

MIAMI-SOUTH FLORIDA

National Weather Service Forecast Office

<http://www.weather.gov/miami>

SOUTH FLORIDA WINTER 2020-2021 SUMMARY

Warmer and Drier than Normal Winter

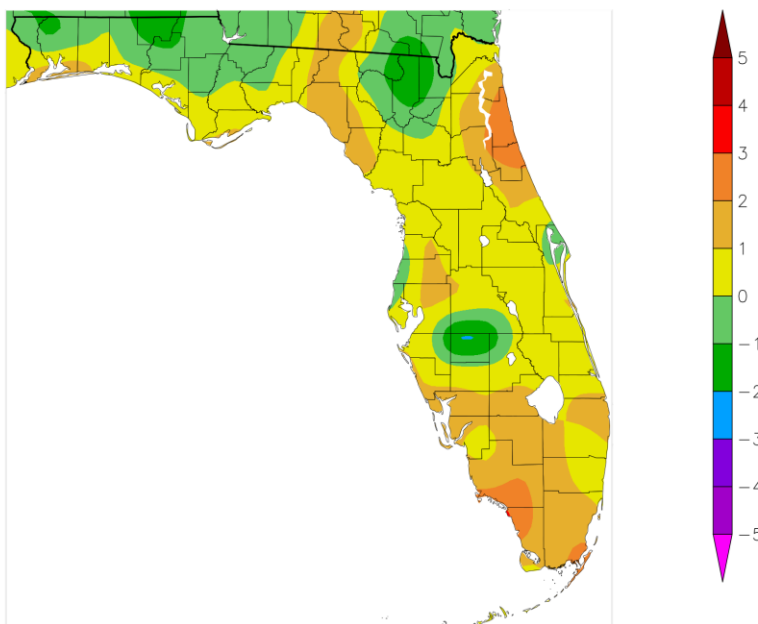
March 2, 2021: Boosted by a top-8 warmest February on record, the winter of 2020-2021 averaged warmer than normal at all 4 main climate sites (Miami, West Palm Beach, and Naples) in South Florida for the 10th consecutive winter. Nevertheless, it was the coolest winter for most South Florida locations in 6 years, due to a cooler than normal December and a near-normal January. More information in the temperature section below.

A fairly progressive jet stream pattern was in place for a good portion of the winter across North America, resulting in cold fronts passing through South Florida on a regular basis. This was the pattern through early February, before a strong subtropical ridge developed over Florida and the western Atlantic Ocean which helped keep cold fronts from making it all the way through South Florida. While much of the country suffered through record cold through most of February, South Florida experienced temperatures in the 80s almost every day from February 6th onward.

Temperatures

Average winter temperatures were mostly 1 to 2 degrees above normal across most of South Florida (Figure 1).

Departure from Normal Temperature (F) 12/1/2020 – 2/28/2021



Generated 3/1/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

Figure 1: Temperature Departure from Normal across Florida for December 2020-February 2021

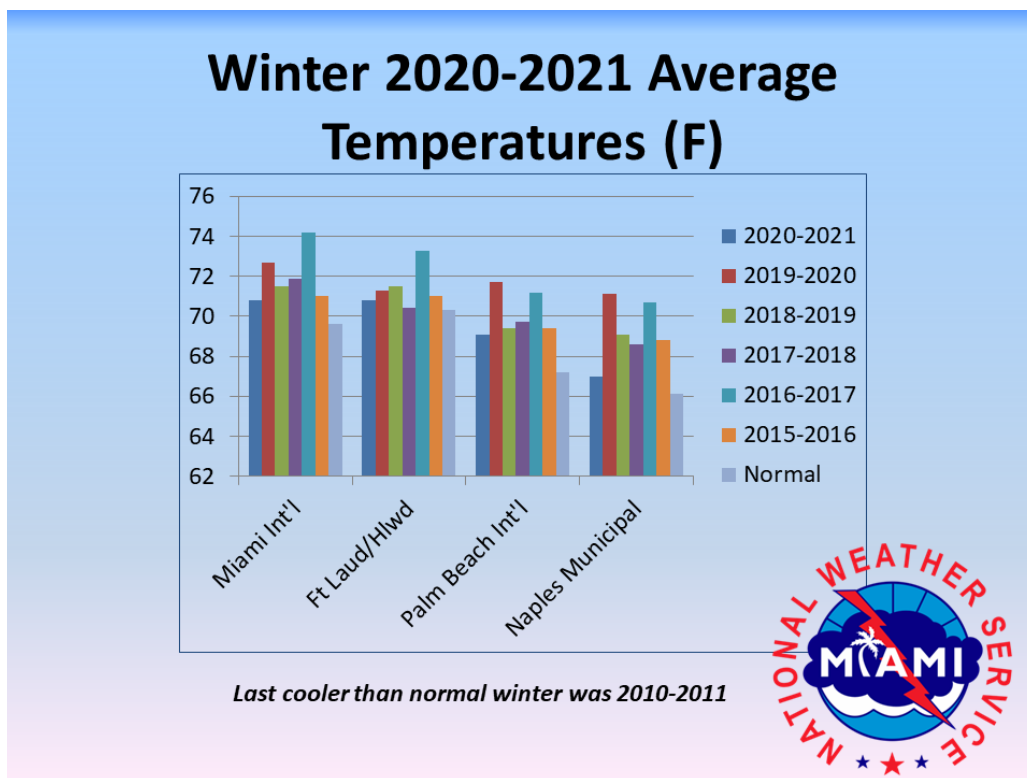


Figure 2: Average winter temperatures 2015-2020 for Main South Florida Climate Sites

The lowest temperatures of the winter occurred on February 4th, following one of the last in the series of winter cold fronts. Continental high pressure settled over the Florida peninsula and led to temperatures dropping into the upper 20s to mid 30s over inland SW Florida and the Lake Okeechobee area. Frost was widespread in these areas and damaged crops especially in western Palm Beach County. Over the rest of South Florida, low temperatures were mainly in the upper 30s and 40s.

The periodic cold fronts and cool air intrusions common throughout most of the winter increased the number of “cool days” (Figure 3) compared to the last few winters, while conversely decreasing the number of “warm days” (Figure 4). The majority of the warm days occurred from February 6th onward, with no cool days (Figure 5).

Below are graphics with additional temperature data for the four main climate sites in South Florida:

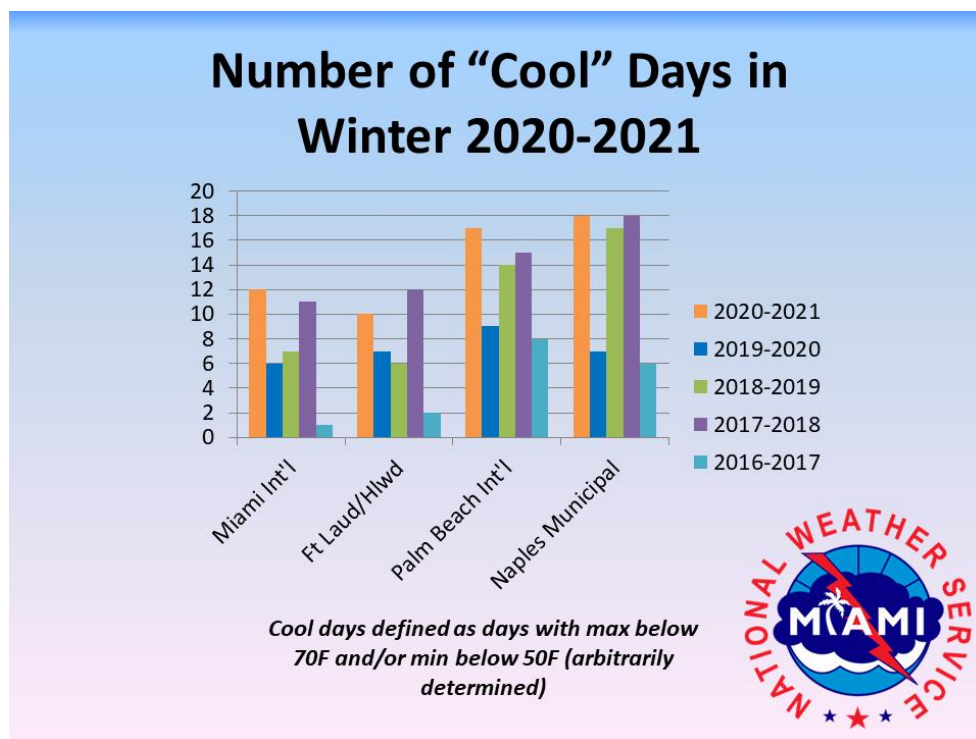


Figure 3: Number of days of sub-70F degree highs and/or sub-50F degree lows.

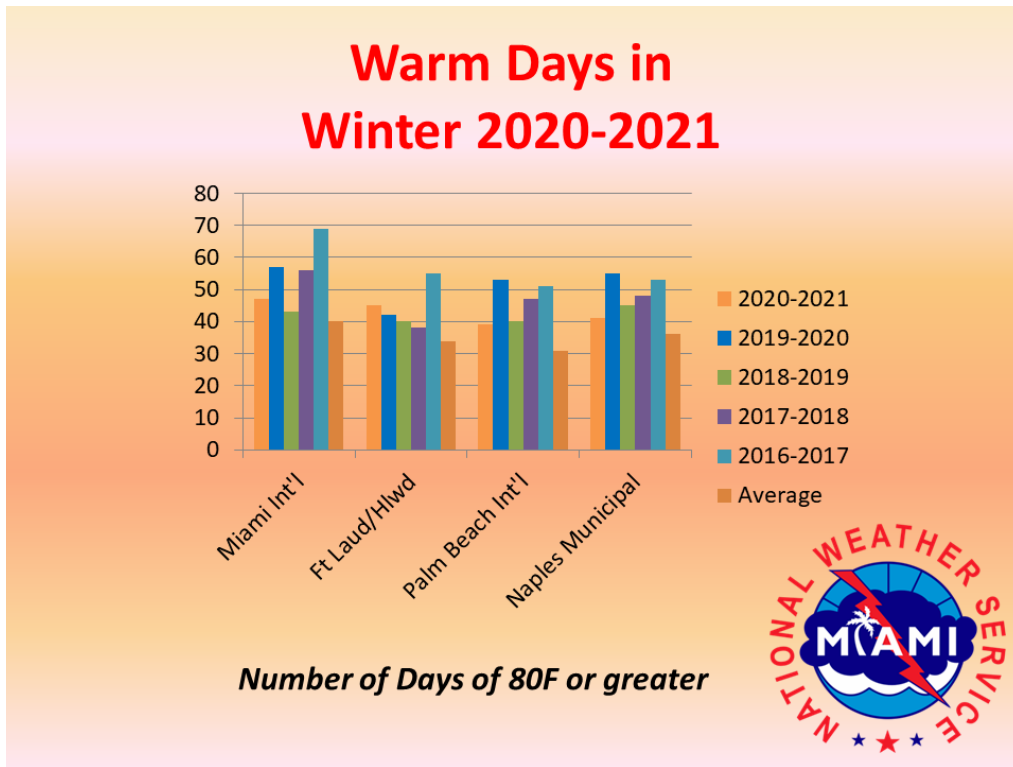


Figure 4: Number of days greater than or equal to 80 degrees F

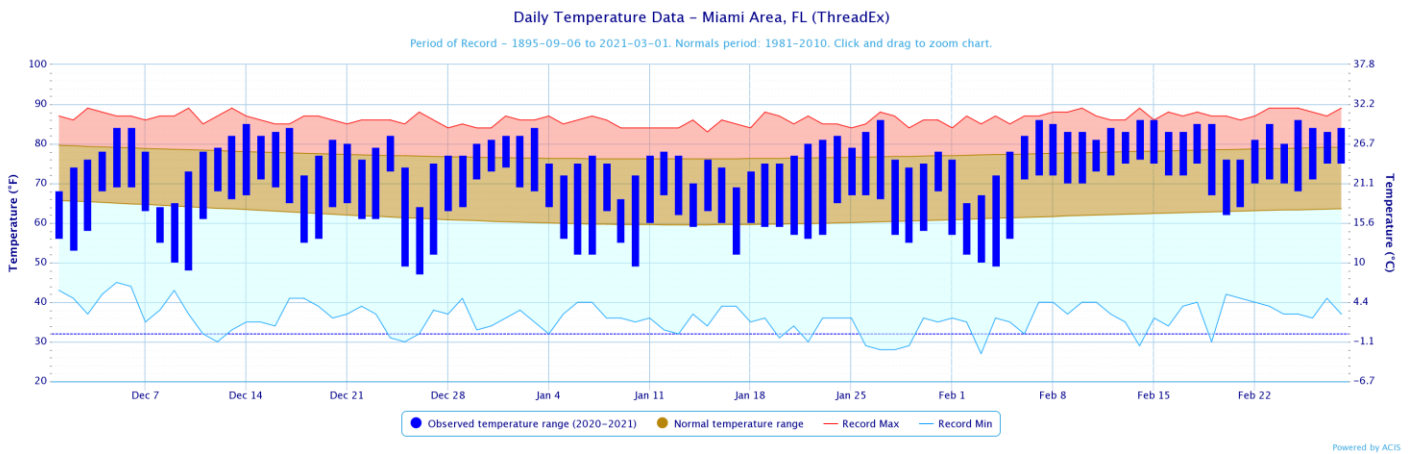


Figure 5: Daily temperature data for Miami International Airport for December 2020- February 2021. This is representative of winter temperature trends at all South Florida locations

Here are average December 2020-February 2021 temperatures, departure from normal in degrees F and ranking for the four main South Florida climate sites:

Location (beginning of period of historical record)	Dec 2020-Feb 2021 Avg Temp	Departure From Normal (F)	Top 25 Rank
Miami (1911)	70.8	+1.2	T-25 th warmest
Fort Lauderdale (1912)	70.8	+0.5	17 th warmest
West Palm Beach (1888)	69.1	+1.9	
Naples (1942)	67.0	+0.9	

Other noteworthy statistics and data:

- **Miami International Airport:** The highest temperature recorded was 86 degrees set on January 27th, February 15th, and February 25th, and the lowest temperature recorded was 47 degrees on December 26th. The temperature reached or exceeded 80 degrees on 41 days, near the average of 40 days. The number of days below 50 degrees was five (5) which is below the 30-year average of 8 days.

- **Palm Beach International Airport:** The highest temperature recorded was 89 degrees on February 19th, and the lowest temperature recorded was 39 degrees on February 4th. The temperature reached or exceeded 80 degrees on 40 days, which is above the average of 31 days. The number of days below 50 degrees was 16 which equals the 30-year average.

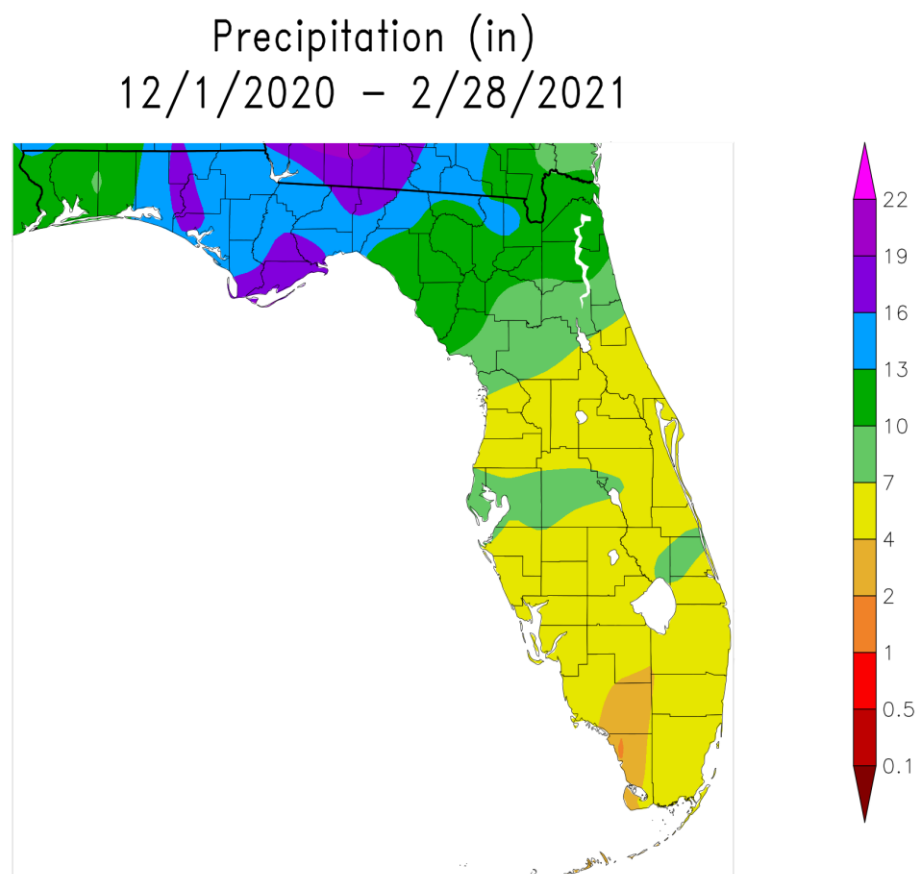
- **Fort Lauderdale/Hollywood International Airport:** The highest temperature recorded was 87 degrees on February 15th, and the lowest temperature recorded was 45 degrees on February 4th. The temperature reached or exceeded 80 degrees on 41 days, above the average of 34 days. The number of days below 50 degrees was six (6) which is well below the 30-year average of 11.

- **Naples Municipal Airport:** The highest temperature recorded was 88 degrees on February 27th and February 28th, and the lowest temperature recorded was 41 degrees on February 4th. The temperature reached or exceeded 80 degrees on 33 days, just below the average of 36 days. The number of days below 50 degrees was 12 which is well below the 30-year average of 21.

Precipitation

Almost all of South Florida received below normal rainfall this winter, with totals ranging from 4 to 7 inches (Figures 6 and 7). The far southern Everglades and portions of Mainland Monroe County received only 1 to 3 inches, while isolated locations in Miami-Dade and Broward counties, mainly in Miami, Miami Beach, and Pompano Beach, received 8 to 10 inches largely from singular heavy rain events in February. [Parts of South Florida have been designated as abnormally dry as a result.](#)

Two localized heavy rainfall and flooding events occurred in February: 1) February 16th when 3-5 inches of rain fell from Downtown Miami to Miami Beach, resulting in street flooding, and 2) February 24th when 3-5 inches of rain fell in NE Broward communities in and near Pompano Beach, also resulting in street flooding.

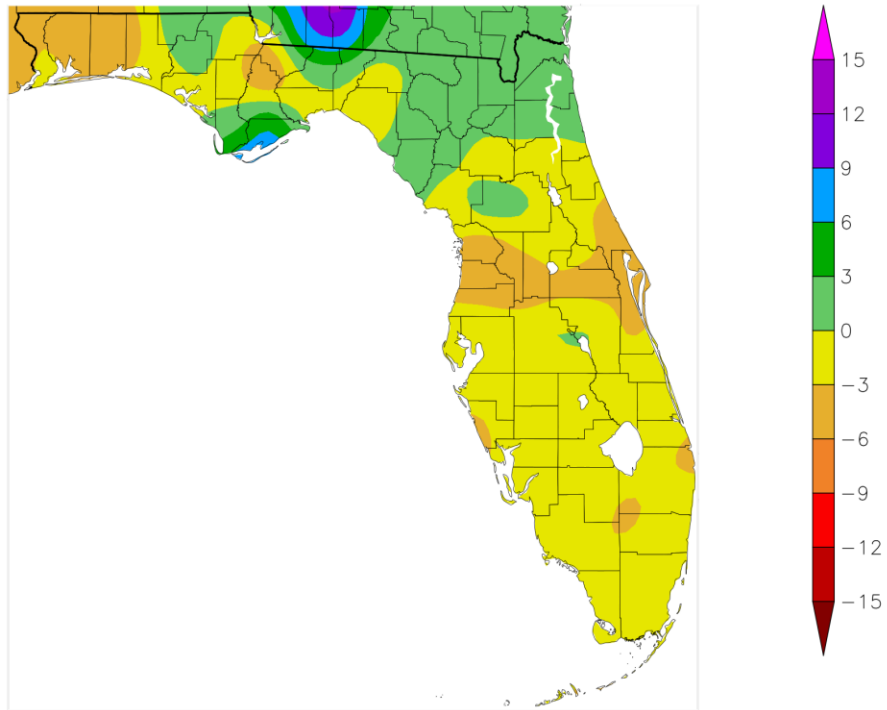


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Figure 6: Observed Florida Precipitation for Winter 2020-2021

Departure from Normal Precipitation (in)
12/1/2020 – 2/28/2021



Generated 3/1/2021 at HPRCC using provisional data.

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Figure 7: Florida Departure from Normal Precipitation for Winter 2020-2021

Following are December 2020-February 2021 rainfall totals, departure from normal in inches and ranking for selected locations:

Location (Beginning of Period of Record)	Dec 2020-Feb 2021 Rainfall (inches)	Departure from Normal	Top 20 Rank
Cape Florida (1998)	4.79	-1.80	
Fort Lauderdale/Hollywood Int'l (1912)	4.32	-4.73	
Fort Lauderdale Exec. Airport (1998)	5.62	-0.95	
Fort Lauderdale Dixie Water Plant	4.59	-3.66	
Hialeah (1940)	6.16	-0.75	
Homestead General Airport (1990)	5.17	0	
Hollywood (1963)	7.12	-1.93	10th Driest
Loxahatchee NWR (1990)	4.75	-4.33	

Marco Island (2002)	4.64	-1.58	
Miami International Airport (1895)	5.00	-0.91	
Muse (2009)	5.12		
Naples Municipal Airport (1942)	3.95	-1.45	
NWS Miami (1999)	4.71	-1.14	
Opa-Locka Airport (1998)	6.14	-0.85	
Palm Beach Gardens (2002)	6.35	-2.03	
Palm Beach International Airport (1888)	5.19	-4.14	
Pembroke Pines North Perry Apt 1999)	5.58	-2.21	
Pompano Beach Airpark	8.81	+1.58	
The Redland (1942)	5.99	-0.13	

Severe Thunderstorms/Tornadoes

The relatively low number of precipitation-producing cold fronts this winter resulted in few thunderstorm events. No tornadoes were reported, and the strongest thunderstorm-associated wind gust was a 58 mph gust measured at Lake Worth Pier at 1:24 PM on February 19th.

Outlook for March-May

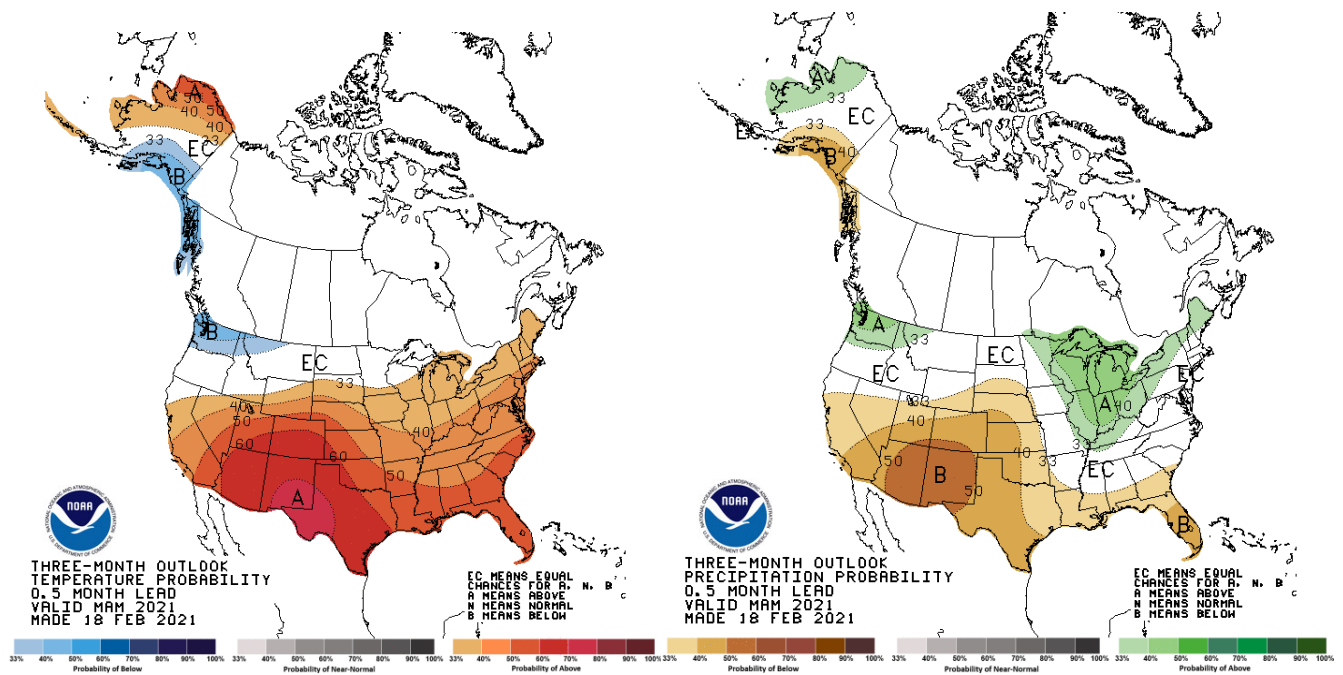
[The outlook by the NOAA Climate Prediction Center](#) for the period from March through May (Figures 8 and 9) calls for a greater than 50% chance of above normal temperatures and below normal precipitation. This is mainly consistent with the general La Niña conditions which have been in place since last fall.

A drier than normal spring in South Florida usually results in an increased threat of wildfires. [Latest fire danger outlooks](#) indicate an increasing significant fire potential in April, with above normal significant fire potential anticipated in May. All persons are urged to take measures to reduce the chance of wildfires. Visit the [Florida Forest Service web site](#) for more information on how to help prevent wildfires.

March and April also bring an increase in easterly winds to the area along with an increase in beach-goers. This significantly increases the risk of rip currents along the east coast beaches. A sharp increase in rip current-related drowning deaths and rescues

occurs during the spring months due in part to this shift in the wind patterns and more people in the water. 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.



Figures 8 and 9: NOAA Climate Prediction Center outlook for March-May.