



Climate Summary for Florida – December 2016

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Average temperatures were well above normal across the state in December. The departures from average temperatures in December 2016 were well above normal across the entire state, ranging from +4.8°F in Fort Lauderdale to +7.0°F in Tallahassee (Table 1 and Appendix 1). Despite the warm December temperatures, minimum temperatures at or below freezing occurred on several nights in the northern portion of the state. December 2016 was the 2nd warmest in Key West, Miami, Fort Myers, 3rd warmest in Tampa, and 4th warmest in West Palm Beach and Orlando. Multiple maximum and high minimum temperature records were tied or broken across the state in December. In the interest of space, just the broken records are displayed in Appendix 2.

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

Station	Average Temperature	Departure from Normal
Pensacola	60.0	+6.5
Tallahassee	60.0	+6.8
Jacksonville	60.3	+5.1
Orlando	68.8	+6.2
Tampa	70.1	+7.0
Miami	76.7	+6.2
Key West	77.5	+6.1

Rainfall totals were varied across the state in December. Most of the Western Florida Panhandle and the Gold Coast received above-normal rainfall for the month, while most of the remainder of the state received below-normal amounts (Figure 1). Departures from normal ranged from -2.47” in St. Petersburg to +5.07” in Pensacola (Table 2 and Appendix 1), though localized parts of the state saw rainfall totals that were as much as 3.00” below normal to 8.00” above normal (Figure 1). December 2016 was the 6th wettest on record for Pensacola. There were several 24-hour precipitation records broken for the month (Table 3).

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

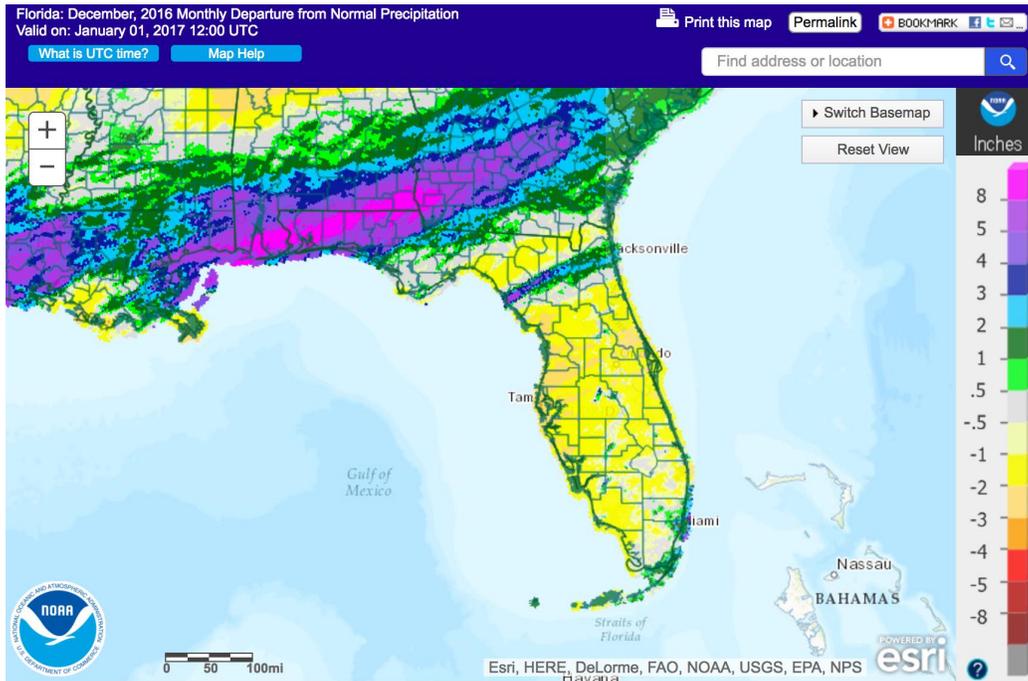
Station	Total Rainfall	Departure from Normal
Pensacola	9.62	+5.07
Tallahassee	4.20	+0.30
Jacksonville	2.29	-0.51
Orlando	2.52	-0.06
Tampa	0.43	-2.04
Miami	2.33	+0.29
Key West	1.74	-0.48



Table 3. Select daily rainfall records (inches) broken during December. (Compiled from NOAA, NWS)

Date	Location	Record	Last
5	Pensacola	4.09	3.30 in 2004
5	Tallahassee	2.48	2.10 in 1904
6	Gainesville	1.52	1.05 in 1979
6	Jacksonville	1.76	1.38 in 1979

Figure 1. A graphical depiction of the monthly rainfall departure from normal (inches) for December is shown in the figure below (courtesy of NOAA, NWS).



La Niña Conditions are Present in the Pacific.

Based on current data and forecast models, the Climate Prediction Center (CPC) will keep the ENSO Alert System at an La Niña Advisory. La Niña conditions are present, and sea surface temperatures (SSTs) continue to be below average in the central and eastern equatorial Pacific Ocean. Computer model predictions favor a transition to ENSO-neutral conditions sometime during Spring 2017. The CPC outlook for January 2017 through March 2017 favors below average precipitation and above average temperatures across the state.

Hazardous Weather Events in December. There were a total of 33 severe weather reports made in Florida during December, making for a second relatively quiet month in a row (for a breakdown by event type see Table 4, compiled from data collected by the Southeast Regional Climate Center at <http://sercc.com/lsr>). The largest fraction of hazardous weather reports concerned high winds in the Pensacola area and along the Space Coast mid-day of December 6th. Lightning strikes were reported on the 4th in the western Panhandle, striking two different residences, and a fatal lightning strike was reported on the 13th in Escambia County. Dense fog with visibility under a quarter of a mile was reported in the early hours of 12th and 13th in several locations in South Florida

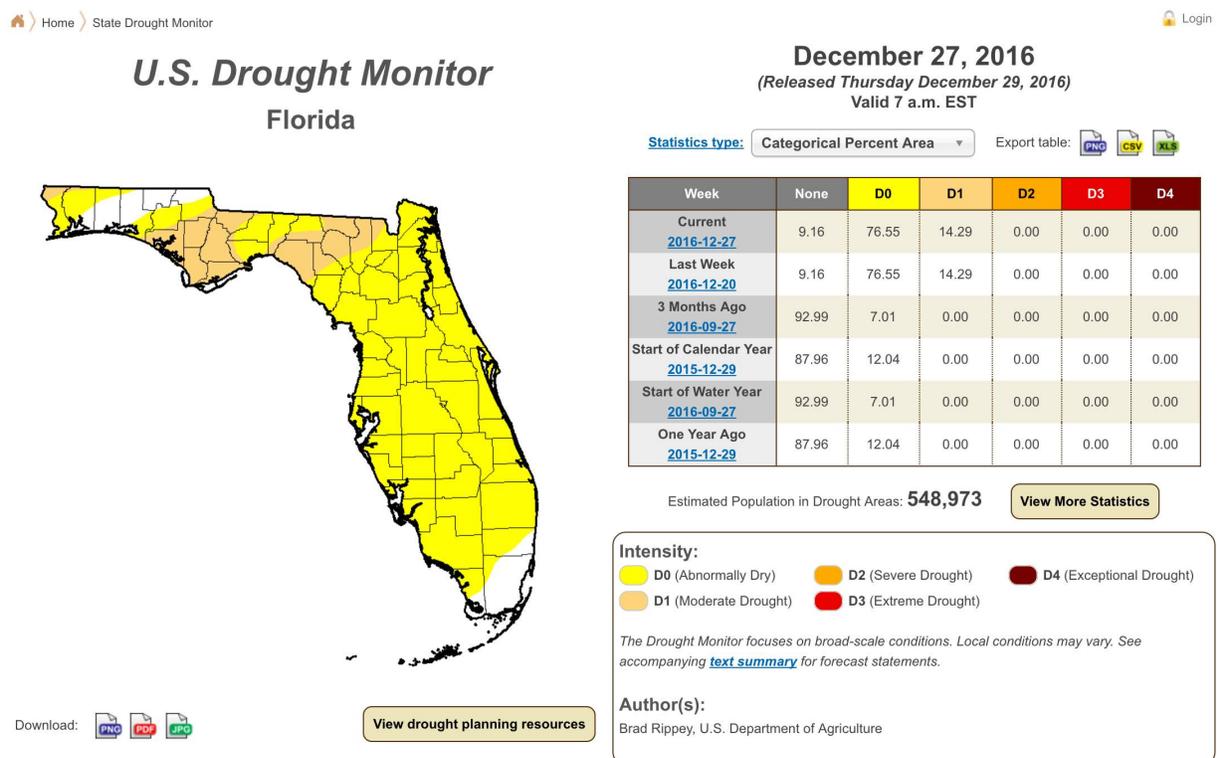
Table 4. Breakdown of storm reports submitted in Florida during the month of December. (Compiled from Southeast Regional Climate Center.)

Report Type	Number of Reports
High Winds	20
Dense Fog	4
Lightning	3
Waterspouts	3
Flooding	2
Storm Damage	1

Drought Related Impacts.

At the end of November, most of peninsular Florida was drought-free, and the Panhandle was experiencing abnormally dry to extreme drought conditions, generally worsening from the east to the west. Approximately 17% of the state was under abnormally dry (D0) conditions, 7% under moderate drought (D1), 10% under severe drought (D2), and another 7% under extreme drought (D3) conditions. Rains over the first few weeks of December significantly improved conditions in the western Panhandle, most notably in Santa Rosa, Okaloosa, Walton, Holmes, Washington and Jackson counties where D3 conditions were replaced with drought-free, or at most abnormally dry classification. At the same time, persistent rain deficits have led to abnormally dry conditions setting in most of peninsular Florida, with the exception of most of Dade and some of Broward and Monroe Counties. By the end of the month about 9% of the state is completely drought free, 77% is experiencing abnormally dry conditions, and 14% (including most of Bay, Gulf, Calhoun, Gadsden, Liberty, Franklin, Taylor, Suwannee, and Hamilton Counties, as well as portions of Escambia, Jackson, Wakulla, Jefferson, Madison, Columbia, and Baker Counties) is experiencing moderate drought. In all, the moderate drought conditions are affecting some 550,000 Florida citizens.

The water level in Lake Okeechobee is down to about 14.25', which is slightly below the long-term average value for this time of the year



Agriculture Related Impacts.

At the beginning of December, topsoil moisture levels ranged from adequate (40% of soils) to short (25%) or very short (34%) values. As the month progressed, rains in the Panhandle delivered some much-needed moisture to the region, leading to an overall improvement in soil moisture levels. At the same time, peninsular Florida saw a deficit of rainfall and a reduction in soil moisture levels. In all, the month ended on a better note, with 47% of soils reporting adequate moisture levels, 33% - short, and 15% - very short.

Temperatures across the citrus growing area have been very warm, and canals and ditches are at low levels because of low rainfall amounts over the past couple of months. Growers are irrigating frequently to provide sufficient moisture for the trees. Oranges and grapefruit are being harvested, and fruit quality is holding well. Sugar cane harvesting continues in southern counties. Planting of winter forage and cover crops, as well as harvesting of cotton and peanuts, that was previously delayed due to drought conditions was able to be resumed in some Panhandle counties following the improvement of soil moisture conditions. Cattle condition across the state remains mostly good despite the worsening of pasture quality. Most cattle are receiving supplemental feeding with hay.

Appendix 1
Additional December Departures from Normal Data for Florida Locations

Station	Total rainfall (in.)	Departure from Normal (in.)	Average Temperature (°F)	Departure from Normal (°F)
Gainesville	2.69	+0.21	62.7	+6.6
Melbourne	0.32	-2.25	69.5	+6.5
St Petersburg	0.28	-2.47	69.5	+5.4
Fort Lauderdale	3.59	+1.13	75.8	+4.8
Fort Myers	0.24	-1.47	73.3	+6.8

Appendix 2
Select daily maximum and minimum temperature records (°F) broken during December.
(Compiled from NOAA, NWS)

Date	Station	Type	Value	Broken/Tied	Last
1	Pensacola	Max	80	Broken	78 in 1975
5	Ft Myers	Max	87	Broken	86 in 1942
5	Gainesville	Max	85	Broken	84 in 1994
5	Jacksonville	Max	85	Broken	85 in 2013
6	Ft Lauderdale	High Min	77	Broken	76 in 1942
6	Ft Myers	High Min	73	Broken	69 in 1983
6	Key West	High Min	79	Broken	78 in 2013
6	Miami	Max	87	Broken	86 in 1983
6	Miami	High Min	76	Broken	75 in 2015
6	Tampa	High Min	69	Broken	68 in 1982
12	Pensacola	Max	79	Broken	79 in 1971
13	Pensacola	Max	80	Broken	79 in 2001
14	Miami	Max	87	Broken	86 in 1900
17	Miami	High Min	76	Broken	75 in 2015
18	Ft Lauderdale	High Min	77	Broken	75 in 2006
18	Ft Myers	Max	88	Broken	85 in 1967
18	Gainesville	Max	86	Broken	84 in 1967
18	Jacksonville	Max	83	Broken	81 in 2008
18	Melbourne	High Min	69	Broken	68 in 1961
18	Pensacola	Max	81	Broken	79 in 1956
19	Ft Lauderdale	High Min	77	Broken	75 in 2006
19	Ft Myers	Max	91	Broken	88 in 1990
19	Key West	Max	85	Broken	84 in 1956
19	Miami	Max	87	Broken	85 in 1989
19	Orlando	High Min	69	Broken	68 in 1961
20	Key West	High Min	77	Broken	75 in 1990
20	Miami	High Min	77	Broken	75 in 1931
25	Ft Myers	Max	88	Broken	87 in 2015
25	Tallahassee	Max	82	Broken	81 in 2015
26	Ft Myers	Max	88	Broken	87 in 2015
26	Miami	Max	75	Broken	74 in 1911
27	Gainesville	Max	84	Broken	83 in 2015
27	Pensacola	Max	78	Broken	77 in 1987
28	Pensacola	Max	79	Broken	78 in 1974