MEMORANDUM

TO: Laureen Borochaner, Chief, Engineering Division (USACE)

FROM: John Mitnik, Chief District Engineer (SFWMD)

DATE: November 14, 2024

SUBJECT: System Operational Position Statement November 12, 2024 to November 18, 2024

This Position Statement is to provide operational input for the one-week period from November 12, 2024 to November 18, 2024 based on system conditions and data observed during the previous Monday to Sunday 7-day period.

Current climate conditions: District November rainfall to date is near normal (95% of normal). The rainfall forecast (issued November 13) calls for below normal rainfall for the coming 7-day period and above to much above normal for the following period.

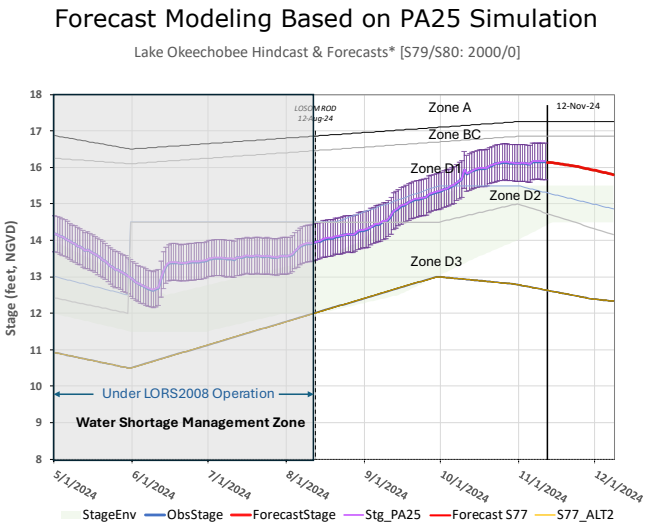
Climate and weather forecasts: The most recent CPC precipitation outlook for Nov 2024 is equal chances of below, normal, and above normal (EC) for south Florida. La Nina conditions (drier) are expected to emerge during the September through November and persist through the winter. The 3-month windows of Nov 2024 – Jan 2025, Feb 2025 – Apr 2025 and Mar 2025 – May 2025 show increased chances (40-50%) of below normal rainfall for the entire District. The 3-month window of Dec 2024 – Feb 2025 signals substantial increased chances (50-60%) of below Normal rainfall for the Lake Okeechobee and south, and increased chances (40-50%) of below Normal rainfall for the remainder of the District. The 3-month window of Jan 2025 – Mar 2025 shows outlooks for substantial increased chances (50-60%) of below normal rainfall for the entire District. All the 3-month windows from Apr 2024 – Jun 2024 into the transition to the 2024-2025 Dry Season show equal chances of below, normal and above normal rainfall.

Hydrologic and tropical outlooks: Current climatological conditions are Normal, but forecasted to turn drier by the start of the dry season. Current hydrological conditions are Normal. Based on the conditions at the start of the month the stage is projected to stay in Zone D for the next 2 months.

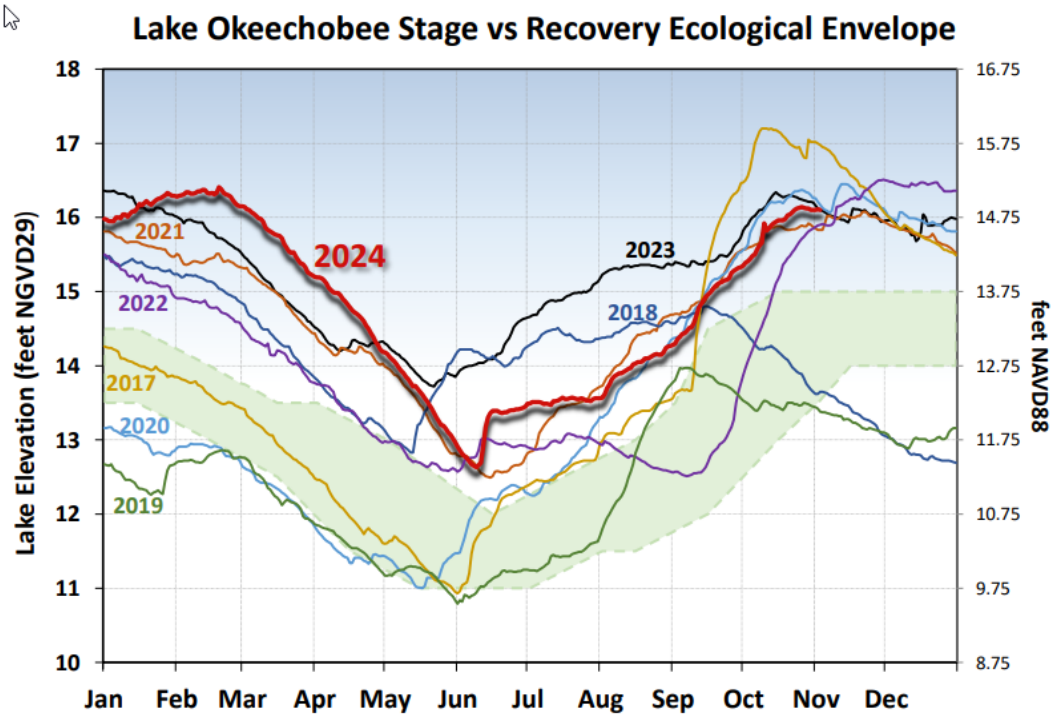
Water-supply conditions: The Lake Okeechobee seasonal net inflow outlook is Dry at Moderate risk for water supply. The multi-seasonal net inflow outlook is Normal at Moderate risk for water supply.

Estuary conditions: For the 7-day period, November 4 to November 10, 2024, total inflow to the Caloosahatchee Estuary averaged approximately 1,900 cfs with about 800 cfs coming from Lake Okeechobee through S-77. Salinities in the upper estuary were within the optimal range (0-10) for tape grass. Salinities were in the optimal range (10-25) for adult eastern oysters at Cape Coral, and in the upper stressed range (>25) at Shell Point and Sanibel. Total discharge to the St. Lucie Estuary was about 1,450 cfs with no flow coming from Lake Okeechobee, about 150 cfs coming from C-44 Basin, about 150 cfs coming from C-23 Basin, about 200 cfs coming from C-24 Basin, and about 950 cfs coming from Tidal Basin. The average salinity in the middle estuary was within the lower stressed range (5-9) for adult eastern oysters.

Lake Okeechobee stage and ecological conditions:



On November 10 the daily average Lake Okeechobee stage was 14.84 feet NAVD88 (16.15 feet NGVD29), which placed it within the upper third of Zone D (Zone D1 of the PA25 simulation) of the Lake Okeechobee System Operating Manual (LOSOM) above the ecological envelope. Lake stage increased by 0.05 feet over the preceding 7-day period. The current climate outlook is for ENSO-neutral with La Niña favored to develop during September-November (ENSO- increased likelihood of below normal dry season rainfall north of the Lake). The LOSOM criteria to consider implementation of Recovery Operations to lower the lake level into Lake Okeechobee's Recovery Envelope has been triggered. USACE should initiate the process to begin non-harmful Recovery Operations for Lake Okeechobee as described in LOSOM as soon as possible to increase the likelihood of success this dry season. The District will continue to monitor system conditions throughout the system and coordinate with USACE as needed. The USACE should continue to track Red Tide and Blue Green Algae conditions, and should conditions change during this operational period, the USACE should look to reassess releases as needed. The USACE typically implements the releases to the estuaries over a 7-day period starting on Saturday and ending on Friday.



The current and seven prior year's annual stage hydrographs for Lake Okeechobee in comparison to the recovery envelope (light green). A shift from the normal ecological envelope to the recovery envelope occurred because the 30-day minimum lake stage (elevations exposed for at least 30 days, nonconsecutively) in the June 1 – July 31, 2023, window was >11.75 feet NAVD88 (13 feet NGVD29)

Navigation and recreation conditions: Currently, there are no planned deviation or declared water shortage impacting navigation or lockages.

STOF water supply conditions: Current Lake Okeechobee stage is sufficiently high that water supply deliveries to the Seminole Tribe of Florida (STOF) Brighton Reservation, if needed, will not be impacted. When Lake Okeechobee stage recedes below 8.75 feet NAVD88 (10 feet NGVD29) and 6.75 feet NAVD88 (8 feet NGVD29), water supply delivery is not achievable via Pump Station G-207 on the Harney Pond Canal and Pump Station G-208 on the Indian Prairie Canal, respectively, as the respective canals become disconnected from Lake Okeechobee.

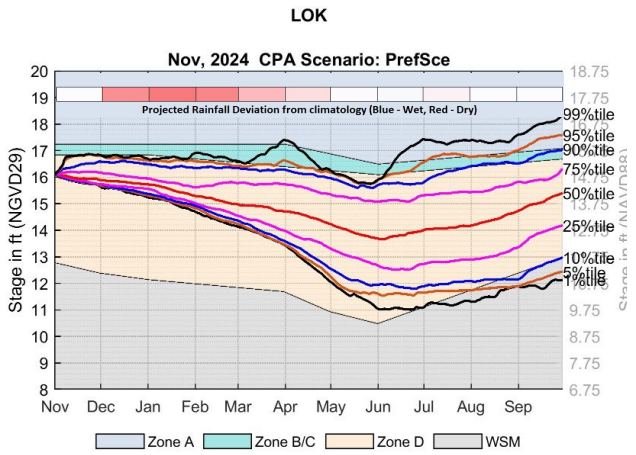
Algal Bloom conditions: The FWRI reported on November 8, 2024, that Karenia brevis, the Florida red tide dinoflagellate, was observed at bloom concentrations in samples collected from Charlotte, Lee, and Collier counties over the past week. On the east coast, red tide was not observed. In the most recent non-obscured satellite image from November 11, 2024, NOAA's Harmful Algal Bloom Monitoring System suggests minimal bloom activity on Lake Okeechobee.

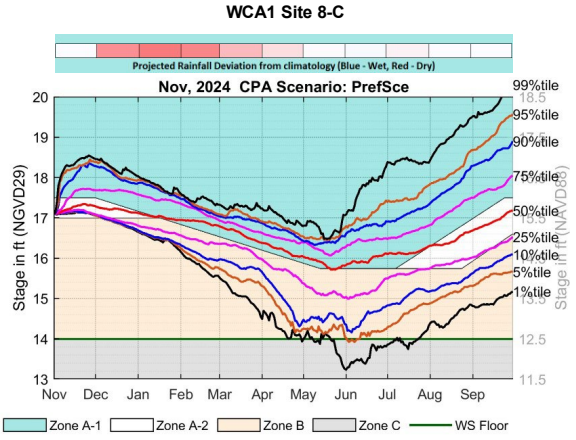
STA conditions: In STA-1E, Central Flow-way is offline for construction activities. An operational restriction is in place in the Western Flow-way for post-construction vegetation grow-in, and in the Eastern Flow-way for vegetation establishment following erosion repair. In STA-1W, an operational restriction is in place in the Northern Flow-way for vegetation management activities. Treatment cells are above target stage. Vegetation in the flow-ways is highly stressed. The 365-day PLRs for the Eastern and Western Flow-ways are high (≥ 1.0 $g/m^2/yr$). STA-2 has operational restrictions in place in Flow-ways 2 and 4 for vegetation management activities. Online treatment cells are above target stage. Vegetation in Flow-ways 2, 3, and 4 is stressed, and in 5 is highly stressed. The 365-day Phosphorus Loading Rates (PLRs) for flow-ways 2 and 3 are high (≥ 1.0 $g/m^2/yr$). In STA-3/4, Eastern Flow-way is under limitations for post-drawdown vegetation grow-in, treatment cells are above target stage, vegetation in the Eastern and Central flow-ways is stressed to highly stressed, and the 365-day PLRs for the Central and Western Flow-ways are high (≥ 1.0 $g/m^2/yr$). For the current operational period the USACE is not requesting flows south to the STAs because it is not beneficial to the WCAs. The District will continue to work with the USACE to manage Lake Okeechobee levels in an effort to curtail harmful discharges over this year. To help with this objective the District will move as much water south through the Stormwater Treatment Areas as possible under the current permits, recognizing the existing conditions in the STAs at the conclusion of the wet season, and as regional conditions allow.

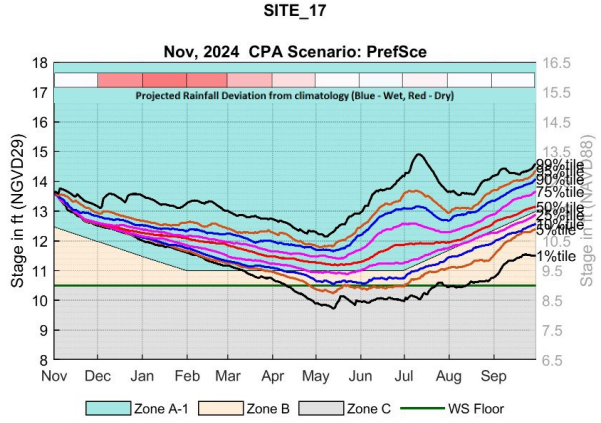
WCA conditions: On November 10 the daily average stage in WCA-1 was at 15.47 feet NAVD88 (17.07 feet NGVD29), in Zone A2 and 0.44 feet below regulation schedule. On November 10 the daily average stage in WCA-2A was at 12.01 feet NAVD88 (13.52 feet NGVD29), in Zone A and 1.18 feet above regulation schedule. On November 10 the daily average stage in WCA-3A was at 9.53 feet NAVD88 (11.04 feet NGVD29), in Zone A and 0.54 feet above regulation schedule. Flood control releases are being implemented by USACE to move water through the WCAs via the S-11 and S-12 structures. In addition, the District released water to tide from WCA-2A via the C-14 Canal at S-38 and from WCA-3A through S-151 and S-31 into the C-6 Canal and via the NNR Canal at S-34E. Over the 7-day period from November 4 to November 10, 2024, no regulatory releases were sent from Lake Okeechobee south to the STAs. No lake regulatory releases reached the Lake Worth Lagoon through the C-51 canal during this period.

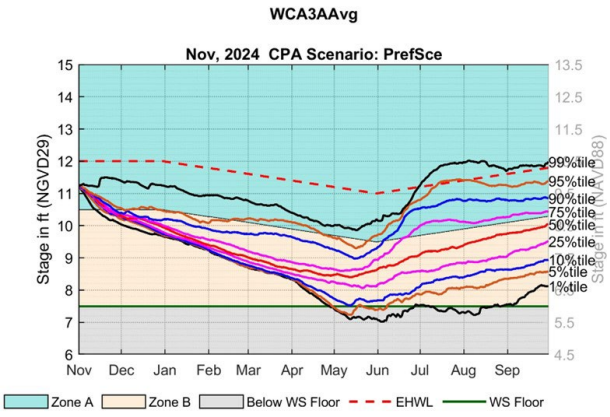
ENP conditions: Releases from WCA-3A to the ENP continue through the S-12 structures, the S-344 structure, and the S-333 structures. The S12B/C/D are fully open and passing the largest proportion of the releases. Releases through S-333 and S-333N are limited by the constraint in L-29 canal stage, currently at 6.96 feet NAVD88 (8.5 feet NGVD29). The comparison to modeled conditions a year ago show a different trend exhibiting slightly shallower conditions only in WCA-1 while the rest of the EPA is experiencing slightly deeper conditions. Hydrologic connectivity remains within the major sloughs of ENP. Stages decreased in Taylor Slough last week and remain above the recent average. Salinity increased on average in Florida Bay compared to last week and is now below the WY2001-2016 Interquartile Range (IQR) and near or at estimated historical levels (circa1900) in all three regions. Given that the WCA-3A stage remains in Zone A, the Tamiami Trail Flow Formula (TTFF) continues to recommend maximum practicable releases from WCA-3A to ENP. The District recommends continuing with the current operations for the releases from WCA-3A in accordance with the Combined Operating Plan.

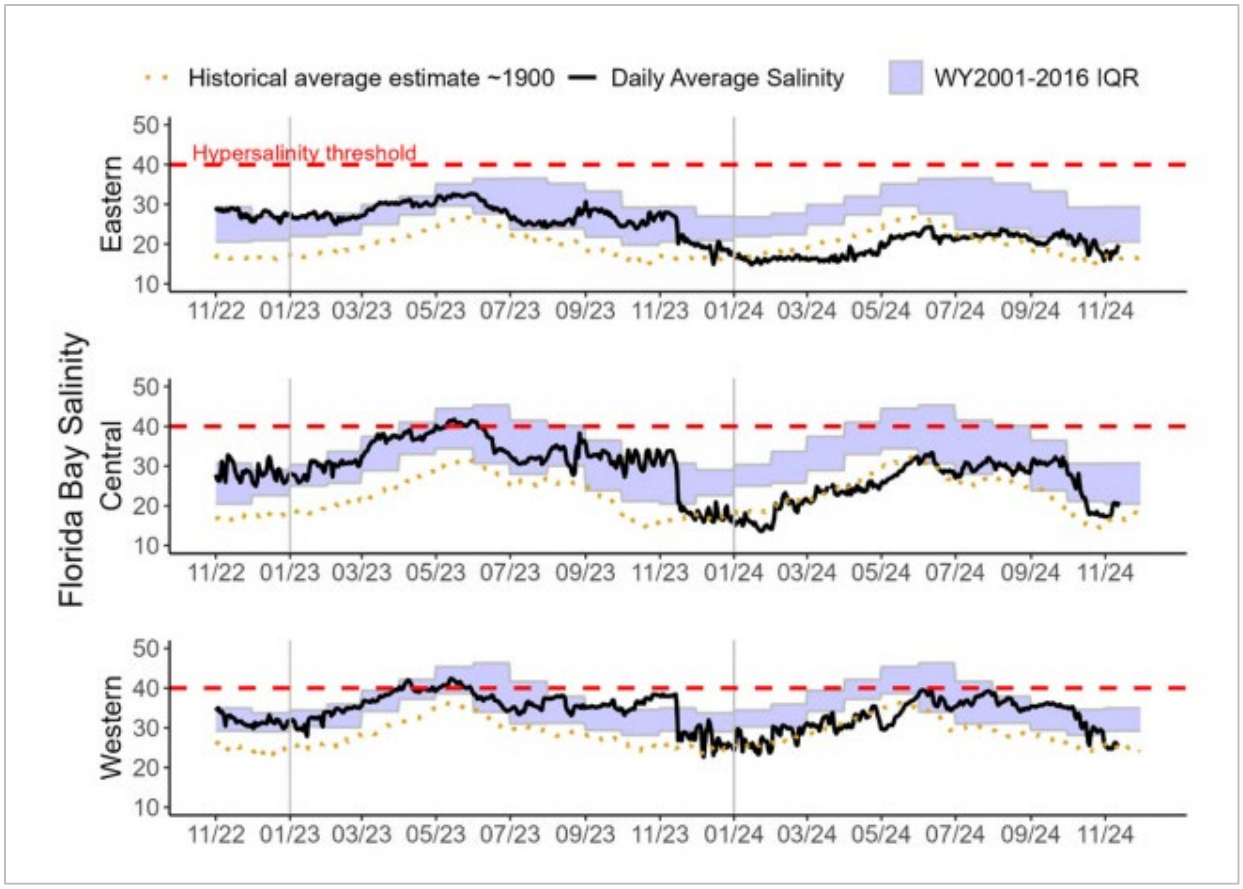
November 2024 Conditional Position Analysis (CPA) results for Lake Okeechobee, WCA-1, WCA-2A and WCA-3A.











Eastern (top panel), Central (middle panel) and Western (bottom panel) Florida Bay daily average salinities with WY2001-2016 interquartile (25-75 percentile) ranges (IQR) and estimated historical daily average salinities. The hyper salinity threshold indicates the level at which salinities start to become harmful to seagrass.