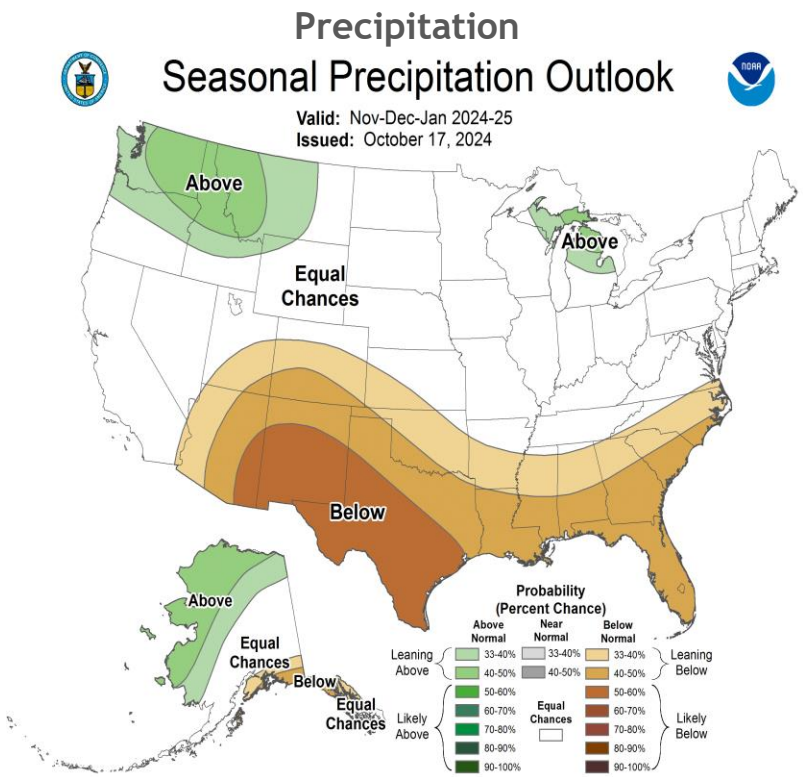
Extended Hydrologic Outlook
November 12, 2024

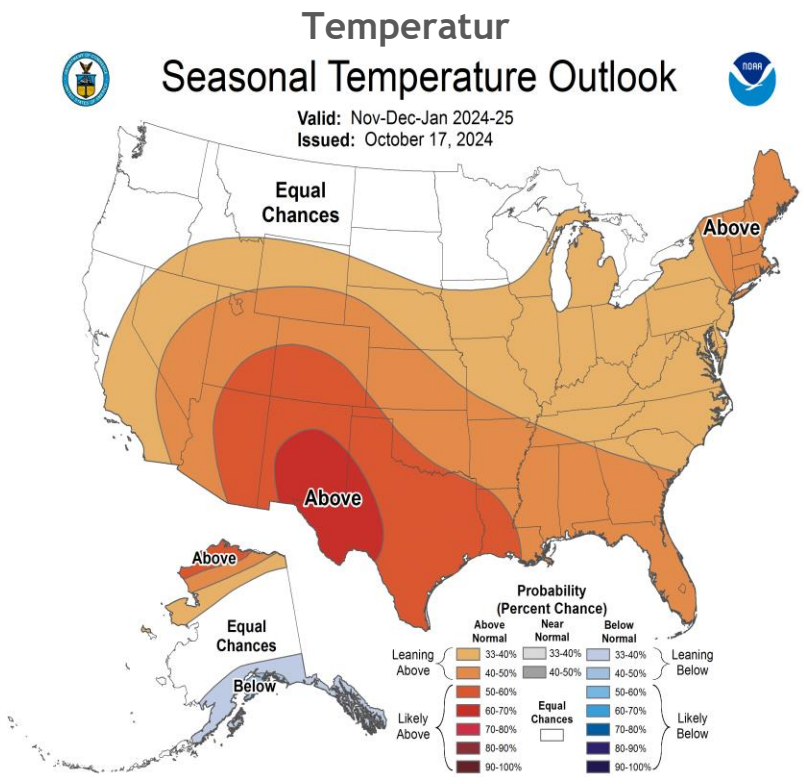
- The Climate Prediction Center (CPC) is forecasting below normal rainfall for November through January.
- ENSO Neutral conditions are present. La Niña is favored to emerge in September-November (60% chance) and is expected to persist through January-March 2025.
- Atlantic Multidecadal Oscillation (AMO) 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

November 2024 - January 2025

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





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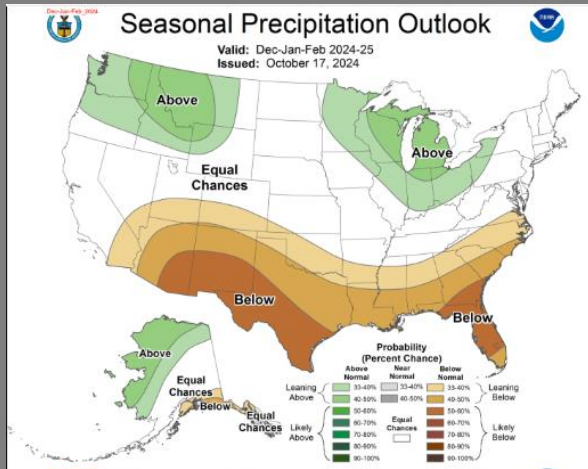

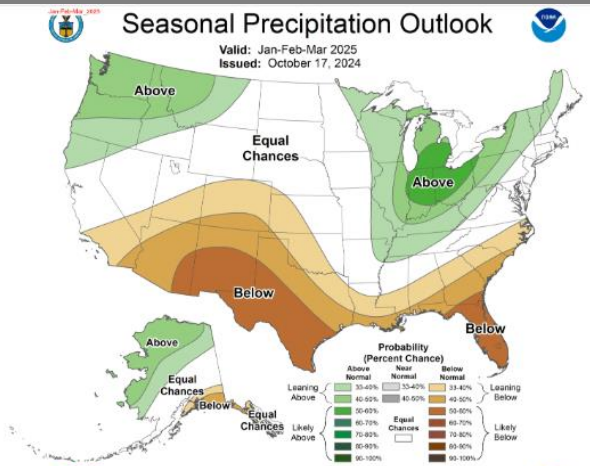

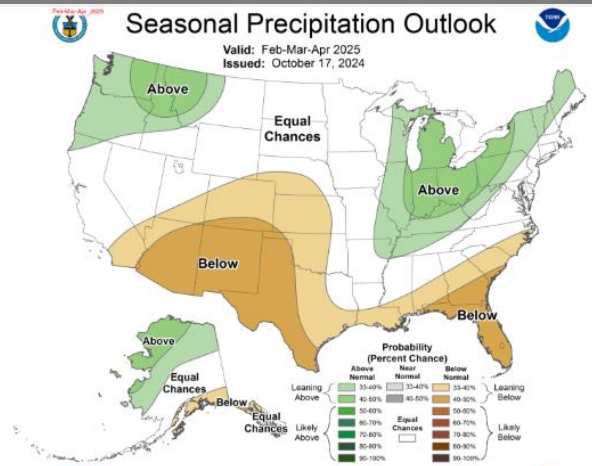

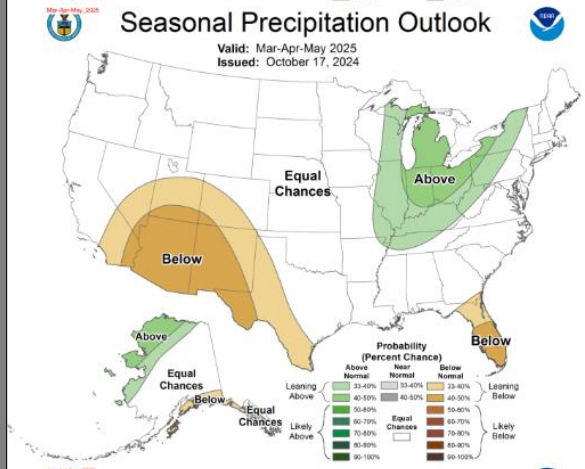

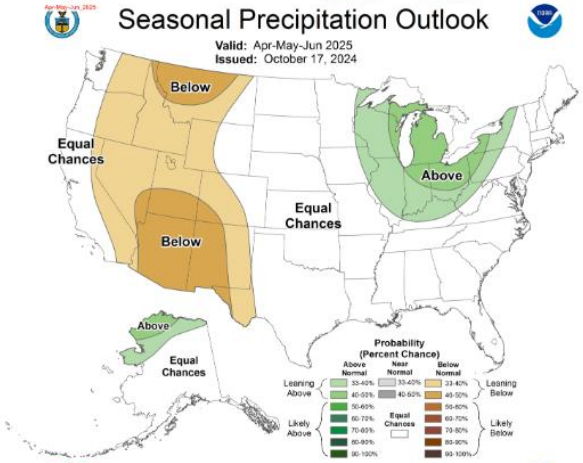

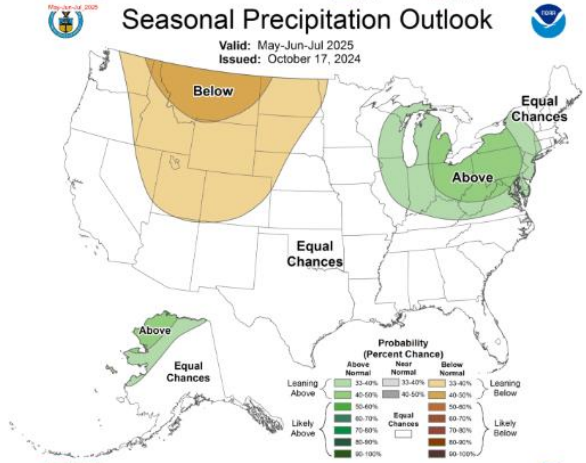

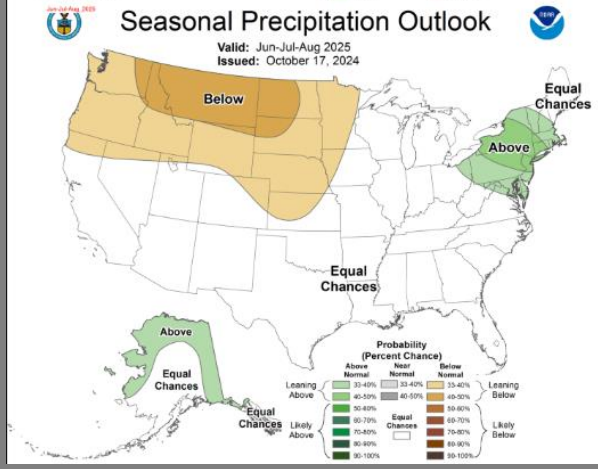

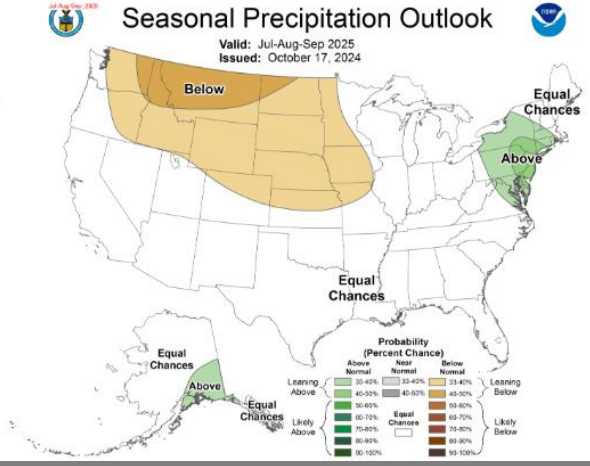

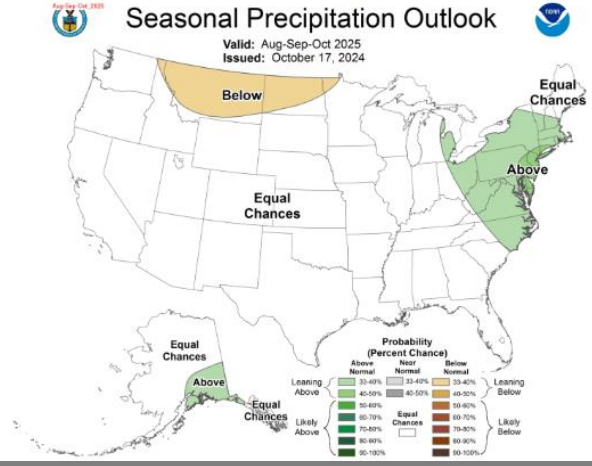

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Teleconnections to South Florida

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

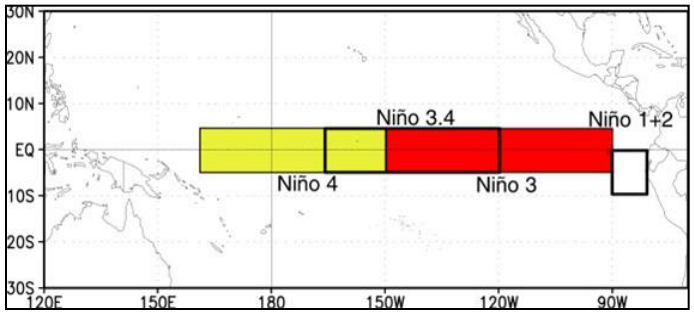
<u>Atlantic Multidecadal Oscillation (AMO)</u>

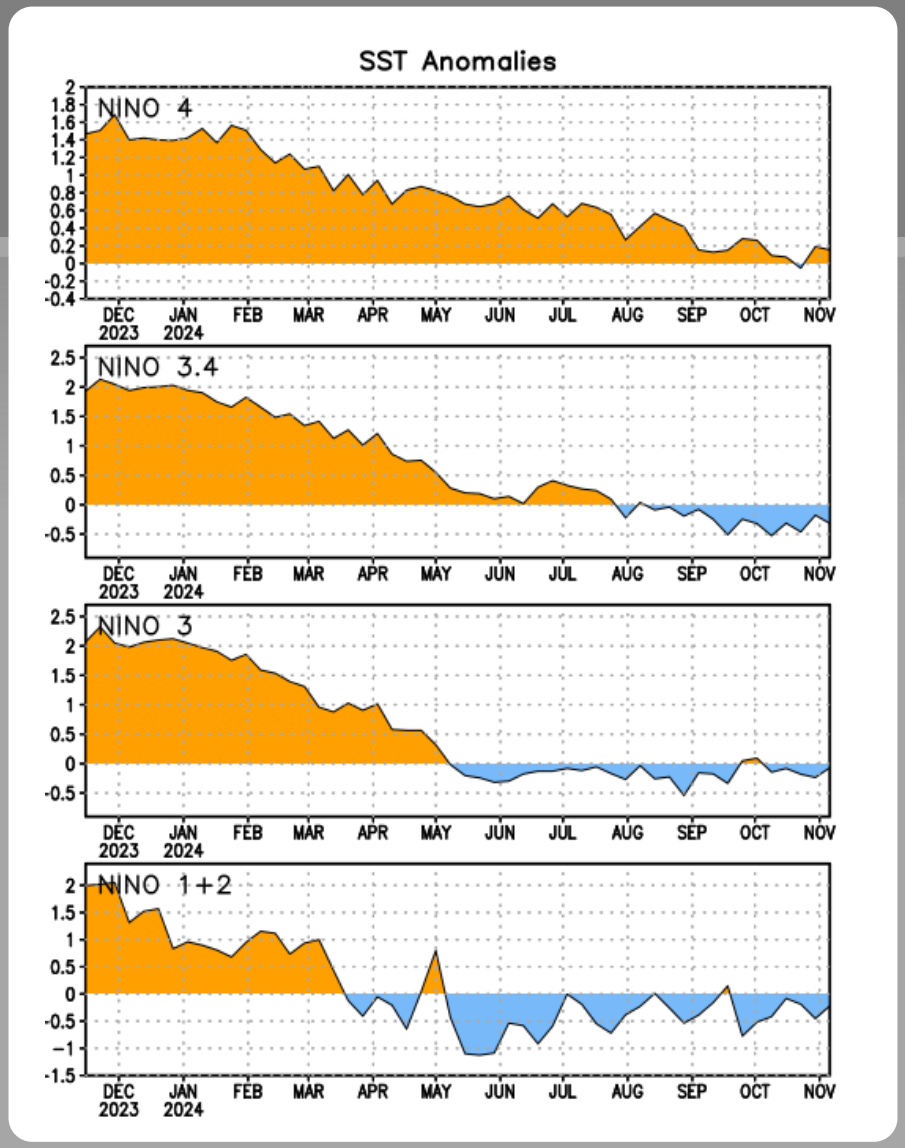
- Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase of the AMO, easterly flow toward south Florida affected by phase
- The AMO is currently in the warm phase

Niño Region SST Departures (ºC) Recent Evolution

The latest weekly SST departures are:

Niño 4	0.2ºC
Niño 3.4	-0.3ºC
Niño 3	-0.1ºC
Niño 1+2	-0.2ºC





This weekly sea surface temperature data is based on OISSTv2.1 (Huang et al., 2021).

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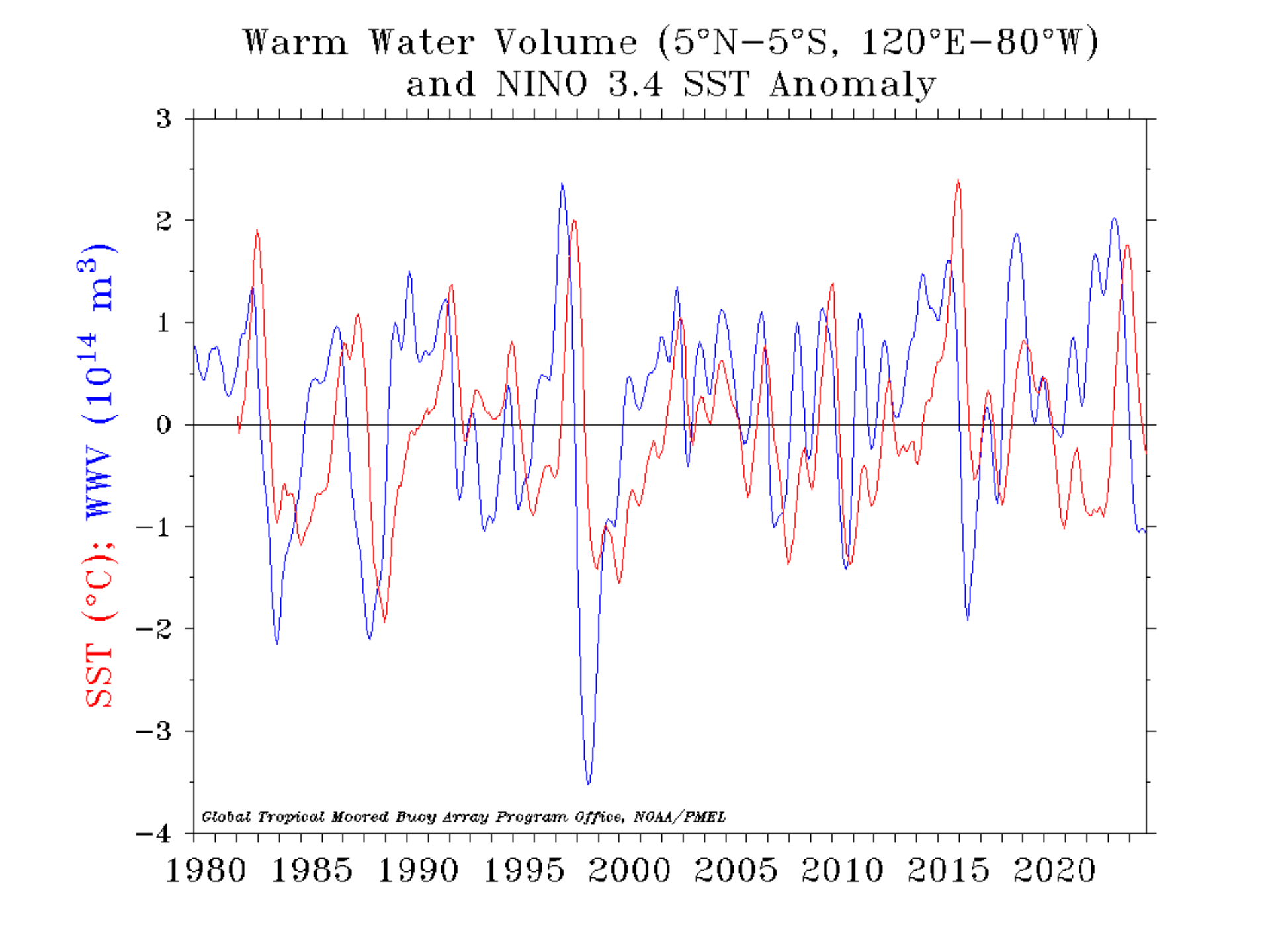
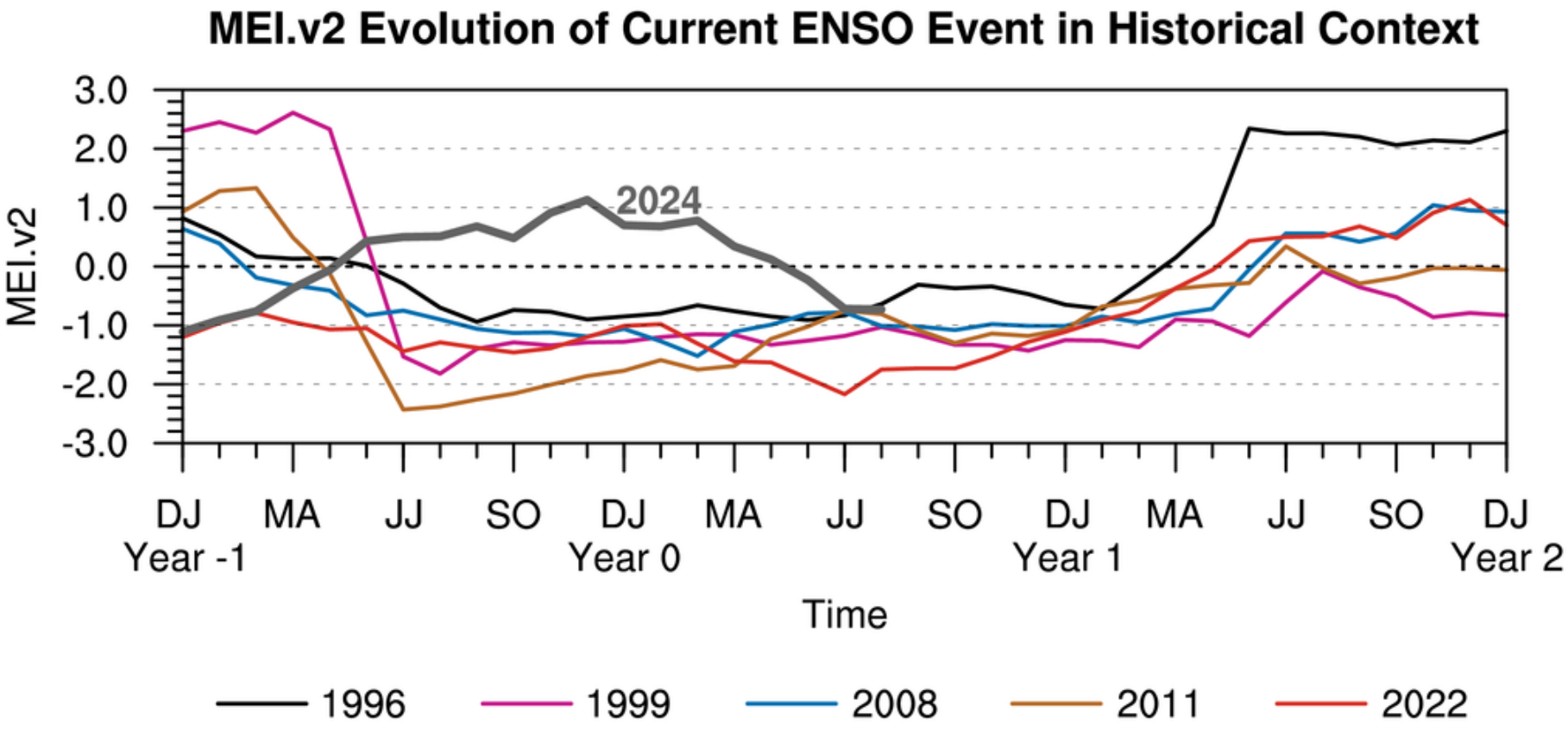

Warm Water Volume (5°N–5°S, 120°E–80°W)
and NINO 3.4 SST Anomaly
SST (°C); WWV (10^{14} m^3)
3
2
1
0
−1
−2
−3
−4
1980
1985
1990
1995
2000
2005
2010
2015
2020
Global Tropical Moored Buoy Array Program Office, NOAA/PMEL



Oct 2024: Due to Hurricane Helene's impact on NCEI (Asheville, NC) the MEI V2 will be delayed until the OLR dataset is available. The JRA-55 dataset used for the MEI V2 has been discontinued by the Japanese Meteorological Agency as of January 2024. We have switched to using the JRA3Q reanalysis which yields very similar results.

Prepared by: NOAA Physical Sciences Laboratory

2024 Winter Outlook

National Oceanic and Atmospheric Administration
U.S. Department of Commerce

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U.S. Winter Outlook: Warmer and drier South, wetter North

Drought relief likely in the Ohio River Valley and Great Lakes regions due to La Nina

Focus areas: Weather **Topics:** winter, climate outlooks

Share:

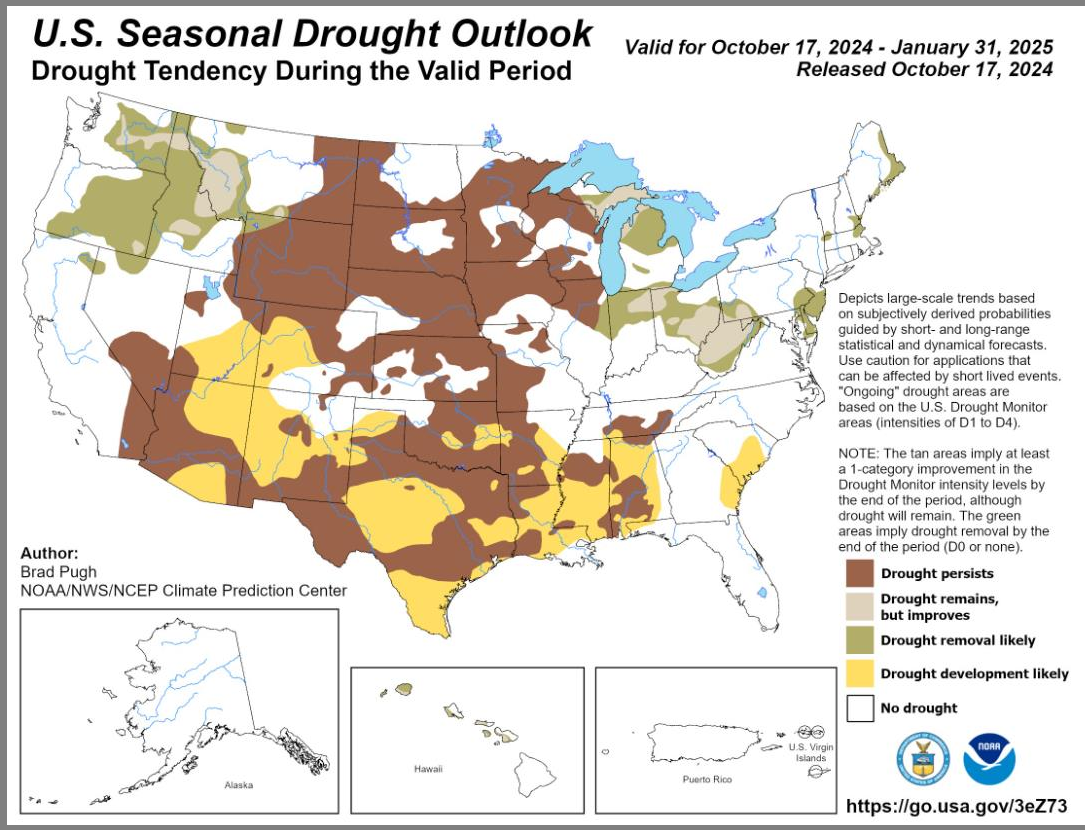
October 17, 2024

Temperature

Warmer-than-average temperatures are favored from the southern tier of the U.S. to the eastern Great Lakes, eastern seaboard, New England and northern Alaska.

Precipitation

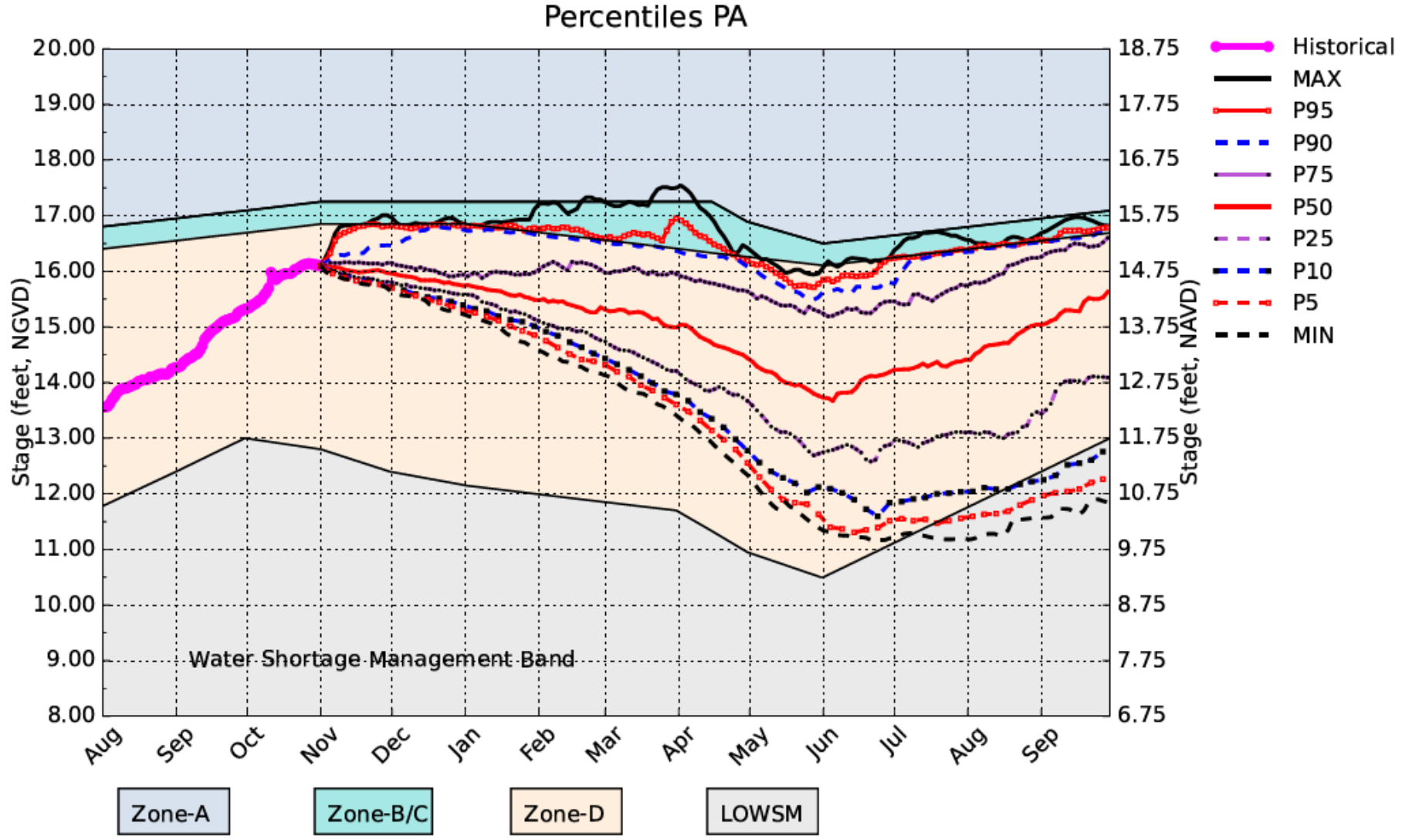
The greatest likelihood for drier-than-average conditions are in states bordering the Gulf of Mexico, as well as in Texas and southern New Mexico.



October 2024 DPA Assumptions

- The November 1, 2024 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 November 1, 2024 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on October 1st of each year of the DPA simulation and conditions the simulation to real time data during October to achieve real time stages on November 1st 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 flowways 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 SFWMM November 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

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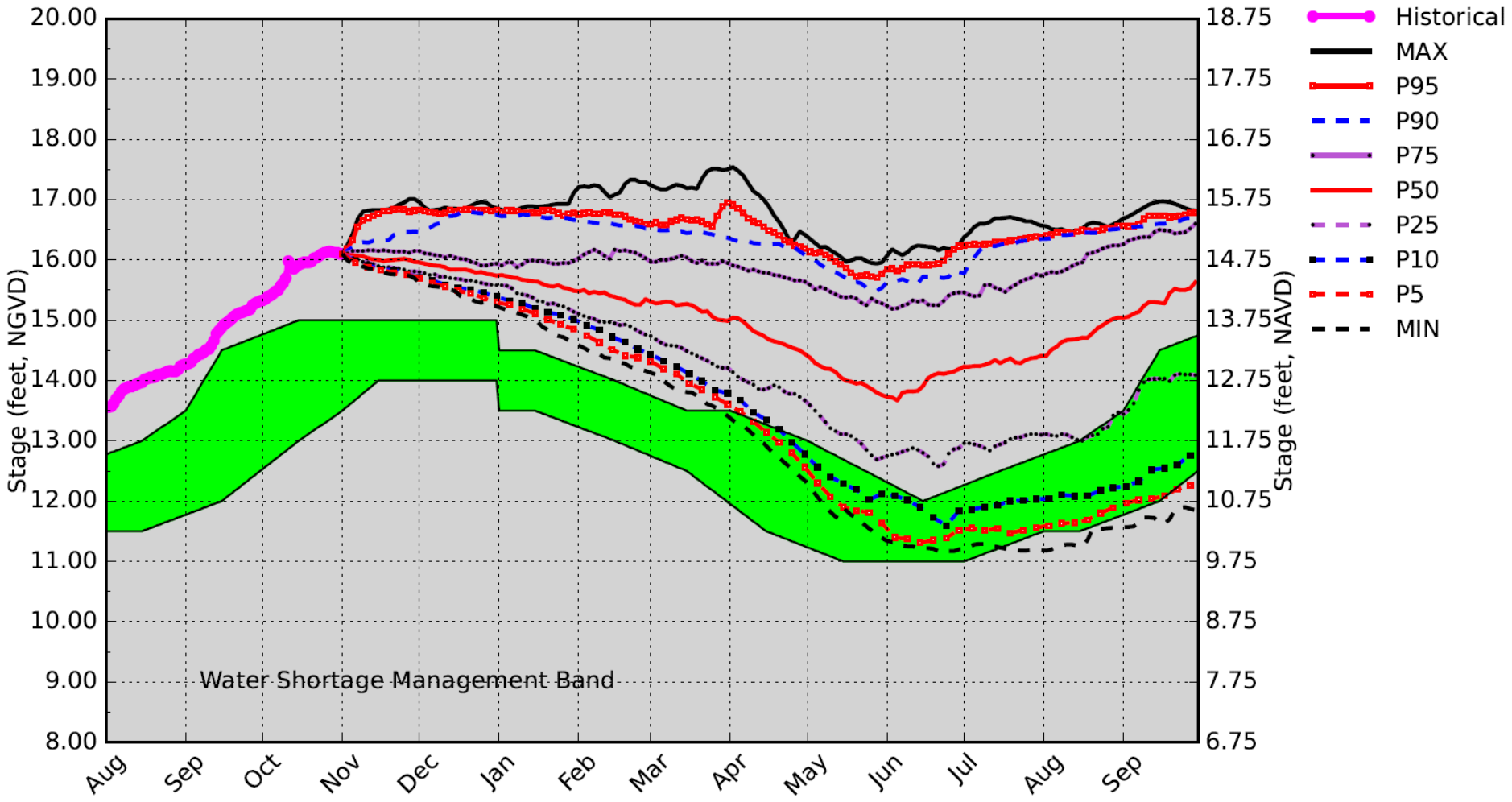
Lake Okeechobee SFWMM November 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

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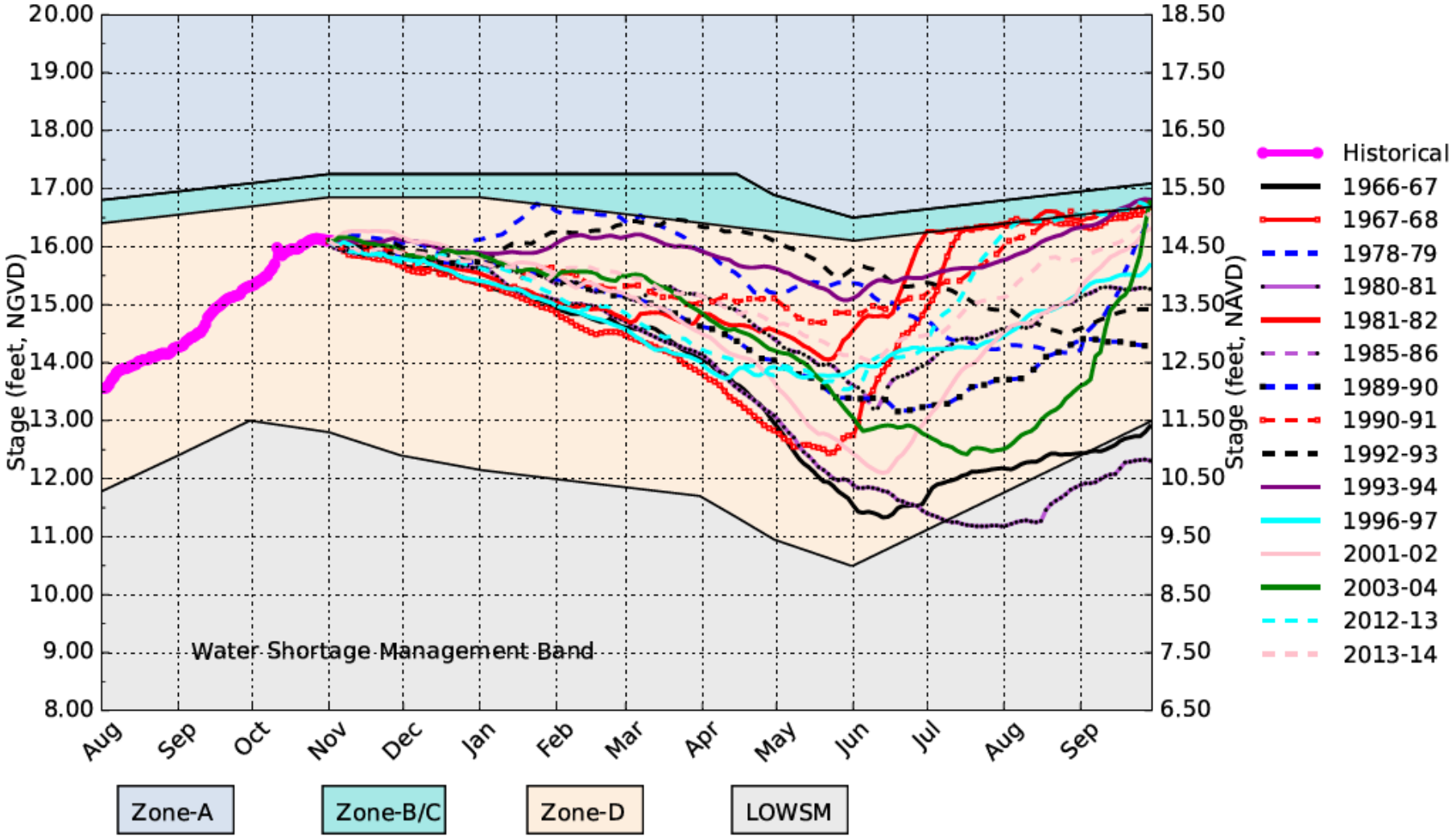
Lake Okeechobee SFWMM November 2024 Position Analysis

All ENSO Neutral Years Plot PA



(See assumptions on the Position Analysis Results website)

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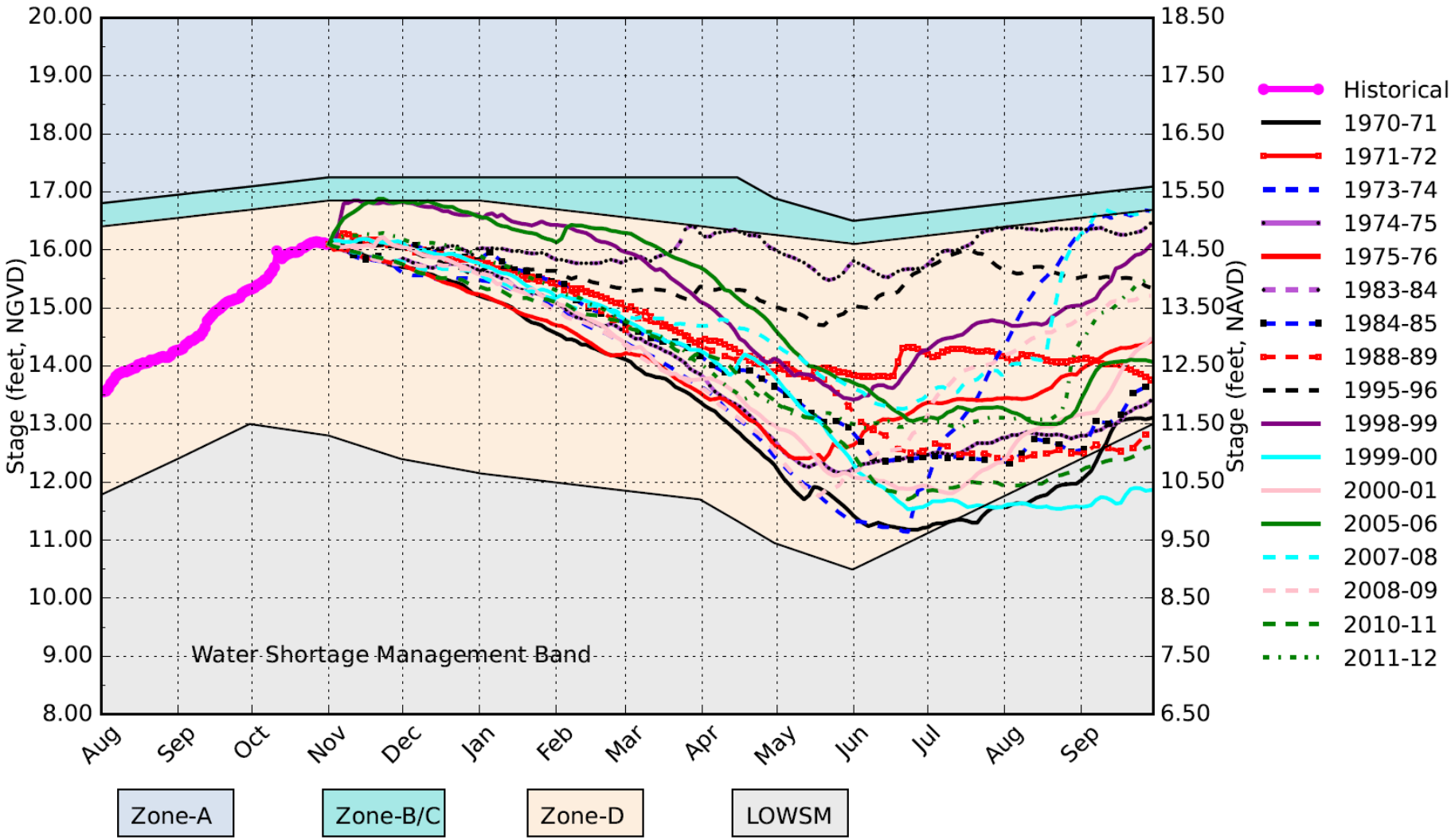
Lake Okeechobee SFWMM November 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

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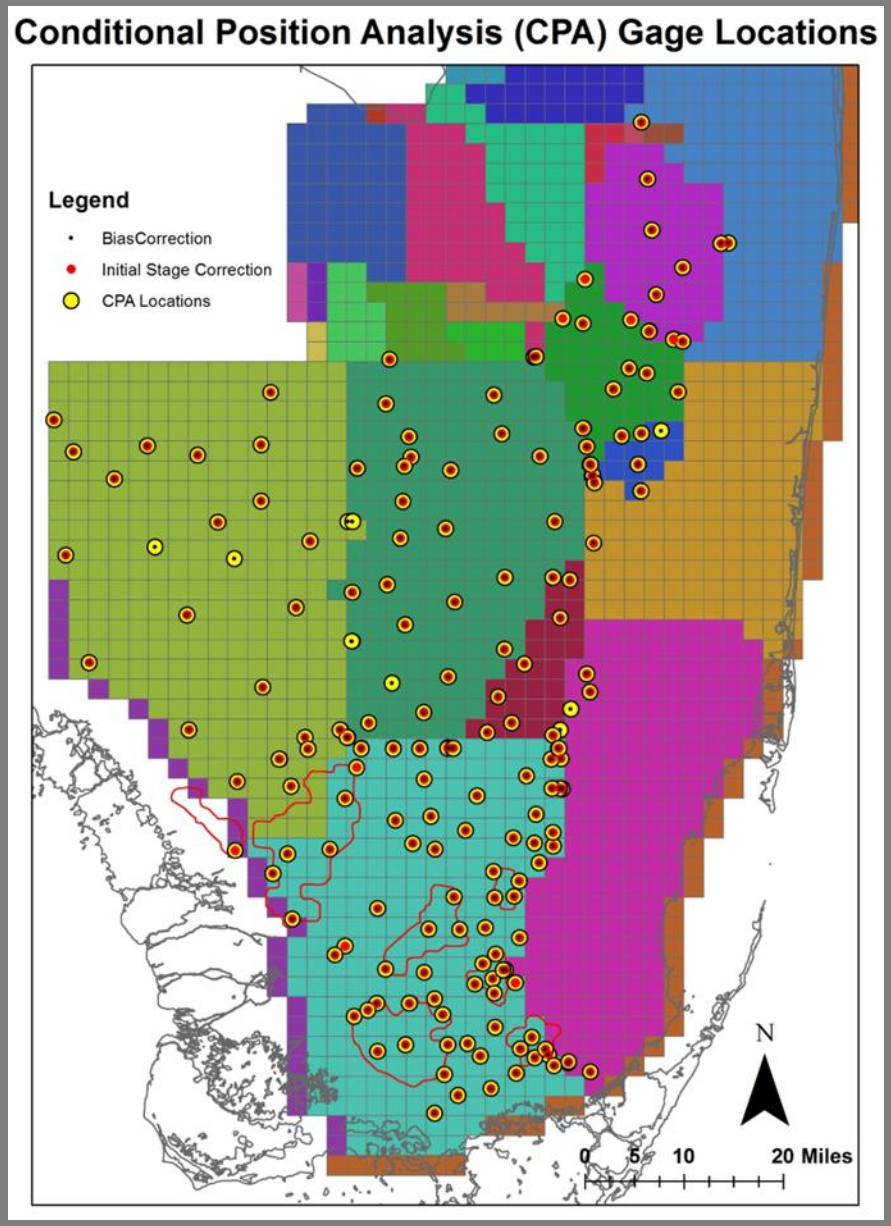
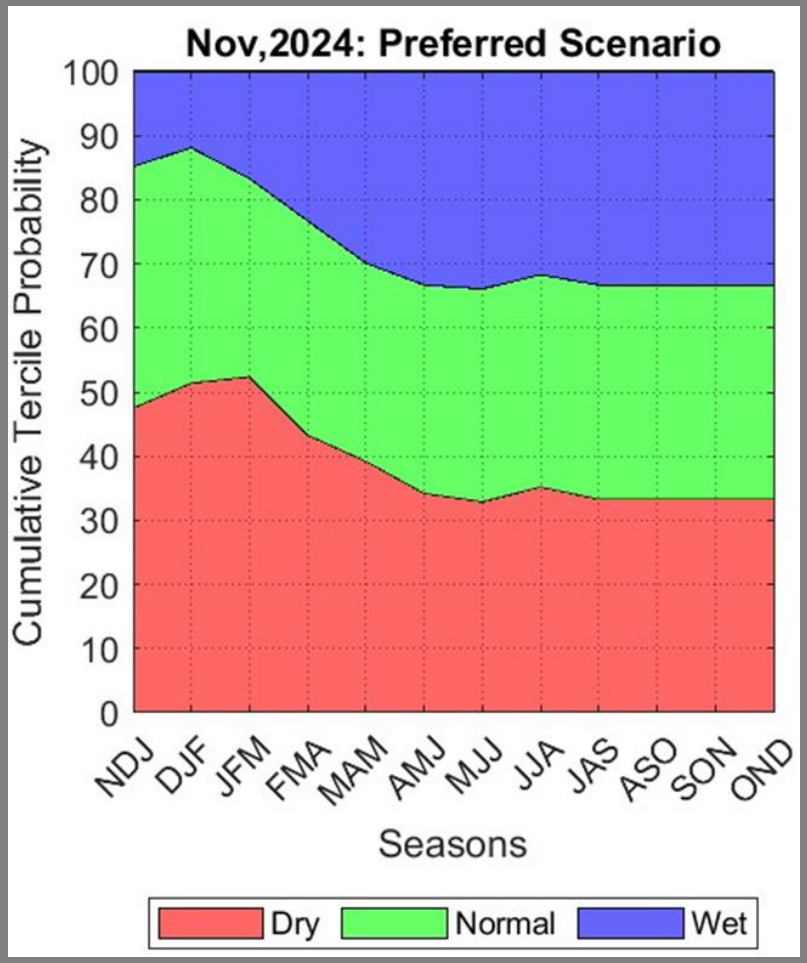
Conditional Position Analysis Overview

- 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.



November 2024 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 CPA implementation shows the percentile lines follow the DPA percentile lines until December 2024 after which most of the percentile lines shift downward by ~ 0.1 to 0.2 ft until end of June 2025. In Wet season higher percentile lines (90%, 95%, 99%) shift upward, while others shift slightly down or follow respective percentile traces from DPA.