



## NOAA, NATIONAL WEATHER SERVICE, WEATHER FORECAST OFFICE

Miami, Florida 33165

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### Warm and Mostly Dry Winter in South Florida

The rather mild winter experienced over much of the eastern United States was reflected in South Florida, with the period from December 2011 through February 2012 averaging about 2 degrees warmer than normal. Both December and February featured temperatures which were several degrees above normal, with only January having temperatures near to slightly below normal.

The prevailing weather pattern in February exemplified the rather stable and warm conditions across Florida this winter. Middle to upper-tropospheric high pressure area over Florida and the southeastern United States (Figure 1) kept most strong cold fronts from making it to Florida, while maintaining a mild east wind flow off the Atlantic across Florida (Figure 2).

The winter of 2011-2012 stands in contrast to the previous two winters which were colder than normal. [The La Niña pattern](#) of this winter was a contributor as far as setting the stage for the different weather patterns to establish themselves across the Northern Hemisphere. Another main factor was the persistently positive phase of the [North American Oscillation \(NAO\)](#) going back to November 2011 (Figure 3). When the [wintertime NAO is in a positive phase](#), South Florida typically experiences above normal temperatures due to the jet stream being located far to the north over the Great Lakes and Northeast United States, which allows for the Atlantic subtropical high to position itself near or over the southeastern United States. This usually causes east and southeast winds from the warm Atlantic waters to blow across South Florida, with the subtropical high blocking the southward movement of any arctic or polar air masses.

Here are average December 2011-February 2012 temperatures and departures from normal in degrees F and ranking for select locations:

Location (beginning of period of historical record)	Dec 2011-Feb 2012 Avg Temp	Departure From Normal	Rank
Miami (1895)	71.4	+1.8	12 <sup>th</sup> warmest
Fort Lauderdale (1912)	71.5	+1.2	6 <sup>th</sup> warmest
West Palm Beach (1888)	69.6	+2.4	16 <sup>th</sup> warmest
Naples (1942)	68.2	+2.1	13 <sup>th</sup> warmest

Despite this winter being about 4 to 5 degrees warmer than last winter, it doesn't mean we entirely escaped cold weather impacts. Two significant cold episodes affected South Florida this winter; the first one on January 4<sup>th</sup> which dropped temperatures to below freezing over areas away from the metro zones and the second on February 12<sup>th</sup> and 13<sup>th</sup> which produced freezing temperatures and frost near Lake Okeechobee.

The coldest and warmest temperatures of the winter season at the main climate sites were:

**Miami International Airport:** The lowest temperature recorded was 43 degrees on January 4th. The highest temperature was 87 degrees on February 25th.

- **Palm Beach International Airport:** The lowest temperature recorded was 39 degrees on January 3<sup>rd</sup> and 4<sup>th</sup>. The highest temperature recorded was 88 degrees on February 24<sup>th</sup>.

- **Fort Lauderdale/Hollywood International Airport:** The lowest temperature recorded was 42 degrees on January 4th. The highest temperature was 86 degrees on January 27<sup>th</sup> and February 23<sup>rd</sup>.

- **Naples Municipal Airport:** The lowest temperature recorded was 36 degrees on January 4th. The highest temperature was 86 degrees on February 26<sup>th</sup> and 27th.

## Precipitation

February brought welcome rains over large parts of South Florida after a very dry December and January. A stalled frontal system produced rainfall amounts of 3 to 4 inches over parts of Miami-Dade and Broward counties on the night of February 6<sup>th</sup> and morning of February 7<sup>th</sup>, with other areas receiving anywhere from 1 to 3 inches. Thunderstorms on the evening of the 27<sup>th</sup> produced 1 to 2 inches of rain from west of Lake Okeechobee to the Naples area.

The wetter February could not compensate for the very dry December and January, with overall winter precipitation averaging about 2 to 4 inches below normal, or about 50 to 75 percent of normal rainfall (Figure 4). Parts of southeast Florida such as Fort Lauderdale and a few spots west of Lake Okeechobee only recorded 1 to 3 inches of rain this winter, while on the other extreme Miami Beach recorded it's second wettest February on record (7.44 inches), pushing its winter total to almost 2 inches above normal. Juno Beach also received over 8 inches (8.05) for the month.

Overall, the observed precipitation fell in line with what is typically observed in La Niña winters over South Florida.

Following are December 2011-February 2012 rainfall totals, departure from normal in inches and ranking for selected locations:

<b>Location (beginning of period of historical record)</b>	<b>Dec 2011-Feb 2012 Rainfall</b>	<b>Departure/Percent From/Of Normal</b>	<b>Rank</b>
Miami (1855)	4.63	-1.28 (78%)	41st driest
Fort Lauderdale (1912)	2.98	-6.07 (33%)	14 <sup>th</sup> driest
West Palm Beach (1888)	5.10	-4.23 (55%)	36th driest
Naples (1942)	3.82	-1.58 (71%)	26 <sup>th</sup> driest
Miami Beach (1927)	8.18	+1.79 (128%)	12 <sup>th</sup> wettest
Moore Haven (1918)	4.35	-1.19 (79%)	47 <sup>th</sup> driest
The Redland (1942)	4.80	-1.32 (78%)	25th driest
Hollywood (1963)	6.03	-1.80 (77%)	
Cape Florida	4.12		
Homestead Gen. Airport	2.91		
Juno Beach	8.50		
Palm Beach Gardens	5.60		
Immokalee	1.57	-4.88 (24%)	
Muse (Glades)	6.27		
Brighton (Glades)	1.22		
South Bay	2.73		
Oasis Ranger Station	3.64		
Marco Island	2.37		
LaBelle (1929)	2.99	-3.16 (49%)	14th driest
Canal Point (1941)	3.50	-2.94 (54%)	14 <sup>th</sup> driest
NWS Miami (FIU Main)	5.47		

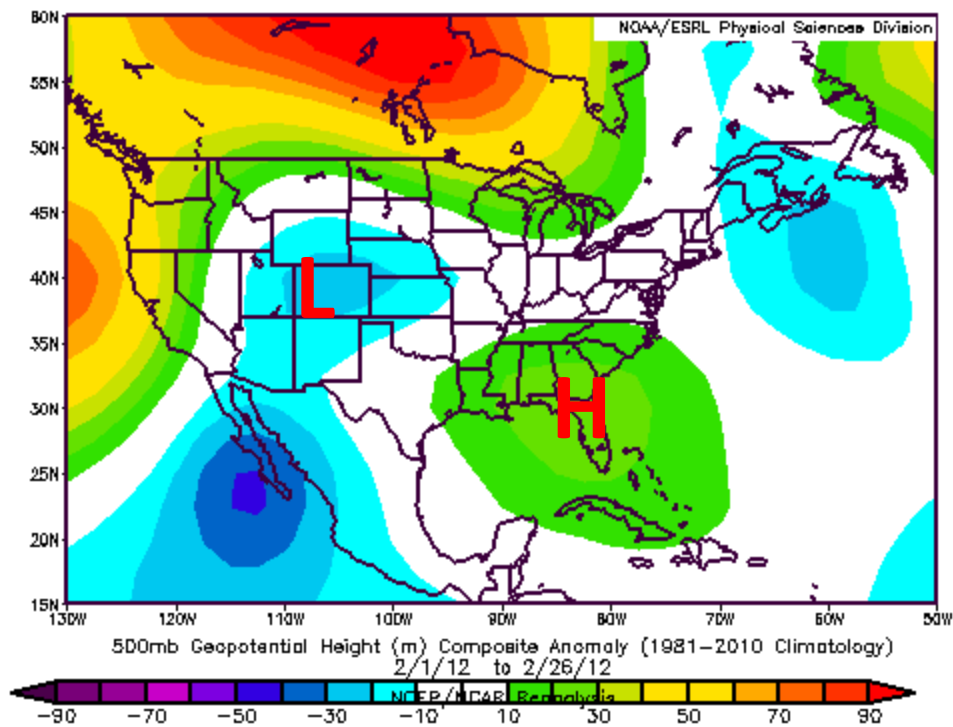
## **Outlook for March-May**

[The outlook by the Climate Prediction Center](#) calls for an enhanced likelihood of below normal rainfall and a slight tendency for above normal temperatures. This is essentially a continuation of the dry and warm pattern observed this winter.

The drier than normal pattern expected through the end of our dry season, in combination with gradually increasing temperatures through the spring, means that the threat of wildfires increases substantially during the months of March, April and May. All persons are urged to take measures to reduce the chance of wildfires. Visit the [Florida Division of Forestry web site](#) for more information on how to help prevent wildfires.

March and April typically bring an increase in easterly winds to the area, which significantly increases the risk of rip currents along the east coast beaches. A sharp increase in drowning deaths and rescues caused by rip currents occurs during the spring months due in part to this shift in the wind patterns. All residents and visitors visiting area beaches are strongly urged to heed the advice of Ocean Rescue lifeguards and swim near a lifeguard. [Visit the National Weather Service Rip Current Awareness page](#) for more information.

For the latest south Florida weather information, including the latest watches, advisories and warnings, please visit the National Weather Service Miami Forecast Office's web site at [weather.gov/southflorida](http://weather.gov/southflorida).



**Figure 1:** 500 mb (middle-tropospheric) height anomalies during February 2012. Stronger-than-normal high pressure (H) covered Florida and the southeast U.S. during February, which also resulted as the dominant winter pattern. This pattern keeps the polar jet stream farther north and results in less intrusions of cold continental air into Florida.

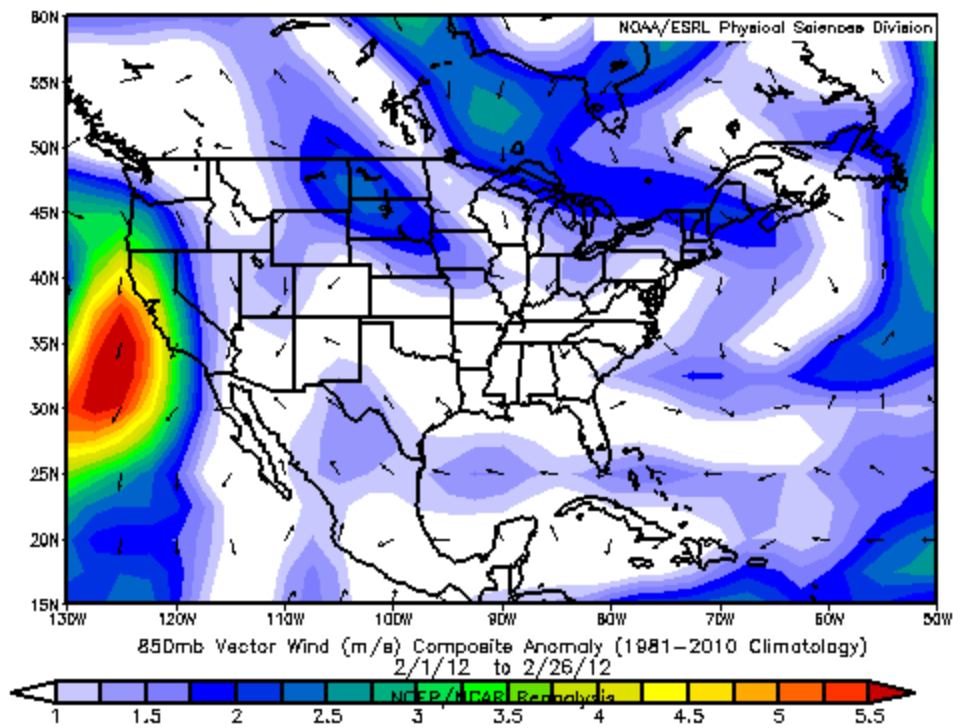


Figure 2: 850 mb (lower-tropospheric) wind anomalies during February 2012. Blue shading represents enhanced and stronger-than-normal east winds across South Florida. This pattern leads to mild air off the Atlantic as opposed to a northerly flow which would favor colder, continental air across the area.

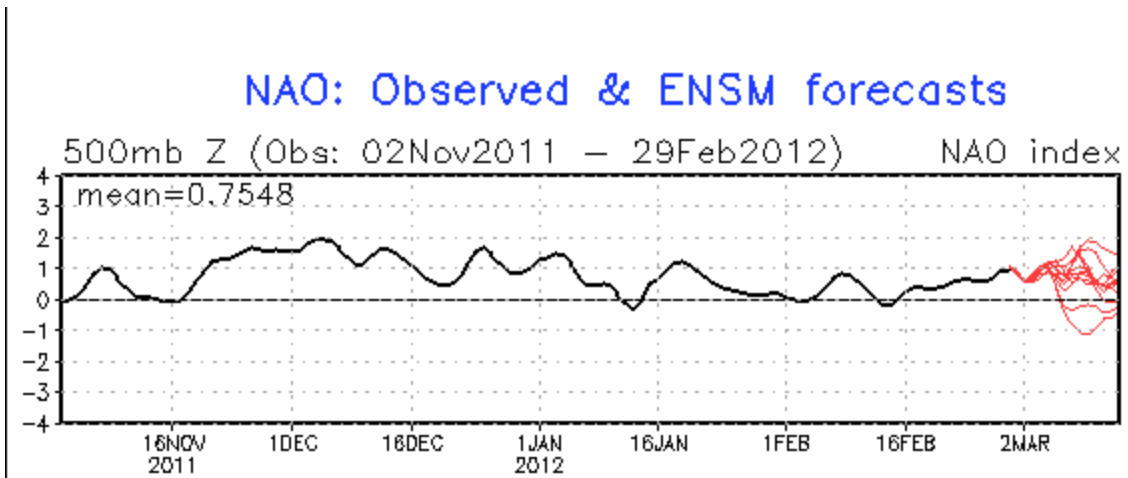


Figure 3: North American Oscillation (NAO) values from November 2011 through February 2012.

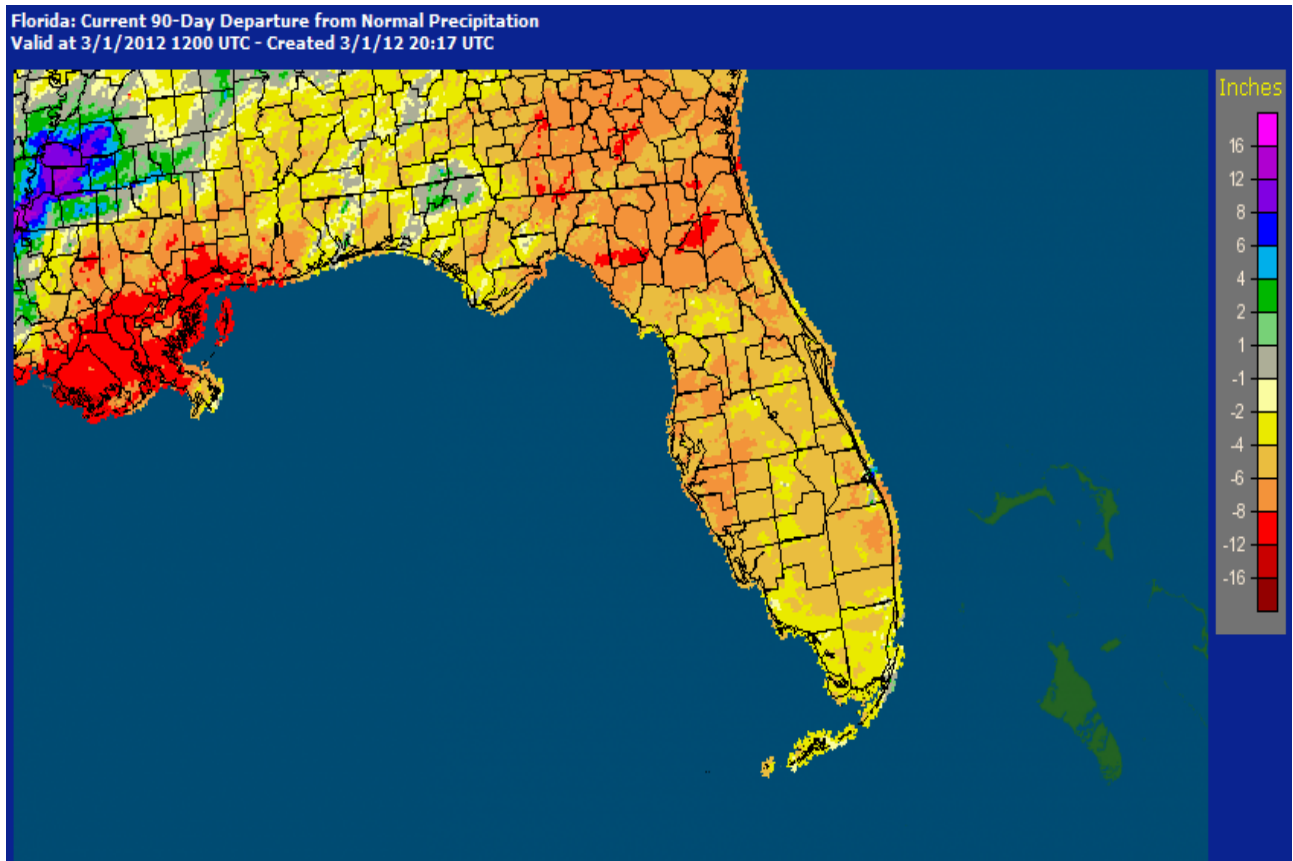


Figure 4: Rainfall percentage of normal from Dec 2011 through Feb 2012. Most of the area was about 2 to 4 inches below normal for the time period.