



**NOAA - National Weather Service**

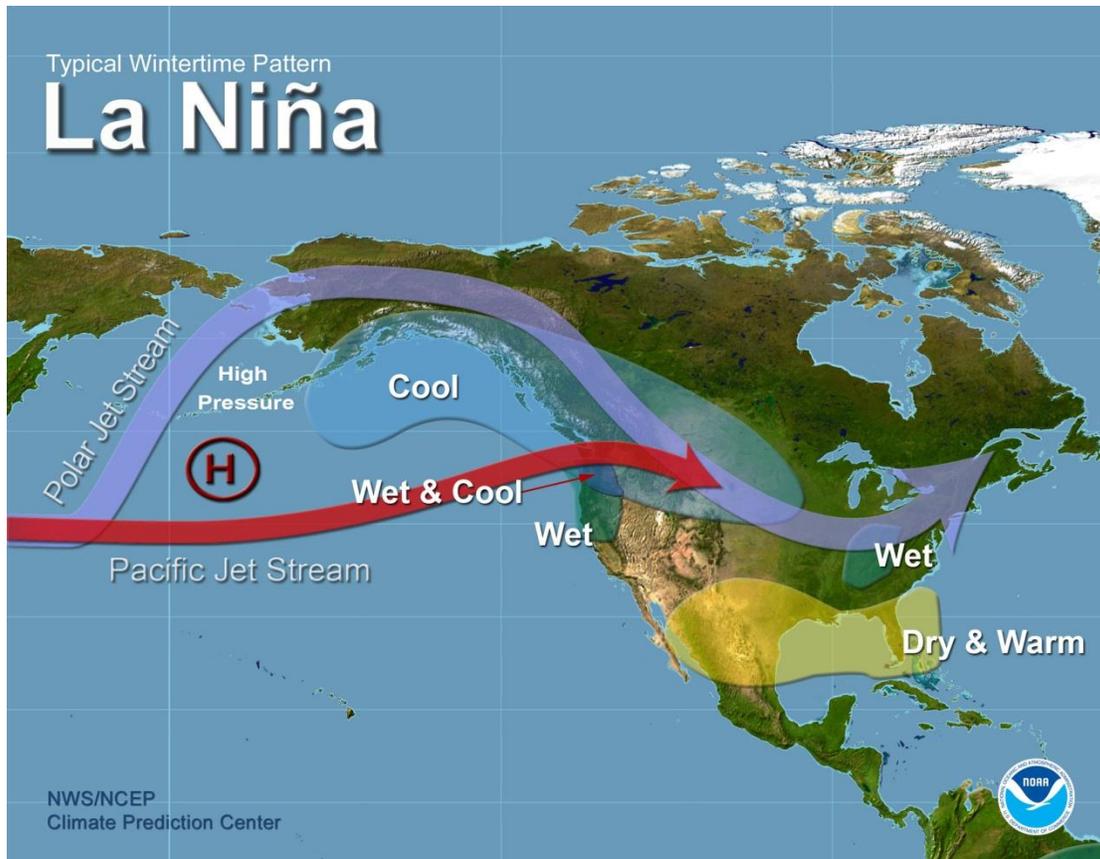
**Tampa Bay Area**

2525 14th Avenue SE, Ruskin, Florida 33570

813-645-2323 <http://weather.gov/tampabay>

## Weak La Niña Conditions Favored This Winter

The outlook from the [Climate Prediction Center](#) for the upcoming winter of 2016-2017 is saying that a weak La Niña is favored to continue and influence the weather across the United States. La Niña is associated with cooler than normal water temperatures in the Equatorial Pacific Ocean, unlike El Niño which is associated with warmer than normal water temperatures like last winter. Both of these climate phenomena, which typically occur every 2-5 years, influence weather patterns throughout the world and often lead to extreme weather events. Over the United States this usually means that the jet stream is farther north, but more variable in strength and position. Therefore, for this winter into early next spring the Pacific Northwest should expect colder and wetter than average conditions, while most of the South and Southeast should be warmer and drier than average.



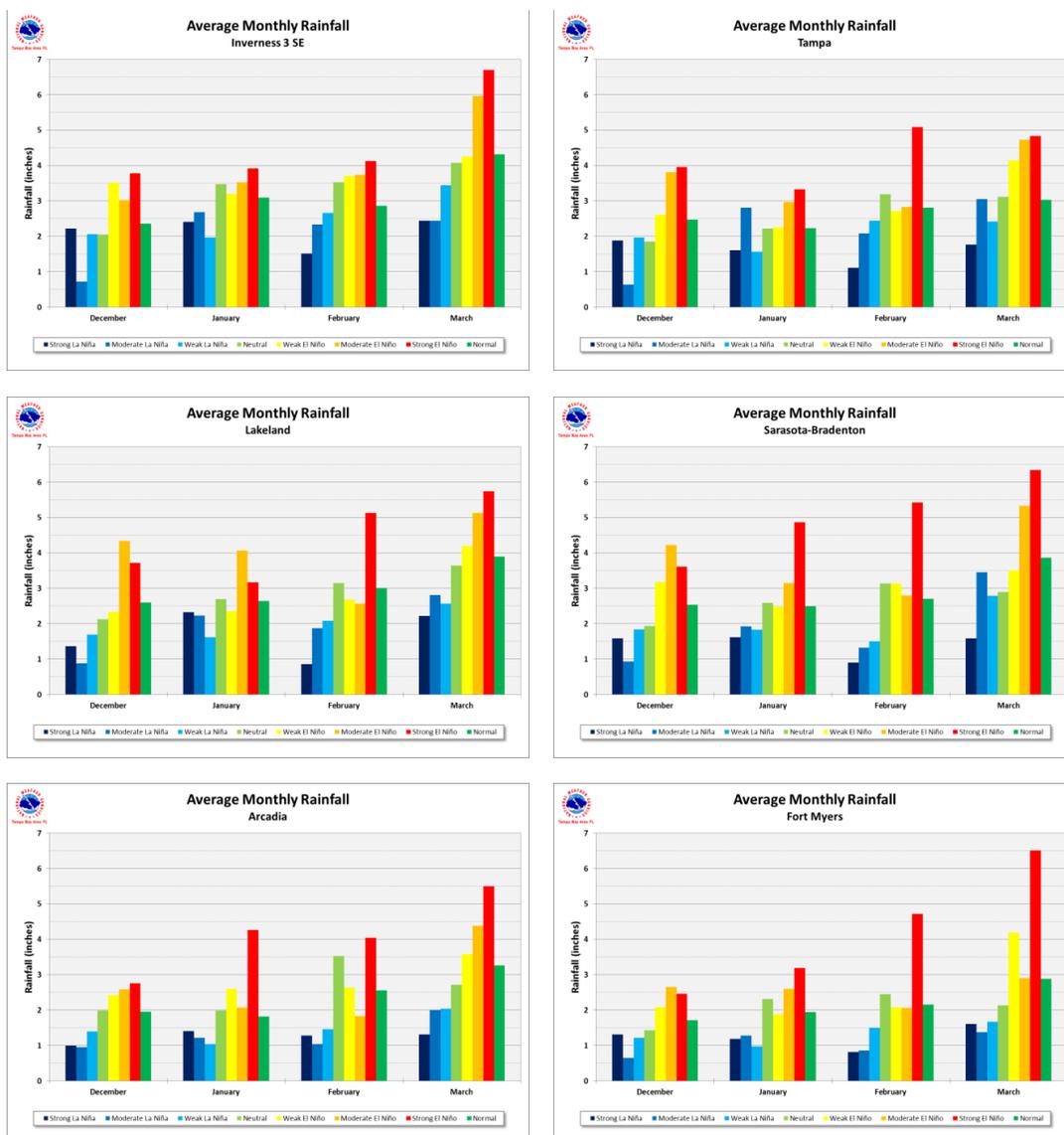
On the following pages is information about how La Niña affects the weather across West Central and Southwest Florida and what is expected during the upcoming winter into early spring.

## History:

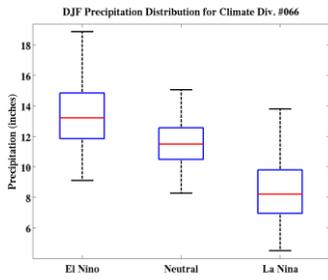
We had strong El Niño conditions last winter, but since then neutral conditions developed this past summer and now a weak La Niña has returned this autumn. The last La Niña was stronger than the current one and rainfall during this time was generally near to slightly below normal. Before this a previous moderate to strong La Niña was a prolonged episode that lasted from the fall of 1998 to spring 2001. During these three winters rainfall across much of the area was below normal with most areas receiving only about 50 percent of the normal rainfall.

## Rainfall:

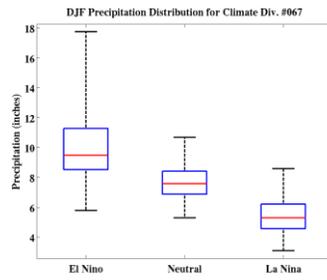
During La Niña there tends to be less stormy conditions across the Florida peninsula during the winter and early spring. Cold fronts will move across the region, but since the mid/upper level energy usually remains well north of the area, rainfall is limited and therefore below average. This can be seen in the graphics below where rainfall totals during the dry season average much lower during La Niña winters then during El Niño winters.



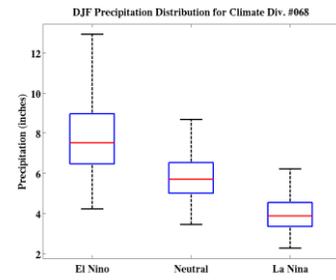
Another way to see this is by viewing the Box and Whisker Distribution Plots\* for the three climate zones across the Florida peninsula shown below:



Northern Florida Peninsula



Central Florida Peninsula



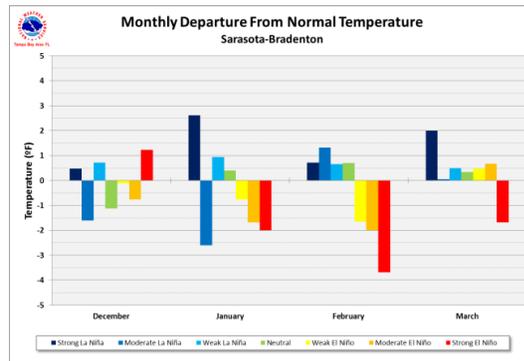
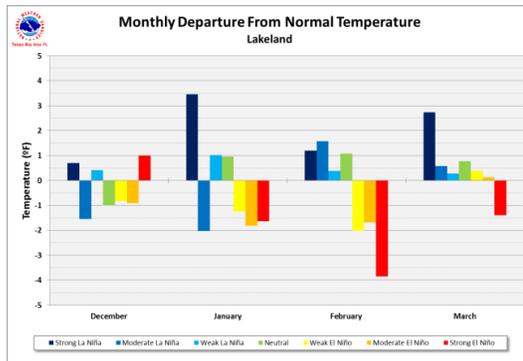
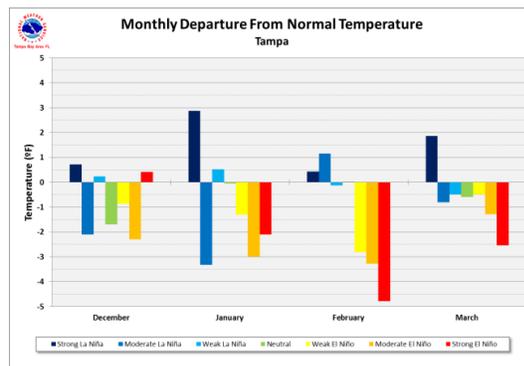
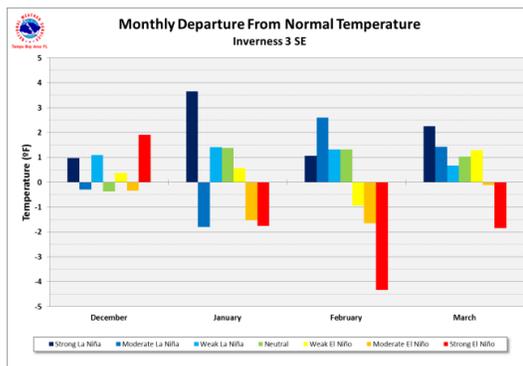
Southern Florida Peninsula

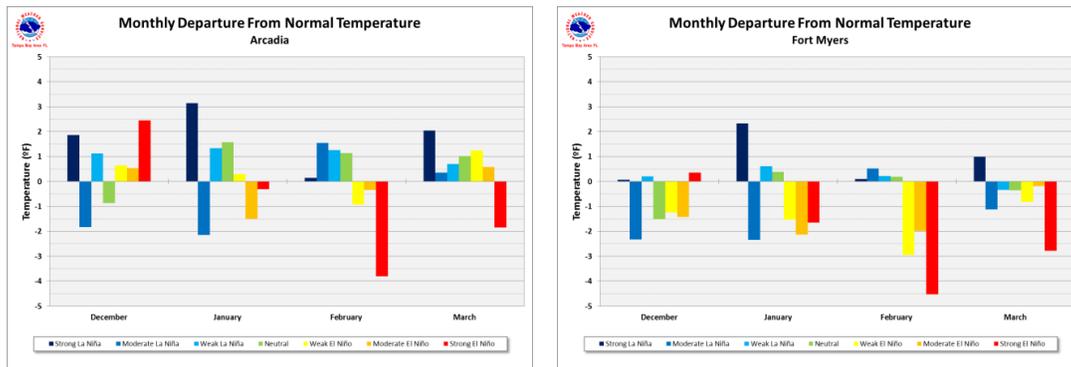
\* To better understand these plots visit the following CPC web page:

[http://www.cpc.ncep.noaa.gov/products/precip/CWlink/ENSO/box\\_whiskers/info.php](http://www.cpc.ncep.noaa.gov/products/precip/CWlink/ENSO/box_whiskers/info.php)

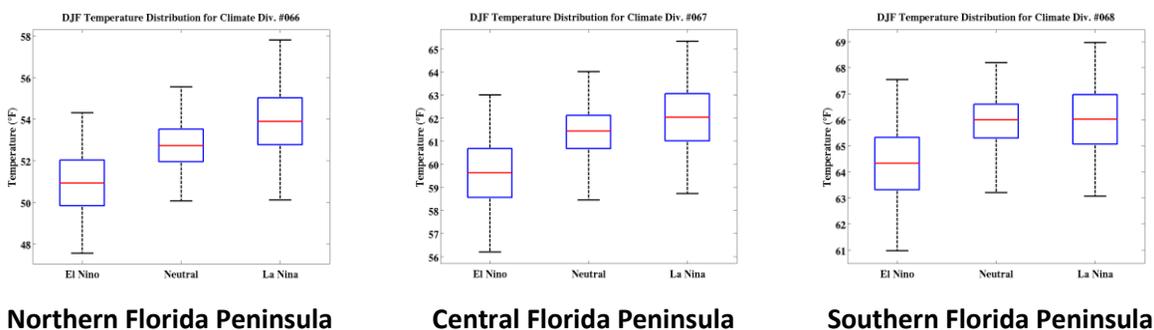
## Temperatures:

The link between ENSO and wintertime temperatures is a little bit weaker. With the average storm track farther north during La Niña we usually see drier air over the state with more fair weather days. This drier air leads to warmer daytime and slightly cooler nighttime temperatures that overall result in slightly above average temperatures across the area. This is in contrast to El Niño which tends to average slightly below normal thanks to the increased clouds and rain that keep daytime highs cooler.





This can also be seen in the Box and Whisker Distribution Plots\* for the three climate zones across the Florida peninsula shown below:



\* To better understand these plots visit the following web page:

[http://www.cpc.ncep.noaa.gov/products/precip/CWlink/ENSO/box\\_whiskers/info.php](http://www.cpc.ncep.noaa.gov/products/precip/CWlink/ENSO/box_whiskers/info.php)

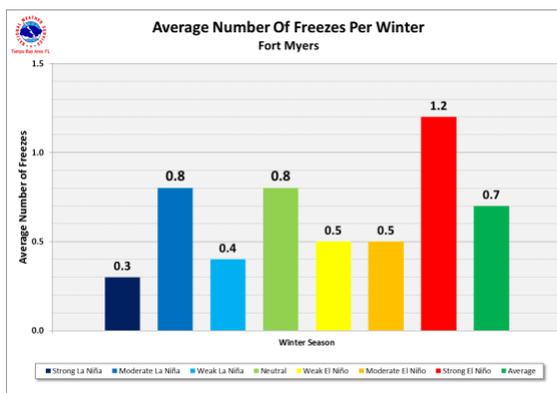
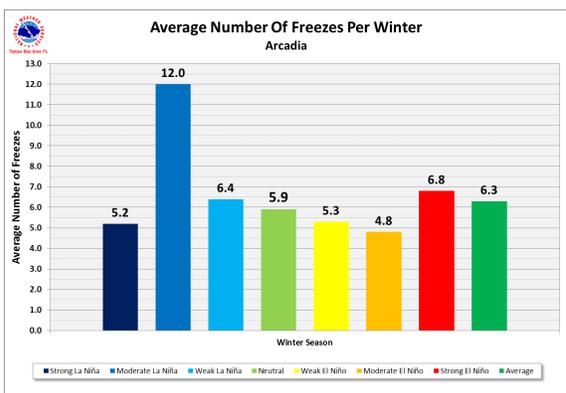
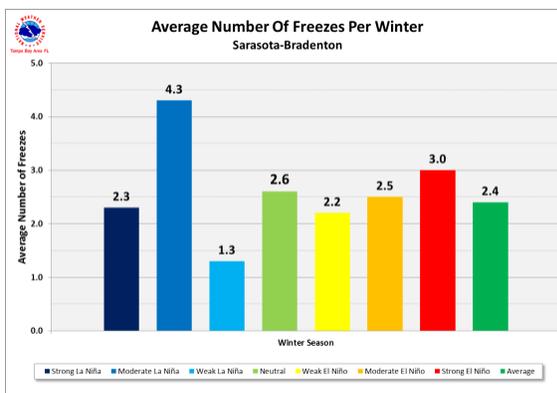
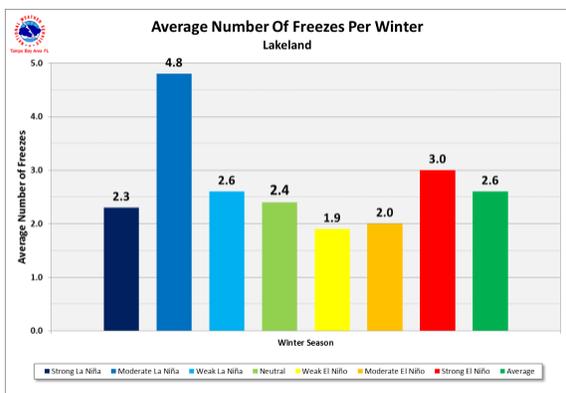
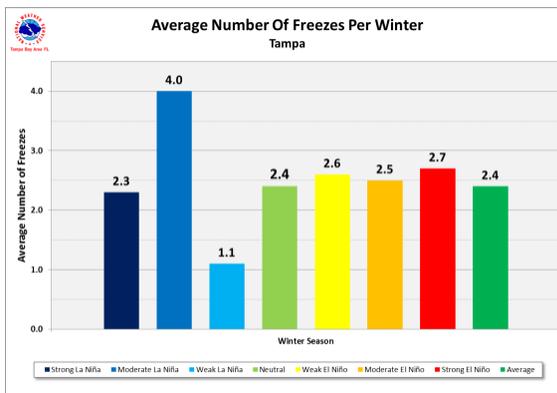
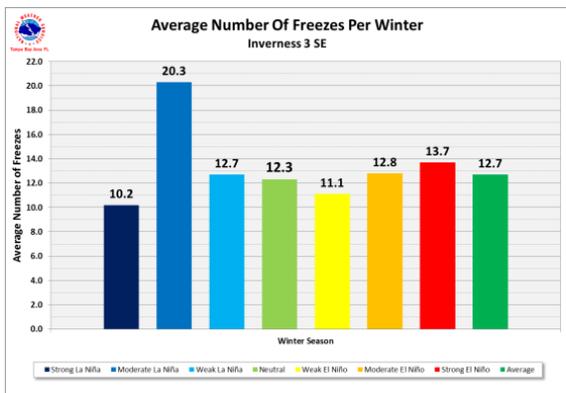
## Freezes:

Freezing temperatures are possible into Central and South Florida during La Niña winters. However, the impact of the Arctic Oscillation (AO) and North Atlantic Oscillation (NAO) play a larger role in controlling temperatures across Florida during the winter and early spring as we saw a few years ago (see the article about the January 2010 Cold Snap in our [2010 Winter Newsletter](#) for more details about the AO/NAO). These oscillations shift on a monthly and sometimes weekly basis and typically are not included in long term forecasts.

During La Niña conditions the likely cause of freezing temperatures is radiational cooling under clear skies and calm winds. This is unlike El Niño with advective freezes where cold air is dragged southward behind low pressure systems that pass across the state.

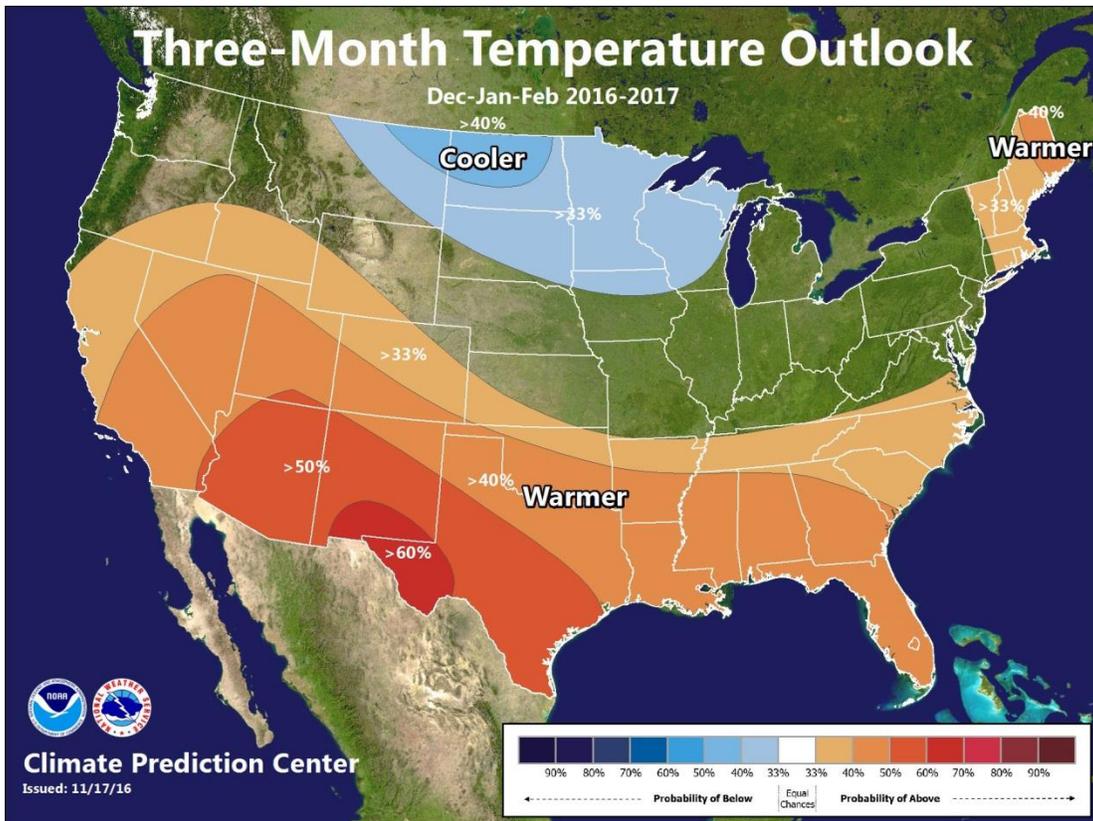
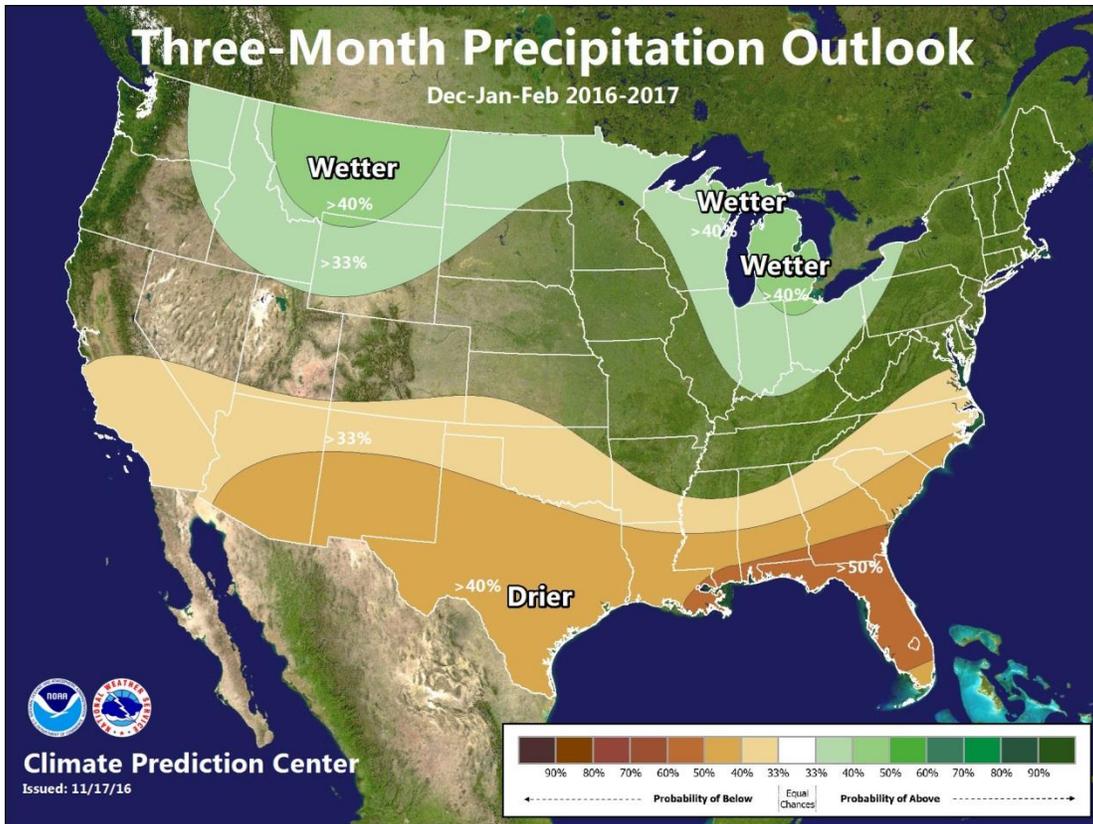
Long term averages indicate three to six days of freezing temperatures each winter across inland portions of Central Florida with only about one freeze over Southwest Florida. Farther north across the Nature Coast many more days of freezing temperatures occur with some locations such as Inverness and Bushnell having on average around 12 days, while further north near Chiefland there are as many as 20 days with temperatures falling to or below freezing each

winter. Overall the difference in the number of days with freezing temperatures is not that much between La Niña winters and El Niño winters as seen in the following graphics.



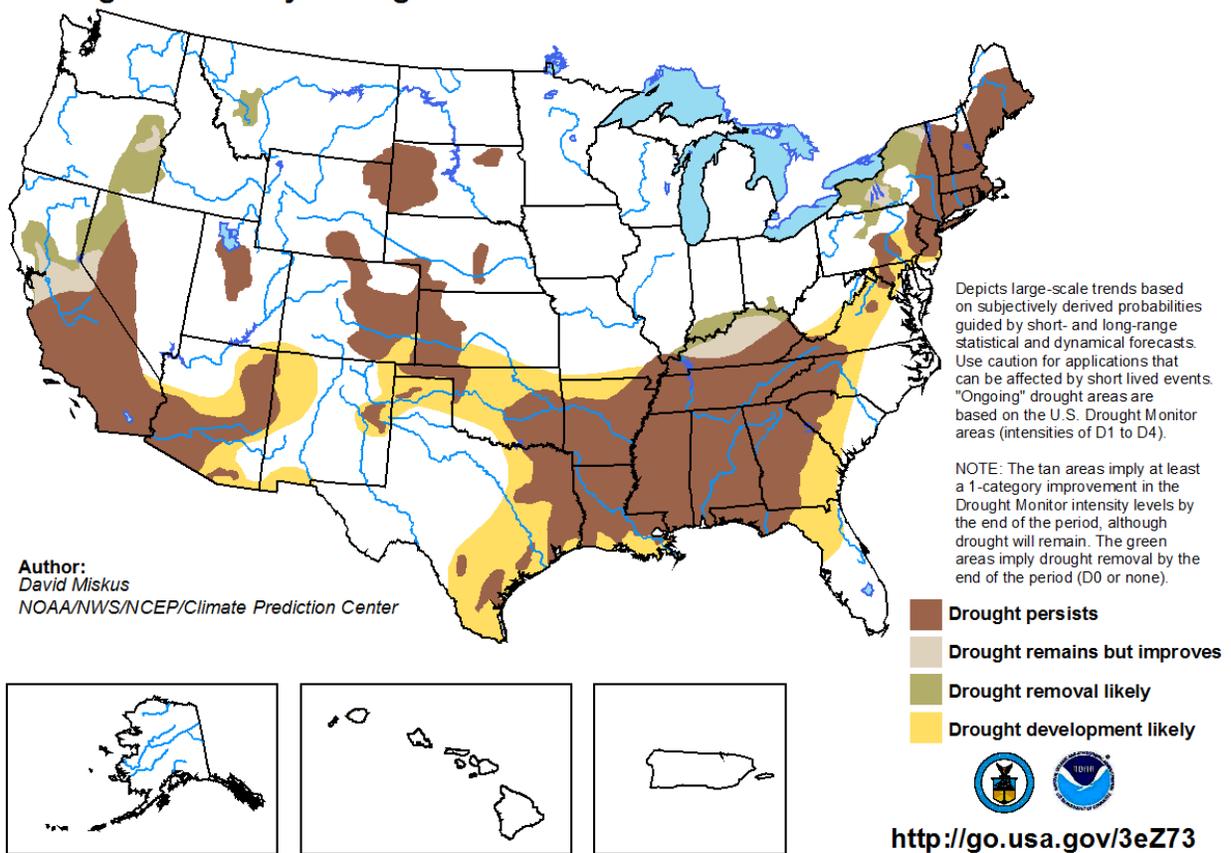
### Outlook for Winter 2016-2017 into early Spring 2017:

The overall forecast for West Central and Southwest Florida for the upcoming winter and early spring is for a better chance of below normal rainfall and near to slightly above normal temperatures as seen in the [Climate Prediction Center](#) Winter Outlook graphics below.



If we get a typical La Niña we should have numerous fair and mild days during this time which will be great for the vacationers, but not so good for our landscapes. There will likely be a few freezes across the region, especially over the Nature Coast, but prolonged cold weather is not anticipated at this time. Drought conditions will also likely develop across some of the region leading to water management issues along with an eventual increased wildfire threat next spring.

**U.S. Seasonal Drought Outlook** Valid for November 17 - February 28, 2017  
Drought Tendency During the Valid Period Released November 17, 2016



Residents of West Central and Southwest Florida should remain informed of potential weather events this upcoming winter and early spring and stay tuned to local media outlets and NOAA Weather Radio for the latest weather information.

## **Other Web Sites:**

NOAA Winter Outlook Press Release

<https://www.climate.gov/news-features/blogs/enso/november-2016-la-niña-update-hello-lady>

Current Drought Conditions in Florida

<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?FL>

Drought Outlook

[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/sdo\\_summary.php](http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php)

Drought Impact Reporter

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

NWS Tampa Bay Local Drought Page

<http://www.weather.gov/tbw/droughtinfo>

Climate Prediction Center

<http://www.cpc.ncep.noaa.gov/>

Florida Division of Forestry

<http://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service>

Southwest Florida Water Management District

<http://www.swfwmd.state.fl.us/>

South Florida Water Management District

<http://www.sfwmd.gov/>

Suwannee River Water Management District

<http://fl-suwanneeriver.civicplus.com/>

USGS Water Information System

<http://waterdata.usgs.gov/fl/nwis/>