



Hydrologic Conditions Report

January 2025

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Summary

January 2025 was characterized by below normal precipitation and below normal temperatures (averaging around 45.7 degrees Fahrenheit) that contributed to generally normal or below normal hydrologic conditions across most of the Panhandle. A rare winter storm brought a wintry mix of snow, sleet, and freezing rain to North Florida. Drought was alleviated in the District after several months of abnormally dry and moderate drought conditions.

Precipitation

In January 2025, an average of 3.93 inches of rain was recorded across the Panhandle. This amount was 1.22 inches (26.9%) below the District normal rainfall amount for the month of January, 5.15 inches (**Table 1; Figures 1 - 7**). Normal rainfall is defined as average monthly rainfall for the 1991 to 2020 reference period. The distribution of precipitation amounts for the month was fairly uniform across the District (**Figure 1**).

There were two significant precipitation events in January 2025. The first significant event occurred January 12-13, 2025, when a cold front passed through the District, producing between 0.50 and 3.00 inches of rain across the Panhandle.

The second significant event occurred January 21-22, 2025, when a winter storm developed along an Arctic cold front, bringing a wintry mix of snow, sleet, and freezing rain to the District (**Table 2**). The highest amounts of frozen precipitation fell towards the western portion of the Panhandle with parts of Escambia and Santa Rosa Counties receiving nearly 10.00 inches of snow. Historic snowfall records were shattered in Pensacola, Florida, where they officially received 8.9 inches of snow in 24 hours. This more than doubled the previous snowfall record of 3 inches that was set during the 1895 snowstorm.

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

Station	January Normal Rainfall (1991 to 2020)	January 2025 Observed Rainfall	Percent Difference
Tallahassee Regional Airport	4.41	4.49	1.80%
Marianna Regional Airport	4.04	3.88	-4.04%
Niceville, FL	5.86	2.45	-82.1%
Pensacola Regional Airport	5.03	5.45	8.02%

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

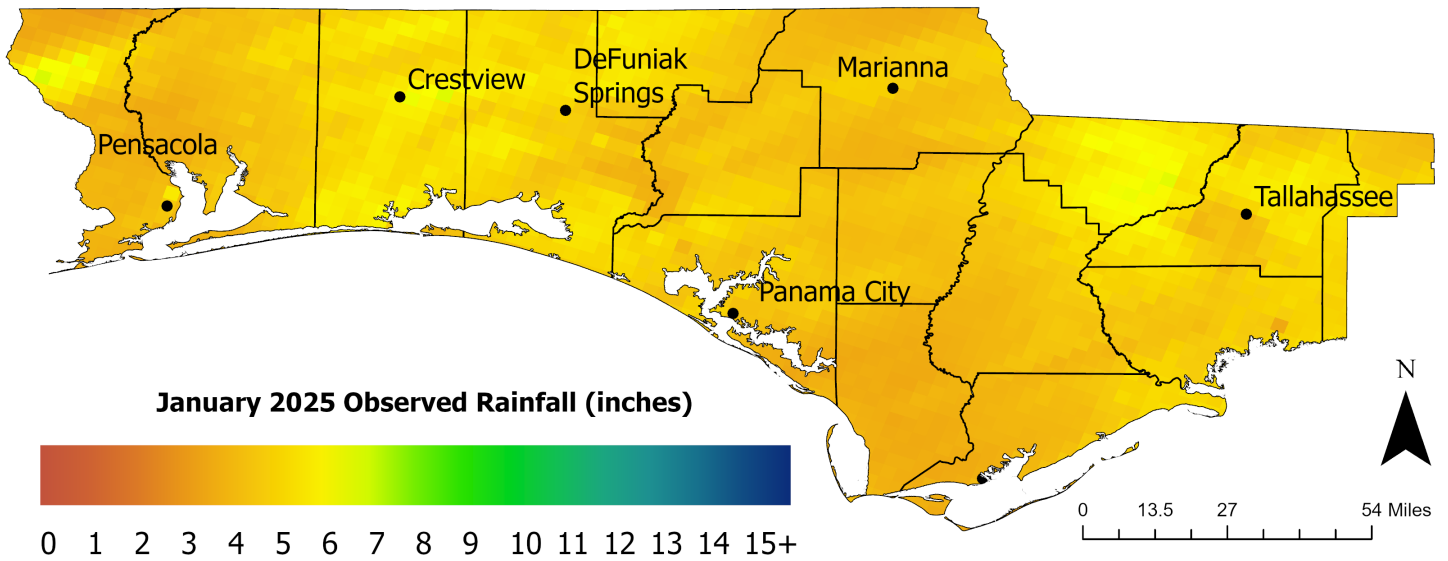
Table 2: NWS Local Storm Reports from the January 21-22, 2025 Gulf Coast winter storm

City	County	Frozen Precipitation Amount (inches)
Panama City	Bay	2.00
Youngstown	Bay	5.00
Altha	Calhoun	4.00
Pensacola	Escambia	8.90
Havana	Gadsden	4.80
Ponce De Leon	Holmes	5.50
Marianna	Jackson	5.00
Tallahassee	Leon	1.90
Bristol	Liberty	5.00
Crestview	Okaloosa	9.00
Niceville	Okaloosa	6.00
Milton	Santa Rosa	9.80
DeFuniak Springs	Walton	4.75
Vernon	Washington	4.70

Source: <https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PNSTAE&e=202501222121>
https://www.weather.gov/mob/2025_January_Snow

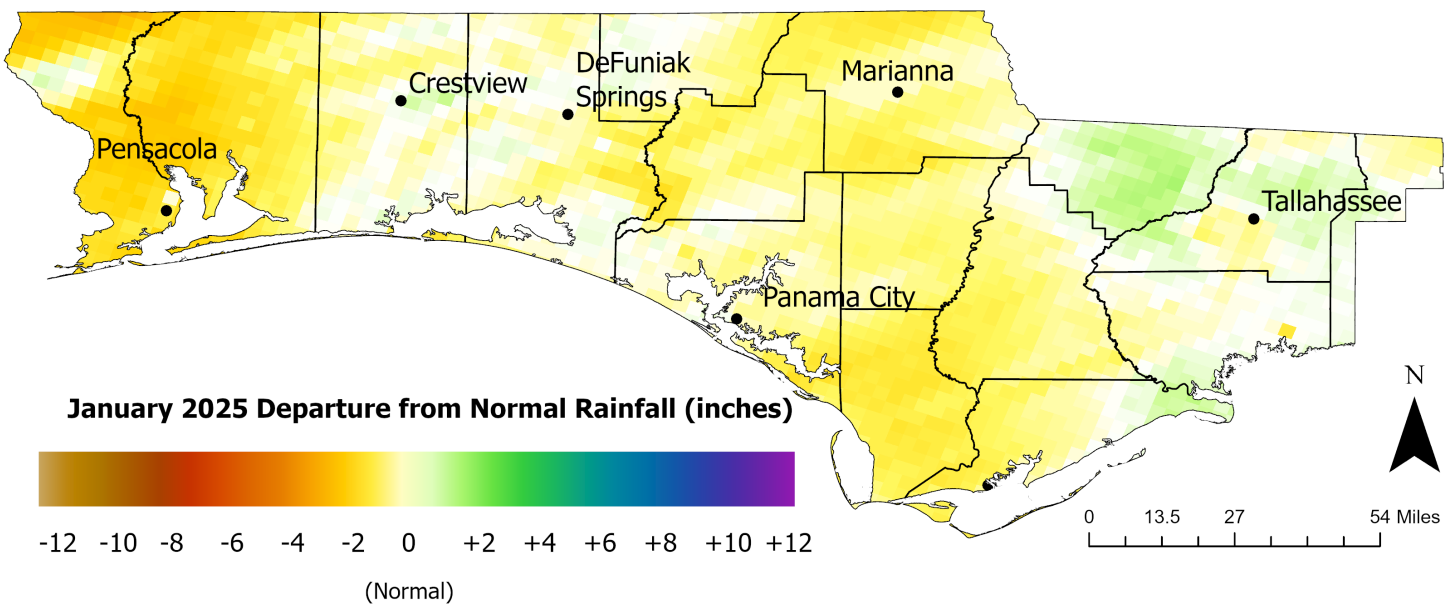


Figure 1: District-wide January 2025 observed rainfall



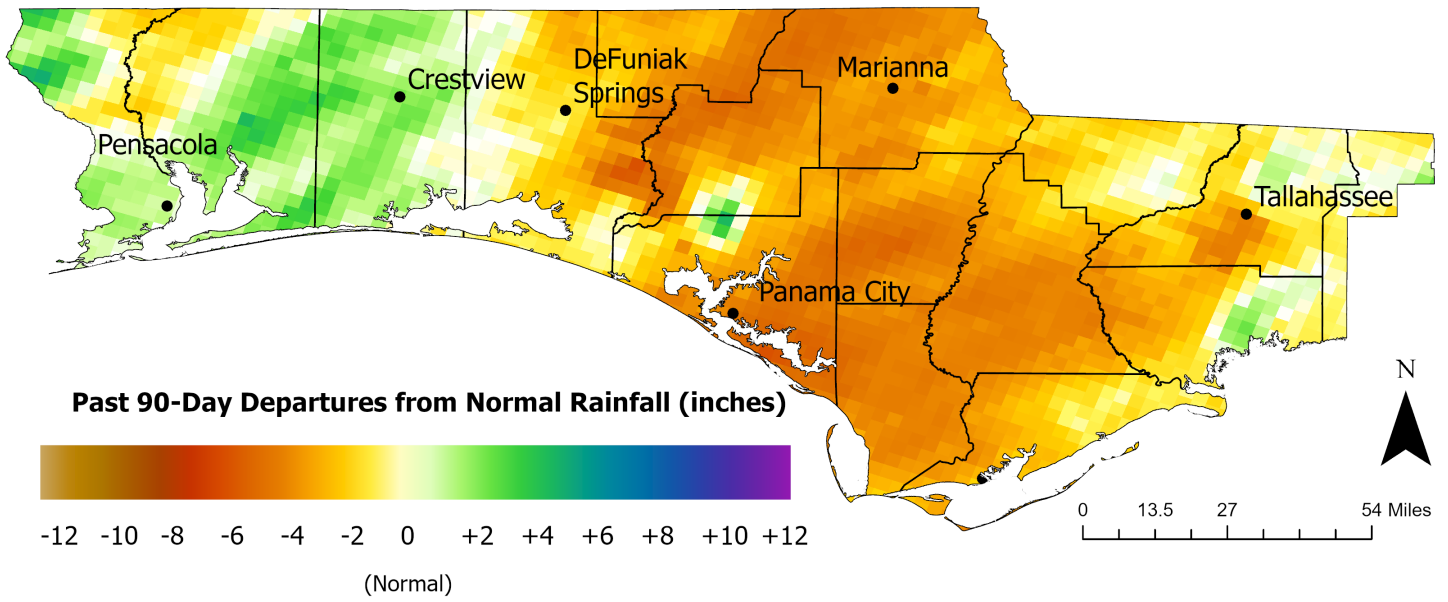
Source: <https://water.weather.gov/precip/download.php>

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



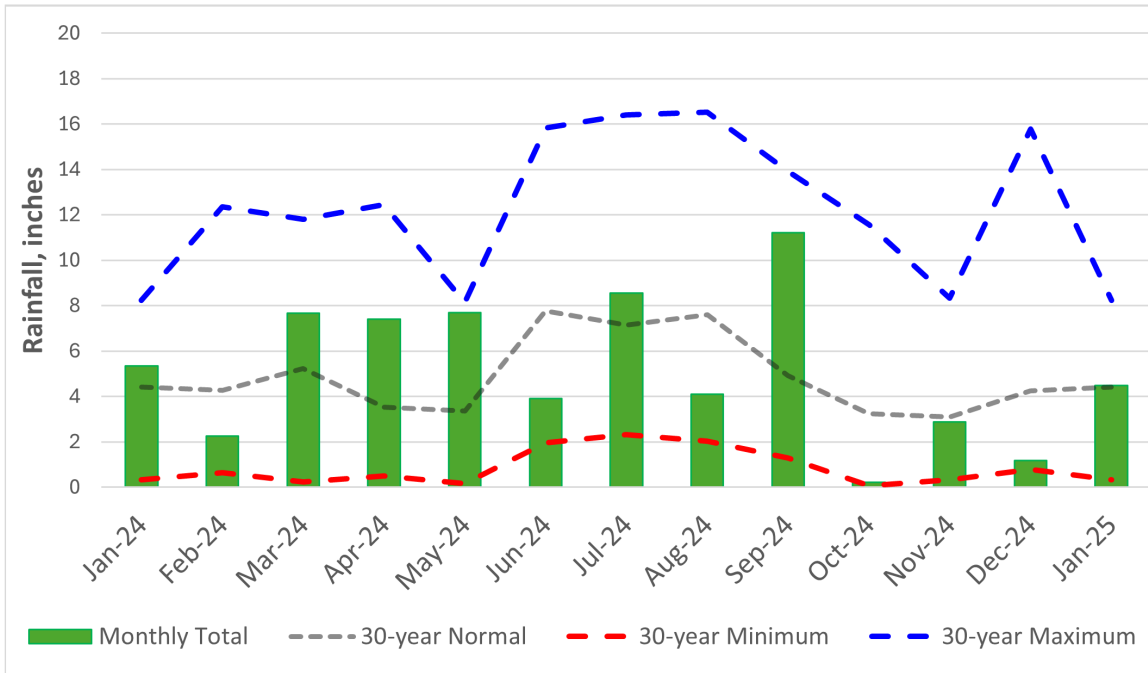
Source: <https://water.weather.gov/precip/download.php>

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



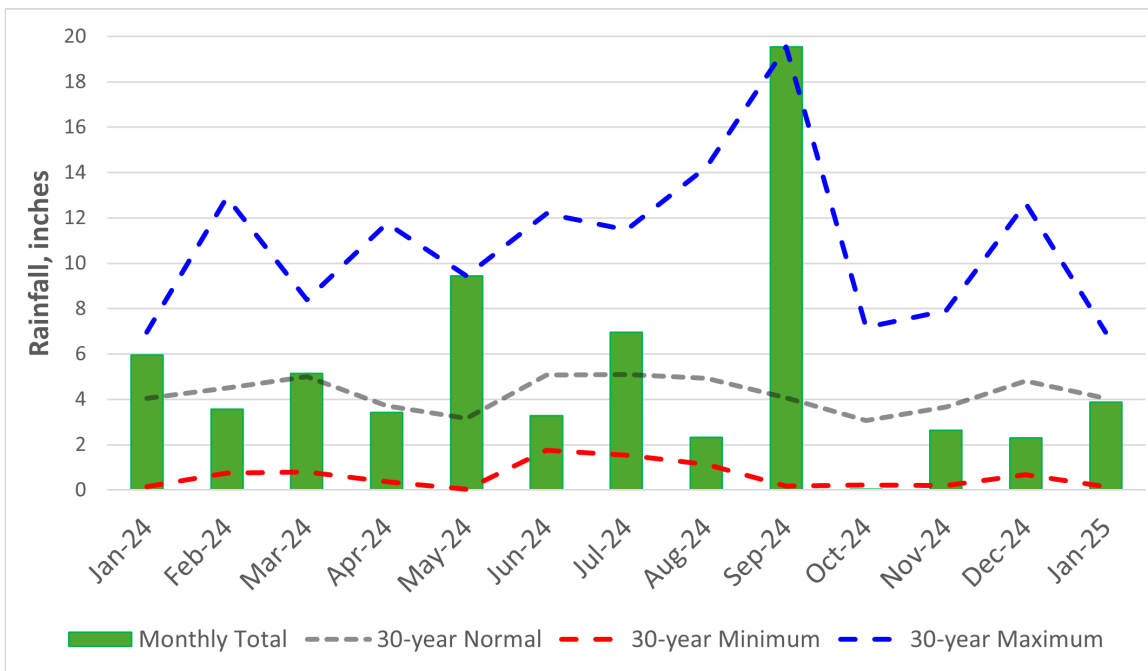
Source: <https://water.weather.gov/precip/download.php>

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



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

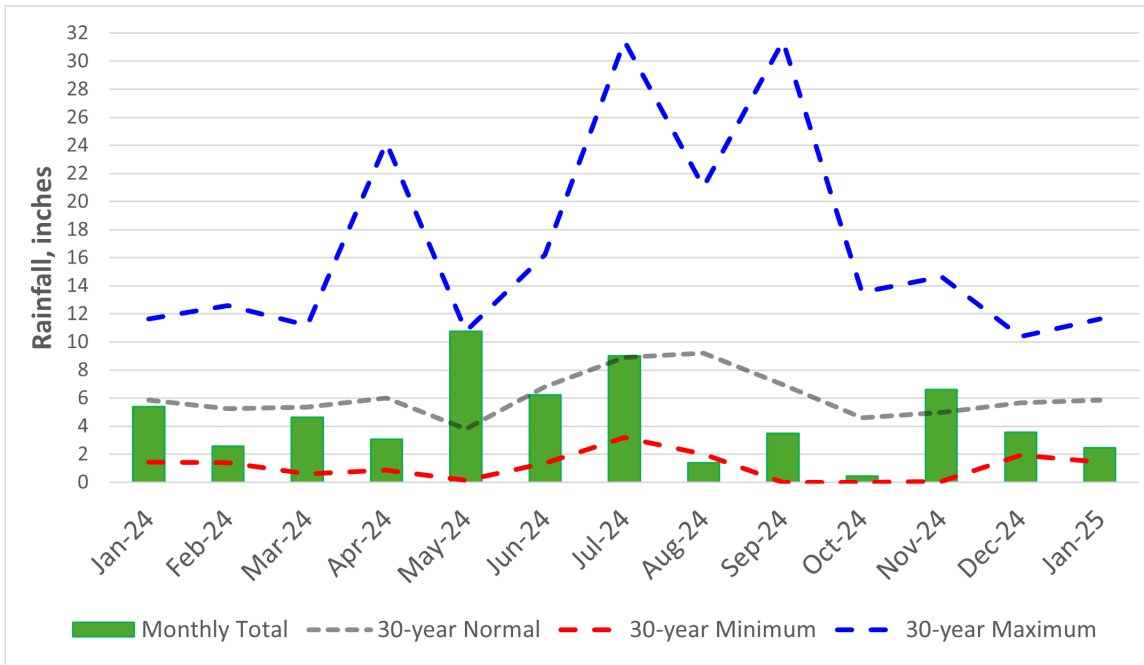
Figure 5: Observed rainfall at Marianna Regional Airport for January 2024 to January 2025 compared to the 30-year normal, minimum, and maximum precipitation for each month



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

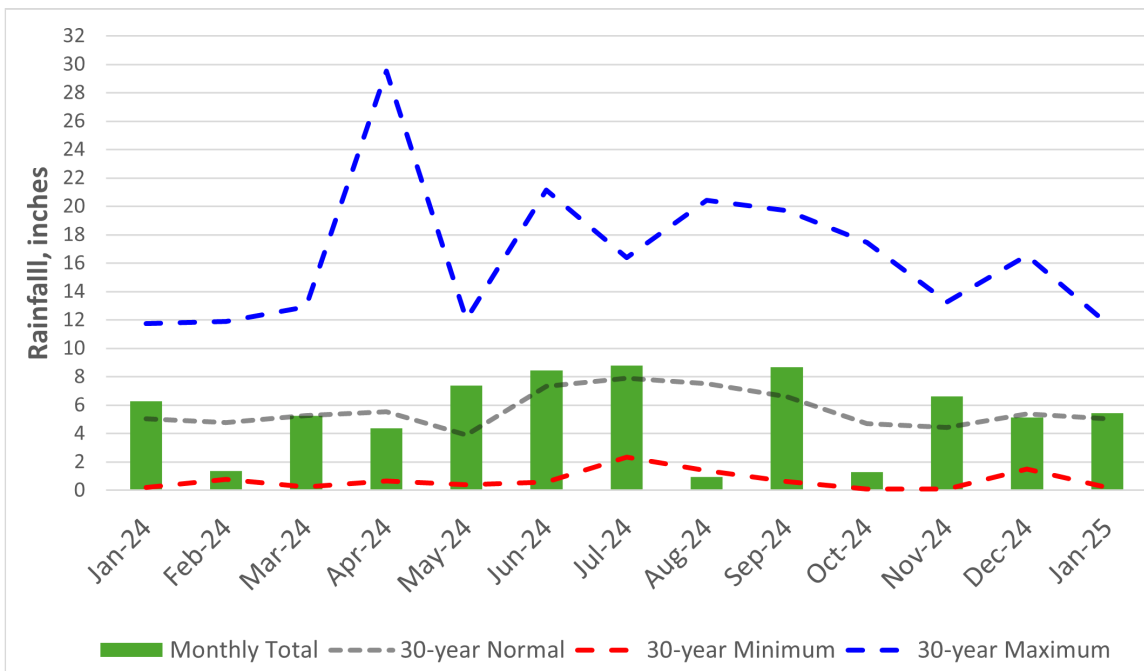


Figure 6: Observed rainfall in Niceville for January 2024 to January 2025 compared to the 30-year normal, minimum, and maximum precipitation for each month



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

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



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



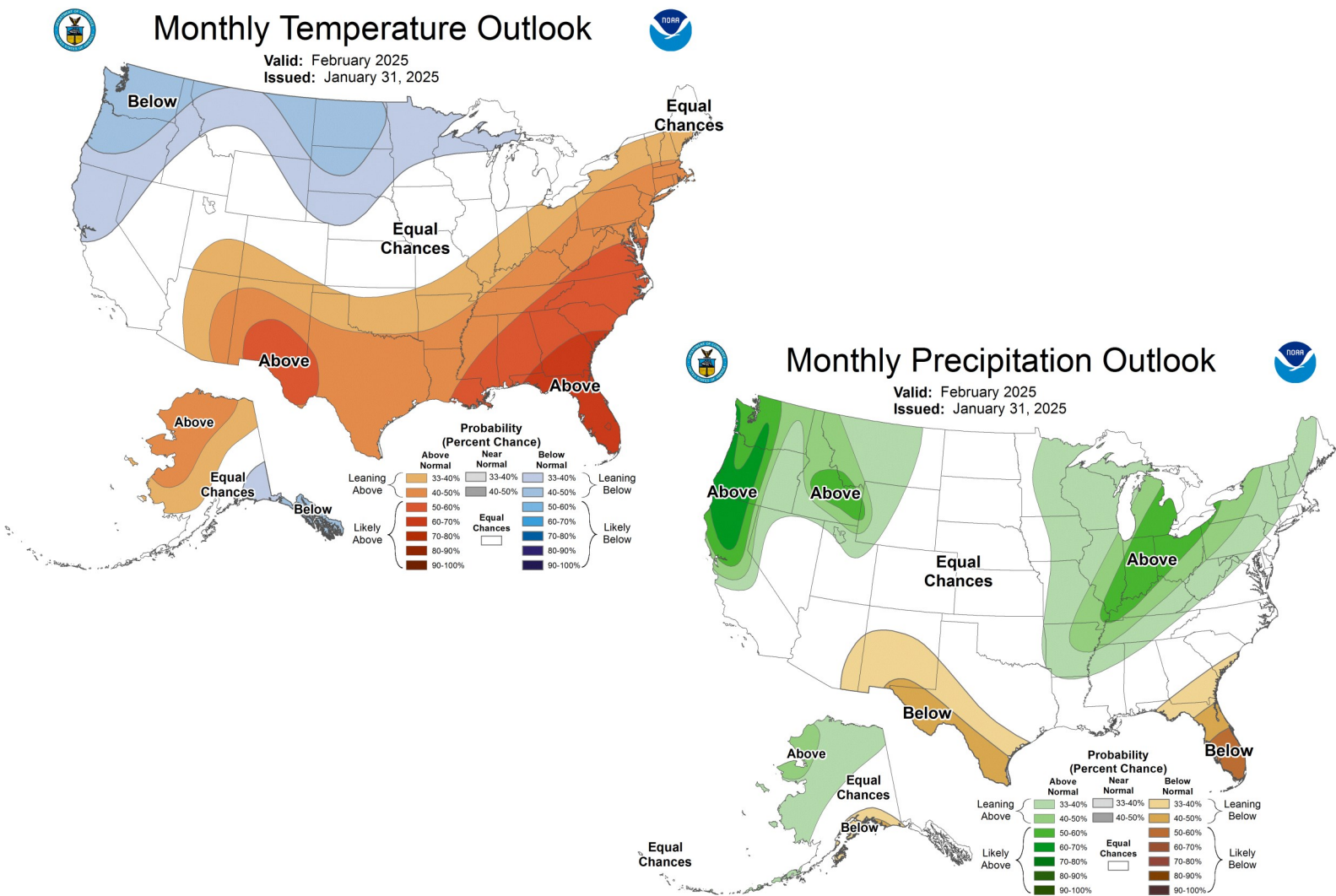
Climate Outlook

According to NOAA’s Climate Prediction Center, the forecast issued January 31, 2025, for February 2025 shows a likely chance for above normal temperatures across the Panhandle. There is a slight chance for below normal precipitation in the eastern portion of the District and equal chances of above or below normal rainfall amounts in the western portion (Figure 8).

As of February 3, 2025, weak La Niña conditions are present and are expected to persist through April 2025 (59% chance). A transition to ENSO-neutral is likely sometime between March and May 2025 (60% 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: February 2025 Temperature and Precipitation Outlooks for the United States



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

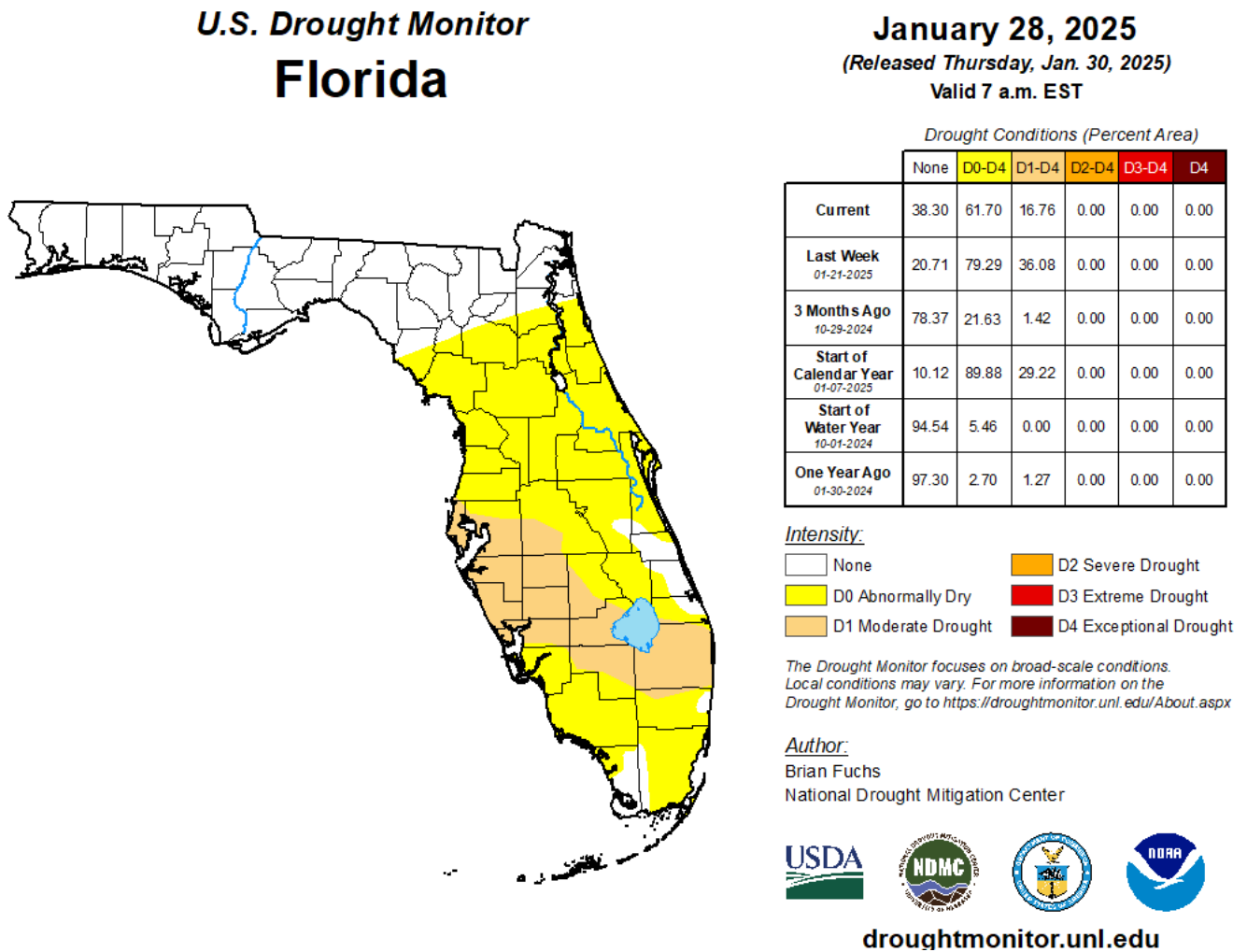


Drought Conditions

The U.S. Drought Monitor report released for January 28, 2025, showed that drought conditions had been alleviated in the Panhandle (**Figure 9**). This is the first U.S. Drought Monitor report since August 6, 2024 that has showed the District free of any drought conditions.

According to the U.S. Monthly Drought Outlook for February 2025, drought is expected to develop in the portion of the District that is east of the Apalachicola River.

Figure 9: Florida Drought Conditions on January 28, 2025



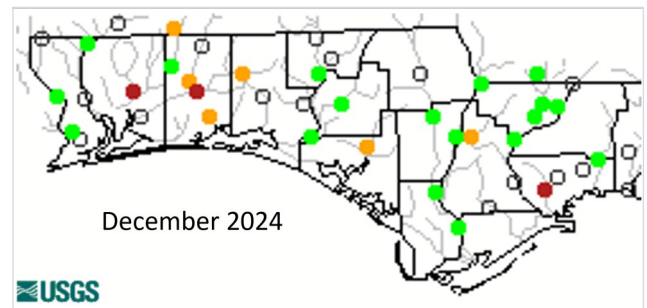
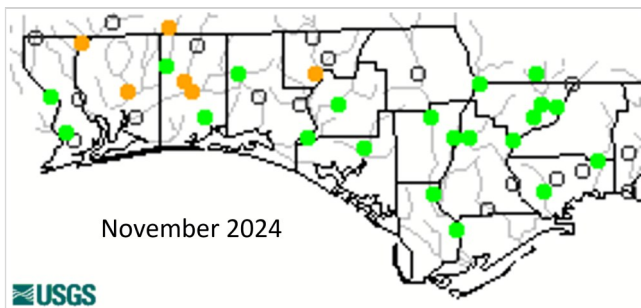
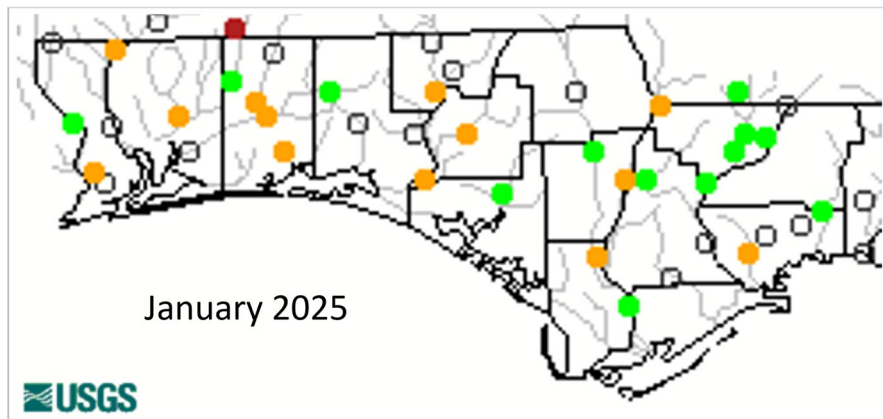
Source: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?FL>



Surface Water

Streamflows. Continued below normal rainfall amounts throughout January 2024 (Figures 1 & 2) generally contributed to normal or below normal streamflow percentiles across the Panhandle (Figures 10 – 16). Three of four stations along the Apalachicola River recorded flows below normal ranges (Figures 10 & 13). The three stations that were recording stream flows in much below normal ranges in December 2024 increased into below normal ranges in January 2025 and one station north of Okaloosa County decreased into much below normal ranges (Figure 10).

Figure 10: Northwest Florida November 2024 to January 2025 monthly streamflow percentiles



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

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



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

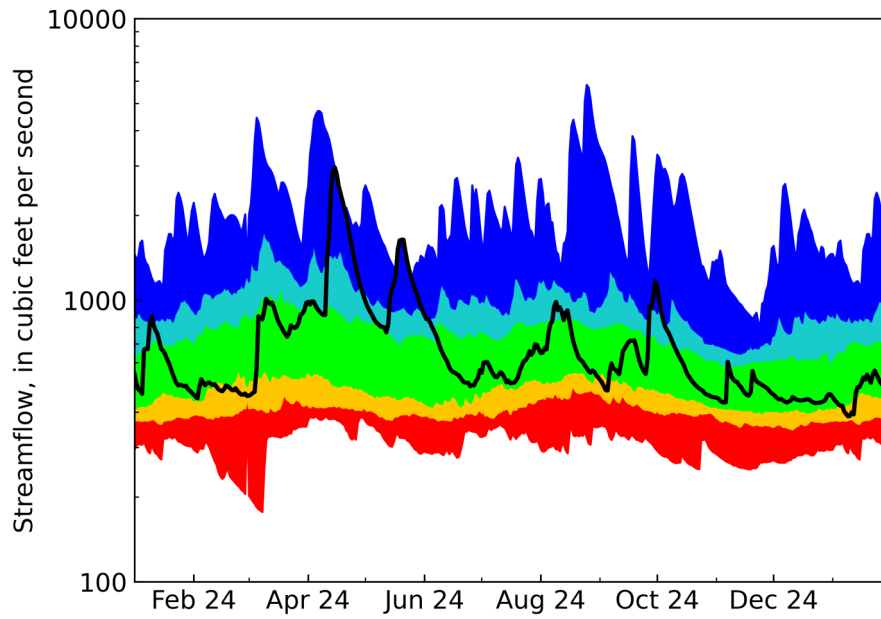
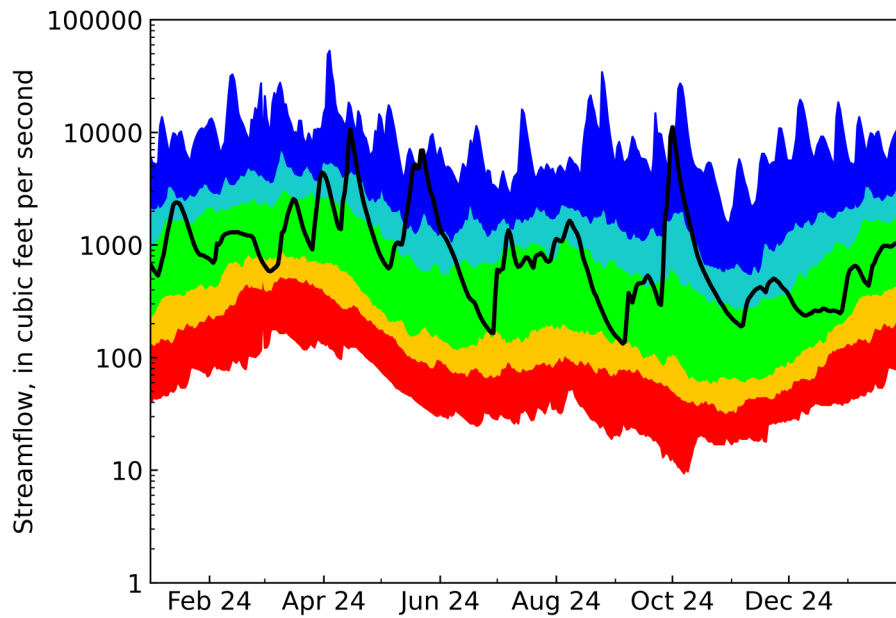


Figure 12: Daily streamflows and percentile ranges for USGS Station 02329000 Ochlockonee River Near Havana, Florida



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

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

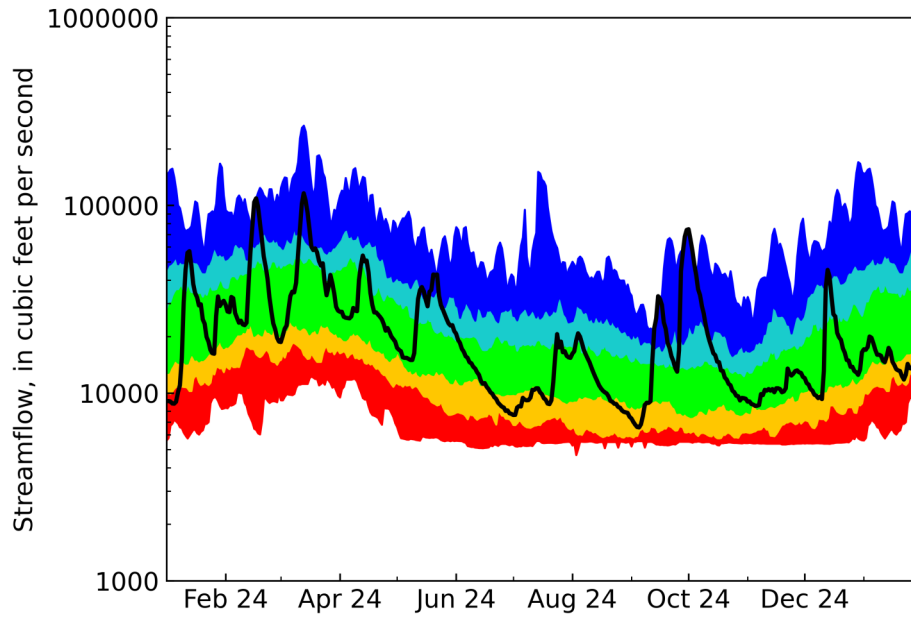
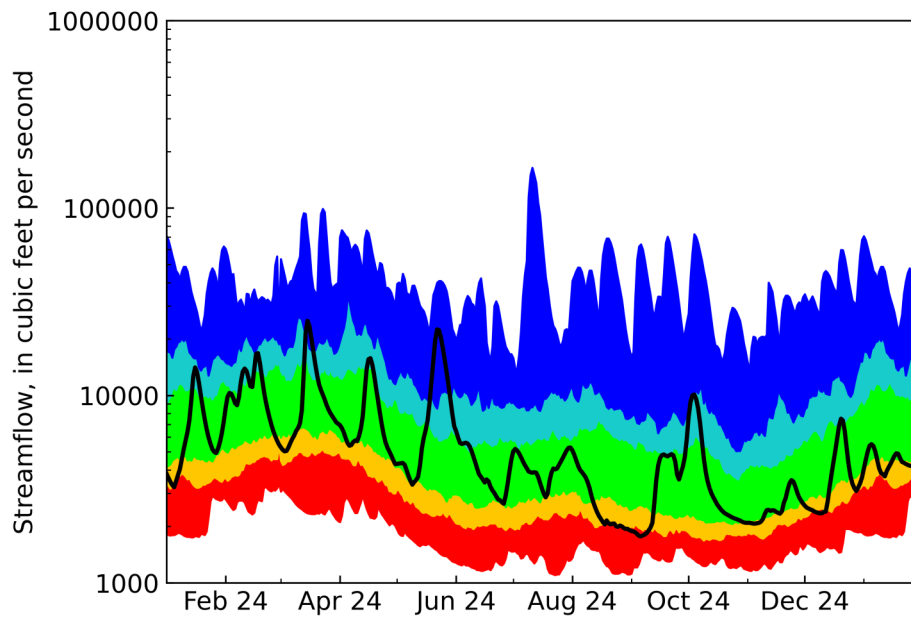


Figure 14: Daily streamflows and percentile ranges for USGS Station 02366500 Choctawhatchee River Near Bruce, Florida



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



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

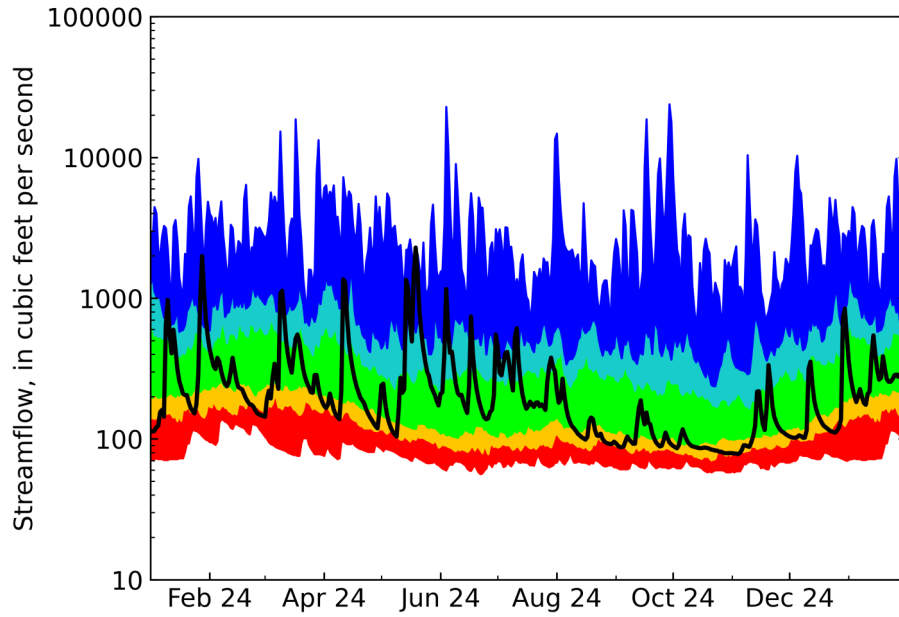
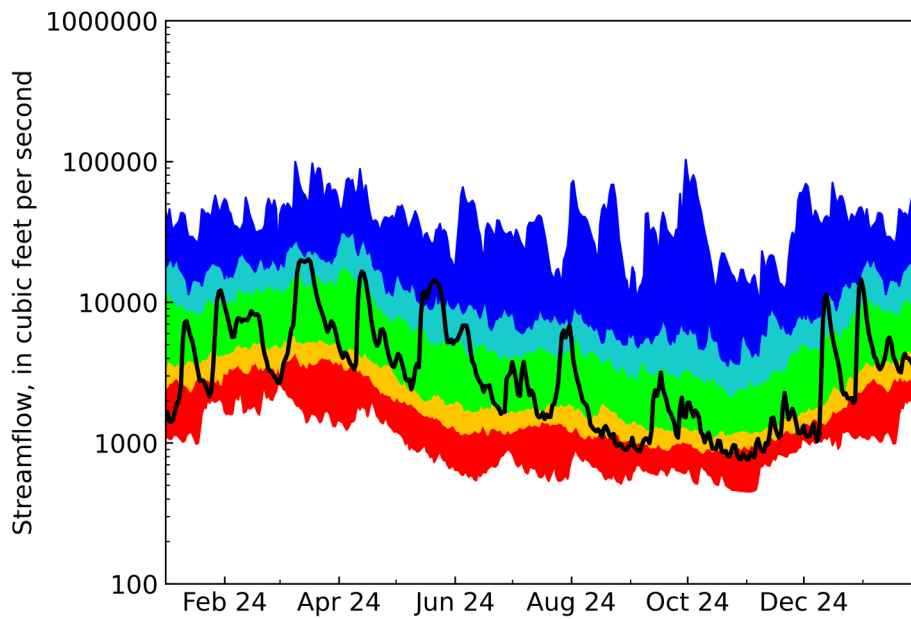


Figure 16: Daily streamflows and percentile ranges for USGS Station 02375500 Escambia River Near Century, Florida



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



Lake Levels. Water levels at Lake Jackson in Leon County decreased by 0.15 feet through the beginning of January 2025 until the significant rain event on January 13, 2025, increased the stage by 0.30 feet. The stage level at Lake Jackson then stabilized around 81.49 feet, NAVD 1988 for the remainder of the month (**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.

Water levels at Piney Lake in southern Washington County generally decreased by 0.19 feet in the beginning of January 2025 until the significant rain event on January 12-13, 2025, increased the stage back up by 0.19 feet. Piney Lake then decreased by 0.25 feet, ending the month with a stage level of 48.92 feet, NAVD 1988 (**Figure 18**).

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

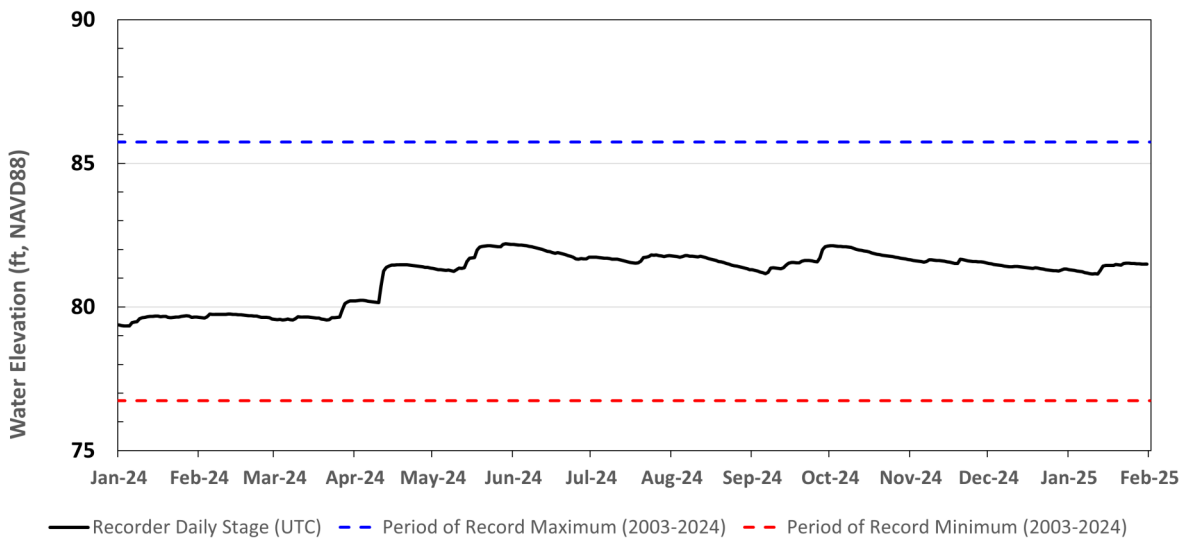
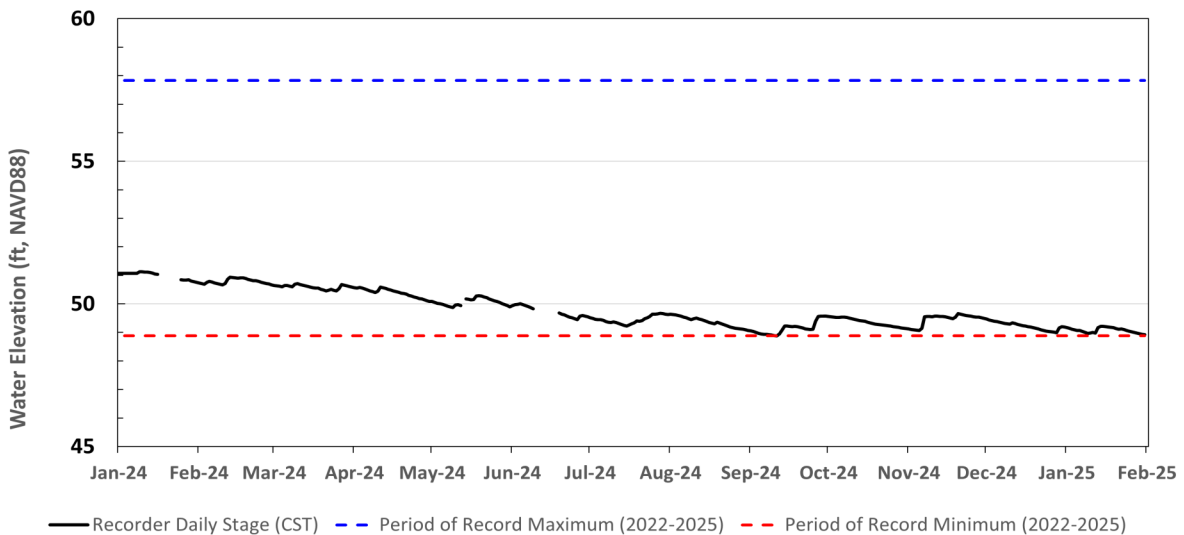


Figure 18: Daily water levels at Piney Lake, Washington County



Spring Flows

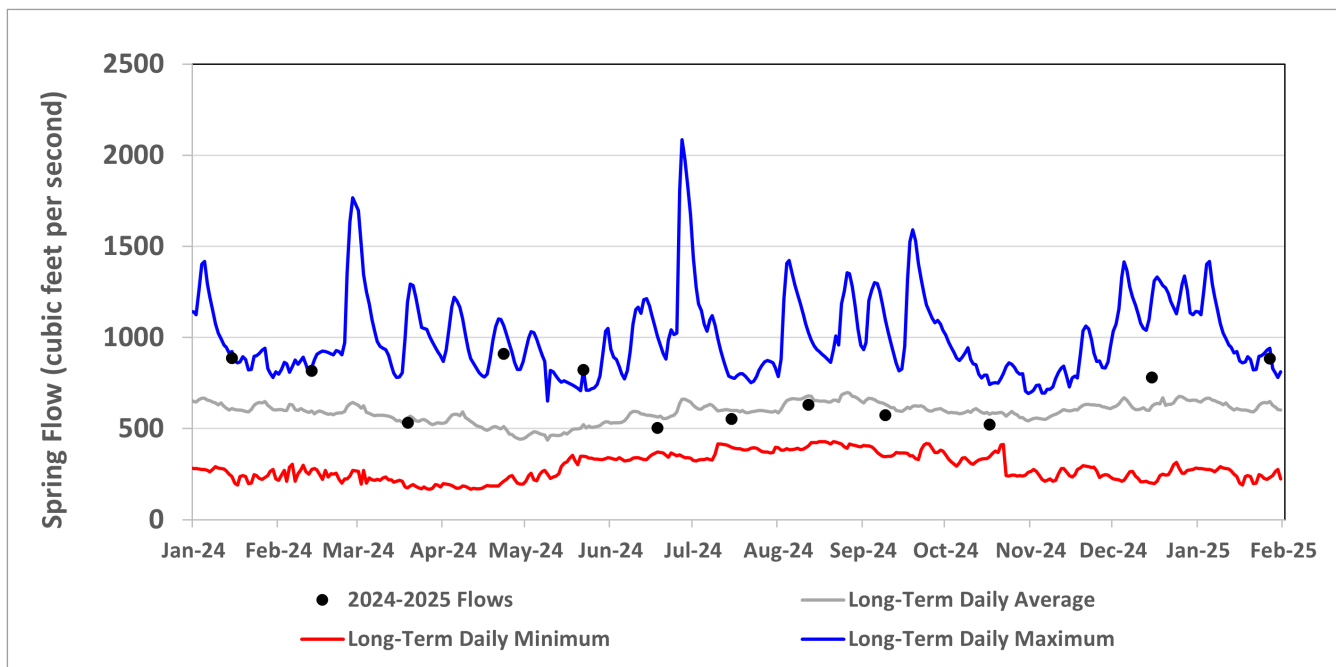
Wakulla and Sally Ward Spring System. Flow at Wakulla Spring increased between the measurements taken in December 2024 and January 2025, rising to be around the long-term maximum for the time of the month the measurement was taken. The most recent flow measurement for Wakulla Spring was 884 cubic feet per second (cfs), which was conducted on January 27, 2025 (Figure 19). The long-term (October 23, 2024 to January 27, 2025) average flow for the month of January is 627 cfs.

Flow at Sally Ward Spring increased by 1.1 cfs between the measurements taken in December 2024 and January 2025. The most recent flow measurement for Sally Ward was 27.0 cfs on January 27, 2025. This measurement was 1.4 cfs higher than the long-term average flow for the month of January, 25.6 cfs. The long-term average flow is based on the November 1, 2004, to January 27, 2025, period of record.

The Minimum Flow established for the combined Wakulla and Sally Ward Spring System under Florida Administrative Code chapter 40A-8.041 continues 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 24.2 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.

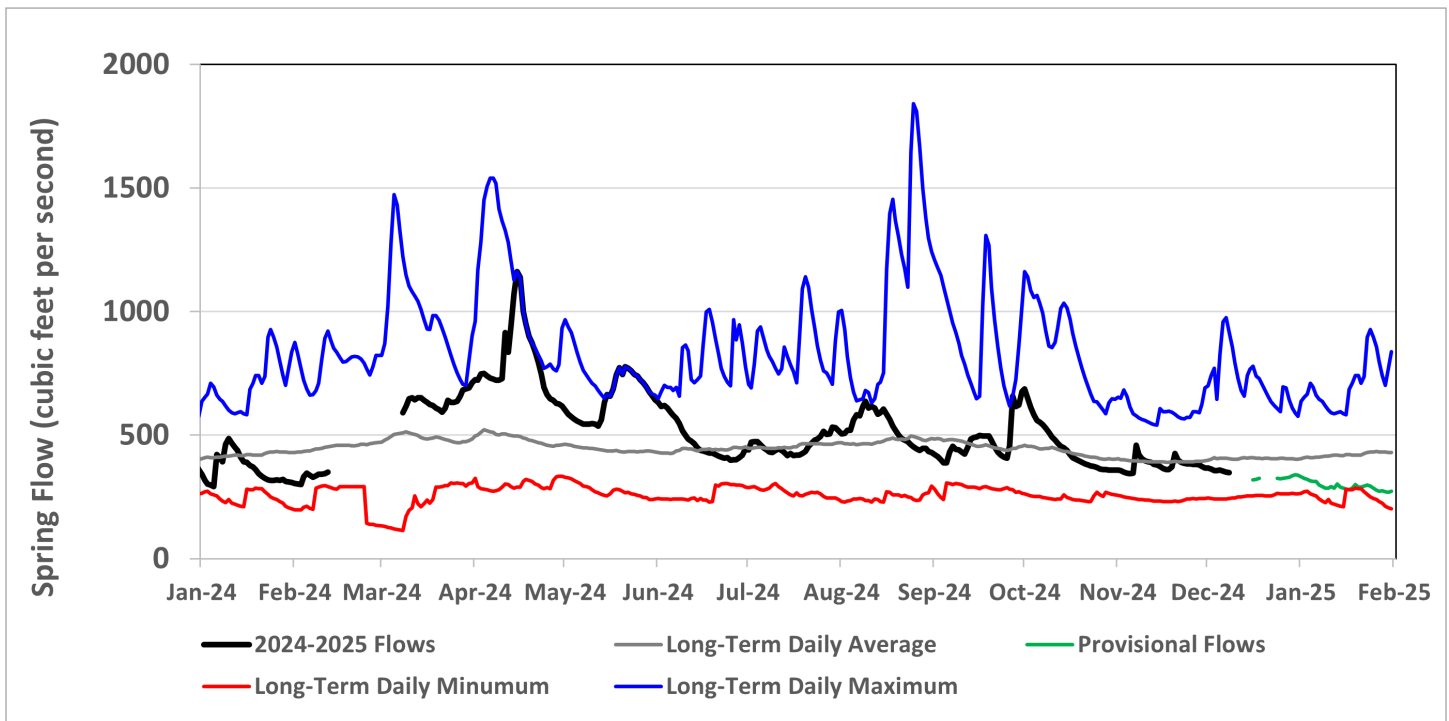
Figure 19: Daily Wakulla Spring flows

Data from November 1, 2023, through January 27, 2025, represent discrete measurements. Daily statistics are based on the October 23, 2004, through January 27, 2025, period of record.



St. Marks River Rise. The mean daily spring flow for January 2025 at the St. Marks River Rise was 292 cfs, based on the available USGS provisional data which extends through January 31, 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 November 14, 2023) is 429 cfs. If the provisional data from November 15, 2023, through January 31, 2025, are included, the 30-year moving average spring flow for the St. Marks River Rise is 424 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 10 cfs and 5 cfs, respectively.

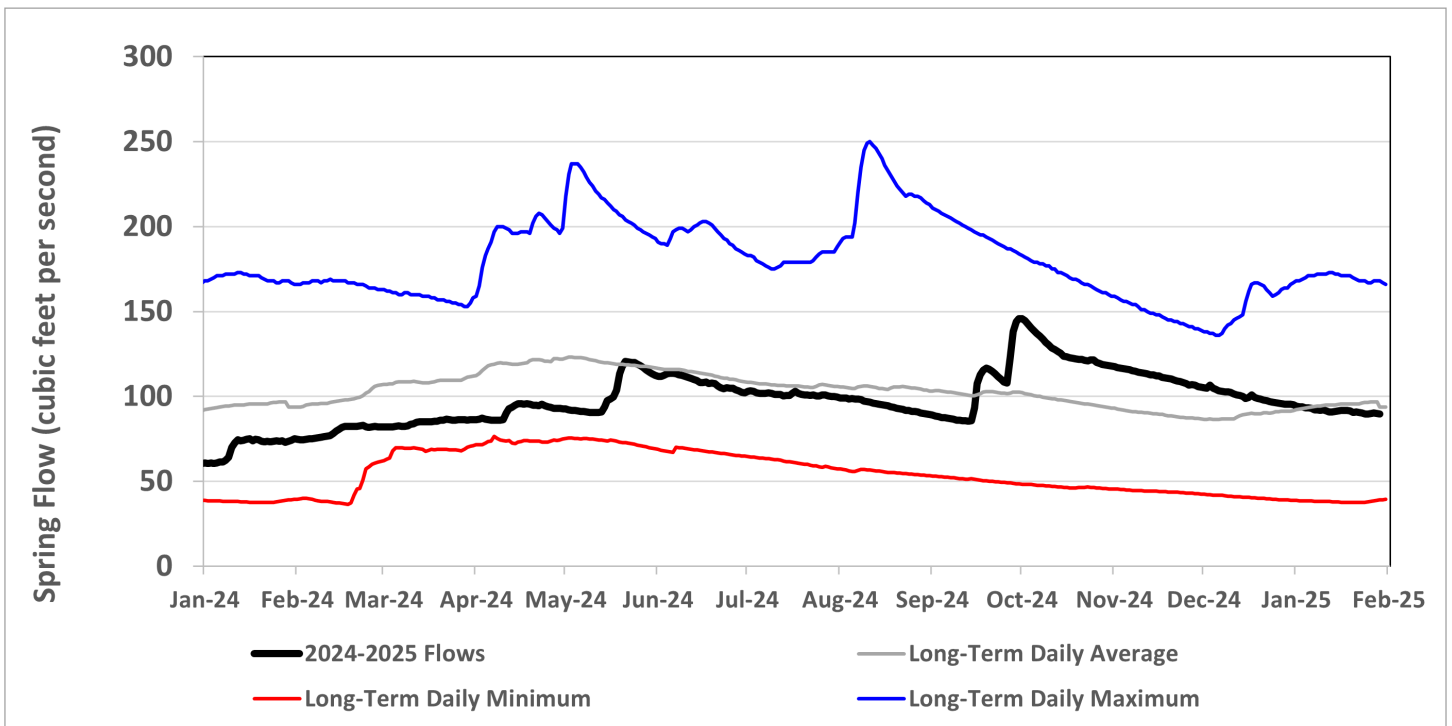
Figure 20: Daily spring flows for the St. Marks River Rise



Jackson Blue Spring. Daily average flow at Jackson Blue Spring for the month of January 2025 averaged 91.5 cfs. This was below the long-term (December 21, 2004, through January 31, 2025) average flow for the month of January of 94.9 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 January 31, 2025.

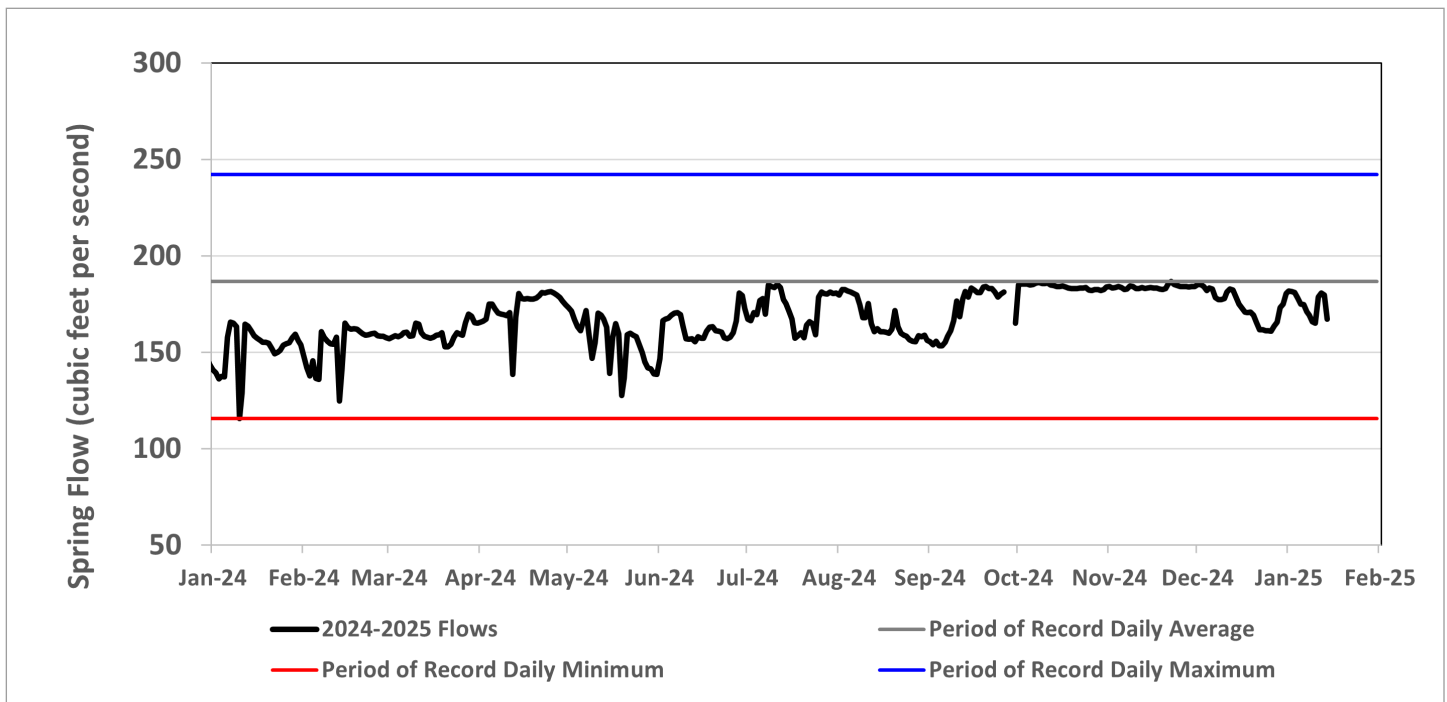


Gainer Spring Group. During January 2025 (January 1 through January 14, 2024), flow at the Gainer Spring Group was 175 cfs (**Figure 22**). The period of record (October 28, 2019, through January 14, 2025) average monthly spring flow for January is 162 cfs. It should be noted that there is a relatively 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 January 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 and Sand Hill Upper Floridan monitor well (NWFID 5597) in northwestern Okaloosa County (Figures 23 - 29). These sites have continued to be classified as below normal, likely as a result of the extended dry conditions that were present in mid-January 2025 in this region of the District. Drought conditions improved in late January 2025 (Figure 9).

All depicted sand-and-gravel aquifer monitor wells have continued to record below normal groundwater levels except for NFWFMD - 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-January 2025

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

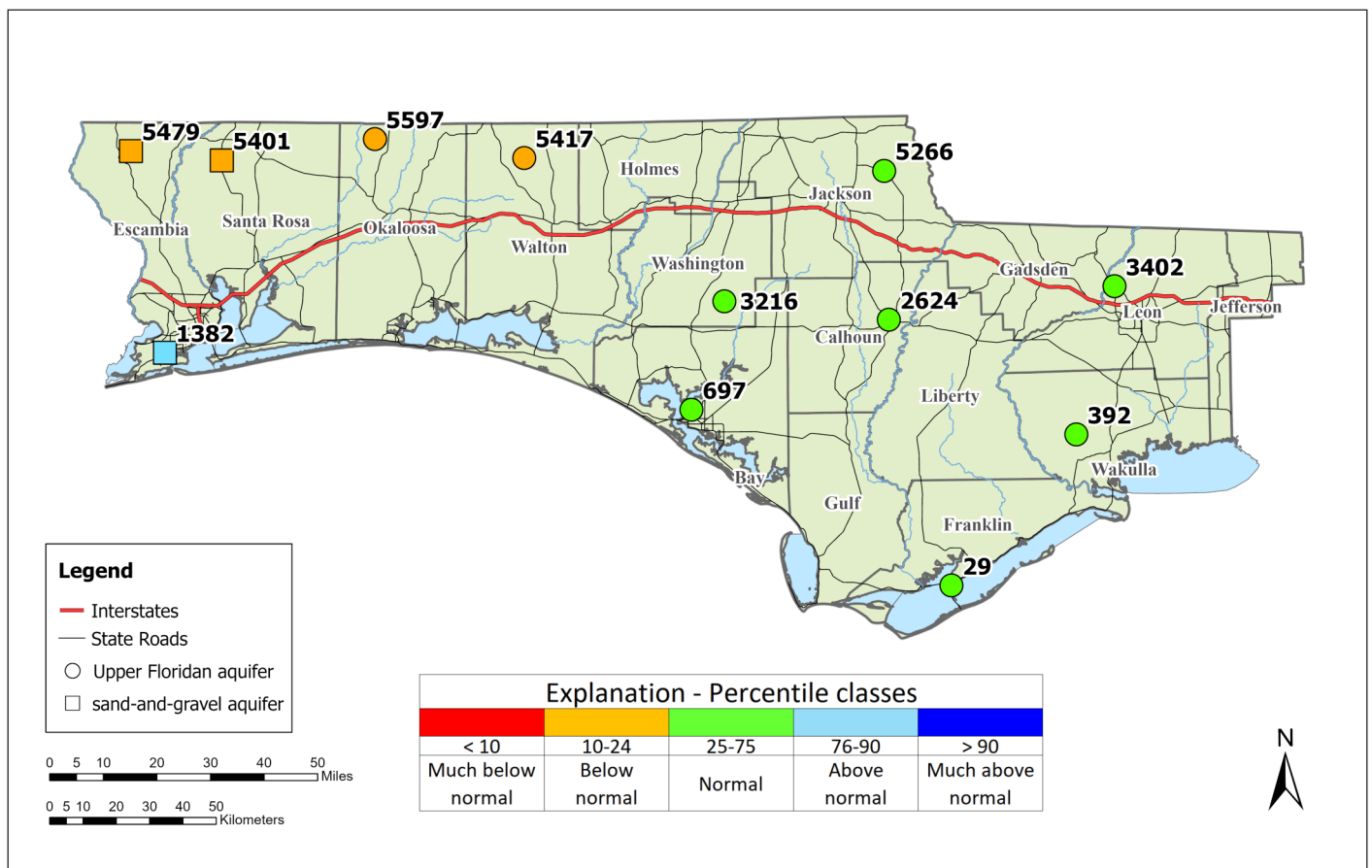


Figure 24: Daily Upper Floridan aquifer levels at USGS-Lake Jackson well (NWFID 3402), Leon County

Land surface elevation is 121.40 ft, NAVD 88

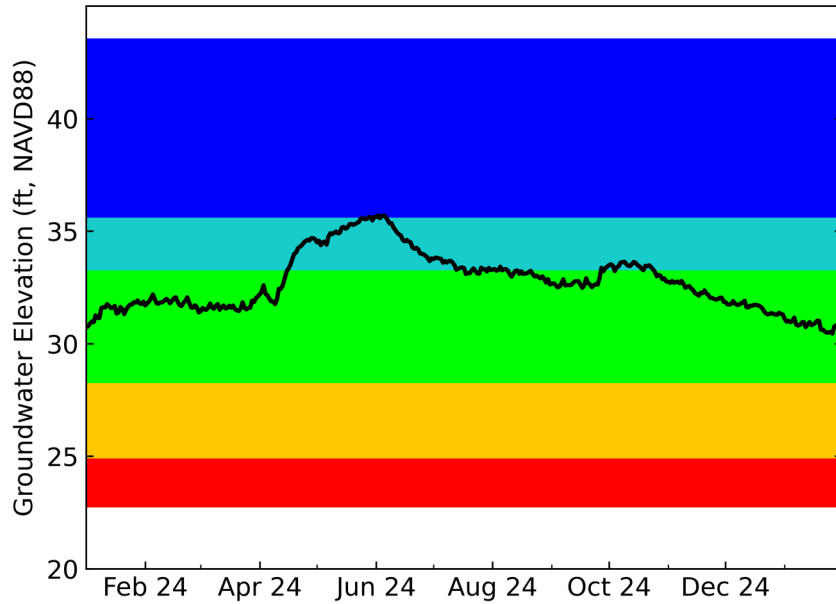
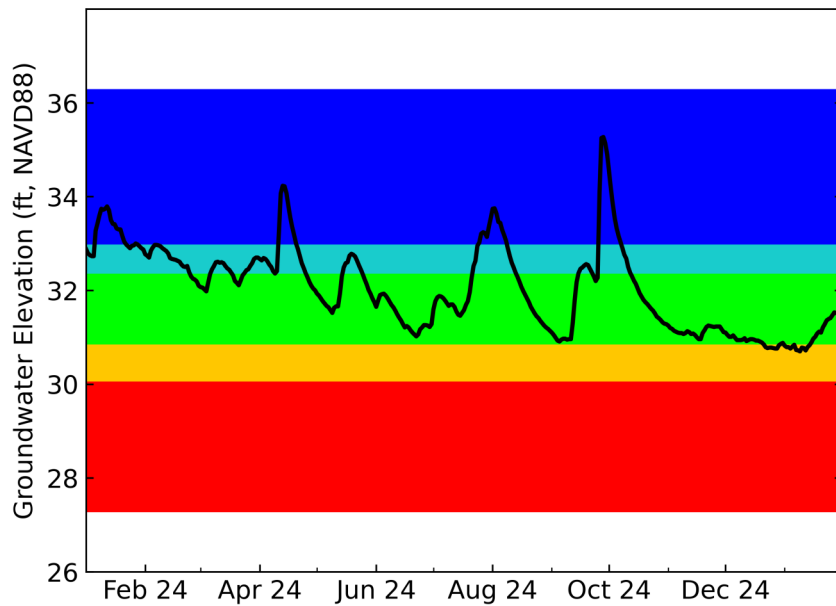


Figure 25: Daily Upper Floridan aquifer levels at USGS Benchmark well (NWFID 392), Wakulla County

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 NFWFMD Pittman Visa well (NWFID 5266), Jackson County

Land surface elevation is 127.31 ft, NAVD 88

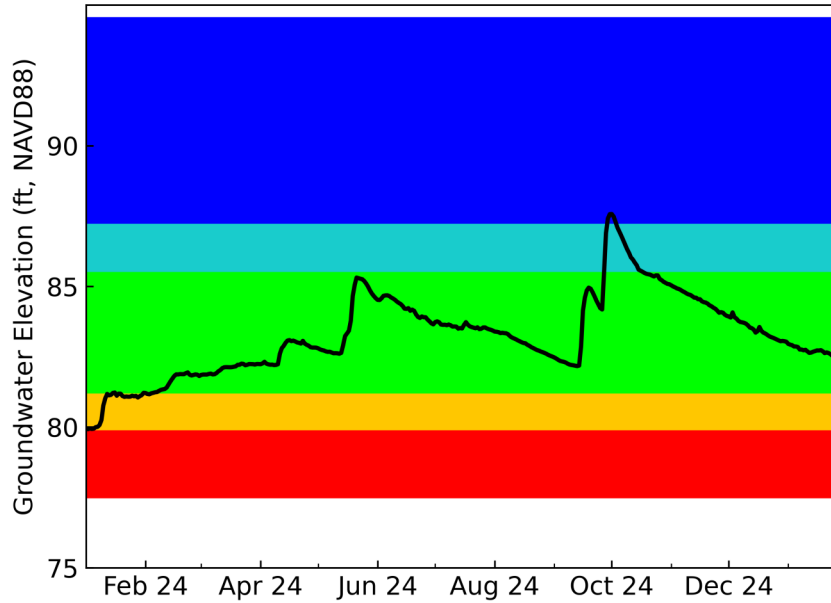
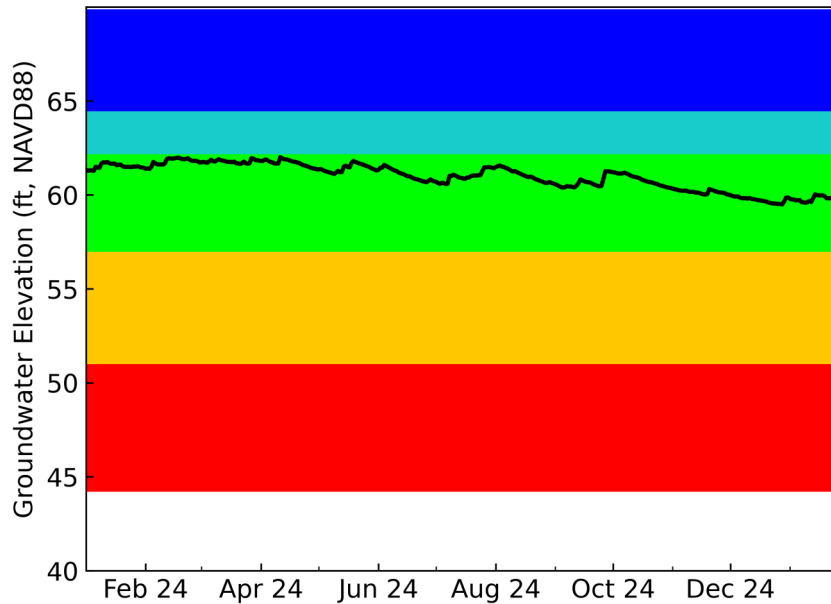


Figure 27: Daily Upper Floridan aquifer levels at USGS-422A Near Greenhead well (NWFID 3216), Washington County

Land surface elevation is 66.75 ft, NAVD 88



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



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

Land surface elevation is 4.05 ft, NAVD 88

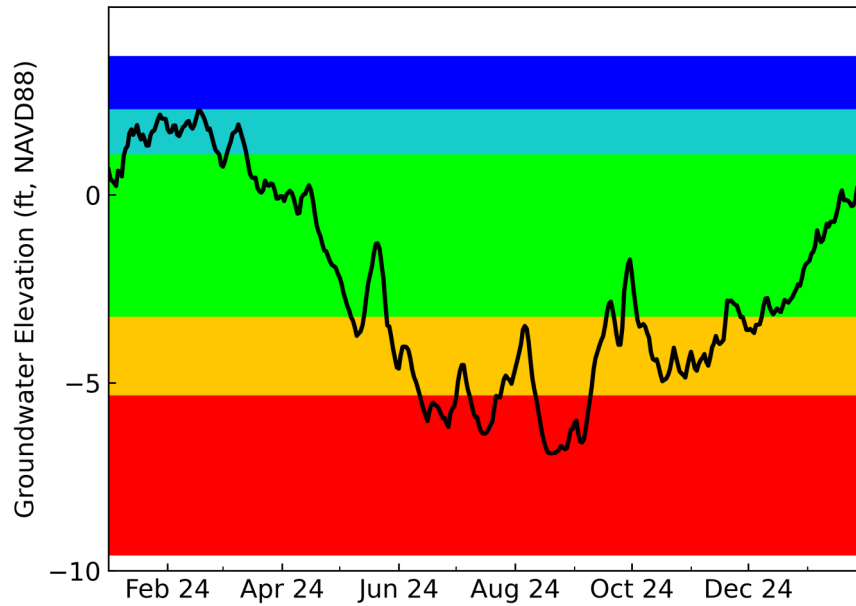
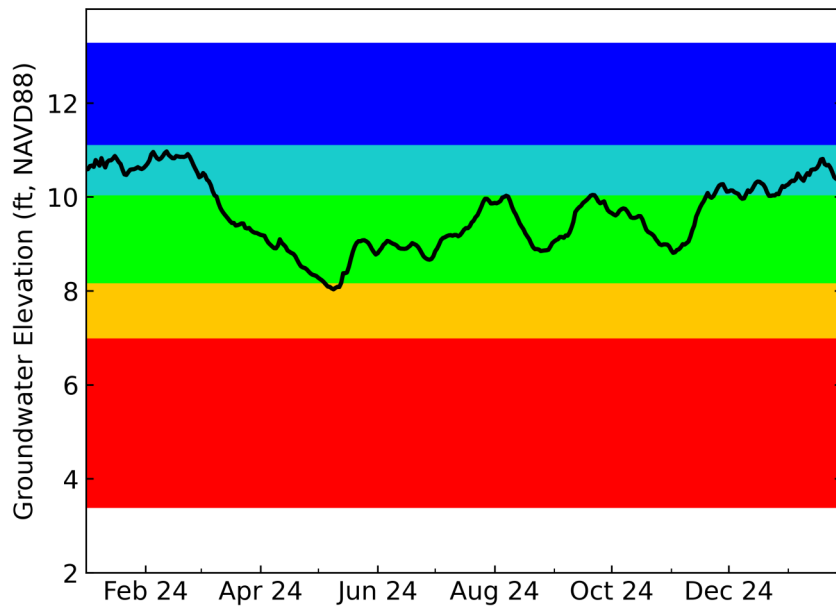


Figure 29: Daily sand-and-gravel aquifer levels at NFWMD Weller Ave Deep well (NWFID 1382), Escambia County

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