

Climate Summary for Florida – December 2021

Prepared by the Florida Climate Center, The Florida State University, Tallahassee, Florida

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

December Key Points

- December was much warmer, with average temperatures well above normal across the state.
- Rainfall totals for the month were below normal in most places.
- A La Niña advisory remains in effect and is expected to continue through the winter (95% chance).
- Abnormally dry conditions (D0) emerged across much of the Panhandle by the end of the month.

Average temperatures in December were well above normal across Florida. Following a colder than normal month of November, December was much warmer with average temperature departures ranging from +9.1 °F in Pensacola to +2.5 °F in Key West for the month (see Table 1 and Appendix 1 for select cities). Pensacola had its top warmest December on record, while the Gainesville, Orlando, and Tampa areas saw their second warmest Decembers on record. Several daily high maximum and high minimum temperature records were set throughout the month (see appendix 2).

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

Station	Mean Temperature	Departure from Normal
Pensacola	64.6	+9.1
Tallahassee	62.3	+7.9
Jacksonville	63.4	+6.7
Orlando	69.9	+6.6
Tampa	71.5	+6.6
Miami	74.5	+3.3
Key West	75.5	+2.5

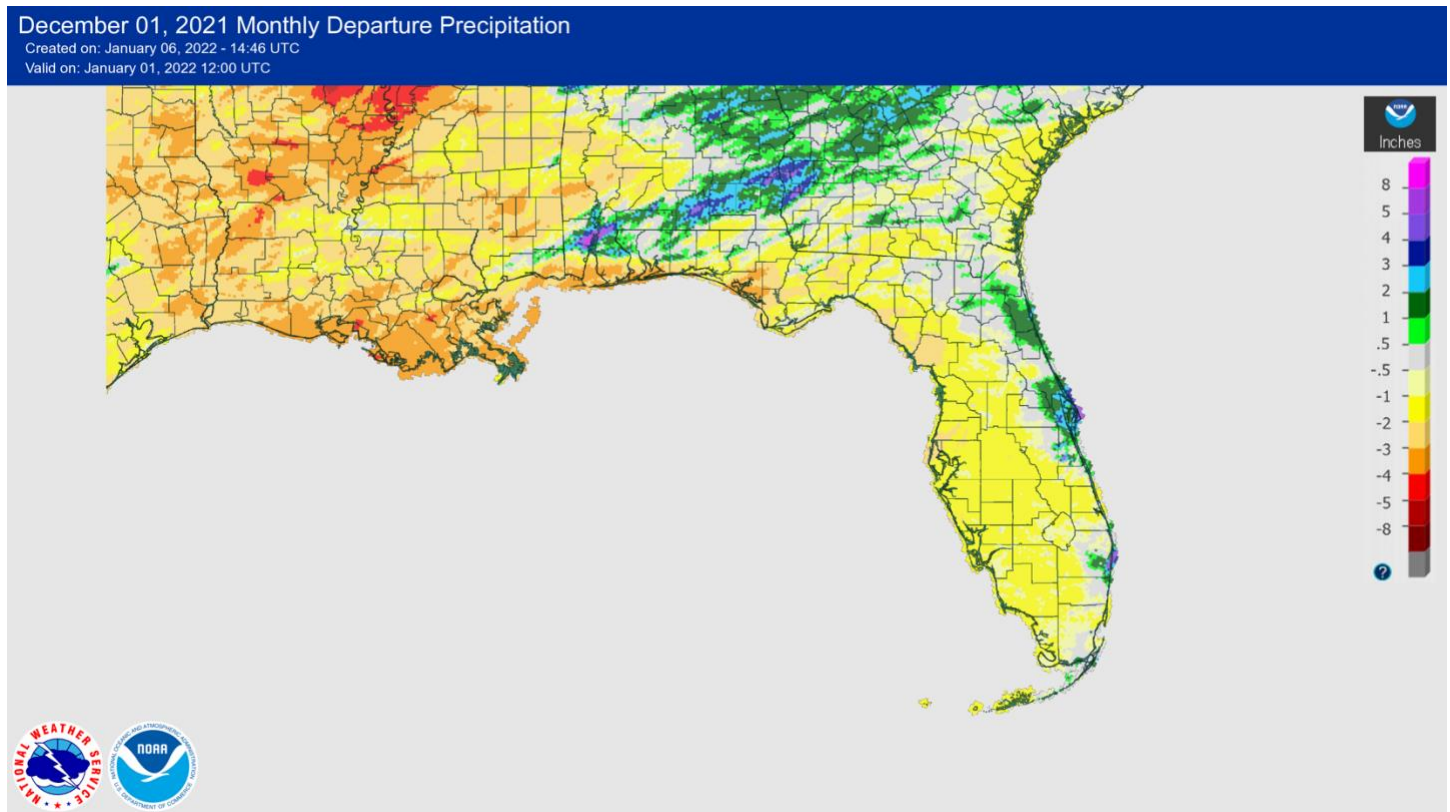
Rainfall totals in December were below normal throughout much of the state (Figure 1). Drier conditions closed out the year, with monthly departures from normal ranging from -0.40 inches in Orlando to -3.82 inches in Pensacola (Table 2 and Appendix 1). Rainfall totals in inland areas of the state, including Gainesville and Orlando, were near normal for the month.



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

Station	Total Rainfall	Departure from Normal
Pensacola	1.58	-3.82
Tallahassee	1.39	-2.85
Jacksonville	1.61	-1.17
Orlando	2.08	-0.40
Tampa	0.59	-1.97
Miami	1.19	-1.25
Key West	1.01	-1.15

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



La Niña Advisory.

La Niña conditions, the cool phase of the ENSO climate pattern, continued in the tropical Pacific Ocean in December. Below-average subsurface temperatures (averaged from 180-100°W) strengthened significantly over the past month, and the sea surface temperature in the Niño-3.4 region of the tropical Pacific was about 0.9 °C cooler than the long-term (1991–2020) average. There is a 95% chance of La Niña conditions continuing through the Northern Hemisphere winter, and it is anticipated to transition to ENSO-neutral during the spring 2022 (~60% during April-June).

Hazardous Weather Events in December.

According to the Local Storm Reports issued by the local National Weather Service offices serving Florida, there were 46 individual local reports of hazardous weather events recorded across the state during the month of December (see Table 4 for a breakdown by event type). Tornadoes caused damage to homes in Starke and Freeport on the 8th, and another tornado report in Lee County on the 21st that led to one injury. On the 6th, dense fog in Quincy led to a collision that resulted in two fatalities; visibility was under one-quarter mile.

Table 4. Breakdown of storm reports submitted in Florida during the month of December (compiled from Iowa State University/Iowa Environmental Mesonet).

Report Type	Number of Reports
Flash Flood	0
Flood	0
Heavy Rain	0
Dense Fog	1
Marine Thunderstorm Wind	9
Non-Thunderstorm Wind Gust	15
Non-Thunderstorm Wind Damage	3
Tornado/Waterspout/Funnel Cloud	3 / 1 / 0
Thunderstorm Wind Damage	4
Thunderstorm Wind Gust	9
Lightning	0
Wildfire	1

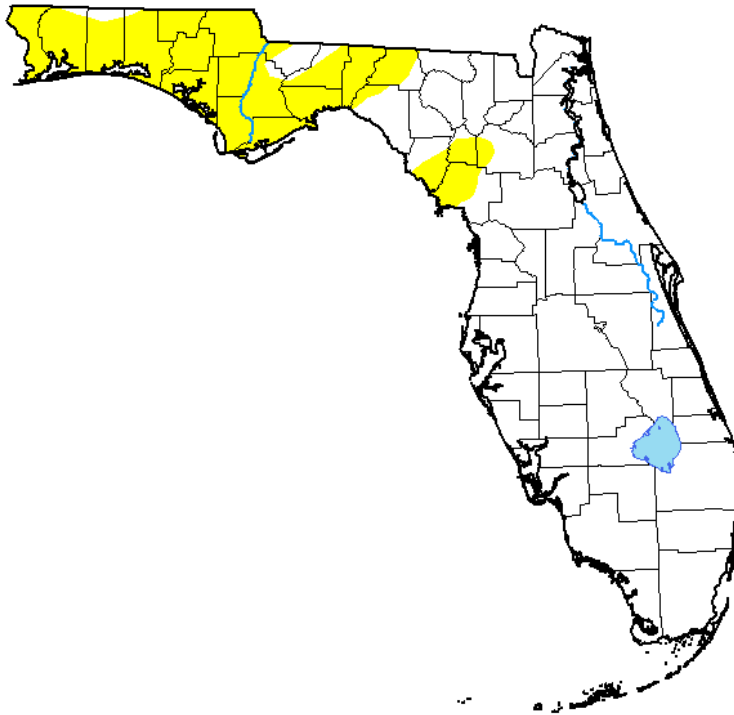
Drought-Related Impacts.

Through the month of December, abnormally dry conditions (D0) were present in parts of the Panhandle and had expanded to the entire Panhandle by end of the month. By December 28, about 22.6% of the state was experiencing abnormally dry conditions, according to the U.S. Drought Monitor.

As of December 31, the Lake Okeechobee water level was 15.52 ft. above sea level (Feet-NGVD29), which is above the average for this time of the year. The water level remained above average throughout the month. At the first of the month, the water level was around 15.8 ft. above sea level.

U.S. Drought Monitor Florida

December 28, 2021
(Released Thursday, Dec. 30, 2021)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	77.37	22.63	0.00	0.00	0.00	0.00
Last Week 12-21-2021	89.81	10.19	0.00	0.00	0.00	0.00
3 Months Ago 09-28-2021	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 12-29-2020	89.27	10.73	0.00	0.00	0.00	0.00
Start of Water Year 09-28-2021	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago 12-29-2020	89.27	10.73	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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droughtmonitor.unl.edu

Agriculture-Related Impacts.

During the month of December, Florida pasture conditions remained mostly fair to good due to unseasonably warm weather. Cattle conditions also remained mostly good during the month, and sugarcane planting and harvest progressed well. Toward the end of the month, disease in the southern region of the state continued due to heavy fog. Many citrus fruits were harvested, and several vegetable crops came to market. For more information, consult the [Crop Progress – State Stories](#), which are produced monthly December through March.

Appendix 1. Additional December 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	64.5	+7.2	2.88	0.00
Sarasota	69.3	+4.1	0.92	-1.41
Melbourne	69.0	+2.8	3.39	+1.03
Fort Myers	72.6	+5.3	0.54	-1.36
West Palm Beach	72.3	+3.3	2.16	-1.32

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

Location	Date	Record (°F)	Last
Vero Beach	8	87	85 in 1948
Key West	8	87	85 in 2007
Orlando	8	85	84 in 2013
Plant City	11	87	86 in 1894
Orlando	11	85	84 in 2013
Gainesville	11	84	83 in 2001
Daytona Beach	11	84	83 in 1961
Vero Beach	11	87	86 in 1997
Key West	11	87	85 in 2007
Crestview	11	81	79 in 2007
Pensacola	11	80	77 in 2015
Tallahassee	11	81	80 in 2007
Clermont	12	86	83 in 2001
Deland	12	84	83 in 2001
Miles City	12	88	87 in 2000
Orlando	12	86	84 in 1986
Vero Beach	12	88	86 in 1986
Tampa	13	86	85 in 2015
Key West	13	87	85 in 2009
Venice	16	85	84 in 2019
Tampa	16	86	85 in 2001
Vero Beach	16	85	84 in 2015
Venice	17	85	84 in 1956
Key West	17	87	84 in 2016
Usher Tower	18	83	82 in 1967
Venice	18	87	85 in 2016
Key West	18	86	84 in 2016
Jacksonville Beach	19	83	81 in 2017
Venice	19	87	85 in 2016
Vero Beach	19	90	85 in 1990
Hialeah	20	89	86 in 1986
Clermont	21	87	84 in 2014
Pensacola	26	80	78 in 1987
Jacksonville Beach	27	81	76 in 2015
Gainesville	29	82	81 in 2019
Jacksonville Beach	30	84	82 in 2015
Crestview	30	83	79 in 1996
Pensacola	30	81	77 in 1996
Tallahassee	30	82	80 in 2015
Marianna	31	83	80 in 1951
Vero Beach	31	85	84 in 2015
Pensacola	31	79	77 in 1996