

Extended Hydrologic Outlook

September 6, 2022

- The Climate Prediction Center (CPC) is forecasting above normal rainfall for September through November.
- La Niña is expected to continue, with chances for La Niña gradually decreasing from 86% in the coming season to 60% during December-February 2022-23.
- 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

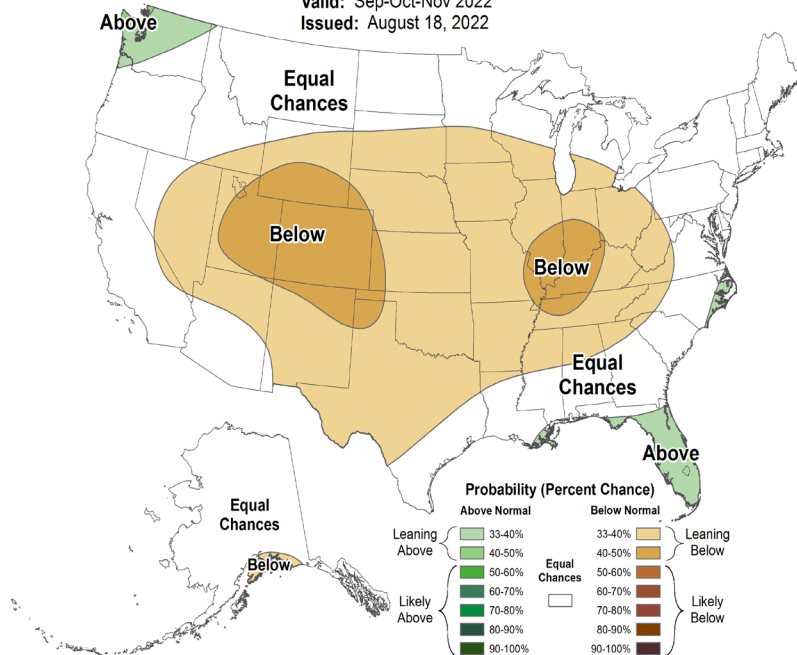
September - November 2022

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

Precipitation

Seasonal Precipitation Outlook

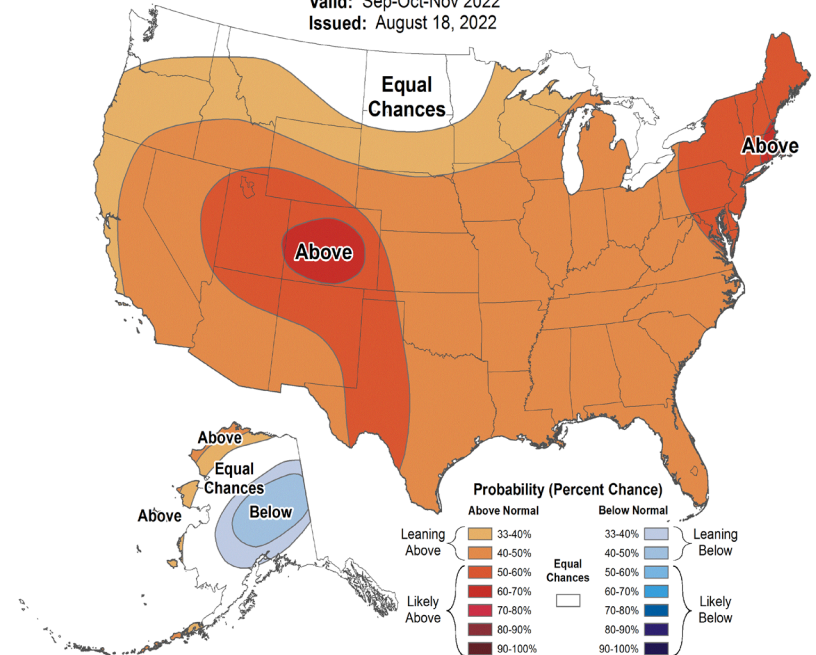
Valid: Sep-Oct-Nov 2022
Issued: August 18, 2022



Temperature

Seasonal Temperature Outlook

Valid: Sep-Oct-Nov 2022
Issued: August 18, 2022

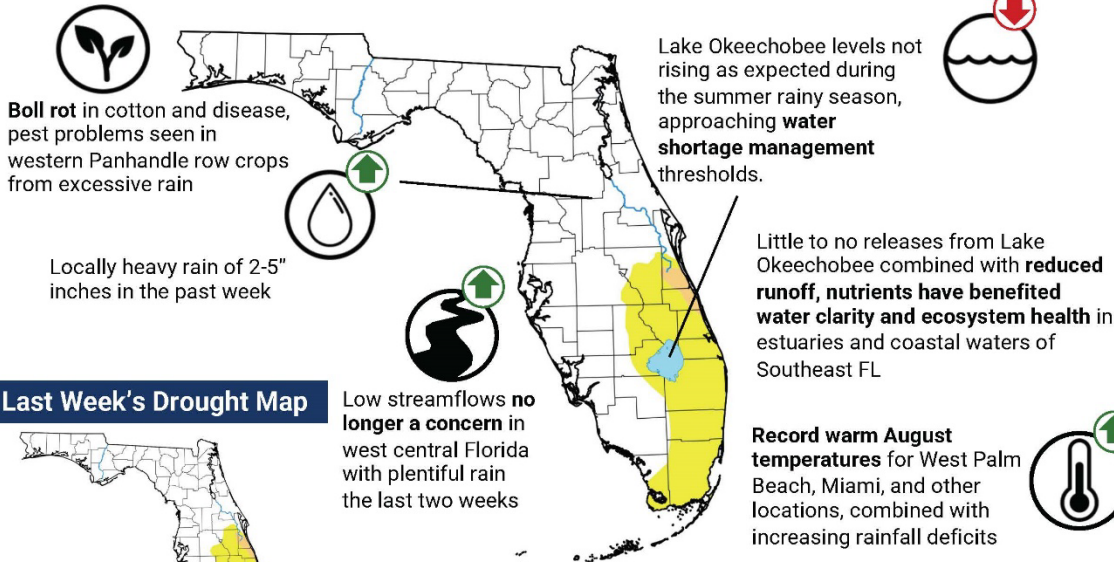


Florida Drought Update

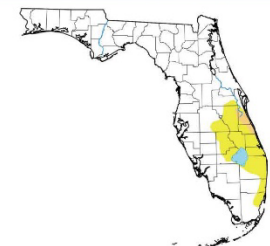
For the assessment period ending August 30, 2022

This Week's Drought Monitor of Florida Map

From the US Drought Monitor, authored by **Deborah Bathke (National Drought Mitigation Center)**, with input from the Florida Drought Monitoring Group. URL: <https://droughtmonitor.unl.edu/CurrentMap.aspx>



Last Week's Drought Map



Statewide Condition Summary

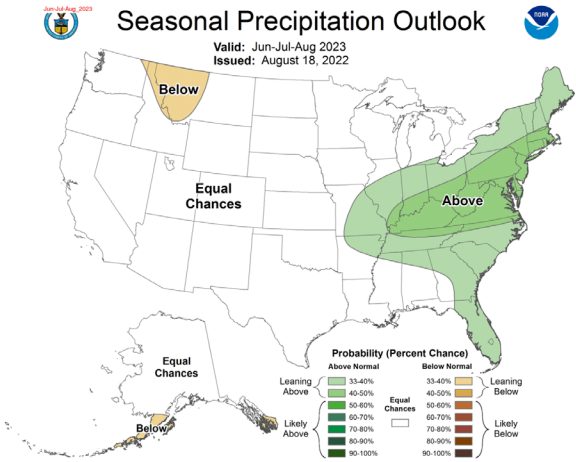
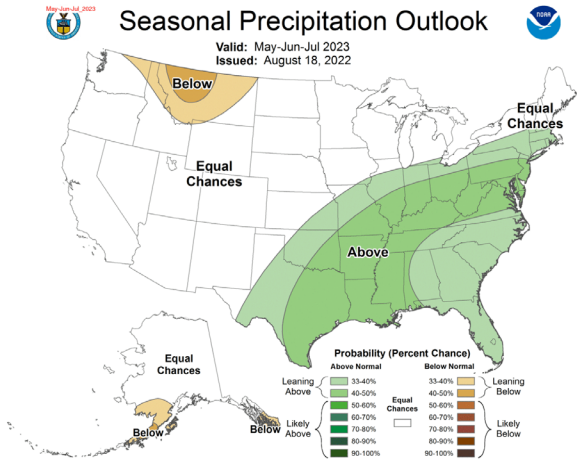
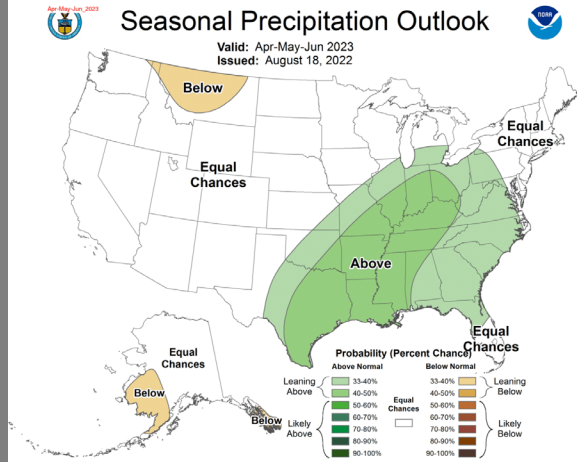
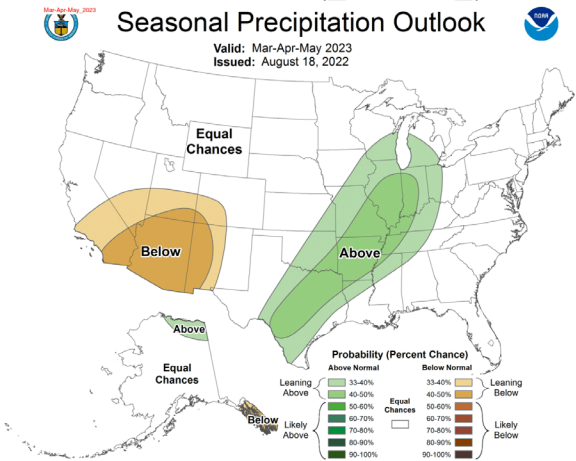
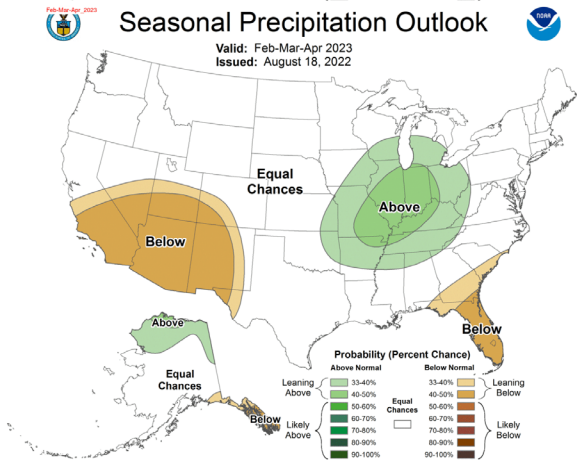
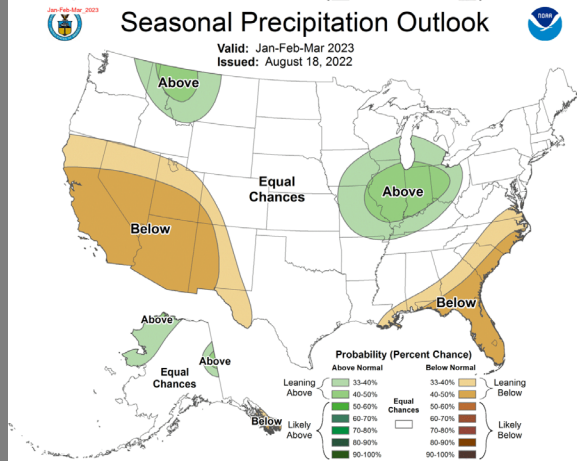
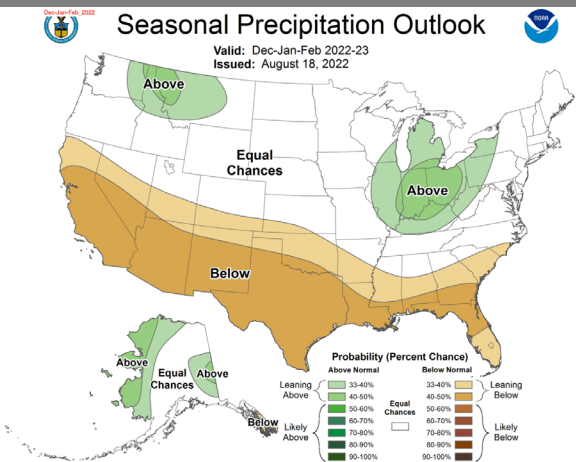
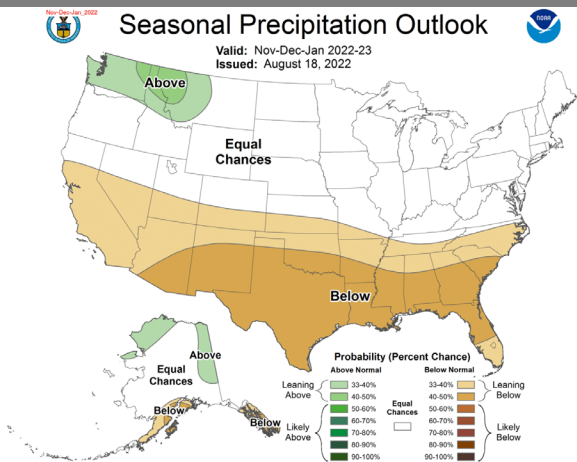
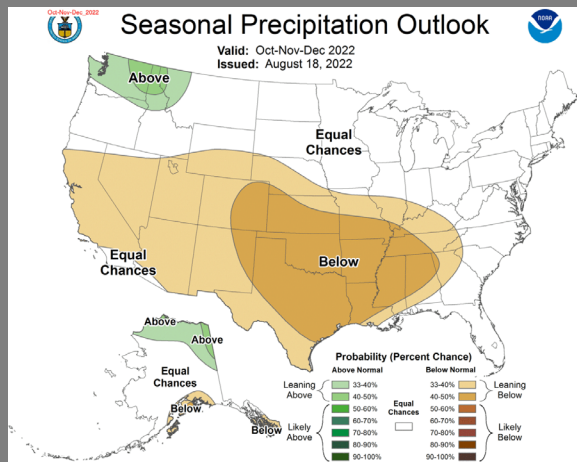
What's Changed? Abnormally dry (D0) has been extended westward to cover all inland Palm Beach, Broward, and Miami-Dade counties. Below normal rainfall since the first of the year leading to low inflows into Lake Okeechobee and falling water levels.

Current Pattern – Stalled front brought wet to very wet conditions over north central Florida, seasonal scattered rainfall elsewhere. Southeast Florida continues to fall behind with accumulating deficits. Still no rainfall from tropical storm systems.

What's Next? Seasonal return flow from the southeast and our usual scattered thunderstorms remain in the forecast. No tropical systems are expected to impact Florida in the next week.

Statewide Coverage By Category

Category	Coverage This Week	Last Week
D0: Abnormally Dry	20.50%	16.48%
D1: Moderate Drought	1.00%	1.31%
D2: Severe Drought	0.00%	0.00%
D3: Extreme Drought	0.00%	0.00%
D4: Exceptional Drought	0.00%	0.00%



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

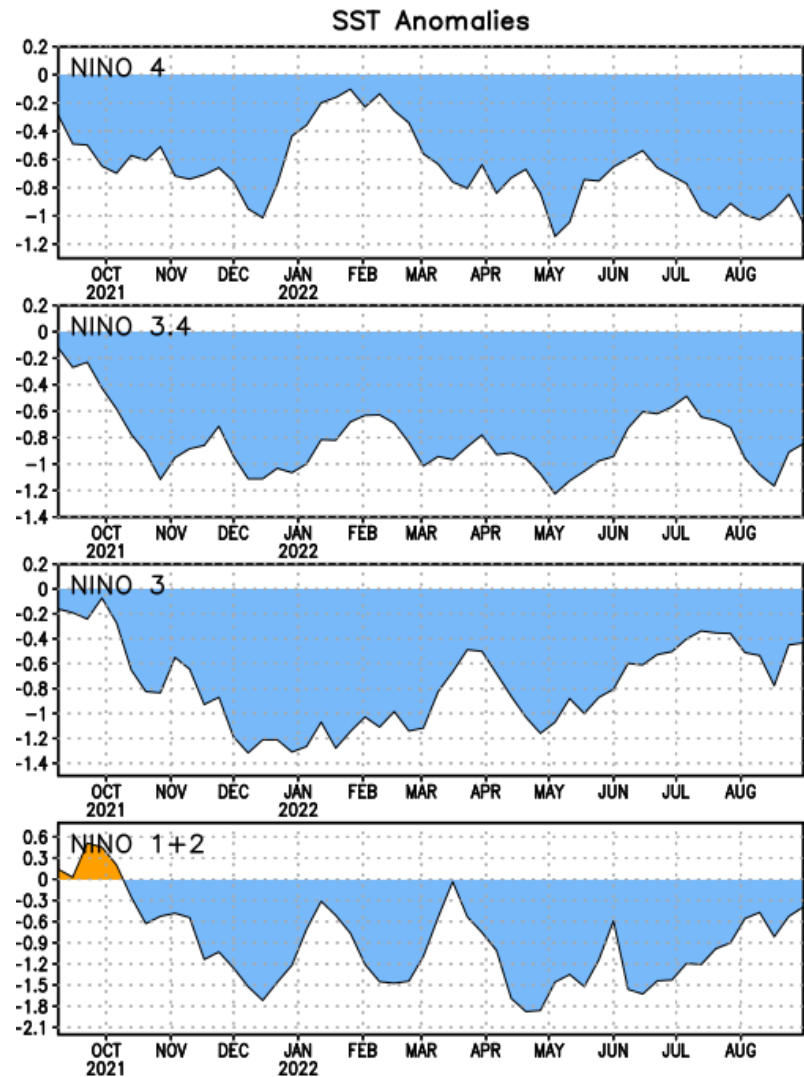
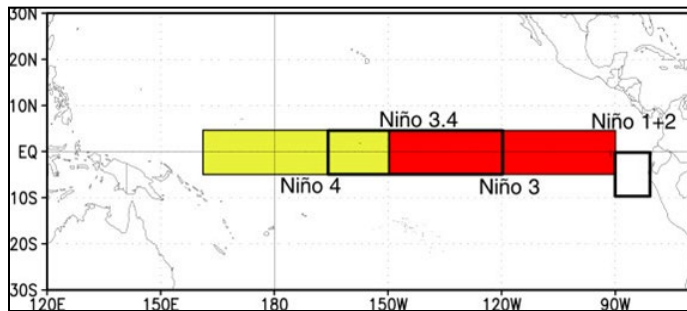
Atlantic Multidecadal Oscillation (AMO)

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

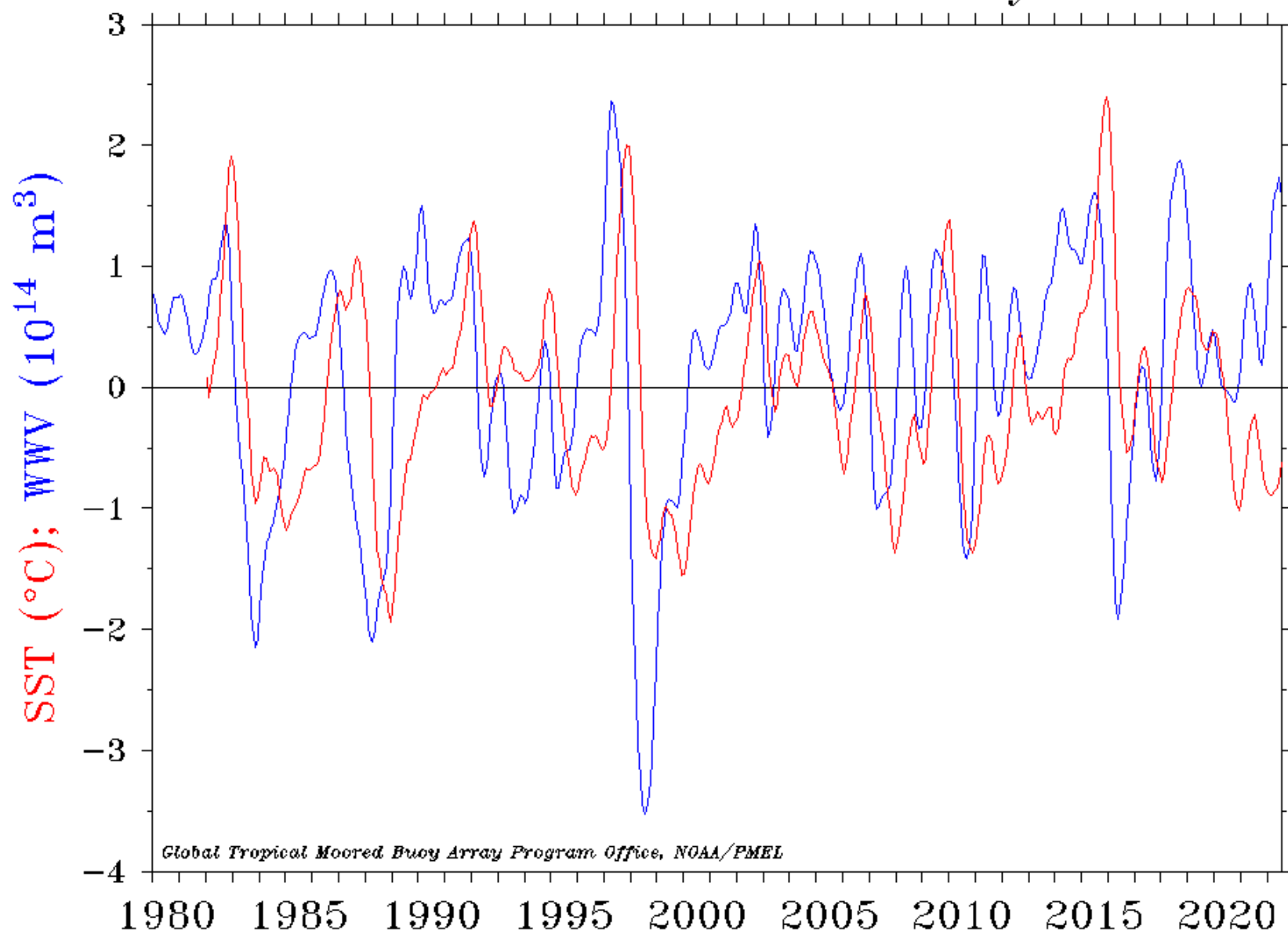
The latest weekly SST departures are:

Niño 4	-1.1°C
Niño 3.4	-0.8°C
Niño 3	-0.4°C
Niño 1+2	-0.4°C

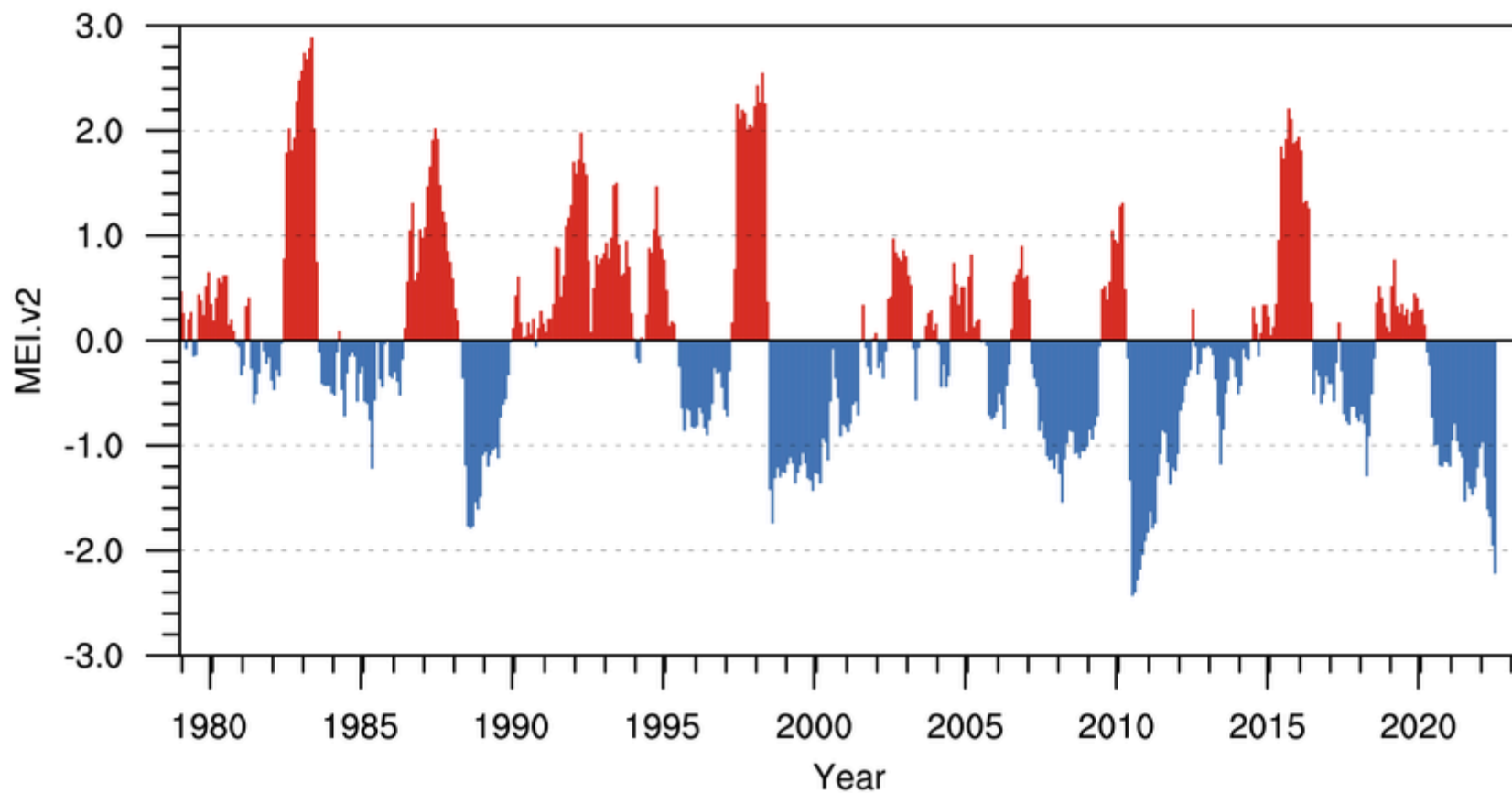


This weekly sea surface temperature data is based on OISSTv2.1 (Huang et al., 2021).

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

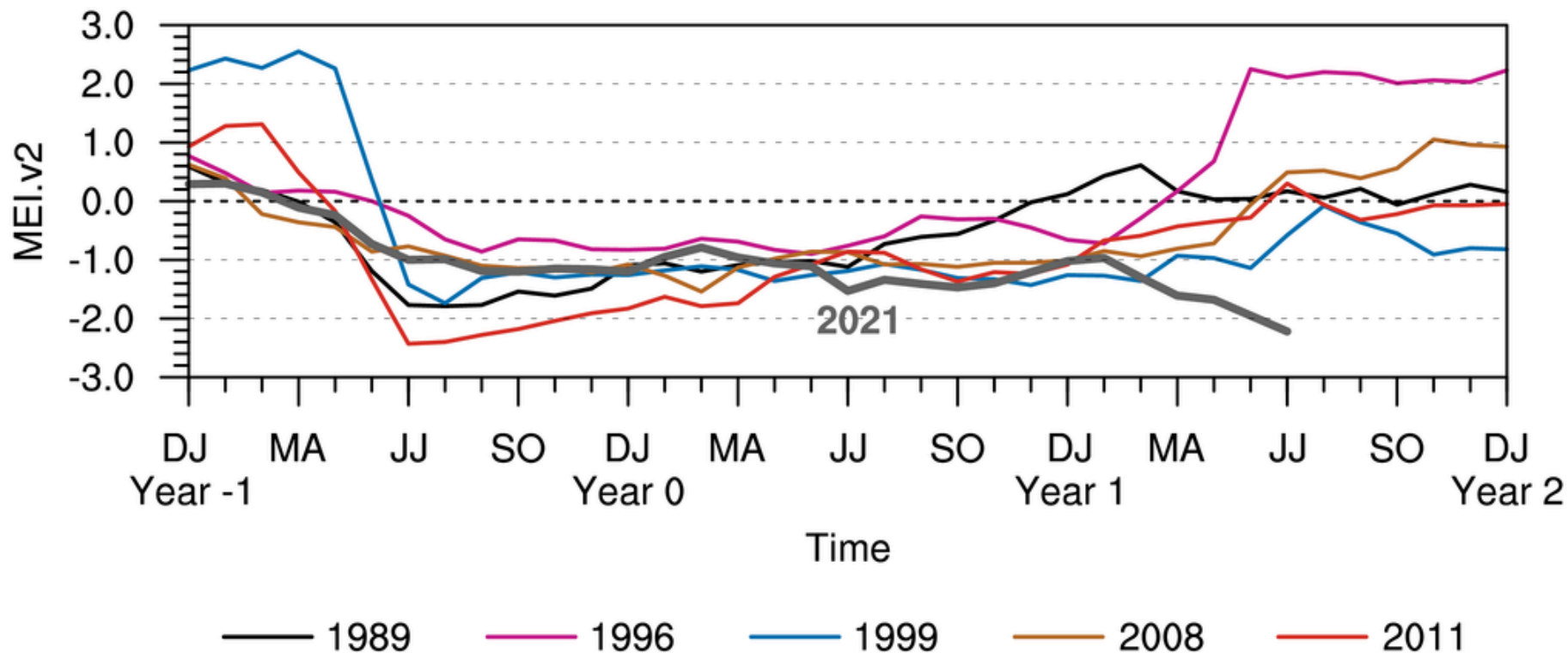


Multivariate ENSO Index Version 2

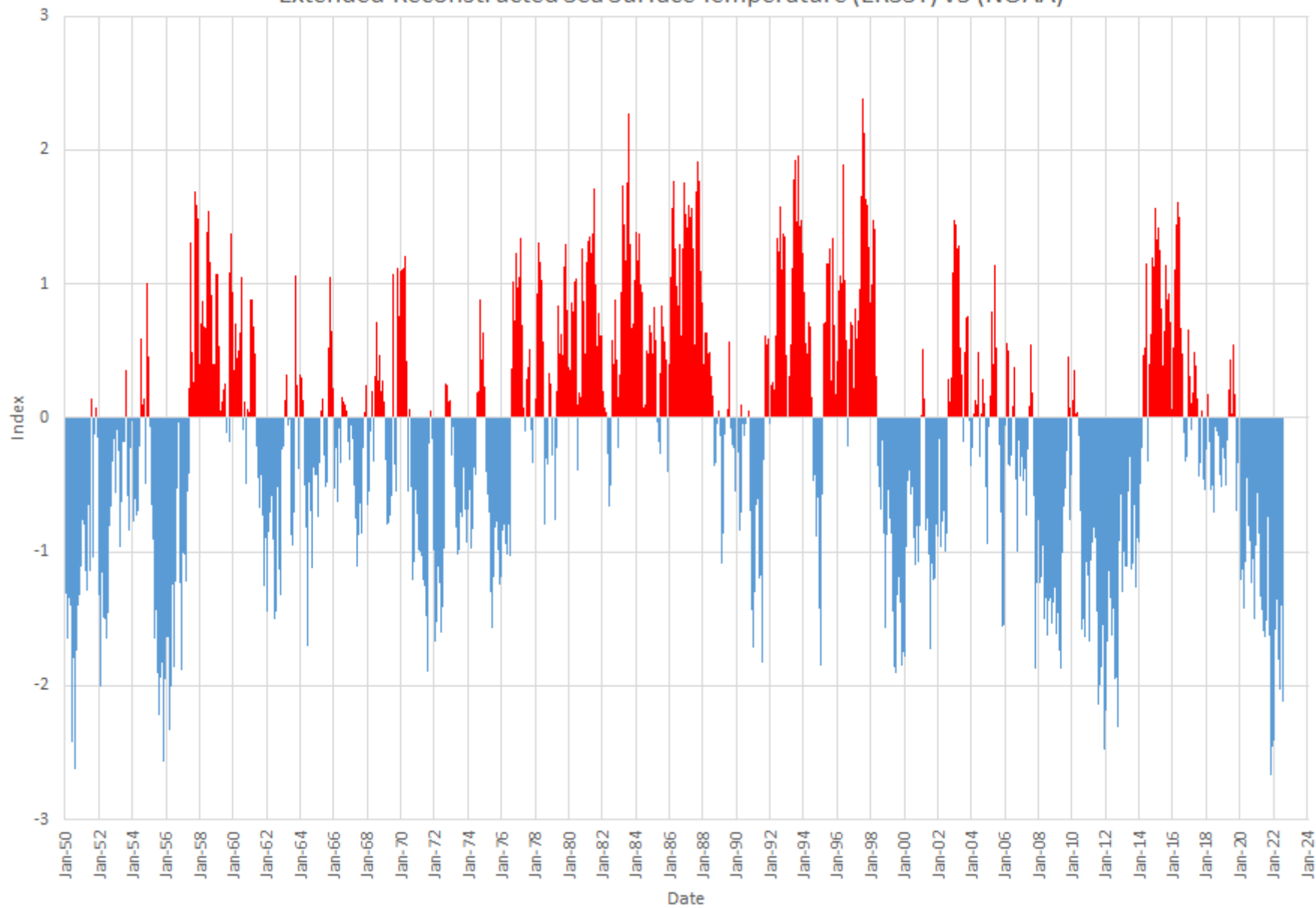


Prepared by: NOAA Physical Sciences Laboratory

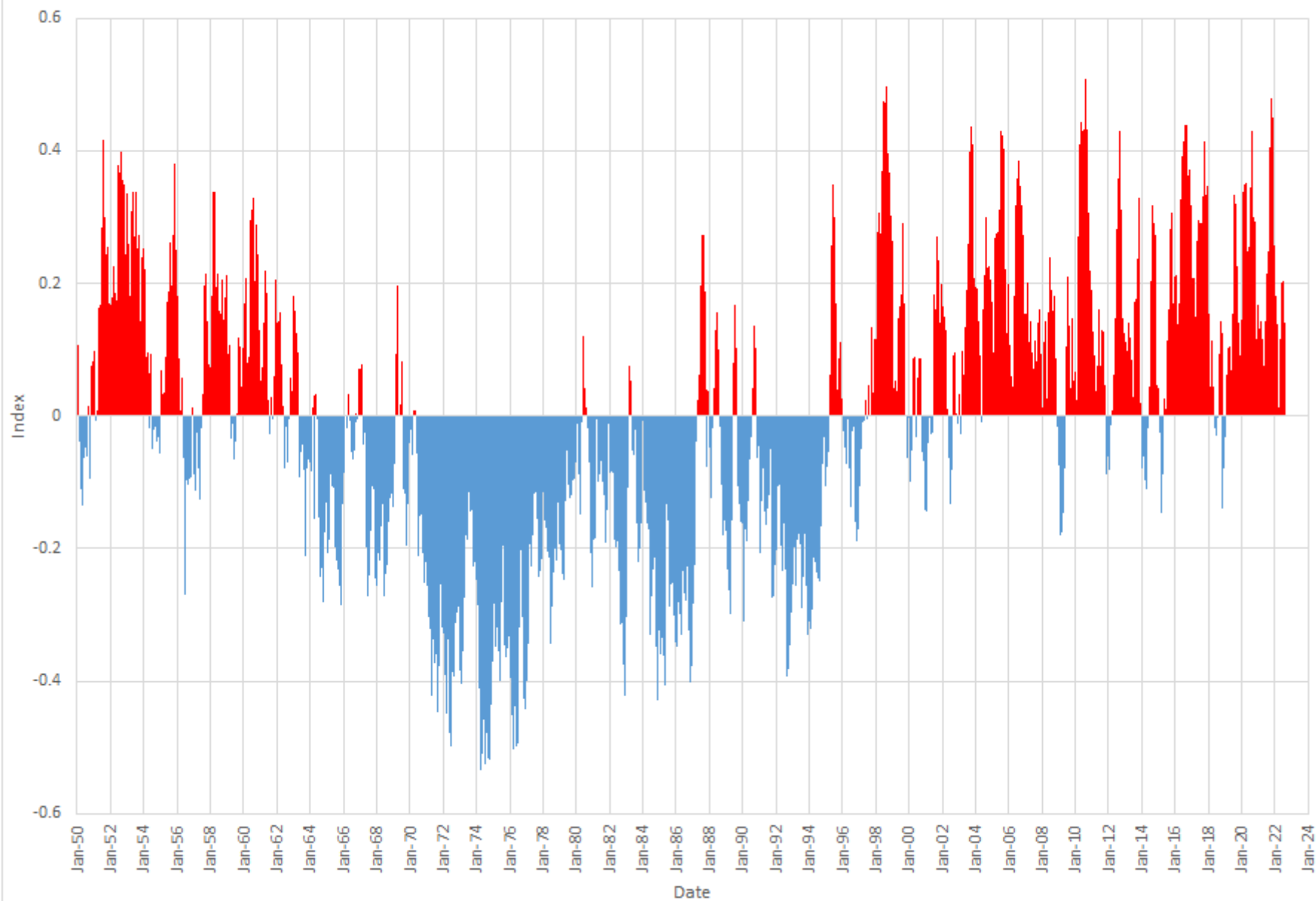
MEI.v2 Evolution of Current ENSO Event in Historical Context



Pacific Decadal Oscillation
Extended Reconstructed Sea Surface Temperature (ERSST) v5 (NOAA)



Index of the North Atlantic Temperatures (AMO) from Kaplan Extended SST V2 (NOAA)



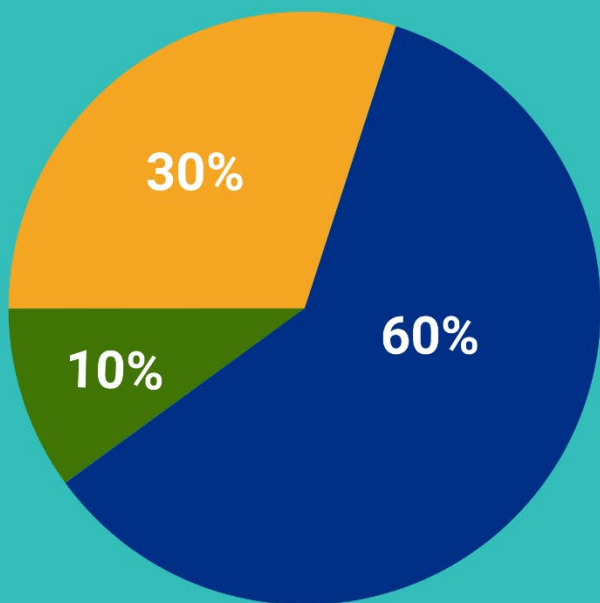
2022 Tropical Outlook





2022 Atlantic Hurricane Season Outlook

AUGUST 4 UPDATE



■ Above-normal ■ Near-normal ■ Below-normal season

Season probability

Named storms
14-20

Hurricanes
6-10

Major hurricanes
3-5

ATLANTIC BASIN SEASONAL HURRICANE FORECAST FOR 2022

Forecast Parameter and 1991-2020 Average (in parentheses)	Issue Date 7 April 2022	Issue Date 2 June 2022	Issue Date 7 July 2022	Issue Date 4 August 2022	Observed Thru 3 August 2022	Remainder of Season Forecast
Named Storms (NS) (14.4)	19	20	20	18*	3	15
Named Storm Days (NSD) (69.4)	90	95	95	85	3.25	81.75
Hurricanes (H) (7.2)	9	10	10	8	0	8
Hurricane Days (HD) (27.0)	35	40	40	30	0	30
Major Hurricanes (MH) (3.2)	4	5	5	4	0	4
Major Hurricane Days (MHD) (7.4)	9	11	11	8	0	8
Accumulated Cyclone Energy (ACE) (123)	160	180	180	150	3	147
Net Tropical Cyclone Activity (NTC) (135%)	170	195	195	160	6	154

*Total forecast includes Alex, Bonnie and Colin which have formed in the Atlantic as of August 3rd.

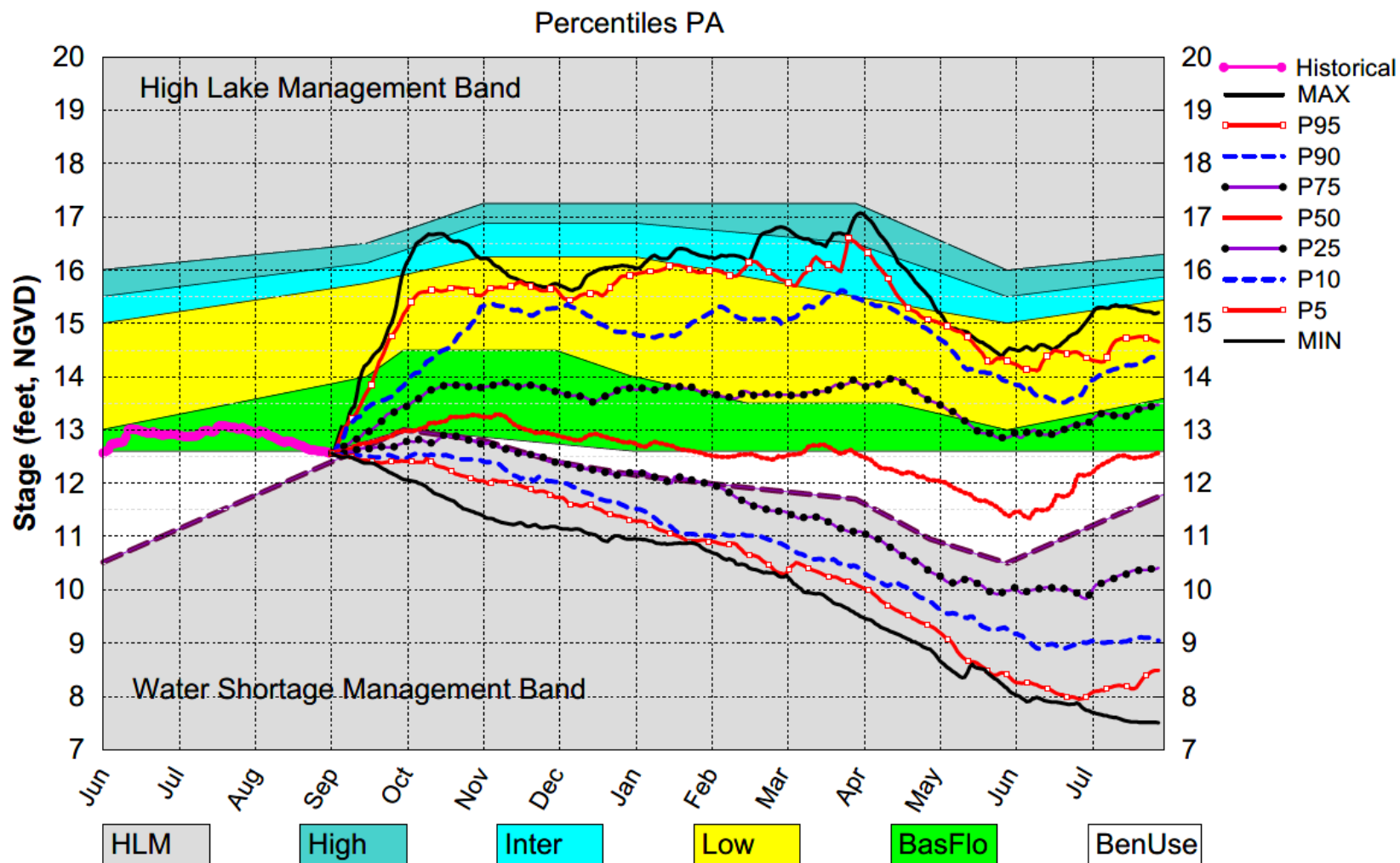
- Anticipate above-average activity
- La Niña to persist throughout the remainder of the hurricane season
- Sea surface temperatures across most of the tropical Atlantic are slightly warmer than normal

September DPA Assumptions

- The September 1, 2022 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 September 1, 2022 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on August 1st of each year of the DPA simulation and conditions the simulation to real time data during August to achieve real time stages on September 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.

PRELIMINARY RESULTS

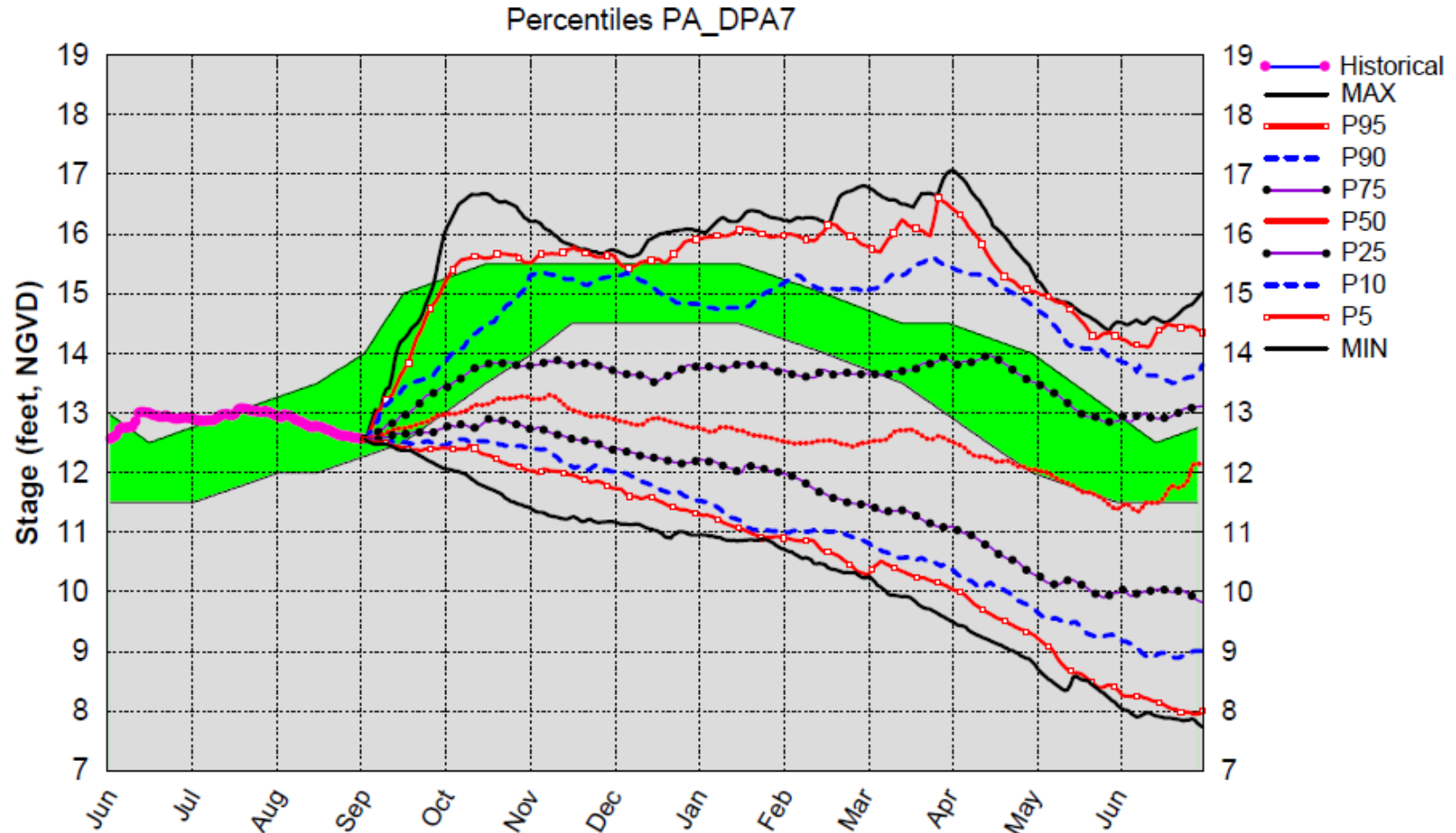
Lake Okeechobee SFWMM September 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

PRELIMINARY RESULTS

Lake Okeechobee SFWMM September 2022 Position Analysis

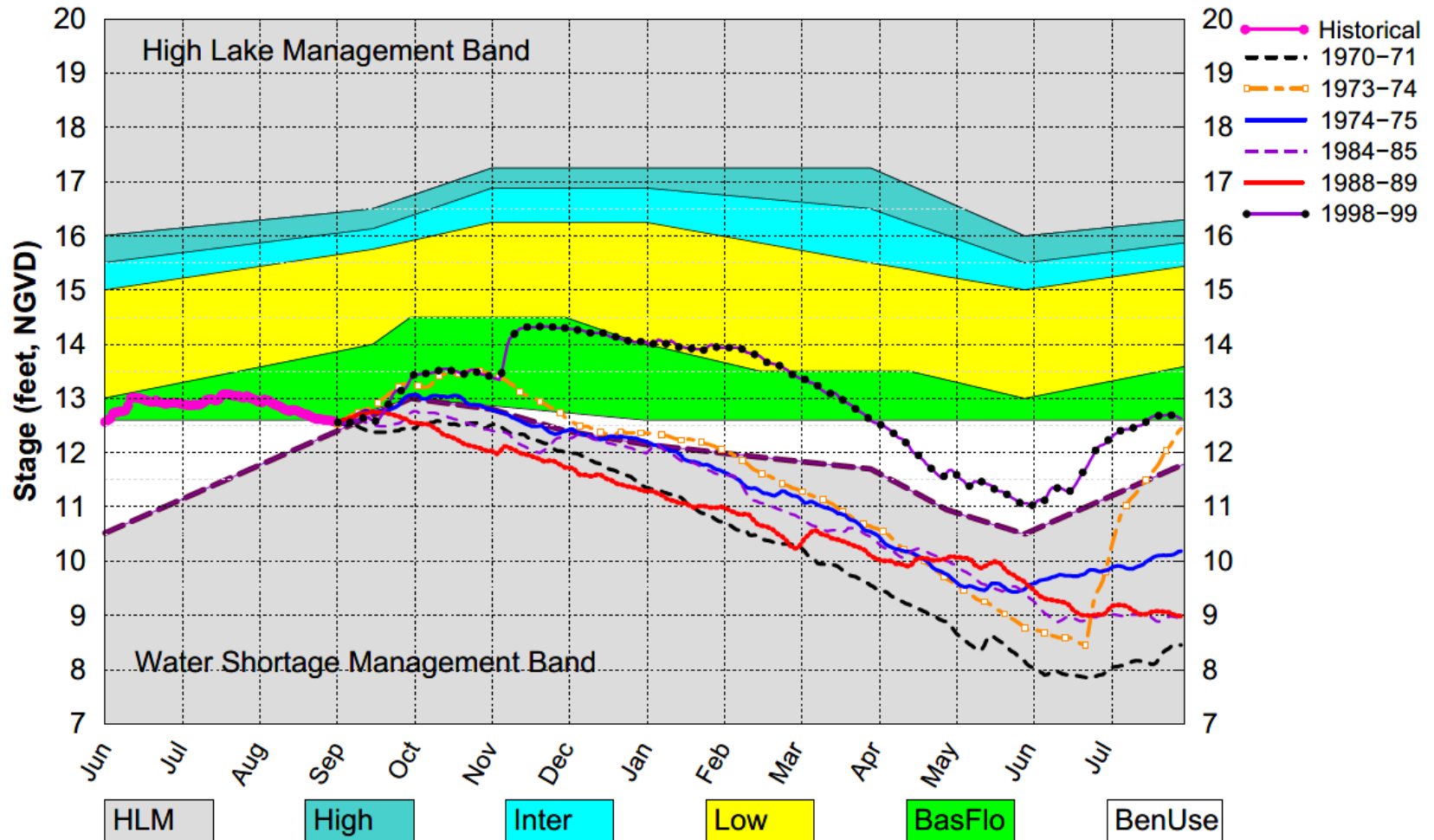


(See assumptions on the Position Analysis Results website)

PRELIMINARY RESULTS

Lake Okeechobee SFWMM September 2022 Position Analysis

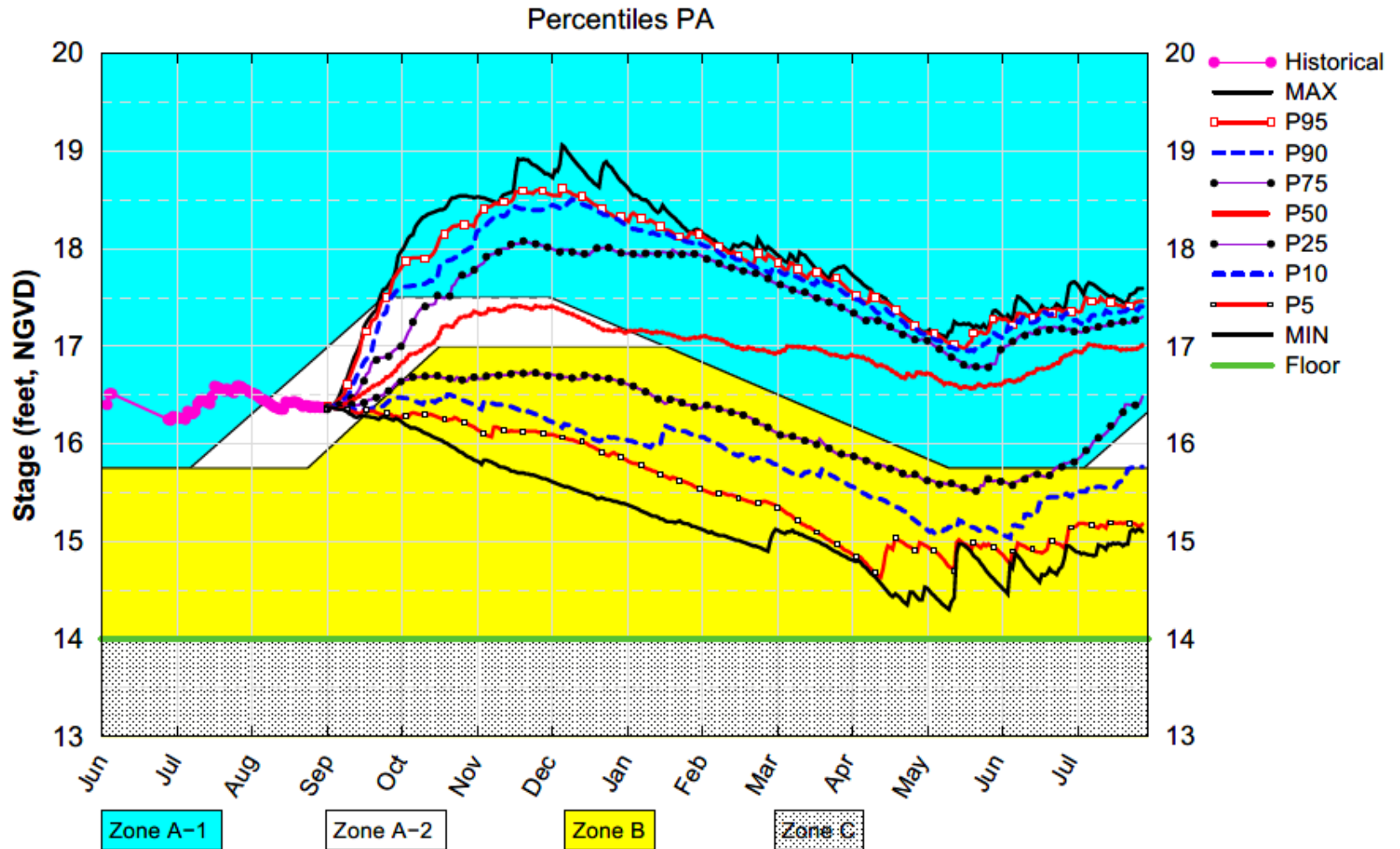
All La Nina Years Plot PA



(See assumptions on the Position Analysis Results website)

PRELIMINARY RESULTS

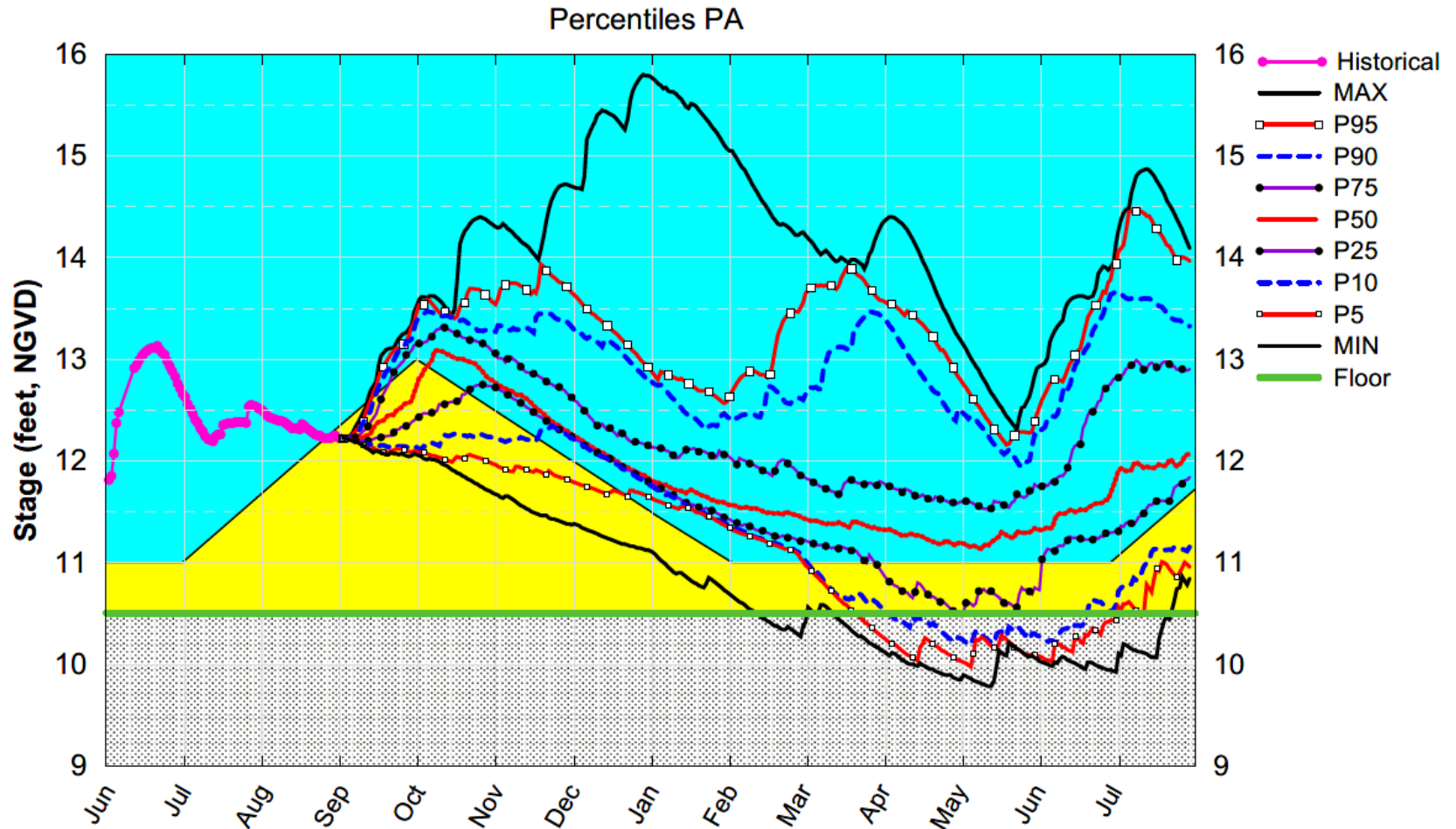
WCA1 SFWMM September 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

PRELIMINARY RESULTS

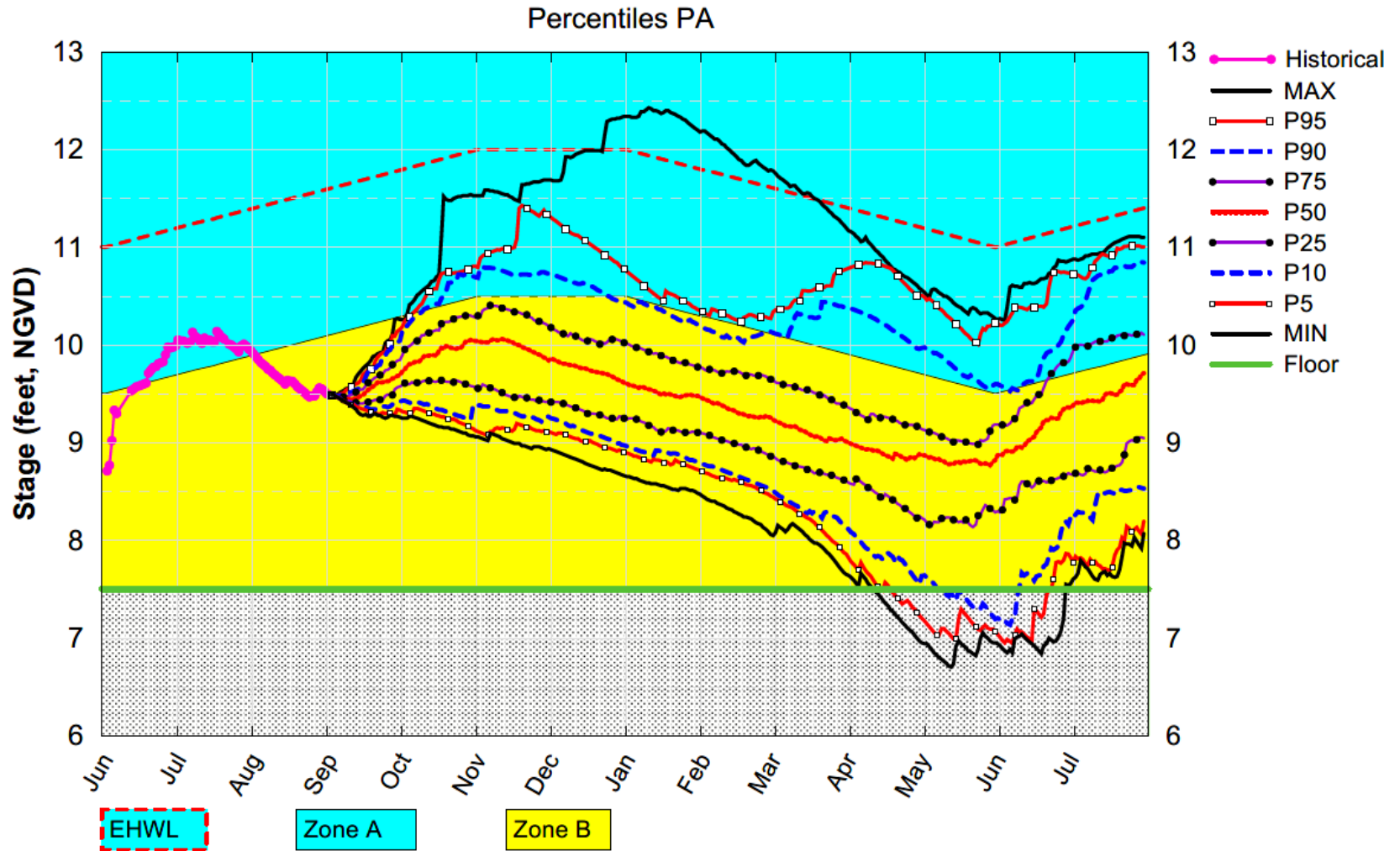
WCA2A SFWMM September 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

PRELIMINARY RESULTS

WCA3A SFWMM September 2022 Position Analysis



(See assumptions on the Position Analysis Results website)