FloridaClimateCenter
Office of the State Climatologist

Climate Summary for Florida – November 2013
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Online at: http://climatecenter.fsu.edu/products-services/summaries

Average temperatures above normal across the state in November. The majority of stations across the state reported above normal average temperatures during November, though a few stations saw temperatures that were slightly below normal (Table 1 and Appendix 1). Departures from normal ranged from -0.1˚F in Ft. Lauderdale to 2.3˚F in Orlando and St. Petersburg. Average temperatures for November 2013 were the 3rd warmest on record in Miami and the 10th warmest in Orlando. There were a number of low maximum and high minimum temperatures tied and broken during the month (Appendix 2). The all-time record high maximum temperature for November in Daytona Beach was tied on the 1st with a recorded temperature of 89˚F. This tied the record that was set on November 28, 1948.

Table 1. November average temperatures and departures from normal (˚F) for selected cities.

Station	Average Temperature	Departure from Normal
Pensacola	58.0	2.0
Tallahassee	62.0	1.8
Jacksonville	62.3	0.1
Orlando	70.8	2.3
Tampa	70.2	1.1
Miami	77.1	2.2
Key West	77.1	2.2

Rainfall totals were varied across the state in November. Portions of the Big Bend, North Florida, and areas along the southeast coast and Florida Keys reported monthly rainfall totals above normal, while extreme northwest Florida and most of the southern Peninsula saw below normal totals (Figure 1). Departures from normal roughly ranged from -0.59" to 7.68" (Table 2 and Appendix 1), though some areas Florida saw rainfall totals that were as much as 5.00" below normal or nearly 8.00" above normal. November 2013 was the 4th wettest November on record in Fort Lauderdale, 7th wettest in Chipley, and 10th wettest in Miami. Numerous 24-hour precipitation records were broken for the month (Table 3), including one record that was tied that dates back to 1890 in Key West.

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

| Station	Total Rainfall	Departure from Normal
Pensacola	5.30	0.57
Tallahassee	4.39	1.80
Jacksonville	2.84	0.73
Orlando	0.92	-1.25
Tampa	0.96	-0.59
Miami	5.73	2.46
Key West	4.25	1.95

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

Date	Location	Record	Last
2	Gainesville	1.26	1.16 in 1919
2	Jacksonville	3.10	1.35 in 1979
19	Chipley	3.96	2.53 in 2003
20	Melbourne	3.05	0.60 in 1952
21	Fort Lauderdale	5.02	2.88 in 1912
22	Miami	1.01	0.94 in 1977
22	Hialeah	3.85	1.60 in 1959
23	Fort Myers	0.82	0.55 in 1959
26	Tallahassee	3.56	1.24 in 1986
26	Apalachicola	3.66	0.46 in 1947
27	Key West	1.42	1.42 in 1890

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

Florida: November, 2013 Monthly Departure from Normal Precipitation
Valid at 12/1/2013 1200 UTC– Created 12/3/13 13:39 UTC
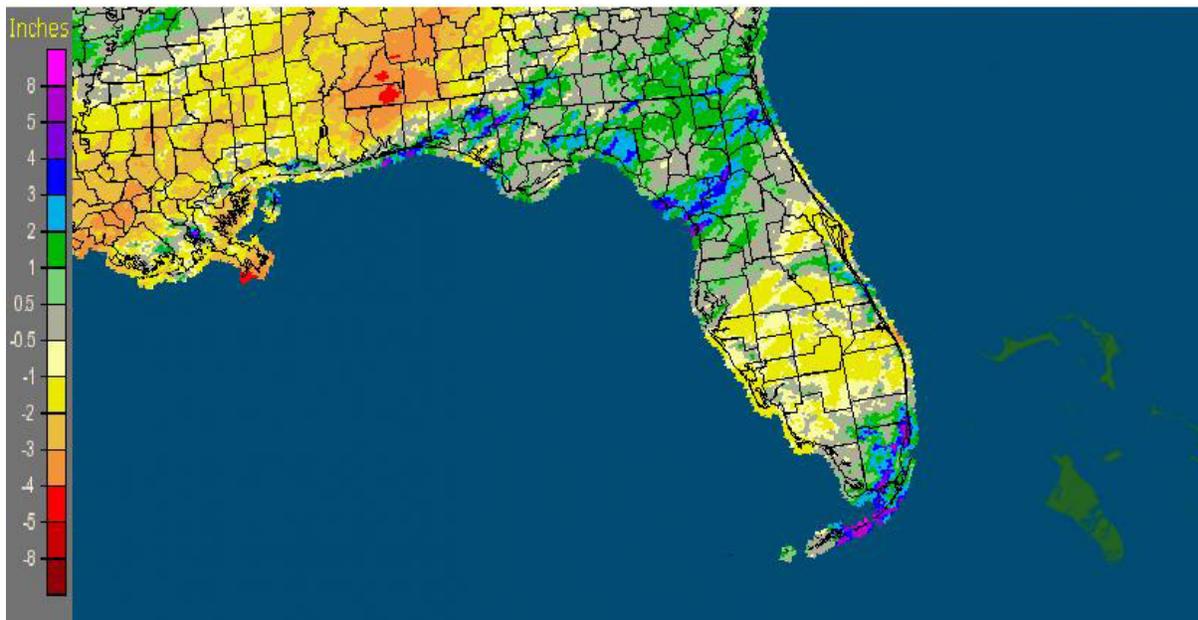
ENSO-Neutral Conditions Continue in the Pacific.
Neutral ENSO conditions continue to be reported for the equatorial Pacific, with equatorial sea surface temperatures (SST) near average across much of the equatorial Pacific. ENSO-neutral conditions are favored to continue through the spring of 2014. The Climate Prediction Center (CPC) predicts normal temperatures and precipitation for the state through February.

Hazardous Weather Events in November
Only 110 severe weather reports were made across the state in November. On the 5th, high winds with gusts up to 50 mph, not associated with thunderstorms, were reported along the Florida Keys. Flooding was recorded in Fernandina Beach and Mayport, due to the astronomical high tides on the 5th and 6th. The passage of a strong cold front on the 13th and 14th produced strong winds across the eastern part of the state. Wind gusts of up to 45 mph were reported in Jacksonville Beach, St. Augustine, New Smyrna Beach, Key Biscayne, and Key West. Non-thunderstorm winds knocked down trees and power lines in Flagler Beach, Palm Coast, and St. Augustine. Multiple reports of waterspouts were made from Miami Beach and Fort Lauderdale on the 20th. Urban and street flooding was seen in Hallandale and Hollywood on the 21st and in Miami Lakes and North Miami Beach on the 23rd. Another strong cold front pushed through the state on the 24th, bringing another round of strong winds (gusts up to 45 mph) to portions of the eastern coast of the state. On the 26th, an area of low pressure moved east across the Panhandle before moving up the Eastern Seaboard. Strong

thunderstorms caused storm damage in Shadeville and Tallahassee, with multiple reports of trees down in both locations. A supercell thunderstorm produced an EF1 tornado in Stonemill Creek (Gulf County) that damaged trees and a few building along its 3-mile long path. The same supercell produced tree damage in Red Hill (Liberty County).

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

Report Type	Number of Reports
Heavy Rain and Flooding	6
High Winds	86
Storm Damage	7
Hail	0
Thunderstorm/Lightning	0
Tornadoes/Funnel Clouds/Waterspouts	9
Coastal Hazards	2
Dense Fog	0
Fire	0

Agricultural and other climate related impacts.
Topsoil and subsoil moisture levels were down from October, with only 55-60% at adequate or surplus levels at the beginning of the month. Winter grazing was planted in Gulf and Jackson counties, while peanut and cotton harvesting continued in parts of northern Florida. Vegetable harvesting continued in central Florida, while land preparation and planting continued in south Florida. Disease/pests were causing poor pasture conditions in parts of the state, though the cooler and drier weather also played a role in limiting pasture growth. Activity in the citrus growing region began to ramp up, with inconsistent sizes reported between oranges (golf ball to baseball sized) and grapefruit (larger than baseball), which were still smaller than normal. Dry conditions through the first part of November led to a decrease in soil moisture levels, both in topsoil and subsoil. Winter grazing was stressed in Jefferson County due to the lack of rain. Hay, sugarcane and vegetables continued to be harvested through central Florida. By the end of the month, topsoil moisture levels were 40% short and 45% adequate, and subsoil moisture levels had rebounded to 24% short and 61% adequate. Pasture and cattle conditions were fair to good (90% for both) statewide, despite the lack of rainfall. Widespread rain in the citrus growing areas helped, though the fruit size was small on early and midseason oranges.

When the Drought Monitor was released on the 5th of November, the dryness from the previous week's map (October 29th) had expanded and was reported along the Gold Coast and Monroe County, including the Florida Keys. By November 19th, all of the counties on the East Coast were reporting abnormally dry (D0) conditions. The D0 was also recorded in and around Lake Okeechobee and in portions of northern Escambia County. Rains in South Florida between the 19th and 26th eased the dryness along the immediate East Coast from Indian River through the Florida Keys. Throughout the entire month, the D0 conditions in North Florida were present, and even above normal rainfall for November in some of the area was not enough to ease drought concerns in that portion of the state. The CPC forecast for the next three-months is predicting below normal rainfall, so the chance of seeing more dry conditions, and potentially drought, introduced into the state remains high.

U.S. Drought Monitor
Florida
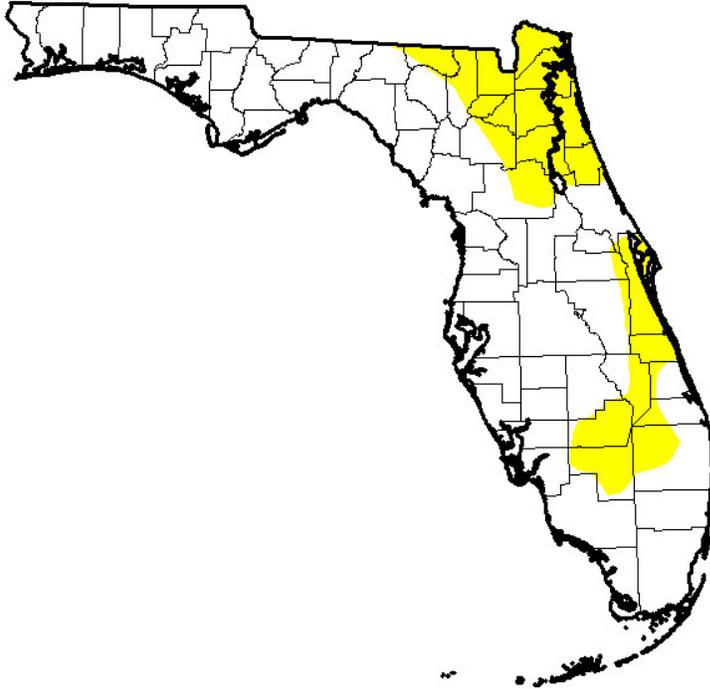
Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	77.26	22.74	0.00	0.00	0.00	0.00
Last Week 11/19/2013	67.00	33.00	0.00	0.00	0.00	0.00
3 Months Ago 8/27/2013	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 1/1/2013	56.86	43.14	3.13	0.00	0.00	0.00
Start of Water Year 10/1/2013	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago 11/27/2012	70.70	29.30	3.16	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.

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USDA
National Drought Mitigation Center

http://droughtmonitor.unl.edu/

Appendix 1

Additional November Departures from Normal Data for Florida Locations

Station	Total Rainfall (in.)	Departure from Normal (in.)	Average Temperature (˚F)	Departure from Normal (˚F)
Gainesville	3.31	1.25	64.9	2.1
St Petersburg	1.42	-0.48	72.4	2.3
Fort Lauderdale	10.92	7.68	75.4	-0.1
Fort Myers	1.43	-0.53	72.8	1.1

Appendix 2

Select daily maximum and minimum temperature records (°F) tied or broken during November.
(Compiled from NOAA, NWS)

Date	Station	Type	Value	Broken/Tied	Last
1	Daytona Beach	Max	89	Broken	87 in 1951
1	Melbourne	Max	90	Broken	88 in 1941
1	Vero Beach	Max	91	Broken	89 in 2009
2	Miami	Max	89	Tied	89 in 1997
6	Fort Pierce	High Min	75	Tied	75 in 1971
7	Miami	Max	88	Broken	87 in 1951
7	Naples	High Min	72	Tied	72 in 1992
10	West Palm Beach	High Min	78	Broken	76 in 2009
14	Lake City	Low Max	54	Broken	55 in 1976
14	Madison	Low Max	53	Tied	53 in 1963
14	Inverness	Low Max	62	Tied	62 in 1976
14	Glen St. Mary	Low Max	53	Broken	54 in 1932
14	Crescent City	Low Max	58	Broken	64 in 1995
14	Cross City	Low Max	55	Broken	60 in 1963
14	Jasper	Low Max	53	Broken	58 in 1976
18	Melbourne	Max	88	Broken	87 in 1974
18	Vero Beach	Max	88	Broken	87 in 1986
19	Moore Haven Lock	Max	88	Tied	88 in 1986
21	Fort Pierce	High Min	73	Tied	73 in 1934
22	Daytona Beach	High Min	70	Tied	70 in 1992
22	Melbourne	High Min	74	Broken	73 in 1992
22	West Palm Beach	High Min	77	Broken	76 in 1988
22	Stuart	High Min	76	Tied	74 in 1988
23	Apalachicola	Max	81	Tied	81 in 1996
27	Canal Point	High Min	71	Broken	69 in 1986
28	Lakeland	Min	36	Broken	37 in 1956
28	Kissimmee	Min	38	Broken	39 in 1966
28	Madison	Low Max	46	Broken	49 in 1938
28	Perry	Low Max	51	Broken	53 in 1938
29	Lake City	Min	28	Tied	28 in 1959