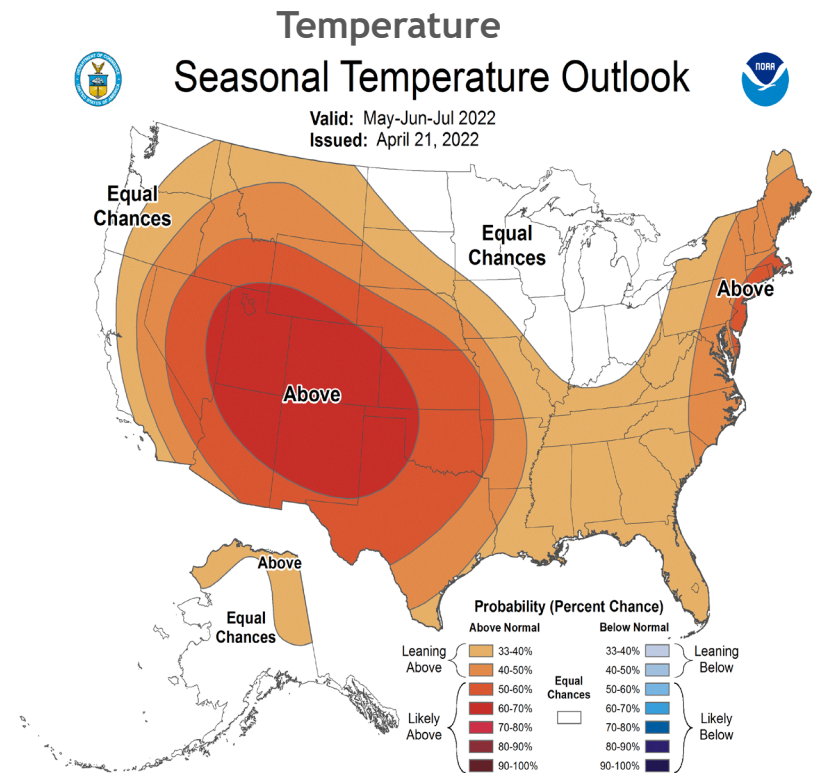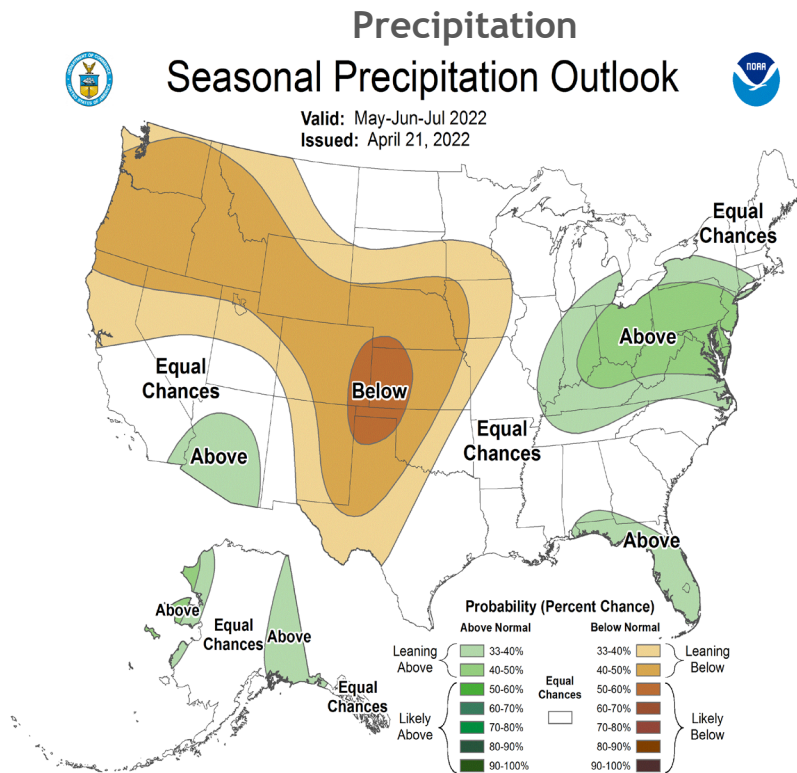# Extended Hydrologic Outlook
May 10, 2022

- **The Climate Prediction Center (CPC) is forecasting <u>above normal rainfall</u> for <u>May through July</u>.**
- **La Niña is present and is favored to continue through the summer (59% chance during June-August 2022), with a 50-55% chance through the fall.**
- **Atlantic Multidecadal Oscillation (AMO) is <u>currently in the warm phase</u>:**
  - **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 2022

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

Seasonal Precipitation Outlook — nine-panel series prepared by Climate Prediction Center/NCEP, issued April 21, 2022, covering Jun-Jul-Aug 2022 through Feb-Mar-Apr 2023.

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
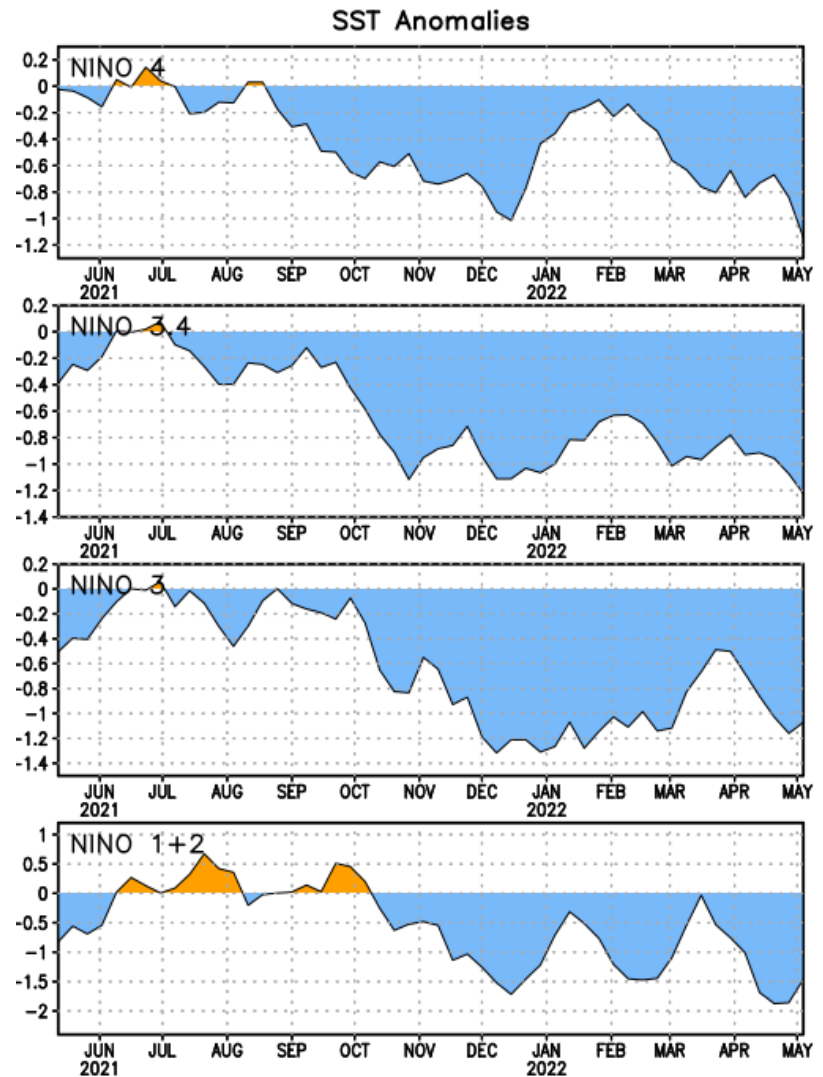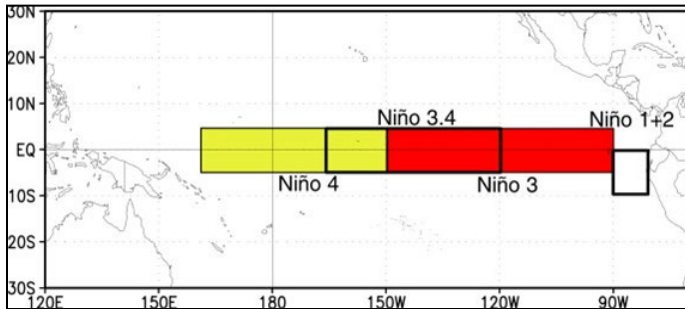
Atlantic Multidecadal Oscillation (AMO)

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
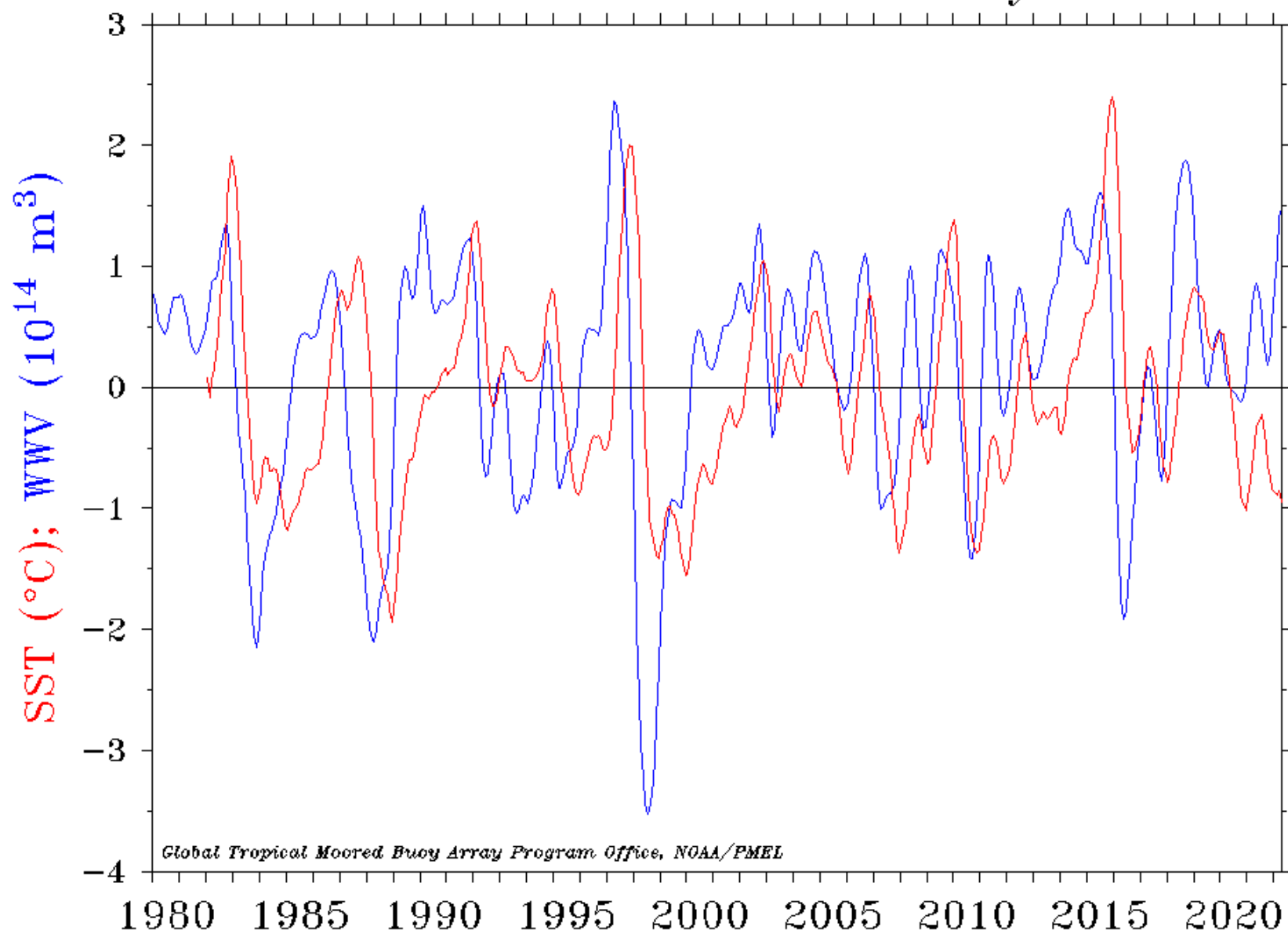
Niño Region SST Departures (ºC) Recent Evolution

The latest weekly SST departures are:

Niño 4	-1.1ºC
Niño 3.4	-1.2ºC
Niño 3	-1.1ºC
Niño 1+2	-1.5ºC

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

Prepared by: Climate Prediction Center/NCEP

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

Global Tropical Moored Buoy Array Program Office, NOAA/PMEL
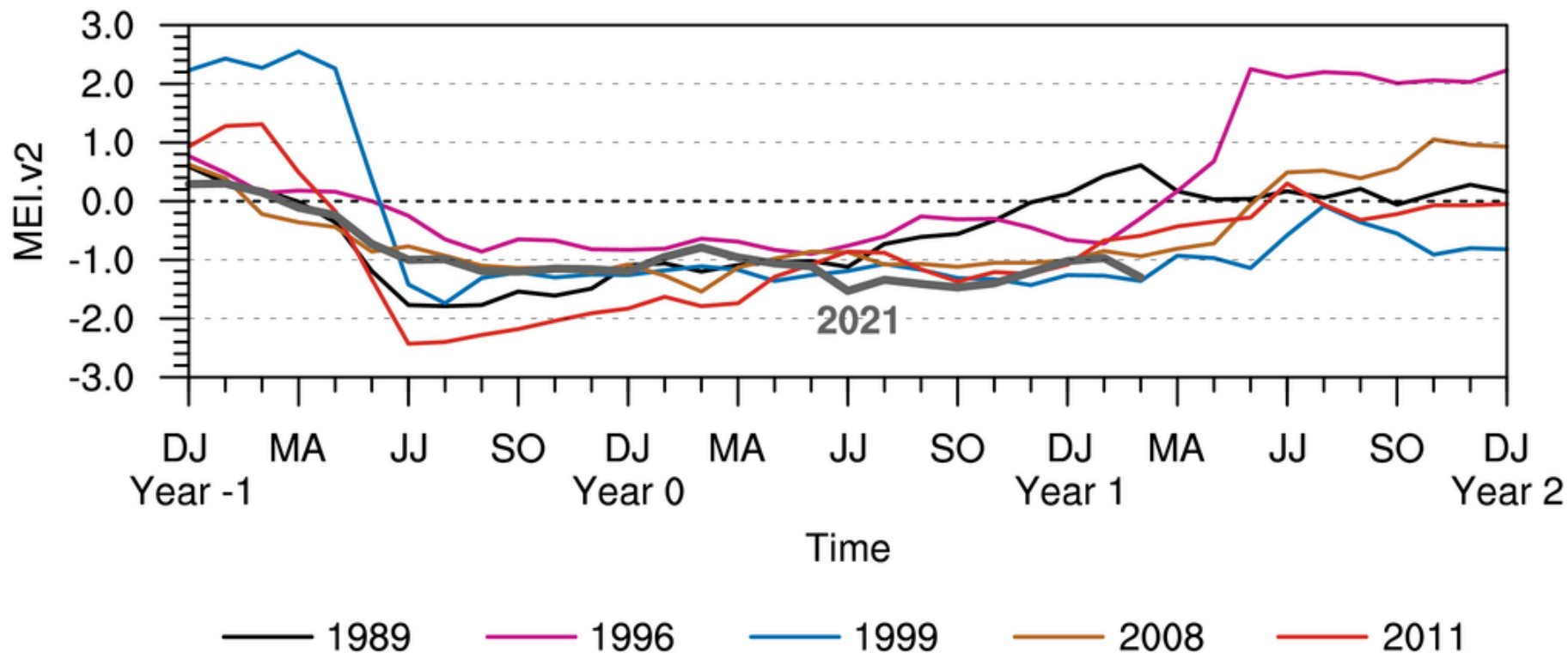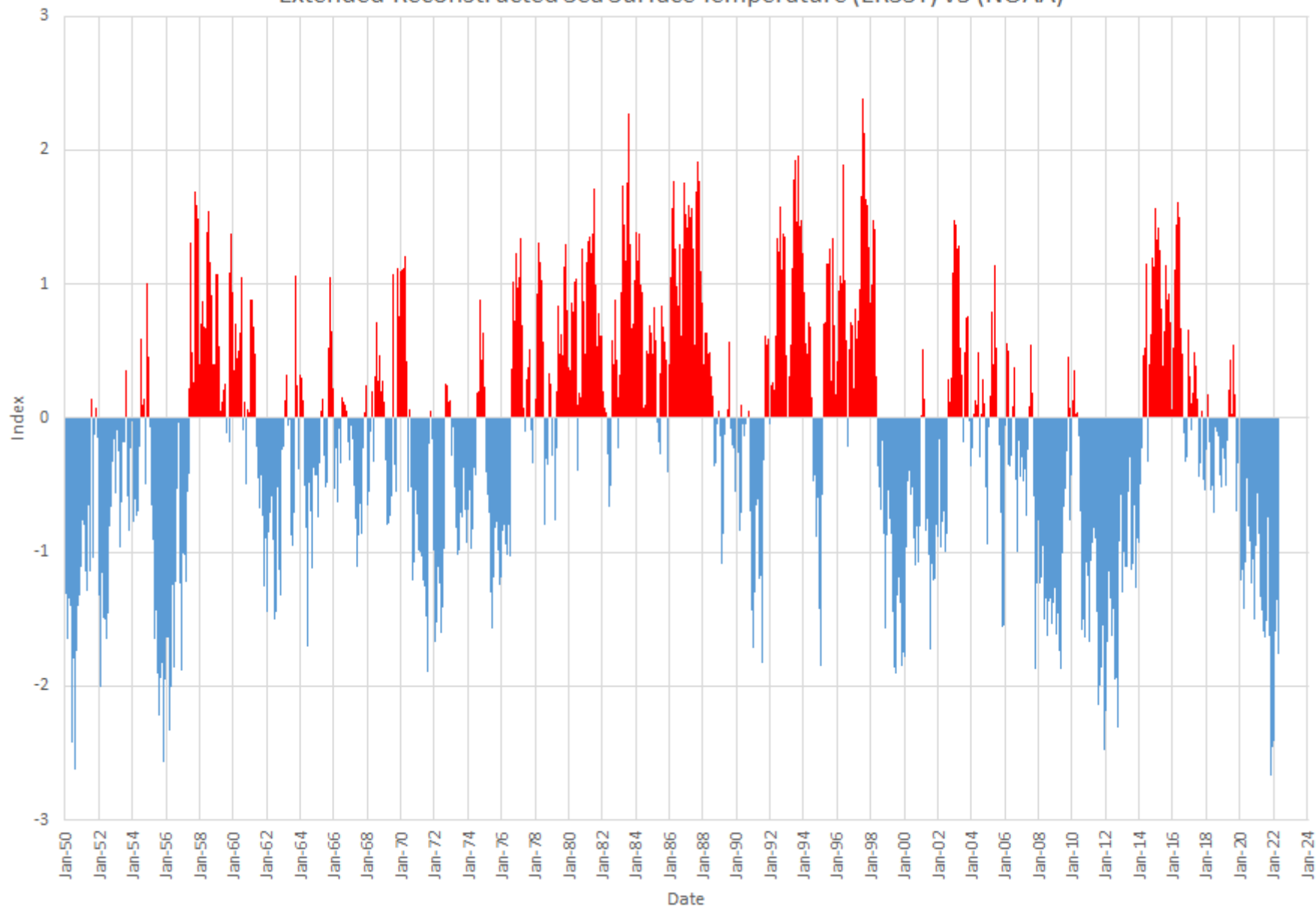
Multivariate ENSO Index Version 2
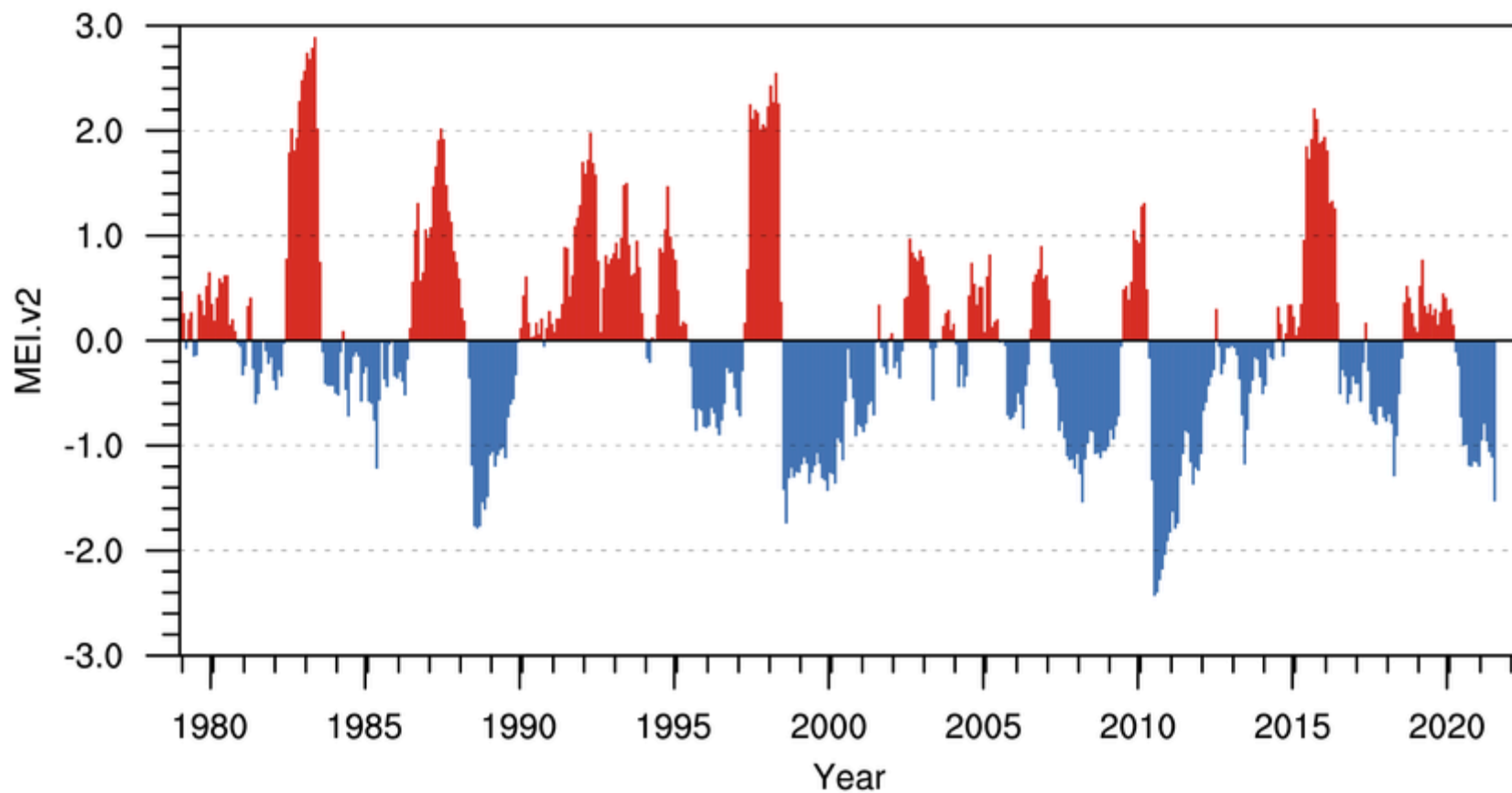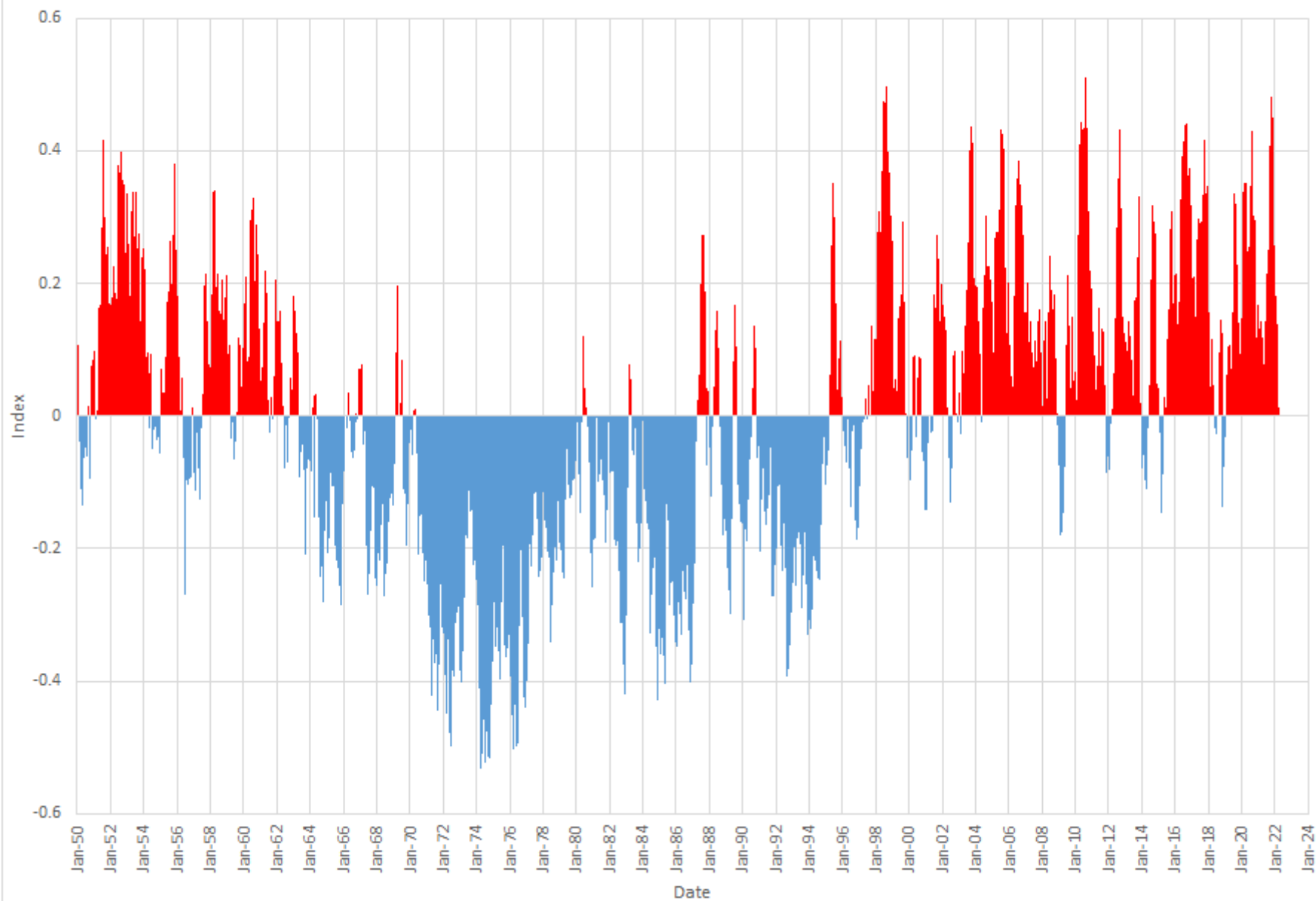
MEI.v2 Evolution of Current ENSO Event in Historical Context

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

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

2022 Tropical Outlook

ATLANTIC BASIN SEASONAL HURRICANE FORECAST FOR 2022

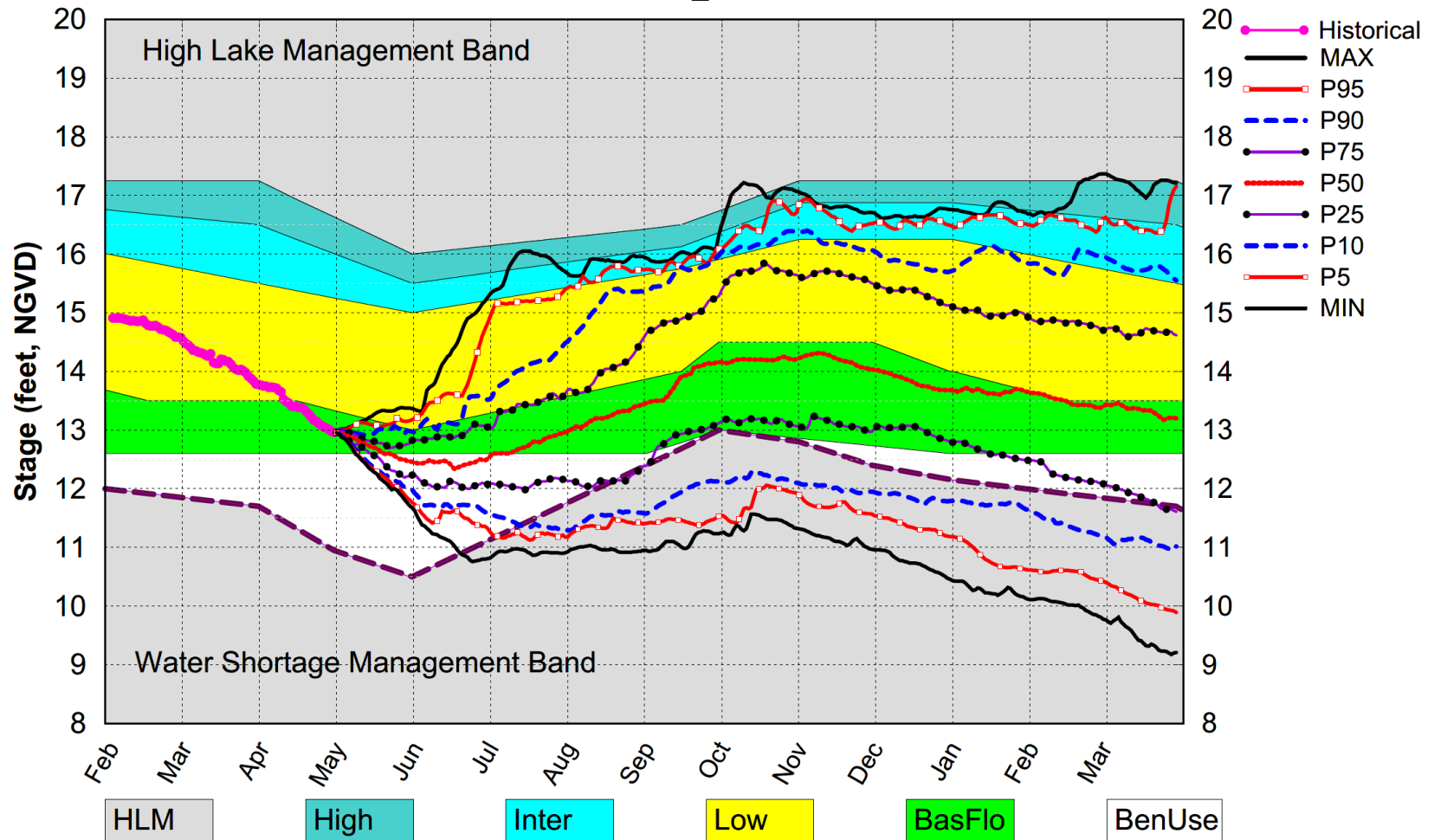| Forecast Parameter and 1991–2020 Average (in parentheses)	Issue Date 7 April 2022
Named Storms (NS) (14.4)	19
Named Storm Days (NSD) (69.4)	90
Hurricanes (H) (7.2)	9
Hurricane Days (HD) (27.0)	35
Major Hurricanes (MH) (3.2)	4
Major Hurricane Days (MHD) (7.4)	9
Accumulated Cyclone Energy (ACE) (123)	160
Net Tropical Cyclone Activity (NTC) (135%)	170

- Anticipate above-average activity
- <u>No</u> significant El Niño forecasted
- Caribbean and subtropical Atlantic sea surface temperatures are warmer than normal

Source: Colorado State University (Tropical Meteorology Project)

May DPA Assumptions

- The May 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 May 1, 2022 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.

Lake Okeechobee SFWMM May 2022 Position Analysis

Percentiles PA_SLP3

Legend:
- Historical
- MAX
- P95
- P90
- P75
- P50
- P25
- P10
- P5
- MIN

High Lake Management Band

Water Shortage Management Band

HLM | High | Inter | Low | BasFlo | BenUse

Stage (feet, NGVD)

(See assumptions on the Position Analysis Results website)

Mon May 9 16:02:12 2022

Lake Okeechobee SFWMM May 2022 Position Analysis

All La Nina Years Plot PA_SLP3

Y-axis: Stage (feet, NGVD)

Legend:
- Historical
- 1971−72
- 1973−74
- 1974−75
- 1975−76
- 1985−86
- 1988−89
- 1999−00
- 2000−01

High Lake Management Band

Water Shortage Management Band

| HLM | High | Inter | Low | BasFlo | BenUse |

(See assumptions on the Position Analysis Results website)

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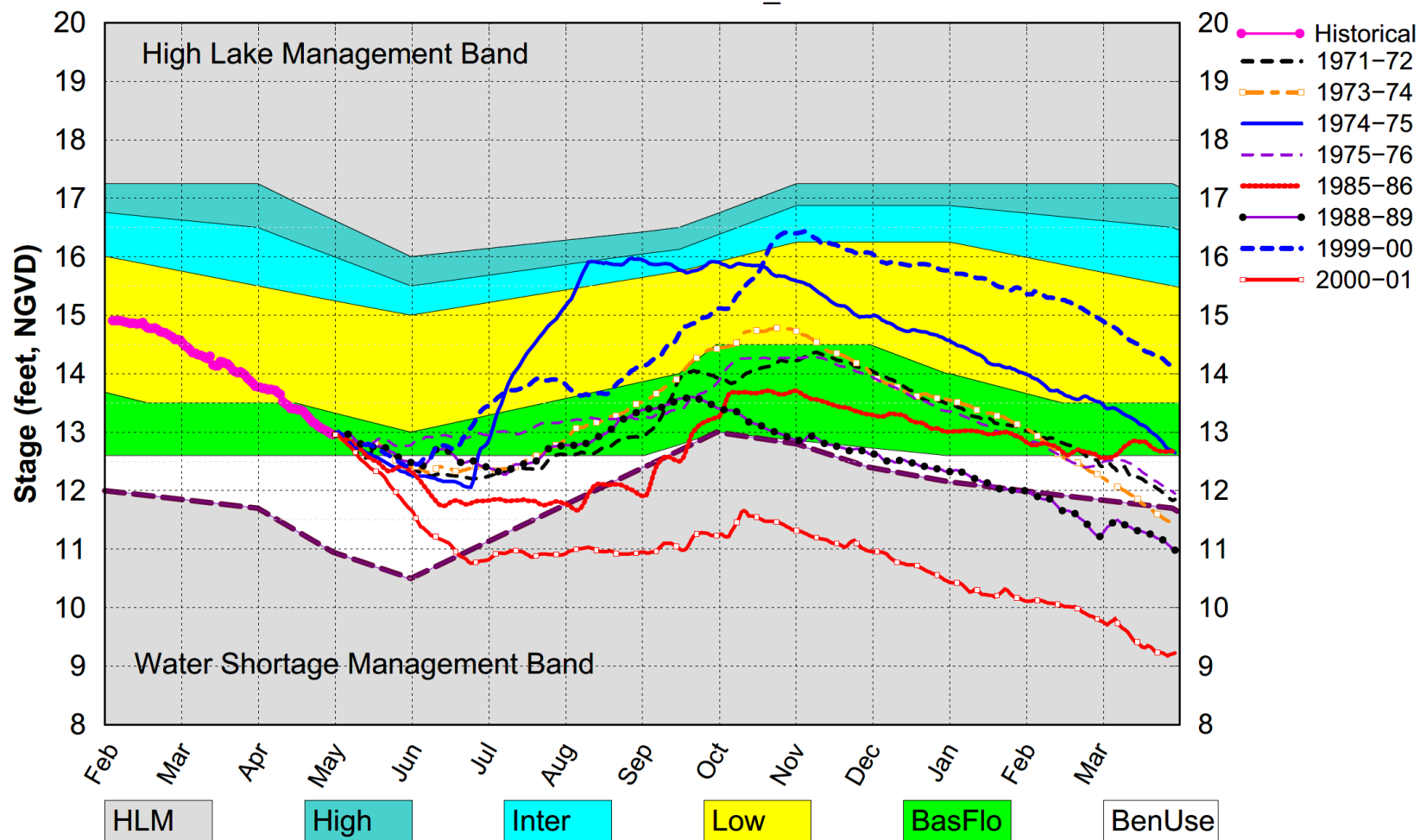
WCA1 SFWMM May 2022 Position Analysis

Percentiles PA_SLP3

(See assumptions on the Position Analysis Results website)

Mon May 9 16:14:31 2022

WCA2A SFWMM May 2022 Position Analysis

Percentiles PA_SLP3

Stage (feet, NGVD)

Legend:
- Historical
- MAX
- P95
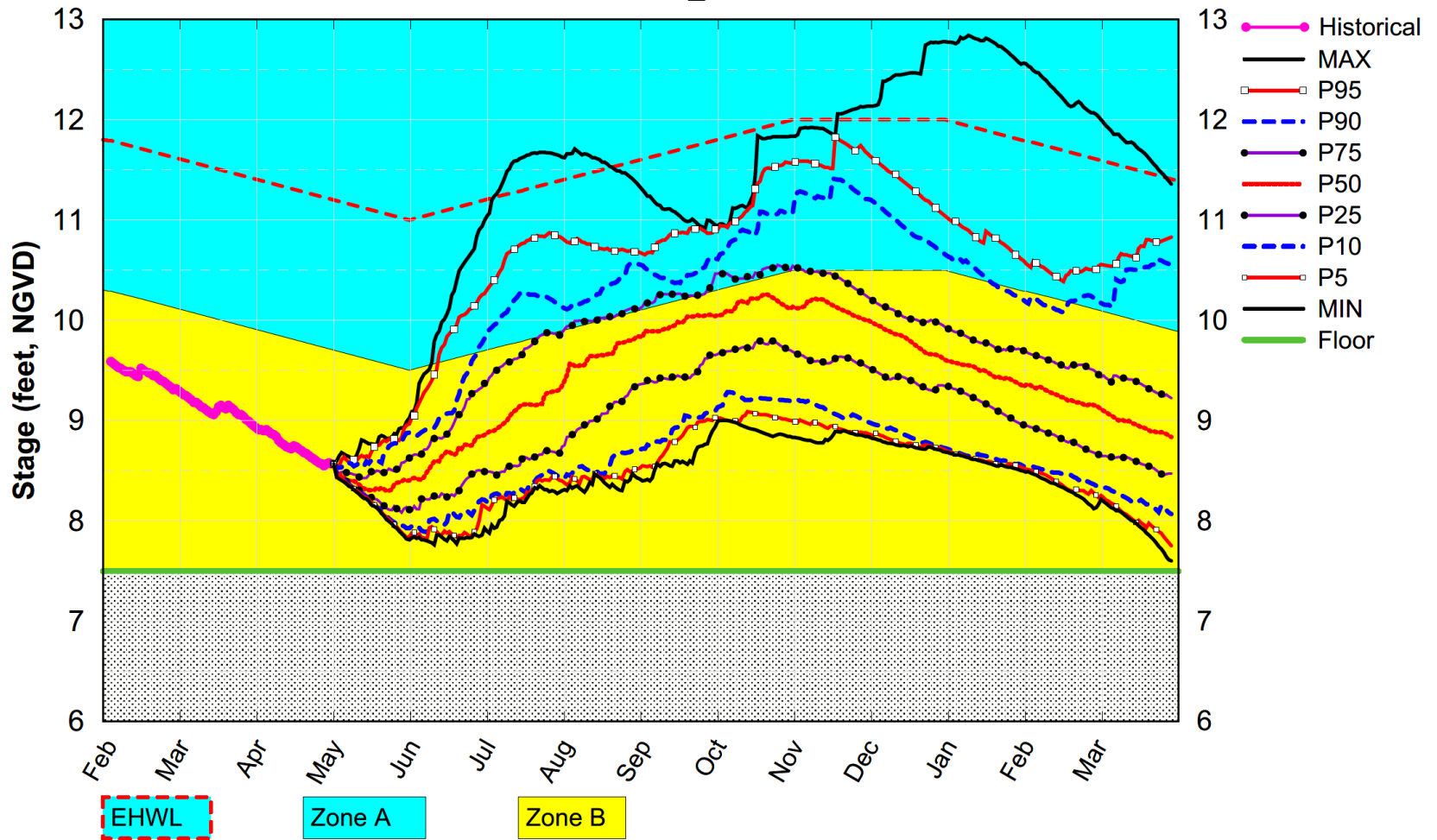- P90
- P75
- P50
- P25
- P10
- P5
- MIN
- Floor

(See assumptions on the Position Analysis Results website)

Mon May 9 16:16:05 2022

WCA3A SFWMM May 2022 Position Analysis

Percentiles PA_SLP3

Stage (feet, NGVD)

Legend:
- Historical
- MAX
- P95
- P90
- P75
- P50
- P25
- P10
- P5
- MIN
- Floor

EHWL Zone A Zone B

(See assumptions on the Position Analysis Results website)

Mon May 9 16:17:08 2022