

Climate Summary for Florida – March 2023

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Online at: <http://climatecenter.fsu.edu/products-services/summaries>

Key Points

- Monthly average temperatures were above normal in March for the third month in a row this year.
- Monthly precipitation totals were generally below normal, with exceptions in parts of northern Florida; the Big Bend region saw a surplus of rainfall during the month.
- Severe drought expanded across the Peninsula, and a pocket of extreme drought developed in Southwest Florida later in the month.
- A final La Niña Advisory has been issued and ENSO-neutral conditions currently exist.

Average monthly temperatures in March were above normal across the state. Average temperature departures from normal ranged from +3.0 °F in Jacksonville to +5.0 °F in Tallahassee and Ft. Myers for the month (see Table 1 and Appendix 1 for select cities). Temperatures in March 2023 began much above normal, with most stations recording their top warmest or 2nd-warmest first week of March on record. Cooler, more seasonable weather returned by mid-month, and a late-season frost with minimum temperatures reaching as low as 30 °F - 35 °F affected much of the Panhandle and northern Florida. Above-normal temperatures returned late in the month, with 90+ °F maximum temperatures observed across southern Florida during the last week. Many stations recorded one of the top 5-warmest months of March on record, such as Tallahassee, Pensacola, Orlando, Fort Myers, Melbourne, Lakeland, Miami, West Palm Beach, Naples, and Key West. Select daily high maximum temperature records tied or broken during the month are provided in Appendix 2.

Table 1. March average temperatures and departures from normal (°F) for selected cities.

Station	Mean Temperature	Departure from Normal
Pensacola	66.5	+4.2
Tallahassee	66.4	+5.0
Jacksonville	65.4	+3.0
Orlando	71.9	+4.6
Tampa	72.3	+3.7
Miami	76.9	+3.8
Key West	77.5	+3.1

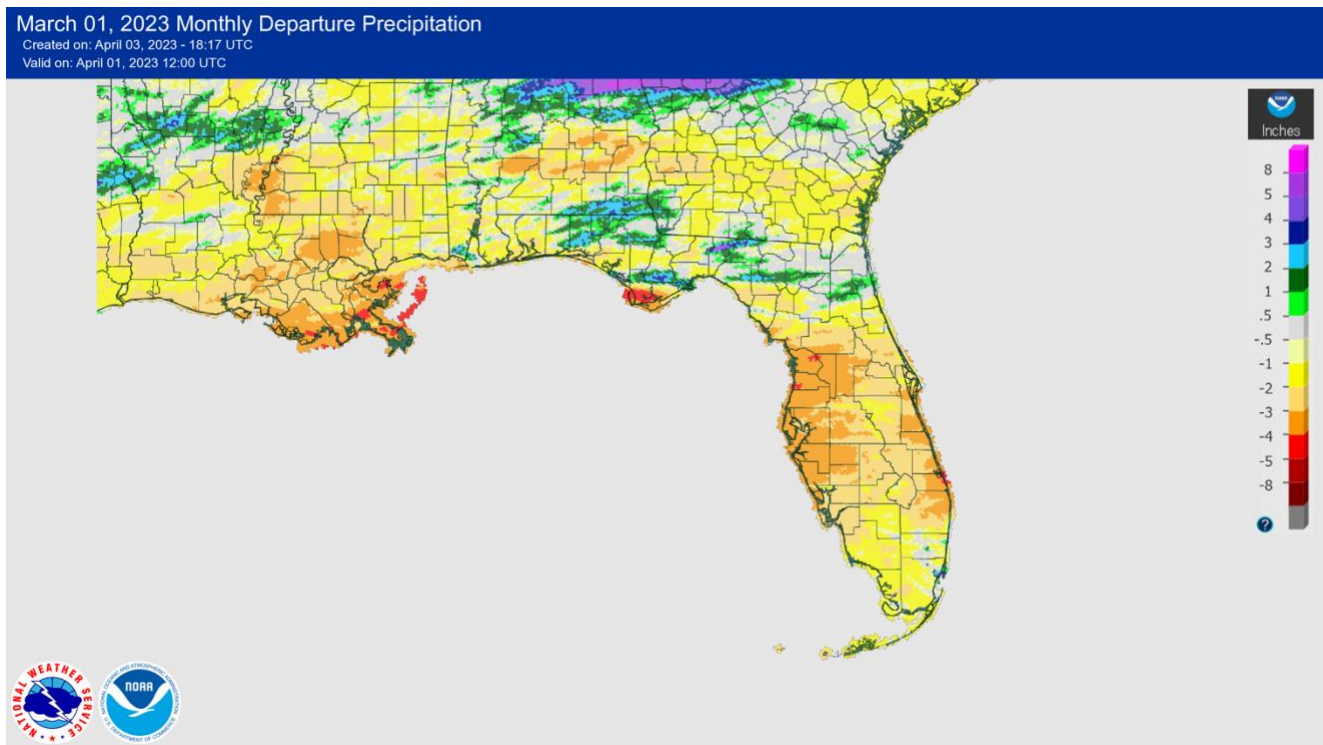


March was dry across the Peninsula and wet in some northern areas including in the Big Bend region. The monthly precipitation departures from normal ranged from -3.19 inches in West Palm Beach to +2.04 inches in Miami (see Table 2 and Appendix 1 for additional locations). Much of the Peninsula received less than one-quarter of expected precipitation during the month of March, and West Palm Beach had its driest March on record. Venice had its 2nd-driest March on record, Bradenton had its 3rd-driest, and Orlando had its 4th-driest on record. With rainfall well below average, drought conditions expanded and intensified across the Peninsula during the month (see drought section below).

Table 2. March precipitation totals and departures from normal (inches) for selected cities.

Station	Total Rainfall	Departure from Normal
Pensacola	3.15	-2.10
Tallahassee	3.46	-1.78
Jacksonville	3.33	+0.04
Orlando	0.33	-2.70
Tampa	0.35	-2.17
Miami	4.50	+2.04
Key West	0.25	-1.28

Figure 1. A graphical depiction of the monthly rainfall departure from normal (in inches) for March (courtesy of NOAA).



Final La Niña Advisory Issued.

La Niña transitioned to ENSO-neutral conditions in February and NOAA issued the final La Niña advisory on March 9th. During the month of February, below-average sea surface temperatures continued to weaken and persisted only in the central Pacific Ocean by early March. The latest weekly Niño-3.4 index value was -0.2°C ; whereas, sea surface temperatures in the eastern Pacific Ocean were slightly above average. ENSO-neutral conditions currently exist and are expected to continue through the Northern Hemisphere spring and early summer. Models suggest a transition to El Niño conditions during summer, but large uncertainty remains beyond spring.

Hazardous Weather Events in March.

According to the Local Storm Reports issued by the local National Weather Service offices serving Florida, there were 107 individual local reports of hazardous weather events recorded across the state during the month of March (see Table 4 for a breakdown by event type). Dry, warm weather in March increased the threat of wildfires and wildfires were reported in Collier County early in the month, which destroyed several homes and outbuildings. Wildfires were also reported in Broward, Martin, and Volusia counties later in the month. Two fatalities occurred as a result of drowning from rip currents, both in Brevard County, and another fatality occurred when a tree fell on a car during a heavy thunderstorm in Leon County on the 10th.

Table 3. Breakdown of storm reports submitted in Florida during the month of March (compiled from Iowa State University/Iowa Environmental Mesonet).

Report Type	Number of Reports
Heavy Rain	0
Flood	2
Dense Fog	1
Hail	8
Marine Thunderstorm Wind	10
Non-Thunderstorm Wind Gust	35
Non-Thunderstorm Wind Damage	2
Tornado/Waterspout/Funnel Cloud	3 / 7 / 0
Thunderstorm Wind Damage	17
Thunderstorm Wind Gust	13
Rip Currents	2
Wildfire	7

Daily Record Events in March.

Table 4. Summary of daily records broken in Florida in March (source: NCEI Daily Weather Records).

Category	Number of Records
Highest daily max. temp.	98
Highest daily min. temp.	77
Lowest daily max. temp.	7
Lowest daily min. temp.	8
Highest daily precipitation	13
Total	203

Weather/Climate Highlight of the Month: Extreme drought (D3) emerged in Florida this month for the first time since it briefly affected the state in October 2019. People began submitting drought condition monitoring reports as the month progressed. Reports have stated that excessively dry conditions are impacting pastures, resulting in poor crop yields, and requiring increased irrigation and supplemental feeding to maintain livestock. This photo was taken in Okeechobee County and submitted on April 3, 2023 by 5 L Cattle.

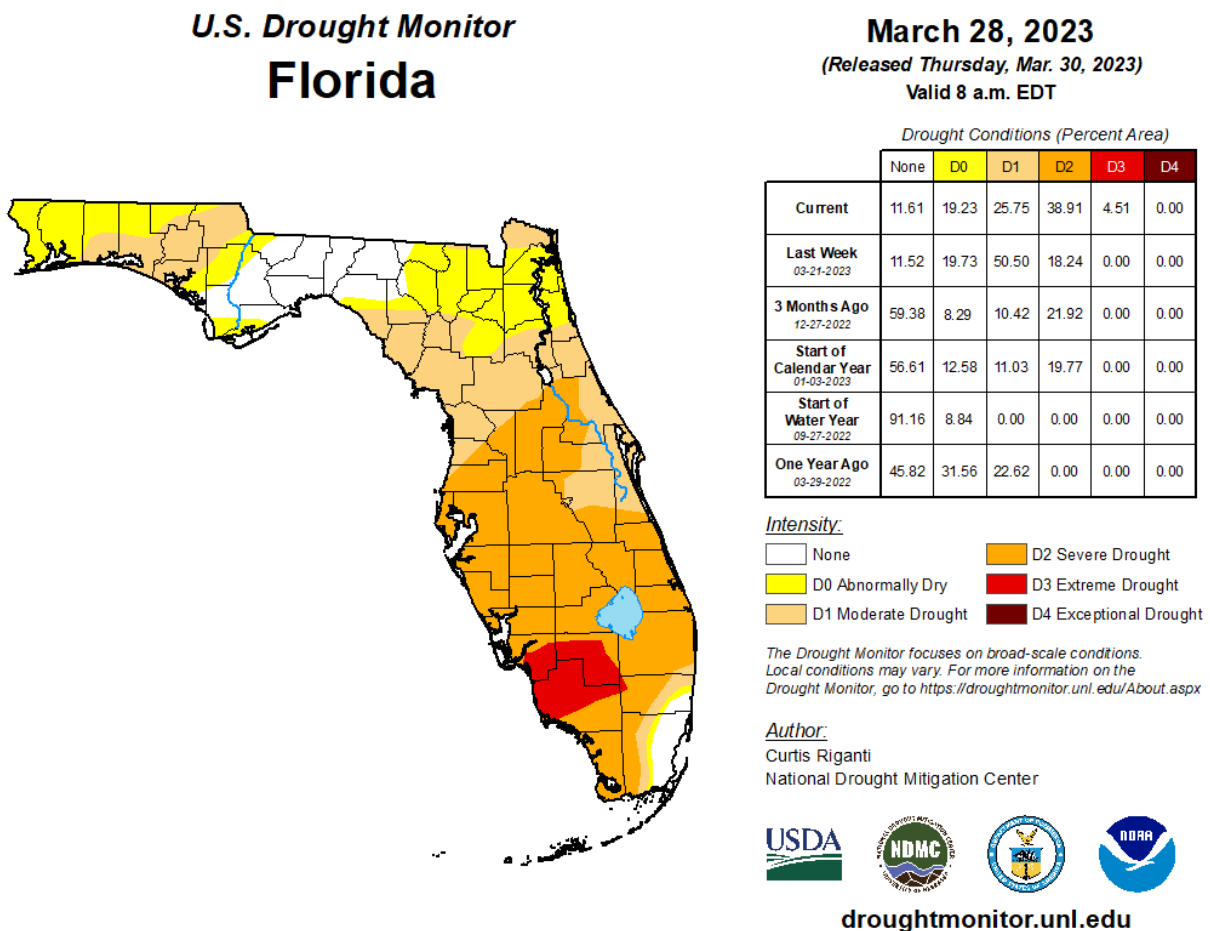


Drought-Related Impacts.

By the middle of March, moderate drought (D1) spread across the Florida Peninsula and severe drought (D2) emerged in southwest Florida. About 10% of the state was in severe drought (D2), 60% was in moderate drought (D1), and 21% was abnormally dry, according to the U.S. Drought Monitor. By the end of the month, degradation occurred across the Peninsula with the emergence of a pocket of extreme drought (D3) in southwest Florida. As of March 28, 4.5% of the state was in extreme drought (D3), 39% was in severe drought (D2), 26% of the state was in moderate drought (D1), and 19% was abnormally dry (Figure 3).

As of March 31, the Lake Okeechobee water level was 14.55 ft. above sea level (Feet-NGVD29), which is close to average for this time of year. At the first of the month, the water level was 15.50 ft. above sea level.

Figure 2. A graphical depiction of the latest drought conditions in Florida according to the U.S. Drought Monitor (courtesy of the National Drought Mitigation Center, University of Nebraska-Lincoln).



Agriculture-Related Impacts.

During March, the lack of precipitation in most of the state and above-normal temperatures worsened drought conditions across the Peninsula. Drought conditions adversely affected pastures and pasture conditions were reported as mostly poor to fair. Cattle were reported to be in mostly good to fair condition. Preparations for spring planting of row crops progressed well. Citrus grove activities included general maintenance and removal of dead trees. Drought has resulted in widespread irrigation. With unseasonably warm temperatures during February and March, a mid-month freeze event, which followed on a long period without freezing temperatures, resulted in fruit damage particularly in areas further north in central and southern Georgia. Chill hours for northern Florida and nearby areas are below last year's accumulation and below historical averages. North Florida experienced only 1-3 days with temperatures at or below 32° F during March. Fruits and vegetables that were planted and harvested during the month included green beans, yellow squash, strawberries, watermelon, zucchini, sweet corn, pepper, and avocados. For more information, consult the [Crop Progress - State Stories](#) reports, which are produced monthly December through March by the USDA's National Agricultural Statistics Service.

Appendix 1. Additional March departures from normal data for select Florida locations (source: NWS).

Station	Average Temperature (°F)	Departure from Normal (°F)	Total Rainfall (in.)	Departure from Normal (in.)
Gainesville	66.4	+3.7	4.68	+1.19
Sarasota	71.6	+3.5	0.18	-2.67
Melbourne	72.6	+4.0	1.16	-1.53
Fort Myers	75.3	+5.0	0.10	-1.97
West Palm Beach	75.8	+4.7	0.12	-3.19

Appendix 2. Select daily record high maximum temperatures broken or tied during March (compiled from NOAA).

Location	Date	Record (°F)	Broken/Tied	Last
Pensacola	1	79	Broken	77 in 2012
Key West	1	90	Broken	85 in 2019
Plant City	2	90	Broken	89 in 2021
Mayport	2	86	Broken	85 in 1971
Lakeland	2	88	Broken	87 in 2019
Clermont	3	89	Broken	88 in 2019
Pensacola	3	80	Broken	76 in 1997
Orlando	3	90	Tied	90 in 2012
Vero Beach	3	91	Broken	89 in 2012
Bradenton	4	89	Broken	86 in 2020
Clermont	4	91	Broken	89 in 1961
Jacksonville Beach	4	88	Broken	87 in 1953
Lisbon	4	88	Broken	86 in 2001
Daytona Beach	4	90	Broken	88 in 1953
Orlando	4	91	Broken	89 in 2020
Vero Beach	4	91	Broken	90 in 2020
Key West	4	91	Broken	86 in 2020
Pensacola	4	81	Broken	80 in 1997

Tallahassee	4	87	Broken	86 in 1945
Apalachicola	5	79	Broken	77 in 2004
Melbourne	5	89	Broken	88 in 1982
Miles City	5	94	Broken	92 in 2003
Key West	5	92	Broken	87 in 2022
Pensacola	5	81	Broken	80 in 1974
Tallahassee	5	86	Broken	85 in 1955
Kissimmee	6	90	Broken	87 in 2015
Panama City	6	83	Broken	81 in 2022
Quincy	6	84	Broken	83 in 1976
Orlando	6	90	Broken	89 in 2003
Fort Myers	6	92	Tied	92 in 1944
Miami	6	91	Broken	88 in 2003
Key West	6	91	Broken	87 in 2022
Tallahassee	6	88	Broken	85 in 2003
Apalachicola	7	84	Broken	81 in 1945
Clermont	7	90	Tied	90 in 1961
Fort Lauderdale	7	91	Broken	89 in 1967
Jacksonville Beach	7	90	Broken	87 in 2022
Gainesville	7	88	Broken	87 in 2022
Miami	7	91	Broken	89 in 2003
Jacksonville	7	89	Broken	87 in 2022
Pensacola	7	86	Broken	83 in 1992
Tallahassee	7	88	Broken	84 in 1992
Crestview	7	87	Broken	86 in 1992
Fort Lauderdale	8	91	Broken	90 in 2003
Niceville	8	84	Broken	81 in 1951
Miami	8	90	Broken	88 in 2003
Key West	9	92	Broken	88 in 2022
West Palm Beach	13	94	Broken	93 in 2001
Fort Myers	23	90	Tied	90 in 2017
Orlando	25	92	Broken	91 in 2021
Daytona Beach	25	90	Broken	88 in 2021
Jacksonville Beach	26	88	Broken	86 in 2021
Orlando	26	92	Broken	89 in 2021
Lisbon	28	90	Broken	89 in 2021
West Palm Beach	28	91	Broken	88 in 2021
Fort Lauderdale	30	88	Broken	85 in 2021
Venice	31	90	Broken	88 in 2002