# Extended Hydrologic Outlook
# March 10, 2025

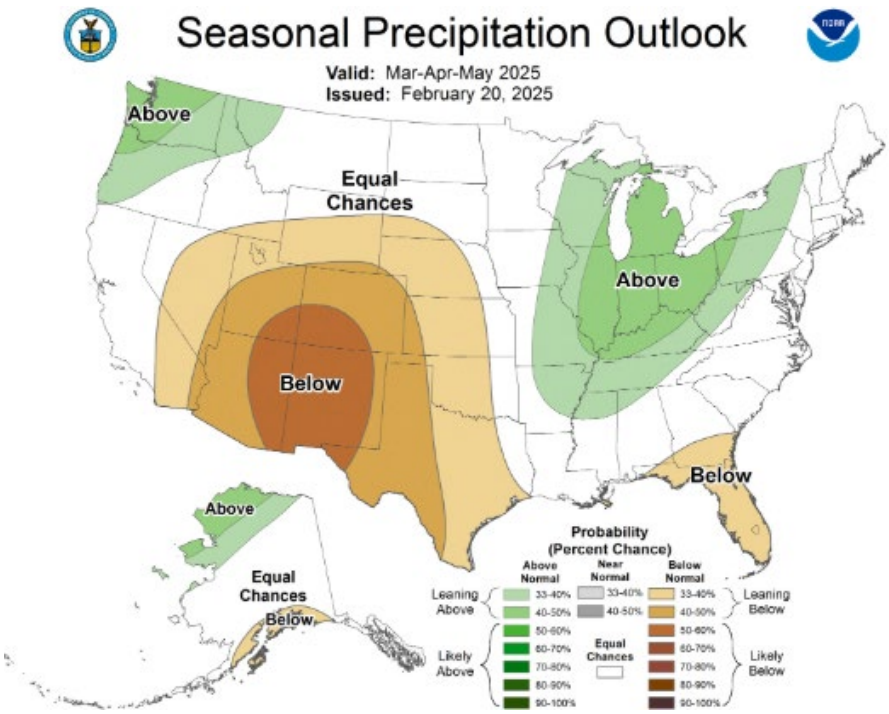
- The Climate Prediction Center (CPC) is forecasting below normal rainfall for March through May.
- La Niña conditions are present and are expected to persist in the near-term, with a transition to ENSO-neutral likely during March-May 2025 (66% chance).
- Atlantic Multidecadal Oscillation (AMO) is currently in the warm phase:
  - Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase.

# U. S. Seasonal Outlooks

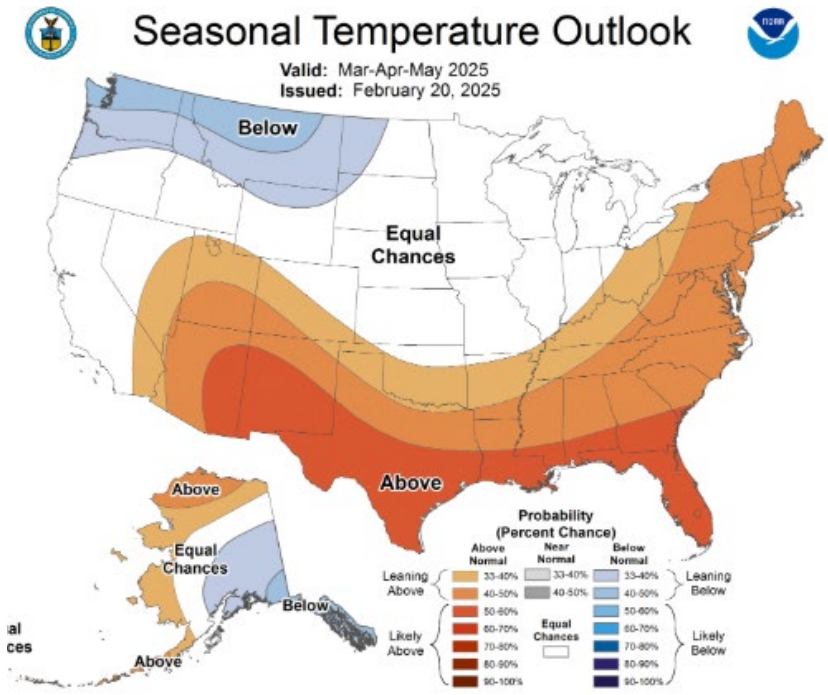
## March - May 2025

The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.

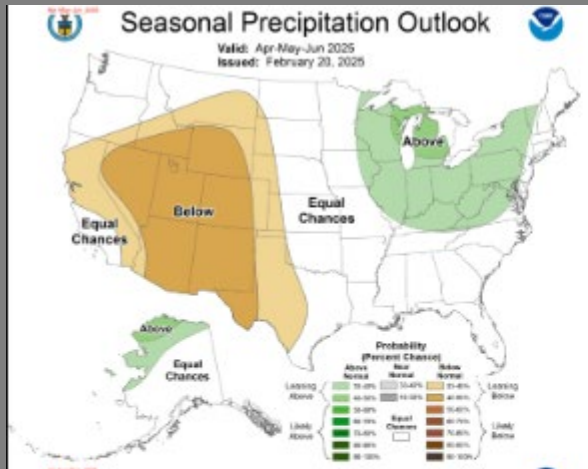
Precipitation

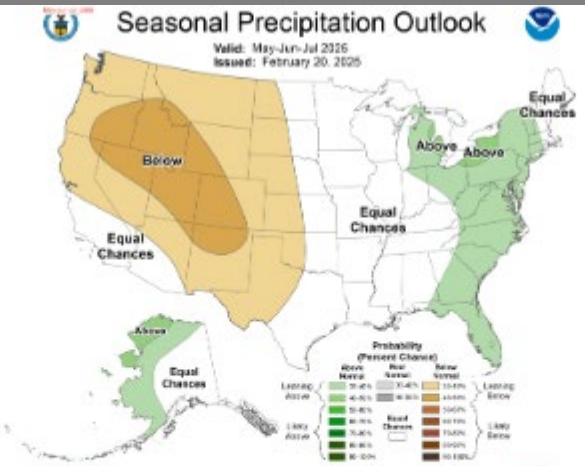


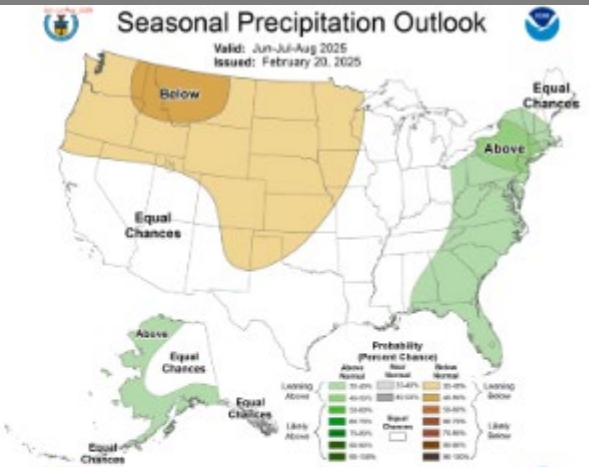

Temperature

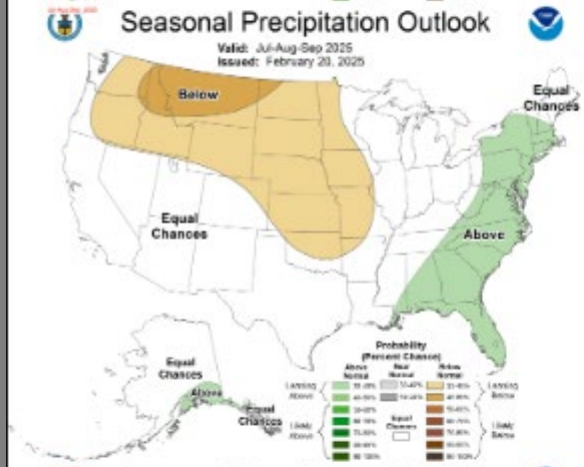


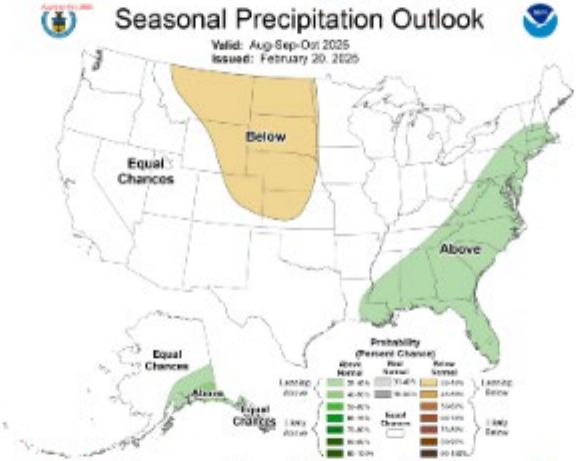

Prepared by: Climate Prediction Center/NCEP

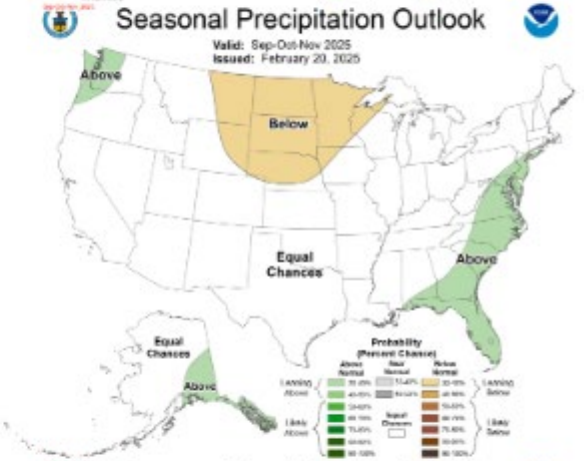


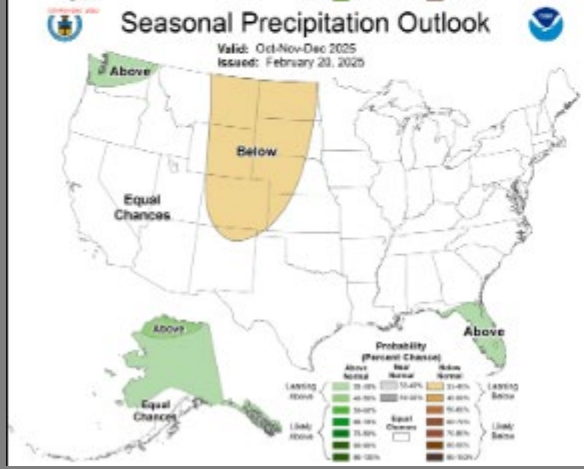



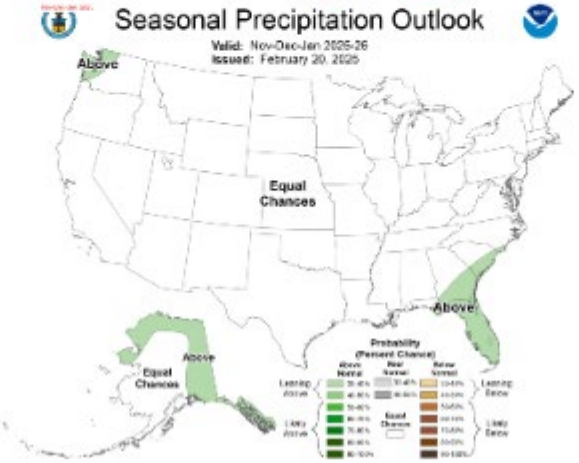



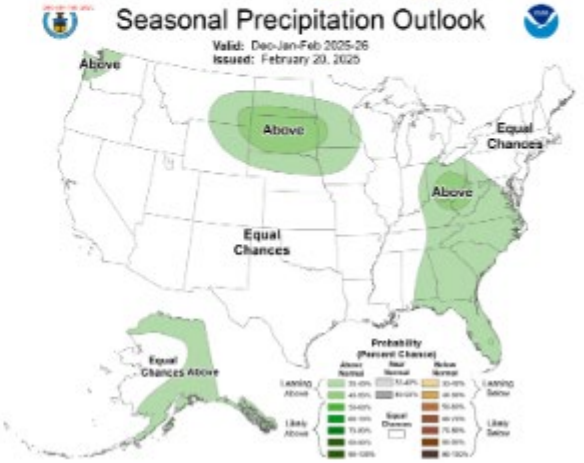




Prepared by: Climate Prediction Center/NCEP

# Teleconnections to South Florida

Climate anomalies being related to each other at large distances:

<u>El Niño Southern Oscillation (ENSO)</u>

- El Niño increases the chances of a wetter-than-normal dry season and decreased tropical activity, La Niña increases the chances of a drier-than-normal dry season and increased tropical activity (both have most influence in south Florida from November through March)

<u>Pacific Decadal Oscillation (PDO)</u>

- Increases variations in south Florida dry season rainfall, positive leads to more El Niño events, negative leads to more La Niña events
- The current PDO is negative

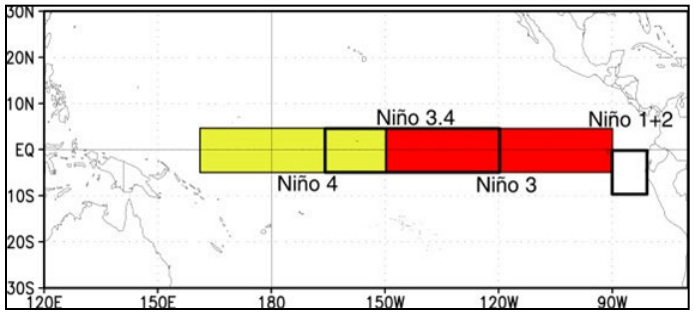
<u>Atlantic Multidecadal Oscillation (AMO)</u>

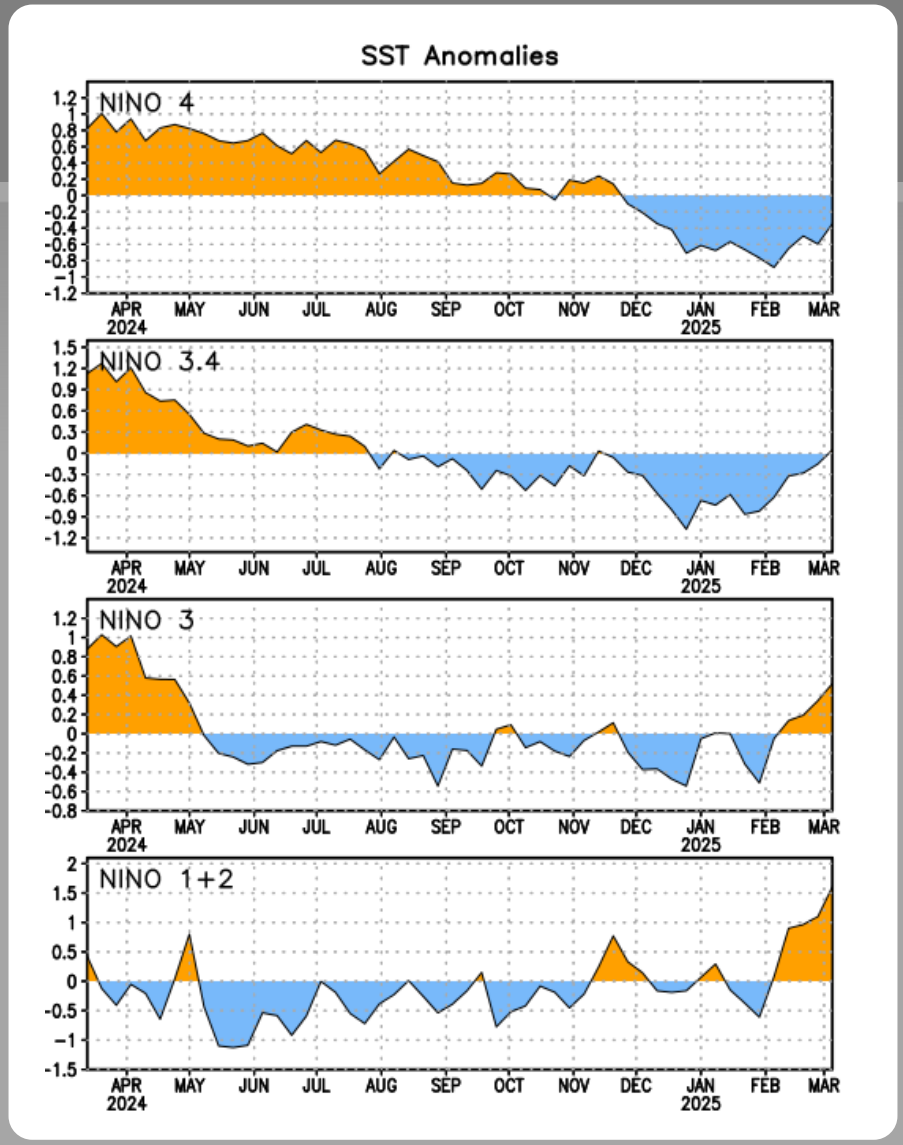
- Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase of the AMO, easterly flow toward south Florida affected by phase
- The AMO is currently in the warm phase

# Niño Region SST Departures (ºC) Recent Evolution

The latest weekly SST departures are:

| | |
|---|---|
| Niño 4 | -0.3ºC |
| Niño 3.4 | 0.0ºC |
| Niño 3 | 0.5ºC |
| Niño 1+2 | 1.6ºC |

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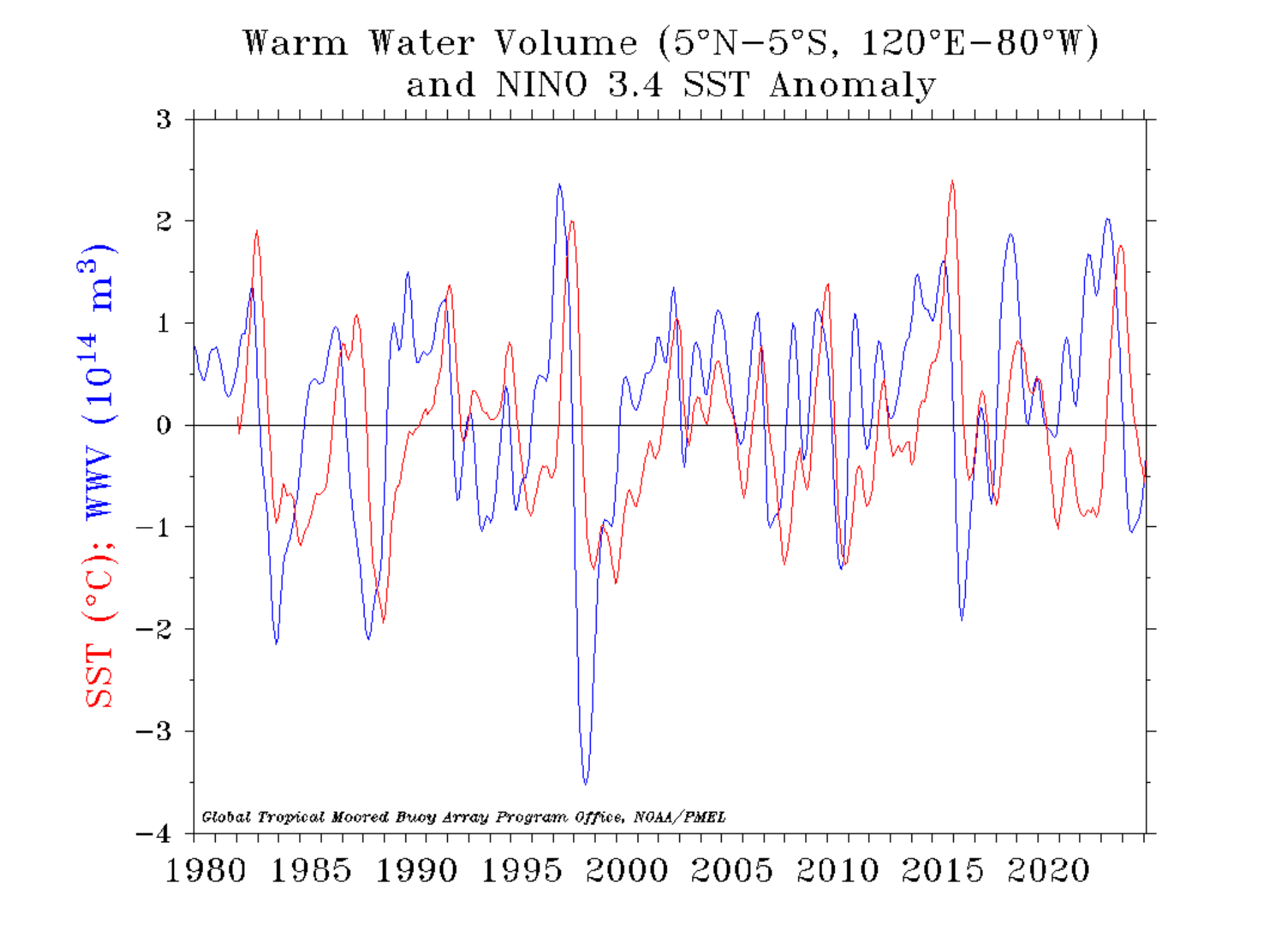
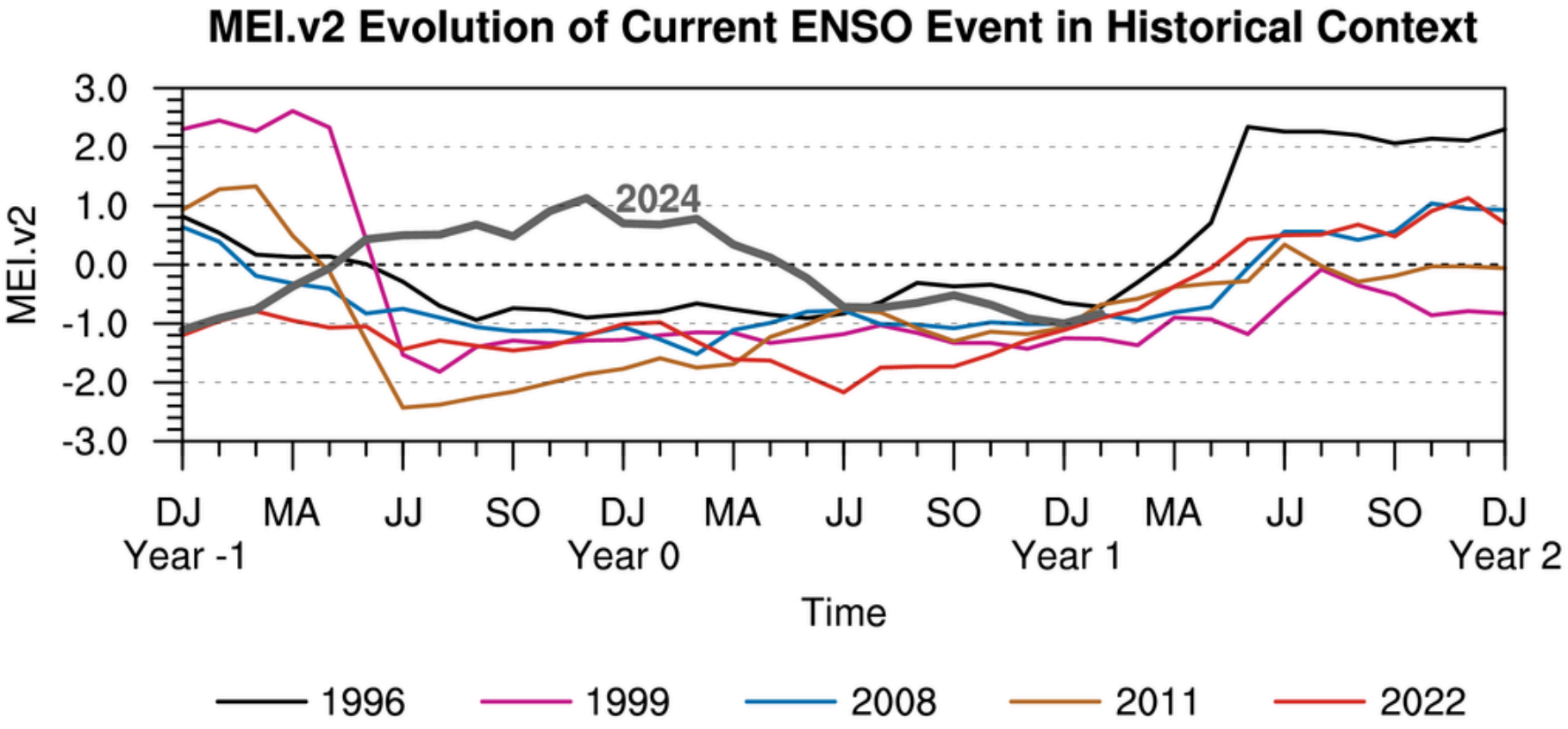

Warm Water Volume (5°N–5°S, 120°E–80°W)
and NINO 3.4 SST Anomaly
SST (°C); WWV ($10^{14}$ $m^3$)
3
2
1
0
−1
−2
−3
−4
1980
1985
1990
1995
2000
2005
2010
2015
2020
Global Tropical Moored Buoy Array Program Office, NOAA/PMEL




Prepared by: NOAA Physical Sciences Laboratory

# March 2025 DPA Assumptions

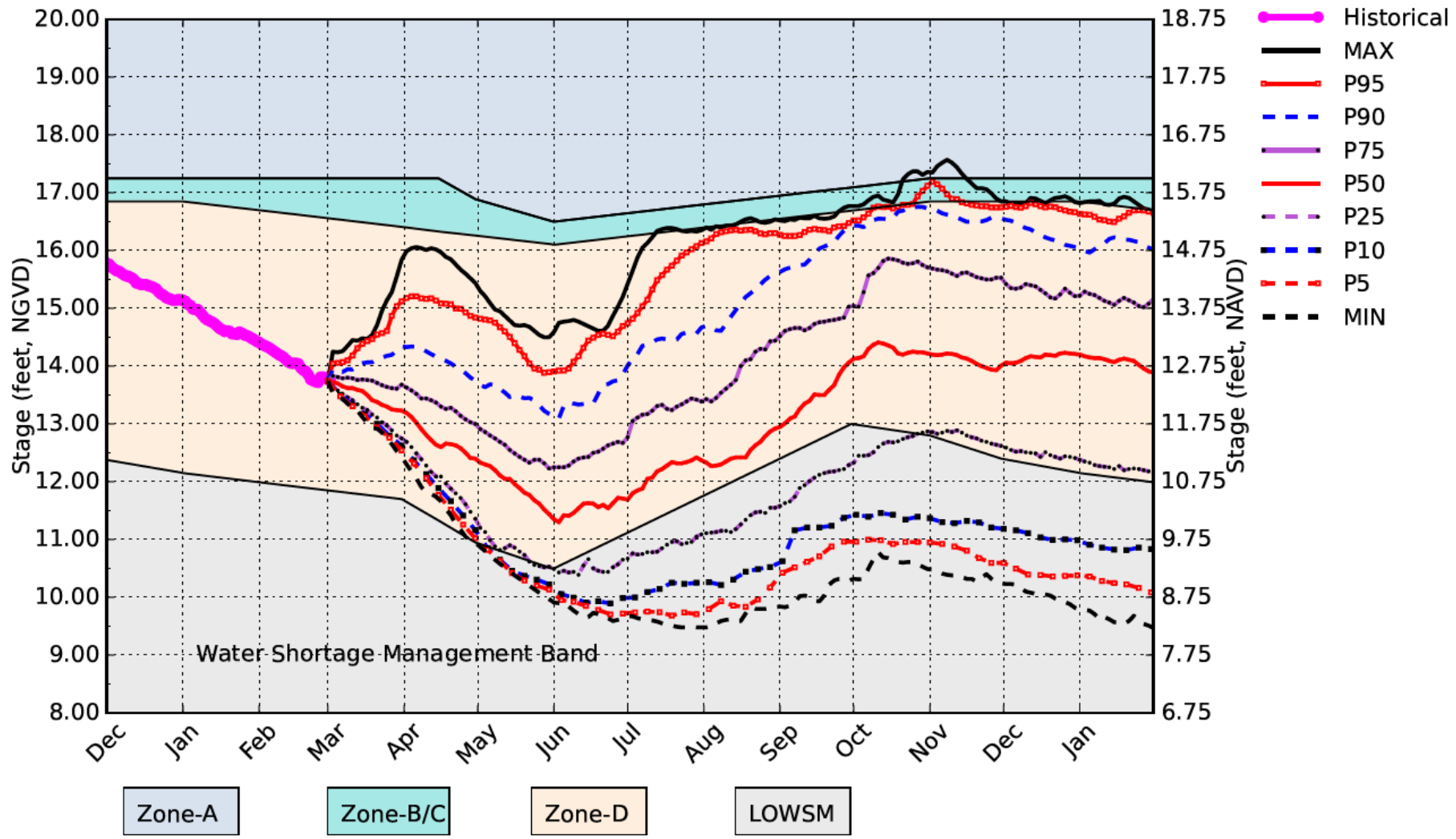
- **The March 1, 2025 Dynamic Position Analysis (DPA) simulation is based on historical climatic conditions spanning the period 1965-2016. This DPA posting is made with the South Florida Water Management Model (SFWMM) v7.3.3.**
- **The March 1, 2025 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on February 1st of each year of the DPA simulation and conditions the simulation to real time data during February to achieve real time stages on March1st for LOK and WCAs.**
- **The Lake Okeechobee operations follow the Lake Okeechobee System Operating Manual (LOSOM). Modeling assumptions are consistent with modeling performed for LOSOM Supplemental Environmental Impact Statement (SEIS).**
- **LOK Temporary Forward Pump operations will be in place, whenever necessary, to improve water supply deliveries from LOK under low LOK stages.**
- **STA surface area values are modified to reflect current flow ways under operation. STA depths are maintained to a minimum of 6 inches using Lake Okeechobee releases.**
- **Lake Okeechobee Water Shortage Management (LOWSM) is included in the simulation which reflects the currently approved 40E-21 and 40E-22 water shortage rules.**

# Lake Okeechobee Recovery Operations

- Starting December 7, 2024 the US Army Corps of Engineers (USACE) - Jacksonville District will begin releases under Lake Okeechobee Recovery Operations. The goal of recovery is to lower lake levels before the onset of the wet season to allow for recovery of lake ecology.

- SFWMM model assumptions for the March 1, 2025 DPA
- Recovery operations start at the beginning of the DPA simulation and end May 31st.
  - Lake Okeechobee releases
    - 2,100 cfs at S-79 to the Caloosahatchee River Estuary (CRE)
    - 1000 cfs at S-80 to the St. Lucie Estuary (SLE)
    - 1000 cfs is a regulatory release from Lake Okeechobee and therefore does not account for flow at S-97, S-49, or Gordy Road
- Maximum practicable releases south

# Lake Okeechobee SFWMM March 2025 Position Analysis




(See assumptions on the Position Analysis Results website)

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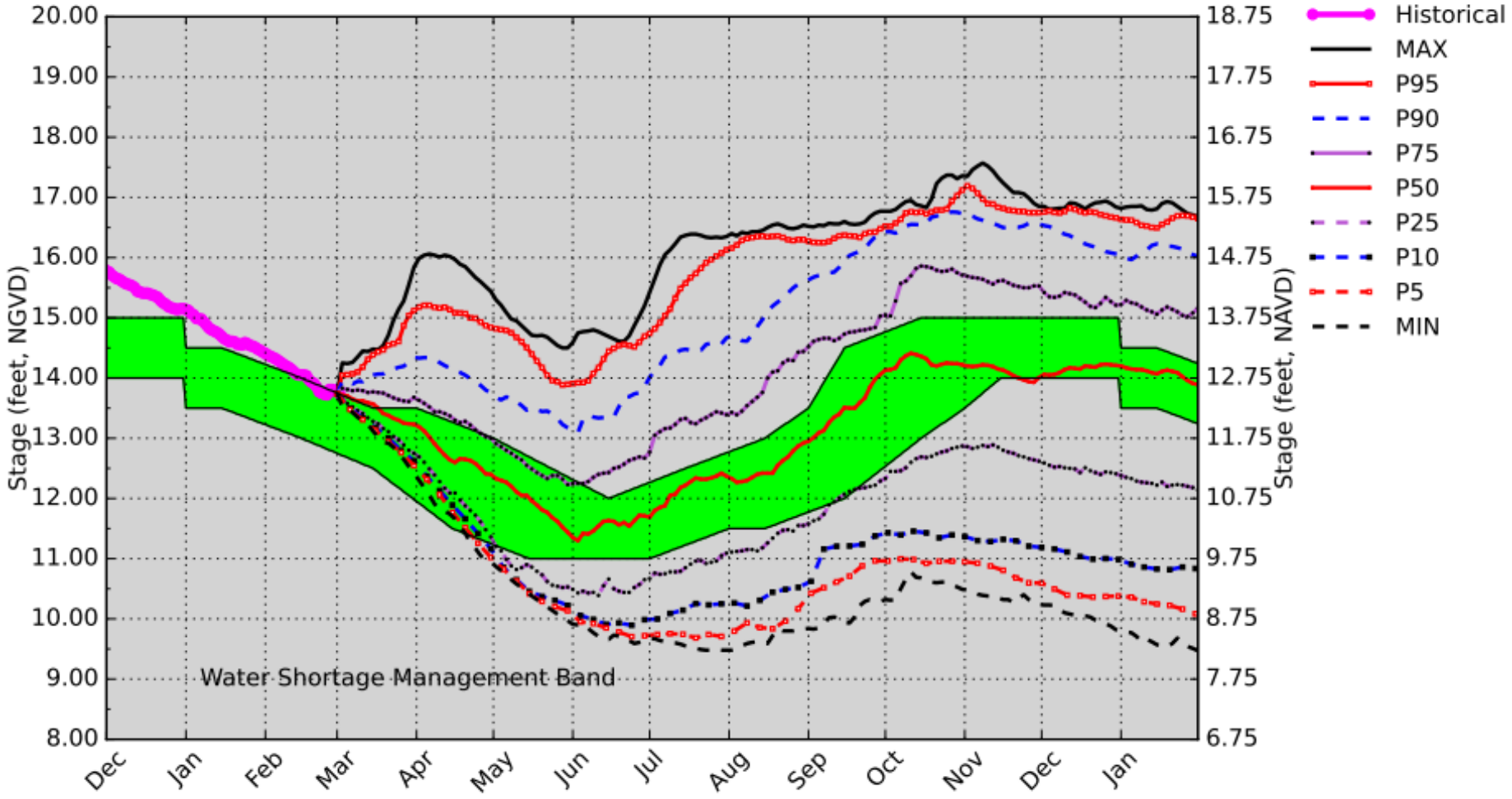
# Lake Okeechobee SFWMM March 2025 Position Analysis

Percentiles PA




(See assumptions on the Position Analysis Results website)

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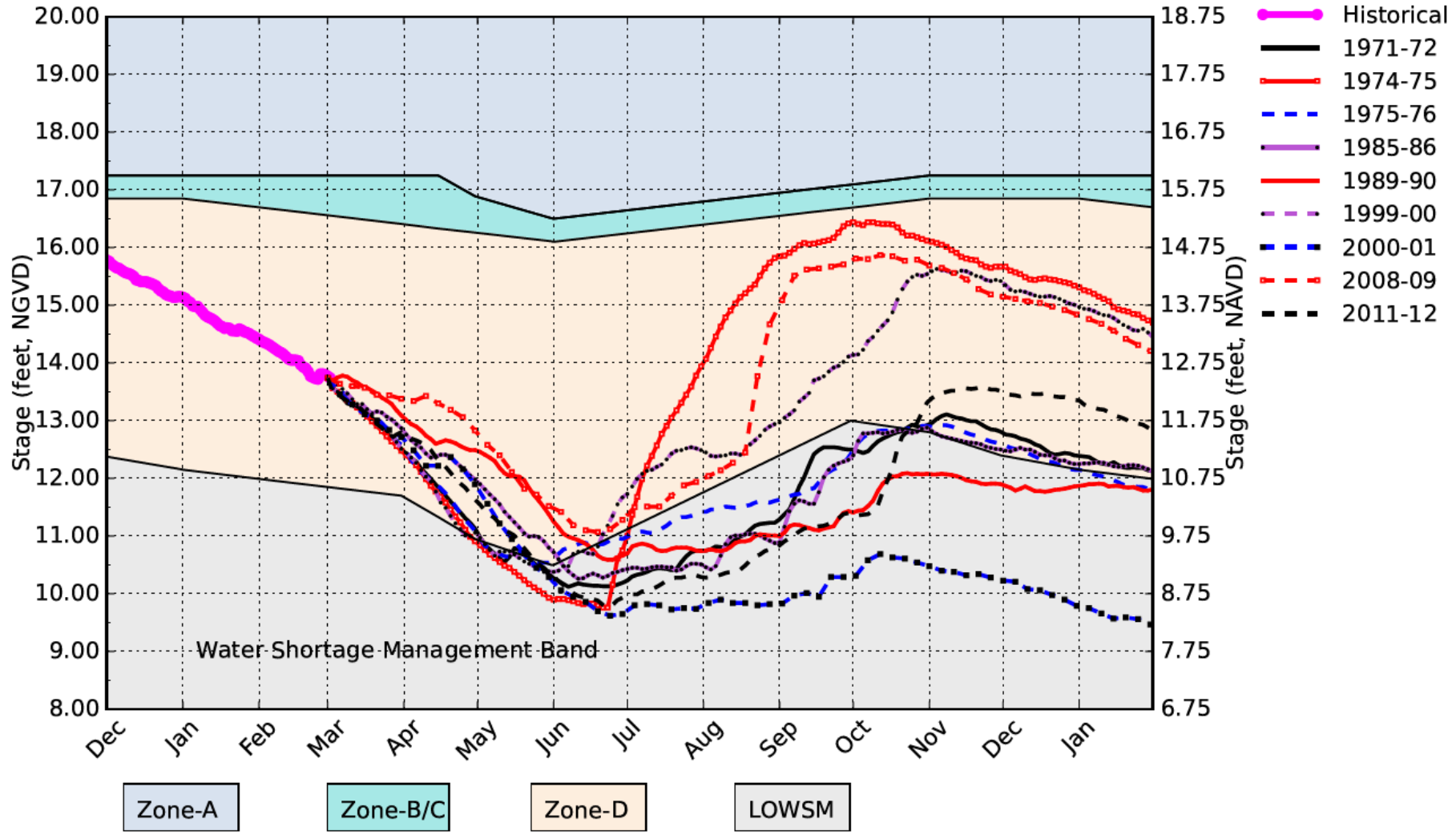
# Lake Okeechobee SFWMM March 2025 Position Analysis

All La Nina Years Plot PA




(See assumptions on the Position Analysis Results website)

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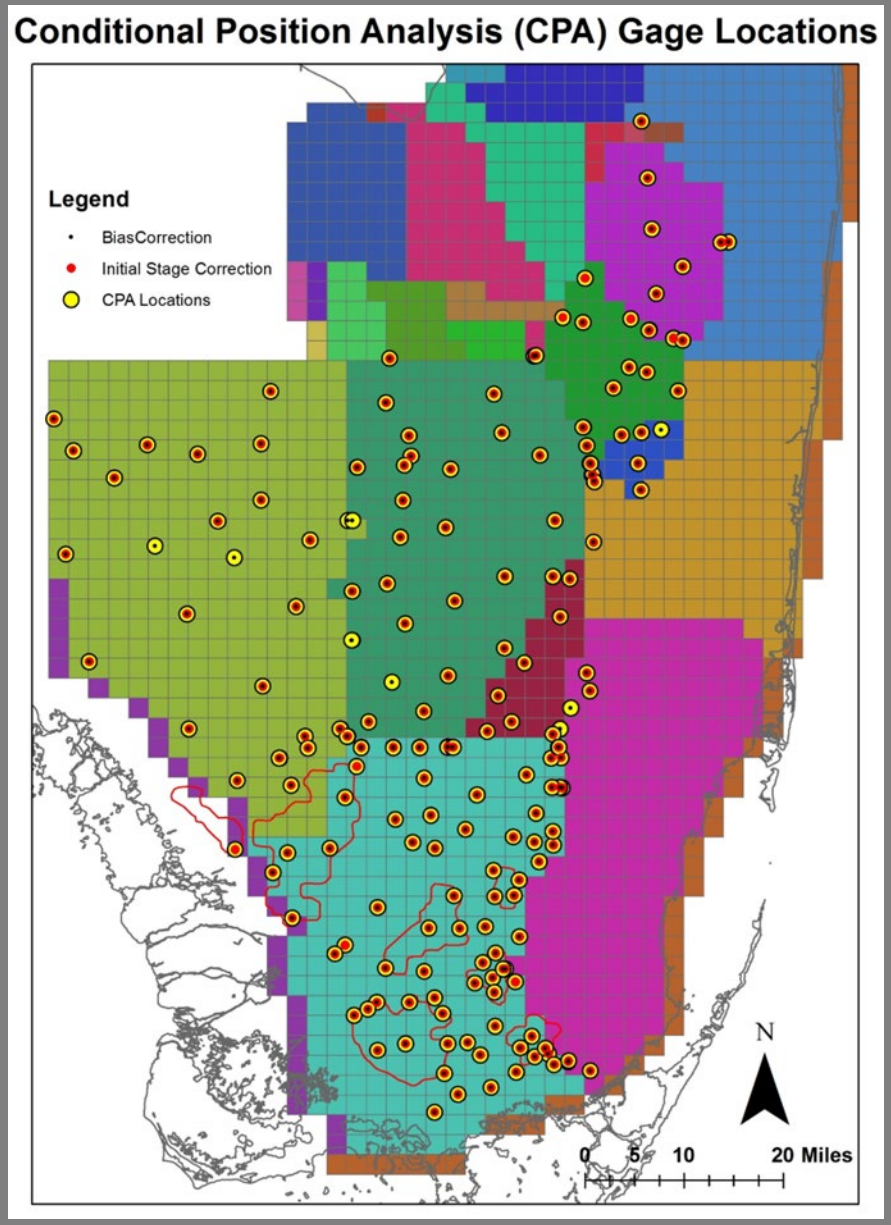
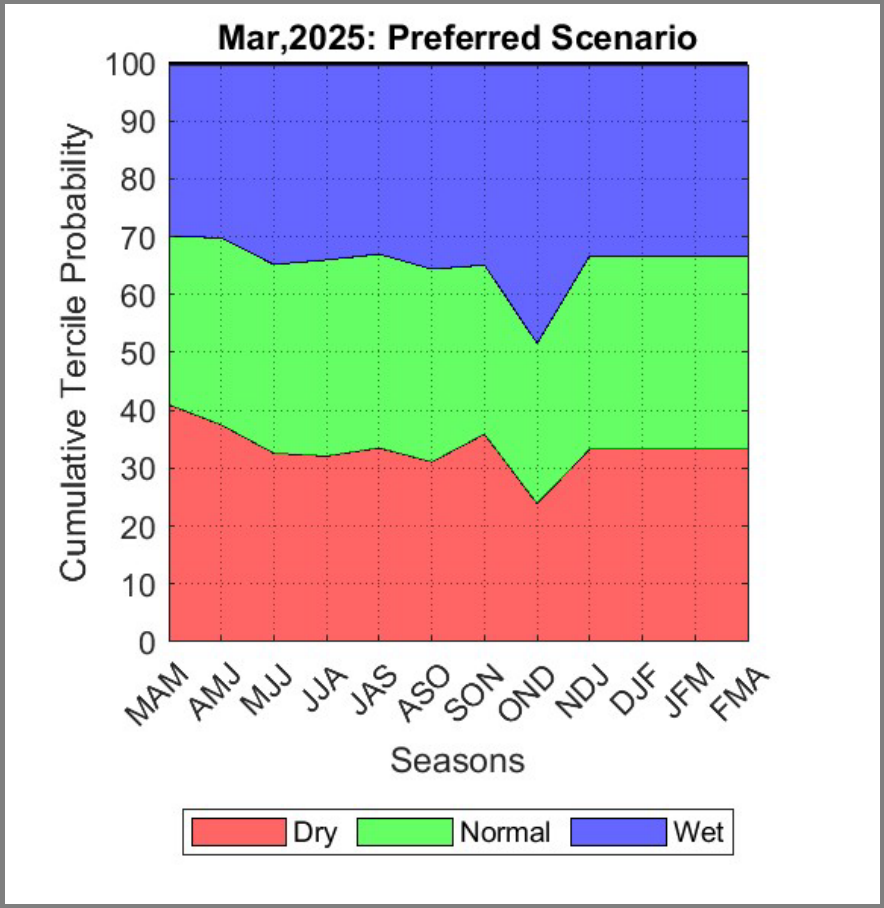
# Conditional Position Analysis Overview

- CPA is a stochastic framework that transforms stages obtained from Dynamic Position Analysis (DPA) based on forecasted rainfall conditions over the next twelve months (Ali, 2016).
- DPA stage outputs are used as inputs to CPA.
- CPA is implemented for Lake Okeechobee and 200+ locations in the Everglades.



# March 2025 CPA: Preferred Rainfall Scenario

**Seasonal rainfall tercile probabilities are calculated using a transition coefficient matrix that is based on historical rainfall data (1914 – 2022). Projected Niño-3.4 published by CPC is then used to calculate rainfall tercile probability projections.**



**Lake Okeechobee – LOSOM RO CPA implementation shows that all percentile lines shift down from the respective DPA percentile lines by ~ 0.2 to 0.4 ft by the end of May 2025. Under PrefScenario median trace projected stage is at ~11.30 ft NGVD, a 0.1 ft downward shift from LOSOM RO DPA.**