

June 15, 2026: Conditional Position Analysis (CPA) Implementation – LOSOM

Water Resources & Systems Modeling Bureau, Systems Modeling Unit
SFWMD

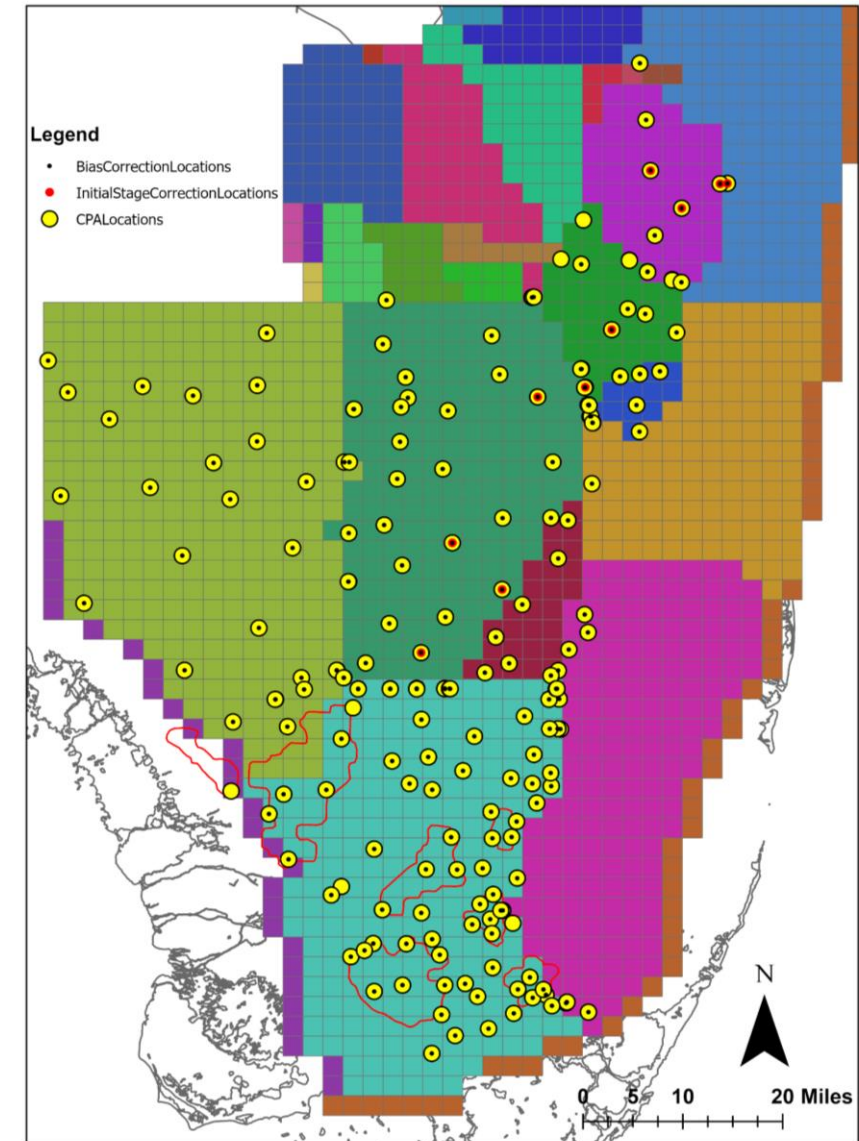


CPA Overview



- CPA is a stochastic framework ([CPA Overview](#)) that transforms stages obtained from Dynamic Position Analysis (DPA) based on forecasted rainfall conditions over the next twelve months (Ali, 2016).
- CPA depends on DPA - DPA stage outputs are used as inputs to CPA ([DPA](#)). DPA uses a physically based model (SFWMM) to forecast stages from the currently observed stages using 52-years of historical rainfall.
- 3 rainfall outlook scenarios (climatological, CPC, and Preferred Scenario) are used to compare potential stage outlooks.
- CPA is implemented for 200 locations in the Everglades including Lake Okeechobee. Additionally, CPA is implemented for WCA1Avg (avg of Site 7, Site 8T, and Site 9) and WCA3AAvg (avg of Site 63, Site 64, and Site 65) stages (Khare et al., 2024) in the Everglades.

Conditional Position Analysis (CPA) Gage Locations



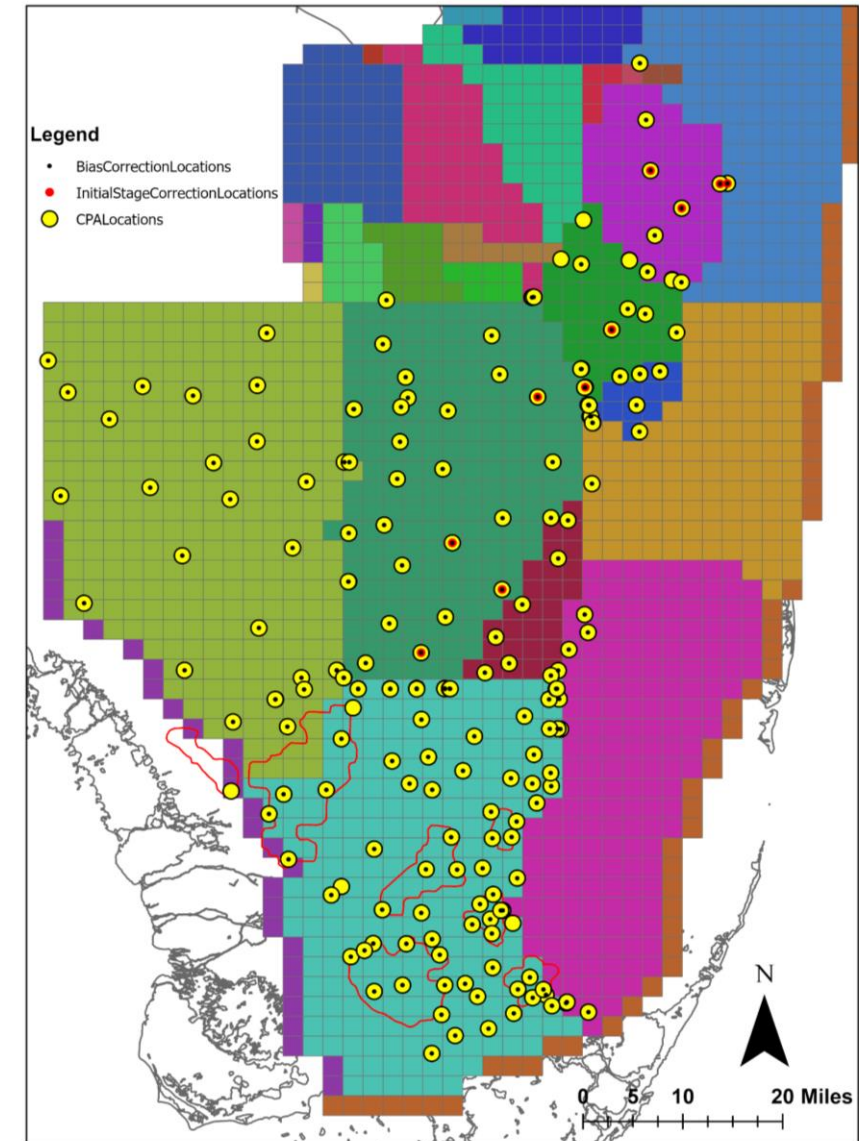
CPA Overview



➤ CPA Outputs

- CPA forecasted stage percentiles from 'Climatological' scenario are first collapsed on DPA stage percentiles. Corresponding adjustments are then applied to stage percentile lines for all other rainfall scenarios.

Conditional Position Analysis (CPA) Gage Locations



CPA: Rainfall Scenarios for June 15, 2026



➤ Climatological

- Climatological scenario assumes equal chances of below-normal/dry, normal, and above-normal/wet rainfall conditions over next twelve 3 monthly seasons (slide 5).
- This scenario is the connecting link between DPA and all other scenarios simulated under CPA.

➤ CPC

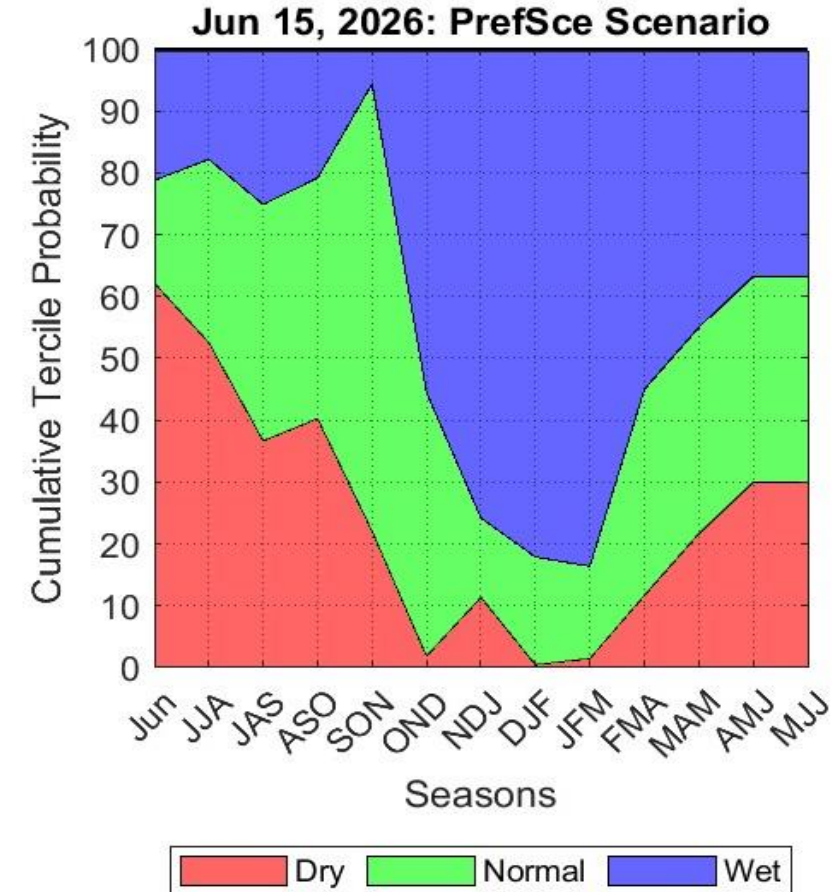
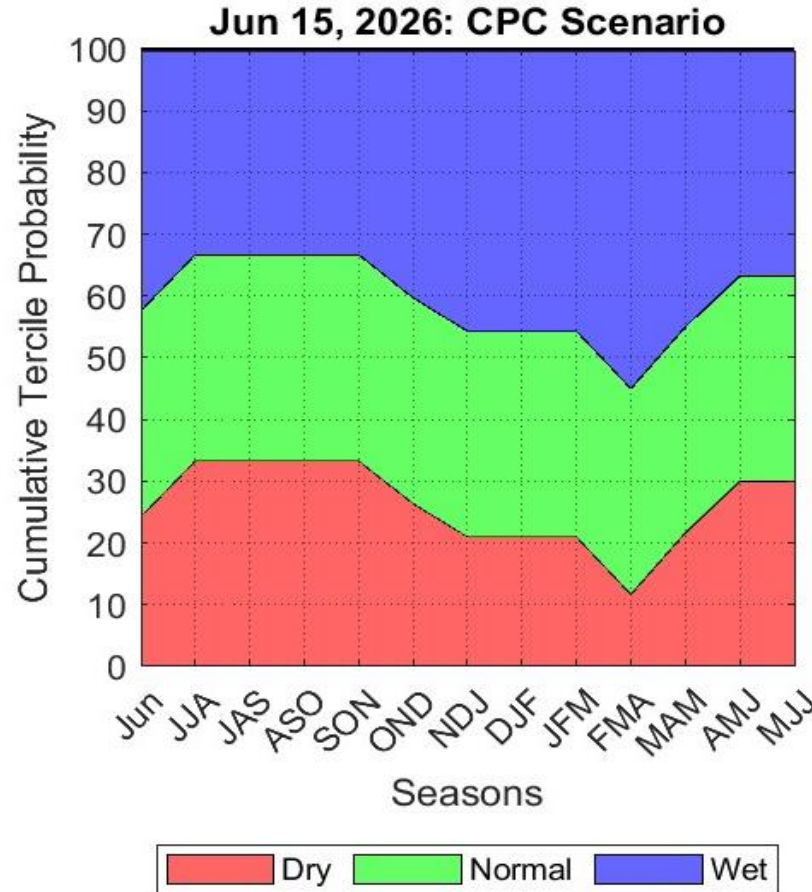
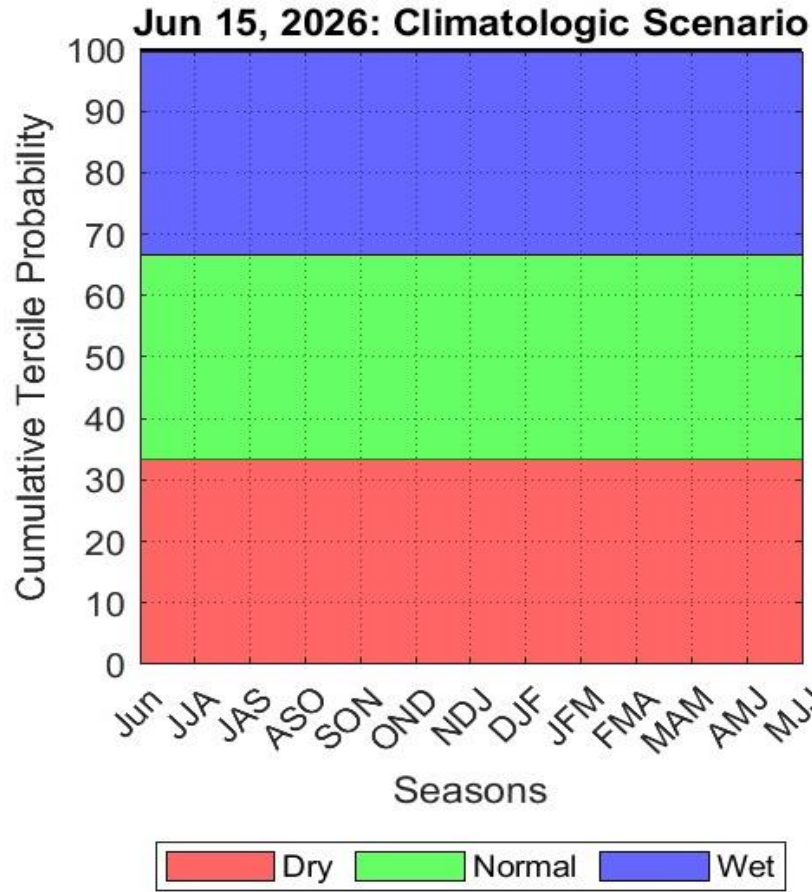
- This is based on official rainfall forecasts published by NOAA's Climate Prediction Center (CPC) every month ([Climate Prediction Center - Forecasts & Outlook Maps, Graphs and tables \(noaa.gov\)](https://www.noaa.gov/climate-prediction-center-forecasts-outlook-maps-graphs-tables)).
- The June 15, 2026, CPC rainfall scenario reflects the latest rainfall outlook released by CPC.
- It is also used by JEM's EverForecast tool for stage prediction.

➤ Preferred Scenario (PrefSce)

- This scenario developed by System Modeling Unit ([PrefSce Overview](#)) represents a best professional judgement rainfall outlook.
- Seasonal rainfall probabilities are calculated based on historical data and projected [Relative Oceanic Nino-3.4 Index \(RONI\)](#) published by the CPC.
- June 15, 2026, PrefSce rainfall scenario includes latest release of seasonal rainfall outlook from [NOAA](#) and [IRI](#).
- The monthly rainfall probability of June is derived from the average of CPC forecasted rainfall probability for June and QPF estimate for the remaining days of June, which is produced using WMD, WPC, ECMWF HRES, and 100 ECMWF ensembles, in combination with historical rainfall data during 1991–2020.

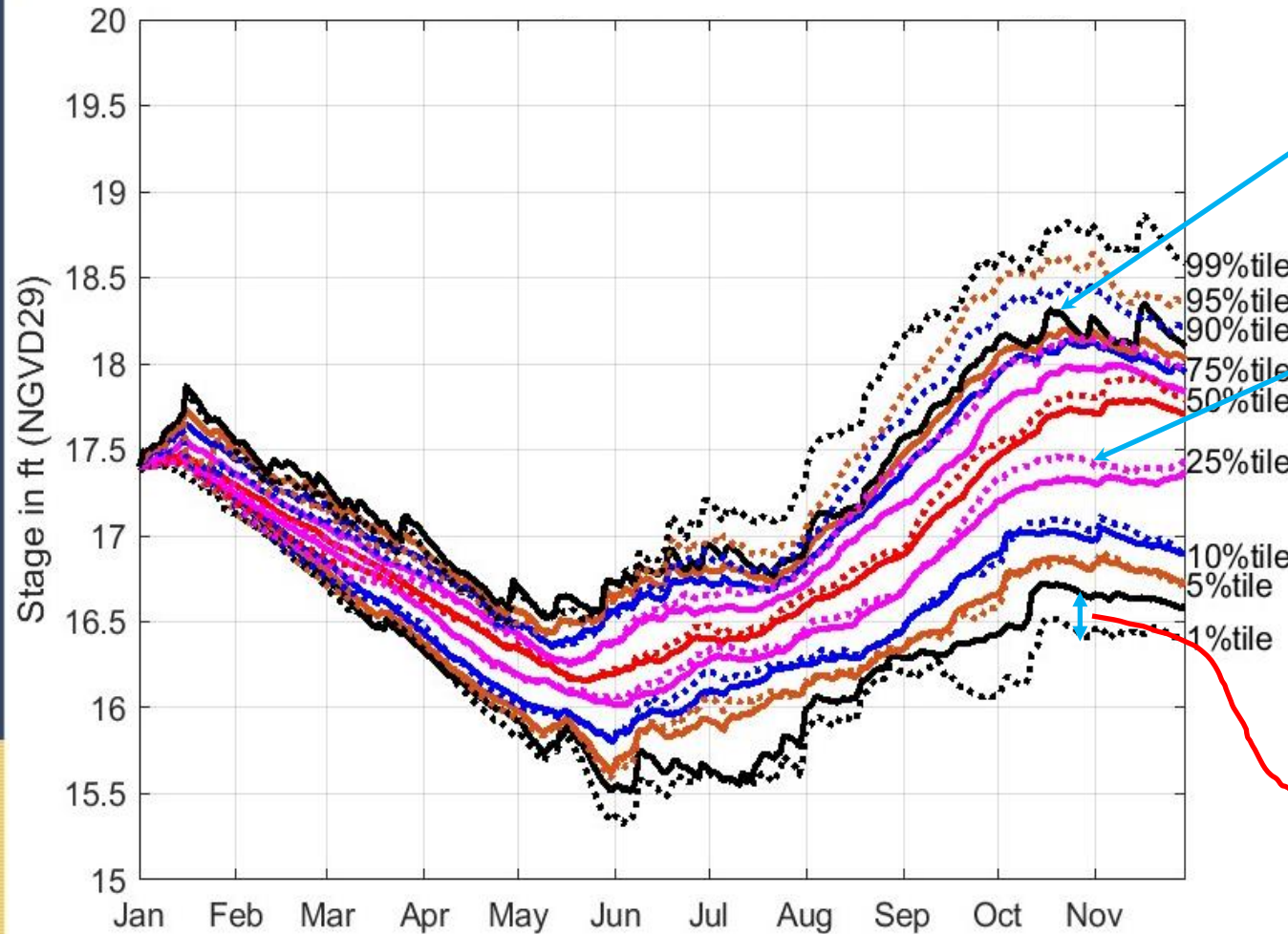


June 15, 2026 CPA: Rainfall Scenarios





CPA: Key to Reading Results



Solid lines → Climatological Scenario/DPA

Dotted lines → Alternative Rainfall Scenario

Black lines → 1% and 99%
 Brown lines → 5% and 95%
 Blue lines → 10% and 90%
 Pink lines → 25% and 75%
 Red lines → 50%

Need to focus on how DPA percentile lines shift under Alternate Rainfall Scenario



LOSOM



June 15, 2026 CPA: Lake Okeechobee

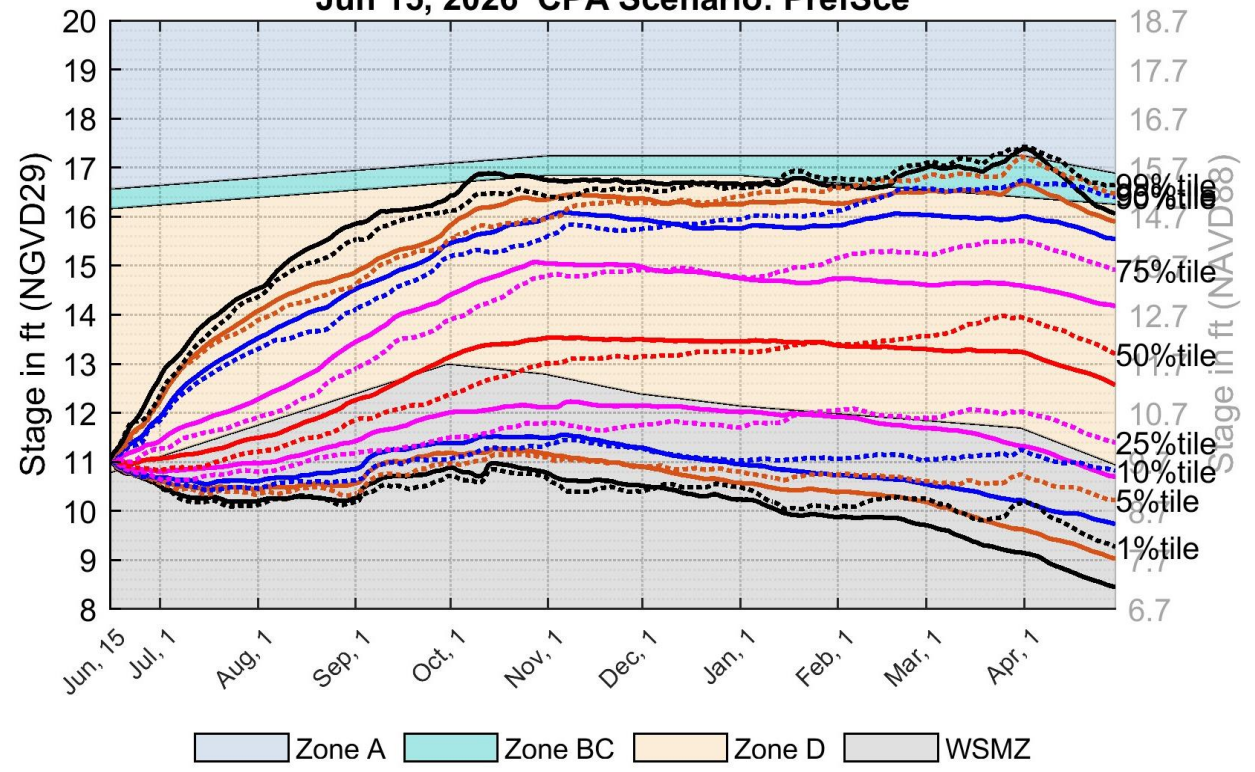
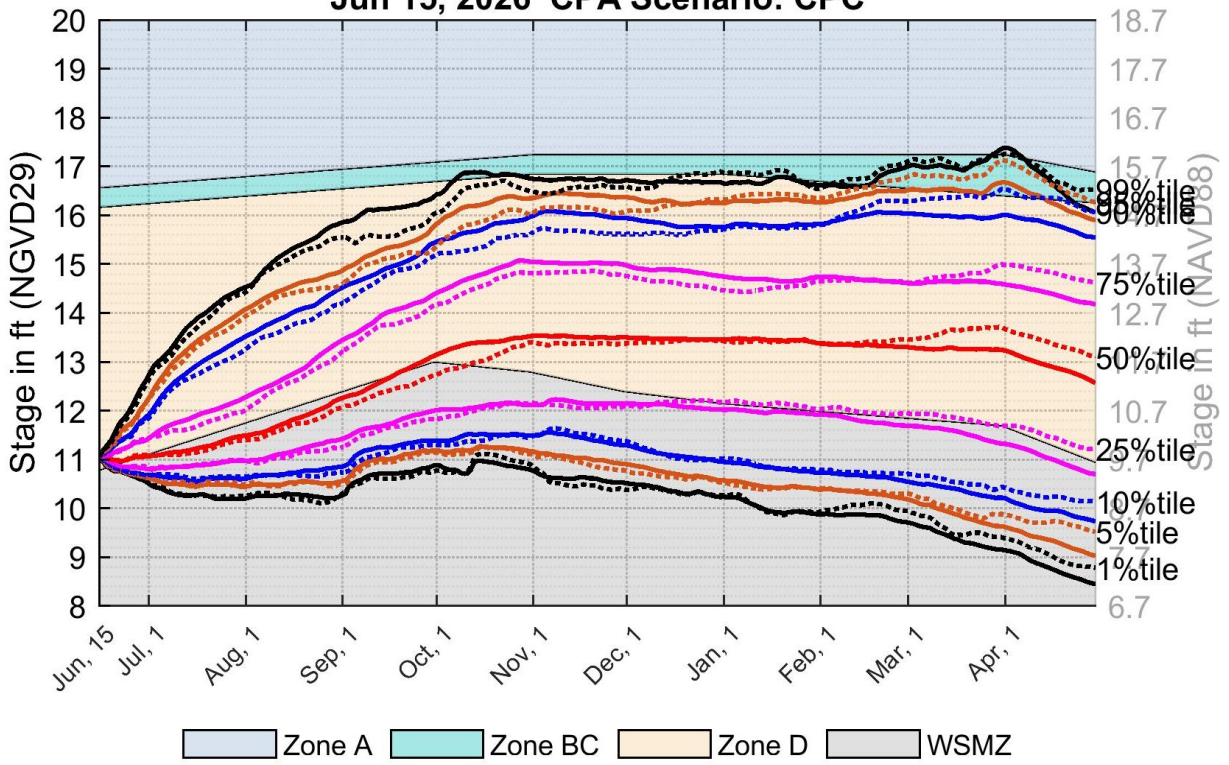


CPC
LOK

PrefSce
LOK

Jun 15, 2026 CPA Scenario: CPC

Jun 15, 2026 CPA Scenario: PrefSce



Secondary vertical axis shows stages in NAVD88. These stages are based on Agreed Upon Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.30 ft for Lake Okeechobee).



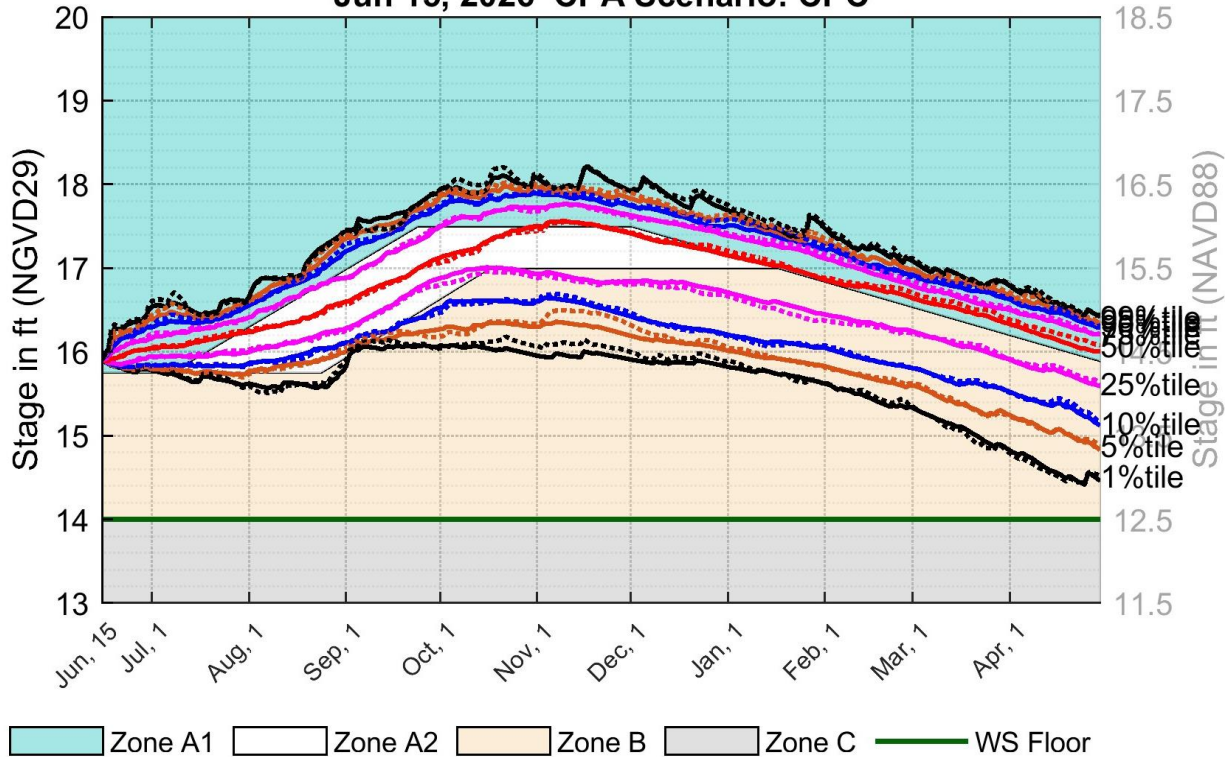
June 15, 2026 CPA: WCA-1 3-Gage Avg.



CPC

WCA-1 3-Gage Avg.

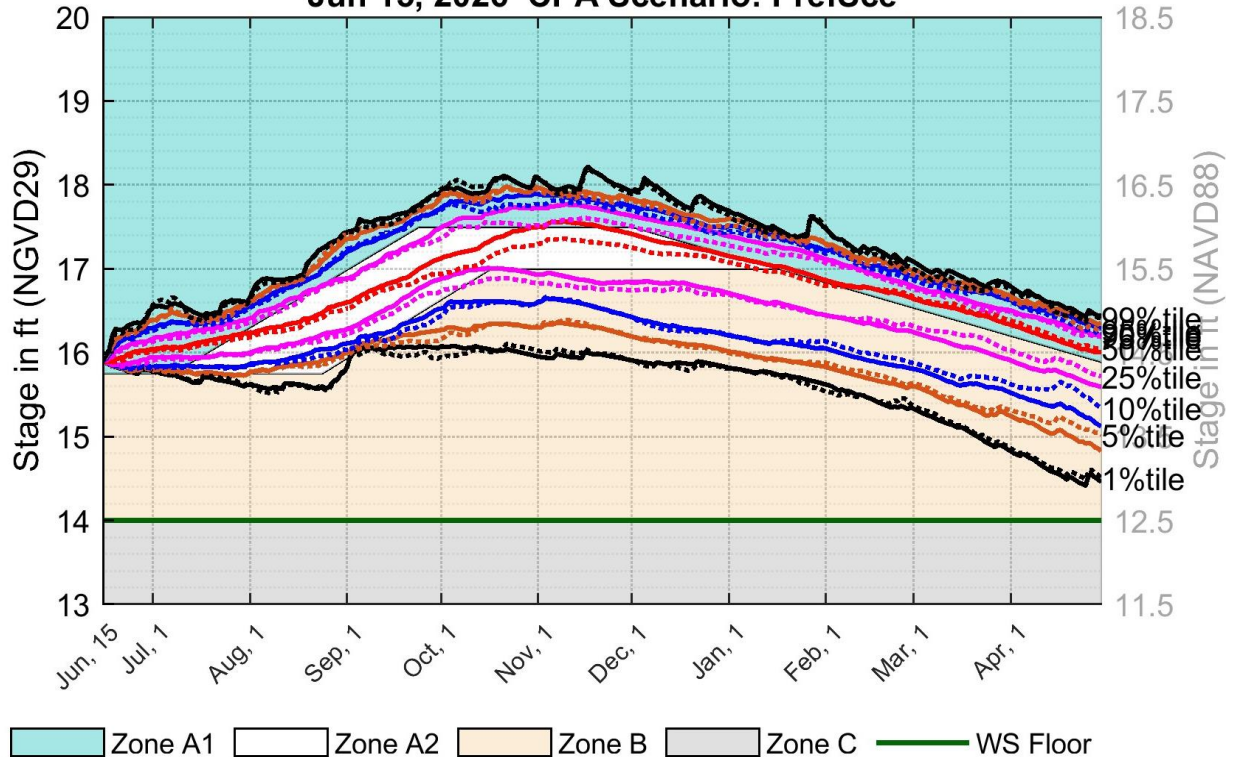
Jun 15, 2026 CPA Scenario: CPC



PrefSce

WCA-1 3-Gage Avg.

Jun 15, 2026 CPA Scenario: PrefSce



Secondary vertical axis shows stages in NAVD88. These stages are based on Agreed Upon Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.5 ft for WCA1).



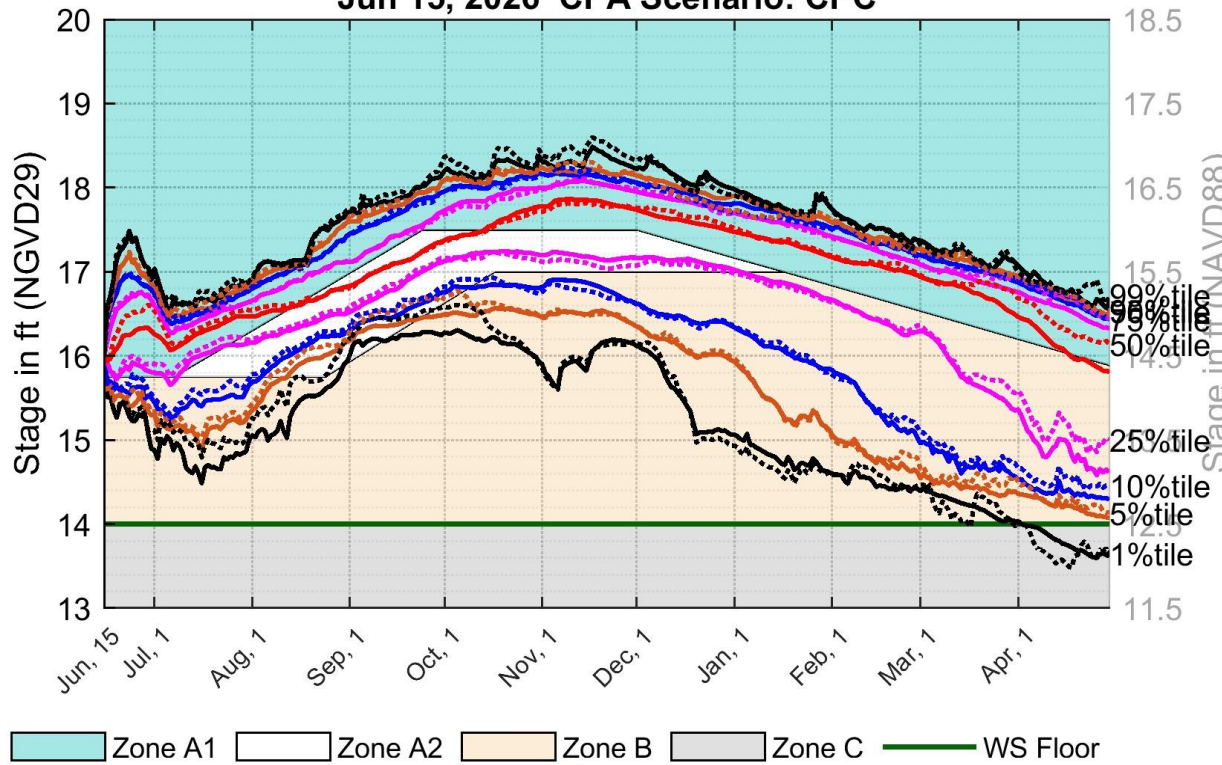
June 15, 2026 CPA: WCA-1 Site-8C



CPC

WCA-1 Site-8C

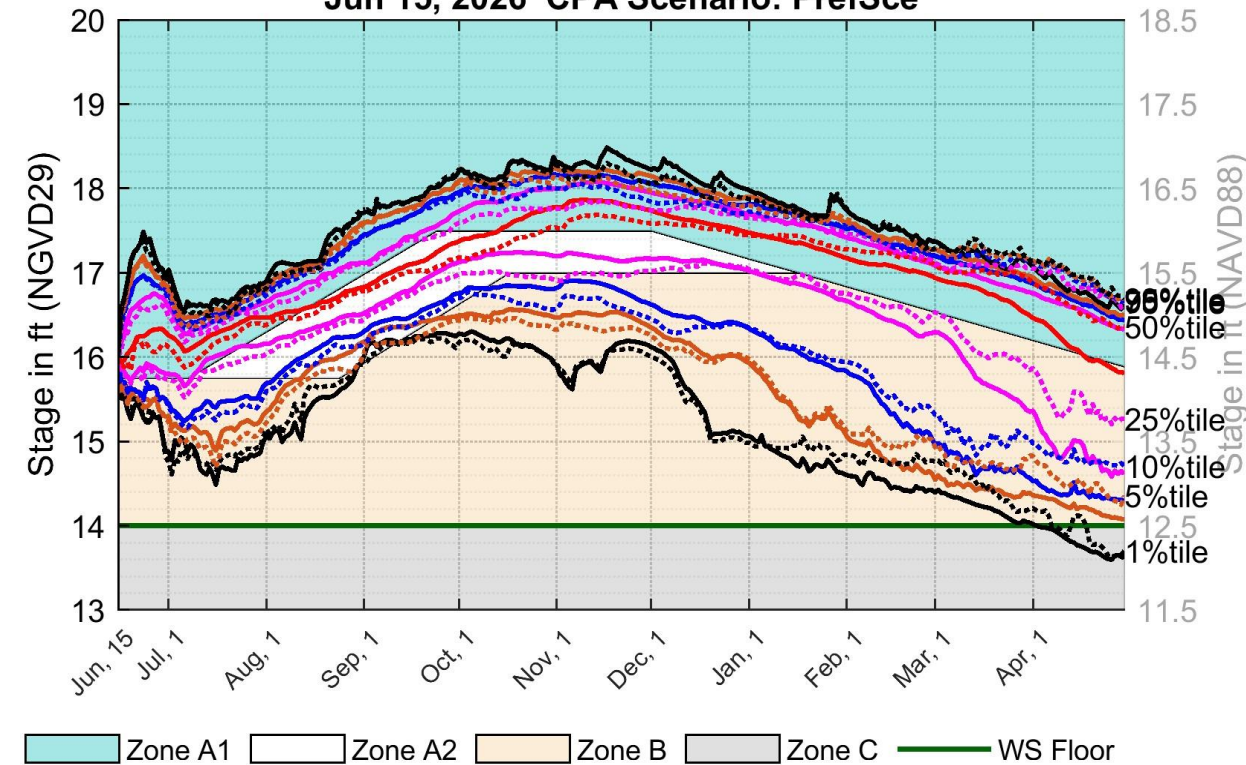
Jun 15, 2026 CPA Scenario: CPC



PrefSce

WCA-1 Site-8C

Jun 15, 2026 CPA Scenario: PrefSce



Secondary vertical axis shows stages in NAVD88. These stages are based on Agreed Upon Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.5 ft for WCA1).

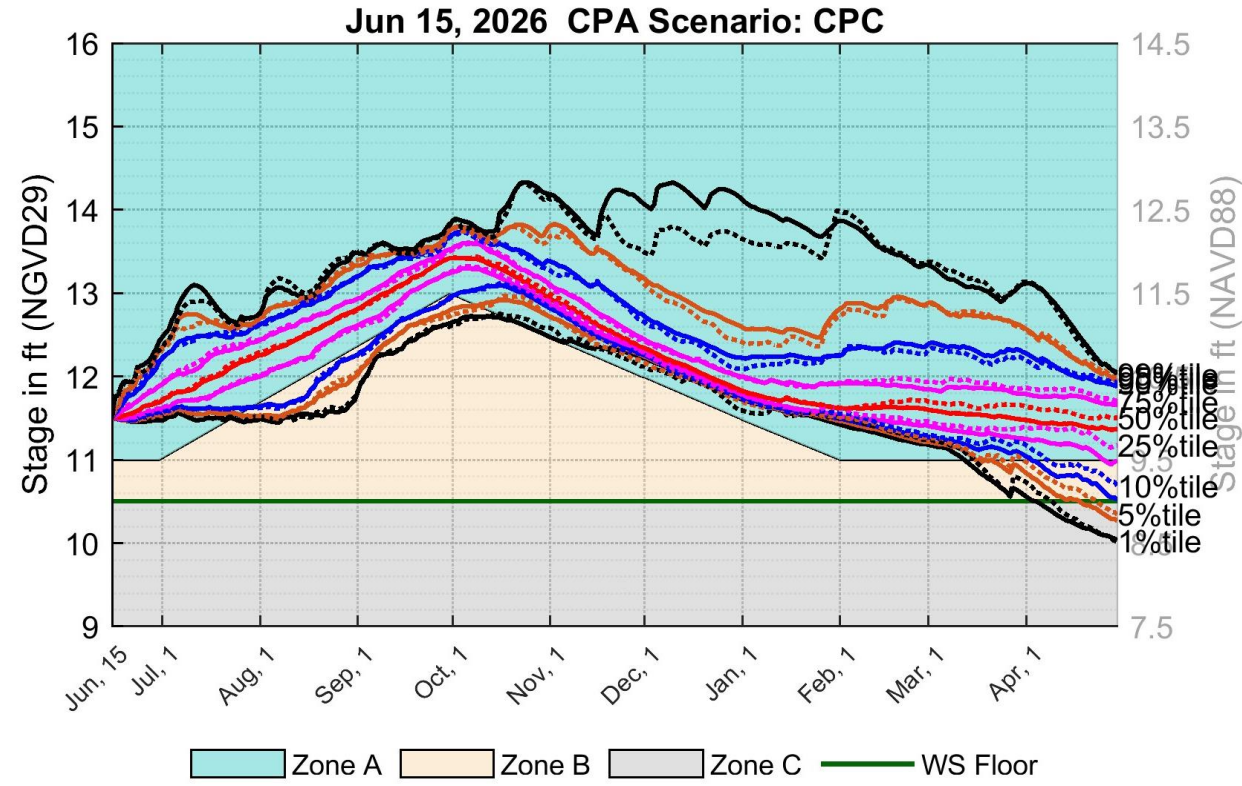


June 15, 2026 CPA: WCA-2A Site-17



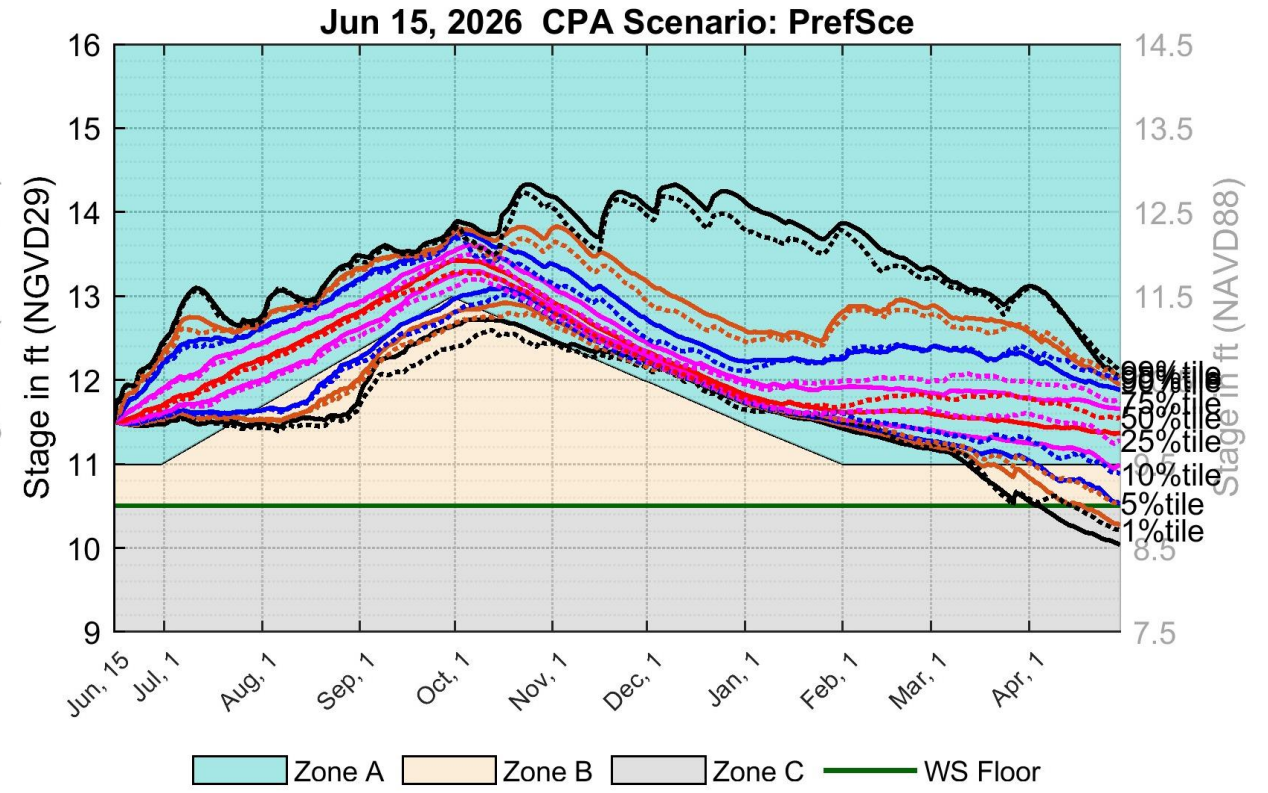
CPC

WCA-2A Site-17



PrefSce

WCA-2A Site-17



Secondary vertical axis shows stages in NAVD88. These stages are based on Agreed Upon Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.5 ft for WCA2A).



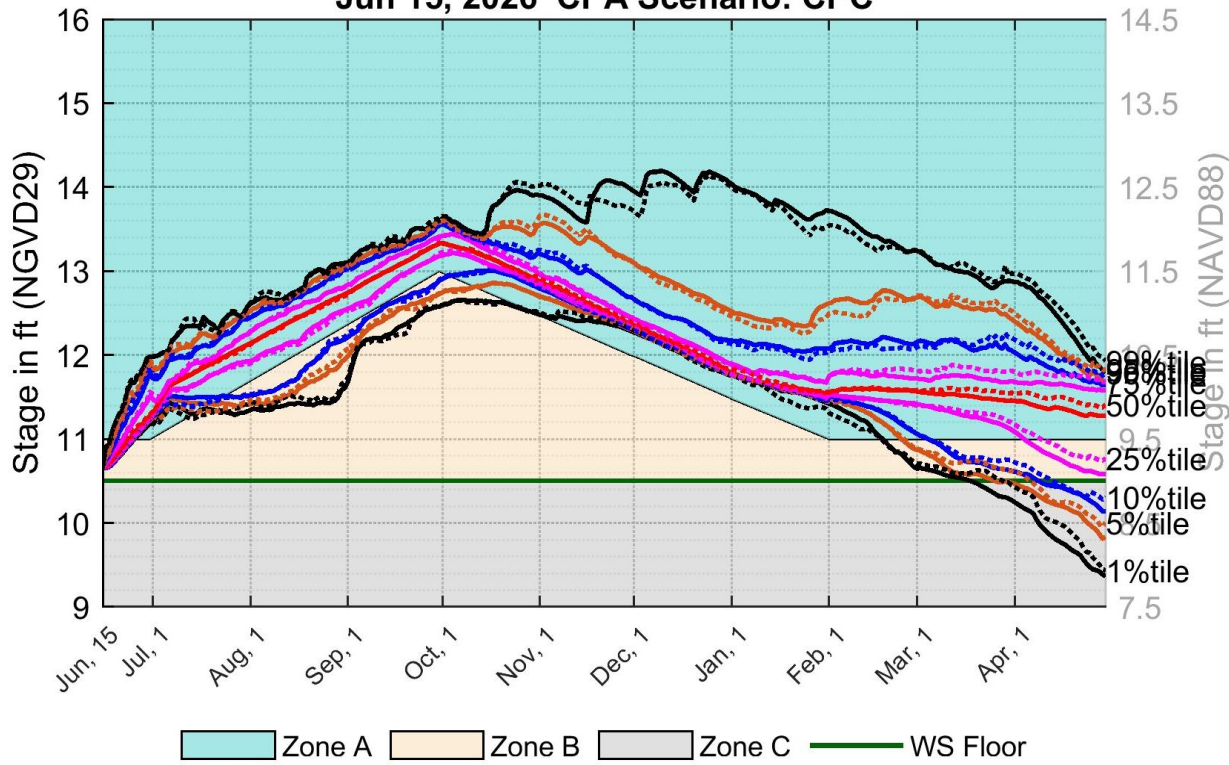
June 15, 2026 CPA: WCA-2A S-11B_H



CPC

WCA-2A S-11B_H

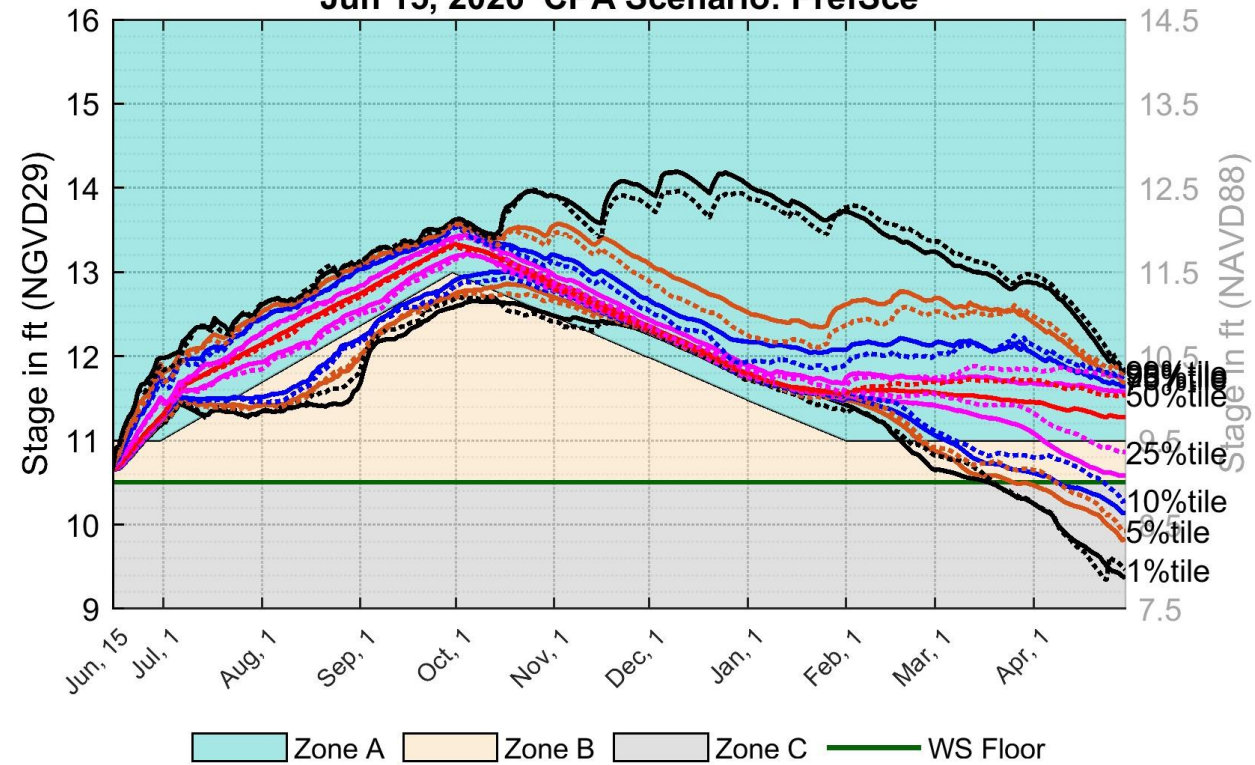
Jun 15, 2026 CPA Scenario: CPC



PrefSce

WCA-2A S-11B_H

Jun 15, 2026 CPA Scenario: PrefSce



Secondary vertical axis shows stages in NAVD88. These stages are based on Agreed Upon Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.5 ft for WCA2A).

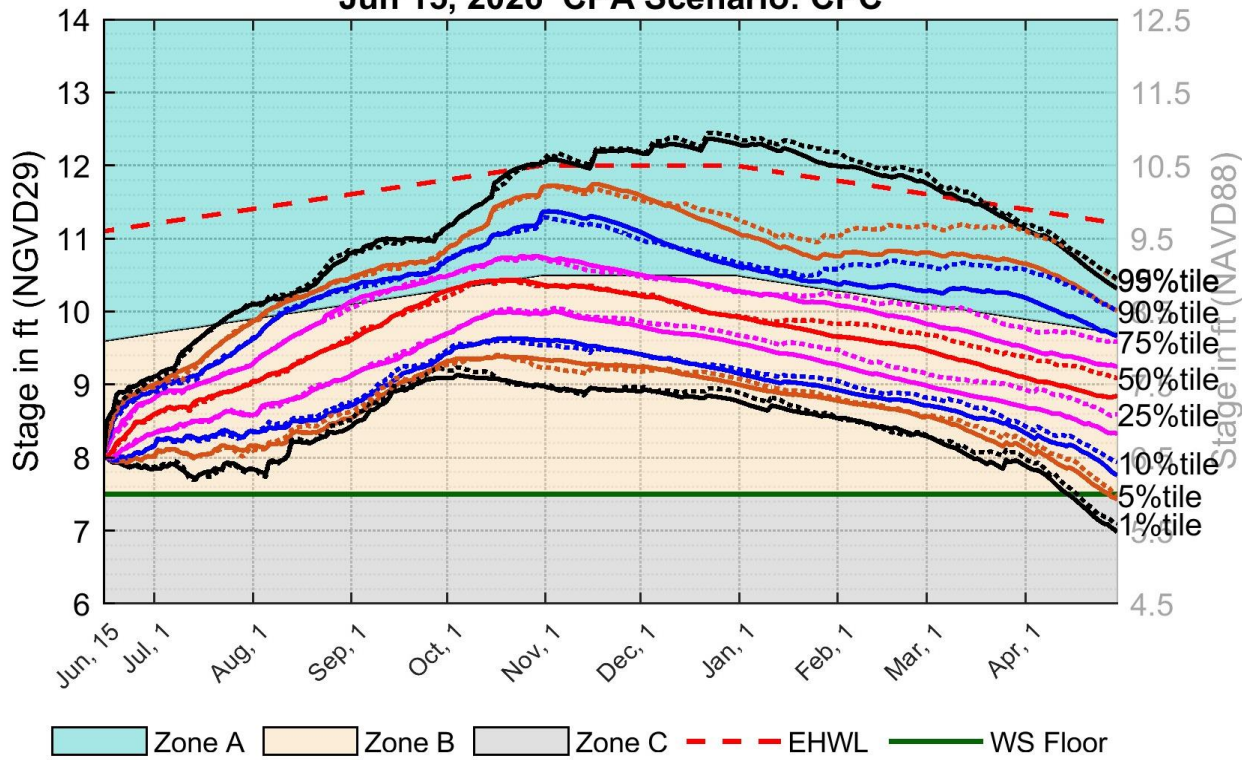
June 15, 2026 CPA: WCA-3A 3-Gage Avg.



CPC

WCA-3A 3-Gage Avg.

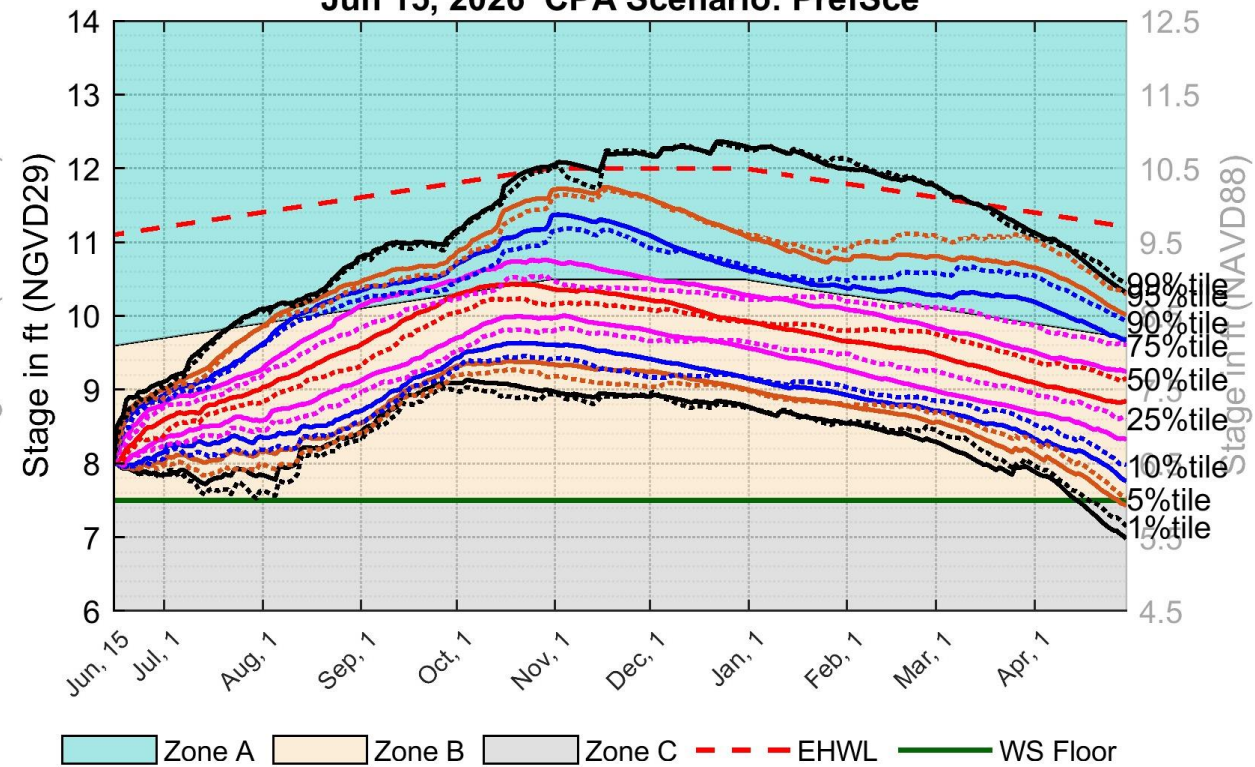
Jun 15, 2026 CPA Scenario: CPC



PrefSce

WCA-3A 3-Gage Avg.

Jun 15, 2026 CPA Scenario: PrefSce



Secondary vertical axis shows stages in NAVD88. These stages are based on Agreed Upon Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.5 ft for WCA3A).

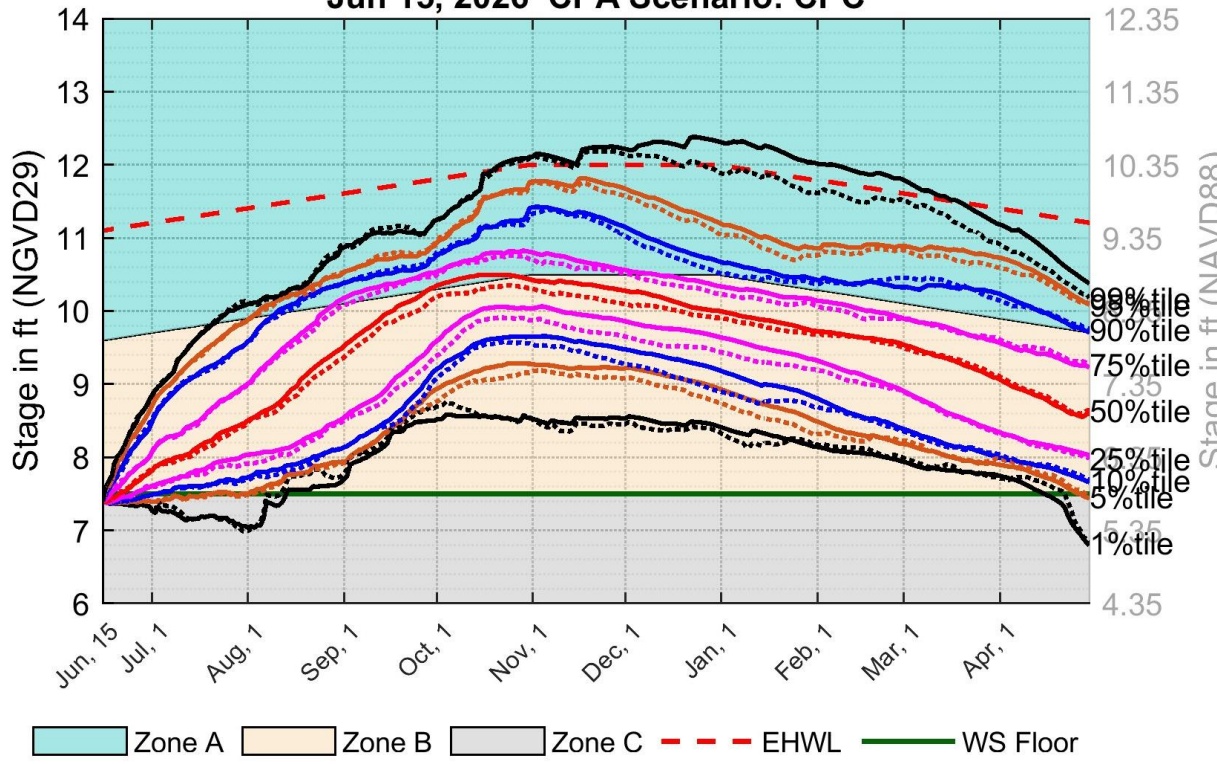
June 15, 2026 CPA: WCA-3A Site-69W



CPC

WCA-3A Site-69W

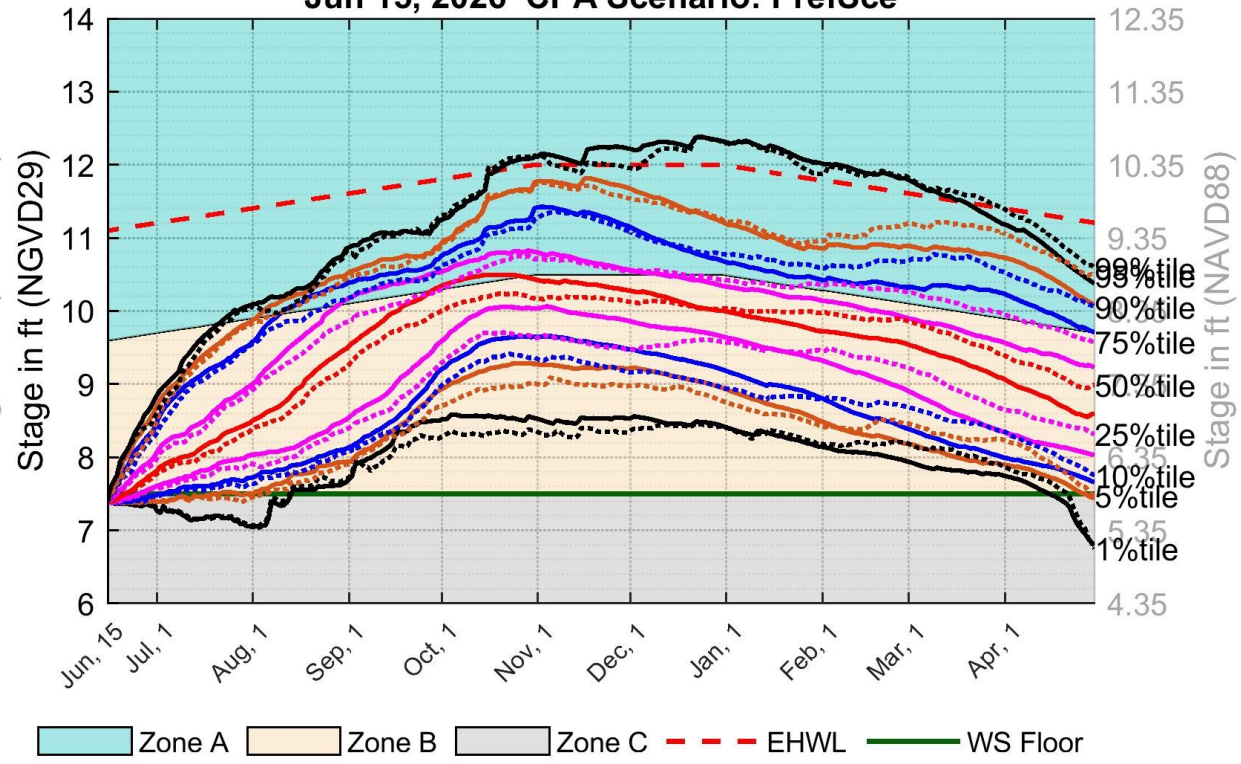
Jun 15, 2026 CPA Scenario: CPC



PrefSce

WCA-3A Site-69W

Jun 15, 2026 CPA Scenario: PrefSce



Secondary vertical axis shows stages in NAVD88. These stages are based on Agreed Upon Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.65 ft for WCA3A Site 69W).



JUNE 15, 2026: CPA IMPLEMENTATION

LAKE ISTOKPOGA

Lake Istokpoga CPA Implementation Overview



- CPA is implemented for Lake Istokpoga using a daily mass-balance based Lake Istokpoga Position Analysis (PA) model for the following scenarios:
 - **Baseline Release Logic:** Release based on standard Lake Istokpoga Regulation Schedule (Zones A/B/C). Deliveries not allowed below Zone B.
 - G207/208 Operational
 - G207/208 Not Operational
 - **C1 Temporary Deviation:** Lake Istokpoga Regulation Schedule (Zones A/B/C1/C) implemented with the 2026 temporary deviation line as the active water-supply floor. Deliveries allowed below standard Zone B but stop when stage falls below Zone C1.
 - G207/208 Operational
 - G207/208 Not Operational

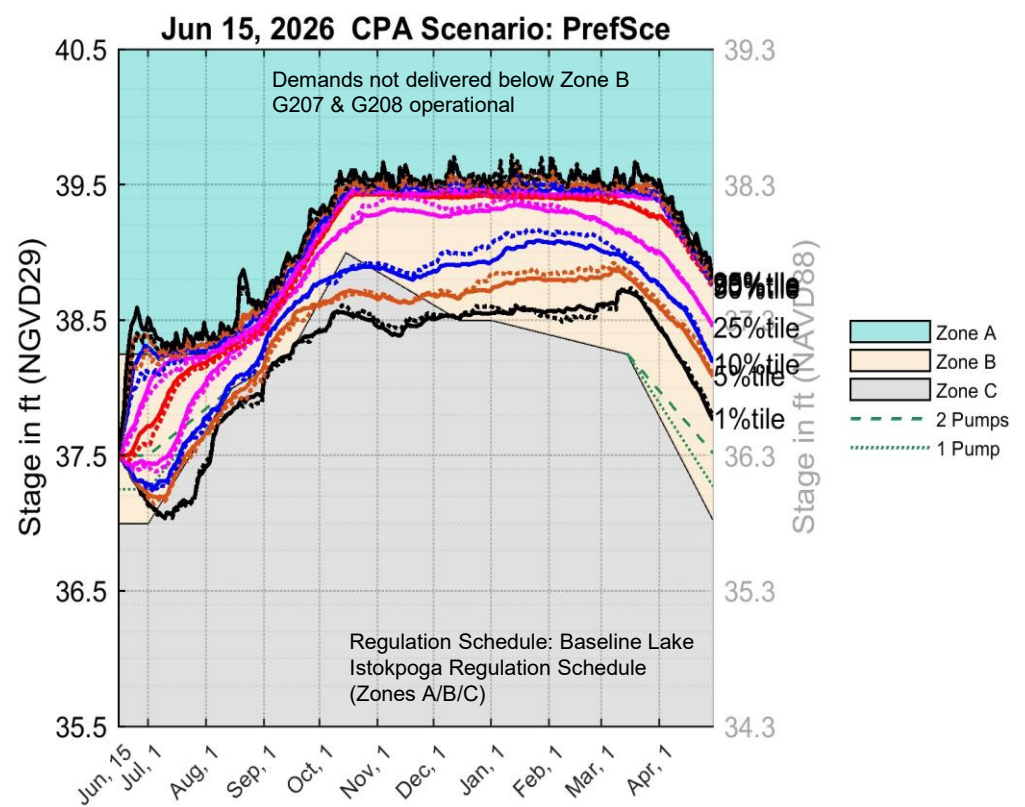
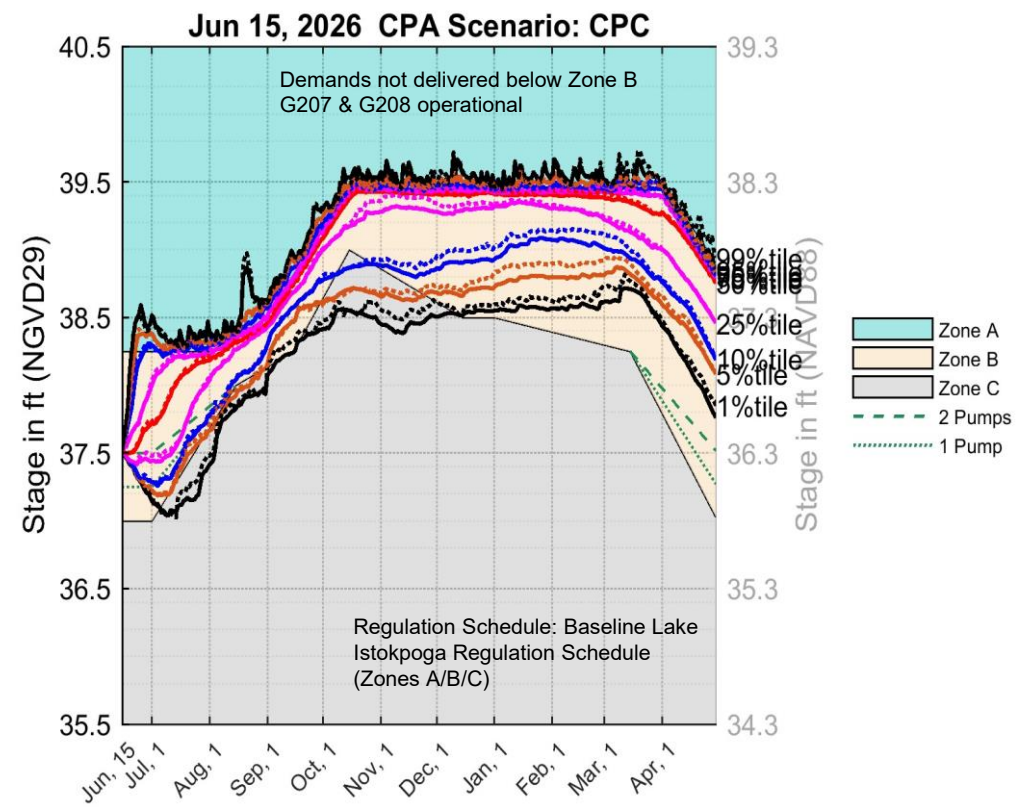
June 15, 2026 CPA: Lake Istokpoga



Baseline Release (demands not delivered below Zone B) and G207/G208 pumps operational

CPC
Lake Istokpoga

PrefSce
Lake Istokpoga



Secondary vertical axis shows stages in NAVD88. These stages are based on the agreed Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.2 ft for Lake Istokpoga).

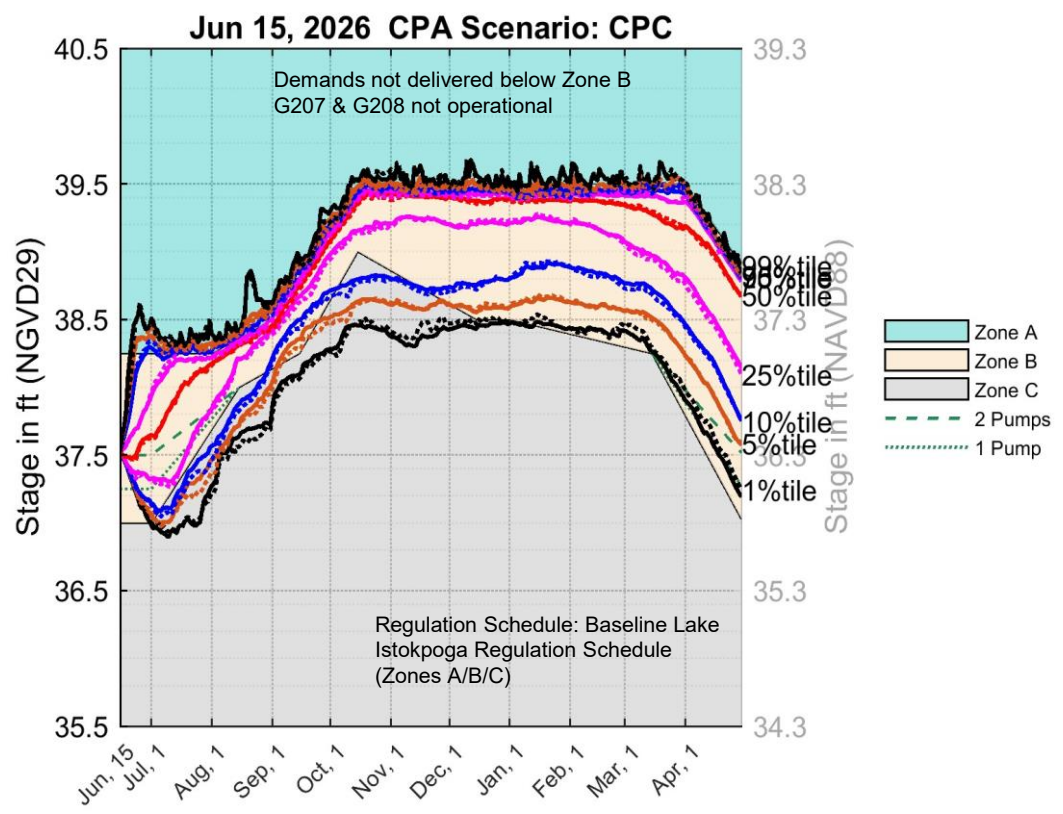
June 15, 2026 CPA: Lake Istokpoga



Baseline Release (demands not delivered below Zone B) and G207/G208 pumps not operational

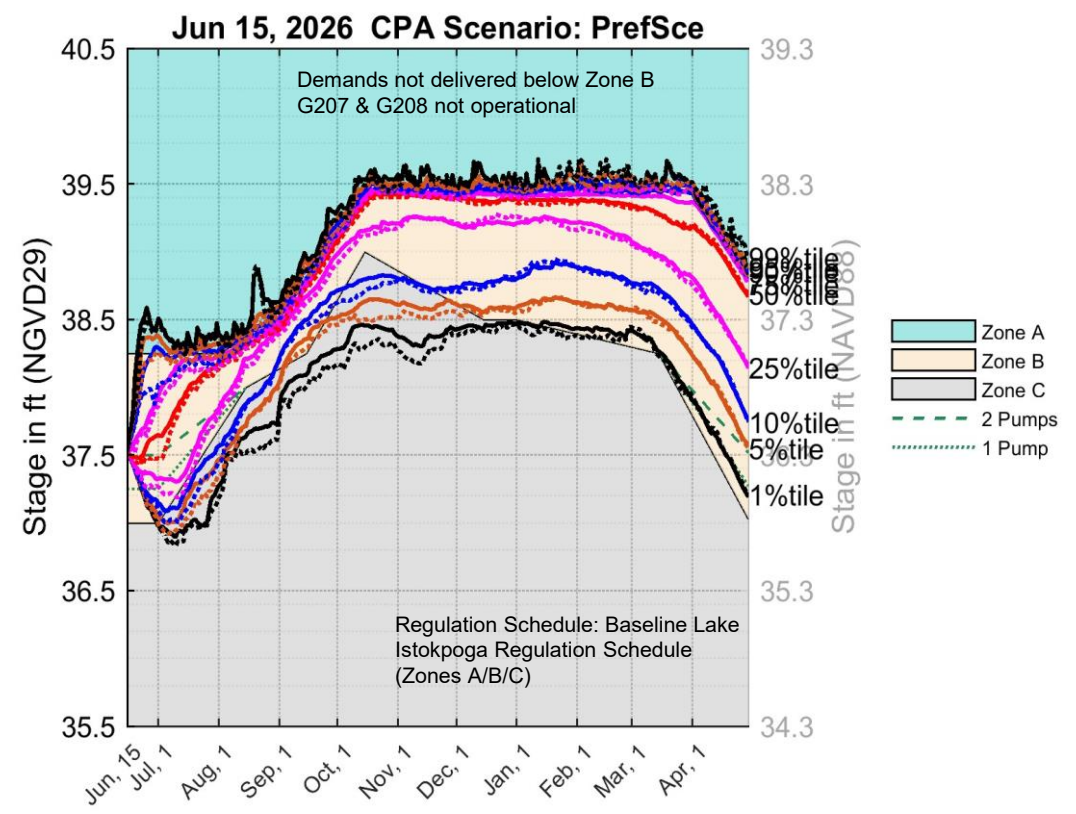
CPC

Lake Istokpoga



PrefSce

Lake Istokpoga



Secondary vertical axis shows stages in NAVD88. These stages are based on the agreed Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.2 ft for Lake Istokpoga).

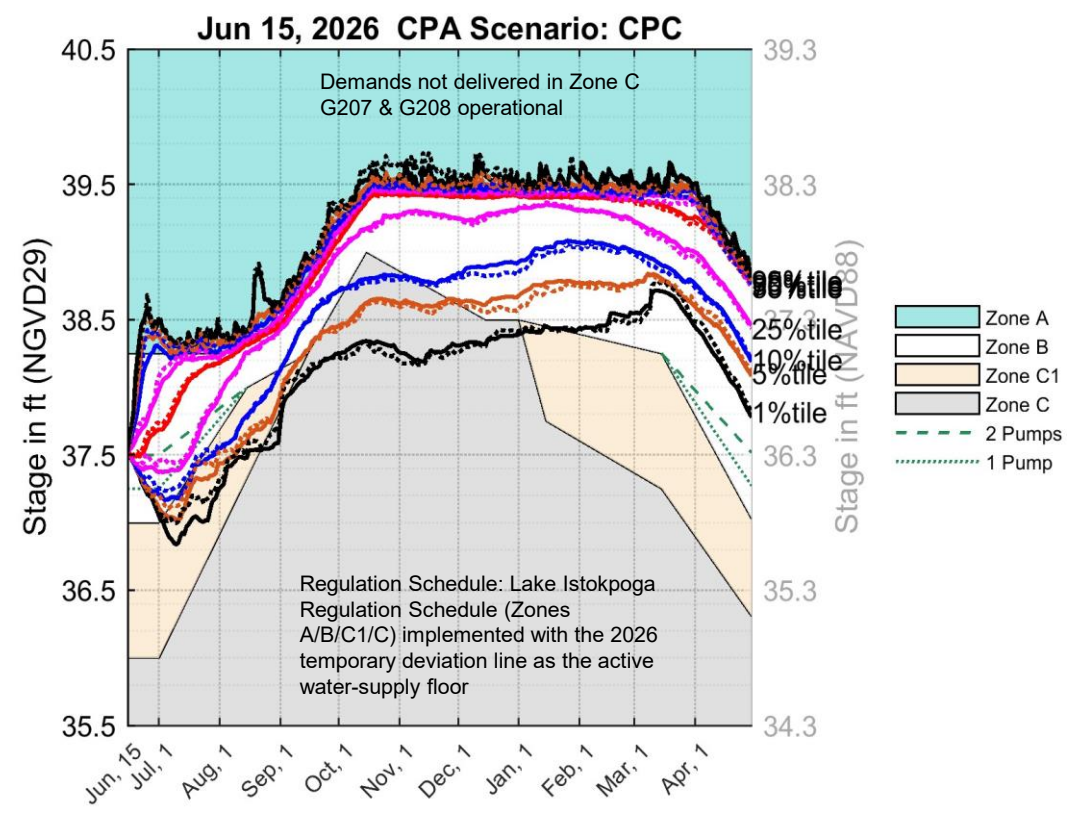
June 15, 2026 CPA: Lake Istokpoga



C1 Temporary Deviation (demands not delivered in Zone C) and G207/G208 pumps operational

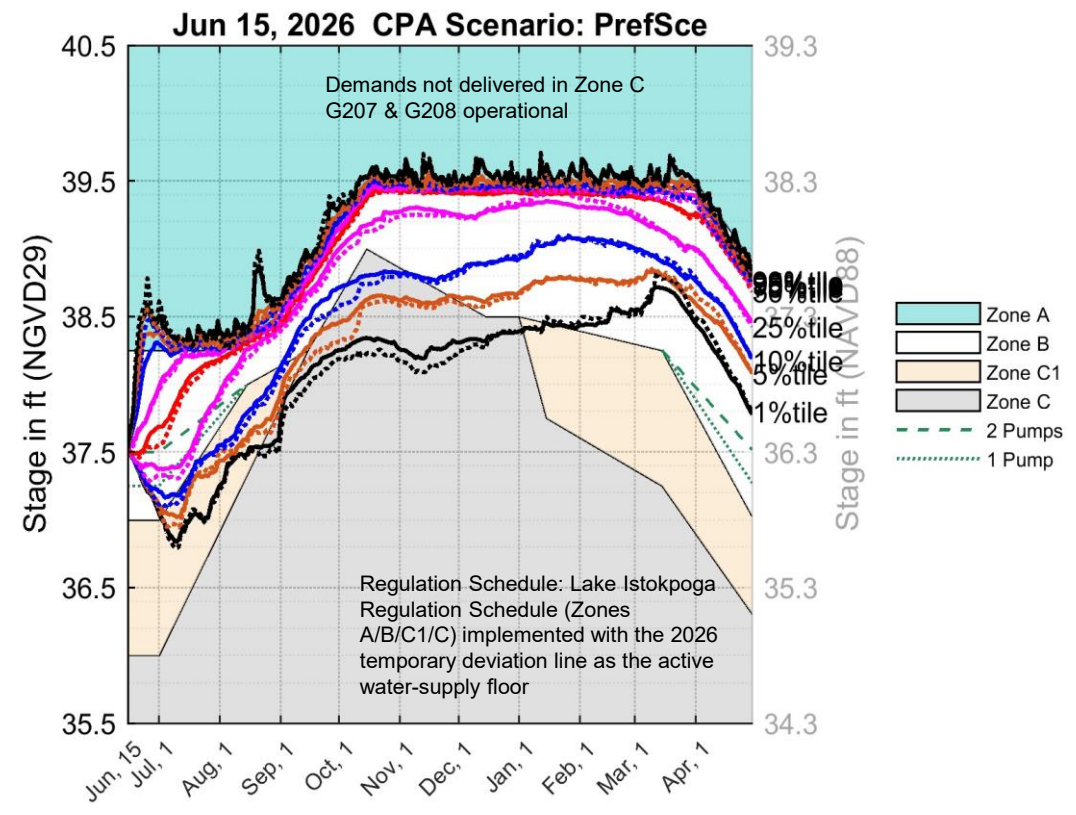
CPC

Lake Istokpoga



PrefSce

Lake Istokpoga



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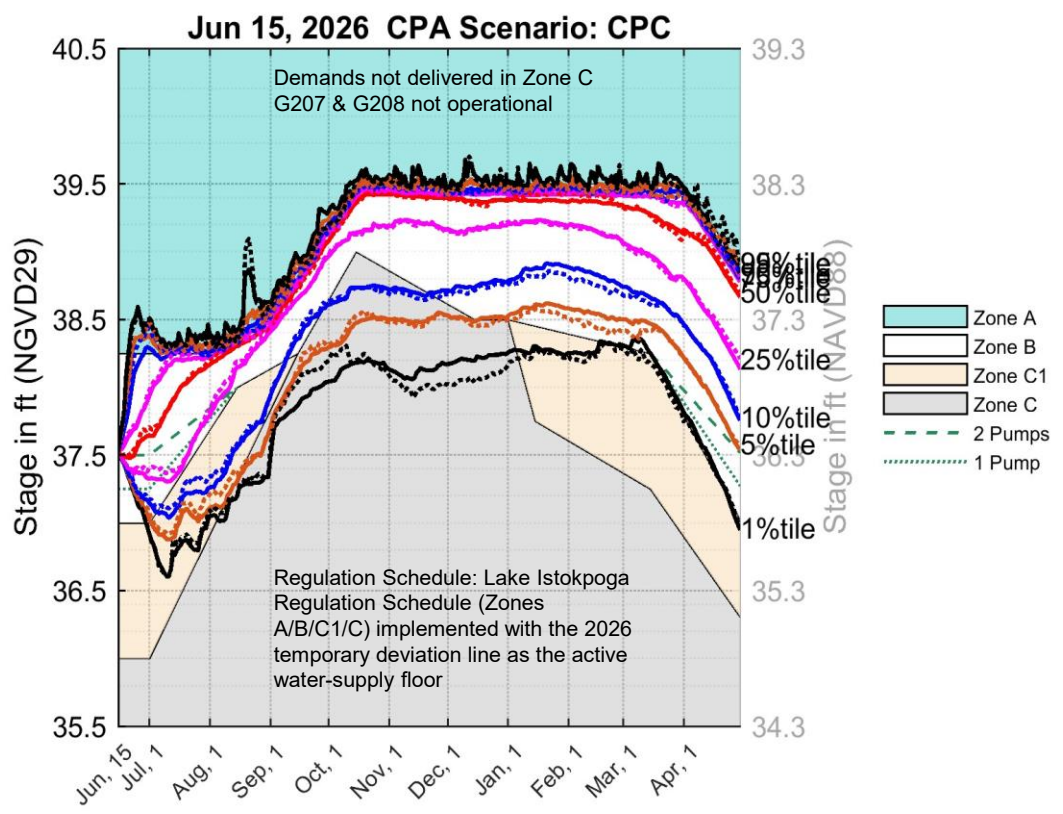
June 15, 2026 CPA: Lake Istokpoga



C1 Temporary Deviation (demands not delivered in Zone C) and G207/G208 pumps not operational

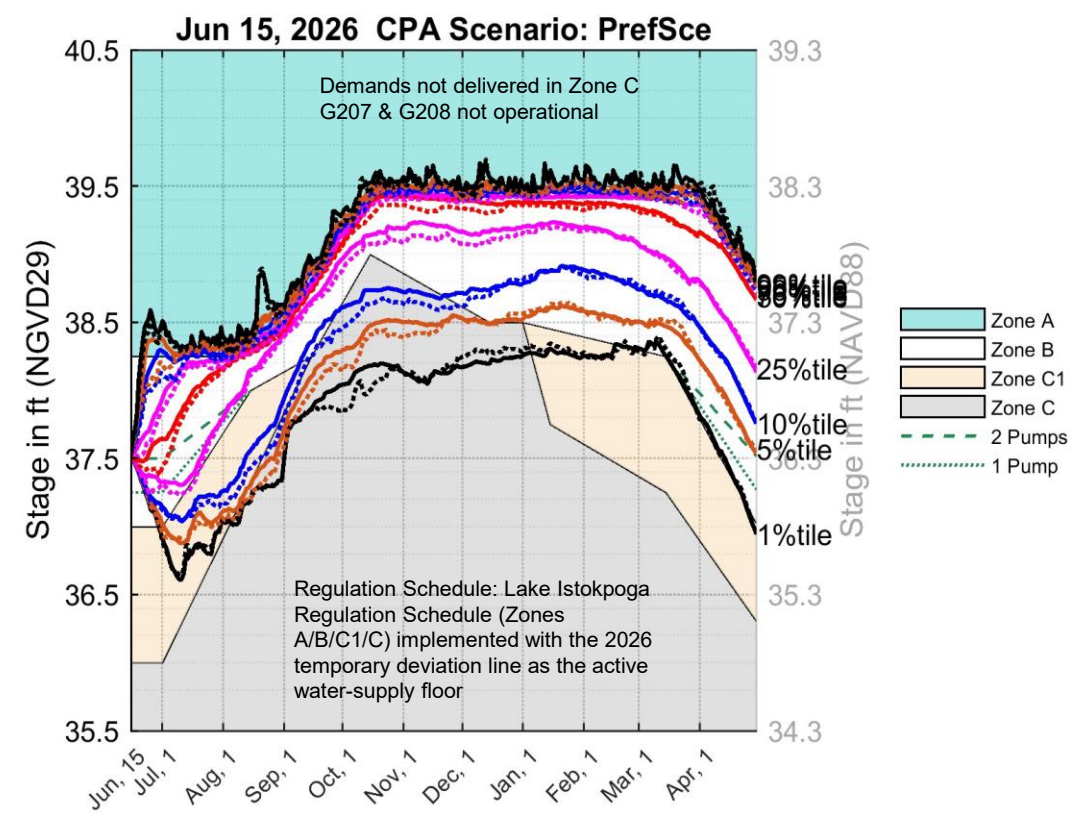
CPC

Lake Istokpoga



PrefSce

Lake Istokpoga



Secondary vertical axis shows stages in NAVD88. These stages are based on the agreed Regulation Schedule Conversion Offsets between NGVD29 and NAVD88 (1.2 ft for Lake Istokpoga).