# National Weather Service Melbourne DRY SEASON FORECAST



# Forecast Recap and Verification | May 2025

- **ENSO Forecast Verification and Update**: Weak La Niña conditions developed over the equatorial Pacific Ocean during December 2024 and were rather short-lived, ending during February 2025. ENSO-neutral conditions have persisted since March 2025 and are favored to continue through the Northern Hemisphere summer.
- Nov/Dec/Jan Forecast and Precipitation Verification: The average temperature for the three-month period ended up near to slightly below normal (0.0 to -0.1°F) across Central Florida, largely due to a much colder than normal January. Conditions were overall drier than normal, but near to slightly above normal rainfall occurred across portions of the Treasure Coast into southern Osceola and northern Okeechobee counties.
- Feb/Mar/Apr Forecast and Precipitation Verification: Warmer than normal conditions mostly prevailed during the second half of the dry season, with three-month average temperatures across central Florida around 1 to 3°F above normal. Despite near to above normal rainfall over portions of south-central Florida during February, rainfall ended up below to much below normal across the region due to a drier March and April.

### About this Product

This forecast product is a result of research from the National Weather Service (NWS) in Melbourne, Florida on the El Niño - Southern Oscillation (ENSO) and its impact on Central Florida's dry season (November – April). This research, conducted since early 1997, was produced in recognition of the fact that climatic fluctuations on regional and global scales have been shown to have a profound impact on Florida's weather from season to season. The importance of seasonal forecasting continues to increase as extreme weather events affect more of Florida's growing population. These forecasts are meant to supplement, not replace, the official NWS Climate Prediction Center's (CPC) seasonal and winter outlooks by providing more detail and adaptive meteorological interpretation of the impact of predicted climatic events on Central Florida.

## ENSO

 $Recap \mid$  ENSO-neutral conditions over the central and eastern equatorial Pacific Ocean were present during the start of the dry season in November 2024. Sea surface temperatures (SSTs) continued to cool across this region thereafter, and weak La Niña conditions developed into December 2024. La Niña conditions then persisted through the northern hemisphere winter, and remained weak, before transitioning back to ENSO-neutral into March 2025 (fig. 1). Since La Niña conditions were short-lived, this did not qualify as a La Niña event for historical purposes, as only two overlapping 3-month periods (of 5 needed) had SSTs in the Nino 3.4 region that had an average SST anomaly of - 0.5 °C or lower.



**Figure 1.** Average temperature anomalies in the Niño 3.4 region (5°N-5°S, 170°W-120°W). Average temperature anomalies remained below average for much of the dry season, falling as low as -1.1°C in the Winter, and generally remaining below -0.5°C through mid-December through early February, as weak La Niña conditions persisted. (Source: <u>ENSO: Recent Evolution, Current Status, and Predictions</u>)

### Temperature

*Recap* | Temperatures during the first half of the dry season started off warmer than normal in November, and were closer to normal in December. However, much colder conditions in January led to average temperatures that were near to slightly below normal (0.0 to -0.1°F) for the November 2024-January 2025 period (fig. 2a). While temperatures trended a little closer to normal in March, much warmer than normal conditions during February and April led to average temperatures that ranged from around 1-3°F above normal across Central Florida for the February-April 2025 period. (fig. 2b)



**Figure 2.** Average temperature departure from normal for the **a)** Nov 2024-Jan 2025 period and **b)** Feb-Apr 2025 period across Florida (Source: <u>HPRCC</u>).

## **Precipitation**

*Recap* | Drier than normal conditions largely prevailed across Central Florida during the first and second half of the dry season (fig. 3). Periods of higher rainfall during November and December 2024 and again into February 2025 across southern portions of east central Florida led to some limited areas where rainfall ended up near to slightly above normal, generally across portions of the Treasure Coast and localized locations inland. The overall drier than normal conditions this dry season led to developing and expanding drought conditions across the region, and Moderate (D1) to Extreme (D3) conditions existed over much of Central Florida by the end of April (fig. 4).







**Figure 3.** Rainfall departures from normal for the Nov 2024-Jan 2025 and Feb-Apr 2025 period across Central Florida.



Figure 4. The May 1, 2025 issuance of the United States Drought Monitor across Florida. (Source: USDM archive)

### **S**torminess

*Recap* | Seasonal storminess remained below normal, but at times individual storm systems did move through and produce periods of strong to severe storms. The most significant of these systems was during March 10<sup>th</sup>, 2025 where scattered showers and storms ahead of a cold front moved through Central Florida, producing strong to locally damaging wind gusts and an EF-2 tornado in Seminole County (fig. 5). This was the only tornado to occur during the November 2024-April 2025 dry season across Central Florida.



**Figure 5.** Damage survey and track of the EF-2 tornado in Seminole County that occurred on March 10<sup>th</sup>, 2025. This tornado moved through the Wekiwa Springs, Longwood and Lake Mary areas, with peak estimated winds of 110-120 mph.

#### **Helpful Links**

Teleconnection Guidance & Forecasts from the Climate Prediction Center (CPC) <u>ENSO | AO | NAO | PNA | MJO</u>

CPC Guidance (Temperature, Precipitation, Drought, Hazards) <u>1-Month Outlook | 3-Month Outlook (~90 Days)</u> <u>U.S. Drought Information | U.S. Hazards Assessment</u> (out to 2 weeks)

#### National Weather Service Melbourne, FL Research

ENSO and Climate | Storminess | Severe Weather | Rainfall | Temperature

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