

Climate Summary for Florida – October 2021

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

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

October Key Points

- Average temperatures during October were above normal for much of the state.
- The Florida Panhandle experienced above normal rainfall totals, while the rest of the state experienced below normal rainfall for the month.
- La Niña conditions have returned with an 87% chance of continuing through February.
- Abnormally dry conditions emerged over eastern-northeastern parts of Florida late in the month.
- Red tide (*Karenia Brevis*) affected the estuaries of the Apalachicola River and the Florida Panhandle.

Average temperatures in October were above normal across the state. Average temperature departures ranged from +0.6 °F in Key West and Jacksonville to +3.3 °F in Orlando for the month (see Table 1 and Appendix 1 for select cities). Tampa, Fort Myers, and Jacksonville Beach had their third warmest Octobers on record, while Orlando had its fourth warmest October on record. Several daily high maximum temperature records were set, and many daily high minimum temperature records were set during the month (see Appendix 2).

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

Station	Mean Temperature	Departure from Normal
Pensacola	73.4	+2.1
Tallahassee	71.5	+1.2
Jacksonville	71.8	+0.6
Orlando	78.8	+3.3
Tampa	80.4	+3.0
Miami	81.2	+1.1
Key West	81.9	+0.6

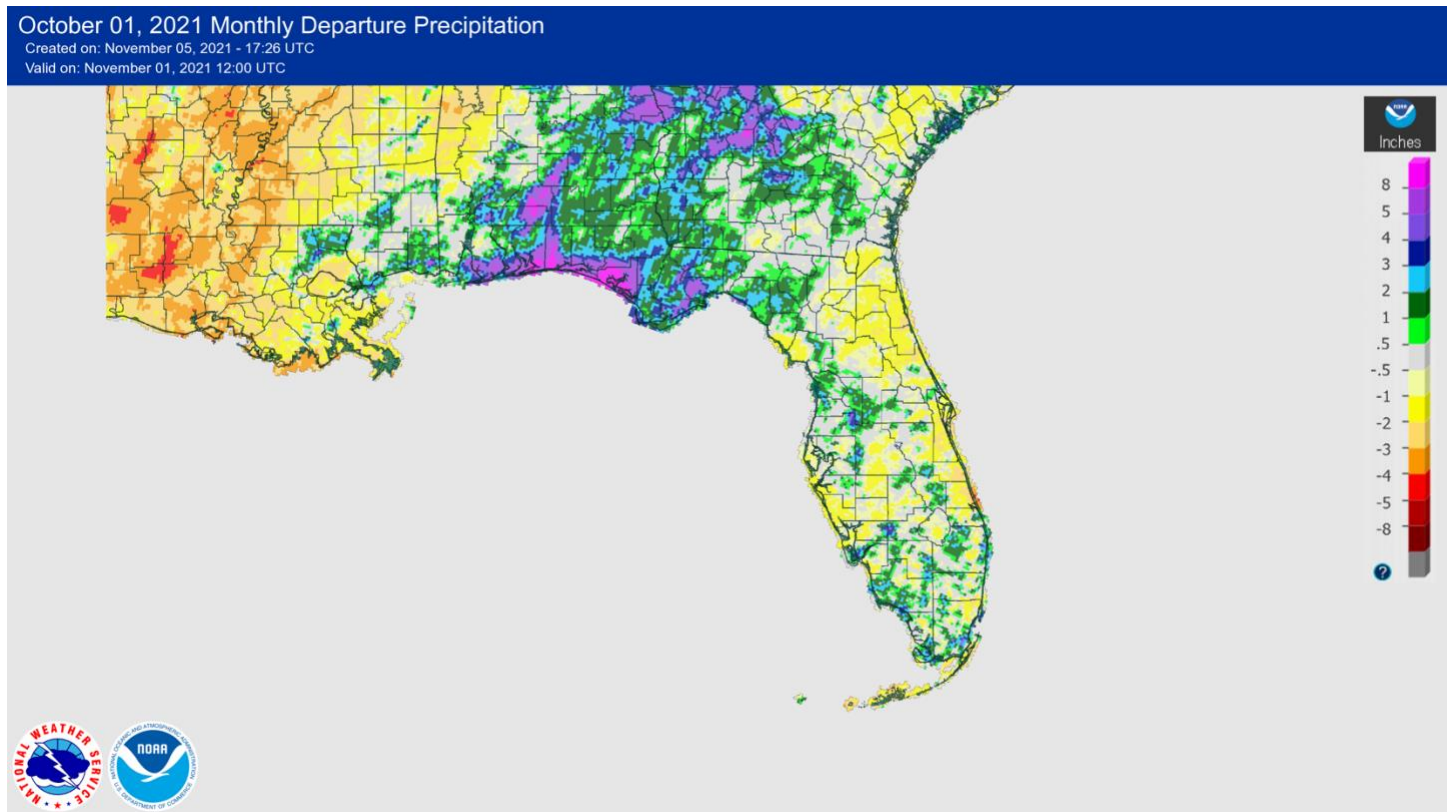
Rainfall totals in October were above normal in the Panhandle and northern regions but below normal for much of the rest of the state (Figure 1). Monthly departures from normal ranged from +8.58 inches in Pensacola to -2.74 inches in Miami (Table 2 and Appendix 1). The western Panhandle region continues to be wetter than normal, with a surplus in annual rainfall at Pensacola of just over 28 inches above normal for the year to date. Pensacola had its fifth wettest October on record (seventh for the area overall), and Lakeland also had its fifth wettest October on record.



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

Station	Total Rainfall	Departure from Normal
Pensacola	13.28	+8.58
Tallahassee	5.29	+2.05
Jacksonville	4.15	+0.12
Orlando	3.21	-0.25
Tampa	1.35	-0.99
Miami	4.91	-2.74
Key West	3.27	-2.40

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



La Niña Advisory.

La Niña conditions, the cool phase of the ENSO climate pattern, returned to the tropical Pacific Ocean in October. Below-average subsurface temperatures (averaged from 180-100°W) strengthened significantly over the past month, as negative anomalies were observed at depth across most of the central and eastern Pacific Ocean. There is an 87% chance of La Niña conditions continuing in the Northern Hemisphere winter from December 2021 – February 2022. At its peak, a moderate-strength La Niña is favored. ENSO-neutral conditions are predicted to return during March-May 2022.

Hazardous Weather Events in October.

According to the Local Storm Reports issued by the local National Weather Service offices serving Florida, there were 201 individual local reports of hazardous weather events recorded across the state during the month of October (see Table 4 for a breakdown by event type). Early in the month, on October 7th, coastal areas of Bay County received daily rainfall amounts of between 3.55 and 8.67 inches of rainfall with reports of heavy rain and flash flooding. Despite reports of flooding, strong wind gusts, and two tornadoes throughout the month, no injuries or fatalities were reported.

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

Report Type	Number of Reports
Flood	7
Flash Flood	37
Hail	0
Heavy Rain	18
Marine Thunderstorm Wind	44
Non-Thunderstorm Wind Gust	36
Non-Thunderstorm Wind Damage	1
Tornado/Waterspout/Funnel Cloud	2 / 14 / 4
Thunderstorm Wind Damage	6
Thunderstorm Wind Gust	29
Lightning	1
Rip Currents	0
High Sustained Winds	2

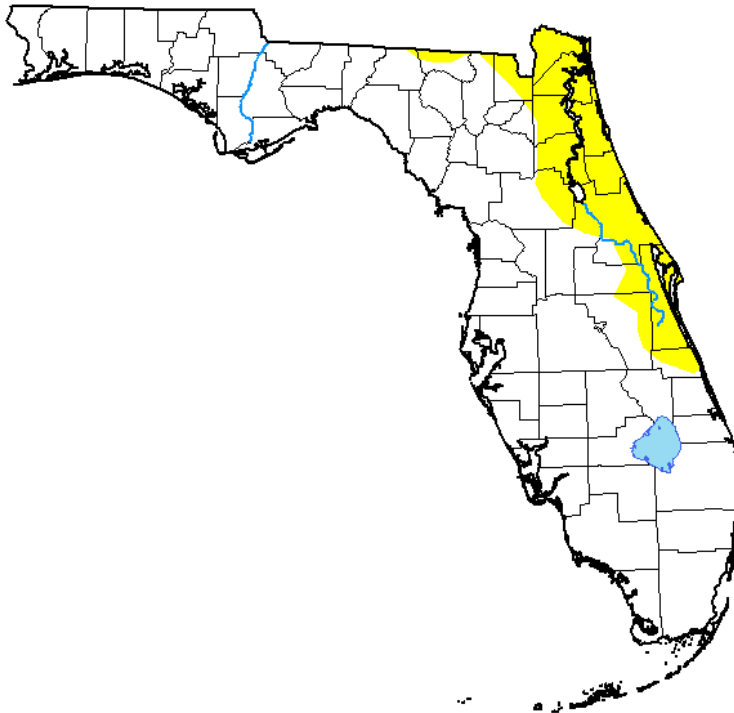
Drought-Related Impacts.

Much of the month of October remained drought free across the state; however, abnormally dry conditions emerged toward the end of the month across eastern and northern parts of the state. As of October 26, 15.5% of the state was experiencing abnormally dry conditions (D0), according to the U.S. Drought Monitor.

As of October 31, the Lake Okeechobee water level was at 15.87 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 15.57 ft. above sea level.

U.S. Drought Monitor
Florida

October 26, 2021
(Released Thursday, Oct. 28, 2021)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	84.54	15.46	0.00	0.00	0.00	0.00
Last Week 10-19-2021	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago 07-27-2021	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 10-27-2020	100.00	0.00	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 mid-October, topsoil moisture levels were adequate for 65% of the state, short in 11%, and very short in 1% of the state; 23% of the state was in surplus. By the end of October, topsoil moisture levels were adequate in 65% of the state, short in 18%, and very short in 1%; 16% of the state was in surplus. Much of the state had either fair (27%), good (47%) or excellent (23%) pasture and range conditions by the end of the month. For more information, consult the weekly [Crop Progress and Condition reports](#) published by the USDA's National Agricultural Statistics Service.

Appendix 1. Additional October 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	72.6	+1.2	1.84	-0.84
Sarasota	79.0	+1.7	1.03	-1.73
Melbourne	77.6	+0.1	2.72	-2.14
Fort Myers	81.2	+3.2	3.19	+0.11
West Palm Beach	80.3	+1.6	9.02	+3.12

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

Location	Date	Record (°F)	Broken/Tied	Last
Vero Beach	1	80	Broken	79 in 2019
Fort Lauderdale Beach	3	80	Tied	80 in 2019
Key West	3	82	Tied	82 in 1991
Jacksonville Beach	6	80	Broken	78 in 2019
Tampa	6	79	Tied	79 in 2009
Key West	6	83	Broken	82 in 2019
Key West	7	85	Broken	83 in 2009
Bradenton	8	77	Tied	77 in 2005
Key West	8	84	Broken	82 in 2017
Fort Myers	15	75	Tied	75 in 2018
Jacksonville Beach	16	84	Broken	78 in 2019
Vero Beach	21	77	Tied	77 in 2017
Bradenton	24	74	Broken	72 in 2020
Jacksonville Beach	24	76	Broken	74 in 1984
Orlando	24	73	Broken	72 in 2019
Fort Myers	24	76	Broken	75 in 2019
Orlando	24	72	Broken	71 in 2020
Bradenton	25	75	Tied	75 in 2019
Punta Gorda	25	75	Tied	75 in 2001
Miles City	25	75	Broken	74 in 2020
Gainesville	25	72	Broken	69 in 2019
Fort Myers	25	77	Broken	76 in 2019
Orlando	25	75	Broken	74 in 2020
Jacksonville	25	73	Broken	72 in 2020
Punta Gorda	26	75	Broken	74 in 2020
Venice	26	77	Broken	74 in 2019
Ochopee	26	77	Broken	75 in 2019
Key West	26	80	Broken	79 in 2020
Ochopee	29	76	Broken	75 in 2019
Fort Myers	29	76	Broken	75 in 2019