



Climate Summary for Florida – March 2013

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Online at: <http://climatecenter.fsu.edu>

Average temperatures well below normal across the state in March.

Average temperatures were well below normal for March across the entire state (Table 1 and Appendix 1). Departures from normal ranged from -4.0°F to -6.0°F across Florida, and there are reports of some locations that were -8.0°F below normal. Overall, the average temperatures for March 2013 were colder than meteorological winter (Dec 1st- Feb 28th) and were significantly different than March 2012, when some locations were more than 6.0F above the normal. March 2013 was the 2nd coldest at both Jacksonville and Gainesville, the 5th coldest at Tallahassee and Tampa, the 6th coldest at Fort Myers, the 7th coldest at Pensacola, Orlando and St. Petersburg and the 8th coldest in Key West. Multiple maximum temperature or high minimum temperature records were either tied or broken (Appendix 2); there were only 2 record minimum temperatures that were broken in February.

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

Station	Average Temperature	Departure from Normal
Pensacola	57.0	-4.0
Tallahassee	55.5	-5.6
Jacksonville	55.5	-6.2
Orlando	61.6	-5.8
Tampa	61.6	-5.8
Miami	67.8	-4.8
Key West	69.5	-4.3

Rainfall totals varied across the state in March.

Rainfall totals across the state varied in March (Table 2), though most of the state reported totals that were below normal. Localized portions of the northeast Florida and Big Bend regions recorded above normal rainfall (+1-2"), while the peninsula and Panhandle were 2 to 5 inches below normal precipitation (Figure 1). March 2013 was the 5th driest on record at Pensacola, and only 35 precipitation records were broken in March — 11 of those records were for totals under an inch (Table 3). There are still drought concerns as the 3-month outlooks predict below normal rainfall for the spring dry season.

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

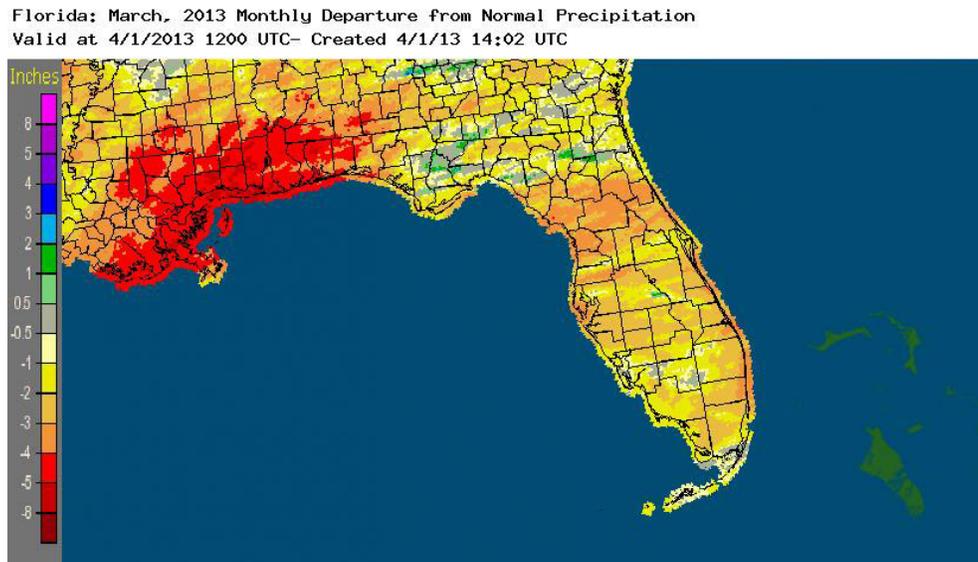
Station	Total Rainfall	Departure from Normal
Pensacola	1.55	-4.85
Tallahassee	4.35	-2.12
Jacksonville	3.07	-0.86
Orlando	1.27	-2.27
Tampa	2.06	-0.78
Miami	0.81	-1.75
Key West	2.20	0.34



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

Date	Location	Record	Last
12	Woodruff Dam	2.00	1.26 in 2010
19	Key West	1.28	0.79 in 2001
23	Jacksonville	2.31	1.33 in 1974
23	St. Augustine Lighthouse	3.67	2.05 in 1974
23	Tallahassee	2.07	0.68 in 1989
24	Dowling Park 1W	4.25	0.43 in 2006
24	Jasper	2.95	2.20 in 1957
24	Perry	2.79	2.00 in 1969
24	Jacksonville Beach	2.28	1.00 in 1983
24	Madison	2.24	2.18 in 1957
25	Quincy	3.00	1.52 in 1973

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



ENSO-Neutral Conditions Continue in the Pacific.

As of April 1st, neutral ENSO conditions continue to be reported for the equatorial Pacific. Equatorial sea surface temperatures (SST) are near average to below average across much of the Pacific Ocean. ENSO-neutral conditions are favored to continue through the summer 2013. The atmospheric circulation during over the last couple of months has been somewhat variable due to an active Madden-Julian Oscillation (MJO). The Climate Prediction Center (CPC) predicts above normal temperatures for the state, and they are also predicting below normal precipitation for Florida through June.

Hazardous Weather Events in March.

March was a somewhat active month for severe weather across the state, with 129 severe weather reports made during the entire month. The month started out with multiple reports of fires near Daytona Beach, Ocklawaha, and Juniper Springs. The Hopkins Prairie Wildfire grew to over 1900 acres and destroyed 10 homes in Marion County. Low astronomical tides were seen on the 6th at Mayport and Dungeness due to tidal levels that were reported below the mean low water level and were also 1.0 to 1.5 ft below the predicted tidal level. Dense fog on the 20th reduced visibilities to less than ¼ mile near Ortona along State Road 78. Also on the 20th, a severe thunderstorm produced high winds and reports of nickel-sized hail in and around the Miami area.

From March 23rd to 25th, 103 of the 129 severe weather reports were recorded. A low pressure system in Louisiana set up an interesting weather event as a warm front lifted through the Panhandle on the 23rd and 24th, spawning one round of severe weather, and a second round of severe weather hit the state as the cold front pushed through on the 24th and 25th. On the morning of the 23rd, numerous hail reports came in from locations along the Florida Panhandle and Big Bend,

including Panama City Beach, Wewahitcha, Altha, Chattahoochee, and Wakulla Springs. Hail sizes ranged from dime (0.75") to quarter (1.00") at these locations. One particularly strong thunderstorm moved east along and parallel to I-10 from Tallahassee toward Jacksonville and triggered multiple reports of hail and storm damage. An Emergency Manager in Bradford County received reports of baseball-sized hail (2.75") near Lawtey, FL. In addition to the hail and winds, an observer in Lake City reported that over 2.00" of rain had fallen in a 30 minute time period as this storm moved through the area. The same severe thunderstorm caused heavy rains, storm damage and more hail reports as it moved into the town of St. Augustine. Later on the 23rd, lightning caused a house fire in Milton, and storm total rainfall over 2.50" were reported by observers in and around Jacksonville. The 24th saw more reports of storm damage and high winds across much of the Panhandle, Big Bend and northern peninsula of the state. A measured wind gust of 75 mph was taken at the Orlando International Airport, and a gust of 86 mph was measured in the Lake Buena Vista area. Dime to quarter sized hail was reported across the central part of the state from Tampa to Orlando to Titusville. Trees were uprooted and numerous homes sustained damage as the cold front pushed through the area.

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

<u>Report Type</u>	<u>Number of Reports</u>
Heavy Rain and Flooding	8
High Winds	38
Storm Damage	32
Hail	38
Thunderstorm/Lightning	1
Tornadoes/Funnel Clouds/Waterspouts	0
Coastal Hazards	2
Dense Fog	1
Fire	9

Agricultural and other climate related impacts.

At the beginning of March, producers in northern Florida were busy assessing crops for damage following a second week of freezing temperatures and heavy rains. While much of the state received minimal to no moisture, portions of the Panhandle had accumulated more than 5 inches during the first week. Winter wheat benefited from the recent rains, and moderate to heavy bloom was observed across the state’s citrus region. The second week in March brought more cold weather to the state, with more than half the state recording sub-freezing temperatures. Citrus producers maintained heavy irrigation in their orchards as bloom progressed, but the dry conditions continued to hamper the citrus region. Winter vegetable harvest was in full swing, though producers assessed fields for damage from the cold snaps and strong winds. From March 11th to 17th, growers were irrigating one to two times a week in the citrus belt to keep moisture in the ground and on the trees. Cold weather lingered in Florida and slowed vegetable growth in some areas. Land in the Panhandle was being prepared for peanuts. Strawberry harvesting started earlier than expected. By the end of the month, topsoil moisture levels across the state improved slightly, though irrigation continued in areas still impacted by drought conditions. Unseasonably low temperatures left many fruit and vegetable growers worrying about late season frost damage. Peanuts and corn were planted in the Panhandle, while sugarcane harvest was winding down for the season.

While the statewide rainfall totals varied greatly across the state during March, most of the state saw below normal rainfall during the month. Since the release of the drought monitor on February 26th, the Panhandle has remained drought free, while the Peninsula and north Florida have continued to be plagued by dryness. The areas of moderate drought have expanded to cover about 48% of the state, including much of central Florida and portions of Broward, Collier, Dade, and Monroe counties. The area of severe drought in northern Florida has eased due to the heavy rains at the end of March, now only reported in Flagler, Lake, Marion, Putnam, and Volusia counties. Now that the state has officially entered spring, the normal rainfall during the months of April and May are some of the lowest for the year at many locations. The CPC has predicted that the three-month rainfall amounts for April, May and June will be below these normal values, which could put the state at a greater risk of a worsening drought.

Figure 2: Drought conditions in Florida as of March 26, 2013 (courtesy of U.S. Drought Monitor).

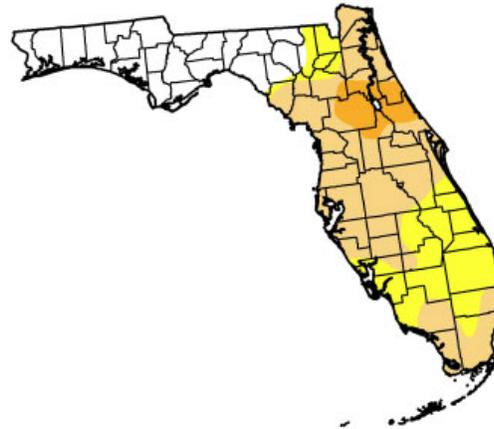
U.S. Drought Monitor

March 26, 2013

Valid 7 a.m. EST

Florida

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	27.10	72.90	48.61	6.23	0.00	0.00
Last Week (03/19/2013 map)	24.06	75.94	52.07	11.18	0.00	0.00
3 Months Ago (12/25/2012 map)	56.86	43.14	3.13	0.00	0.00	0.00
Start of Calendar Year (01/01/2013 map)	56.86	43.14	3.13	0.00	0.00	0.00
Start of Water Year (09/25/2012 map)	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago (03/20/2012 map)	0.00	100.00	97.81	52.28	15.18	0.00



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, March 28, 2013

Anthony Artusa, NOAA/NWS/NCEP/Climate Prediction Center

<http://droughtmonitor.unl.edu>

Appendix 1: Additional March Departures from Normal Data for Florida Locations

Station	Total rainfall (in.)	Departure from Normal (in.)	Average Temperature (°F)	Departure from Normal (°F)
Gainesville	0.98	-3.28	56.3	-6.3
St Petersburg	0.54	-2.75	63.3	-4.2
Fort Lauderdale	0.09	-3.27	67.5	-5.3
Fort Myers	0.78	-1.96	64.3	-5.6

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

Date	Station	Type	Value	Broken/Tied	Last
2	Gainesville	Low Max	56	Broken	58 in 2009
2	Vero Beach	Low Max	60	Broken	61 in 1986
4	Gainesville	Min	27	Tied	27 in 1980
4	Orlando	Min	30	Broken	33 in 1980
4	Vero Beach	Min	31	Broken	35 in 1943
4	West Palm Beach	Min	38	Tied	38 in 1942
7	Key West	Low Max	65	Tied	65 in 1966
7	Fort Lauderdale	Min	48	Broken	50 in 2010
16	Orlando	Min	41	Broken	42 in 1988
19	Orlando	Max	90	Tied	90 in 1982
23	Vero Beach	Max	90	Tied	90 in 1977
23	Orlando	Max	88	Broken	87 in 2011
23	West Palm Beach	High Min	72	Tied	72 in 2007
24	Vero Beach	Max	91	Tied	91 in 1952
24	Fort Lauderdale	Max	91	Broken	88 in 1995
24	Miami	Max	90	Broken	89 in 2011
24	Fort Lauderdale	High Min	75	Tied	75 in 1975
26	Jacksonville	Low Max	55	Broken	59 in 1974
26	Crestview	Low Max	56	Broken	59 in 1980
26	Pensacola	Low Max	57	Broken	60 in 1980
26	Gainesville	Low Max	58	Broken	62 in 2006
26	Tampa	Low Max	59	Broken	61 in 1969
26	Daytona Beach	Low Max	61	Broken	62 in 1969
26	Orlando	Low Max	63	Broken	66 in 2006
26	Vero Beach	Low Max	66	Broken	70 in 2006
26	Gainesville	Min	34	Tied	34 in 2006
27	Tampa	Low Max	59	Broken	62 in 1969
27	Gainesville	Low Max	62	Broken	65 in 1969
27	Vero Beach	Low Max	63	Broken	66 in 1955
27	Key West	Low Max	64	Broken	65 in 1969
27	Orlando	Low Max	64	Tied	64 in 1955
27	Fort Lauderdale	Low Max	71	Broken	73 in 1981
27	Gainesville	Min	30	Broken	31 in 2006
27	Daytona Beach	Min	39	Tied	39 in 2006
27	Orlando	Min	40	Broken	42 in 2006
27	Fort Myers	Min	44	Broken	45 in 2006
27	Fort Lauderdale	Min	47	Broken	52 in 2006
27	Miami	Min	47	Broken	49 in 1953
27	Key West	Min	57	Broken	58 in 1969
28	Crestview	Min	28	Broken	32 in 1999
28	Gainesville	Min	32	Broken	35 in 1999
28	Tallahassee	Min	32	Tied	32 in 1999
28	Jacksonville	Min	35	Broken	36 in 1999
28	Daytona Beach	Min	38	Broken	40 in 1971
28	Orlando	Min	38	Broken	43 in 1969
28	Vero Beach	Min	41	Broken	45 in 2006
28	Fort Myers	Min	43	Broken	44 in 1955
28	Key West	Min	58	Broken	60 in 1978
29	Fort Lauderdale	Low Max	75	Tied	75 in 1982
29	Crestview	Min	34	Tied	34 in 1948
29	Gainesville	Min	35	Broken	41 in 1983
29	Vero Beach	Min	44	Broken	45 in 1955
29	Fort Myers	Min	48	Tied	48 in 1955
30	Vero Beach	Min	46	Broken	47 in 1953