Extended Hydrologic Outlook
May 7, 2024

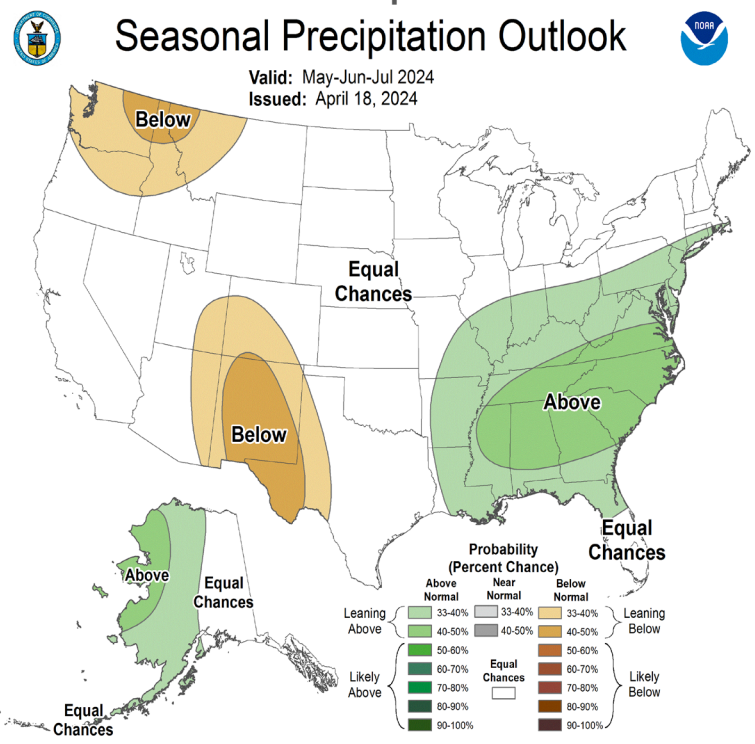
- The Climate Prediction Center (CPC) is forecasting equal chances of above normal, normal and below normal rainfall for May through July.
- El Niño conditions are observed. A transition from El Niño to ENSO-neutral is likely by April-June 2024 (85% chance), with the odds of La Niña developing by June-August 2024 (60% 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

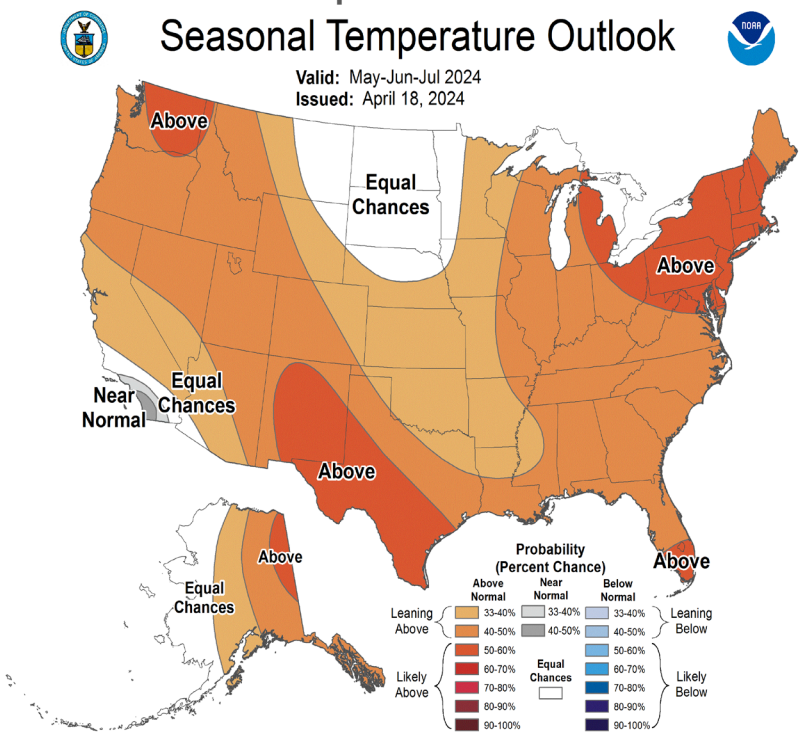
May - July 2024

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

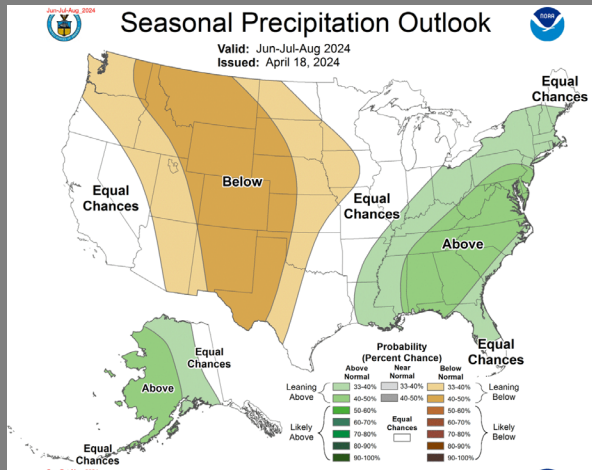
Precipitation

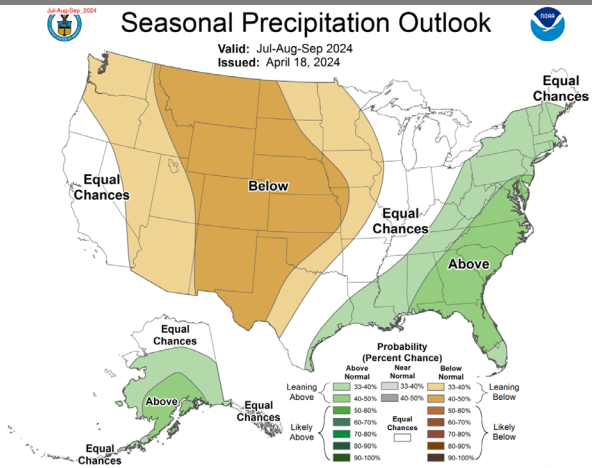


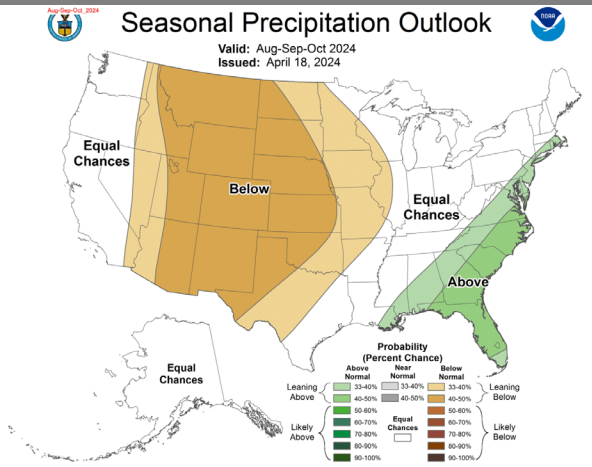
Temperature

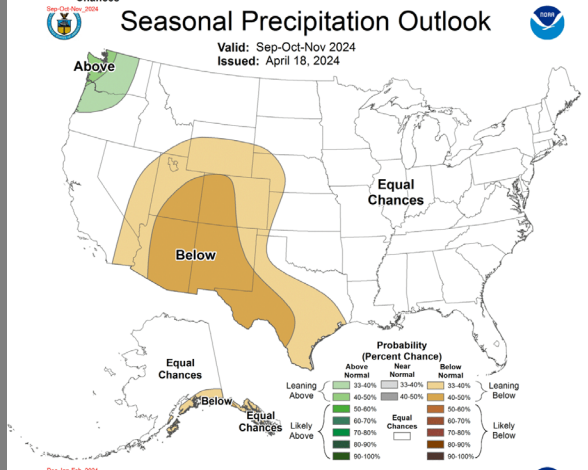


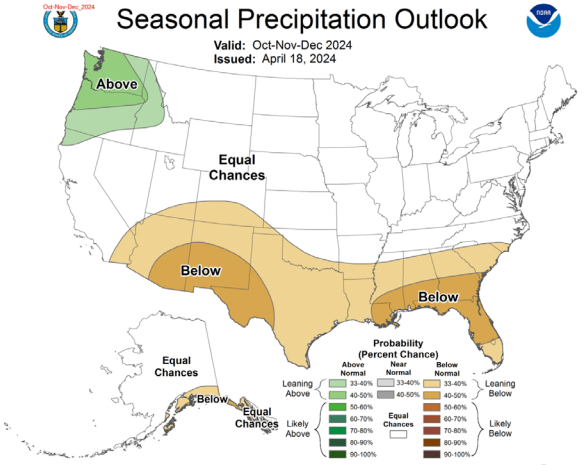
Prepared by: Climate Prediction Center/NCEP

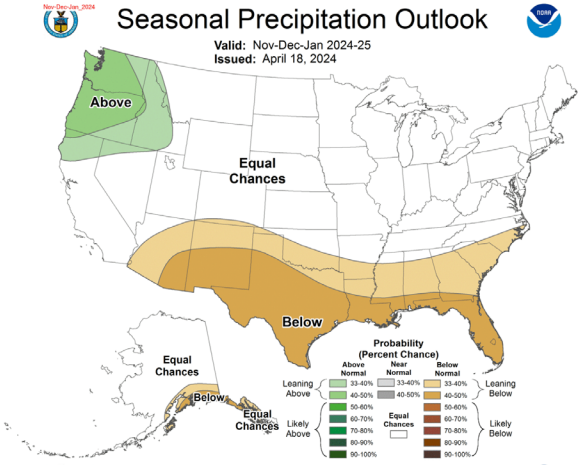


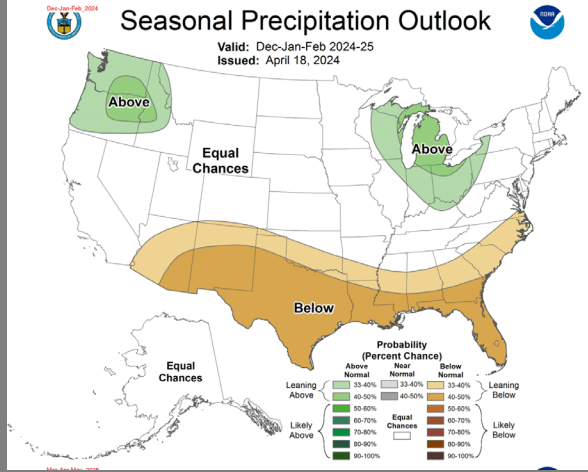


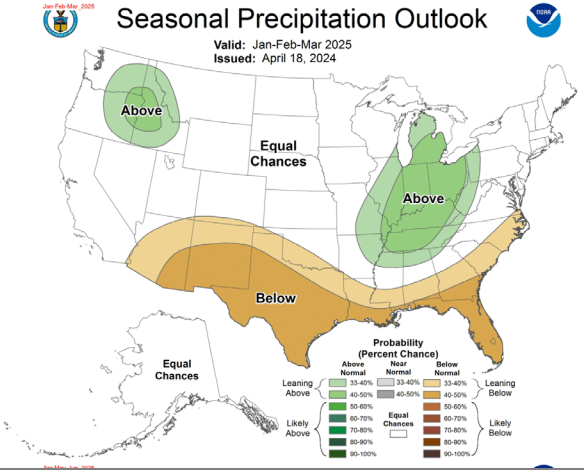


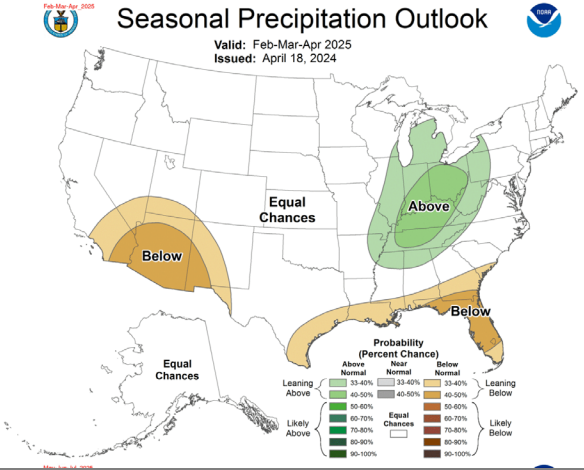












Prepared by: Climate Prediction Center/NCEP

Teleconnections to South Florida

Climate anomalies being related to each other at large distances:

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**

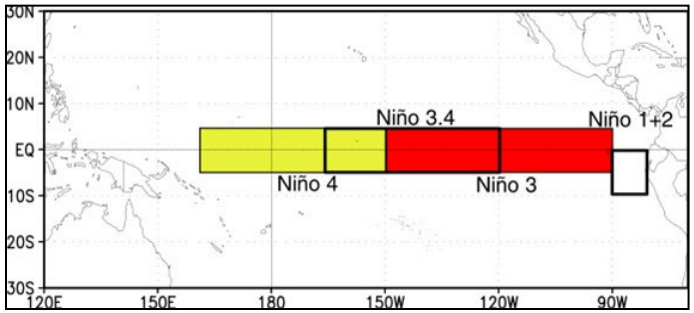
Atlantic Multidecadal Oscillation (AMO)

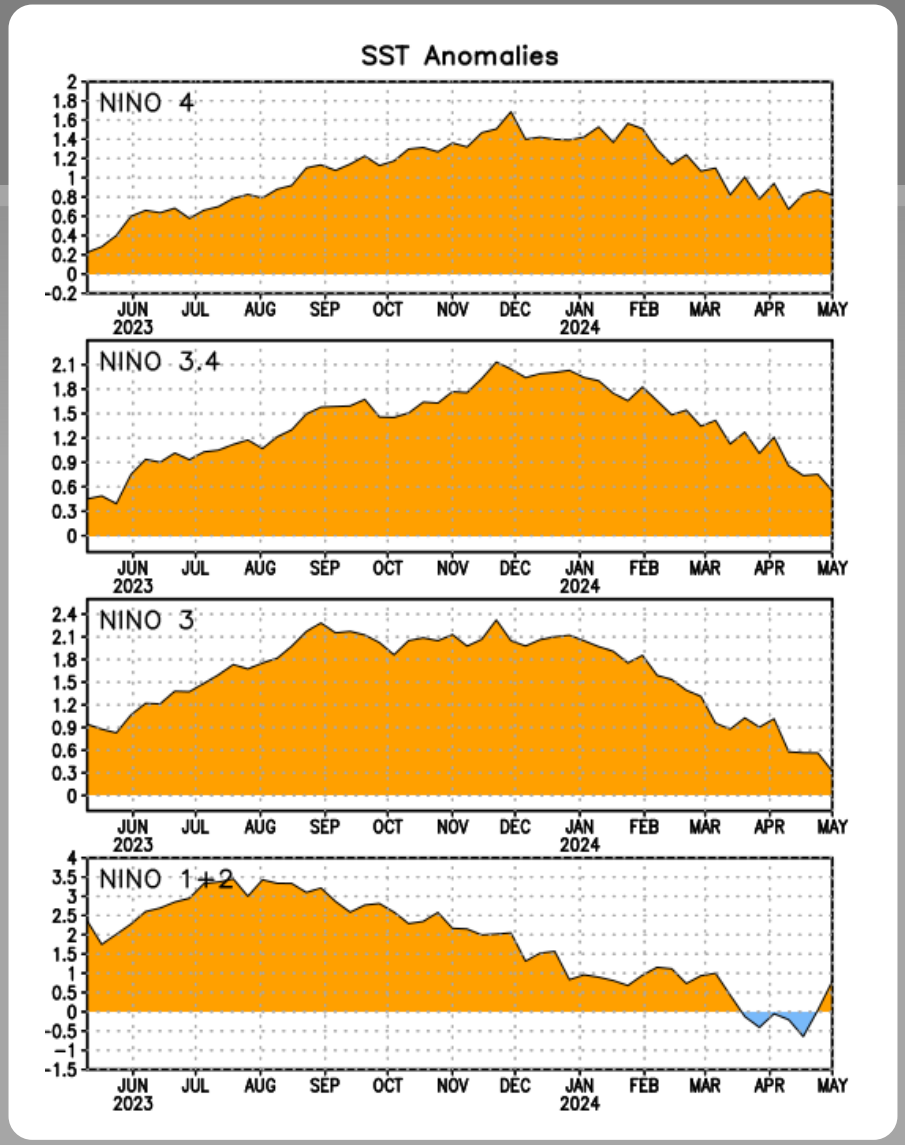
- **Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase of the AMO, easterly flow toward south Florida affected by phase**

Niño Region SST Departures (ºC) Recent Evolution

The latest weekly SST departures are:

Niño 4	0.8ºC
Niño 3.4	0.5ºC
Niño 3	0.3ºC
Niño 1+2	0.8ºC





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

Prepared by: Climate Prediction Center/NCEP

IRI Pacific Niño 3.4 SST Model Outlook

The majority of models indicate a 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 July-September 2024.

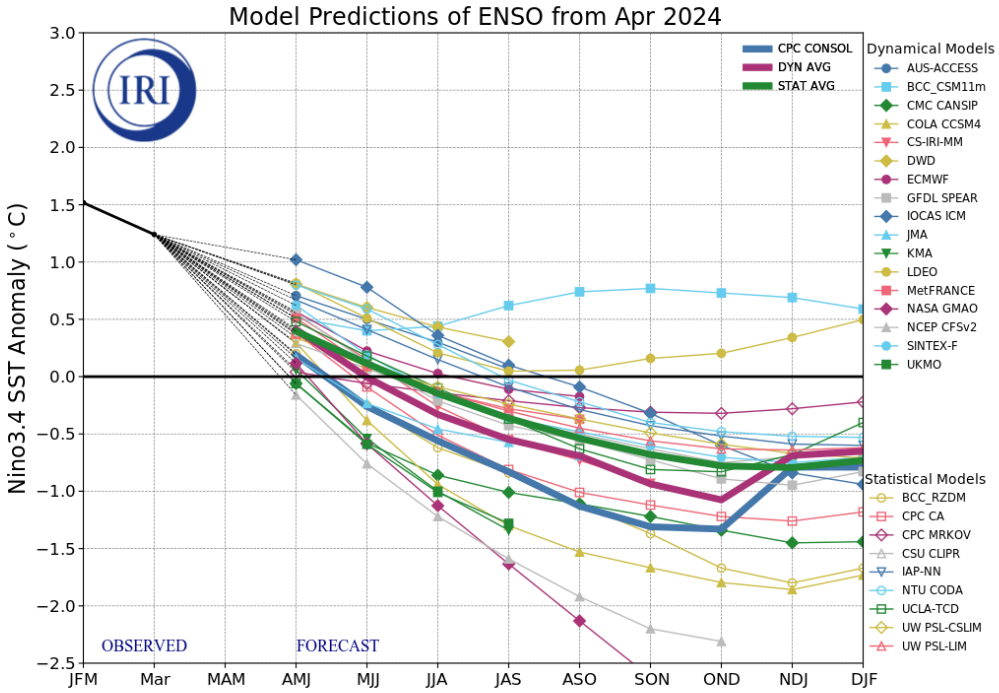
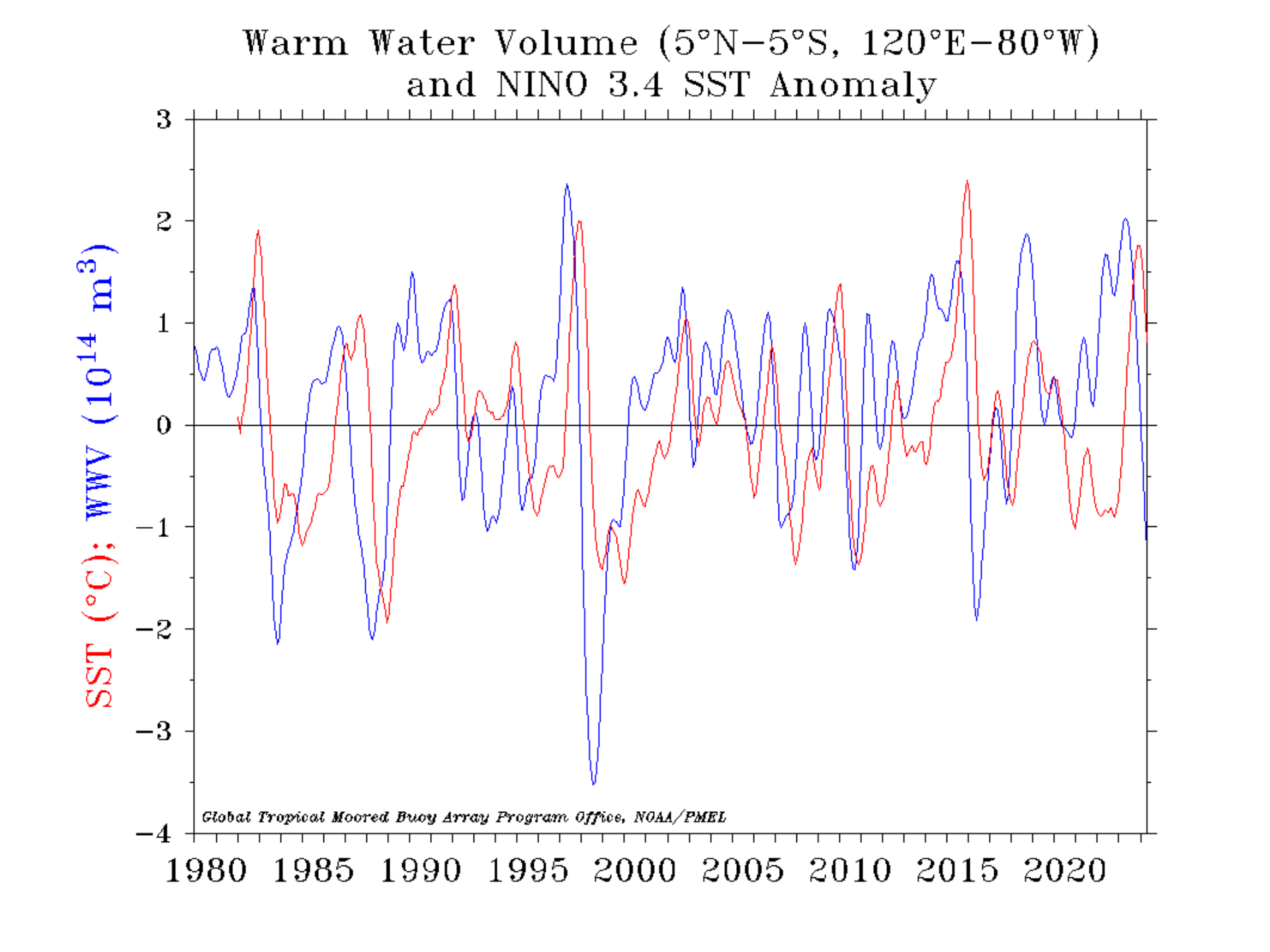
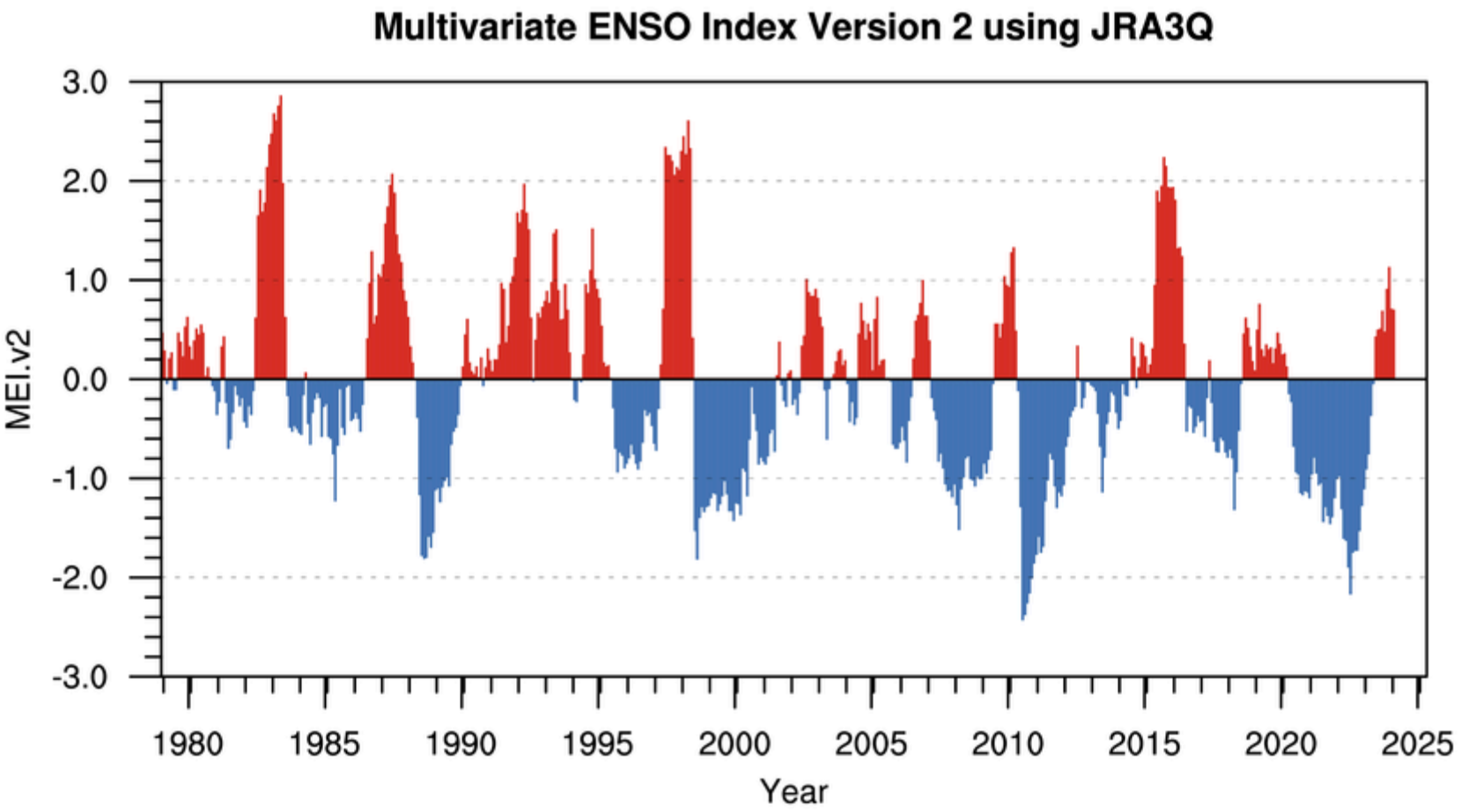


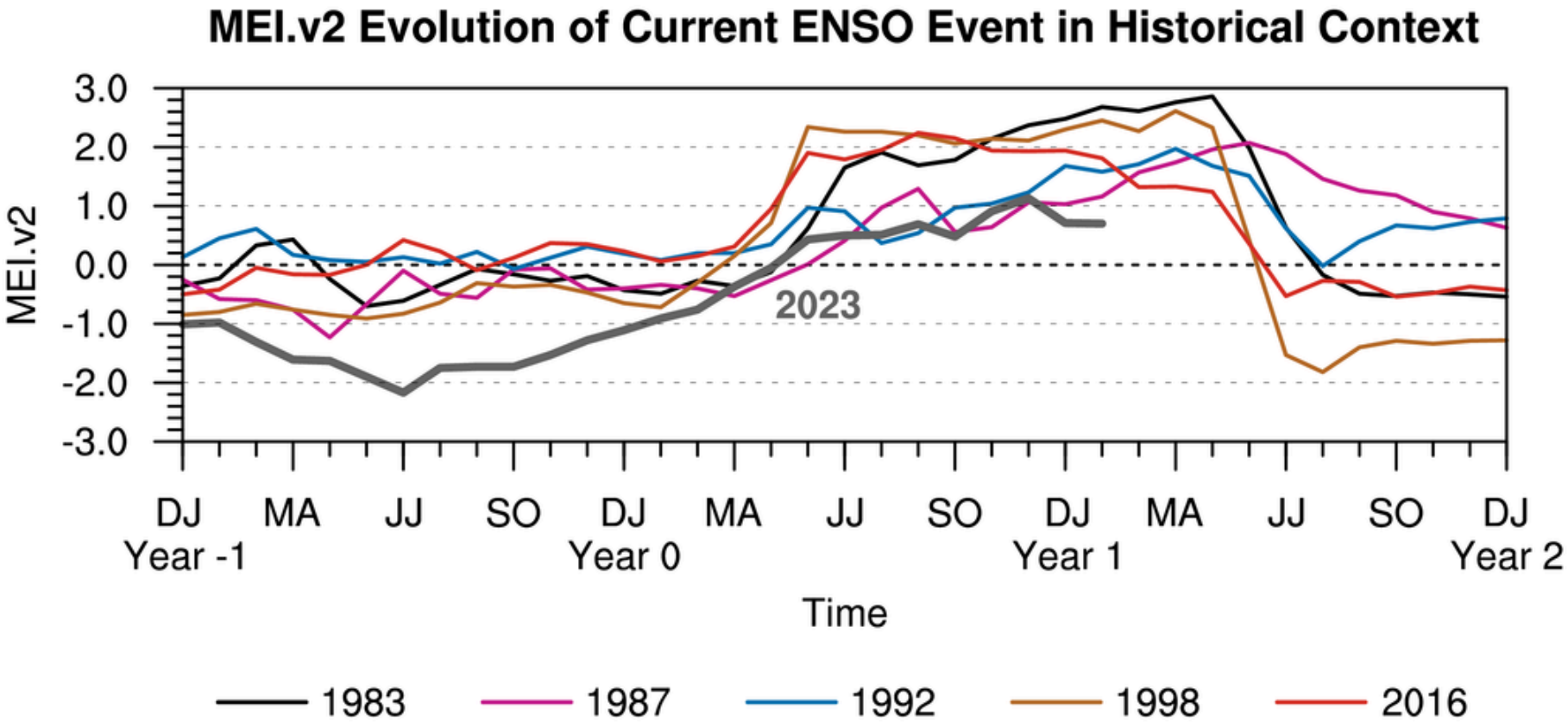
Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 April 2024).

Prepared by: Climate Prediction Center/NCEP

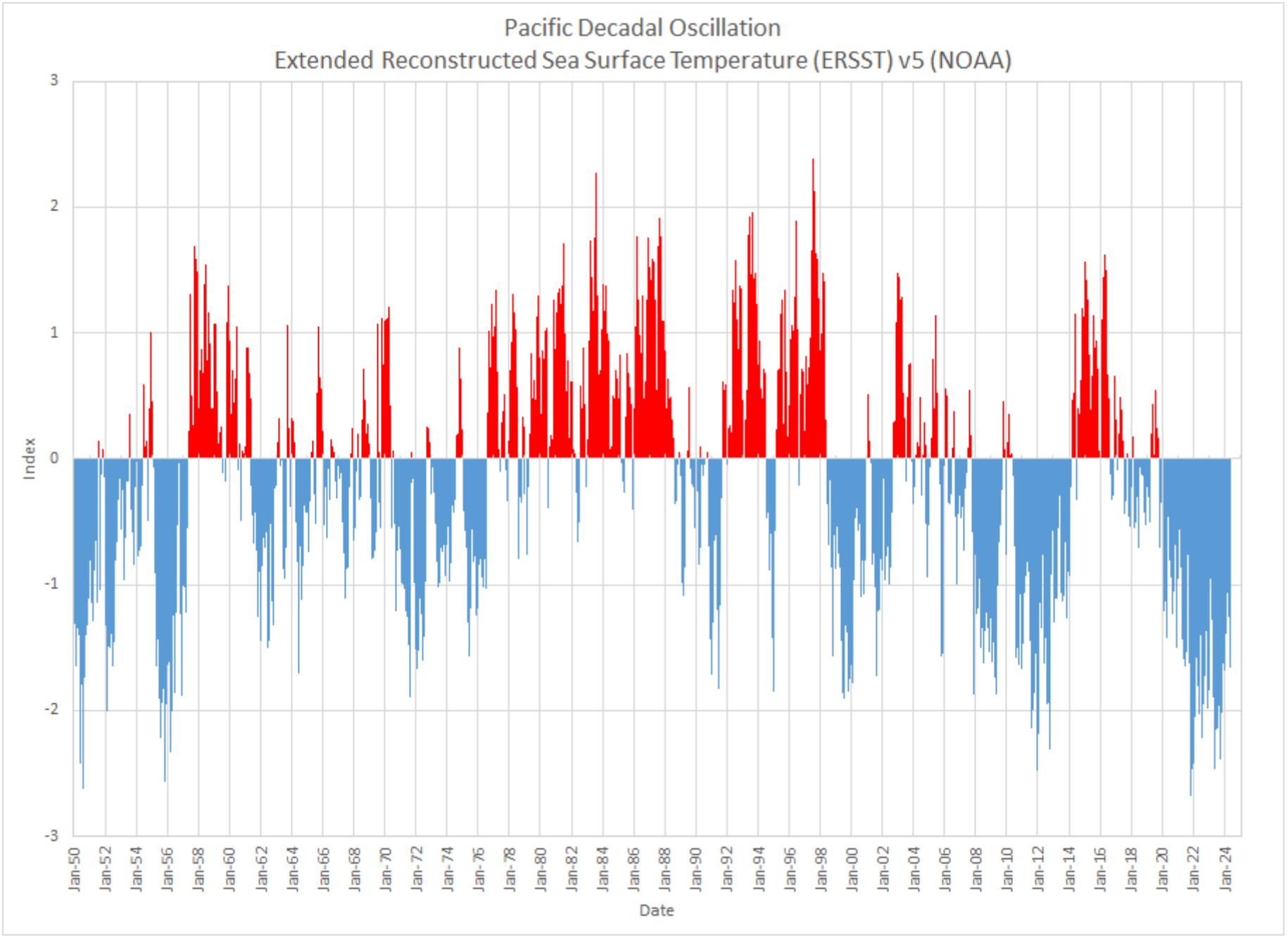

Warm Water Volume (5°N–5°S, 120°E–80°W)
and NINO 3.4 SST Anomaly
SST (°C); WWV (10^{14} m^3)
3
2
1
0
−1
−2
−3
−4
1980
1985
1990
1995
2000
2005
2010
2015
2020
Global Tropical Moored Buoy Array Program Office, NOAA/PMEL

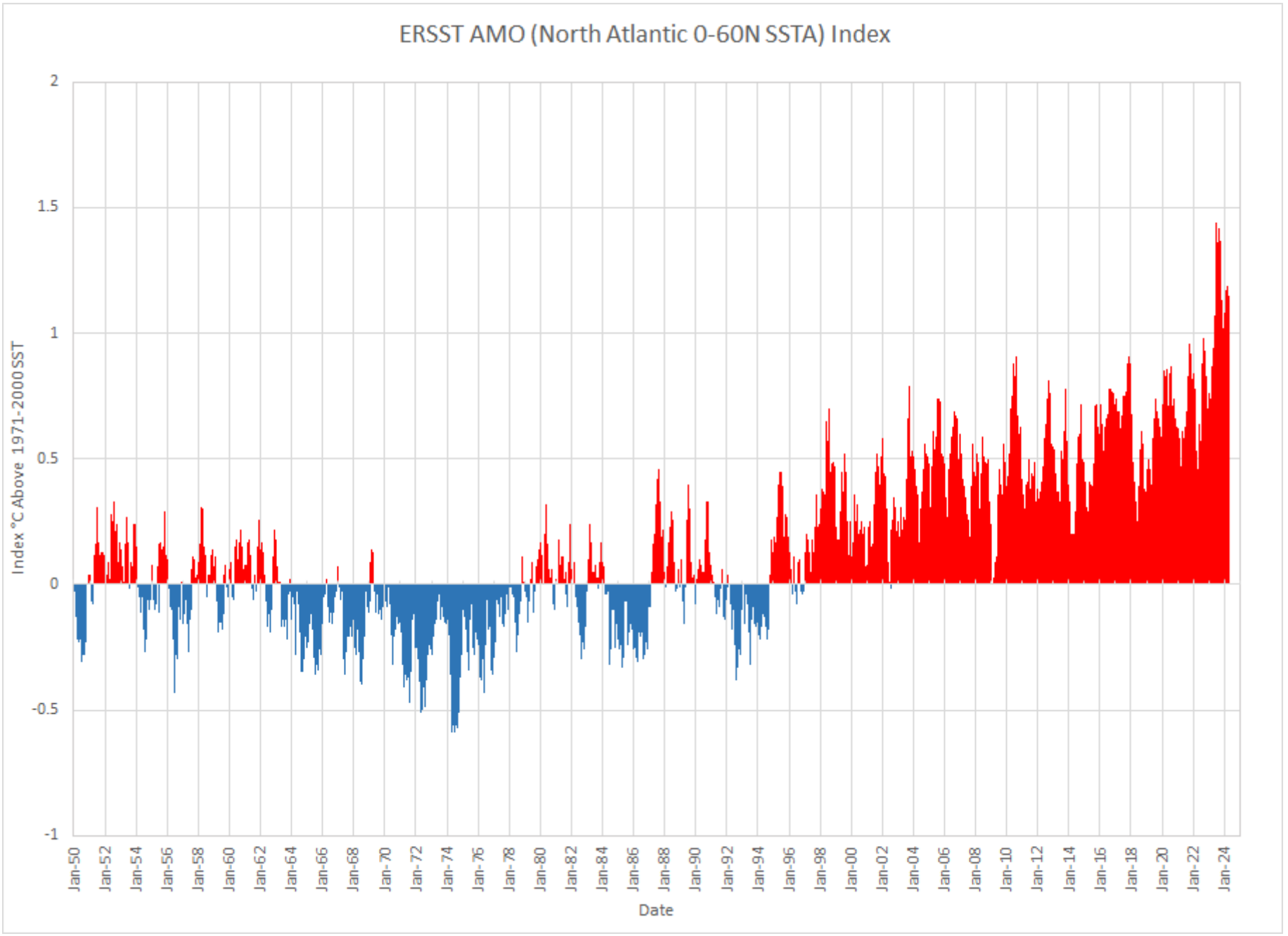


Prepared by: NOAA Physical Sciences Laboratory



Prepared by: NOAA Physical Sciences Laboratory


Pacific Decadal Oscillation
Extended Reconstructed Sea Surface Temperature (ERSST) v5 (NOAA)
Index
3
2
1
0
-1
-2
-3
Jan-50
Jan-52
Jan-54
Jan-56
Jan-58
Jan-60
Jan-62
Jan-64
Jan-66
Jan-68
Jan-70
Jan-72
Jan-74
Jan-76
Jan-78
Jan-80
Jan-82
Jan-84
Jan-86
Jan-88
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Jan-24
Date


ERSST AMO (North Atlantic 0-60N SSTA) Index
Index °C Above 1971-2000 SST
2
1.5
1
0.5
0
-0.5
-1
Jan-50
Jan-52
Jan-54
Jan-56
Jan-58
Jan-60
Jan-62
Jan-64
Jan-66
Jan-68
Jan-70
Jan-72
Jan-74
Jan-76
Jan-78
Jan-80
Jan-82
Jan-84
Jan-86
Jan-88
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Jan-24
Date

2024 Tropical Outlook

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

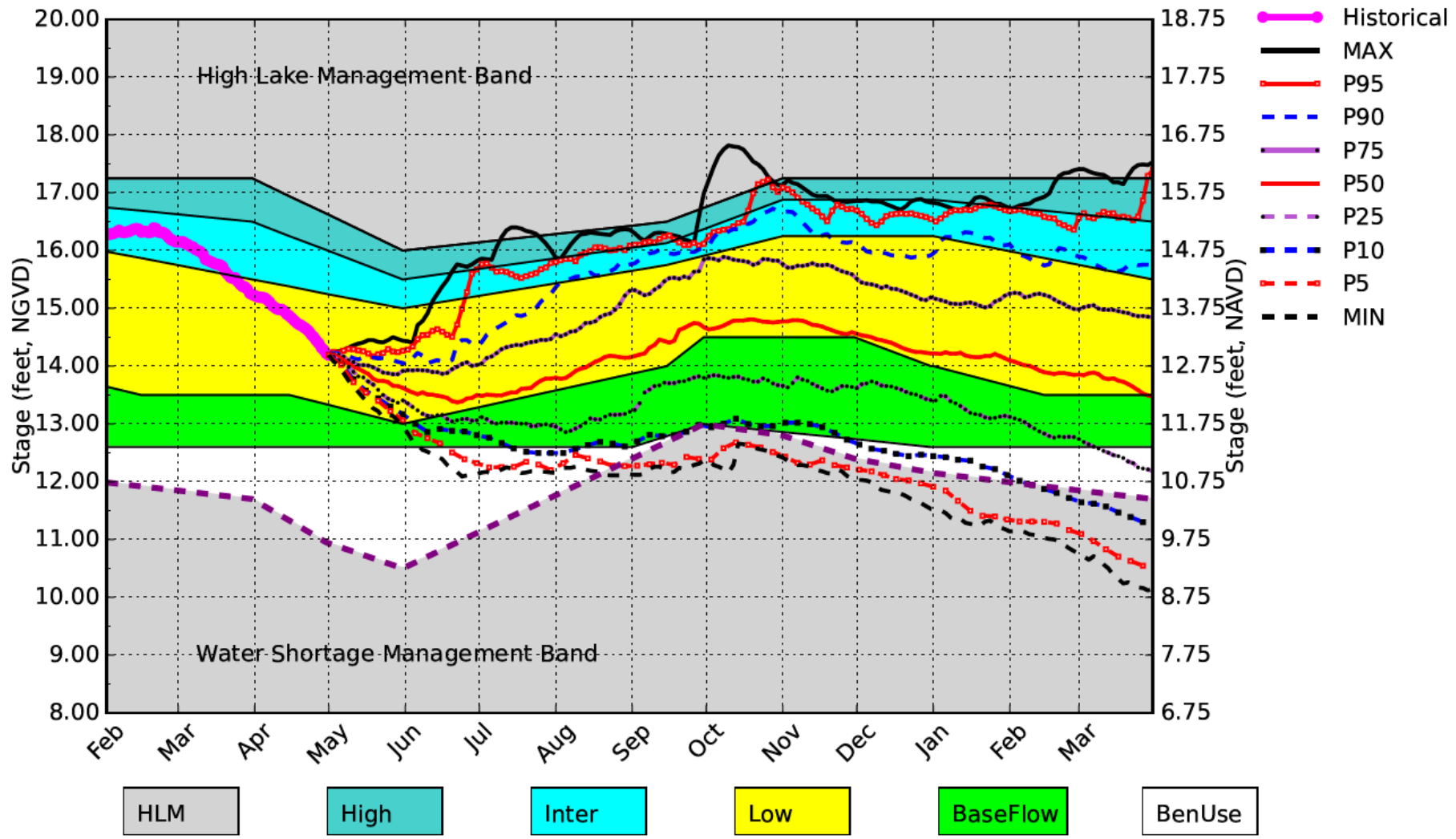
- Extremely active season
- Transition to La Niña expected in July/August leading to hurricane-favorable wind shear conditions
- Sea surface temperatures in the eastern and central Atlantic are at record warm levels
- Forecast is of above-normal confidence for an early April outlook
- Next update: June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

Source: Colorado State University (Tropical Meteorology Project)

May 2024 DPA Assumptions

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

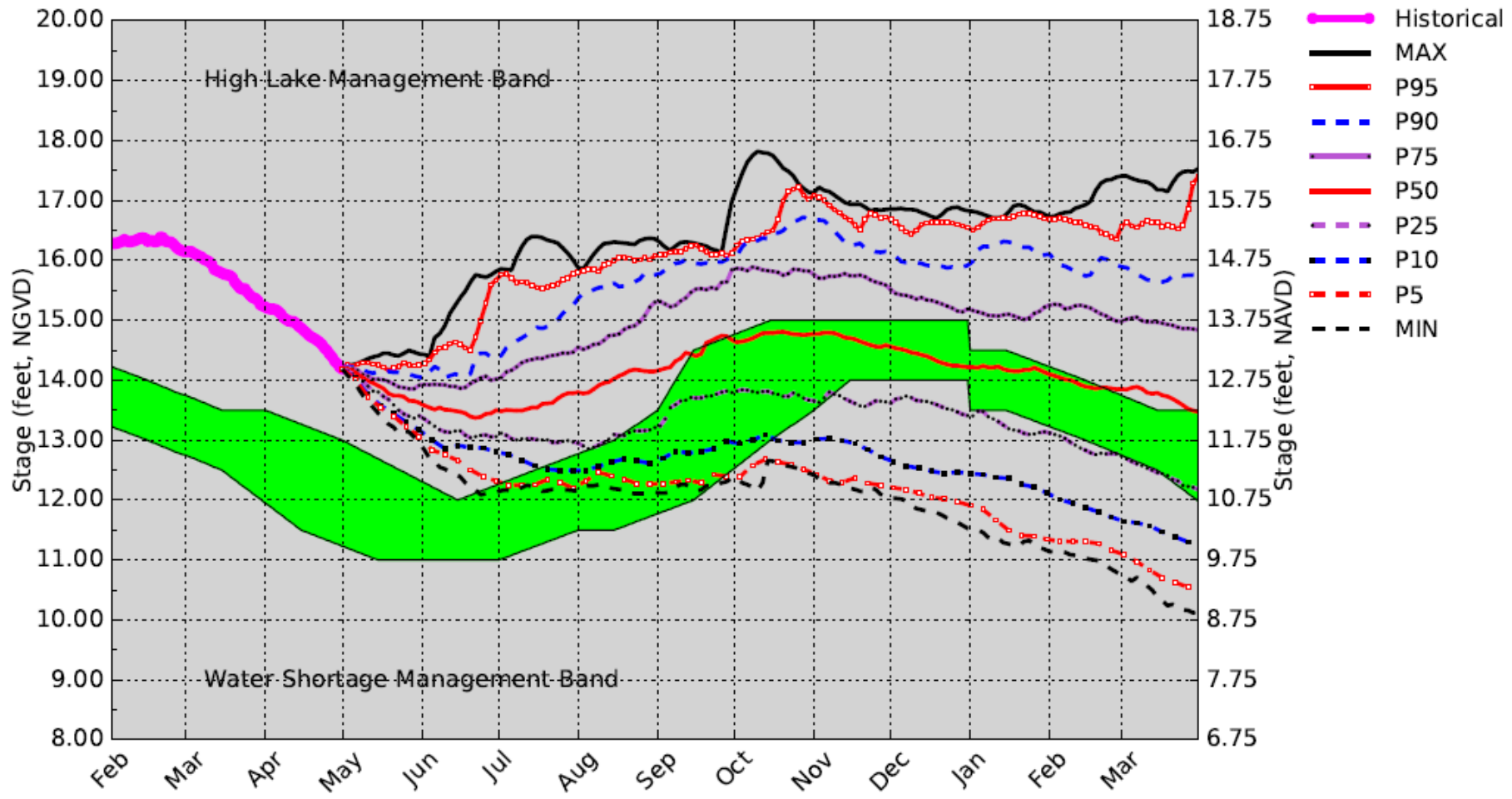
Lake Okeechobee SFWMM May 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

05/06/24 10:50:55

Lake Okeechobee SFWMM May 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

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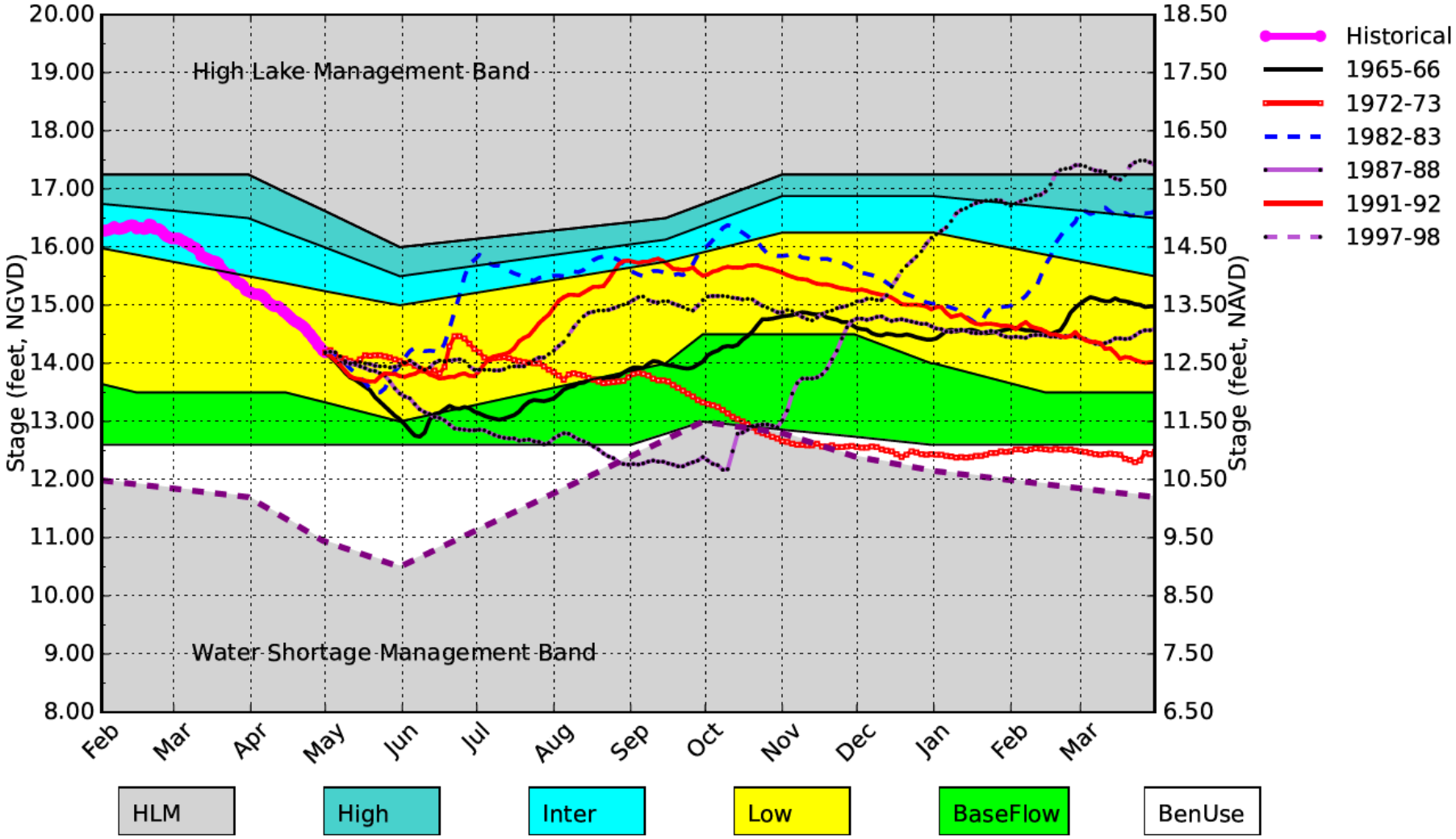
Lake Okeechobee SFWMM May 2024 Position Analysis

All El Nino Years Plot PA

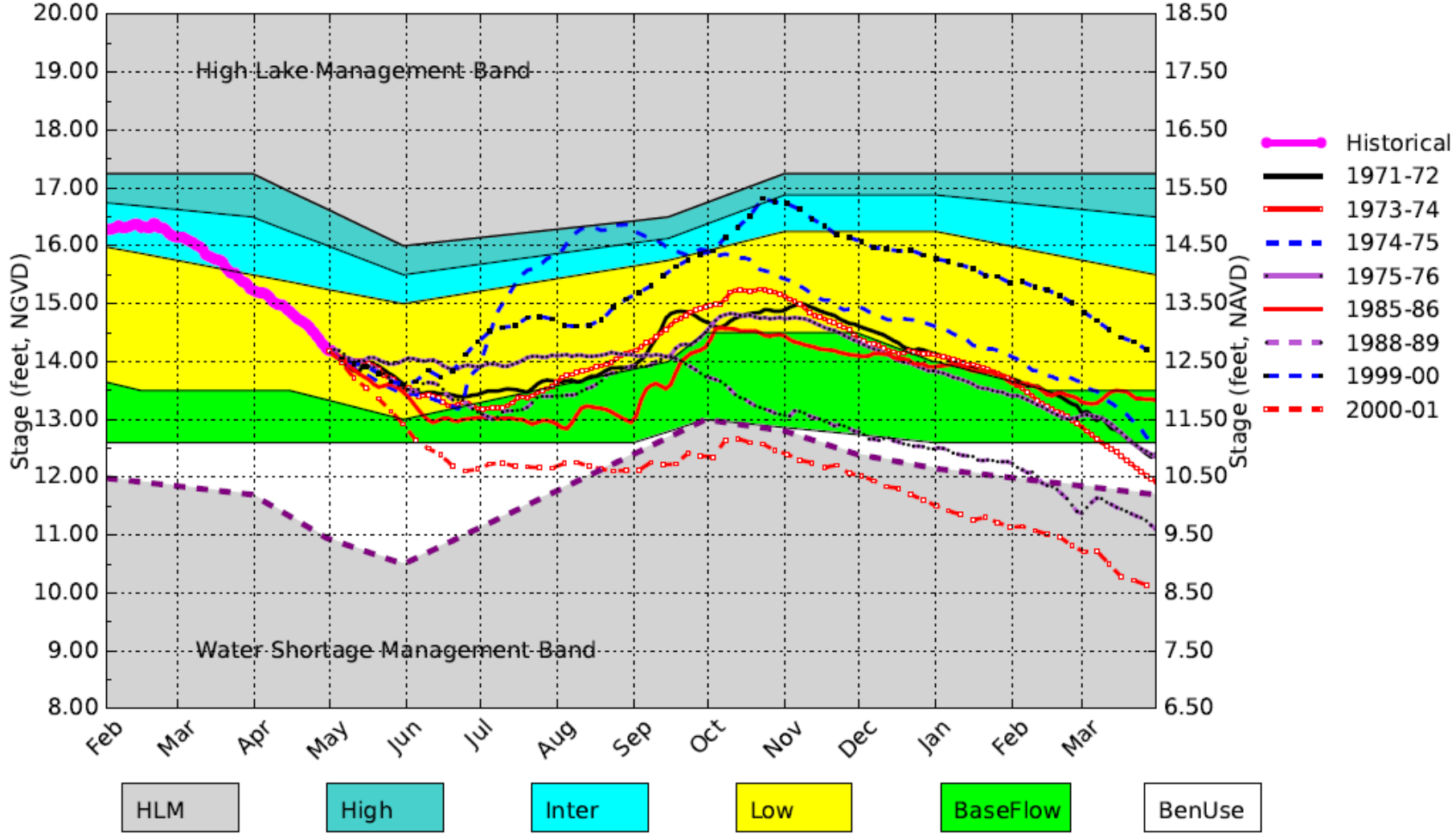


(See assumptions on the Position Analysis Results website)

05/06/24 10:51:00

Lake Okeechobee SFWMM May 2024 Position Analysis

All La Nina Years Plot PA

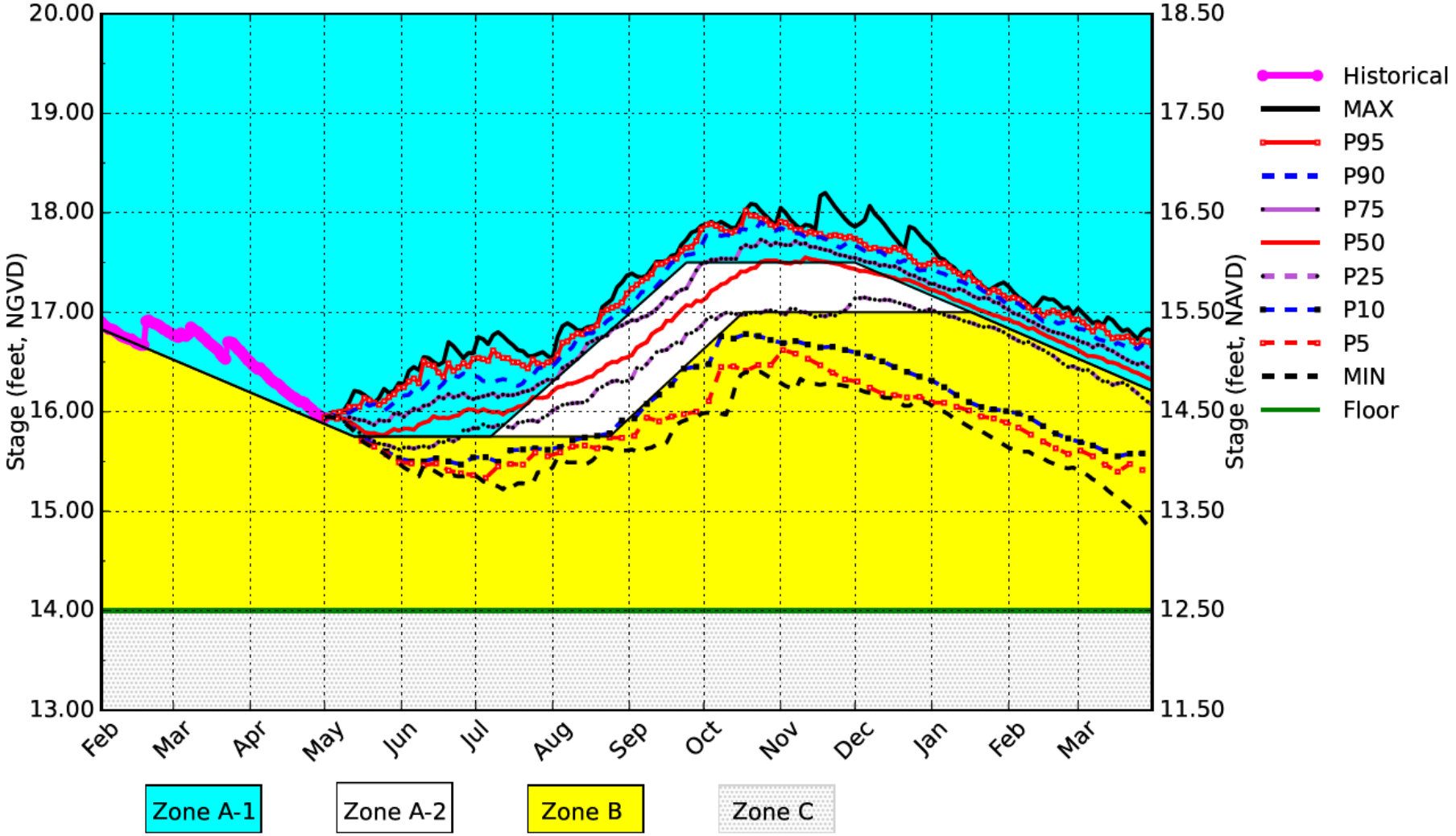


(See assumptions on the Position Analysis Results website)

05/07/24 09:14:16

WCA1 SFWMM May 2024 Position Analysis

Percentiles PA

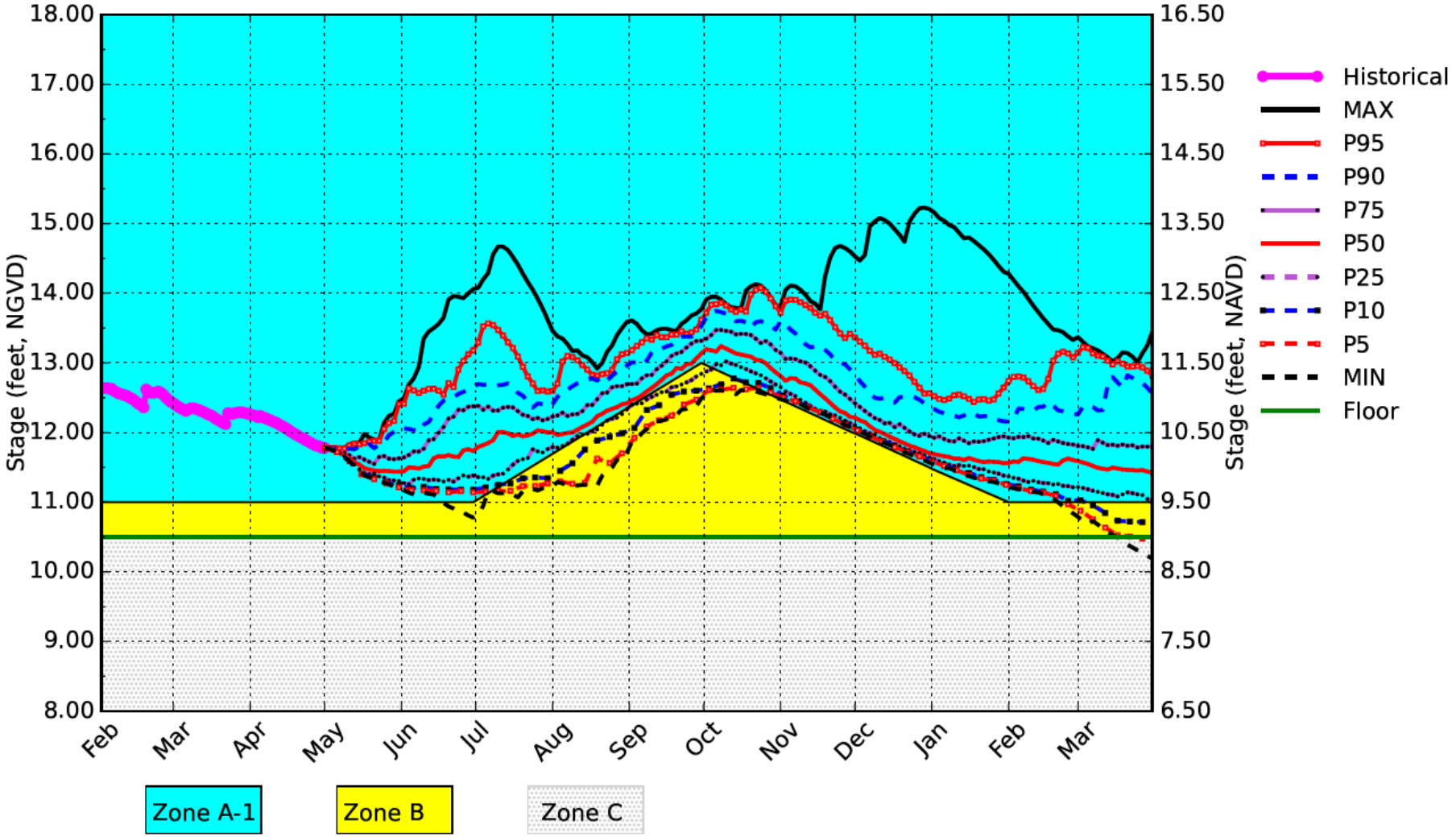


(See assumptions on the Position Analysis Results website)

05/06/24 10:50:58

WCA2A SFWMM May 2024 Position Analysis

Percentiles PA

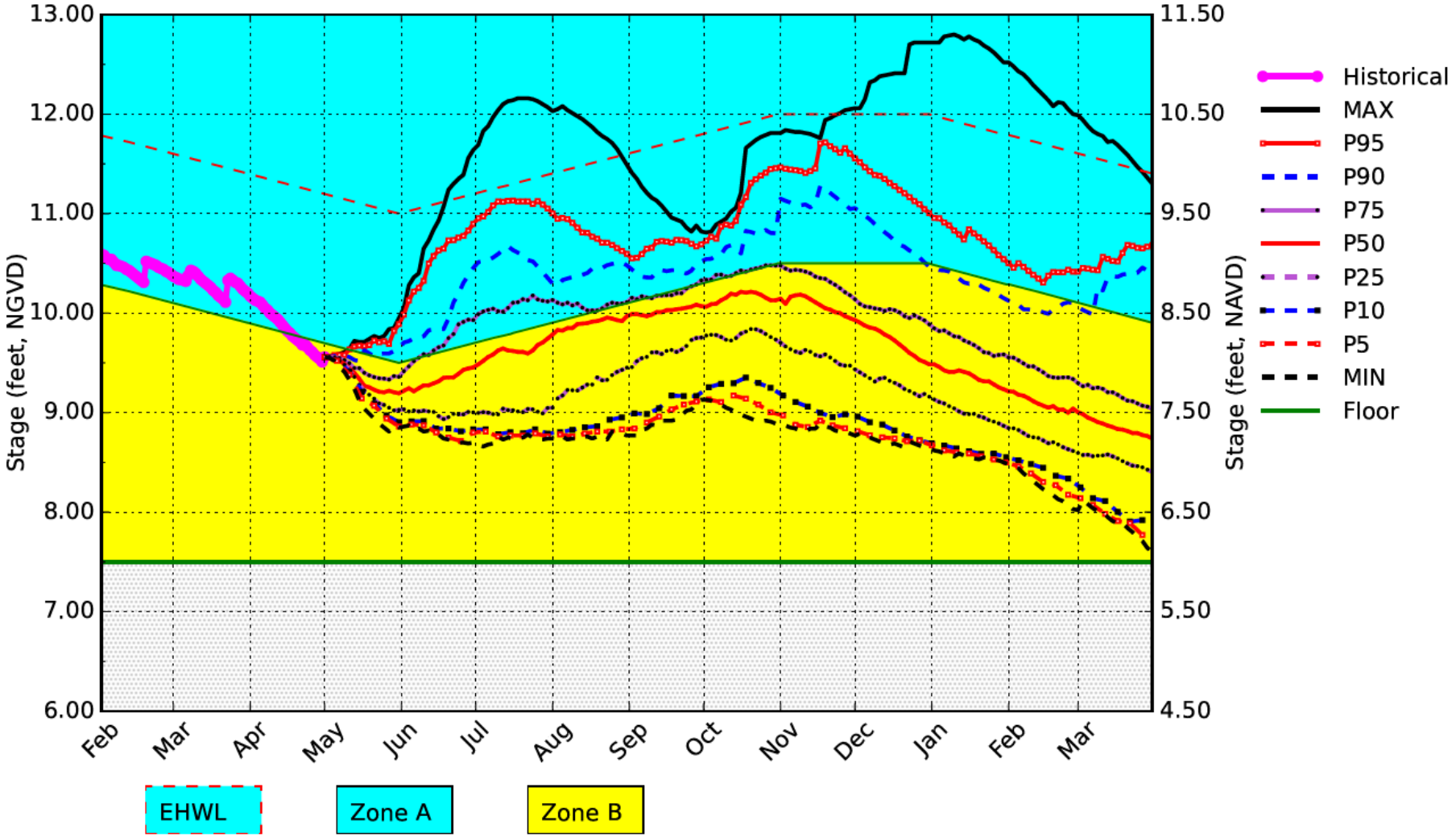


(See assumptions on the Position Analysis Results website)

05/06/24 10:50:59

WCA3A SFWMM May 2024 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

05/06/24 10:50:59