Extended Hydrologic Outlook
February 8, 2022

• The Climate Prediction Center (CPC) is forecasting below normal rainfall for February through April.
• La Niña is present and is likely to continue into the spring (67% chance during March-May 2022) and then transition to ENSO-neutral (51% chance during April-June 2022).
• 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
The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.
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 of south Florida dry season rainfall

**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: -0.2°C
- Niño 3.4: -0.6°C
- Niño 3: -1.0°C
- Niño 1+2: -1.0°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

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

Time

Year -1 DJ MA JJ SO DJ MA JJ SO DJ MA JJ SO DJ

Year 0


Year 1

Year 2

MEI.v2
Pacific Decadal Oscillation

Extended Reconstruced Sea Surface Temperature (ERSST) v5 (NOAA)
February DPA Assumptions

• The February 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 February 1, 2022 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on January 1\textsuperscript{st} of each year of the DPA simulation and conditions the simulation to real time data during January to achieve real time stages on February 1\textsuperscript{st} 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 Feb 2022 Position Analysis

All La Nina Years Plot PA_DPA2

(See assumptions on the Position Analysis Results website)
PRELIMINARY RESULTS

WCA1 SFWMM Feb 2022 Position Analysis

Percentiles PA_DPA2

(See assumptions on the Position Analysis Results website)
PRELIMINARY RESULTS

WCA2A SFWMM Feb 2022 Position Analysis

Percentiles PA_DPA2

Stage (feet, NGVD)

(See assumptions on the Position Analysis Results website)
PRELIMINARY RESULTS

WCA3A SFWMM Feb 2022 Position Analysis

Percentiles PA_DPA2

(See assumptions on the Position Analysis Results website)