

Extended Hydrologic Outlook

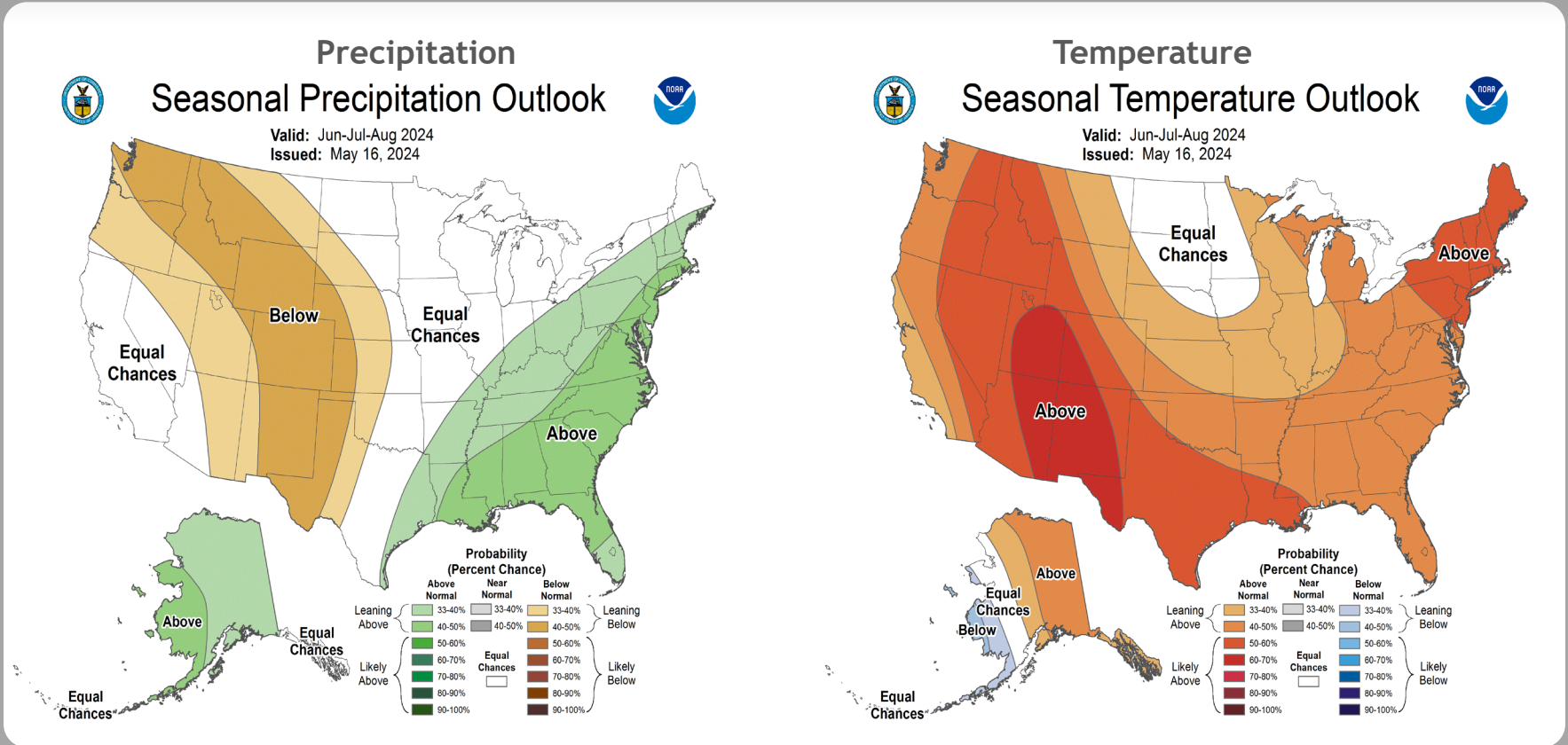
June 13, 2024

- The Climate Prediction Center (CPC) is forecasting above normal rainfall for June through August.
- ENSO-neutral conditions are present. La Niña is favored to develop during July-September (65% chance) and persist into winter 2024-25 (85% chance during November-January).
- 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

June - August 2024

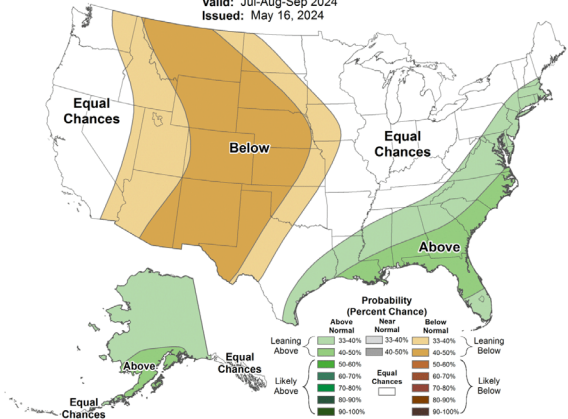
The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.





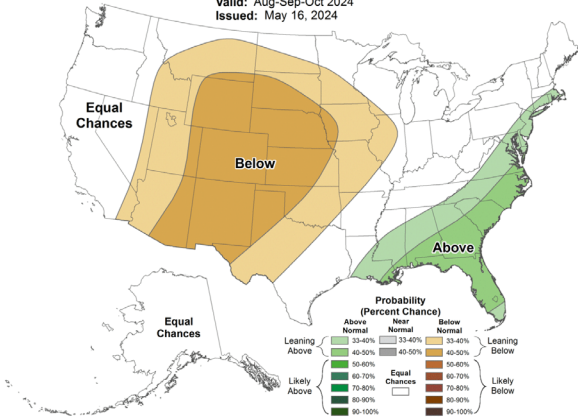
Seasonal Precipitation Outlook

Valid: Jul-Aug-Sep 2024
Issued: May 16, 2024



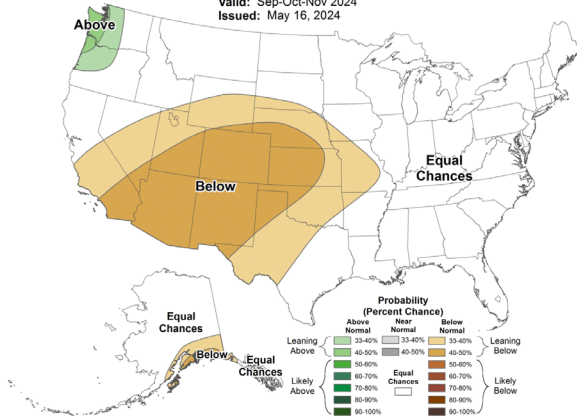
Seasonal Precipitation Outlook

Valid: Aug-Sep-Oct 2024
Issued: May 16, 2024



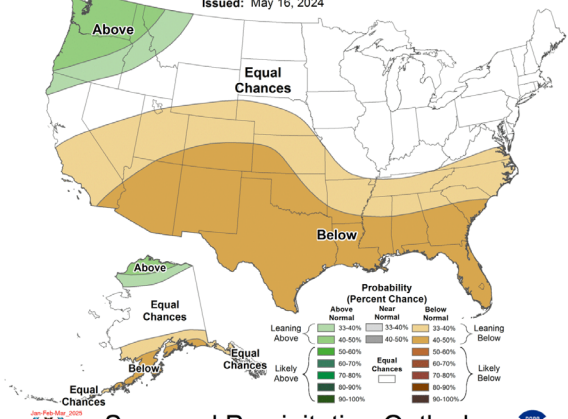
Seasonal Precipitation Outlook

Valid: Sep-Oct-Nov 2024
Issued: May 16, 2024



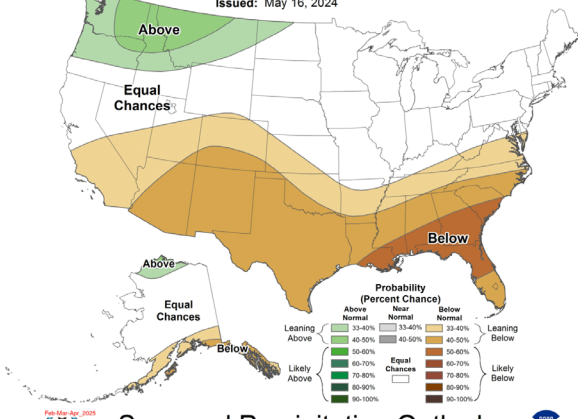
Seasonal Precipitation Outlook

Valid: Oct-Nov-Dec 2024
Issued: May 16, 2024



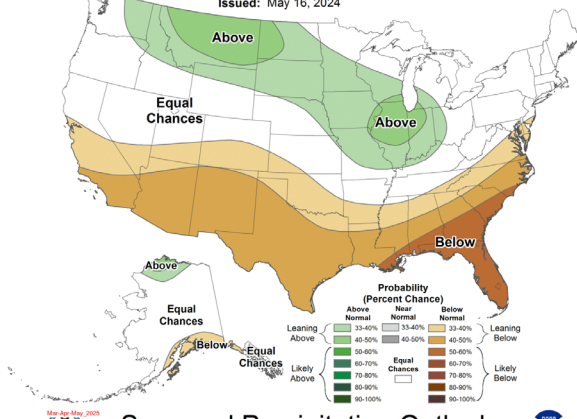
Seasonal Precipitation Outlook

Valid: Nov-Dec-Jan 2024-25
Issued: May 16, 2024



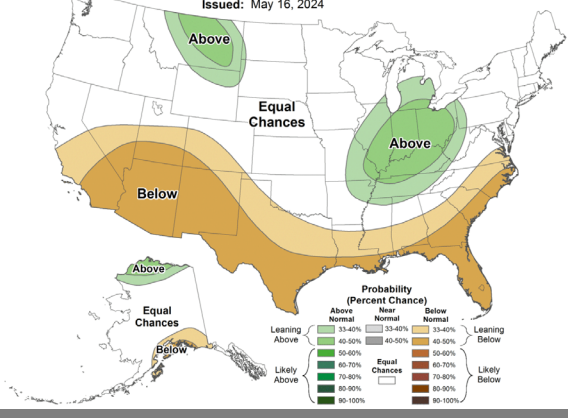
Seasonal Precipitation Outlook

Valid: Dec-Jan-Feb 2024-25
Issued: May 16, 2024



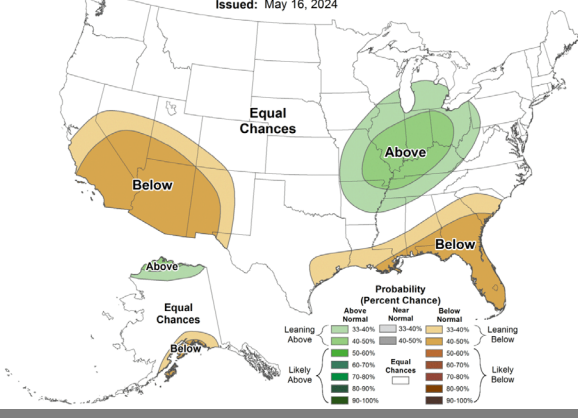
Seasonal Precipitation Outlook

Valid: Jan-Feb-Mar 2025
Issued: May 16, 2024



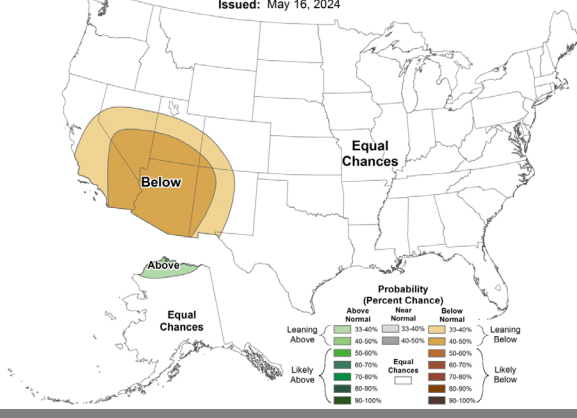
Seasonal Precipitation Outlook

Valid: Feb-Mar-Apr 2025
Issued: May 16, 2024



Seasonal Precipitation Outlook

Valid: Mar-Apr-May 2025
Issued: May 16, 2024



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

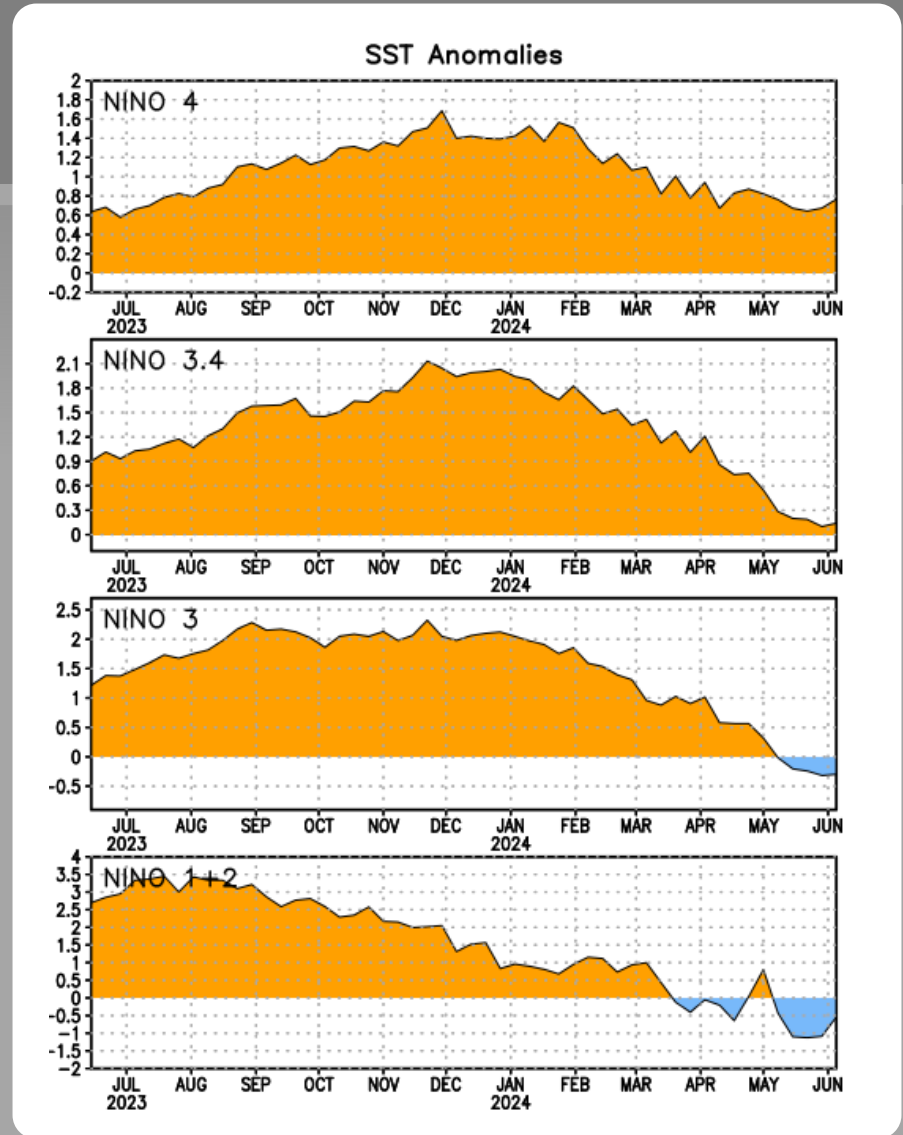
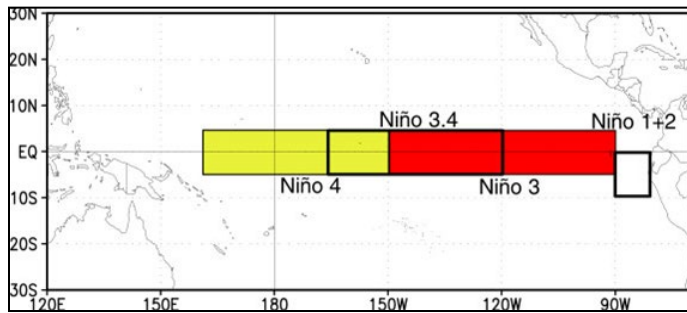
Atlantic Multidecadal Oscillation (AMO)

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	0.8°C
Niño 3.4	0.1°C
Niño 3	-0.3°C
Niño 1+2	-0.5°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 ENSO-neutral will persist through July-September 2024. Thereafter, most models indicate a transition to La Niña around August-October 2024.

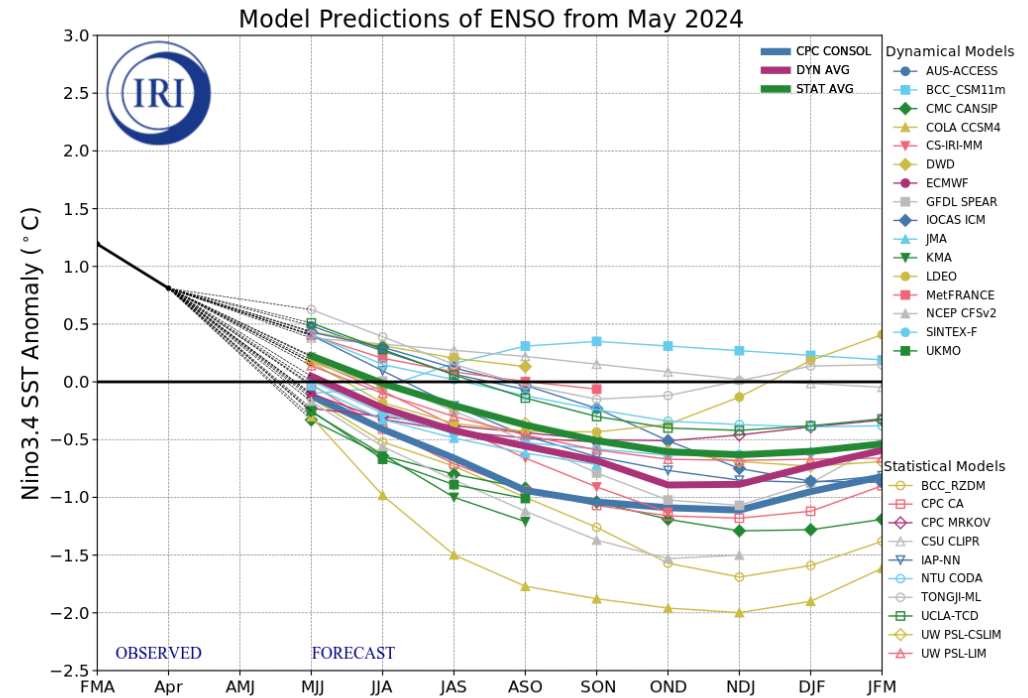
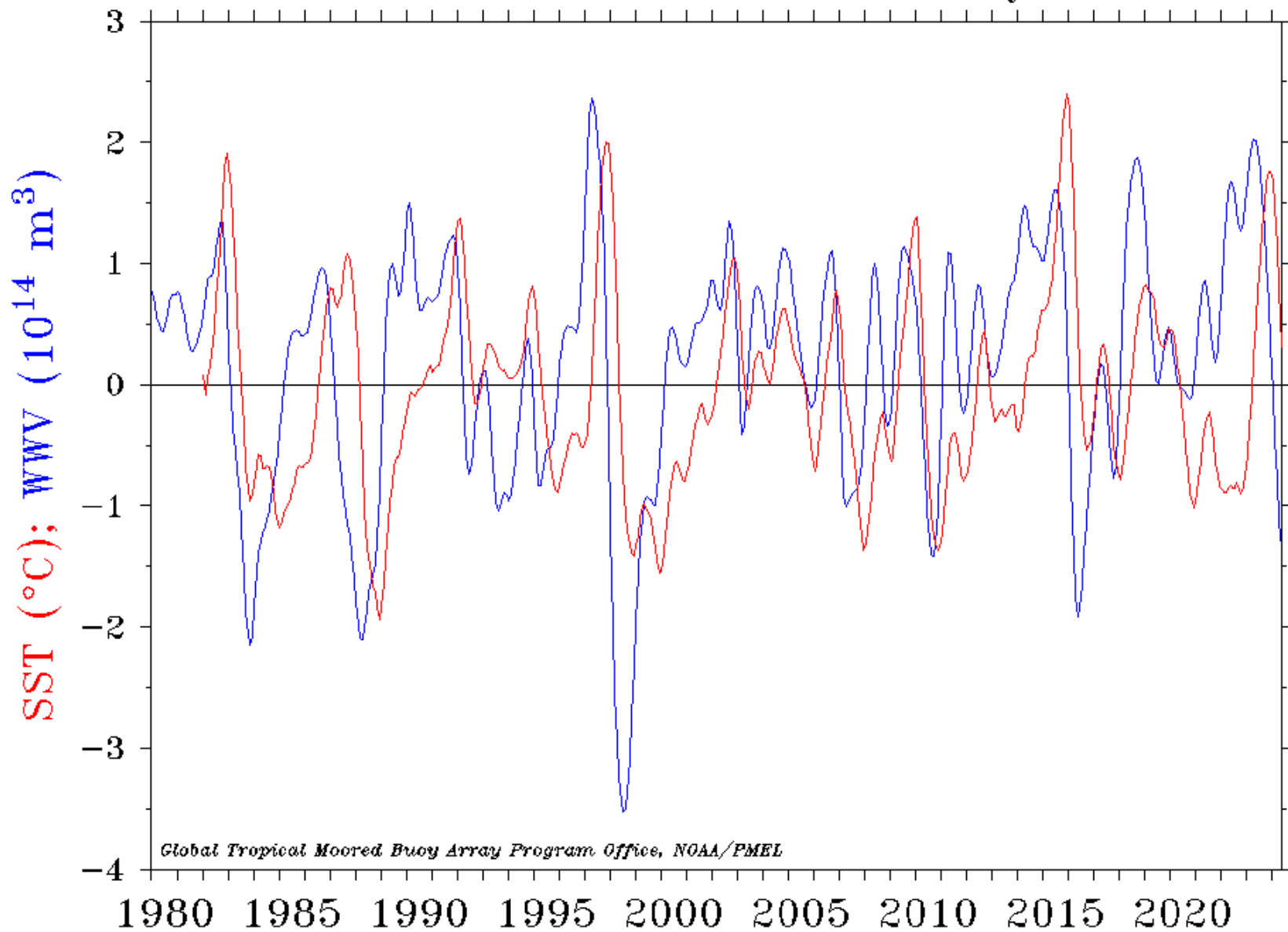
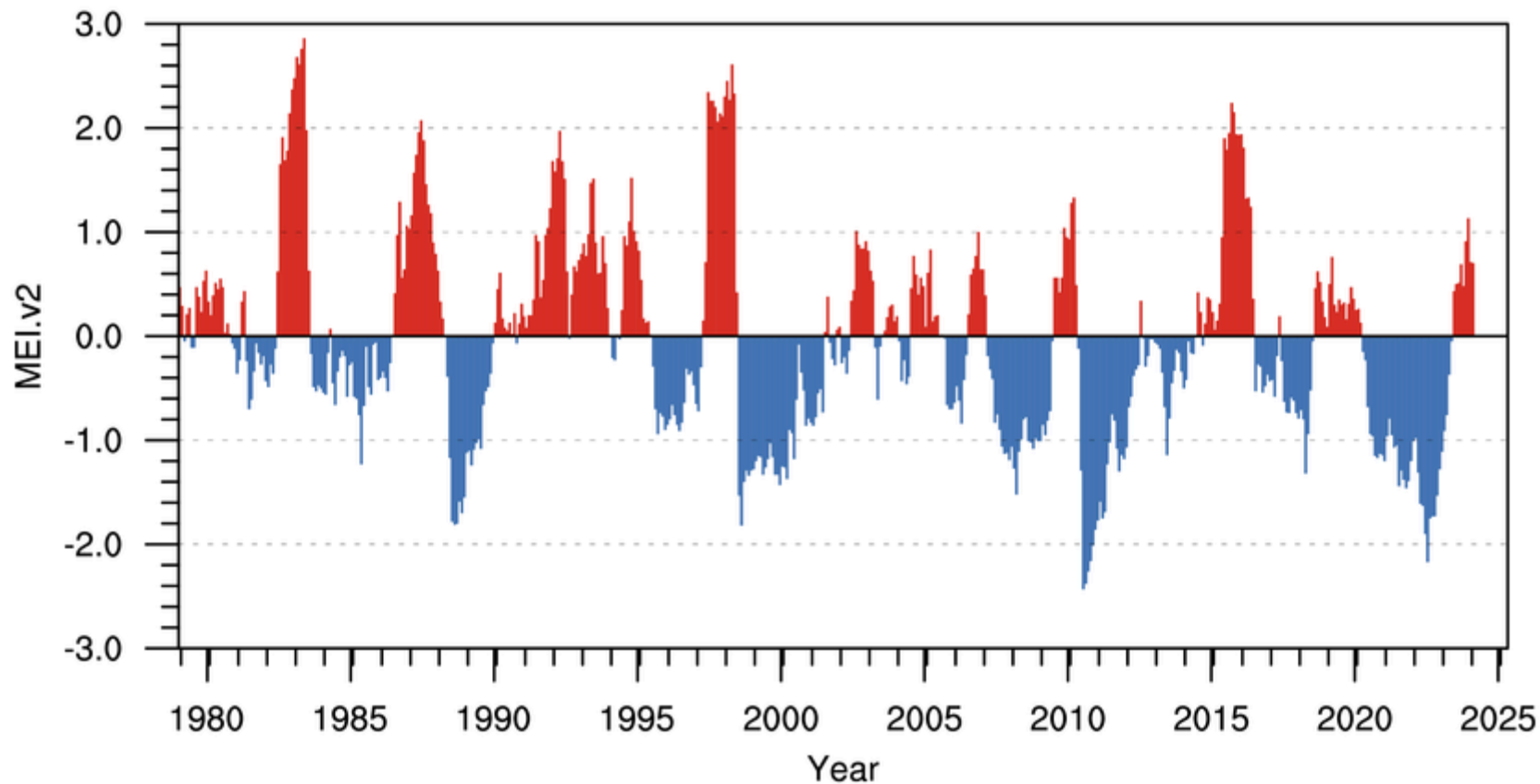


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 20 May 2024).

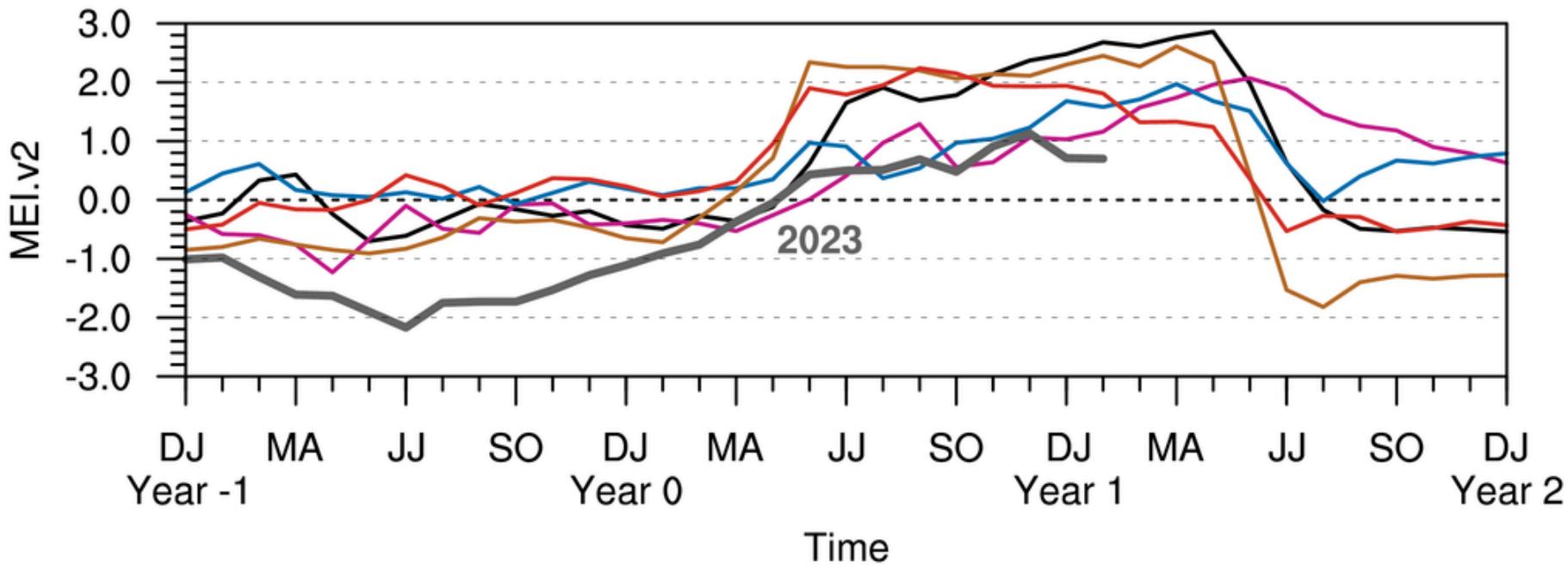
Warm Water Volume (5°N–5°S, 120°E–80°W) and NINO 3.4 SST Anomaly



Multivariate ENSO Index Version 2 using JRA3Q



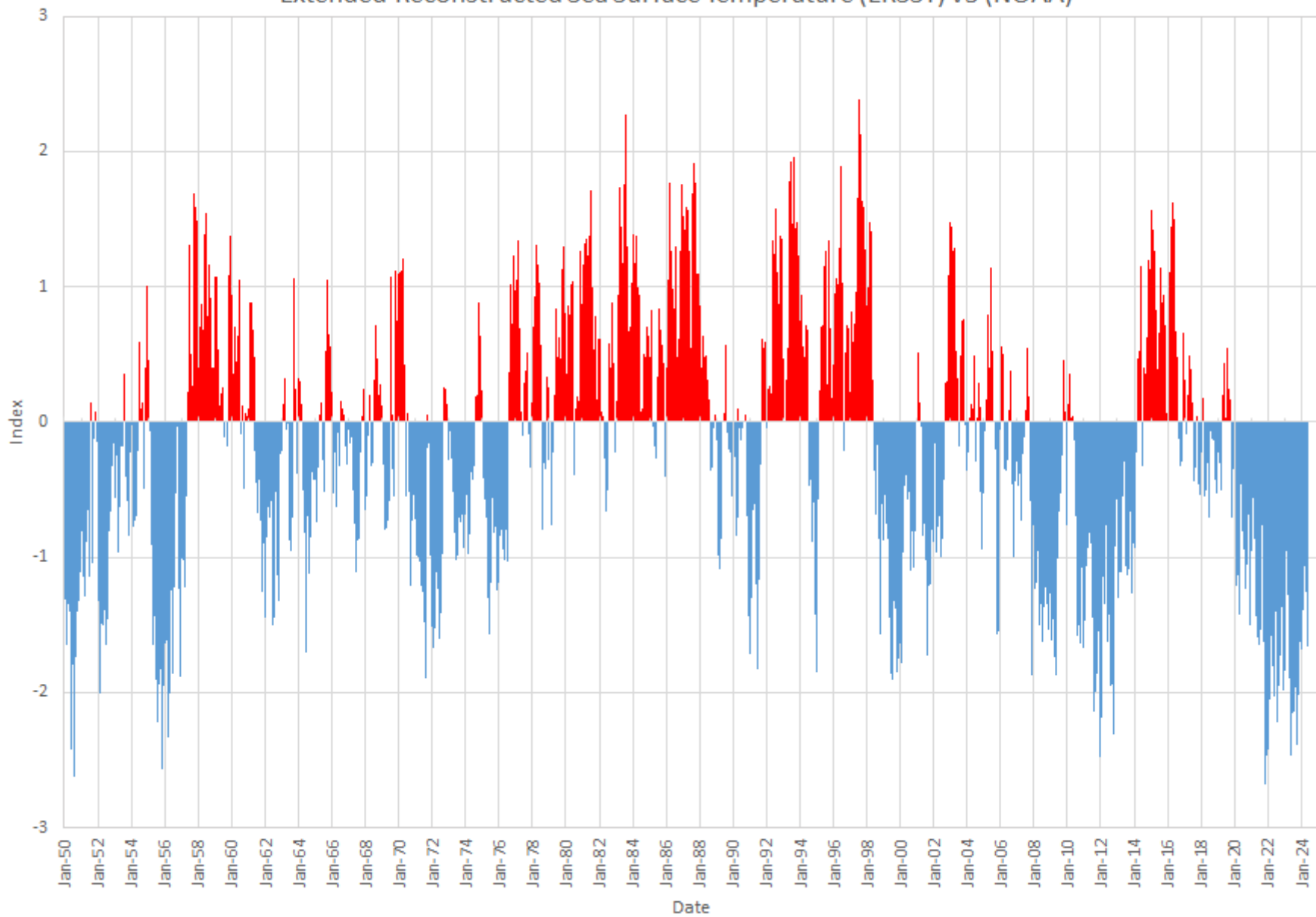
MEI.v2 Evolution of Current ENSO Event in Historical Context



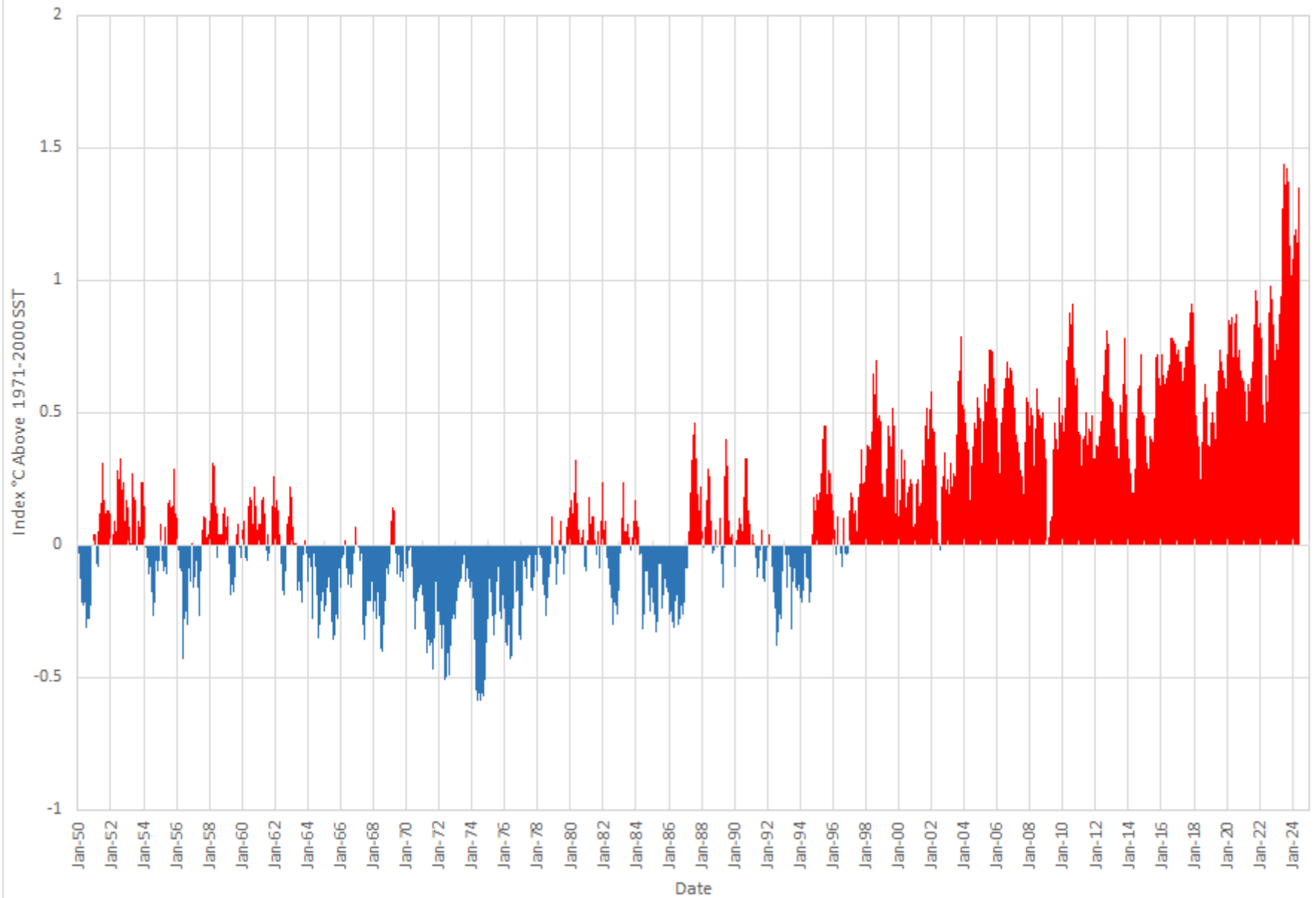
— 1983 — 1987 — 1992 — 1998 — 2016

Pacific Decadal Oscillation

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



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

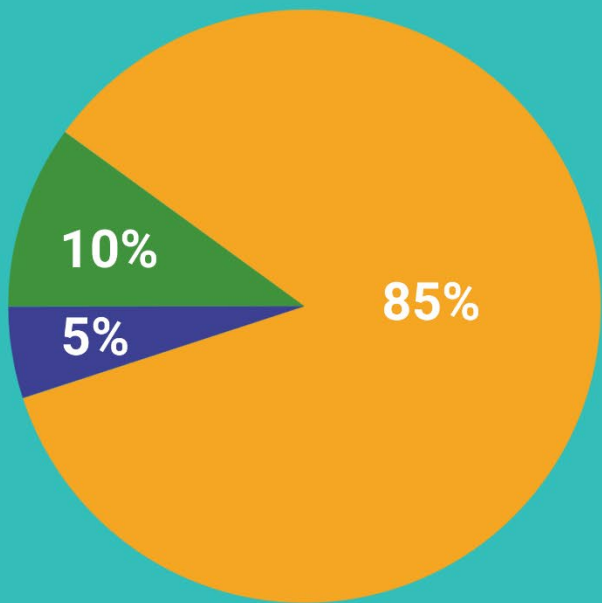


2024 Tropical Outlook





2024 Atlantic Hurricane Season Outlook



■ Above normal ■ Near normal ■ Below normal

Season probability

Named storms

17 - 25

Hurricanes

8 - 13

Major hurricanes

4 - 7

Be prepared: Visit hurricanes.gov and follow @NWS and @NHC_Atlantic on X.

May 2024

Source: National Hurricane Center

ATLANTIC BASIN SEASONAL HURRICANE FORECAST FOR 2024

Forecast Parameter and 1991–2020 Average (in parentheses)	Issue Date 4 April 2024
Named Storms (NS) (14.4)	23
Named Storm Days (NSD) (69.4)	115
Hurricanes (H) (7.2)	11
Hurricane Days (HD) (27.0)	45
Major Hurricanes (MH) (3.2)	5
Major Hurricane Days (MHD) (7.4)	13
Accumulated Cyclone Energy (ACE) (123)	210
ACE West of 60°W (73)	125
Net Tropical Cyclone Activity (NTC) (135%)	220

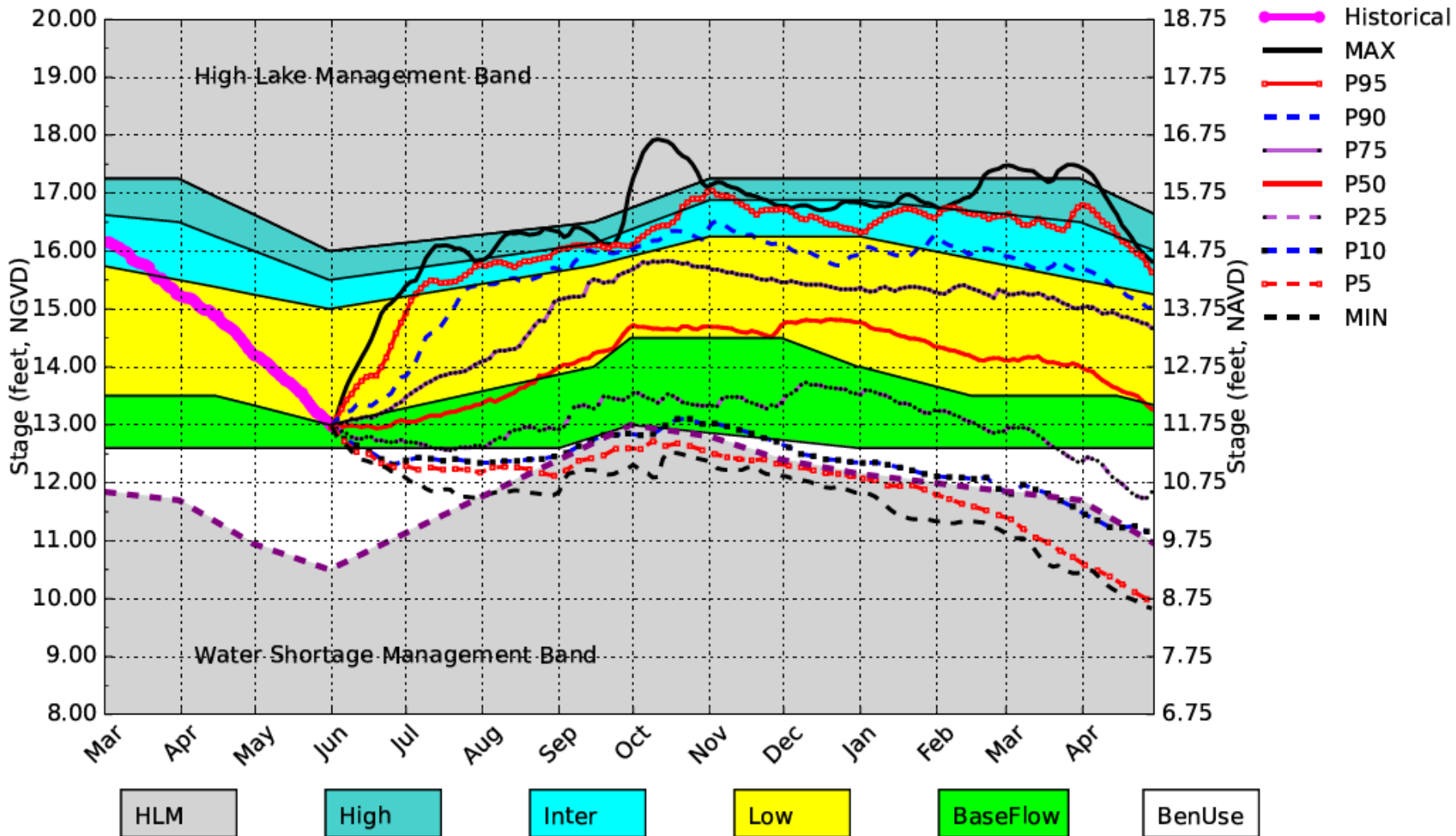
- Extremely active season
- Transition to La Niña expected in July/August leading to hurricane-favorable wind shear conditions
- Sea surface temperatures in the eastern and central Atlantic are at record warm levels
- Forecast is of above-normal confidence for an early April outlook
- Next update: June 11, 2024

June 2024 DPA Assumptions

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

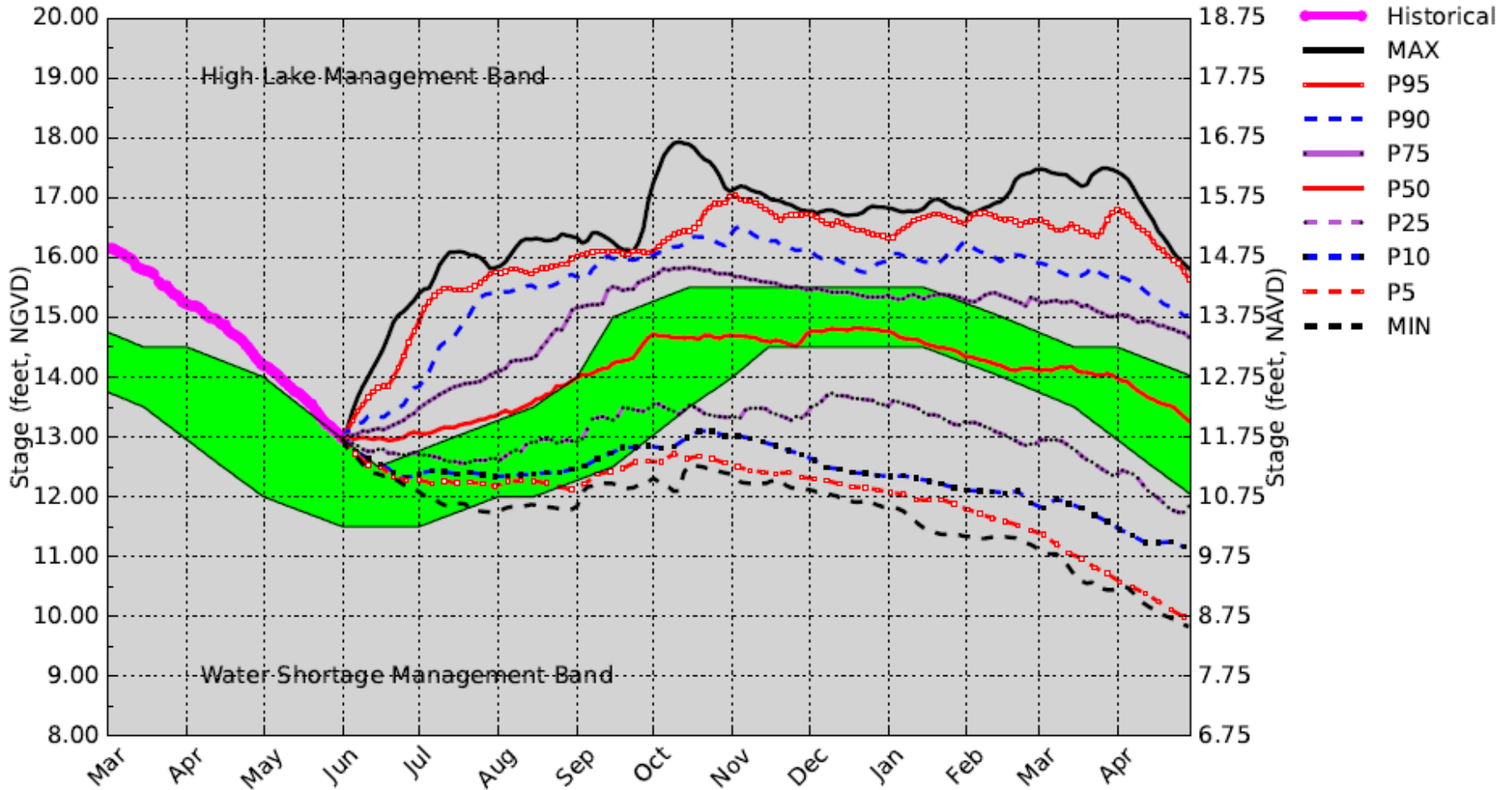
Percentiles PA



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM June 2024 Position Analysis

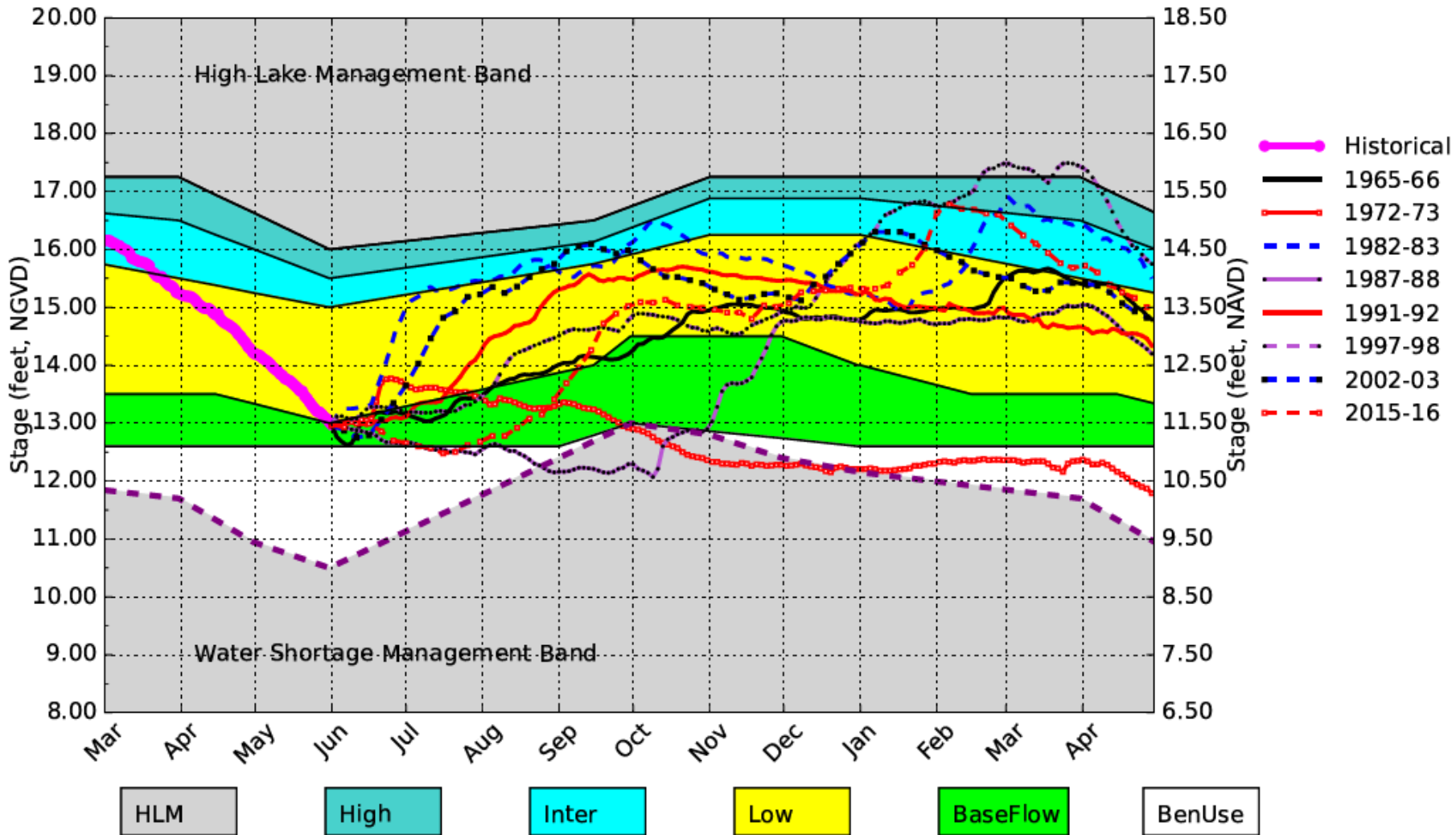
Percentiles PA



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM June 2024 Position Analysis

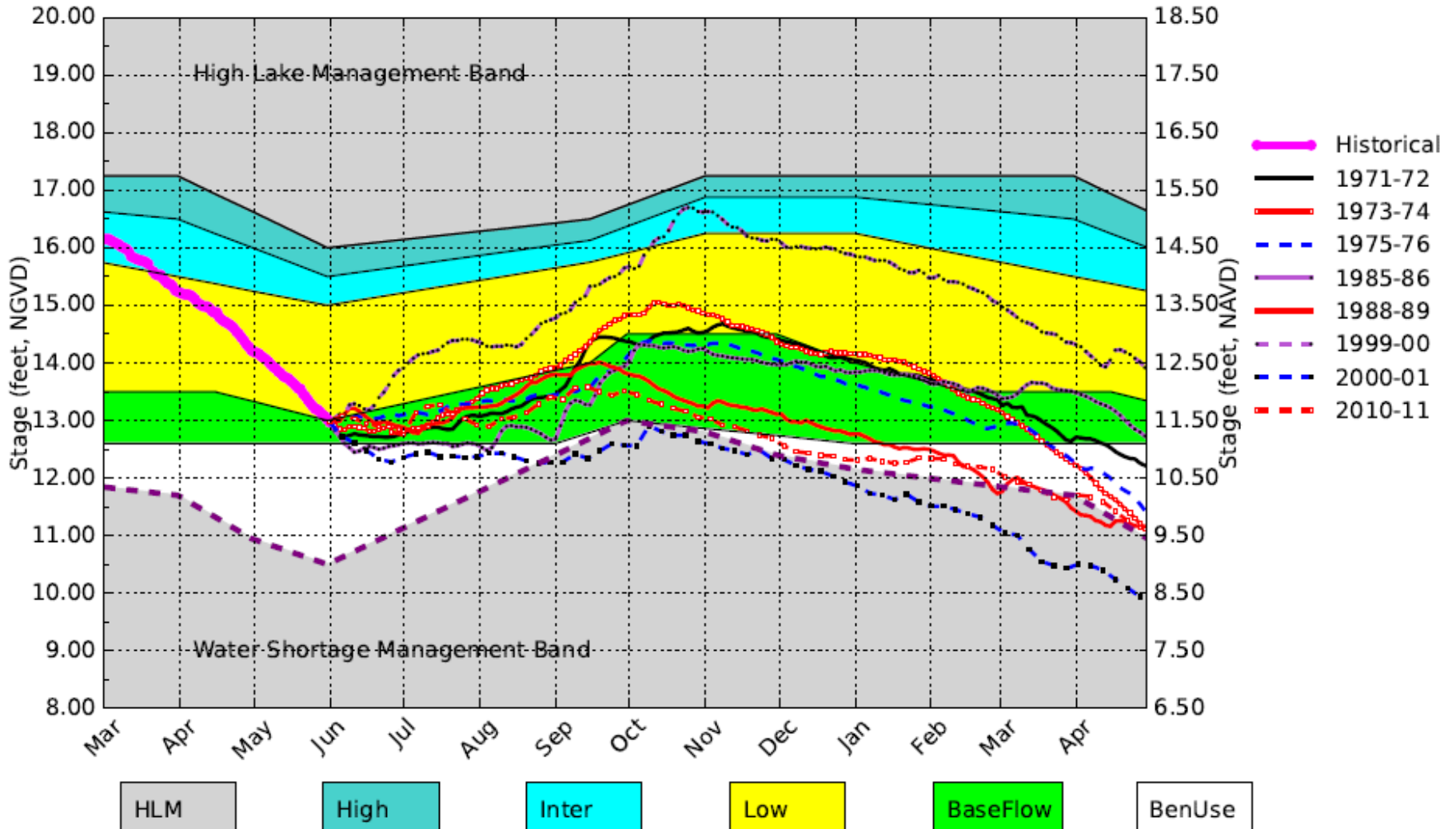
All El Nino Years Plot PA



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM June 2024 Position Analysis

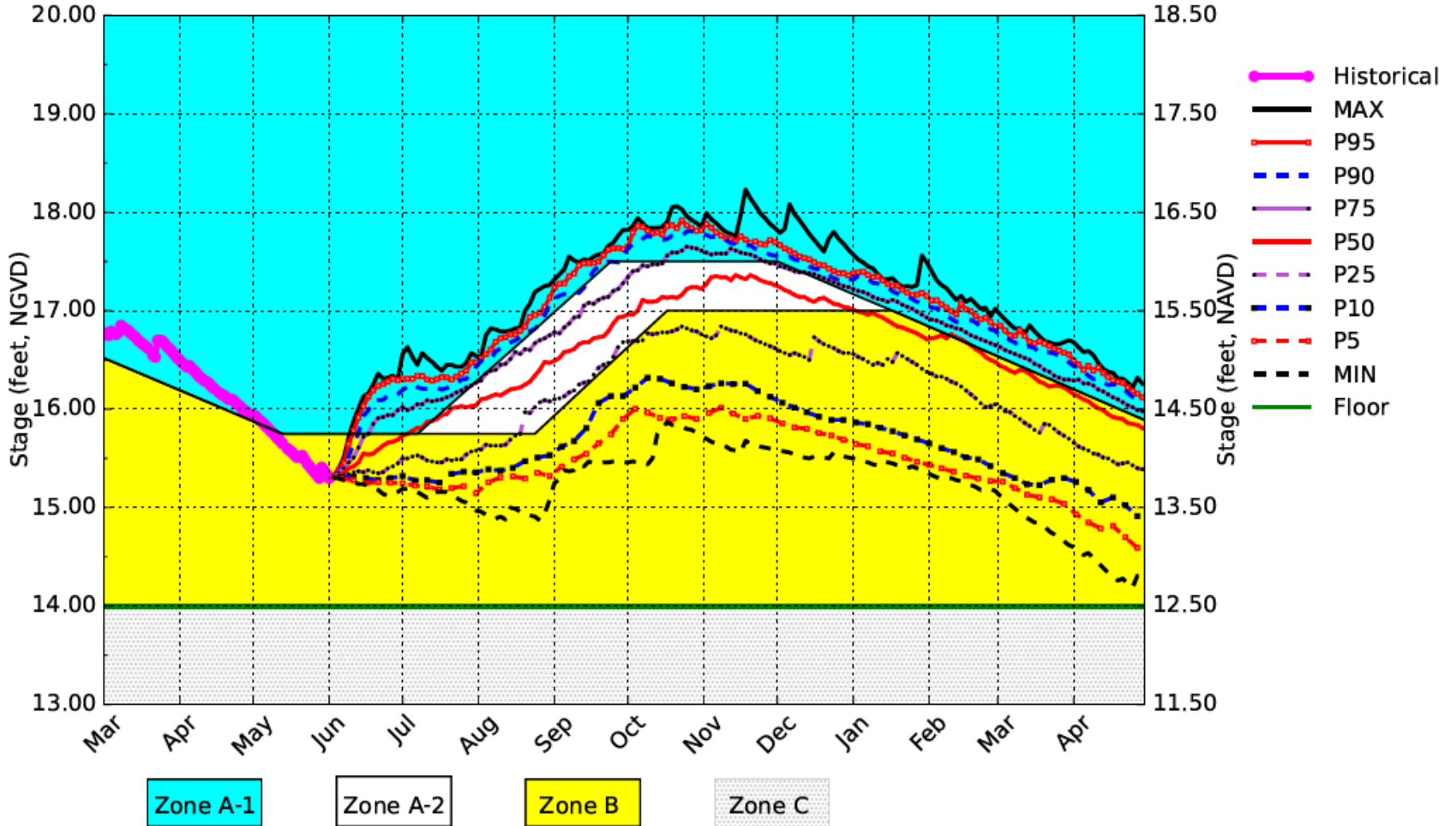
All La Nina Years Plot PA



(See assumptions on the Position Analysis Results website)

WCA1 SFWMM June 2024 Position Analysis

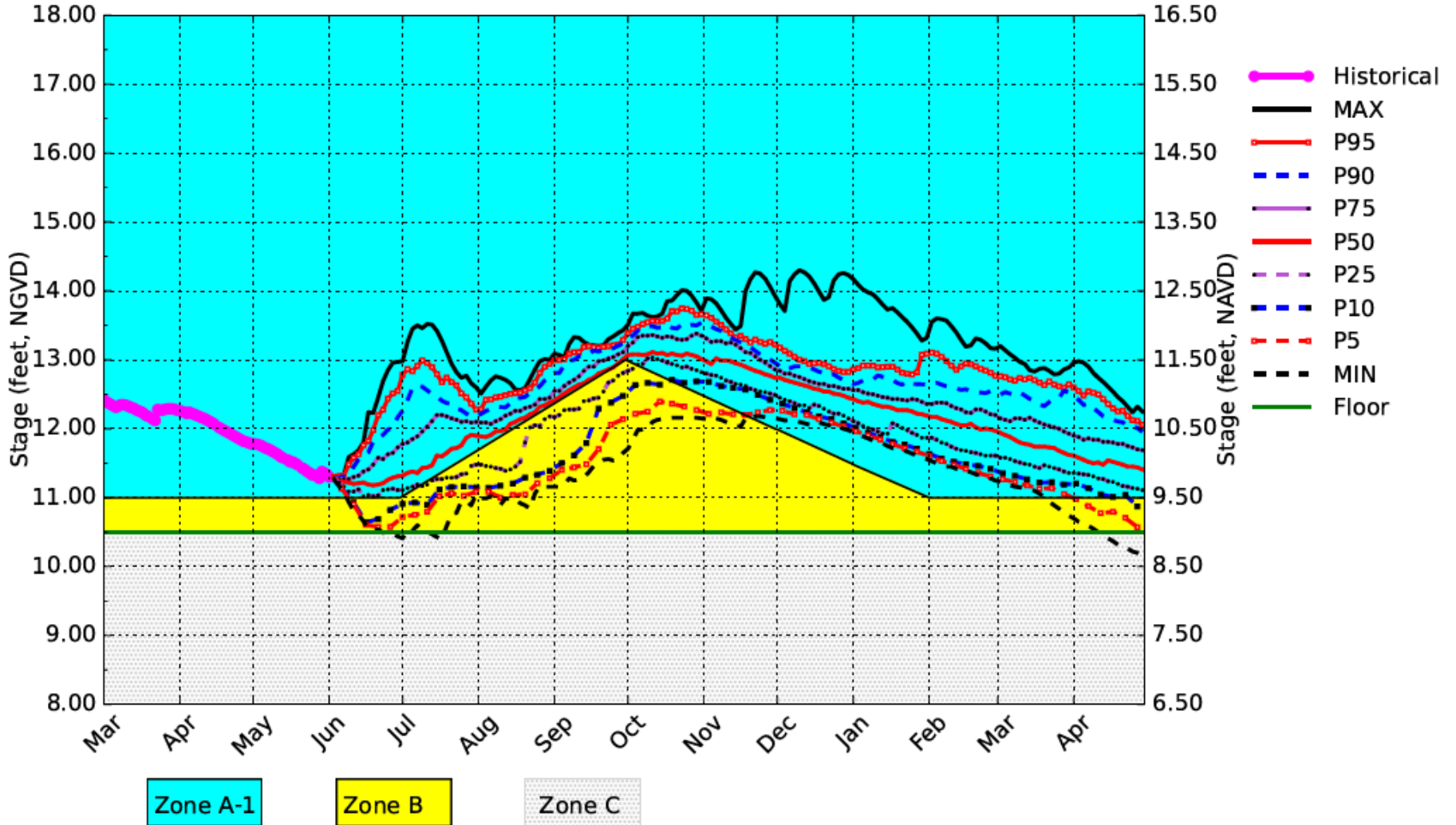
Percentiles PA



(See assumptions on the Position Analysis Results website)

WCA2A SFWMM June 2024 Position Analysis

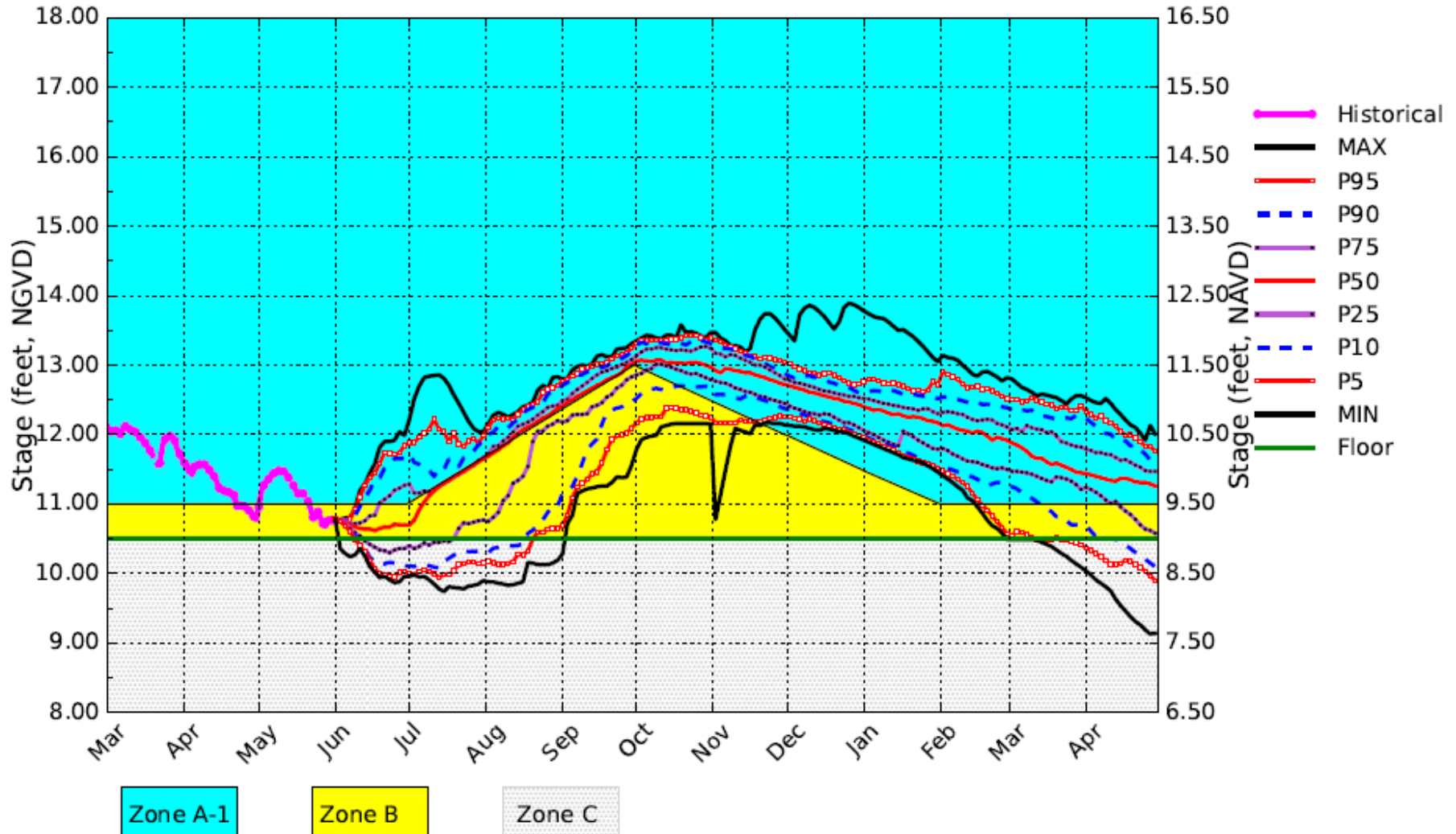
Percentiles PA



(See assumptions on the Position Analysis Results website)

L38 Canal SFWMM June 2024 Position Analysis

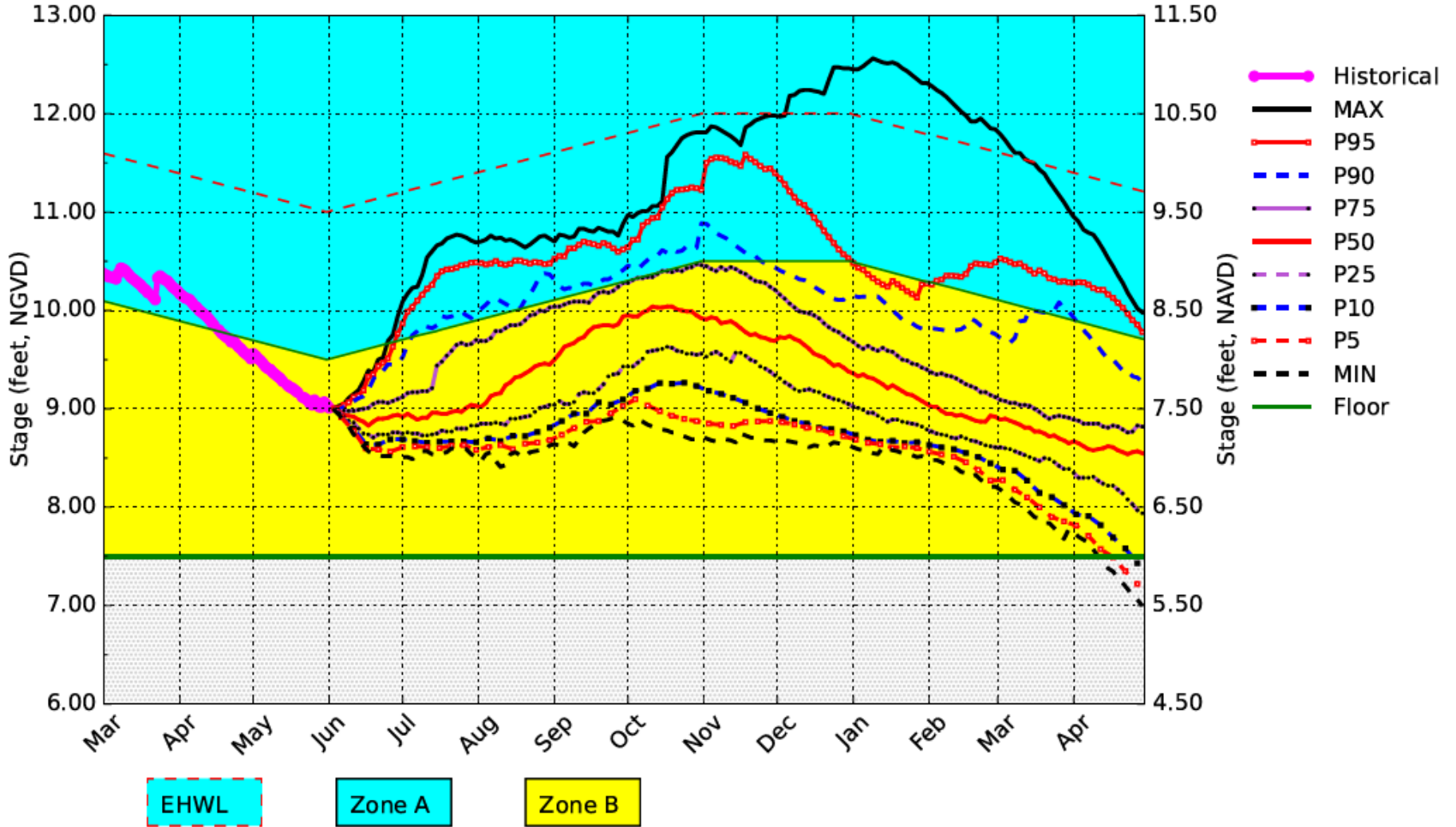
PA



(See assumptions on the Position Analysis Results website)

WCA3A SFWMM June 2024 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)