

## Climate Summary for Florida – November 2022

Prepared by the Florida Climate Center, The Florida State University, Tallahassee, Florida  
Online at: <http://climatecenter.fsu.edu/products-services/summaries>

### Key Points

- Monthly average temperature departures in November were above normal across the state.
- Monthly precipitation was variable, with surplus rainfall in central and northeast Florida due to Hurricane Nicole and below normal rainfall in the Panhandle.
- Drought conditions persisted across the Panhandle throughout the month, with about 30% of the state in either severe drought (D2) or moderate drought (D1) at the end of the month.
- We are entering into the third winter in a row with a La Niña Advisory, with a 57% chance for a transition to ENSO-neutral during February-April 2023.

**Average monthly temperatures in November were above normal across the state.** Average temperature departures from normal ranged from +2.7 F in Key West to +5.1 F in Fort Myers for the month (see Table 1 and Appendix 1 for select cities). Many locations had one of their top five warmest Novembers on record, including **Miami** (2nd-warmest), **Naples** (2<sup>nd</sup>-warmest), **Fort Myers** (3rd-warmest), **Orlando** (4th-warmest), **Vero Beach** (4th-warmest), and **Key West** (5th-warmest). The month started out warmer than normal, about 2-5 degrees above average through the 11th. The last week of the month was also warmer than average, with places in south Florida experiencing record warm temperatures. Select daily high maximum temperature records tied or broken during the month are provided in Appendix 2.

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

Station	Mean Temperature	Departure from Normal
Pensacola	64.6	+3.2
Tallahassee	64.3	+4.1
Jacksonville	65.8	+3.5
Orlando	72.8	+4.6
Tampa	72.6	+2.8
Miami	78.9	+4.1
Key West	79.3	+2.7

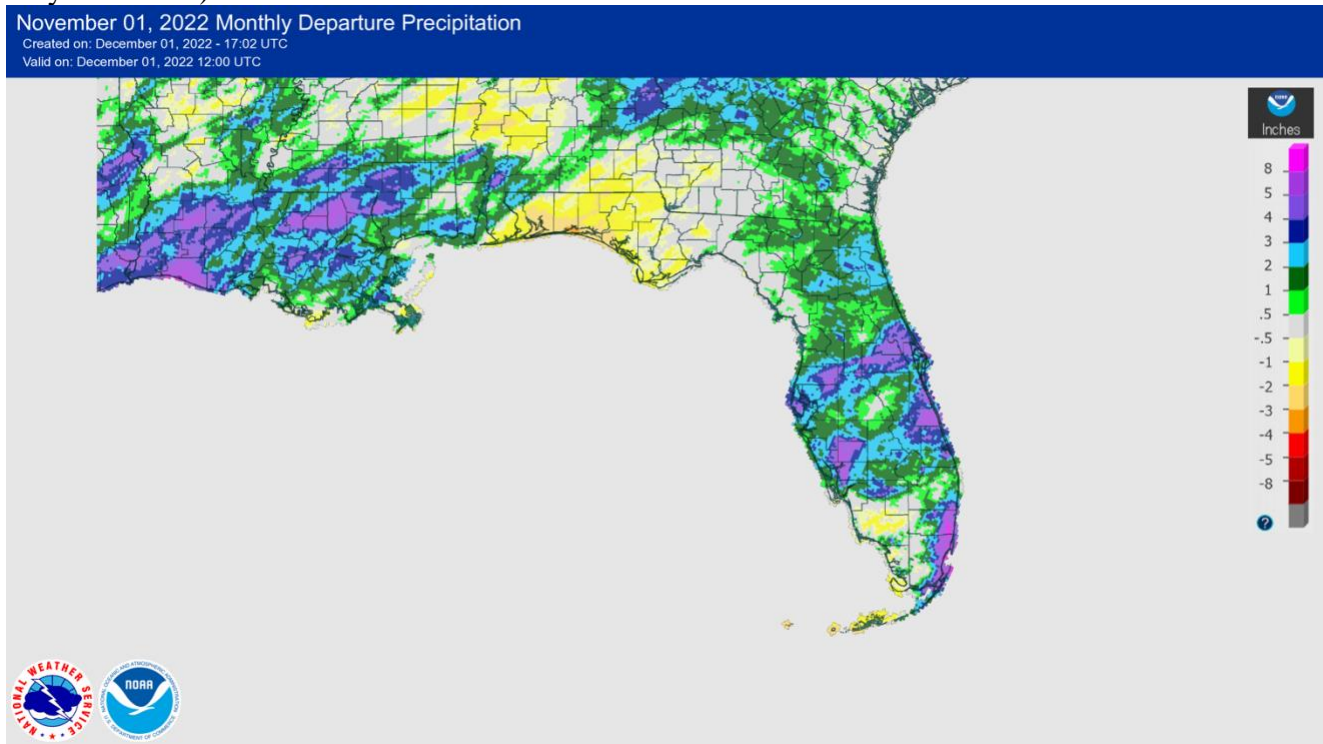


**Monthly rainfall totals in November were below normal in the Panhandle and above normal in much of the rest of the state.** The monthly precipitation departures from normal ranged from -1.71 inches in Pensacola to +4.96 inches in Miami (see Table 2 and Appendix 1 for additional locations). Hurricane Nicole brought over 5 inches of rain in areas of east-central, central, and west-central Florida on the 10th. The heaviest rain from Nicole occurred in the Tampa to Daytona Beach corridor with some stations receiving as much as 8 inches of rain. The storm made a second landfall just northwest of Cedar Key but did not produce significant rain in the Panhandle. Continued dryness in the Panhandle led to deteriorating conditions and the expansion of moderate drought during the month (see drought section below). Annual precipitation surpluses in Pensacola and Tallahassee continue to shrink due to below-normal rainfall over the past few months, now at just +0.6 and +1.7 inches above normal for the year, respectively.

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

Station	Total Rainfall	Departure from Normal
Pensacola	2.71	-1.71
Tallahassee	2.47	-0.63
Jacksonville	3.02	+1.02
Orlando	4.27	+2.48
Tampa	5.18	+3.78
Miami	8.49	+4.96
Key West	1.40	-0.65

**Figure 1.** A graphical depiction of the monthly rainfall departure from normal (in inches) for November (courtesy of NOAA).



## La Niña Advisory.

La Niña is expected to continue through the Northern Hemisphere winter, with a 76% chance it will persist for the third year in a row (from December-February). There is a 57% chance for a transition to ENSO-neutral conditions during February-April 2023 (up from 53% since the last ENSO update). Below average sea surface temperatures have stayed consistent in the eastern equatorial Pacific Ocean since late July, and overall the coupled ocean-atmosphere system continues to reflect La Niña. The next ENSO update is scheduled for December 8, 2022.

## Hazardous Weather Events in November.

According to the Local Storm Reports issued by the local National Weather Service offices serving Florida, there were 443 individual local reports of hazardous weather events recorded across the state during the month of November, which includes reports and rainfall totals from Hurricane Nicole (see Table 4 for a breakdown by event type). Nicole made landfall as a category 1 hurricane on November 10 near Vero Beach with maximum sustained winds of 75 mph. It then moved through central Florida, briefly emerged in the Gulf of Mexico, and made a second landfall later that day just northwest of Cedar Key in the Big Bend region. Nicole brought high winds, high surf, tidal and storm surge flooding, heavy rainfall, and significant beach erosion particularly in areas previously impacted by Hurricane Ian. The storm caused power outages, significant infrastructure damage, and some severe weather. Coastal erosion undermined homes and other structures in Velano Beach, New Smyrna Beach, and Daytona Beach. Overwash from storm surge led to the closure of A1A in parts of St. Johns and Broward Counties. Downed power lines led to two fatalities in Orange County. Several water rescues occurred due to storm surge flooding.

**Table 4.** Breakdown of storm reports submitted in Florida during the month of November (compiled from Iowa State University/Iowa Environmental Mesonet).

<b>Report Type</b>	<b>Number of Reports</b>
Heavy Rain	23
Flood	4
Coastal Flood	2
Hail	1
Marine Thunderstorm Wind	1
Non-Thunderstorm Wind Gust	0
Non-Thunderstorm Wind Damage	0
Tornado/Waterspout/Funnel Cloud	4 / 6 / 1
Thunderstorm Wind Damage	1
Thunderstorm Wind Gust	10
Tropical Storm	249
Hurricane	8
High Surf	1
Storm Surge	68

## Daily Record Events in November.

**Table 5.** Summary of daily records broken in Florida in November (source: NCEI Daily Weather Records).

Category	Number of Records
Highest daily max. temp.	65
Highest daily min. temp.	51
Lowest daily max. temp.	6
Lowest daily min. temp.	0
Highest daily precipitation	38
<b>Total</b>	<b>160</b>

## Weather/Climate Highlight of the Month: Hurricane Nicole

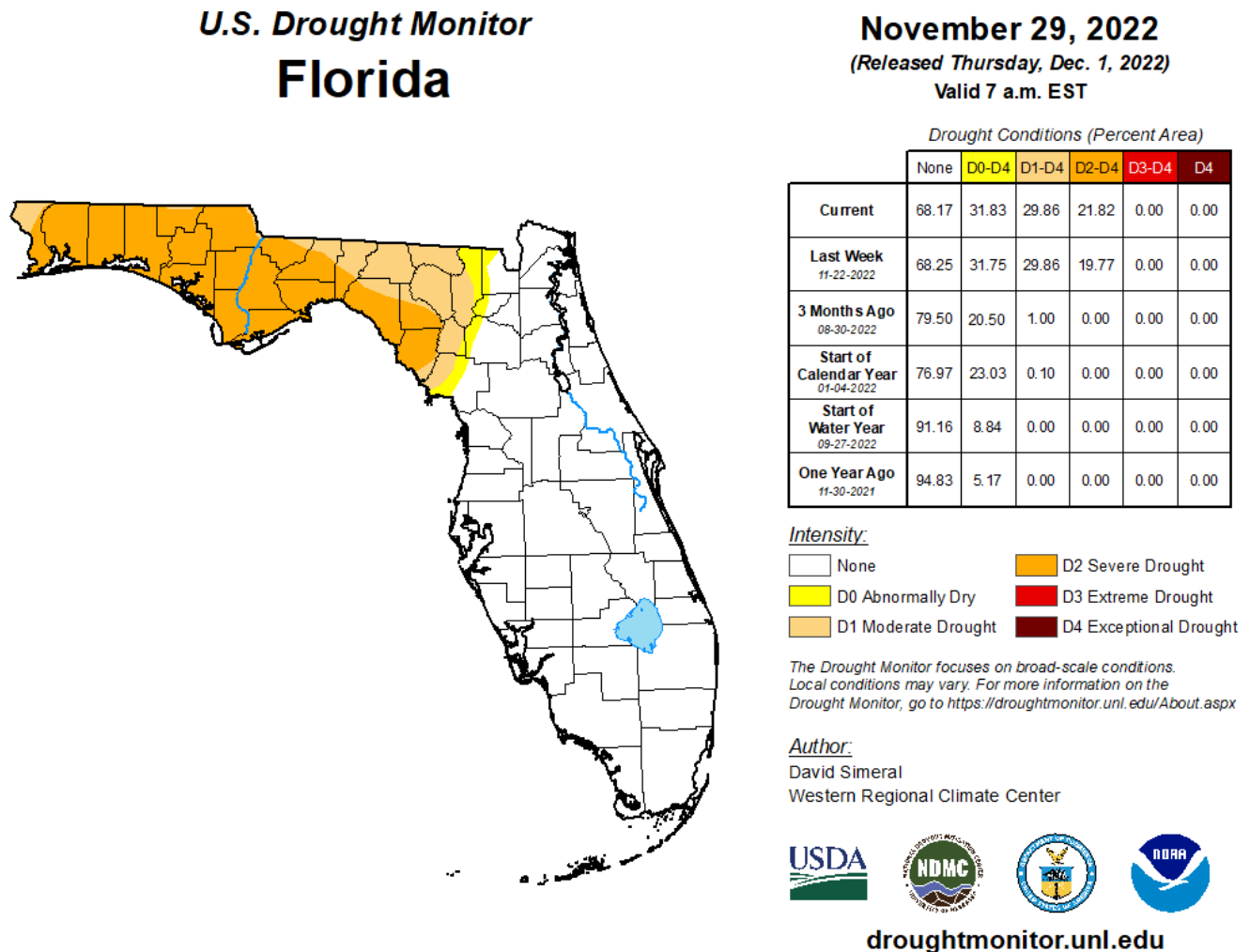
Nicole was a category 1 hurricane when it made landfall along Florida's Atlantic coast near Vero Beach, and it was a tropical storm when it made a second landfall along the Gulf Coast just west of Cedar Key. Nicole became the 3rd hurricane on record to make landfall in Florida in November. It was the first hurricane to strike Florida in the month of November in 37 years (since Hurricane Kate in 1985). The storm coincided with the time of high tide, exacerbating coastal flooding in some areas and contributing to severe coastal erosion in places previously impacted by Hurricane Ian. Rainfall totals from the storm varied from a couple of inches to over 6 inches in central Florida, according to CoCoRaHS and gridded precipitation data (see Appendix 3). Nicole has delayed drainage of the St. Johns River and now many areas are expected to remain in flood stage through December, prolonging recovery. At least five fatalities have been linked to Nicole and preliminary damage estimates are in excess of \$500 million.

## Drought-Related Impacts.

By the middle of November, drought had expanded across the Panhandle and extended east to parts of Levy, Gilchrist, and Columbia counties. About 20% of the area was in severe drought (D2) and 10% was in moderate drought (D1), according to the U.S. Drought Monitor. By the end of the month, 22% of the state was in severe drought (D2), 8% was in moderate drought (D1), and 2% was abnormally dry (D0) (Figure 2 below).

As of November 30, the Lake Okeechobee water level was 16.51 ft. above sea level (Feet-NGVD29), which is above average for this time of the year. The water level continued to rise during the month and has rebounded remarkably by nearly 4 feet since early September. At the first of the month, the water level was 15.87 ft. above sea level.

**Figure 2.** A graphical depiction of the current drought conditions in Florida according to the U.S. Drought Monitor (courtesy of the National Drought Mitigation Center, University of Nebraska-Lincoln).



**Agriculture-Related Impacts.**

In mid-November, topsoil moisture conditions were adequate in 66% of the state, short in 13%, and very short in 1% of the state, while 20% of the state was in surplus. At the end of November, topsoil moisture levels were adequate in 74% of the state, short in 17% of the state, and 9% of the state was in surplus. For more information, consult the [Crop Progress and Conditions report](#), which is published by the USDA’s National Agricultural Statistics Service.

**Appendix 1.** Additional November departures from normal data for select Florida locations (source: NWS).

Station	Average Temperature (°F)	Departure from Normal (°F)	Total Rainfall (in.)	Departure from Normal (in.)
Gainesville	67.0	+4.3	3.95	+2.16
Sarasota	73.1	+3.0	2.63	+0.82
Melbourne	73.7	+3.0	6.03	+3.48
Fort Myers	76.6	+5.1	1.98	+0.20
West Palm Beach	77.5	+4.5	6.10	+2.48

**Appendix 2.** Select daily record high maximum temperatures broken or tied during November (compiled from NOAA).

<b>Location</b>	<b>Date</b>	<b>Record (°F)</b>	<b>Broken/Tied</b>	<b>Last</b>
Miles City	1	94	Tied	94 in 2020
Orlando	1	90	Broken	89 in 2013
Fort Myers	1	92	Broken	91 in 2019
Lakeland	1	90	Broken	89 in 1986
Clermont	2	91	Tied	91 in 2015
Plant City	2	92	Broken	90 in 1971
Venice	2	90	Broken	89 in 1995
Cross City	2	89	Broken	88 in 2015
Fort Myers	2	92	Broken	91 in 2019
Miami	2	90	Broken	89 in 2019
Tampa	2	90	Broken	89 in 1972
Key West	2	93	Broken	88 in 2019
Plant City	3	93	Broken	90 in 1972
Fort Myers	3	91	Broken	90 in 2015
Key West	3	93	Broken	88 in 1994
Crestview	6	89	Broken	87 in 2003
Cross City	7	88	Broken	87 in 2003
Lake City	7	87	Broken	86 in 2000
Marianna	7	87	Broken	85 in 2017
Crestview	7	90	Broken	84 in 2016
Pensacola	7	85	Broken	83 in 2005
Tallahassee	7	88	Broken	86 in 2015
Naples	8	90	Tied	90 in 2015
Niceville	8	86	Broken	81 in 2018
Marianna	8	88	Broken	86 in 2000
Crestview	8	90	Broken	84 in 2005
Pensacola	8	89	Broken	85 in 2020
Niceville	9	86	Broken	82 in 2020
Key West	11	92	Broken	88 in 2020
Vero Beach	17	86	Broken	85 in 1993
Key West	24	92	Broken	89 in 2020
Miami	25	88	Broken	85 in 2014
Vero Beach	25	87	Broken	85 in 1992
Orlando	25	85	Broken	84 in 2016
Perrine	26	88	Broken	87 in 2014
Ochopee	26	89	Broken	87 in 2000
Orlando	27	86	Broken	85 in 1988
Miami	27	89	Broken	86 in 1948
Fort Lauderdale	28	88	Tied	88 in 1958
Perrine	29	86	Broken	85 in 2019
Miles City	30	89	Broken	88 in 2010
Key West	30	92	Broken	89 in 2020

**Appendix 3.** Hurricane Nicole rainfall totals from November 10-11, 2022, based on NRCC hi-resolution data (radar or model guided 5 km gridded data).

