



Climate Summary for Florida – December 2015

Prepared by Lydia Stefanova and David Zierden

Florida Climate Center, The Florida State University, Tallahassee, Florida

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

Average temperatures were well above normal across the state in December. The departures from average temperatures in December 2015 were well above normal across the entire state, ranging from +6.2°F in Key West to +11.9°F in Tallahassee (Table 1 and Appendix 1). This was the warmest December on record for the majority of long-term reporting stations throughout the state. Numerous maximum and high minimum temperature records were tied or broken across the state in December 2015, including several all-time records for the month of December (Appendix 2).

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

Station	Average Temperature	Departure from Normal
Pensacola	63.4	+9.9
Tallahassee	65.1	+11.9
Jacksonville	66.5	+11.3
Orlando	71.6	+9.0
Tampa	73.4	+10.3
Miami	77.2	+6.7
Key West	77.6	+6.2

Rainfall totals in December were varied across the state. Rainfall totals for the month were above normal in the Panhandle and South Florida, and below normal in the northern peninsular portion of the state (Figure 1). Major reporting stations registered departures from normal ranging from -2.37" to +7.78" (Table 2 and Appendix 1), although localized parts of the state saw rainfall totals that were as much as 3" below normal to more than 8" above normal (Figure 1). December 2015 was the wettest on record for Miami. There were a small number of 24-hour precipitation records broken for the month (Table 3).

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

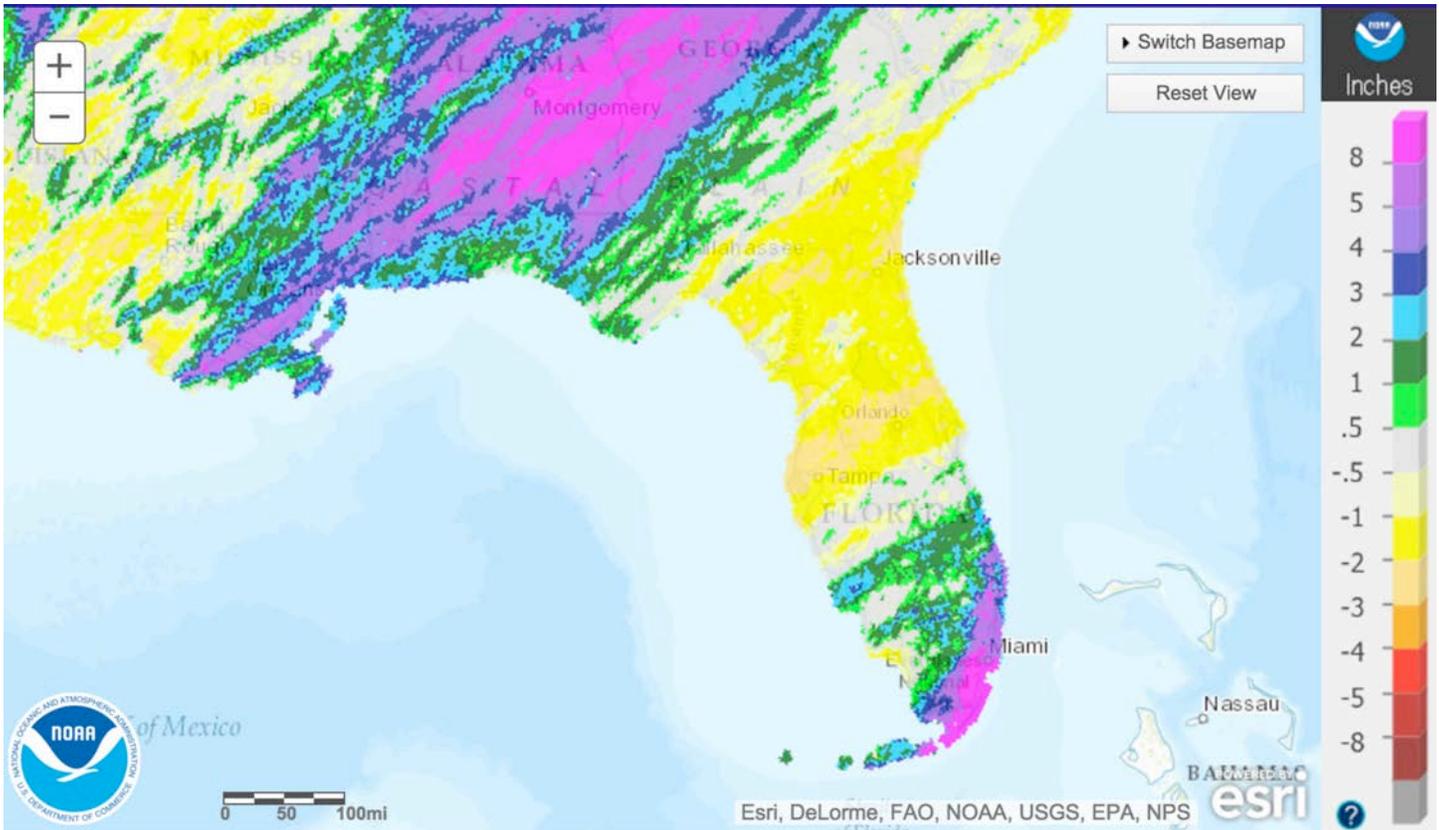
Station	Total Rainfall	Departure from Normal
Pensacola	8.33	+3.78
Tallahassee	4.77	+0.87
Jacksonville	0.56	-2.24
Orlando	0.72	-1.86
Tampa	0.49	-1.98
Miami	9.82	+7.78
Key West	4.58	+2.36



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

Date	Location	Record	Last
2	Melbourne	0.66	0.31 in 1985
3	Key West	1.15	0.61 in 1905
4	Miami	3.73	2.29 in 1997
22	Apalachicola	2.25	1.30 in 1940
30	Pensacola	2.89	2.11 in 1900

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



El Niño 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 El Niño Advisory. El Niño conditions are present, and positive equatorial sea surface temperatures (SST) anomalies continue across most of the Pacific Ocean. Over the past month, sea surface temperatures have also been above average across most of the Atlantic Ocean and the Gulf of Mexico. El Niño is expected to remain strong throughout this winter, with a transition to neutral conditions anticipated during spring or early summer of 2016. The CPC is predicting a strong probability of above-normal rainfall for the entire state and a moderate probability of below-normal temperatures for the northern part of the state through March 2016.

Hazardous Weather Events in December.

There were a total of 60 severe weather reports made in Florida during December 2015. Most of these were related to flooding (21 reports) and storm damage (16 reports). A cold front passage between December 4th and 5th gave rise to heavy rain and numerous flooding reports from the Miami area, with several street closures in the region. Some areas had water deep enough to stall vehicles. This weather system also brought heavy wind reports (gusts exceeding 40 mph) along the Florida Keys. Waterspouts and a funnel cloud were spotted near Flamingo Key and Key Largo on December 11. Thunderstorms along a low-pressure trough along the Panhandle brought in a series of reports of high winds and storm damage on December 22, including blown-down trees and power outages from wind and lightning. A strong cold front swept through the same area between December 28th and 30th, with wide spread

storm damage reports (downed trees and power lines) in and around Pensacola, and reports of flooding on the Apalachicola River. This system also spawned a tornado in Santa Rosa County that was confirmed by radar.

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	9
Flooding	21
Heavy Rain	3
Tornadoes/Funnel Clouds/Waterspouts	10
Storm Damage	16
Lightning	1

Agriculture Related Impacts.

At the beginning of December, topsoil levels were at mainly (79%) adequate, although some (14%) short values and a few (7%) surplus levels were reported across the state. By the end of the month, the area covered by adequate levels was slightly decreased (to 77%), and a slight increase (to 17%) of short soil moisture extent was reported. The lack of rain in the first few weeks of December allowed farmers in the Panhandle counties to continue cotton and peanut harvesting, although some cotton fields in Washington county remained too wet to harvest. By the third week, peanut harvesting completion rate was at 100%, slightly ahead of last year, and matching the five-year average. Cotton harvesting is nearing completion in Jackson and Walton counties. Sugar cane harvesting continues in Hendry, Glades, Palm Beach, Broward, and St. Lucie counties with no noted delays. Rains received on sugarcane fields are being managed with lateral canals and raised beds. The cold front in the first week of December with rain and winds battered sensitive vegetable crops. Farmers in Palm Beach County planted vegetable crops on raised beds and used lateral canal systems to help minimize damage from standing water after the rains. Bacteria soft rot on tomatoes and peppers and Rhizoctonia root rot on beans was evident due to warm and humid conditions. Miami-Dade County farmers reported 50 percent of vegetable crops in the ground were flooded, damaged, or totally lost due to heavy rainfall in the first part of December. As the month continued, warm and wet weather conditions in Charlotte, Collier, Glades, Hendry, and Lee counties lowered vegetable yields and quality. Warm conditions accelerated maturity in vegetable crops, and at the same time negatively affected yields and quality. Cattle and pasture condition ratings are mainly good – rains have kept pastures green and growing, although plant diseases are more prevalent than usual for this time of the year. Most of the citrus growing region is drought free, with only the eastern edge of Orange and Volusia County, most of Osceola County, and Brevard County experiencing abnormally dry conditions. Growers were irrigating as needed and spraying for psyllids. Mowing was being reduced to an as needed basis, mostly before harvest.

Drought Related Impacts.

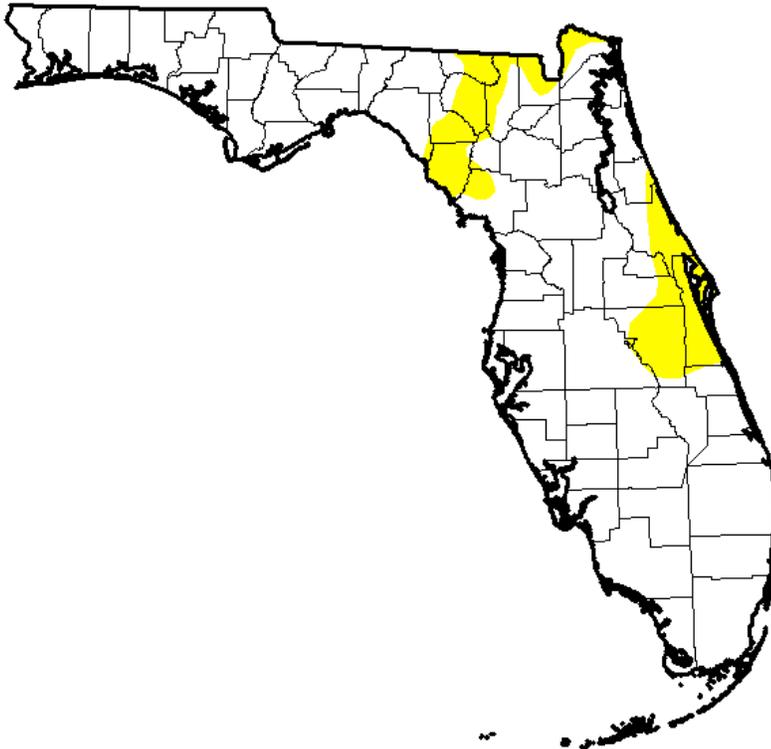
At the beginning of December, approximately 83% of the state was drought free, with the remainder of the state experiencing abnormally dry (D0) conditions, with a very small pocket of moderate drought (D1) conditions in Miami-Dade County. Rains in the first week of December eliminated the D1 conditions and shrank the D0 area to less than 8%. D0 conditions persisted throughout the month in Dixie, Osceola, Brevard, Volusia, and parts of Lafayette, Baker, Nassau, Seminole and Orange Counties. D0 conditions appeared after the second week of December in Suwannee, and parts of Columbia and Hamilton Counties, and remained in place for the remainder of the month. By the end of December, 88% of the state is drought-free, and the remaining 12% are experiencing abnormally dry conditions. The water level in Lake Okeechobee at the end of the month is about 14.76 ft., slightly up from the beginning of the month.

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	0.56	-2.24	66.5	+11.3
Melbourne	3.62	+1.12	73.7	+10.7
St Petersburg	0.38	-2.37	70.6	+6.5
Fort Lauderdale	6.34	+3.88	77.5	+6.5
Fort Myers	3.60	+1.89	73.6	+7.1

U.S. Drought Monitor Florida

December 29, 2015
(Released Thursday, Dec. 31, 2015)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	87.96	12.04	0.00	0.00	0.00	0.00
Last Week <i>12/22/2015</i>	87.96	12.04	0.00	0.00	0.00	0.00
3 Months Ago <i>9/29/2015</i>	82.72	17.28	4.00	0.00	0.00	0.00
Start of Calendar Year <i>12/31/2014</i>	94.33	5.67	0.99	0.00	0.00	0.00
Start of Water Year <i>9/29/2015</i>	82.72	17.28	4.00	0.00	0.00	0.00
One Year Ago <i>12/31/2014</i>	94.33	5.67	0.99	0.00	0.00	0.00

Intensity:

- 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. See accompanying text summary for forecast statements.

Author:
Chris Fenimore
NOAA/NESDIS/NCEI



<http://droughtmonitor.unl.edu/>

Appendix 2

Select daily maximum and minimum temperature records (°F) broken during December 2015.
(Compiled from NOAA, NWS)

Date	Station	Type	Value	Broken/Tied	Last
2	Melbourne	Max	86	Broken	85 in 2009
5	Melbourne	High Min	73	Broken	72 in 2001
15	Tampa	Max	85	Broken	84 in 2009
16	Key West	High Min	77	Broken	76 in 2009
17	Jacksonville	Max	82	Broken	81 in 1961
17	Key West	High Min	77	Broken	76 in 1961
17	Miami	High Min	75	Broken	74 in 1931
17	Melbourne	Max	86	Broken	83 in 1971
23	Key West	High Min	78	Broken; tied all-time Dec record	76 in 2014
23	Miami	High Min	77	Broken	74 in 2006
23	Melbourne	High Min	72	Broken	68 in 2006
24	Pensacola	Max	80	Broken	78 in 1974
24	Jacksonville	Max	83	Broken	81 in 1981
24	Key West	High Min	78	Broken; tied all-time Dec record	76 in 2006
24	Miami	High Min	77	Broken	75 in 2014
24	Tampa	Max	84	Broken	83 in 2011
24	Melbourne	High Min	73	Broken	71 in 1987
24	Orlando	High Min	71	Broken	68 in 1911
25	Tallahassee	Max	81	Broken	80 in 1984
25	Jacksonville	Max	82	Broken	82 in 2008
25	Key West	High Min	79	Broken; broken all-time Dec record	76 in 1941
25	Miami	High Min	77	Broken	74 in 1997
25	Tampa	Max	86	Broken; tied all-time Dec record	83 in 1984
25	Orlando	Max	86	Broken	85 in 1924
26	Tallahassee	Max	83	Broken	79 in 1987
26	Key West	High Min	78	Broken	76 in 1997
26	Tampa	Max	86	Broken; tied all-time Dec record	85 in 1984
26	Melbourne	High Min	73	Broken	71 in 1984
27	Tallahassee	Max	81	Broken	79 in 1942
27	Jacksonville	Max	83	Broken	81 in 2008
27	Key West	High Min	79	Broken; tied record from Dec 25 2015	75 in 1942
27	Melbourne	High Min	73	Broken	71 in 1942
28	Jacksonville	Max	85	Broken all-time Dec record	84, last in 2013
28	Key West	High Min	79	Broken; tied record from Dec 25, 27 2015	76 in 1942
28	Miami	Max	84	Broken	83 in 2007
29	Jacksonville	Max	83	Broken	82 in 1990
29	Key West	High Min	79	Broken; tied record from Dec 25, 27, 28 2015	76 in 2007
29	Key West	Max	84	Broken	82 in 2007
29	Melbourne	Max	87	Broken	84 in 2014
29	Melbourne	High Min	72	Broken	72 in 1962
29	Orlando	Max	85	Broken	84 in 2014
30	Tallahassee	High Min	72	Broken; broken all-time Dec record	71, last in 2015
30	Jacksonville	Max	84	Broken	83 in 1990
30	Key West	High Min	79	Broken; tied record from Dec 25, 27, 28, 29 2015	77 in 2007
30	Miami	Max	84	Broken	83 in 2014
30	Miami	High Min	77	Broken	74 in 2006
30	Melbourne	High Min	71	Broken	69 in 2007
30	Orlando	Max	87	Broken	85 in 1990
31	Jacksonville	High Min	67	Broken	65 in 1951