

MEMORANDUM

TO: Laureen Borocharner, Chief, Engineering Division (USACE)
FROM: John Mitnik, Chief District Engineer (SFWMD)
DATE: January 9, 2025
SUBJECT: System Operational Position Statement January 7, 2025 to January 13, 2025

This Position Statement is to provide operational input for the one-week period from January 7, 2025 to January 13, 2025 based on system conditions and data observed during the previous Monday to Sunday 7-day period.

Current climate conditions: District January rainfall to date is much below normal (0% of normal). The rainfall forecast (issued January 8) calls for below or much below normal rainfall for the coming 7-day period and below normal for the following period.

Climate and weather forecasts: The most recent CPC precipitation outlook for Jan 2025 is equal chances of below, normal and above normal rainfall (EC) for south Florida. La Nina conditions (drier) are expected to emerge during the November 2024 through January 2025, with a transition to ENSO-neutral most likely by March-May 2025. The 3-month window of Jan 2025 – Mar 2025 shows substantial increased chances (50-60%) of below normal rainfall for the entire District. The 3-month window of Feb 2025 – Apr 2025 shows outlooks for increased chances (40-50%) of below normal rainfall for south Florida. The 3-month window of Mar 2025 – May 2025 indicates slightly increased chances (33-40%) of below normal rainfall for south Florida. The 3-month window of Apr 2025 – Jun 2025 shows outlooks for equal chances of below, normal and above normal rainfall (EC) for the entire District. May 2025 – Jul 2025 to Dec 2025 – Feb 2026 show slightly increased chances (33-40%) of above normal rainfall for south Florida.

Hydrologic and tropical outlooks: Current climatological conditions are Normal. 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.

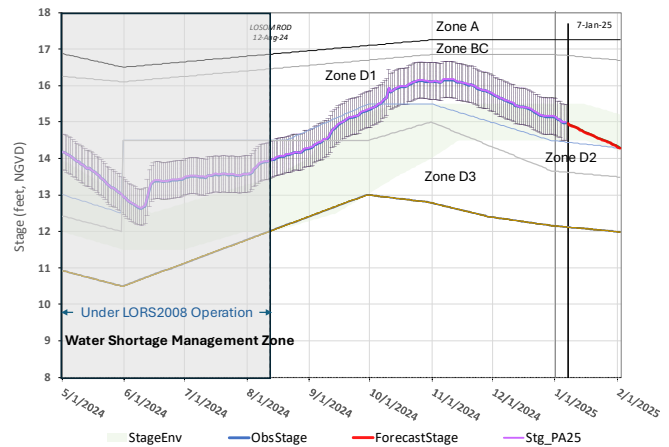
Estuary conditions: For the 21-day period, December 16, 2024 to January 5, 2025, total inflow to the Caloosahatchee Estuary averaged approximately 2,250 cfs with about 1,450 cfs coming from Lake Okeechobee through S-77. Salinities in the upper estuary were within the optimal range (0-10) for tape grass. Salinities were in the optimal range (10-25) for adult eastern oysters at Cape Coral, in the optimal (10-25) and upper stressed range (>25) at Shell Point, and in the upper stressed range (>25) at Sanibel. Total discharge to the St. Lucie Estuary was about 2,200 cfs with about 950 cfs coming from Lake Okeechobee, about 300 cfs coming from C-44 Basin, about 50 cfs coming from C-23 Basin, 50 cfs coming from C-24 Basin, and about 850 cfs coming from Tidal Basin. The average salinity in the middle estuary was within the optimum (10-25) and lower stressed (5-10) range for adult eastern oysters.

Lake Okeechobee stage and ecological conditions:

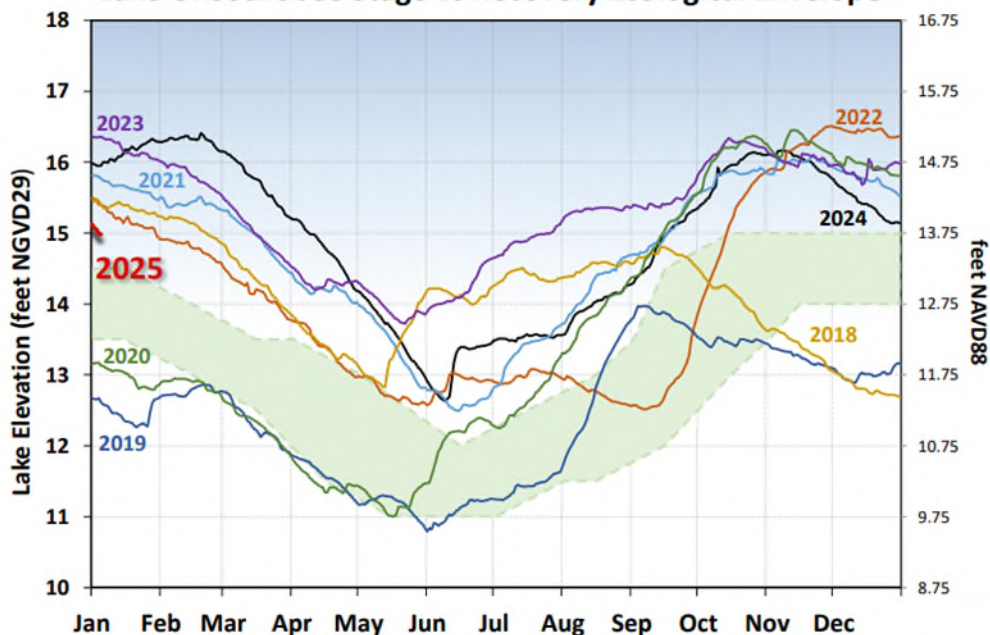
On January 5 the daily average Lake Okeechobee stage was 13.67 feet NAVD88 (14.98 feet NGVD29), which placed it within the upper third of Zone D (Zone D1 of the PA25 simulation) of the Lake Okeechobee System Operating Manual (LOSOM). Lake stage decreased by 0.43 feet over the preceding 21-day period. The current climate outlook is for ENSO-neutral with La Niña favored to develop during November 2024-January 2025 (ENSO- increased likelihood of below normal dry season rainfall north of the Lake). The LOSOM criteria to implement Recovery Operations to lower the lake level into Lake Okeechobee’s Recovery Envelope has been triggered. The USACE should continue non-harmful Recovery Operations for Lake Okeechobee as described in LOSOM to increase the likelihood of success this dry season. The District will continue to monitor 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.

Forecast Modeling Based on PA25 Simulation

Lake Okeechobee Hindcast & Forecasts* [S79/S80: 2100/1200]



Lake Okeechobee Stage vs Recovery Ecological Envelope



The current and seven prior years’ 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.

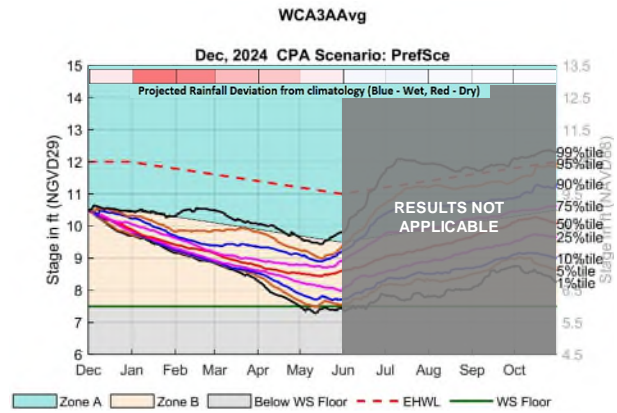
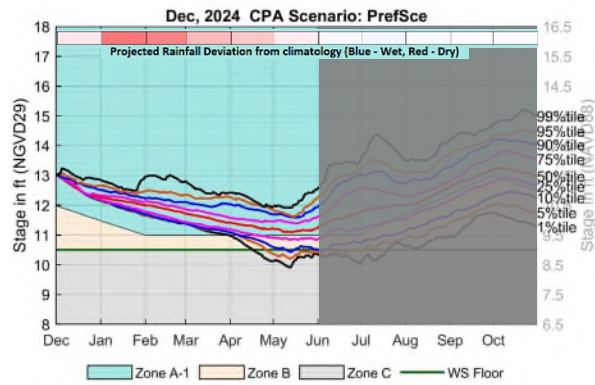
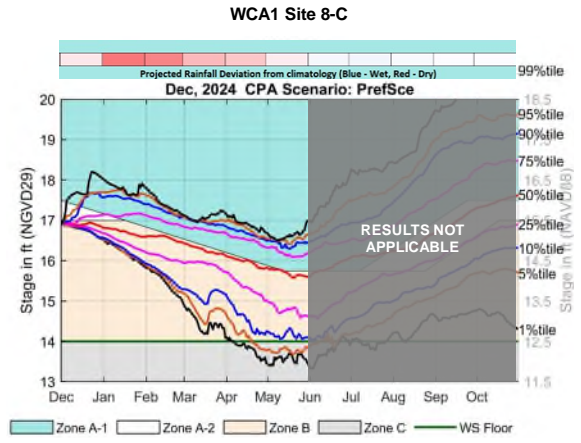
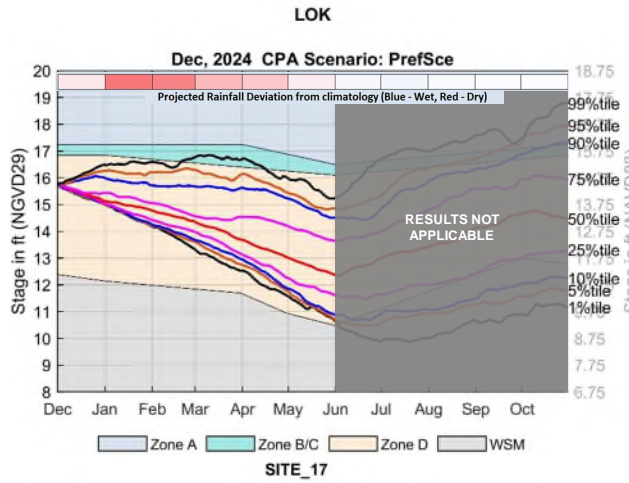
Algal Bloom conditions: The FWRI reported on January 2, 2025, that *Karenia brevis*, the Florida red tide dinoflagellate, was observed at low bloom concentrations in samples collected in Charlotte, background to high concentrations in and offshore of Lee County, and background to very low concentrations in Collier County. *Karenia brevis* was not present in the remaining counties within the District region. In the most recent non-obscured satellite image from January 5, 2025, NOAA's Harmful Algal Bloom Monitoring System suggests minimal bloom activity on Lake Okeechobee.

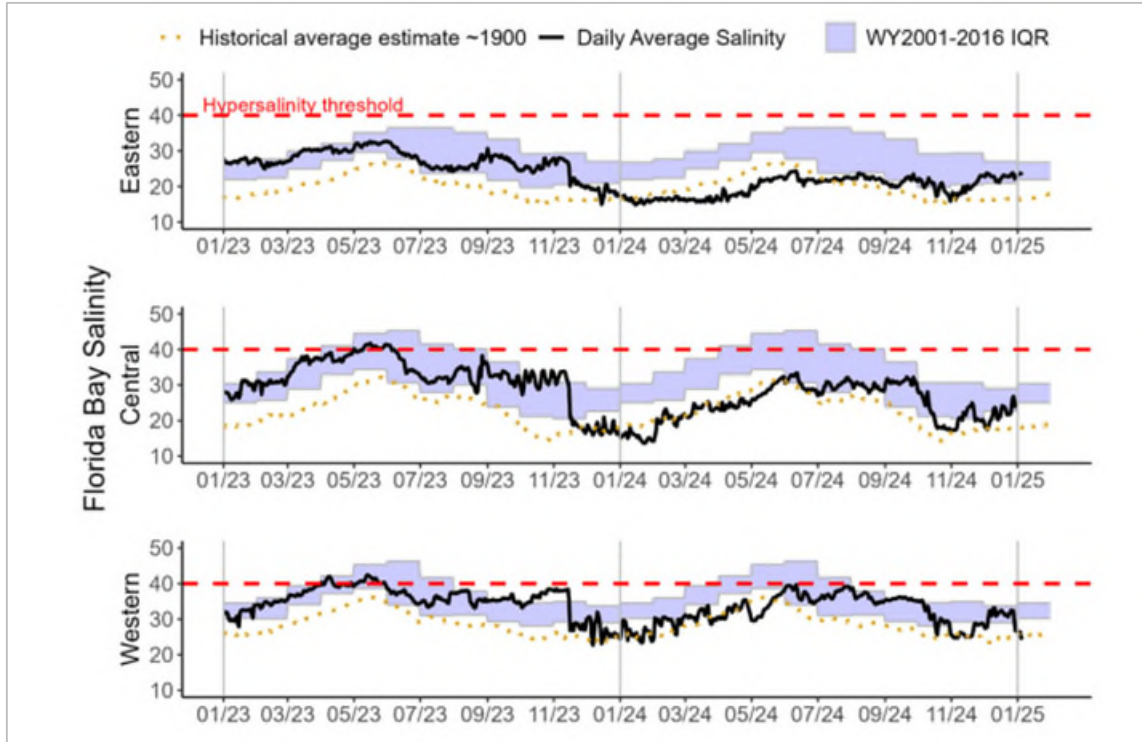
STA conditions: In STA-1E, Central Flow-way is offline for construction activities. An operational restriction is in place in the Western Flow-way for post-construction vegetation grow-in. Online treatment cells are near target stage. In STA-1W, an operational restriction is in place in the Northern Flow-way for vegetation management activities. Treatment cells are near 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/m²/yr). STA-2 has operational restrictions in place in Flow-ways 2 and 4 for vegetation management activities. Online treatment cells are near 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/m²/yr). In STA-3/4, Eastern Flow-way is under limitations for post-drawdown vegetation grow-in. Treatment cells are near or 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/m²/yr). For the current operational period, USACE is requesting maximum practicable regulatory releases be sent south from Lake Okeechobee towards 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 January 5 the daily average stage in WCA-1 was at 15.23 feet NAVD88 (16.83 feet NGVD29), in Zone B and 0.49 feet below regulation schedule. On January 5 the daily average stage in WCA-2A was at 11.09 feet NAVD88 (12.60 feet NGVD29), in Zone A and 1.15 feet above regulation schedule. On January 5 the daily average stage in WCA-3A was at 8.40 feet NAVD88 (9.92 feet NGVD29), in Zone B and 0.57 feet below regulation schedule. Over the 21-day period, December 16, 2024 to January 5, 2025, a total of 39,400 acre-feet were sent from Lake Okeechobee south to STA1E/W (7,600 acre-feet), STA2 (9,400 acre-feet), STA3/4 (10,400 acre-feet), and A1-FEB (12,000 acre-feet). About 11,000 acre-feet of Lake regulatory releases reached the Lake Worth Lagoon through the C-51 canal and passed to the Intracoastal Canal through S-155 and S-41 during this period.

ENP conditions: Releases from WCA-3A to the ENP continue through the S-12 structures. Releases through S-333 and S-333N are limited by the constraint in L-29 canal stage, currently at 6.76 feet NAVD88 (8.3 feet NGVD29). Hydrologic connectivity within the major sloughs of ENP have diminished over the past two months but remains little changed compared to a month ago. There is a drying out of the northern portion and that region is approaching the soil surface. The ponded conditions in southern/eastern WCA3A and in northern SRS continue to contract. Most of the Big Cypress Basin, both to the north and south of Tamiami trail, remains near or below soil surface. Salinity decreased on average in Florida Bay since December 15th and is now within the WY2001-2016 Interquartile Range (IQR) in the eastern region, at the 25th percentile in the central region, and below the IQR and at estimated historical levels (circa 1900) in the western region. The Tamiami Trail Flow Formula (TTFF) recommends 1,313 cfs of daily target 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.

December 2024 Conditional Position Analysis (CPA) results for Lake Okeechobee, WCA-1, WCA-2A and WCA-3A under LOSOM Recovery Operations.





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 hypersalinity threshold indicates the level at which salinities start to become harmful to seagrass.