

# Extended Hydrologic Outlook

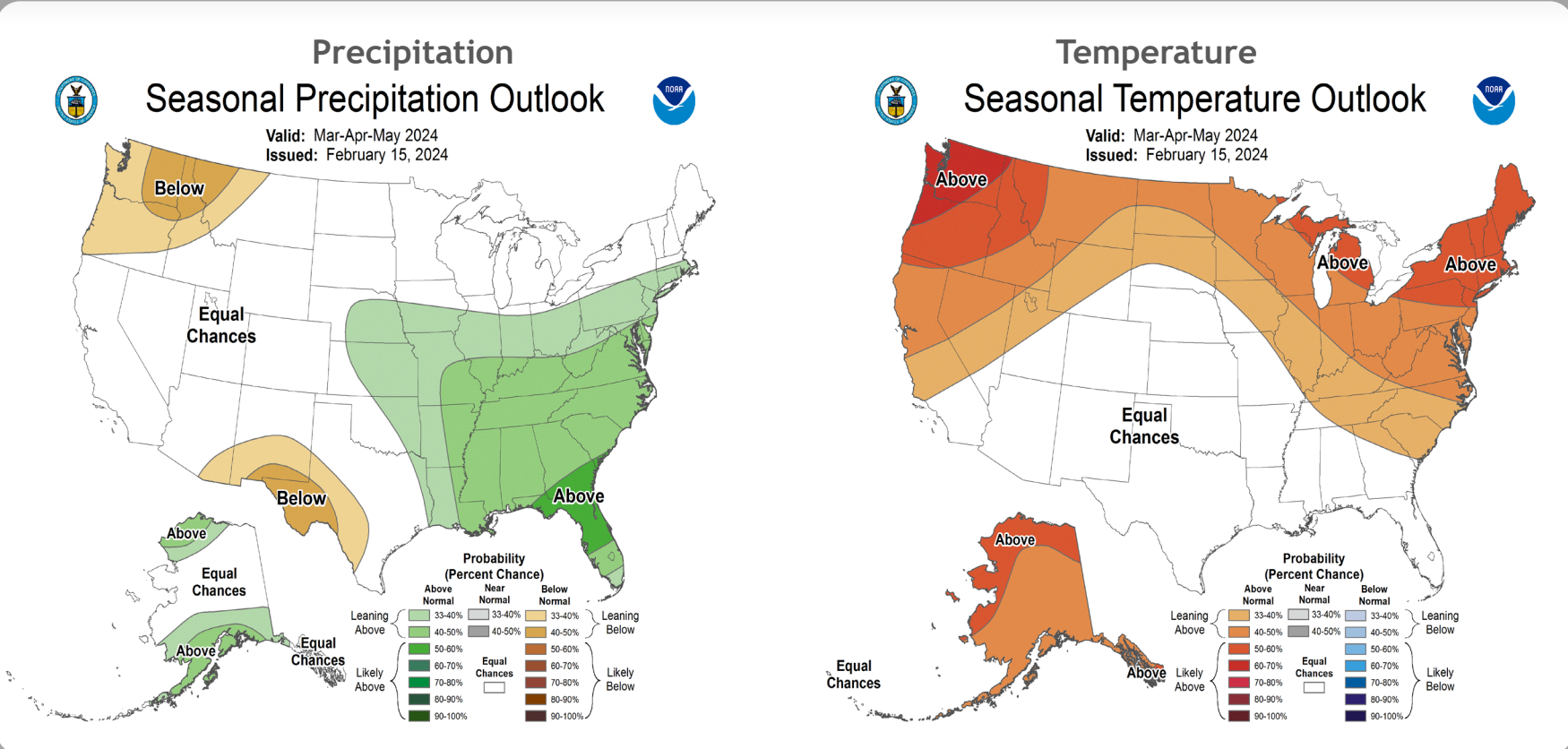
March 12, 2024

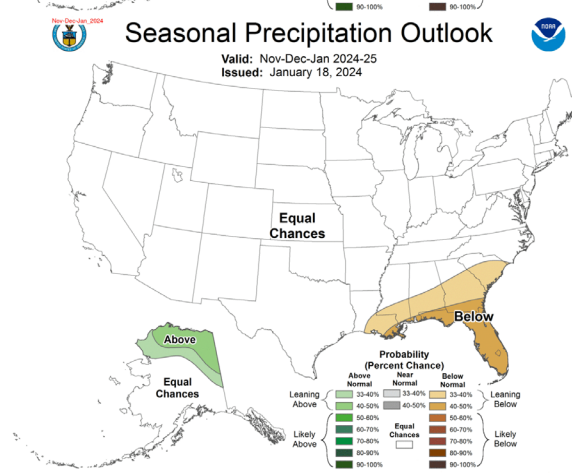
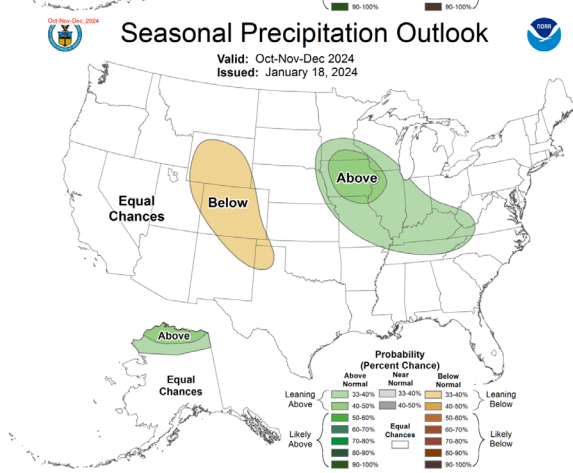
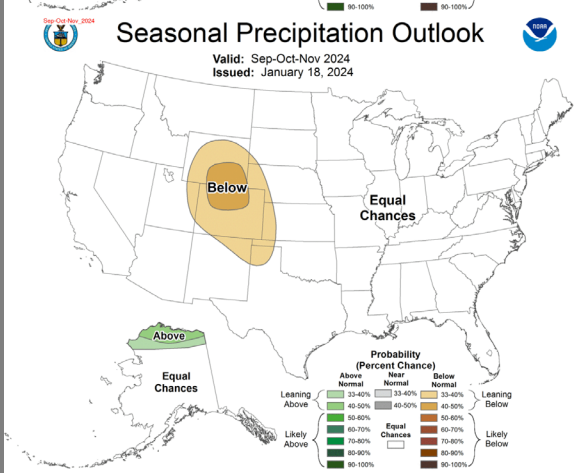
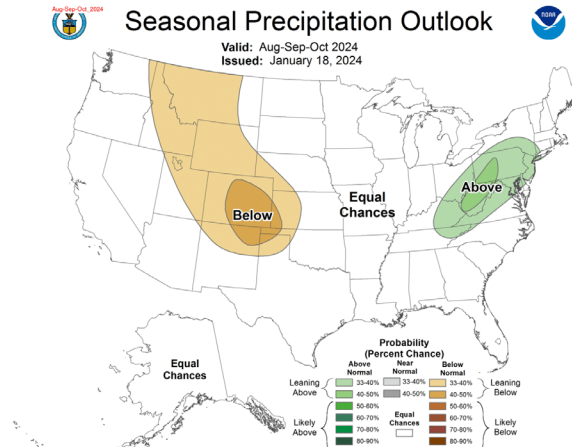
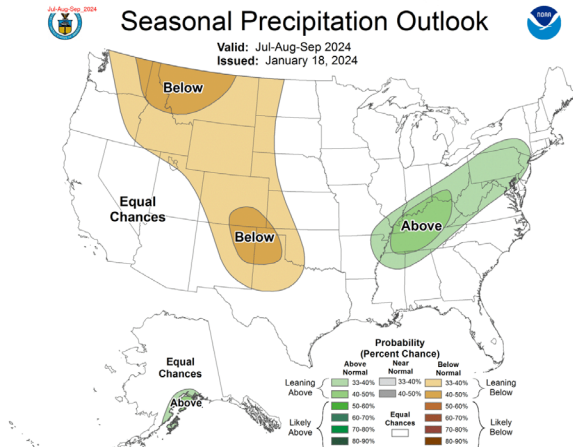
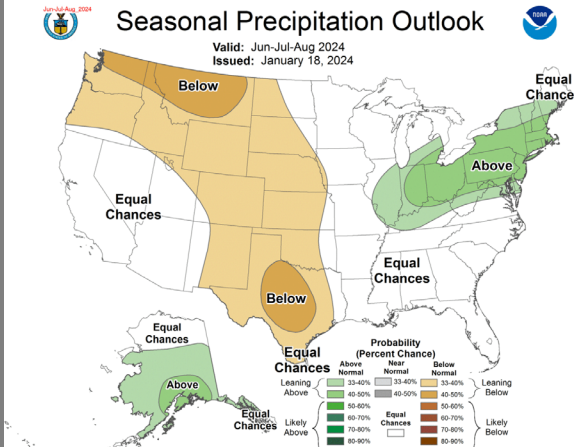
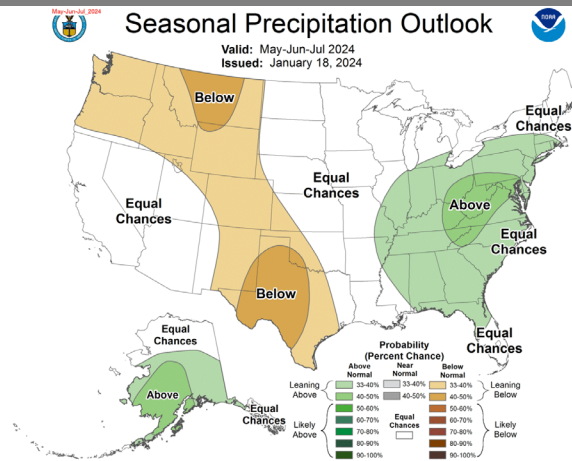
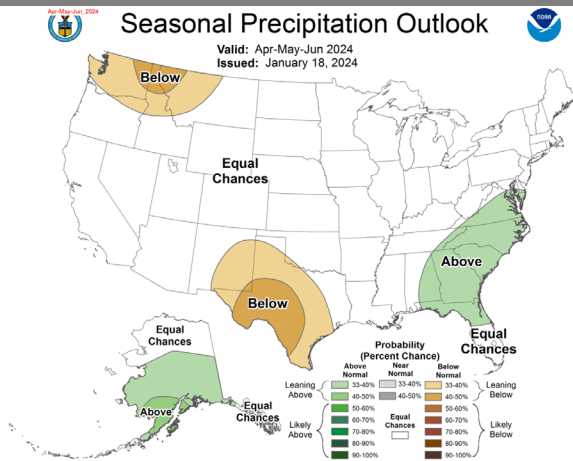
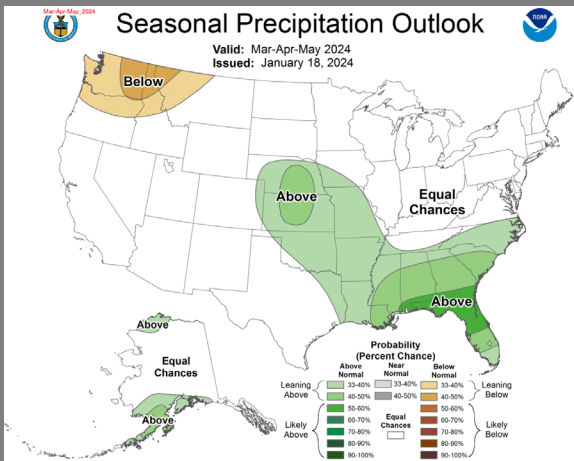
- The Climate Prediction Center (CPC) is forecasting above normal rainfall for March through May.
- El Niño conditions are observed. A transition from El Niño to ENSO-neutral is likely by April-June 2024 (79% chance), with increasing odds of La Niña developing in June-August 2024 (55% chance).
- Atlantic 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 2024

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





# Teleconnections to South Florida

Climate anomalies being related to each other at large distances:

## El Niño Southern Oscillation (ENSO)

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)

## Pacific Decadal Oscillation (PDO)

Increases variations in south Florida dry season rainfall, positive leads to more El Niño events, negative leads to more La Niña events

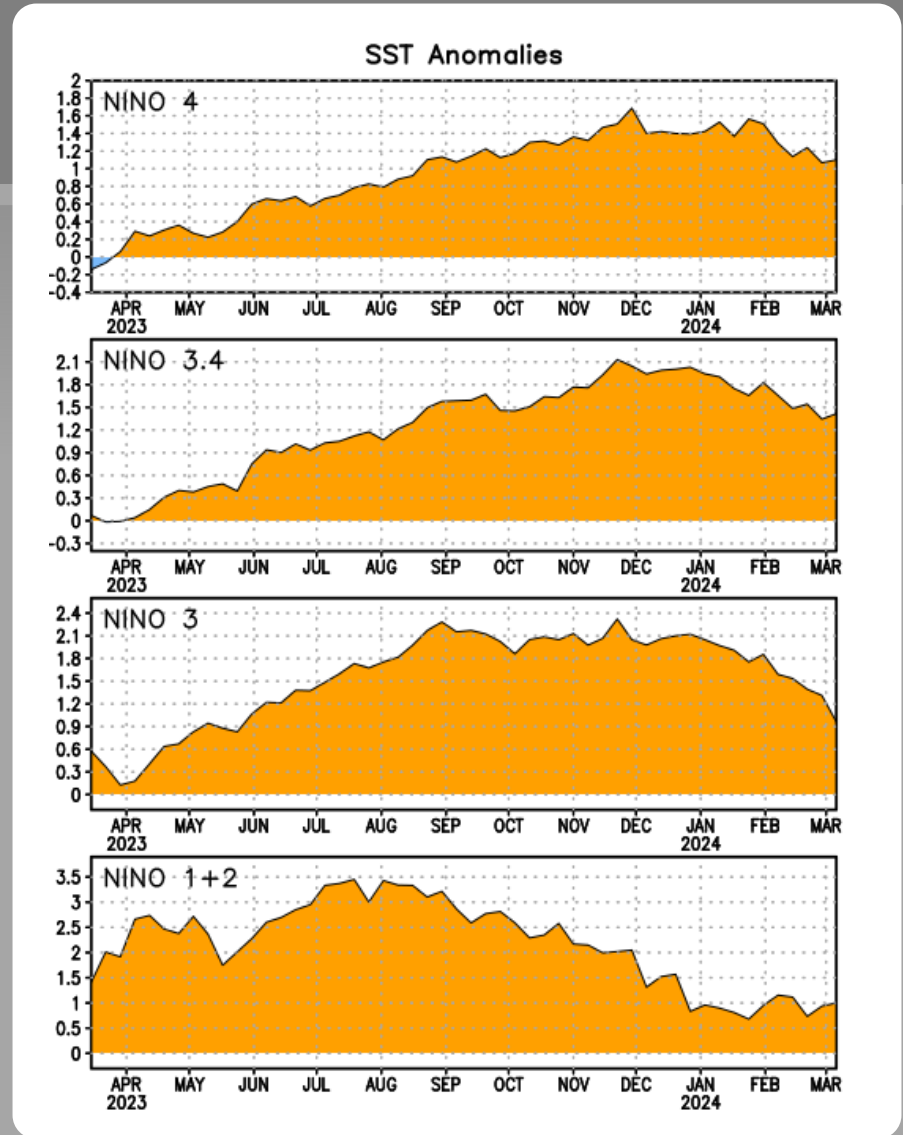
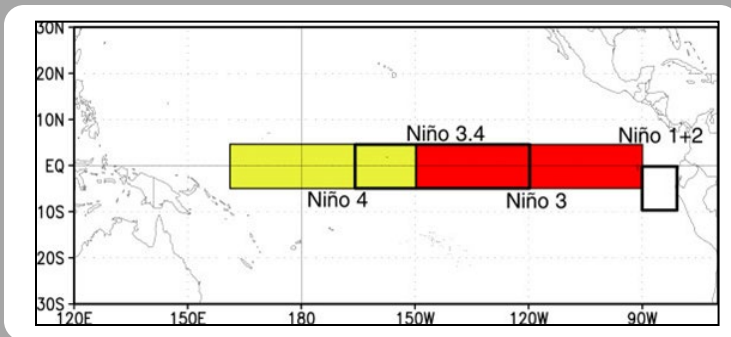
## Atlantic Multidecadal Oscillation (AMO)

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

# Niño Region SST Departures (°C) Recent Evolution

The latest weekly SST departures are:

Niño 4	1.1°C
Niño 3.4	1.4°C
Niño 3	1.0°C
Niño 1+2	1.0°C



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

# IRI Pacific Niño 3.4 SST Model Outlook

The majority of models indicate El Niño will persist through March-May 2024 and then transition to ENSO-neutral during April-June 2024.

After a brief period of ENSO-neutral conditions, most models indicate a transition to La Niña around June-August 2024.

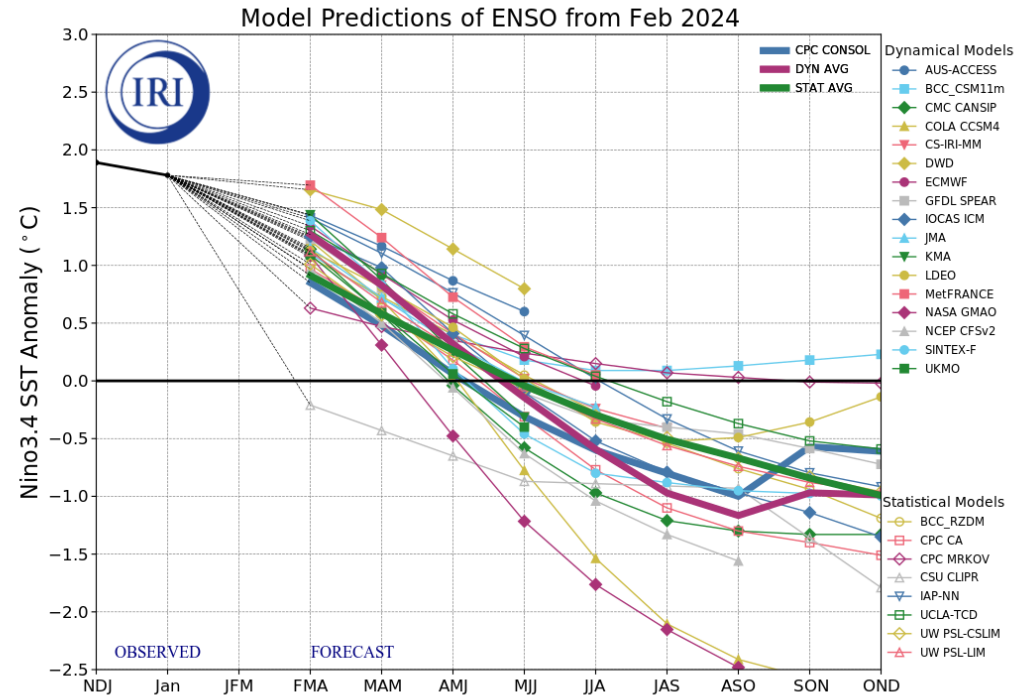
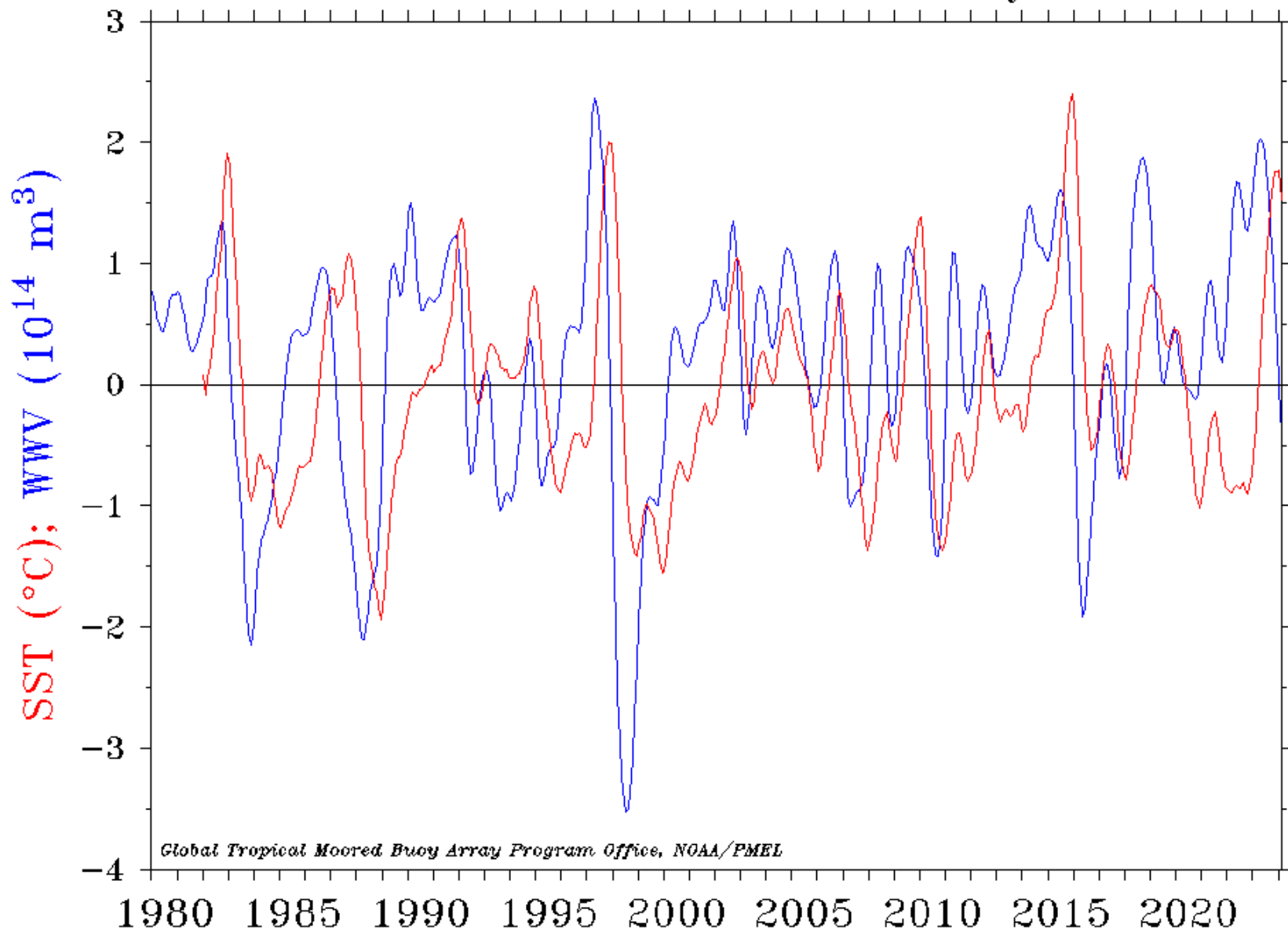
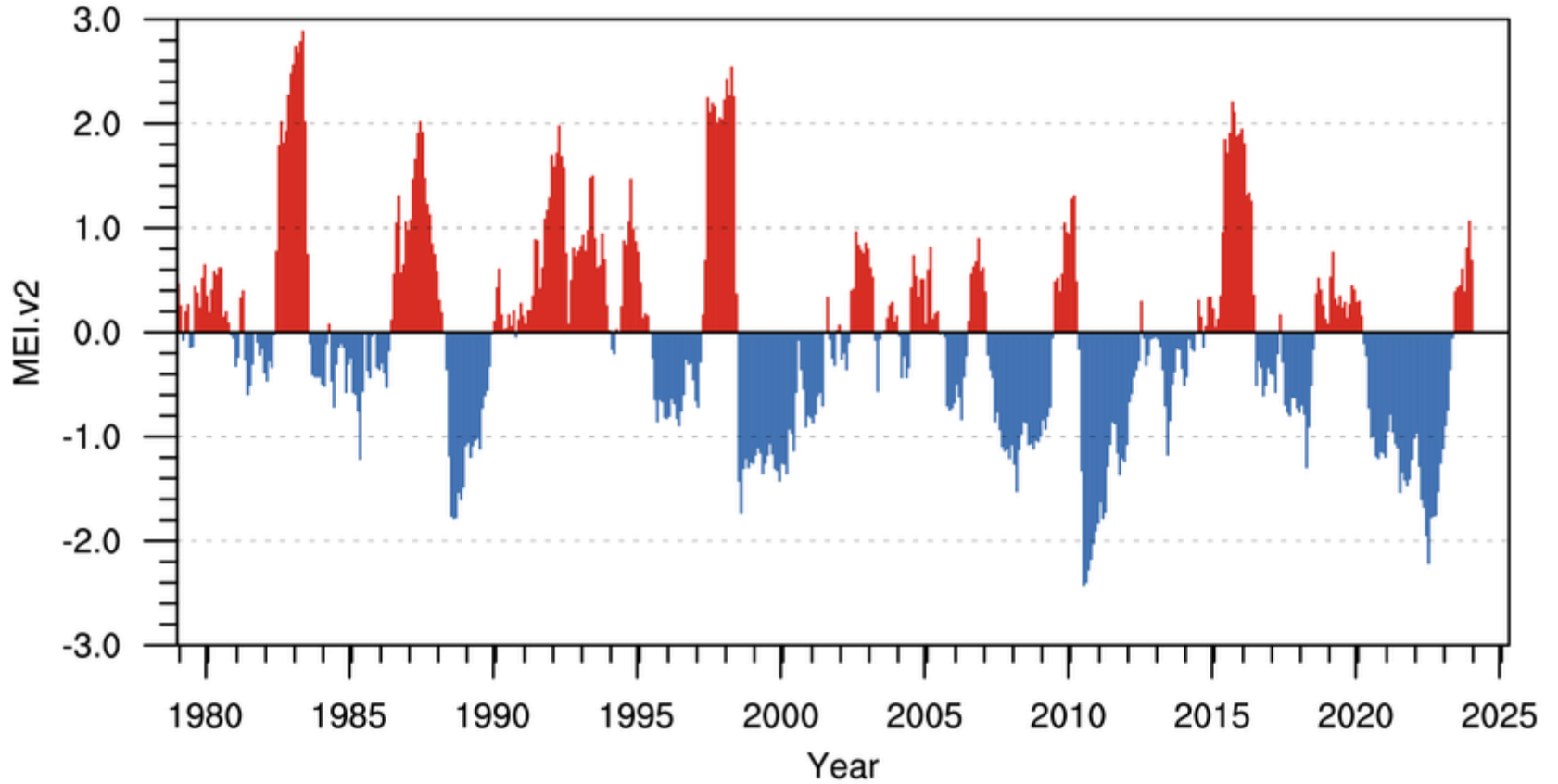


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 February 2024).

# Warm Water Volume (5°N–5°S, 120°E–80°W) and NINO 3.4 SST Anomaly

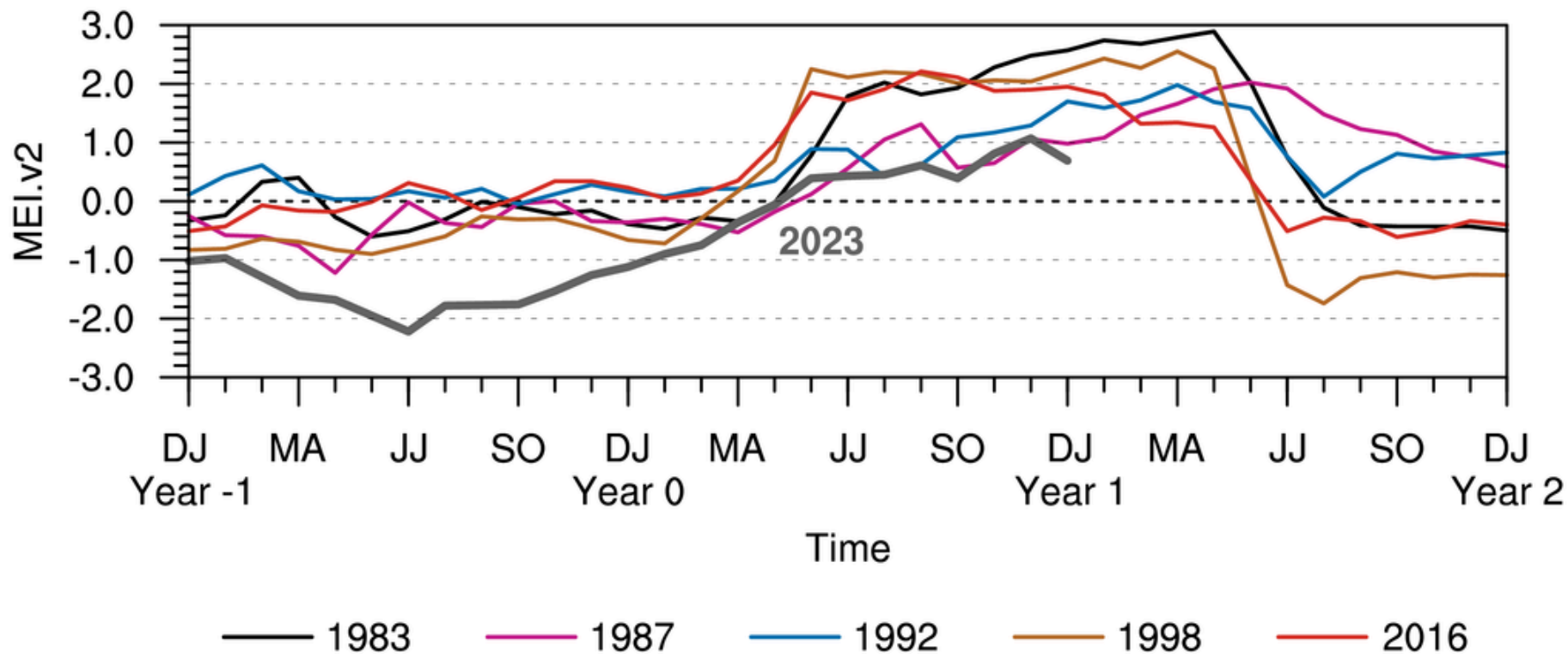


### Multivariate ENSO Index Version 2



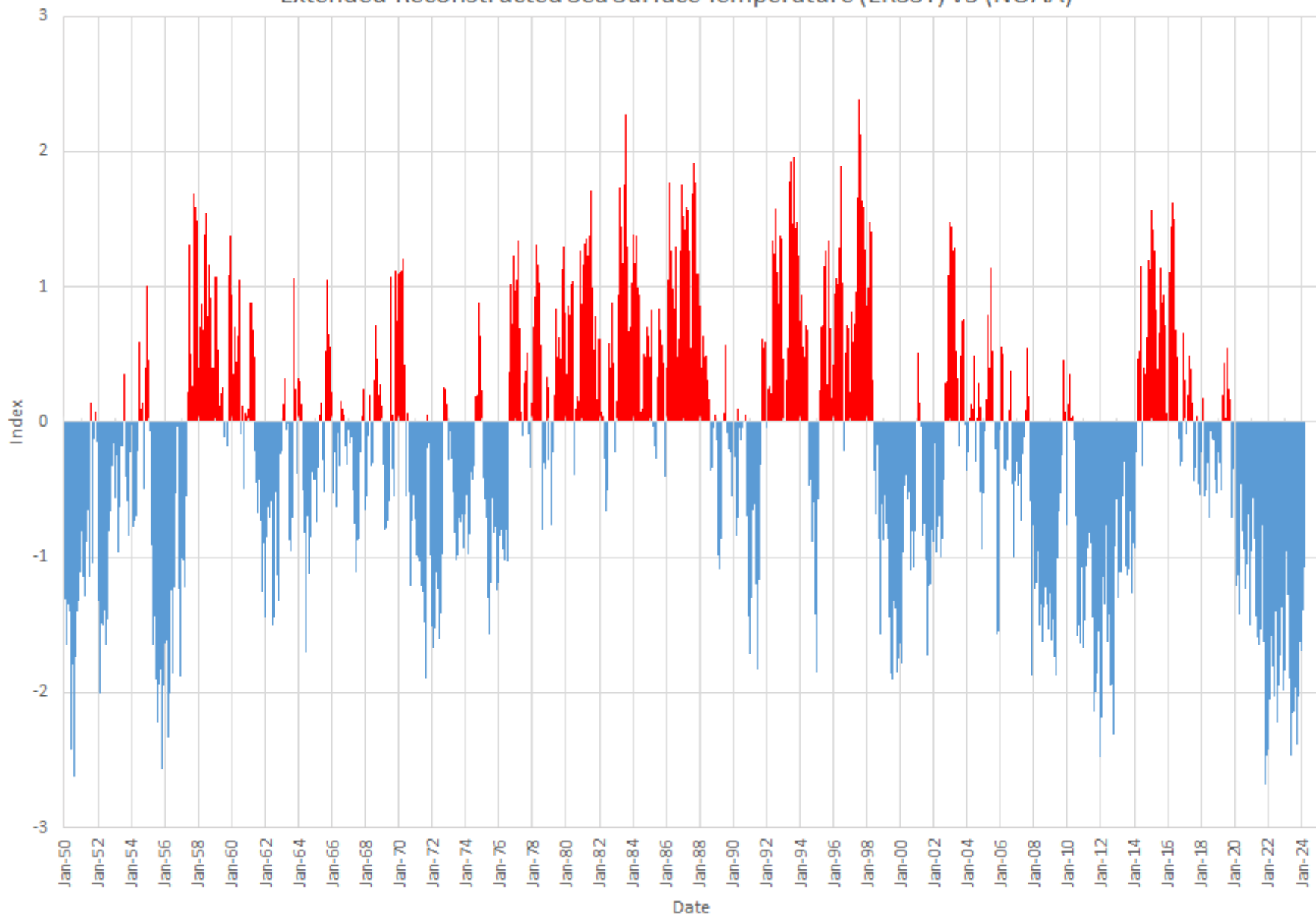


## MEI.v2 Evolution of Current ENSO Event in Historical Context

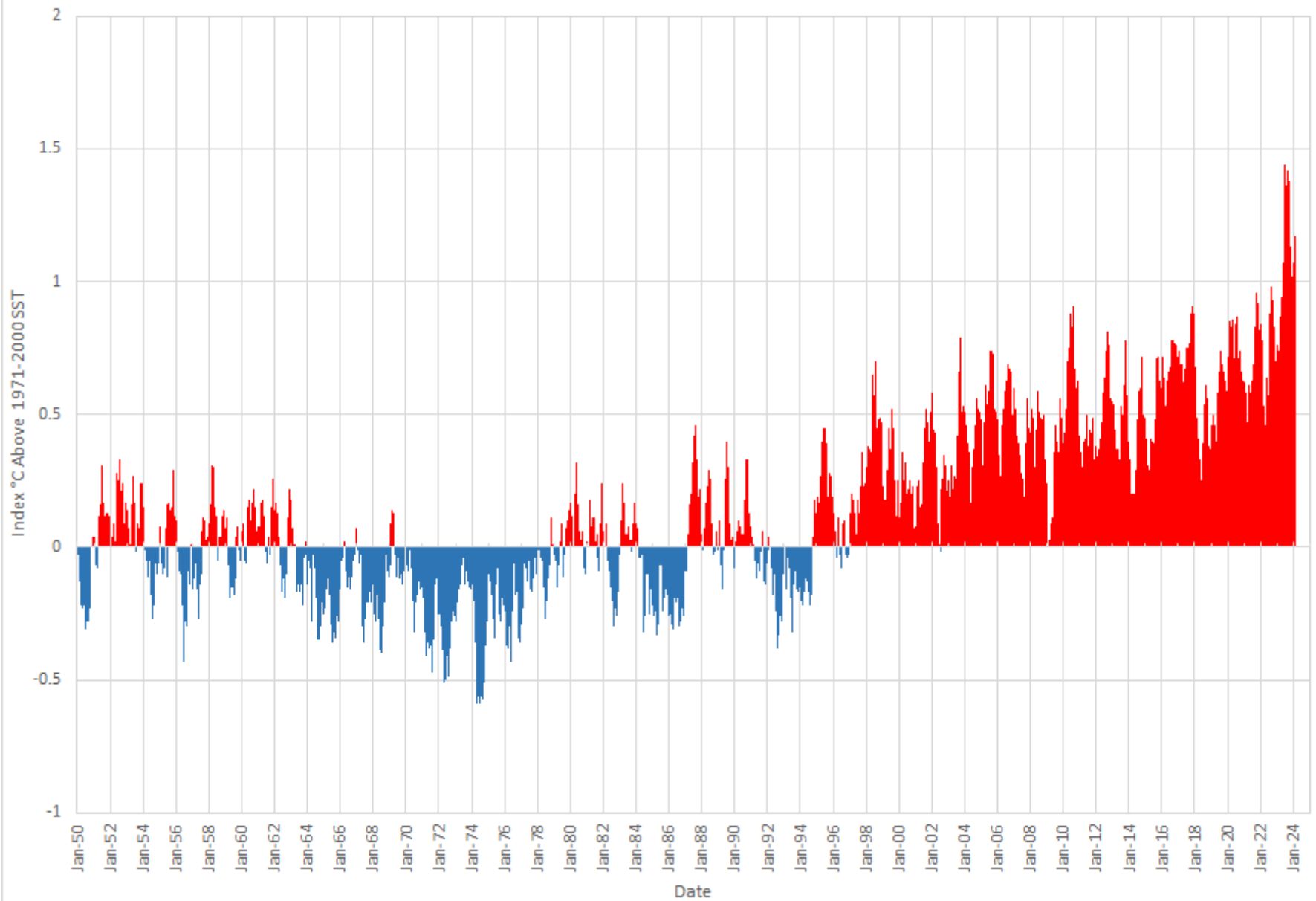


# Pacific Decadal Oscillation

## Extended Reconstructed Sea Surface Temperature (ERSST) v5 (NOAA)



# ERSST AMO (North Atlantic 0-60N SSTA) Index

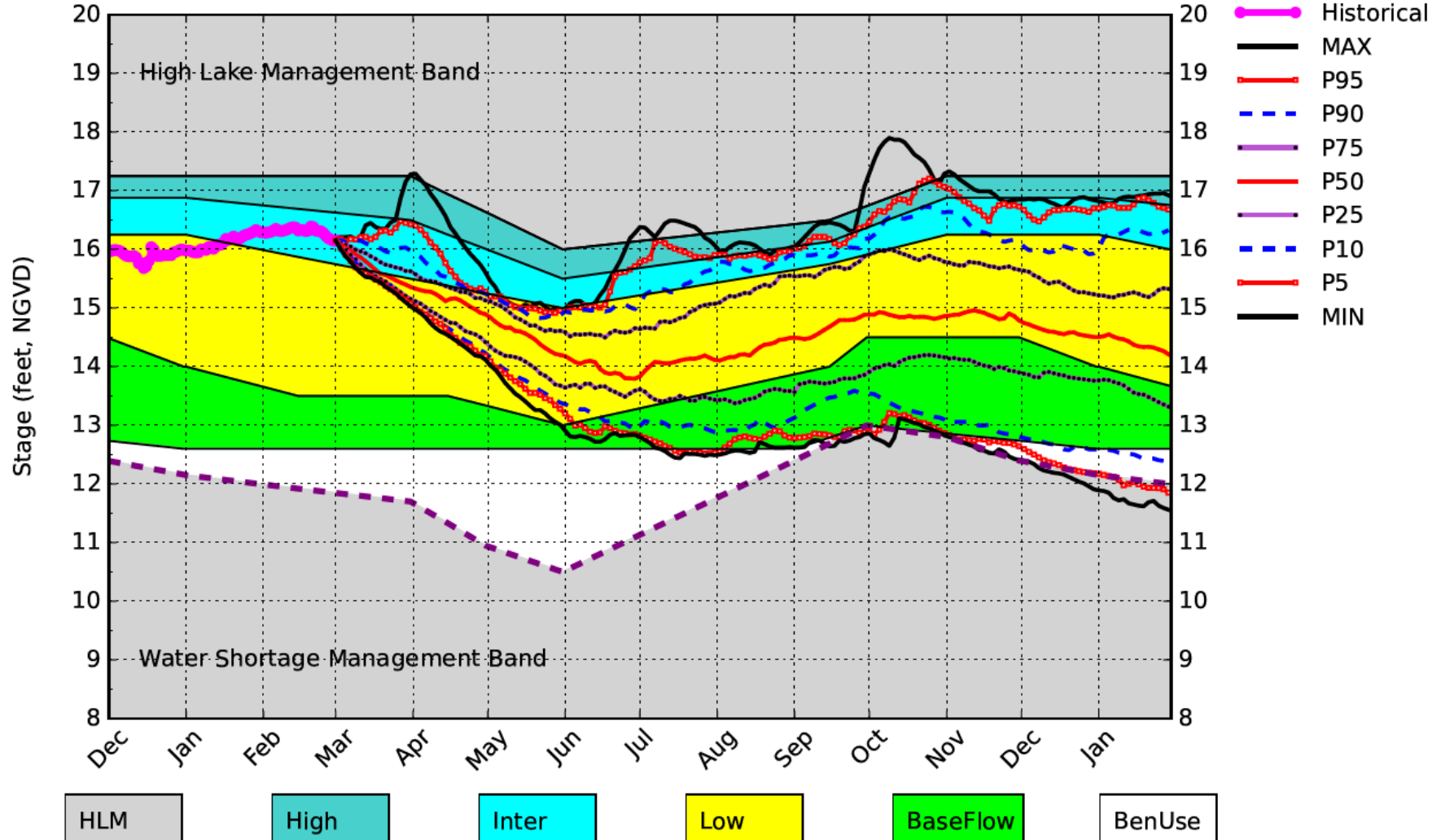


# March DPA Assumptions

- The March 1, 2024 Dynamic Position Analysis (DPA) simulation is based on historical climatic conditions spanning the period 1965-2005. This DPA posting is made with the South Florida Water Management Model (SFWMM) v6.7.4 (Tamiami Trail) which includes the following improvement(s):
  - Improvements to include the Combined Operational Plan (COP)
- The March 1, 2024 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on February 1<sup>st</sup> of each year of the DPA simulation and conditions the simulation to real time data during February to achieve real time stages on March 1<sup>st</sup> for LOK and WCAs.
- The Lake Okeechobee operations follow the Lake Okeechobee Regulation Schedule (LORS2008). Modeling assumptions are consistent with modeling performed for LORS2008 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.
- **Full LORS 2008 releases are modeled as specified in the regulation schedule.**

# Lake Okeechobee SFWMM March 2024 Position Analysis

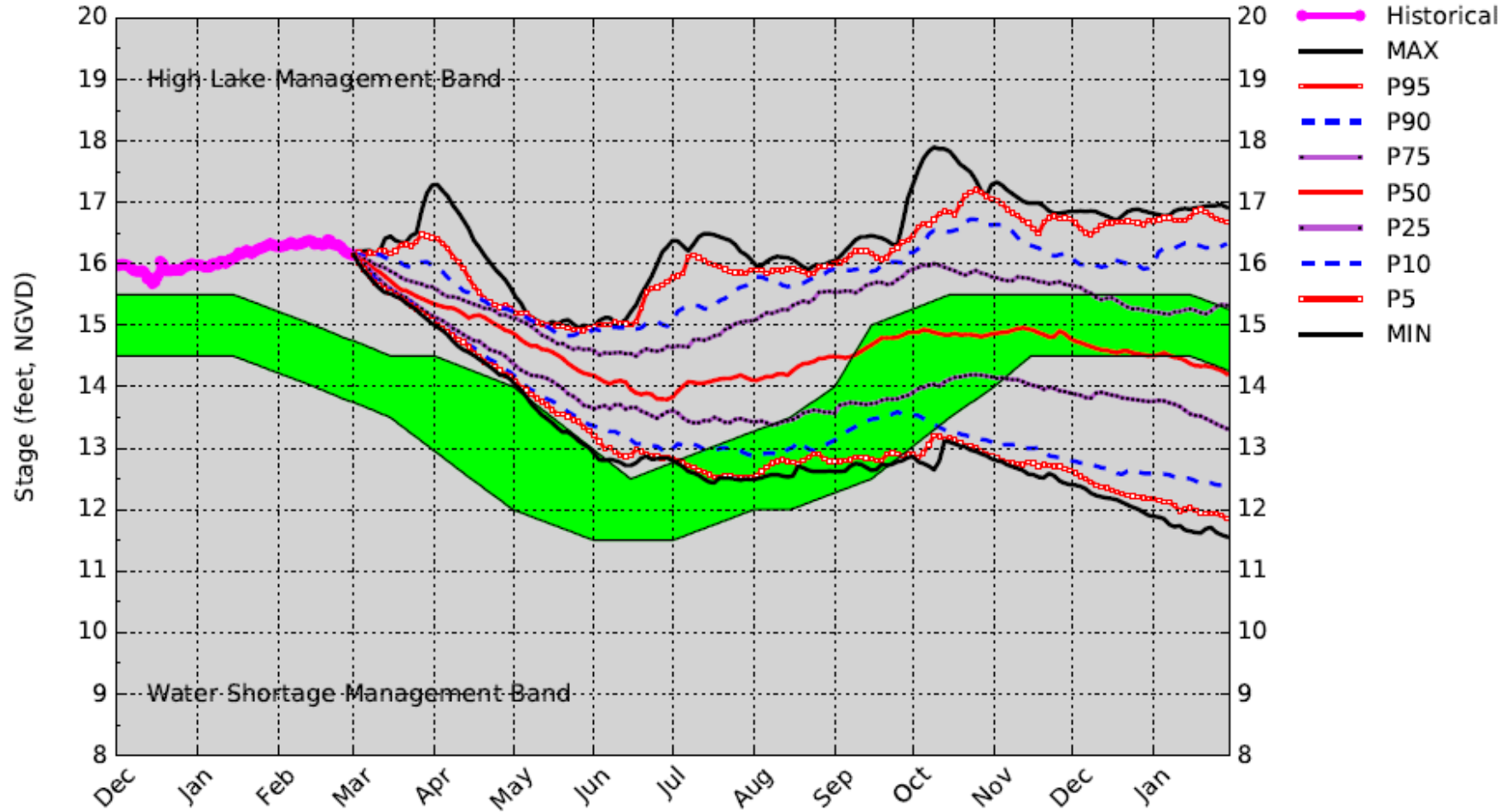
Percentiles PA



(See assumptions on the Position Analysis Results website)

# Lake Okeechobee SFWMM March 2024 Position Analysis

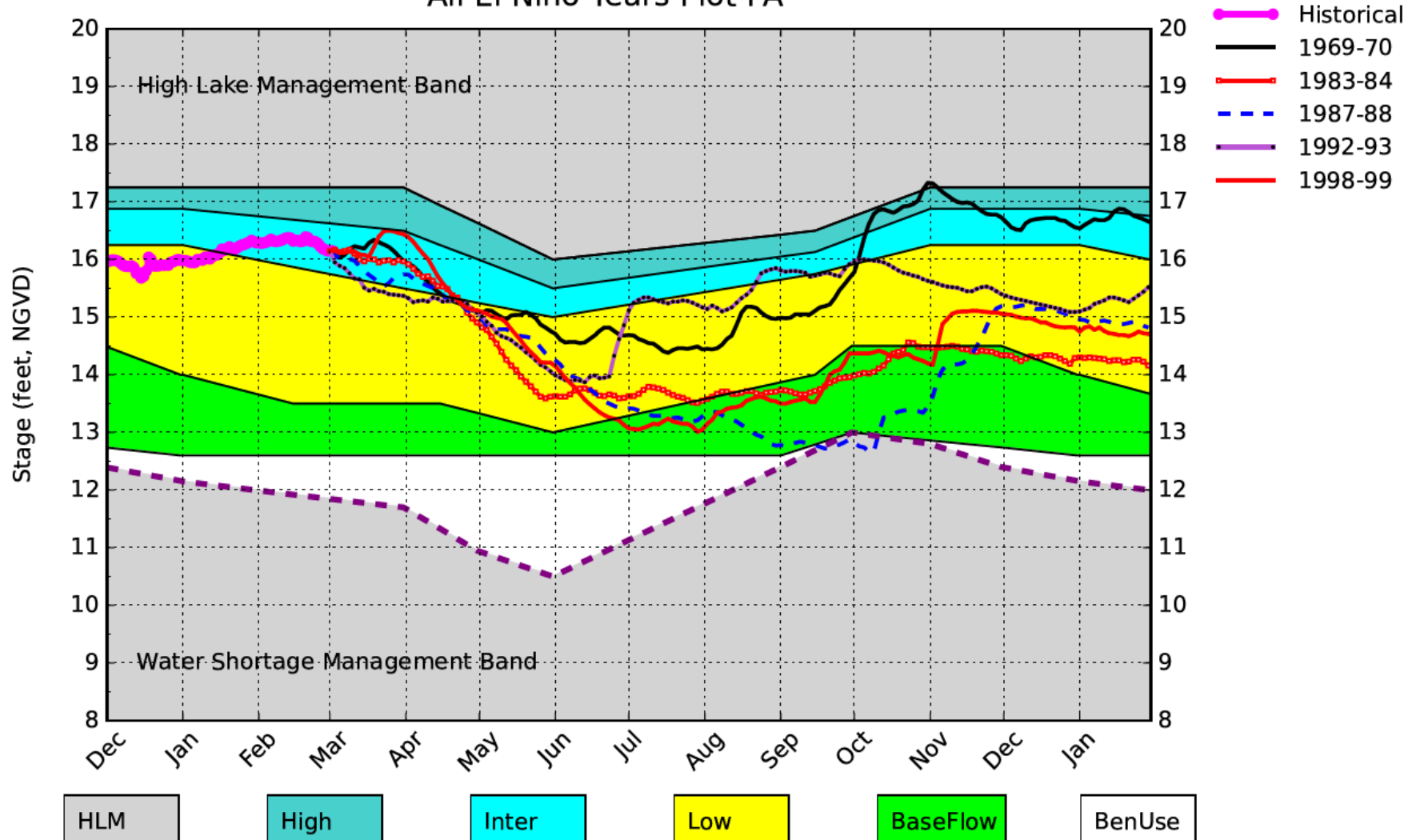
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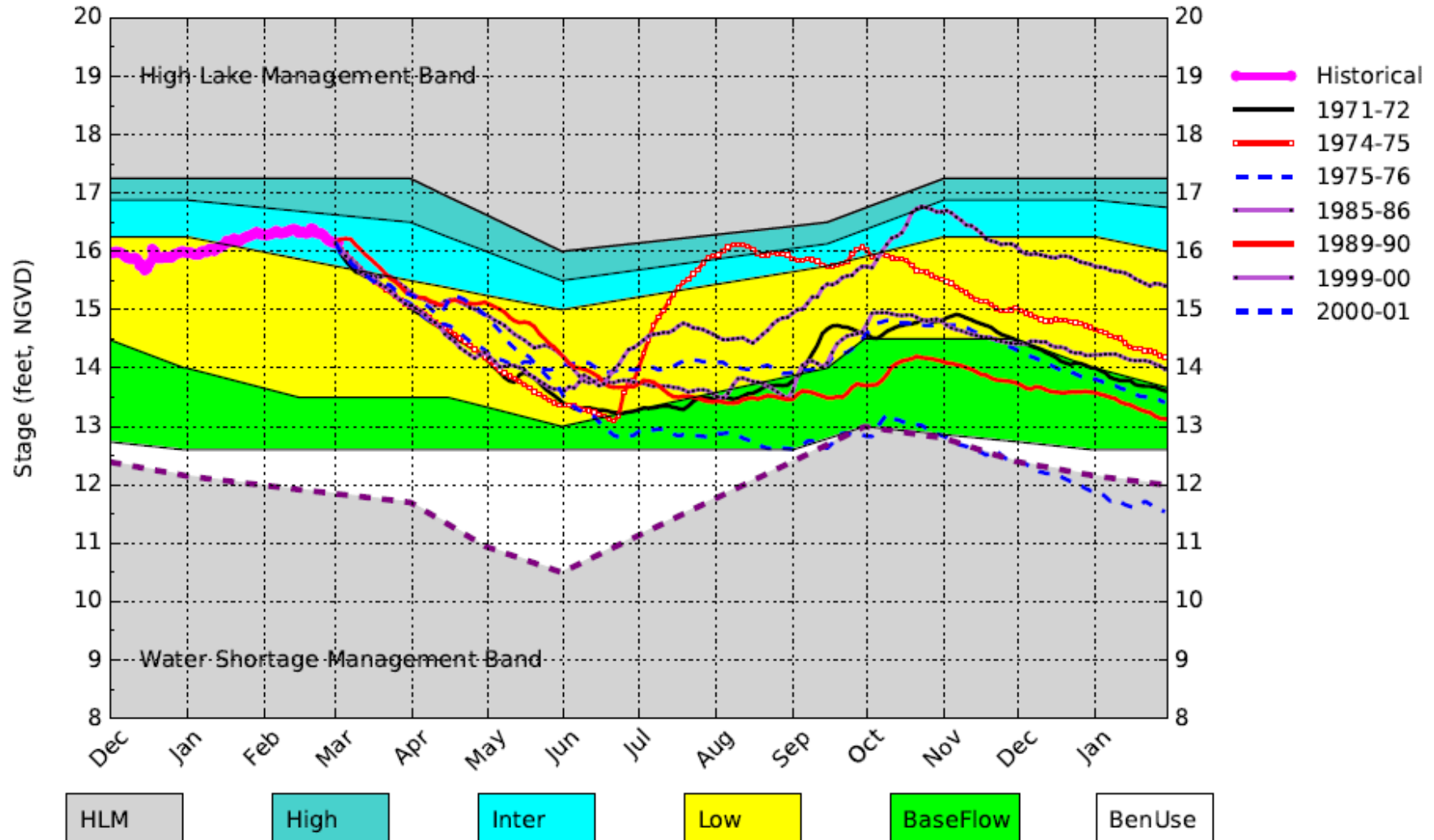
All El Nino Years Plot PA



(See assumptions on the Position Analysis Results website)

# Lake Okeechobee SFWMM March 2024 Position Analysis

All La Nina Years Plot PA

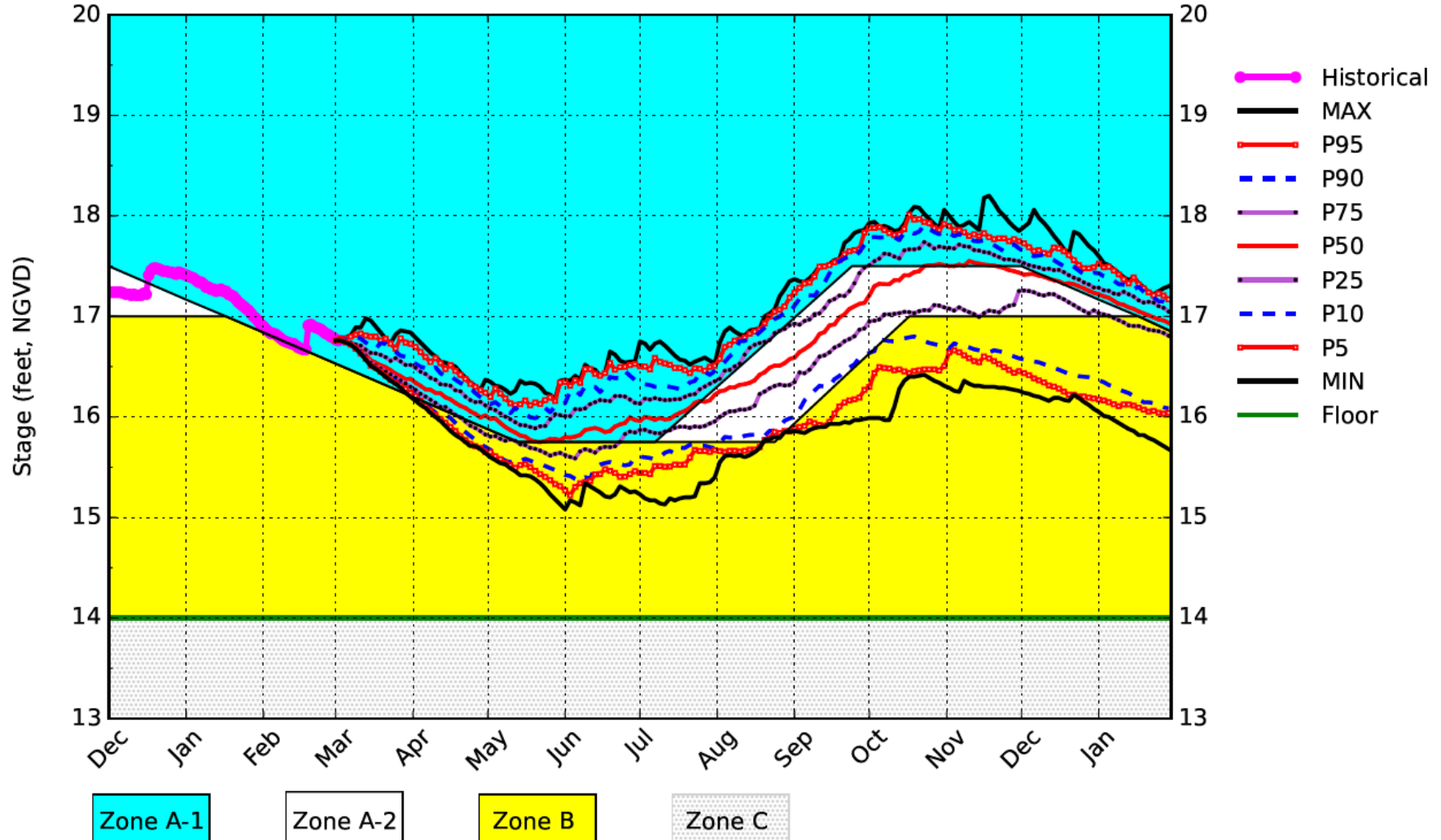


(See assumptions on the Position Analysis Results website)



# WCA1 SFWMM March 2024 Position Analysis

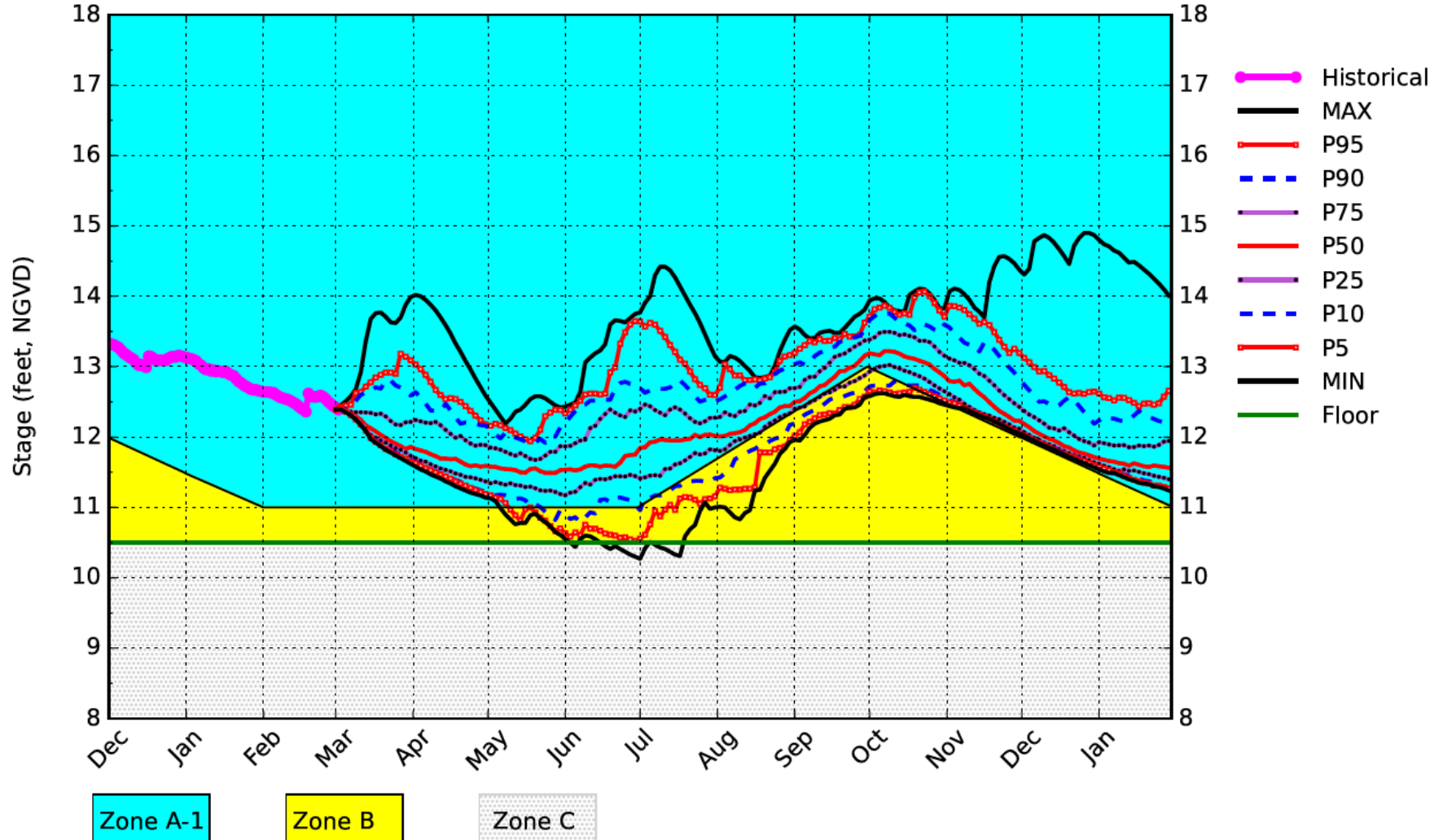
## Percentiles PA



(See assumptions on the Position Analysis Results website)

# WCA2A SFWMM March 2024 Position Analysis

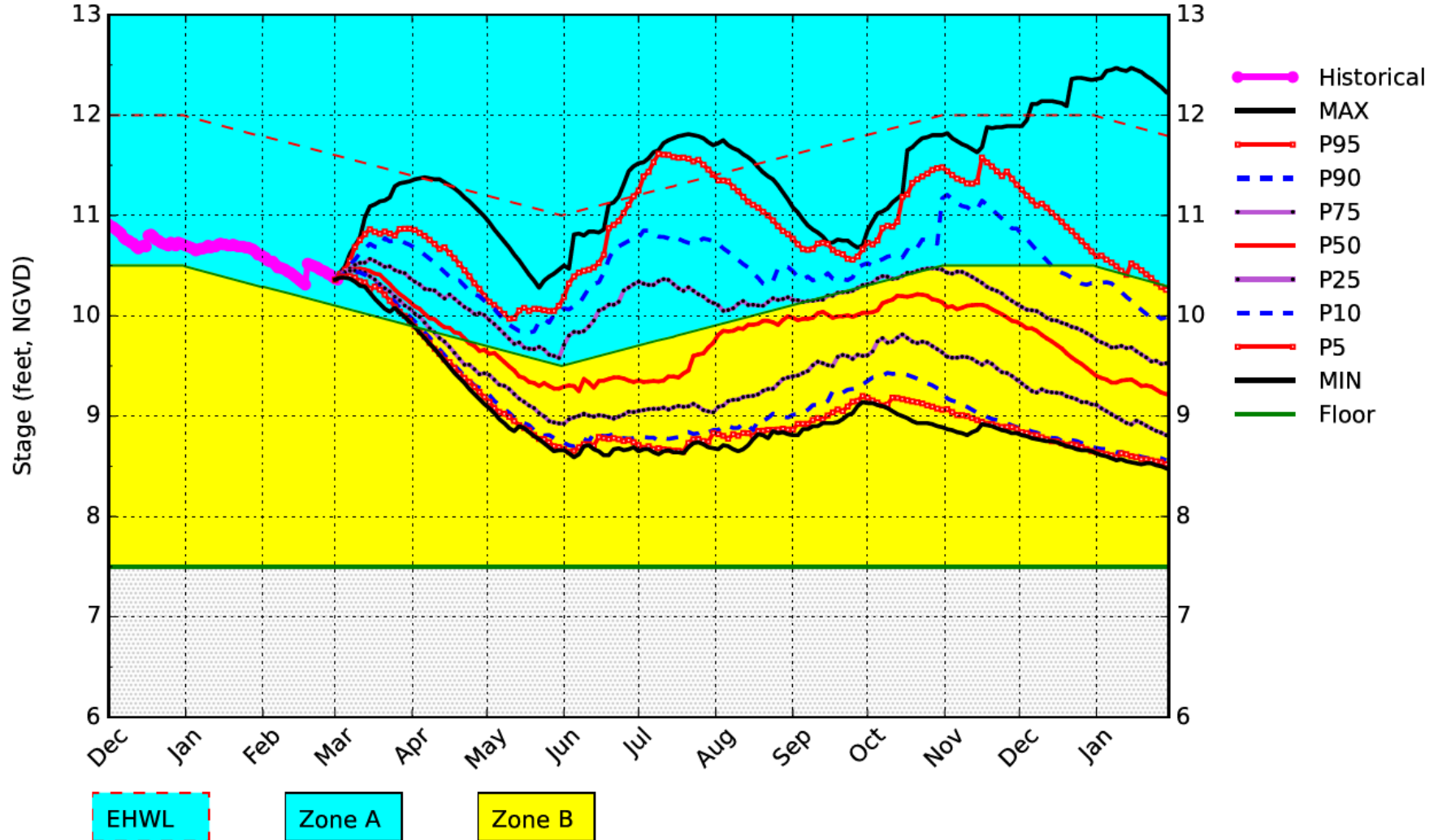
## Percentiles PA



(See assumptions on the Position Analysis Results website)

# WCA3A SFWMM March 2024 Position Analysis

## Percentiles PA



(See assumptions on the Position Analysis Results website)