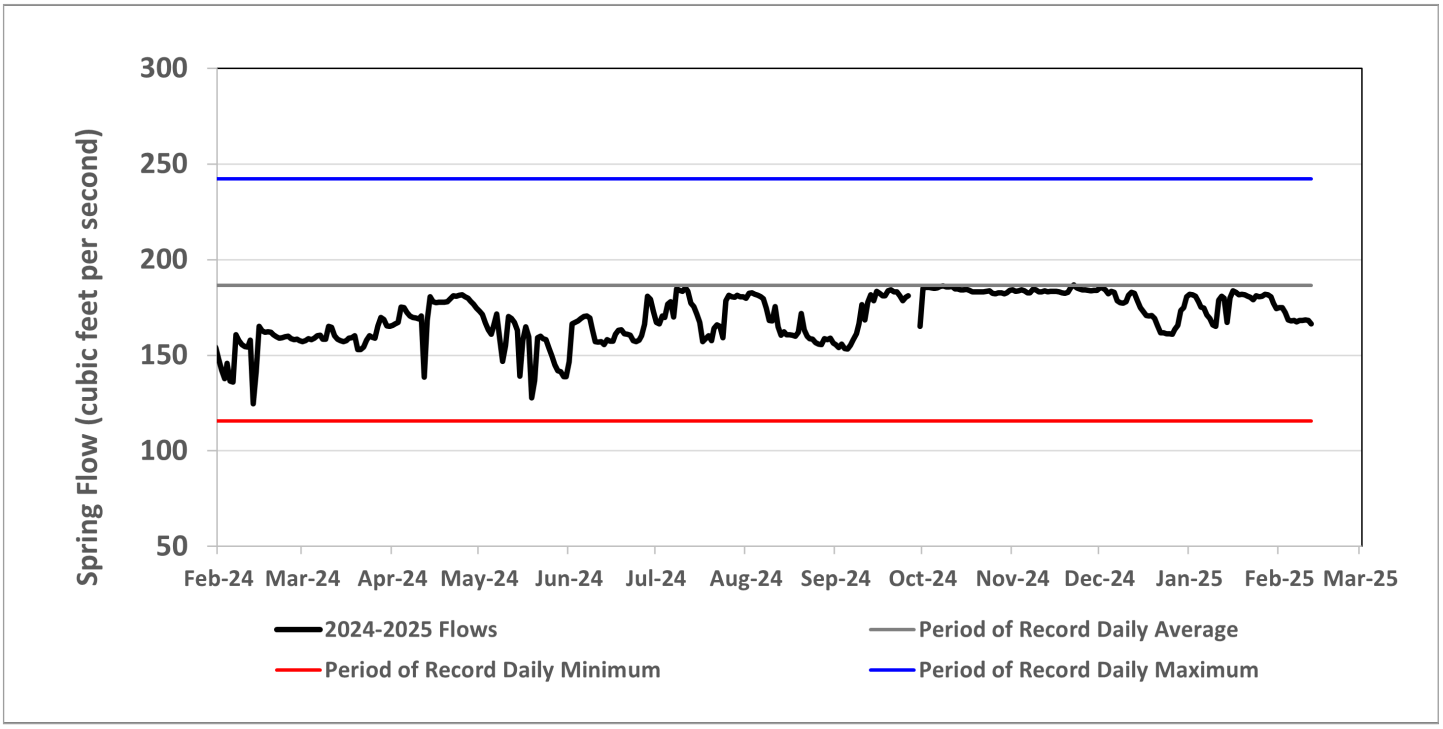


Gainer Spring Group. During February 2025 (February 1 to February 12, 2024), flow at the Gainer Spring Group was 169 cfs (**Figure 22**). The period of record (October 28, 2019, through February 12, 2025) average monthly spring flow for February is 179 cfs. It should be noted there is a relatively brief period of record for this system, and spring flows among the highest and lowest on record are to be expected.

Throughout the timeseries, there are several drops and recoveries in the spring flow. This is caused by Econfina Creek spiking in stage adjacent to the spring group after rain events. The extra pressure exerted on the groundwater by the surface water in the stream slows flow from the spring group. Since Econfina Creek does not tend to stay high for long after the conclusion of a rain event, as the stage level quickly drops, the flow from the spring group recovers since there is less pressure from the stream.

Figure 22: Gainer Spring Group flows

Data represents daily averages. Streamflow statistics are not shown due to the relatively short period of daily data.



Aquifer Levels

In the middle of February 2025, all depicted Floridan aquifer monitor wells were classified as within normal ranges except for Jackson Still Floridan monitor well (NWFID 5417) in northern Walton County, Sand Hill Upper Floridan monitor well (NWFID 5597) in northwestern Okaloosa County, and McCulloch #1 well (NWFID 29) in coastal Franklin County (Figures 23 - 29). The Jackson Still Floridan and Sand Hill Upper Floridan monitor wells have continued to be classified as below normal with water levels at Sand Hill Upper Floridan decreasing even further into much below normal ranges during February 2025. Water levels at McCulloch #1 well were previously classified as within normal ranges during mid-January 2025 but have since decreased into below normal ranges.

All depicted sand-and-gravel aquifer monitor wells have continued to record below normal groundwater levels except for NWFWMD - Weller Ave Deep monitor well (NWFID 1382) in southern Escambia County (Figure 23), which has been classified as above normal since the end of November 2024 (Figure 29).

Figure 23: Floridan aquifer monitor wells and aquifer level percentiles for mid-February 2025

Percentile class rankings are based on each well's period of record. All wells have a minimum of 20 years of data.

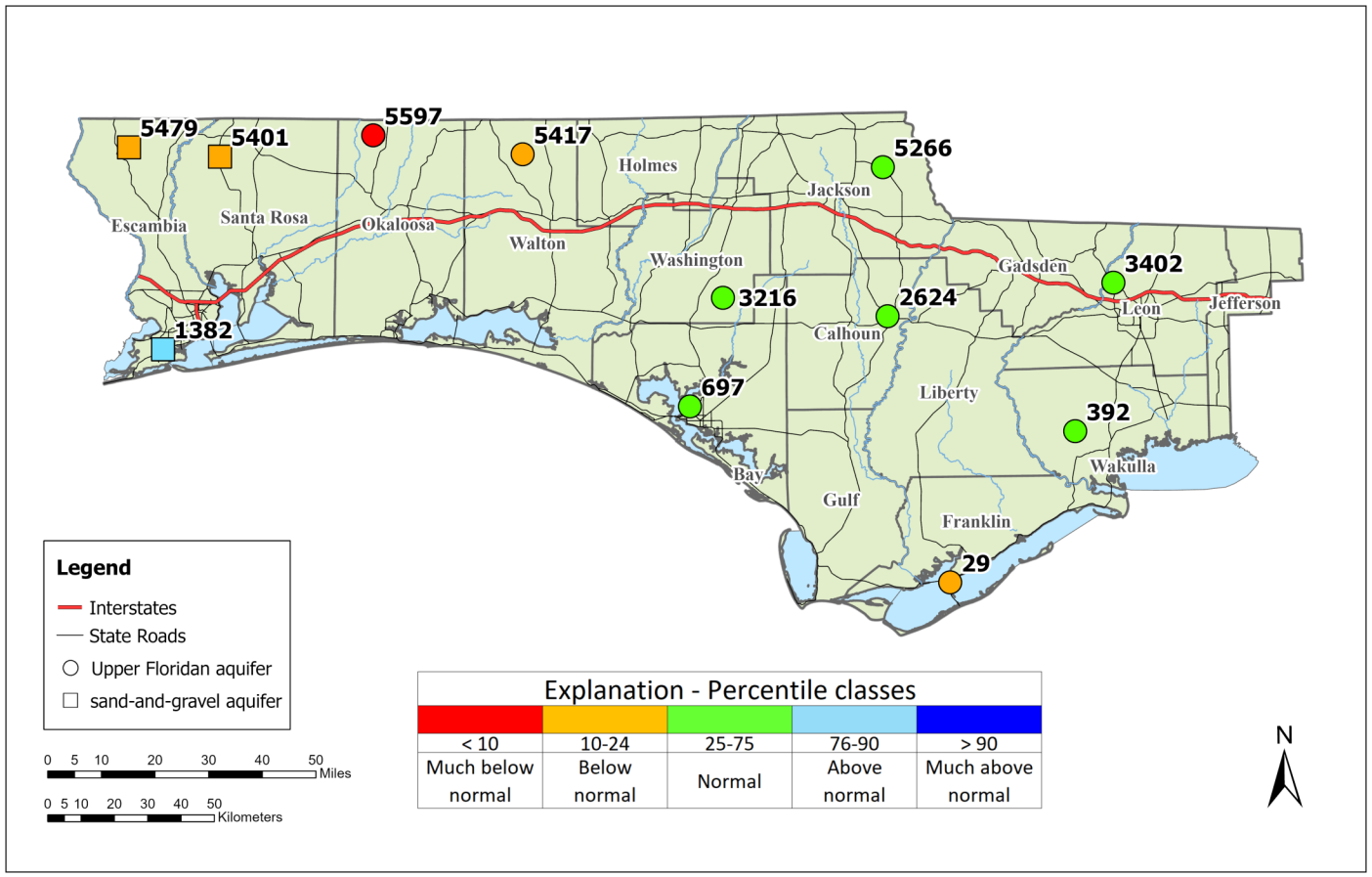


Figure 24: Daily Upper Floridan aquifer levels at USGS-Lake Jackson well (NWFID 3402), Leon County

Land surface elevation is 121.40 ft, NAVD 88

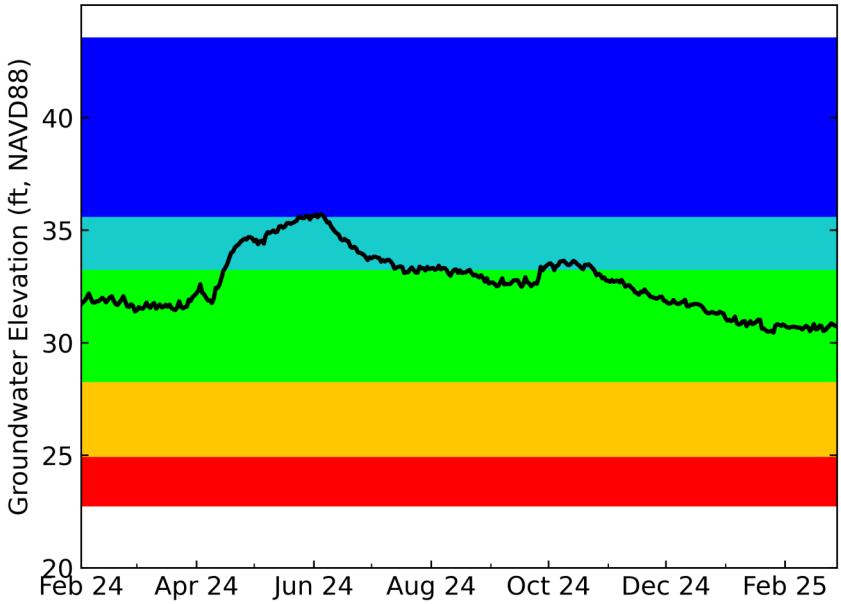
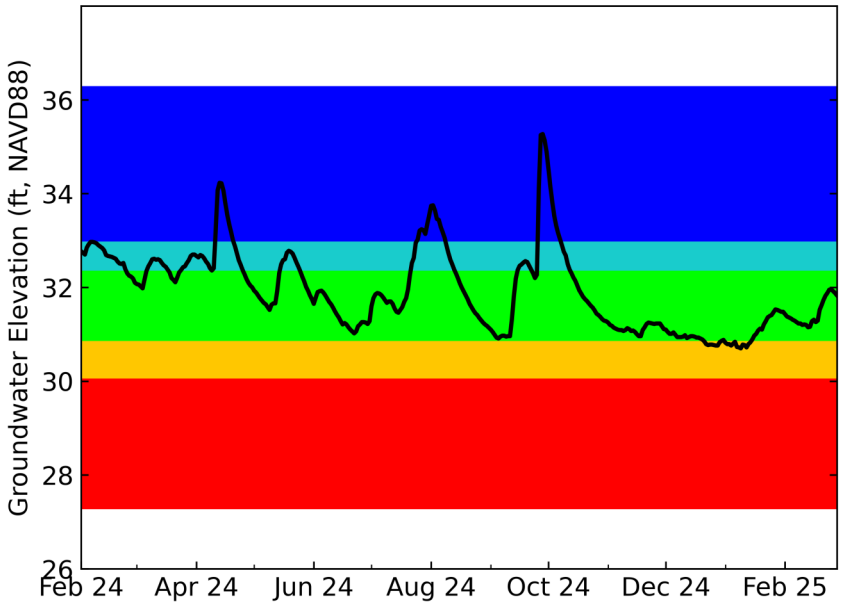


Figure 25: Daily Upper Floridan aquifer levels at USGS Benchmark well (NWFID 392), Wakulla County

Land surface elevation is 46.27 ft, NAVD 88



Explanation - Percentile classes				
< 10	10-24	25-75	76-90	> 90
Much below normal	Below normal	Normal	Above normal	Much above normal

Figure 26: Daily Upper Floridan aquifer levels at NWFWMD Pittman Visa well (NWFID 5266), Jackson County

Land surface elevation is 127.31 ft, NAVD 88

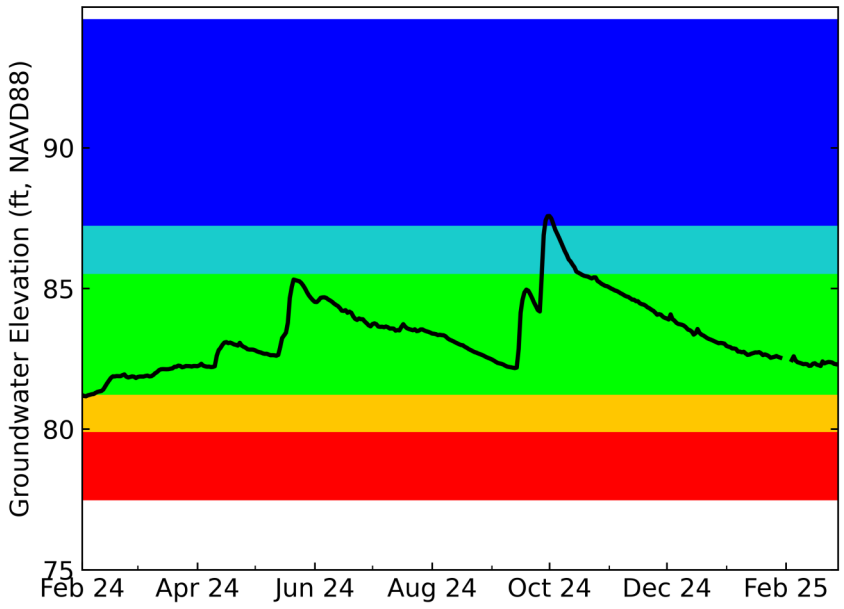


Figure 27: Daily Upper Floridan aquifer levels at USGS-422A Near Greenhead well (NWFID 3216), Washington County

Land surface elevation is 66.75 ft, NAVD 88

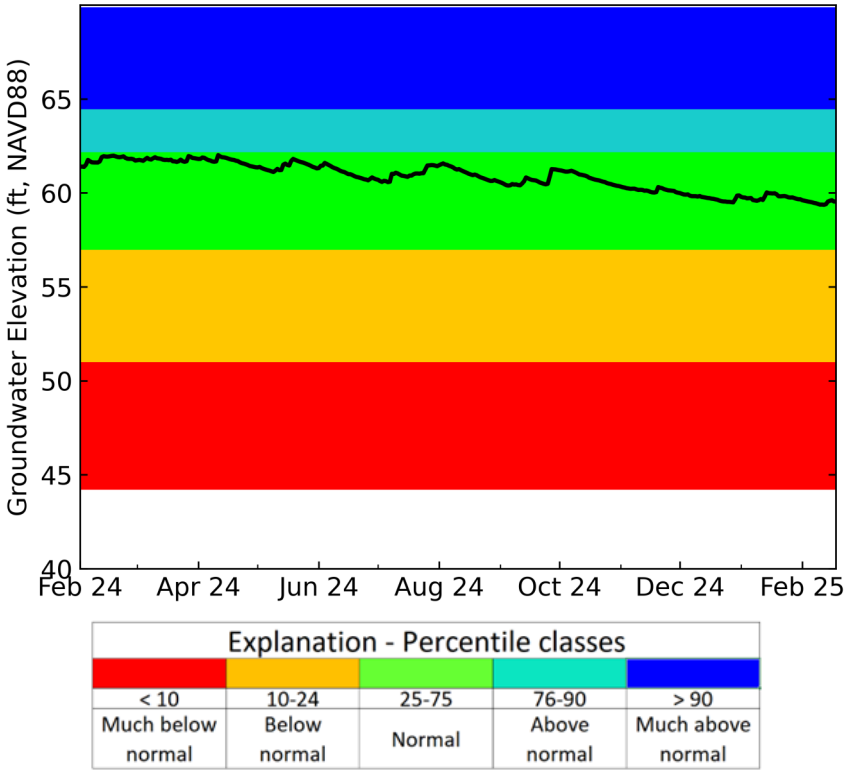


Figure 28: Daily Upper Floridan aquifer levels at Fannin Airport well (NWFID 697), Washington County

Land surface elevation is 4.05 ft, NAVD 88

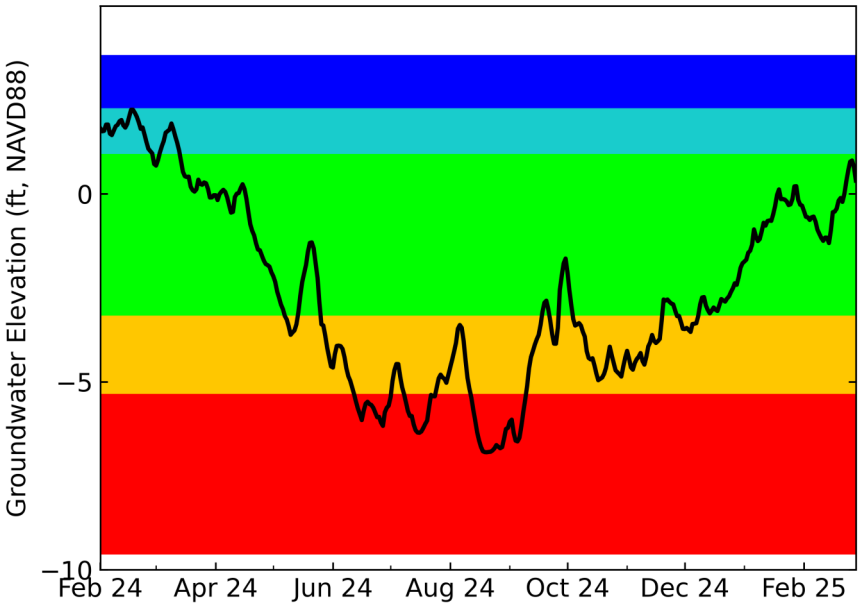
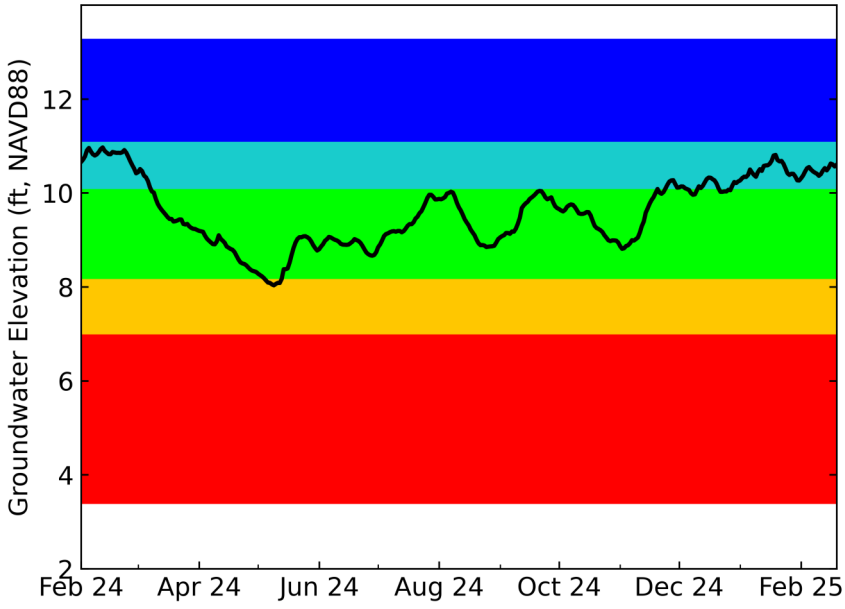


Figure 29: Daily sand-and-gravel aquifer levels at NWFWMD Weller Ave Deep well (NWFID 1382), Escambia County

Land surface elevation is 25.09 ft, NAVD 88



Explanation - Percentile classes				
< 10	10-24	25-75	76-90	> 90
Much below normal	Below normal	Normal	Above normal	Much above normal