Extended Hydrologic Outlook
July 9, 2024

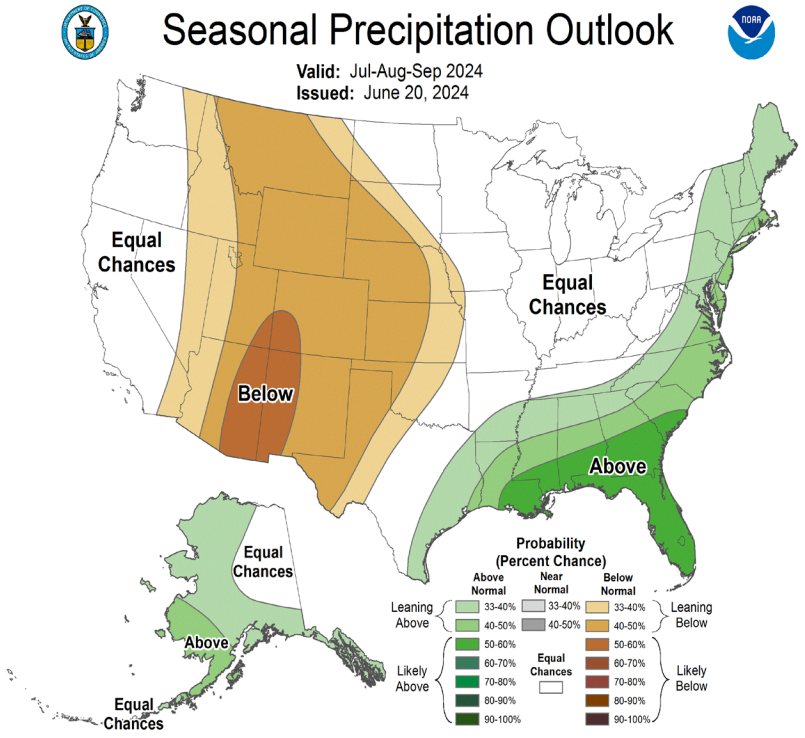
- The Climate Prediction Center (CPC) is forecasting above normal rainfall for July through September.
- ENSO-neutral conditions are present. La Niña is favored to develop during July-September (65% chance) and persist into winter 2024-25 (85% chance during November-January).
- Atlantic Multidecadal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

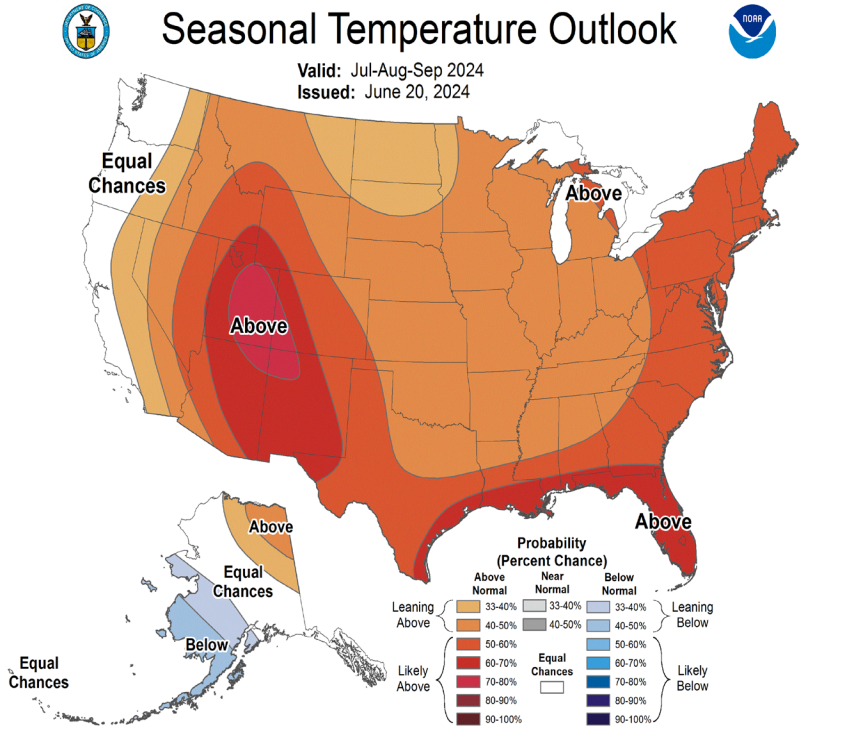
July - September 2024

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

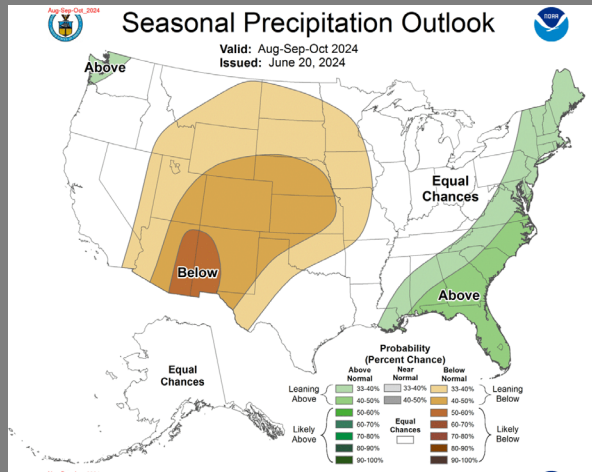
Precipitation

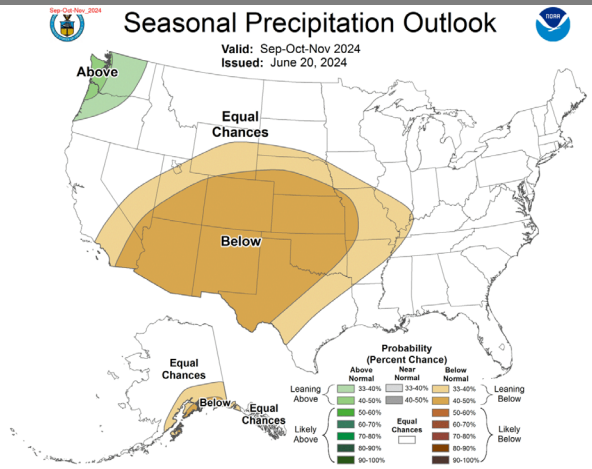


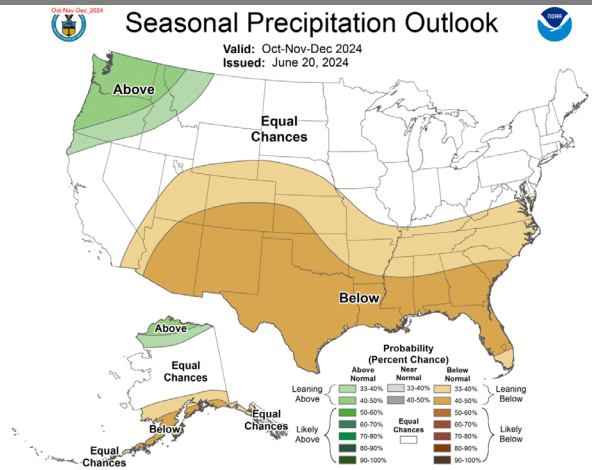
Temperature

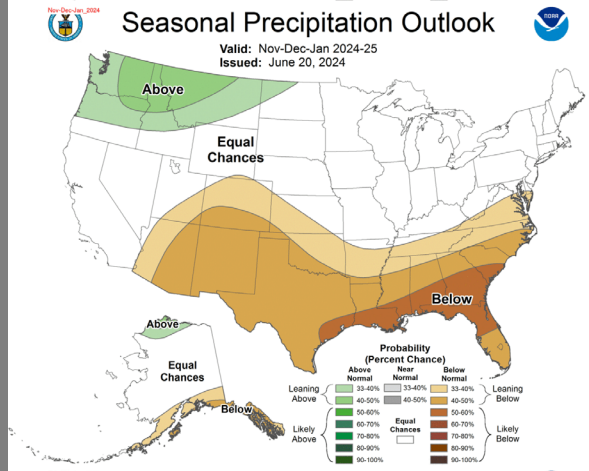


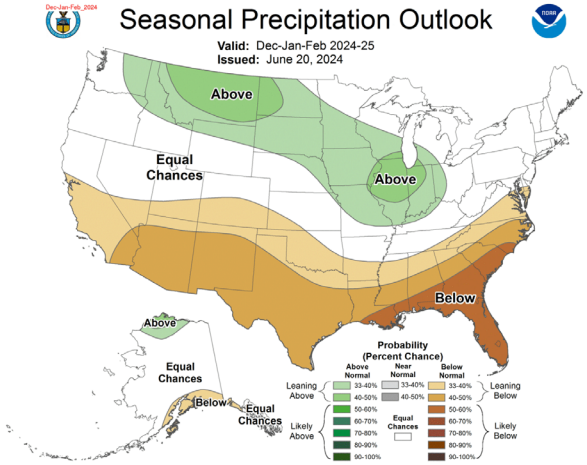
Prepared by: Climate Prediction Center/NCEP

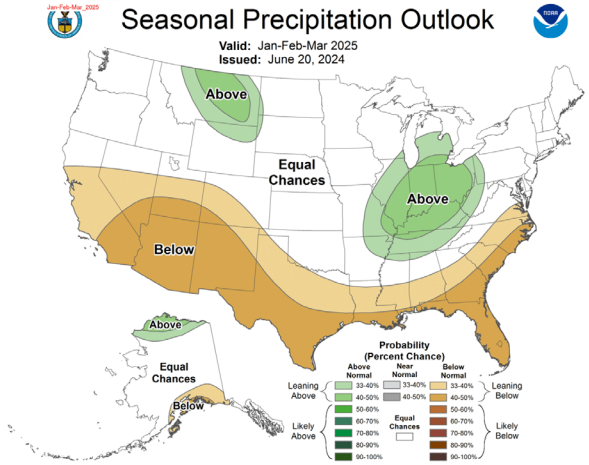


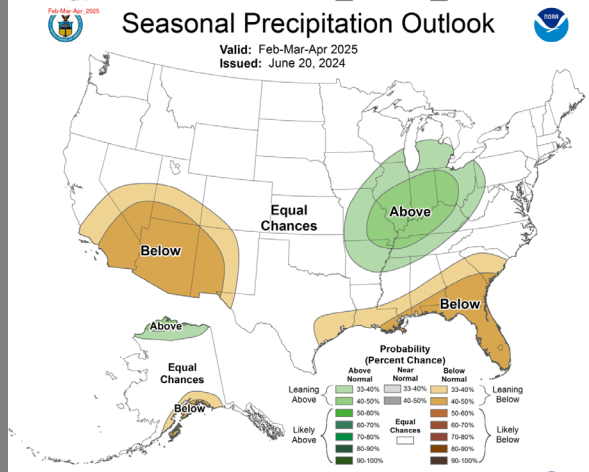


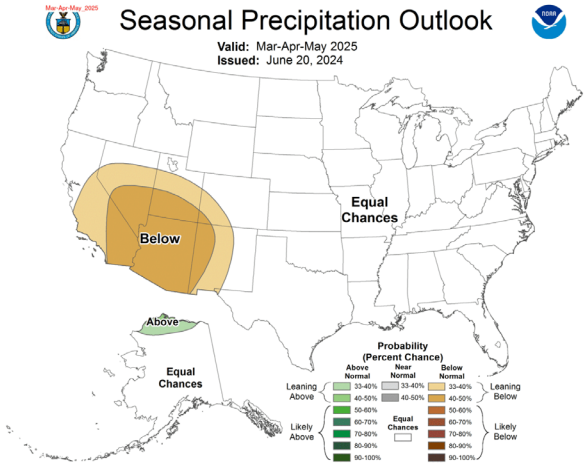


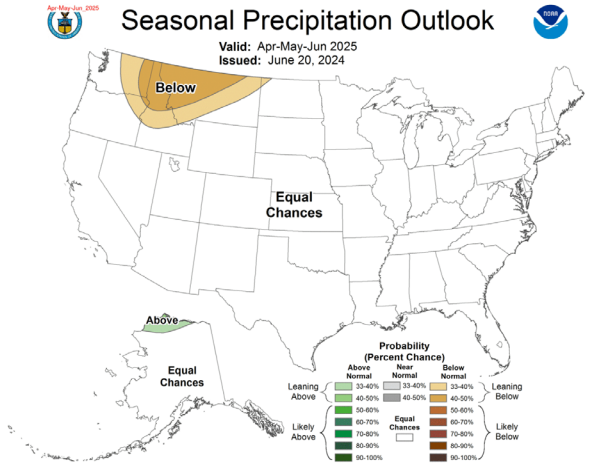












Prepared by: Climate Prediction Center/NCEP

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**

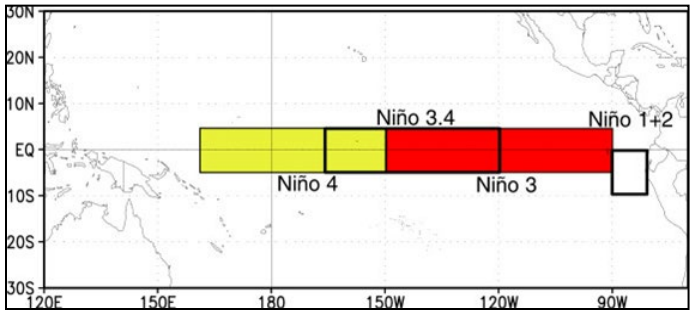
Atlantic Multidecadal Oscillation (AMO)

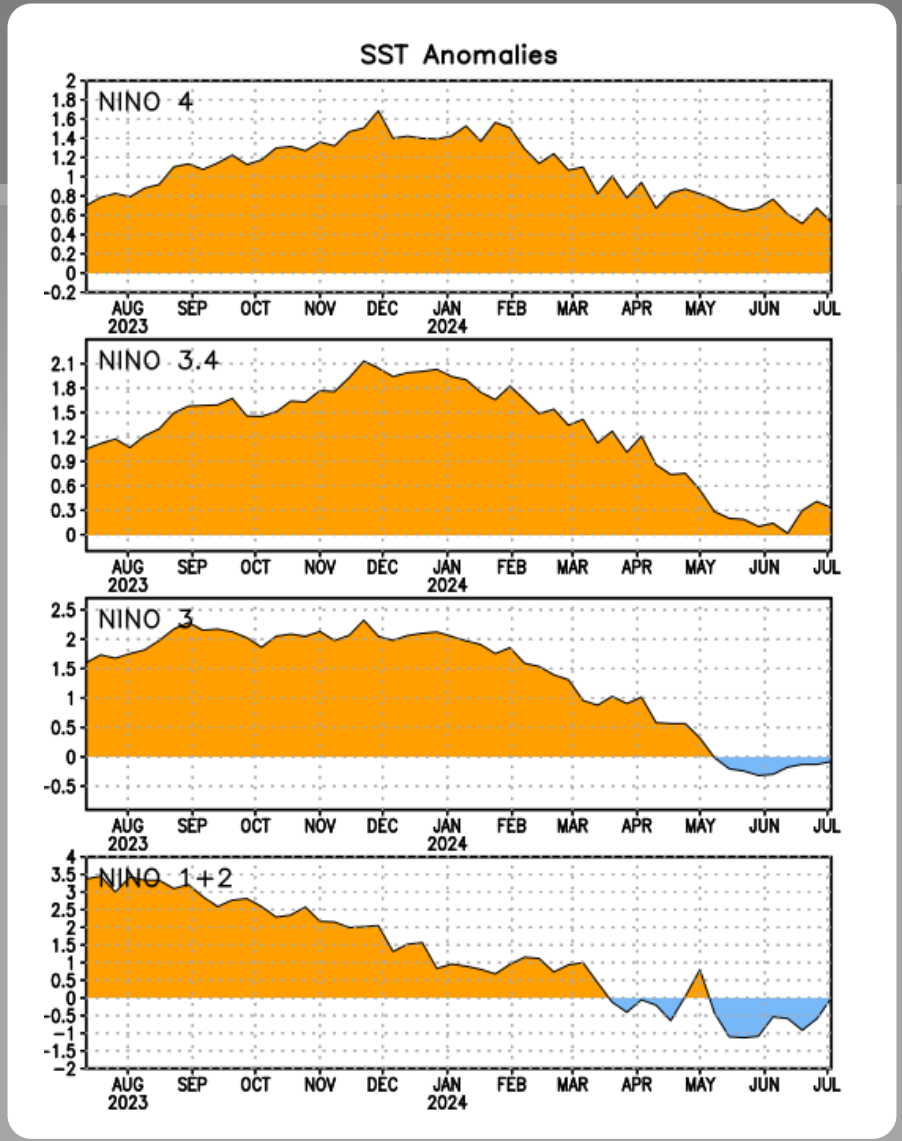
- **Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase of the AMO, easterly flow toward south Florida affected by phase**

Niño Region SST Departures (ºC) Recent Evolution

The latest weekly SST departures are:

Niño 4	0.5ºC
Niño 3.4	0.3ºC
Niño 3	-0.1ºC
Niño 1+2	0.0ºC





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 ENSO-neutral will persist through August-October 2024. Thereafter, most models indicate a transition to La Niña around September-November 2024.

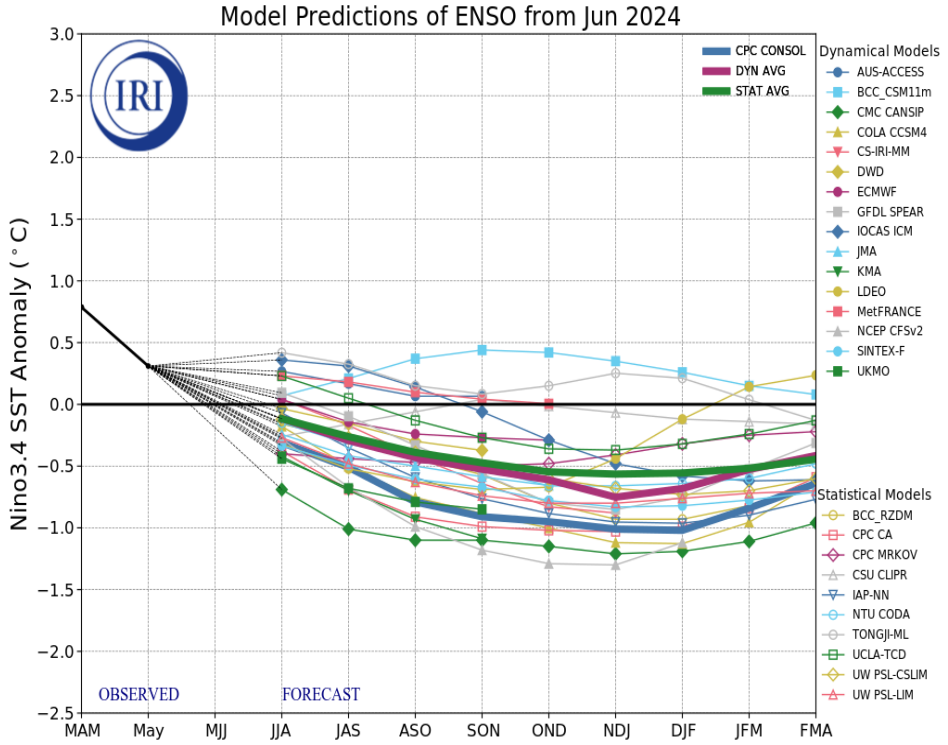
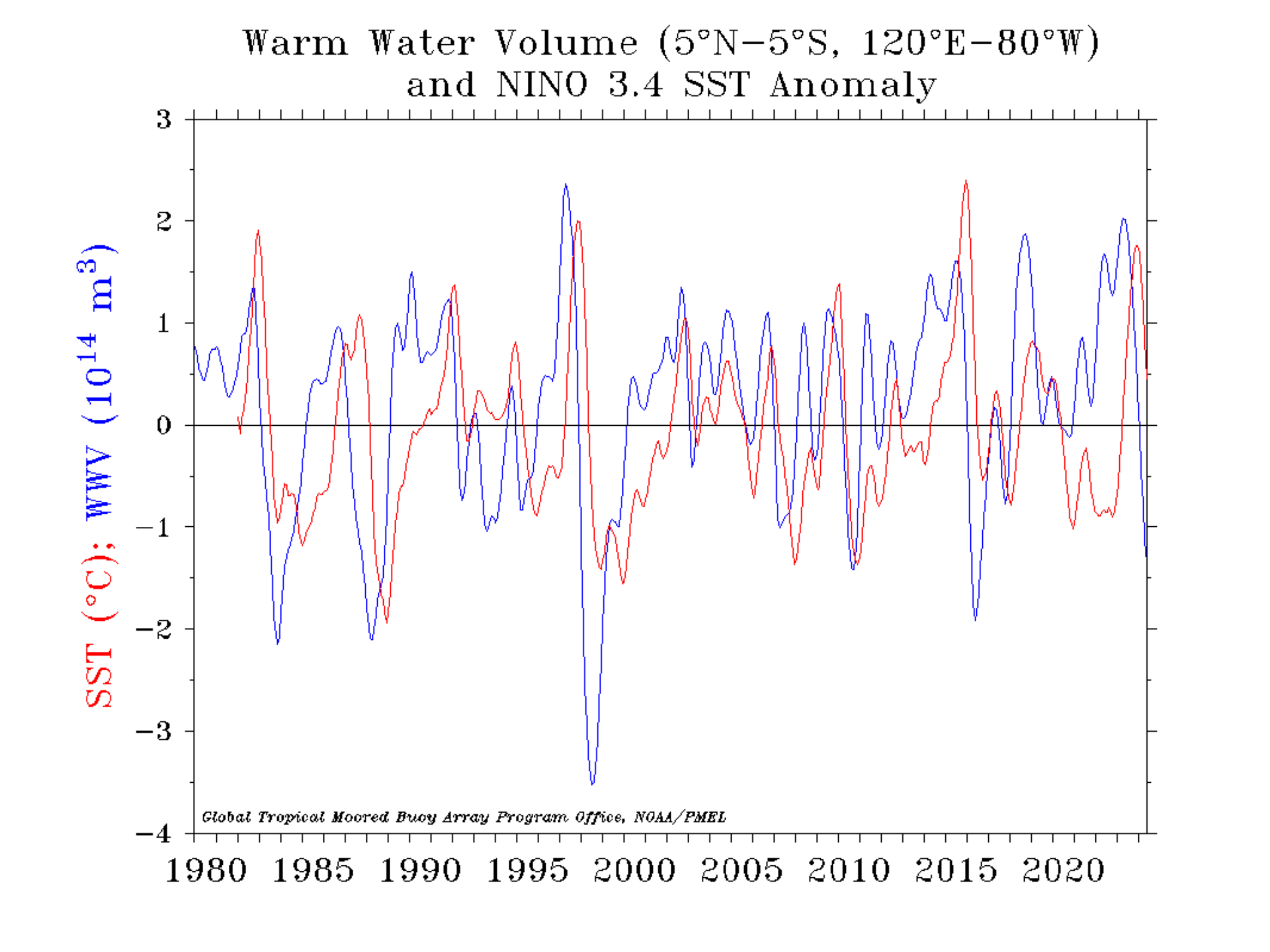
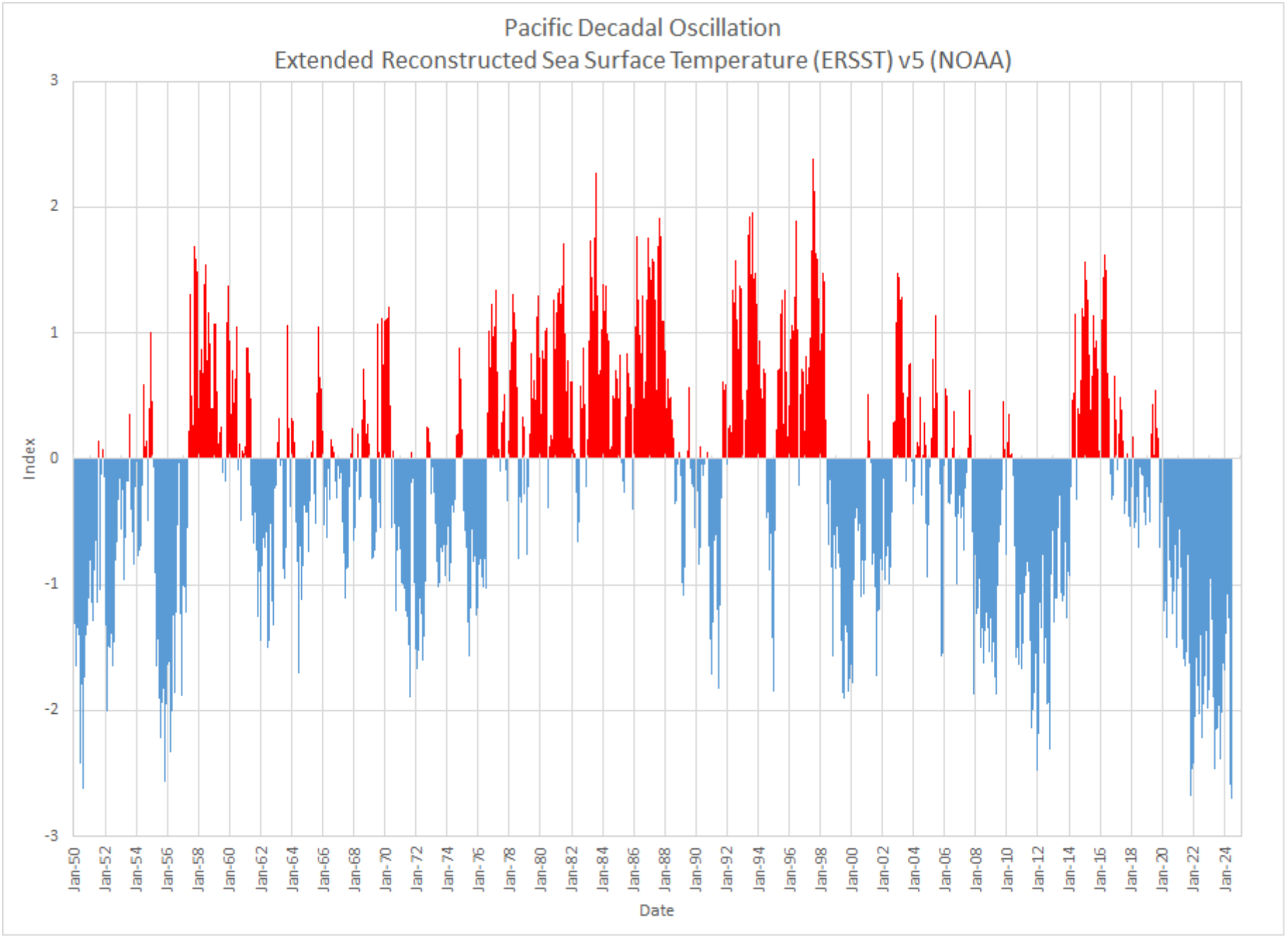
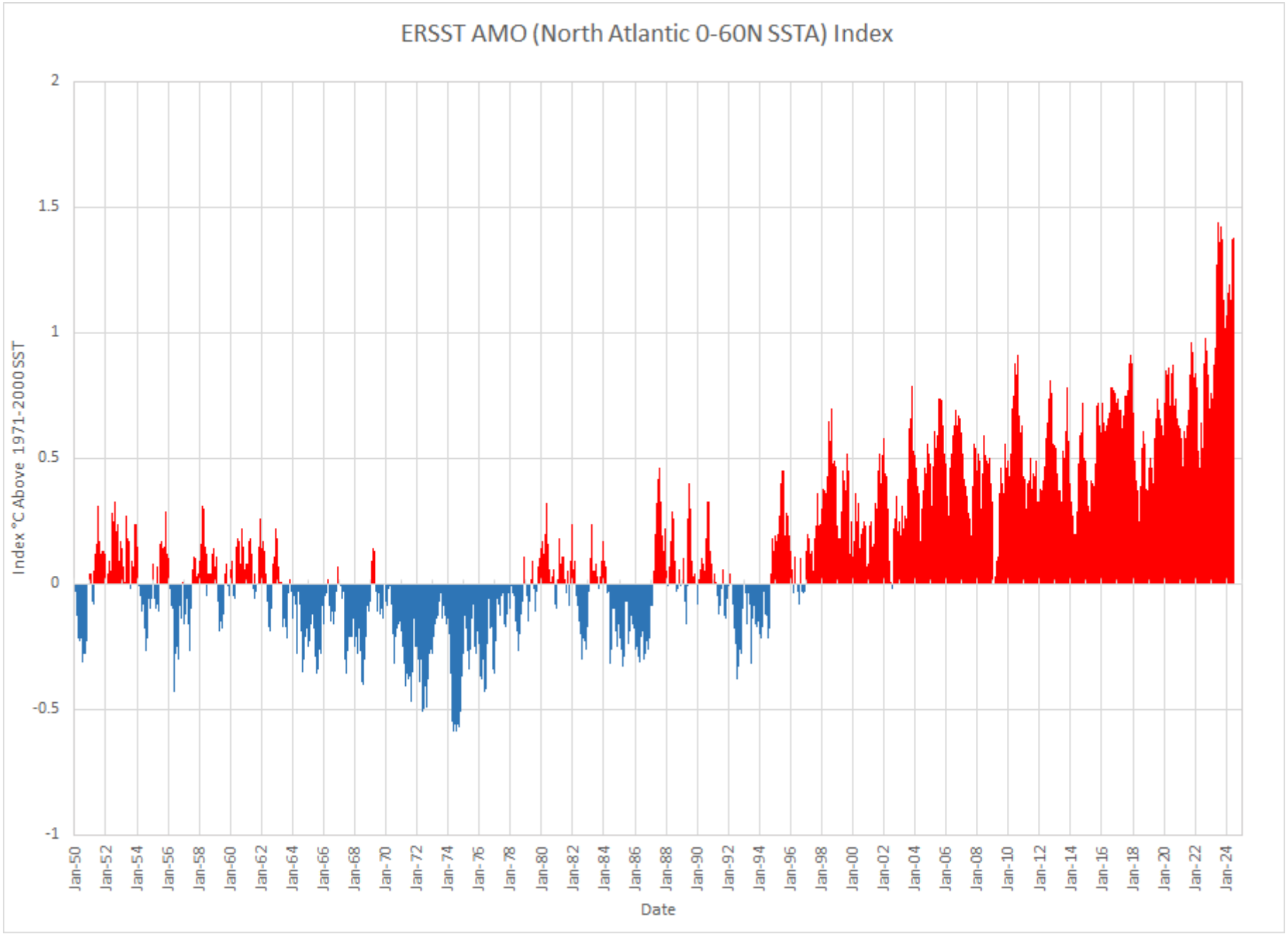


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 20 June 2024).

Prepared by: Climate Prediction Center/NCEP

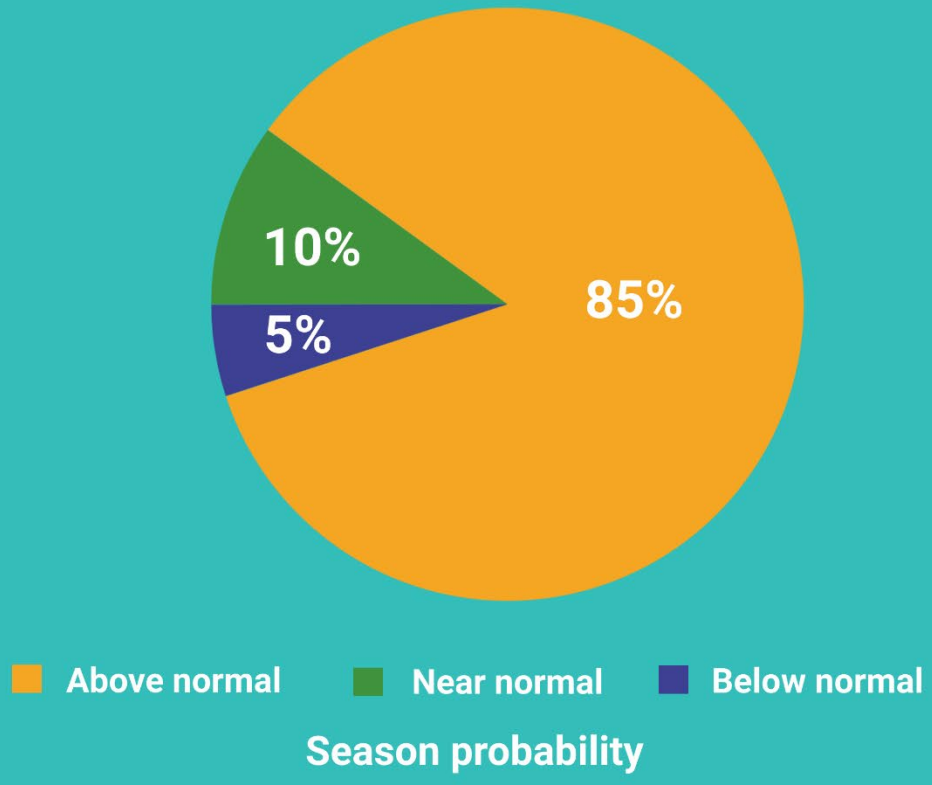

Warm Water Volume (5°N–5°S, 120°E–80°W)
and NINO 3.4 SST Anomaly
SST (°C); WWV (10^{14} m^3)
3
2
1
0
−1
−2
−3
−4
1980
1985
1990
1995
2000
2005
2010
2015
2020
Global Tropical Moored Buoy Array Program Office, NOAA/PMEL


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

2024 Atlantic Hurricane Season Outlook



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 13 April 2024	Issue Date 11 June 2024	Issue Date 9 July 2024	Observed Thru 8 July 2024	Remainder of Season Forecast
Named Storms (NS) (14.4)	23	23	25	3	22
Named Storm Days (NSD) (69.4)	115	115	120	12	108
Hurricanes (H) (7.2)	11	11	12	1	11
Hurricane Days (HD) (27.0)	45	45	50	6.25	43.75
Major Hurricanes (MH) (3.2)	5	5	6	1	5
Major Hurricane Days (MHD) (7.4)	13	13	16	4.5	11.5
Accumulated Cyclone Energy (ACE) (123)	210	210	230	36	194
ACE West of 60°W (73)	125	125	140	29	111
Net Tropical Cyclone Activity (NTC) (135%)	220	220	240	39	201

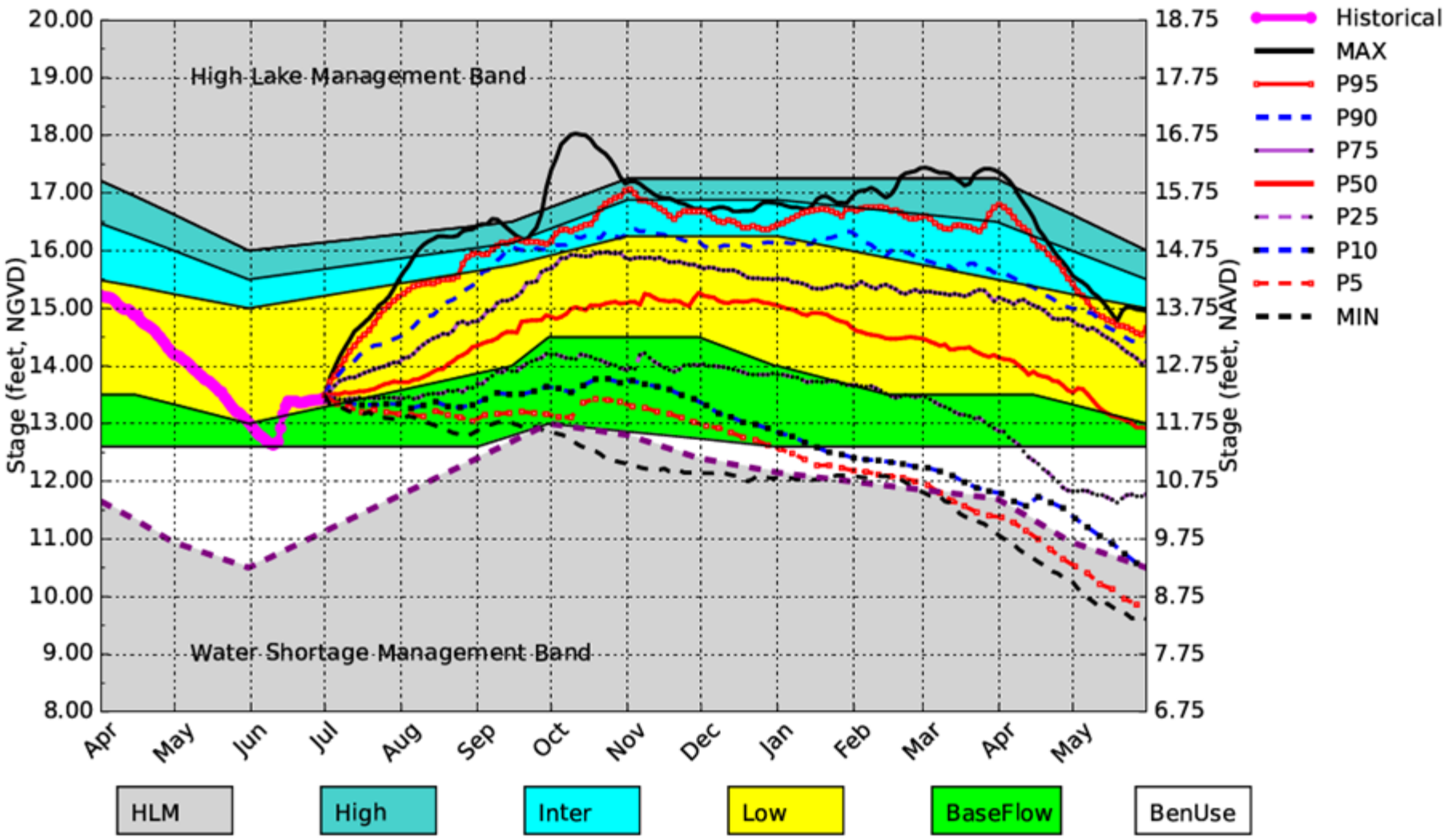
- Extremely active season, slight increase in forecast
- Anticipation of cool neutral ENSO or La Niña during the peak of the Atlantic hurricane season, resulting in reduced levels of tropical Atlantic vertical wind shear
- Sea surface temperatures averaged across the hurricane Main Development Region of the tropical Atlantic and Caribbean remain near record warm levels
- Forecast is of above-normal confidence
- Next update: August 6, 2024

Source: Colorado State University (Tropical Meteorology Project)

July 2024 DPA Assumptions

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

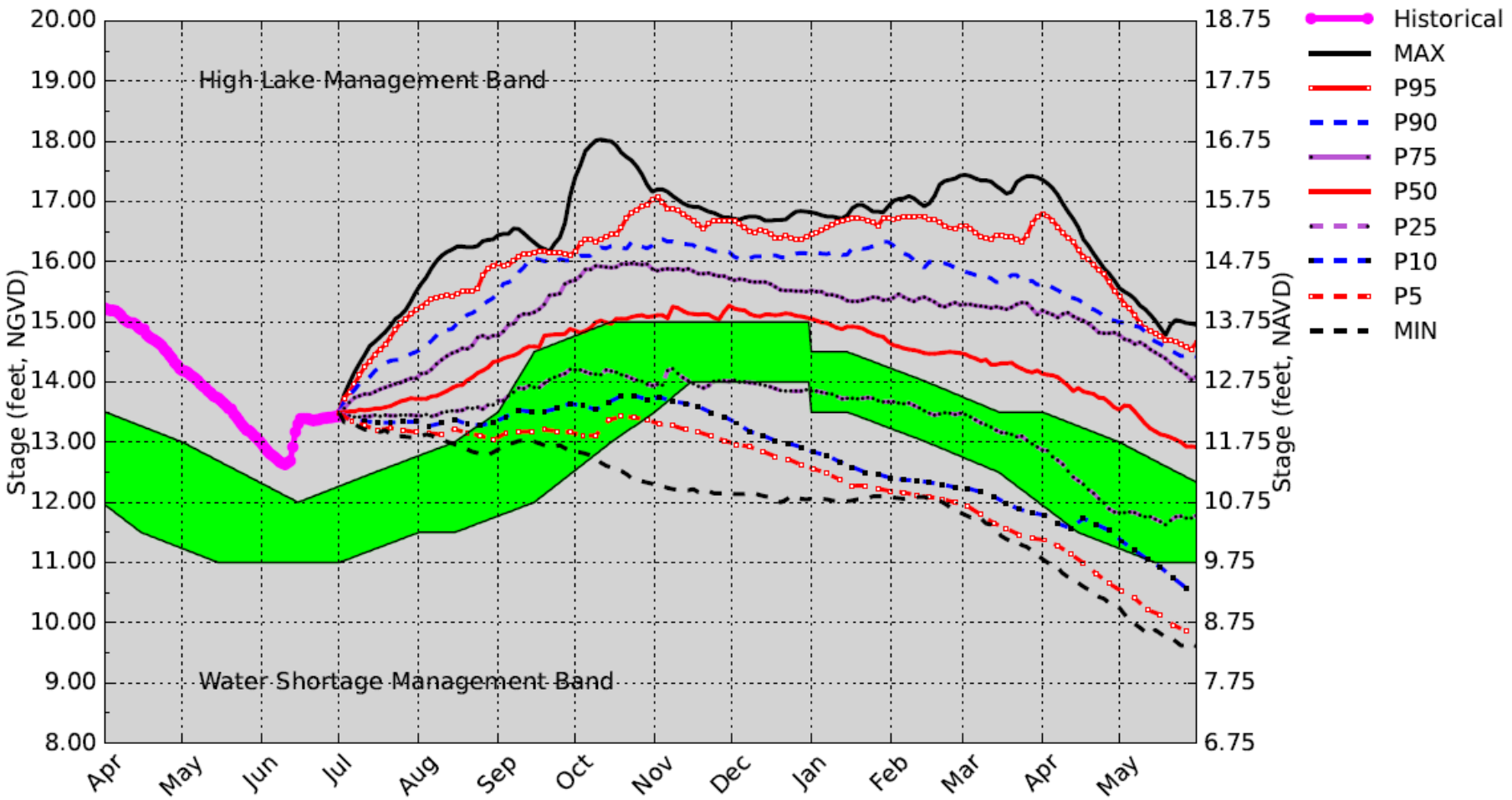
Lake Okeechobee SFWMM July 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

07/08/24 10:00:02

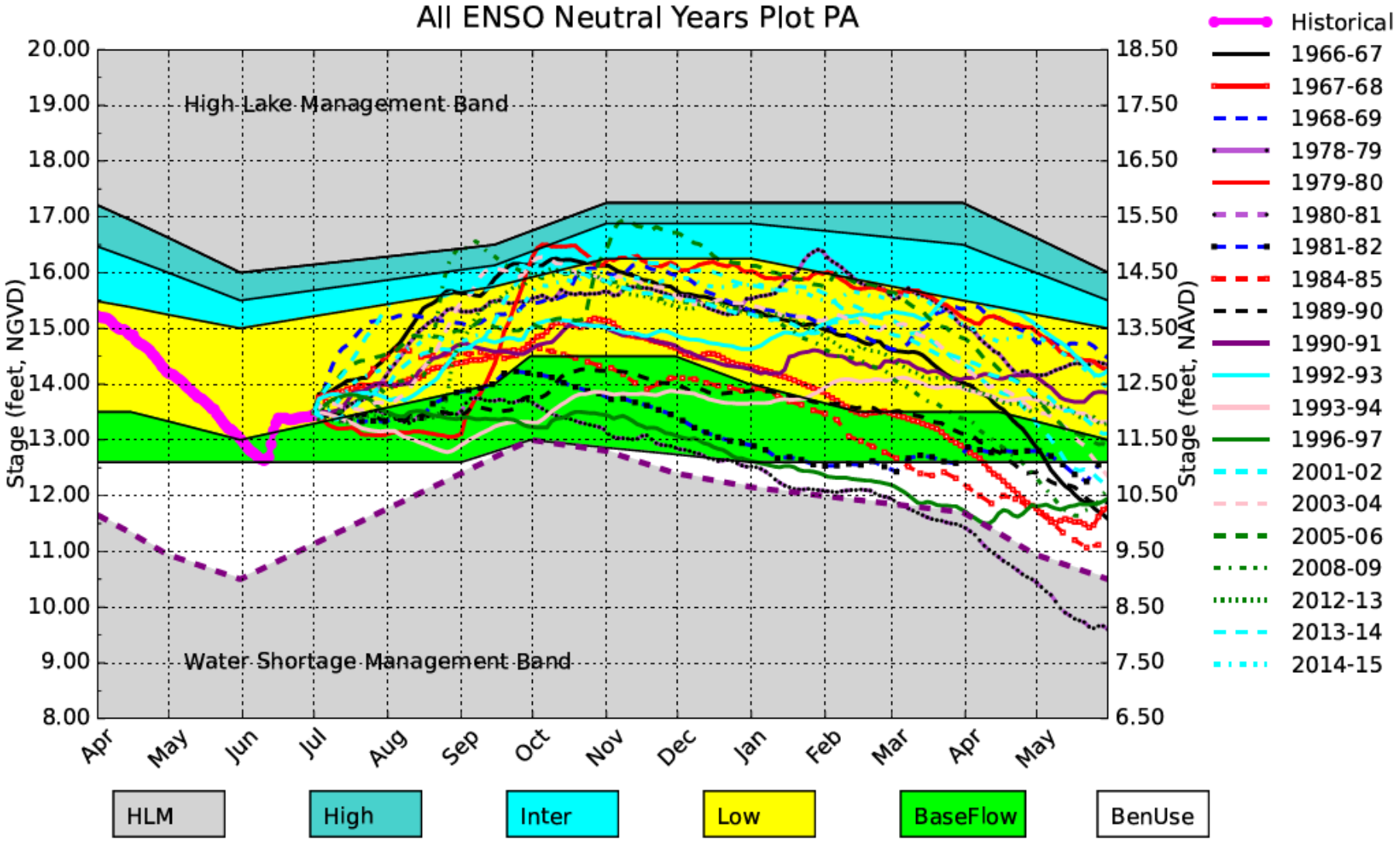
Lake Okeechobee SFWMM July 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

07/09/24 09:12:14

Lake Okeechobee SFWMM July 2024 Position Analysis

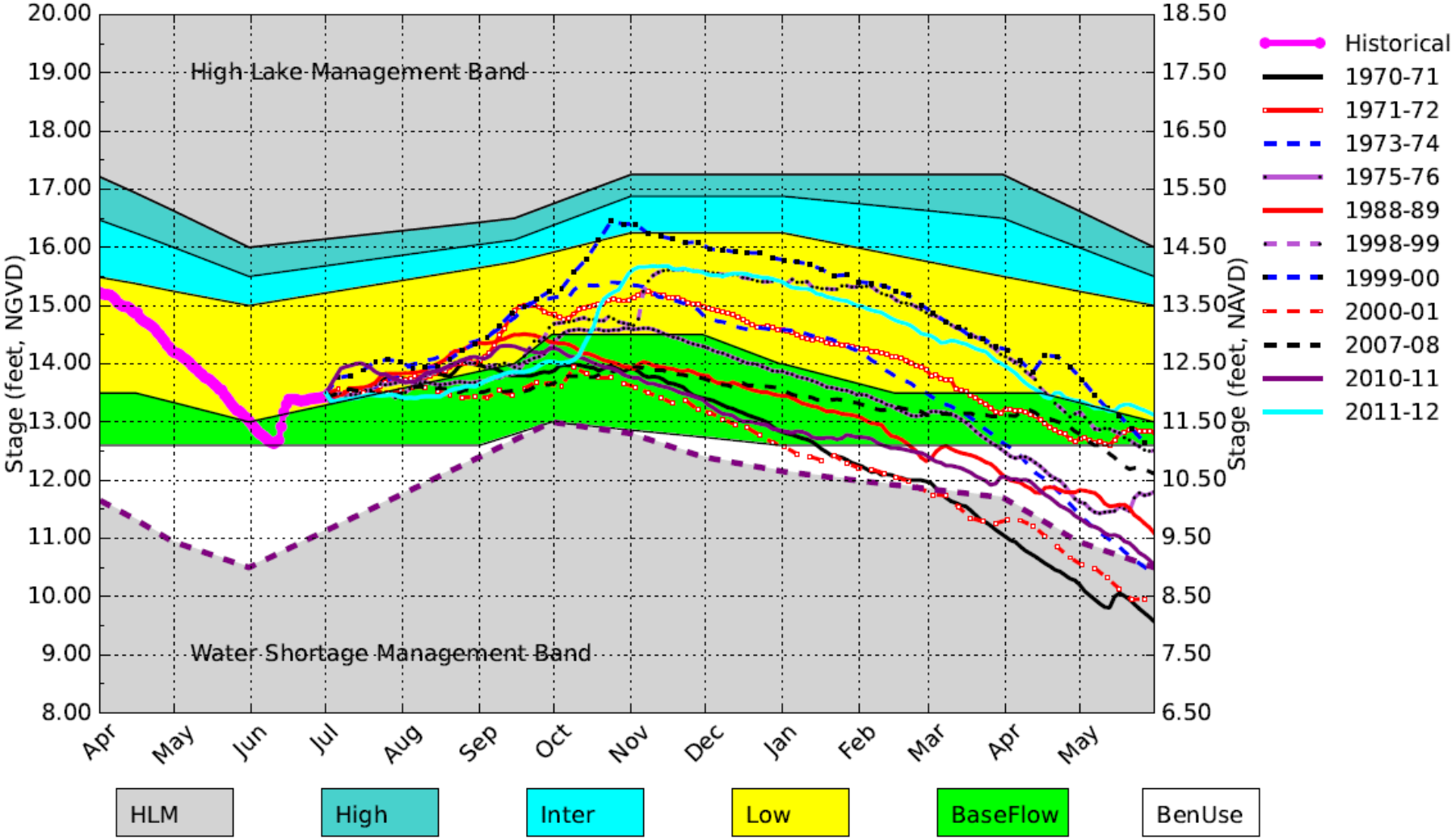


(See assumptions on the Position Analysis Results website)

07/08/24 10:00:08

Lake Okeechobee SFWMM July 2024 Position Analysis

All La Nina Years Plot PA



(See assumptions on the Position Analysis Results website)

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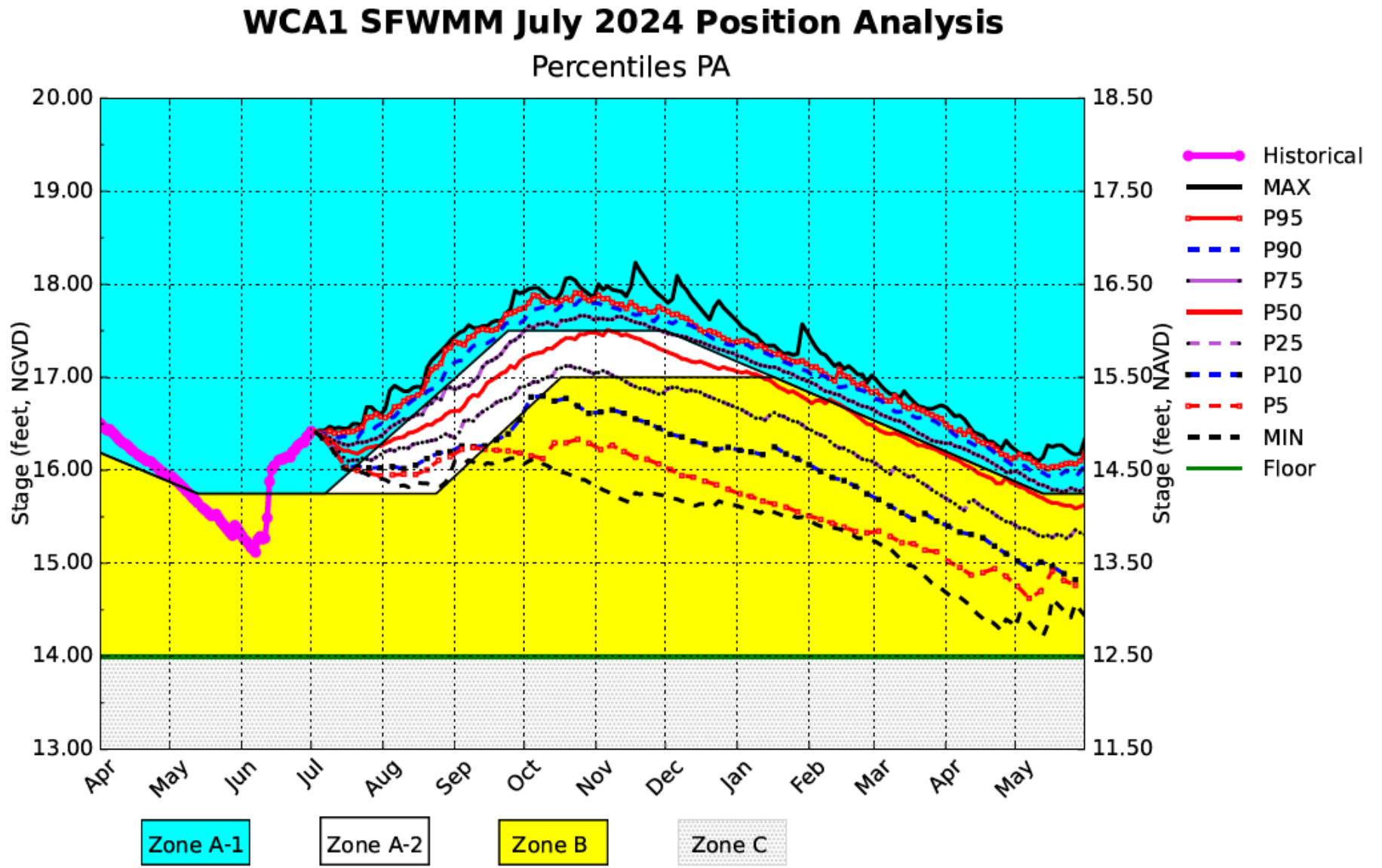
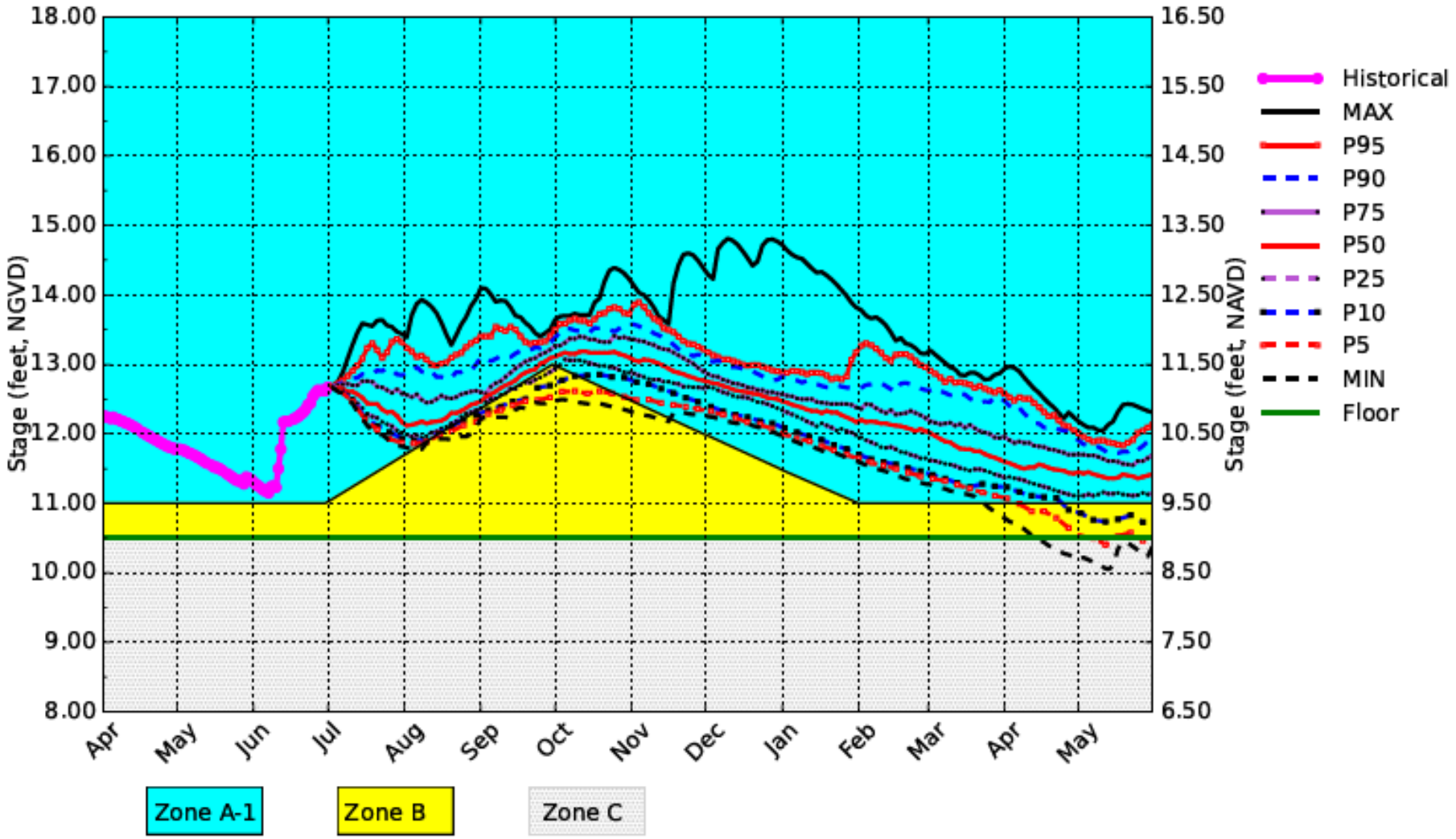


(See assumptions on the Position Analysis Results website)

07/08/24 10:00:05

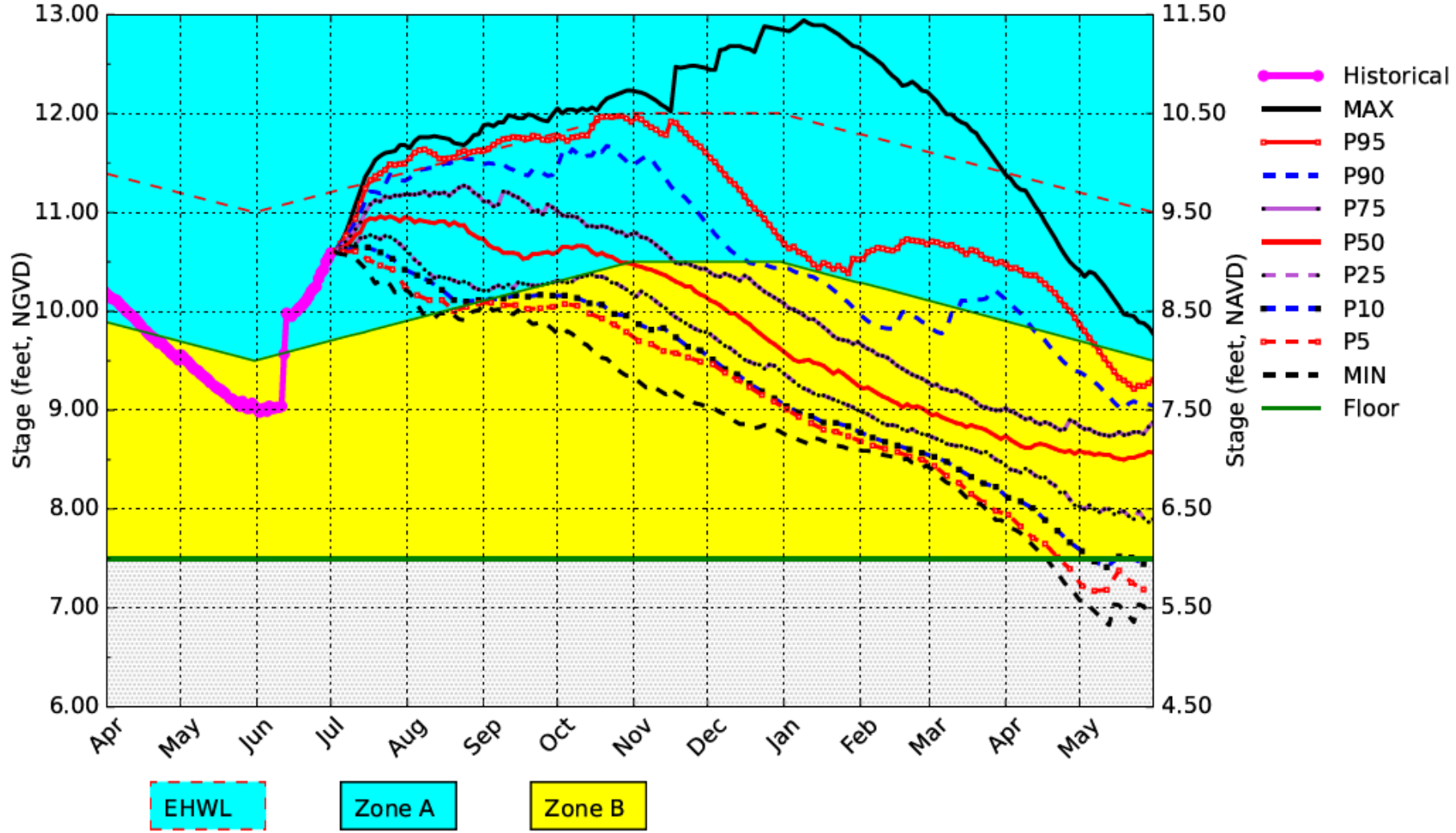
WCA2A SFWMM July 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

07/08/24 10:00:06

WCA3A SFWMM July 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

07/08/24 10:00:07