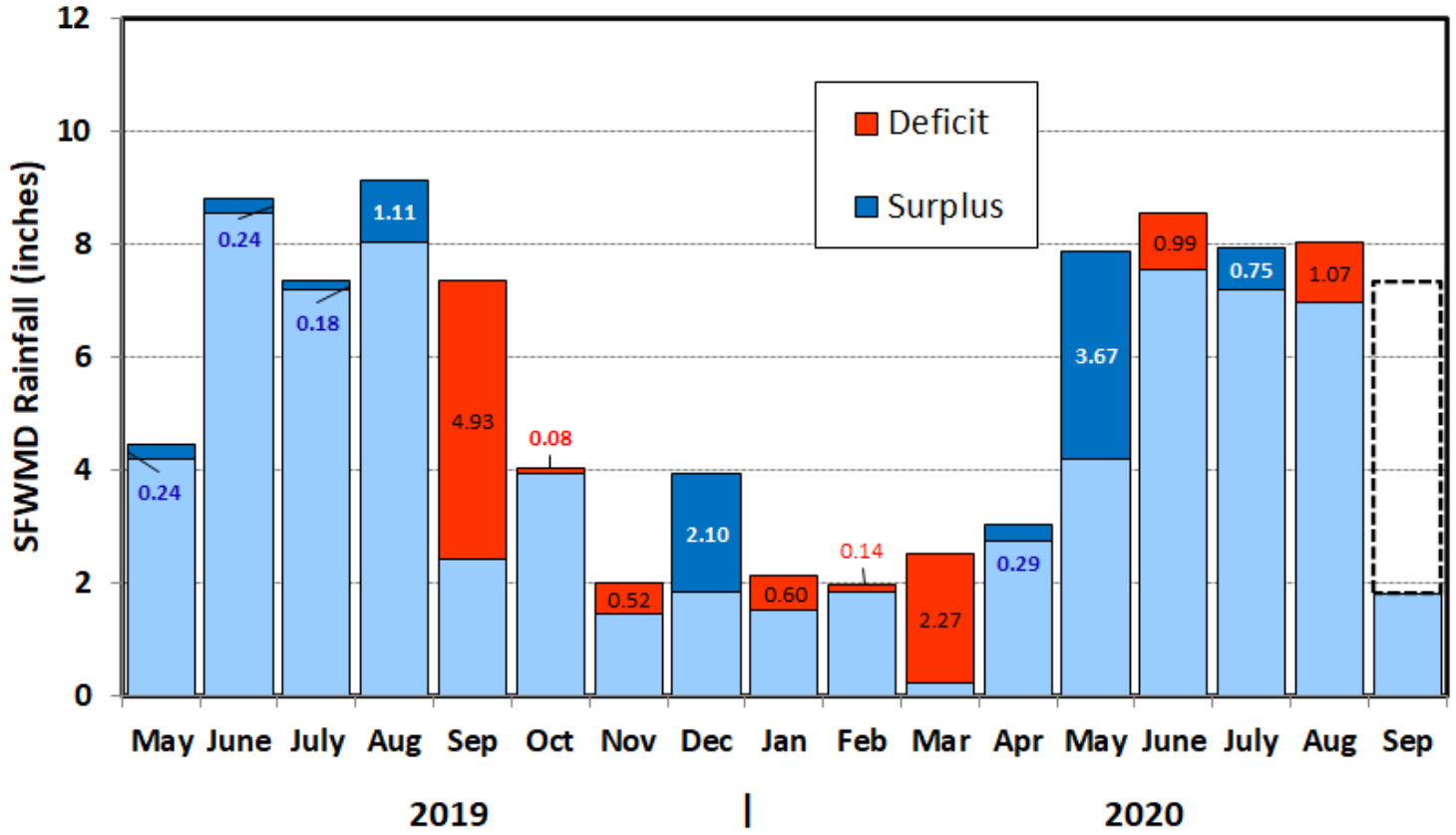
# Water Conditions Summary

## South Florida Water Management District
## Governing Board Meeting
## September 10, 2020

John P. Mitnik, PE
Chief District Engineer
Assistant Executive Director

# SFWMD Rainfall Distribution Comparison

## (May 2019 - September 2020)




District Wide Average Rainfall

| Month | Average (inches) |
|---|---|
| Jan | 2.12 |
| Feb | 1.98 |
| Mar | 2.51 |
| Apr | 2.74 |
| May | 4.21 |
| Jun | 8.55 |
| Jul | 7.18 |
| Aug | 8.03 |
| Sep | 7.34 |
| Oct | 4.03 |
| Nov | 1.99 |
| Dec | 1.84 |

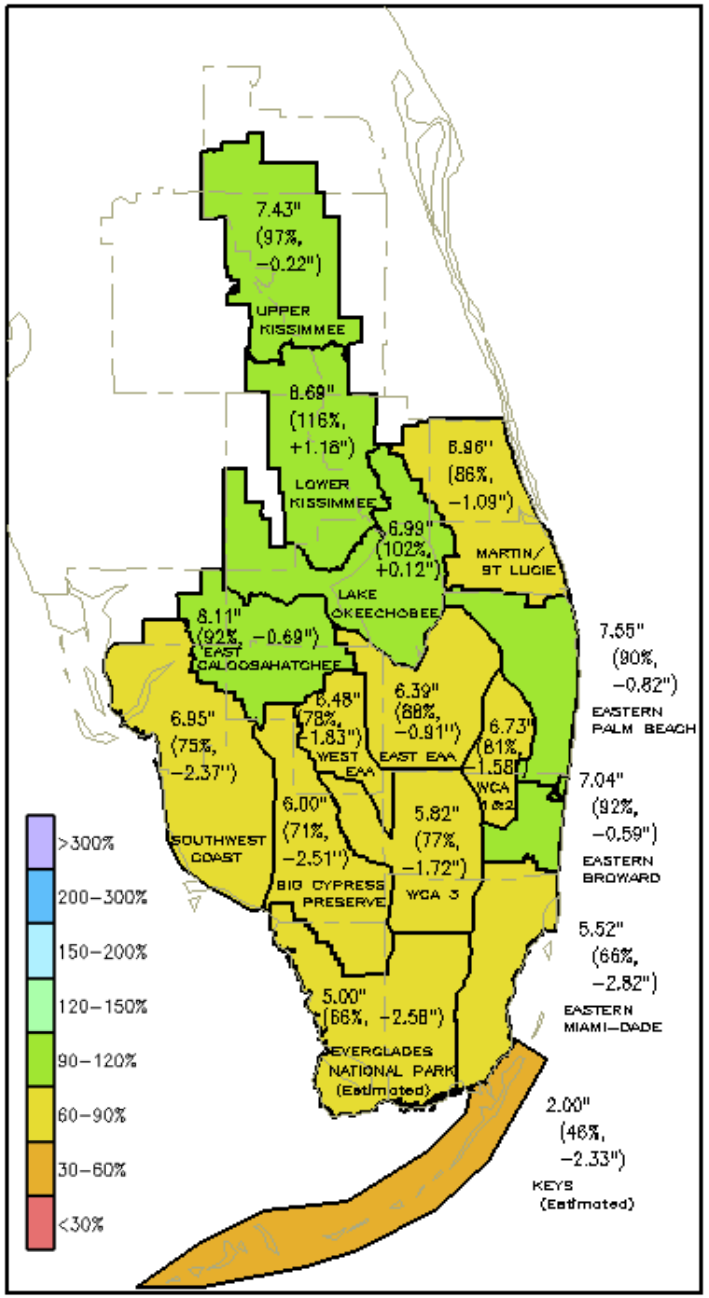
Wet Season

**2019 WET SEASON**
- May to August had above average rainfall
- August was 14% above average.
- Driest September in the 88-year POR.
- Earliest end in POR: Sep. 16, 2019.

**2019-2020 DRY SEASON**.
- Sep. 18, 2019 to May 15, 2020, 73% or Normal
- Driest March in 89 years of record
- May was ~ 187% of normal

**2020 WET SEASON**
- Started May 15, 2020.
- About 22.88" since May 15
- July had above average rainfall
- August rainfall was below average

 Presenter: John Mitnik




# August 2020 Rainfall

## DISTRICT-WIDE: 6.96”

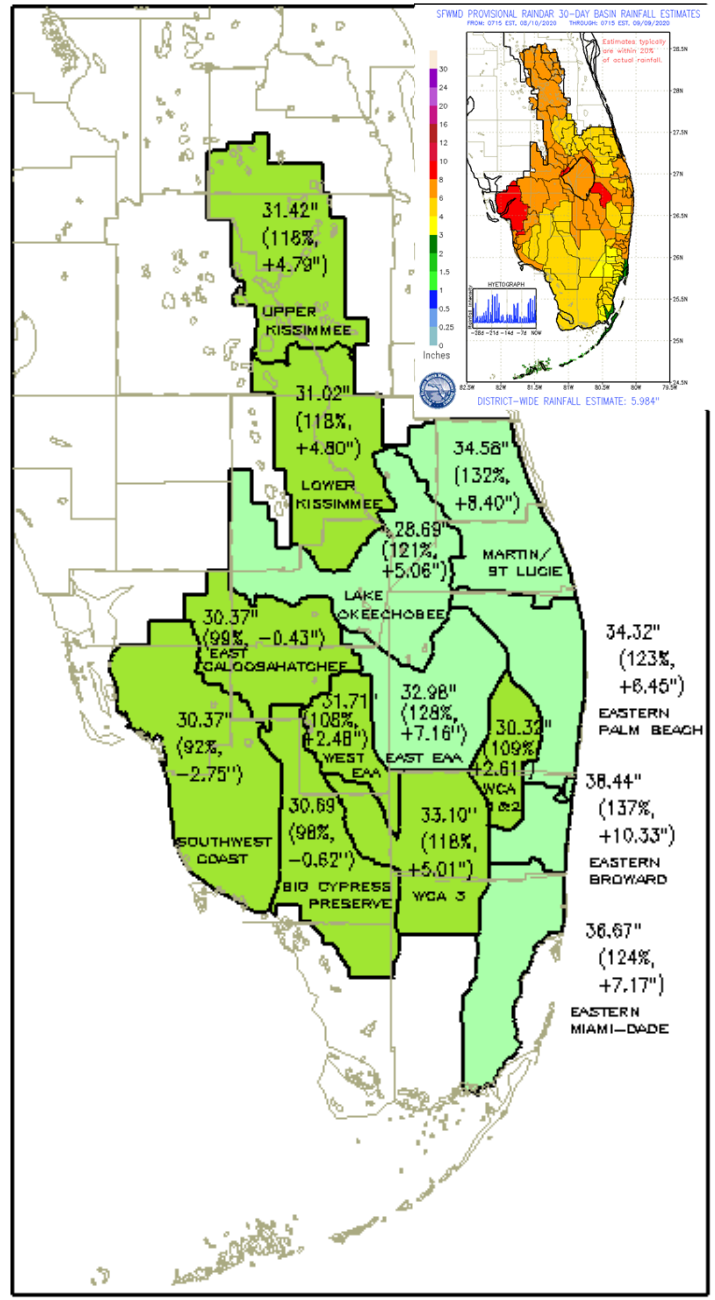
- 87 % of average, -1.07” deficit
- Variability 116% to 66%
- Areas in the South, Central and Upper East Coast received less rainfall
- Highest rainfall accumulation is for Lower Kissimmee +1.18”
- Second highest area has 102% of average
- Lowest deficit at Eastern Miami Dade with -2.82”

# Wet Season Rainfall

# 15 May 2020 - Present

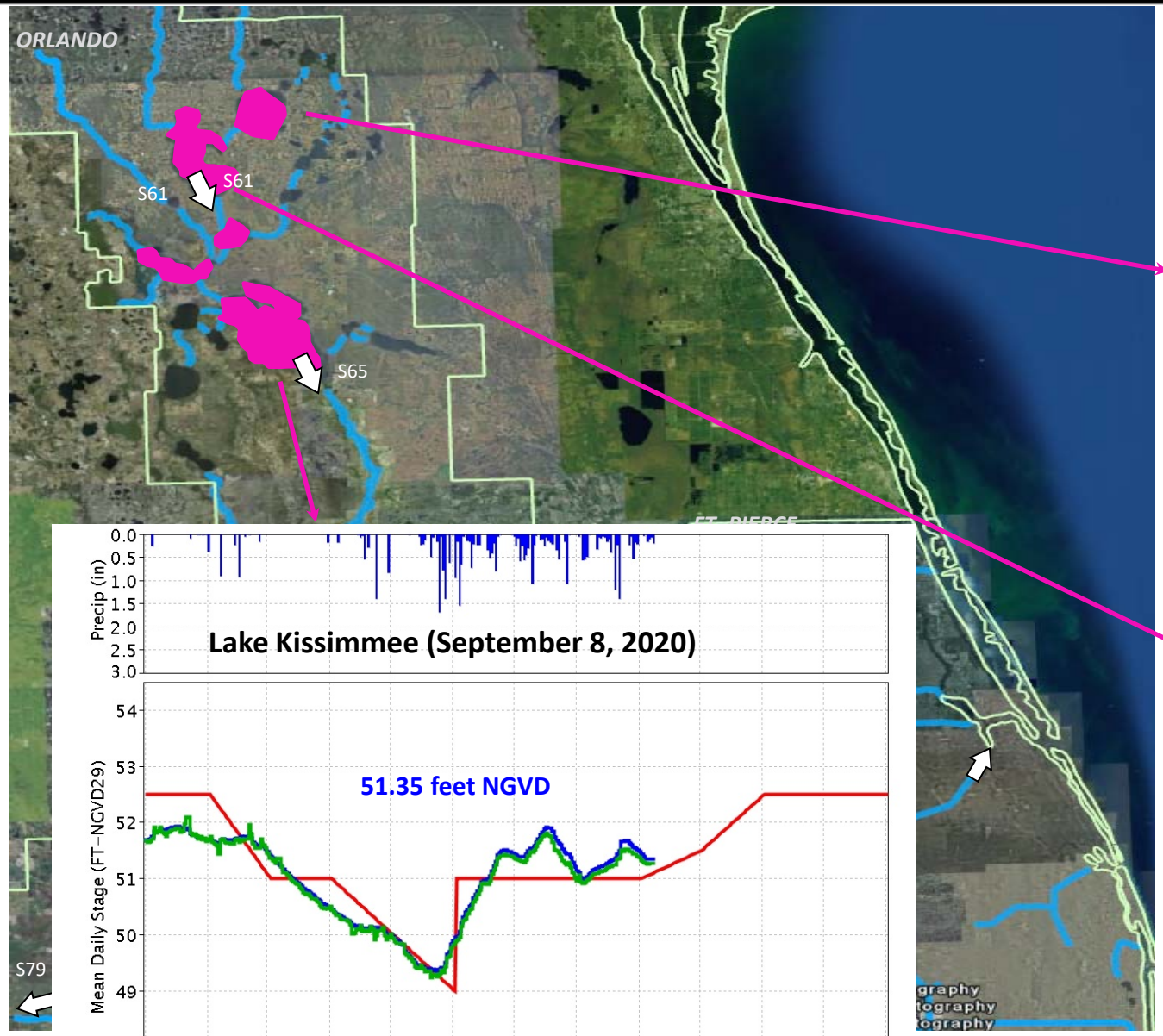
## DISTRICT-WIDE: ~31.98”

- 114% of average, + 3.82” surplus
- Kissimmee, areas on the West and the WCAs have received less rainfall
- All areas are 92% to 137% of average
- Highest is Eastern Broward with 137%
- Lowest is Southwest Coast with 92%

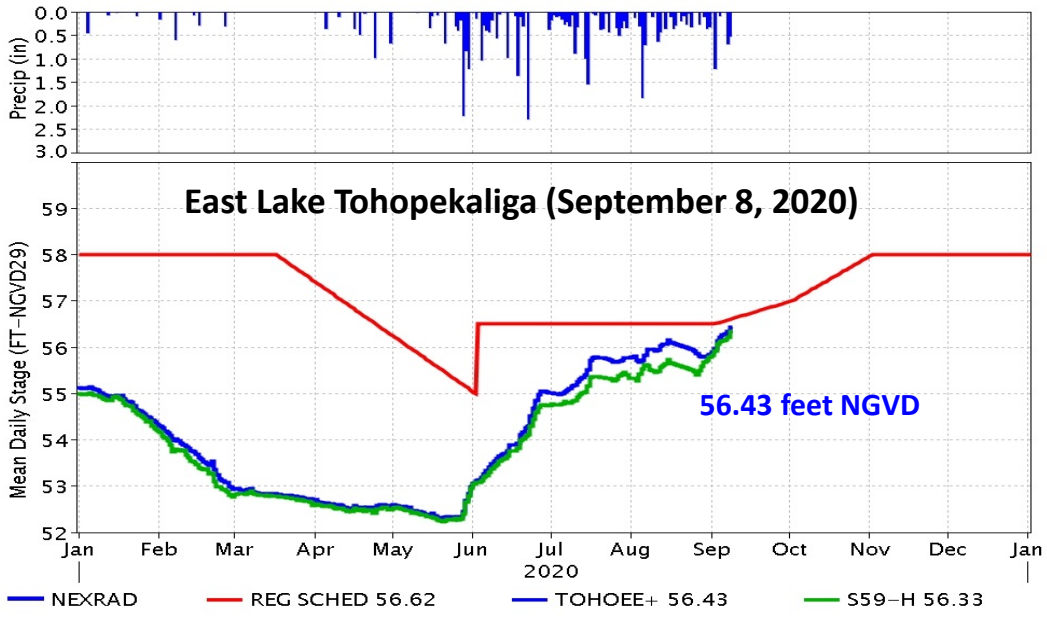


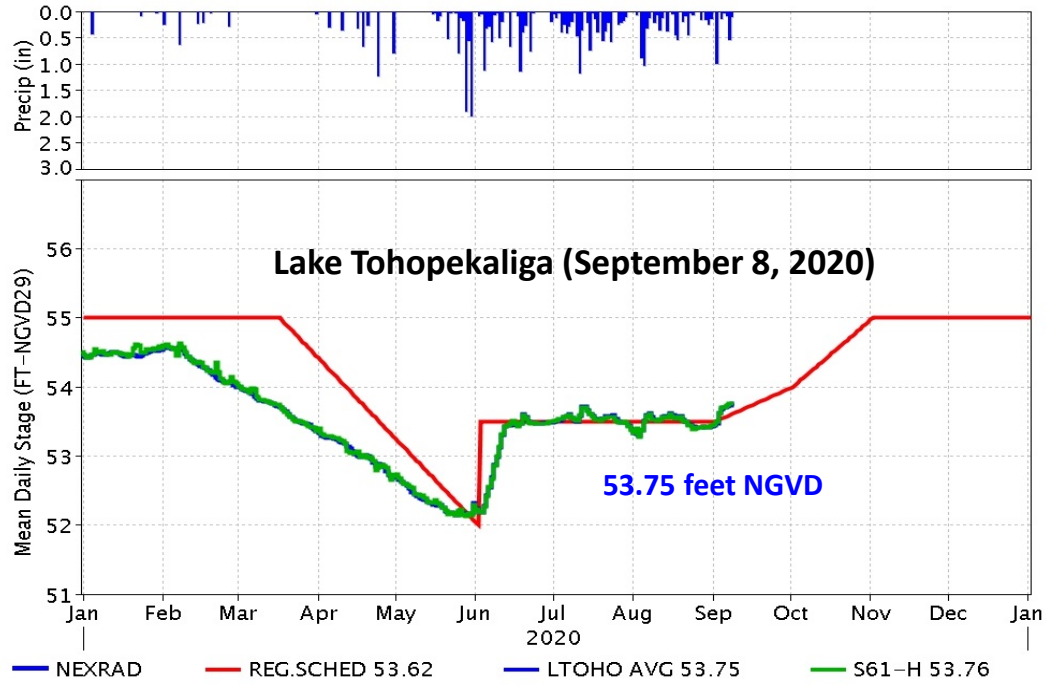



sfwmd.gov

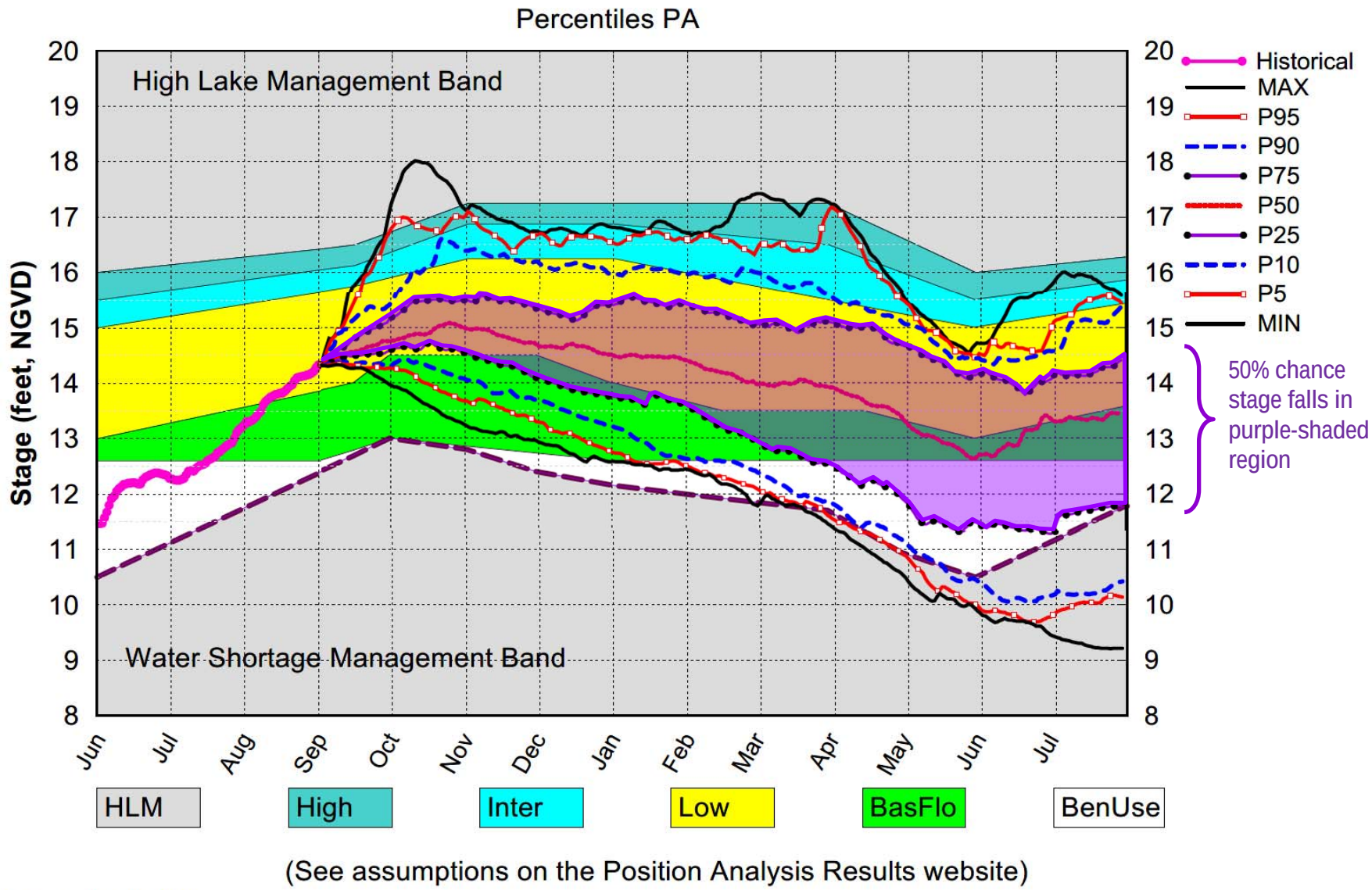

ORLANDO
S61
S61
S65
S79
FT. PIERCE


Precip (in)
Lake Kissimmee (September 8, 2020)
Mean Daily Stage (FT-NGVD29)
51.35 feet NGVD
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan
2020
NEXRAD
REG SCHED 51.12
LKISS AVG 51.35
S65-H 51.27


Precip (in)
East Lake Tohopekaliga (September 8, 2020)
Mean Daily Stage (FT-NGVD29)
56.43 feet NGVD
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan
2020
NEXRAD
REG SCHED 56.62
TOHOEE+ 56.43
S59-H 56.33


Precip (in)
Lake Tohopekaliga (September 8, 2020)
Mean Daily Stage (FT-NGVD29)
53.75 feet NGVD
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan
2020
NEXRAD
REG.SCHED 53.62
LTOHO AVG 53.75
S61-H 53.76

# Lake Okeechobee SFWMM Sep 2020 Position Analysis

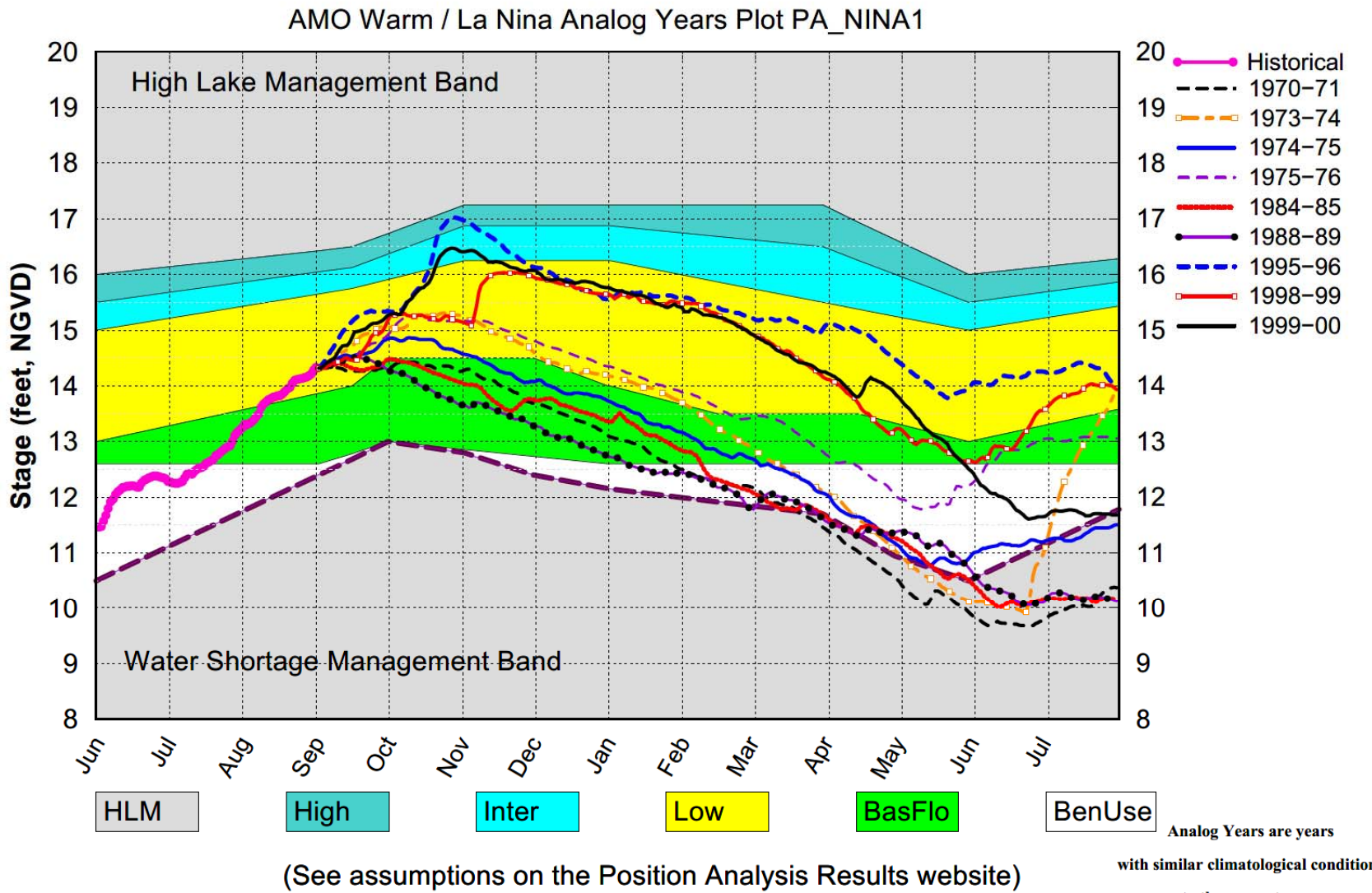



(See assumptions on the Position Analysis Results website)

Mon Sep 7 23:53:16 2020

 Presenter: John Mitnik

# Lake Okeechobee SFWMM Sep 2020 Position Analysis



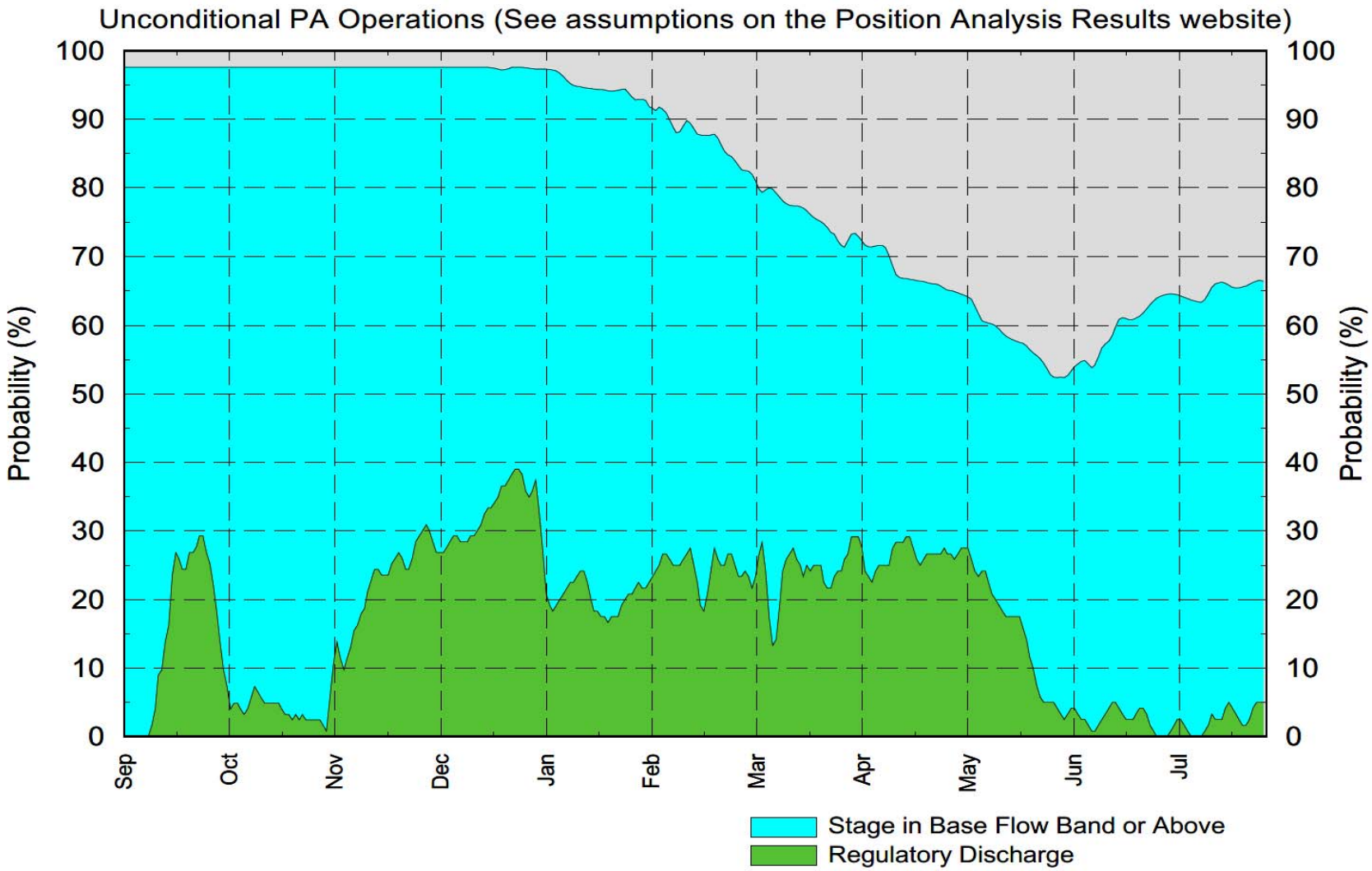

(See assumptions on the Position Analysis Results website)

Analog Years are years with similar climatological conditions to the current year.

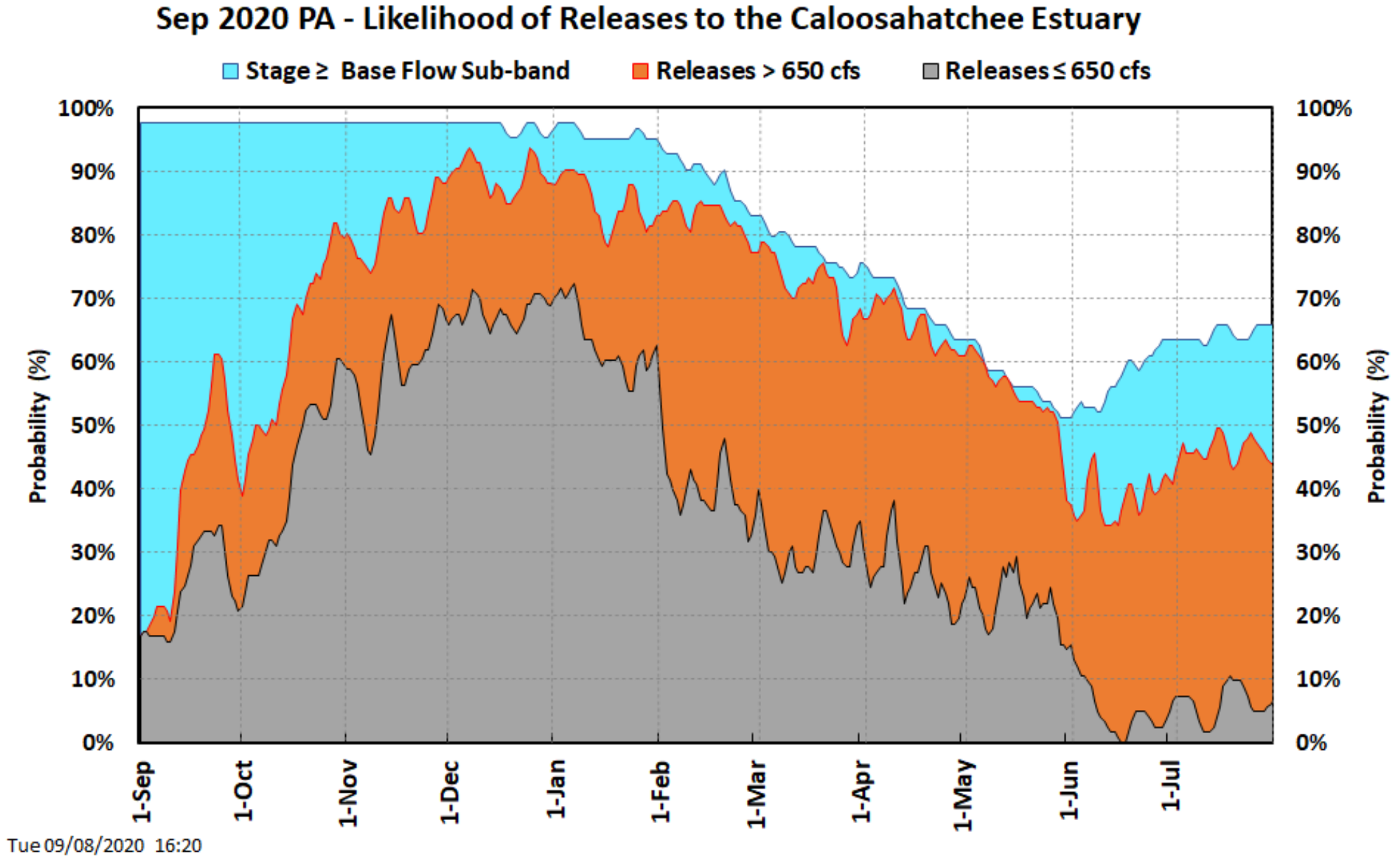
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 Presenter: John Mitnik

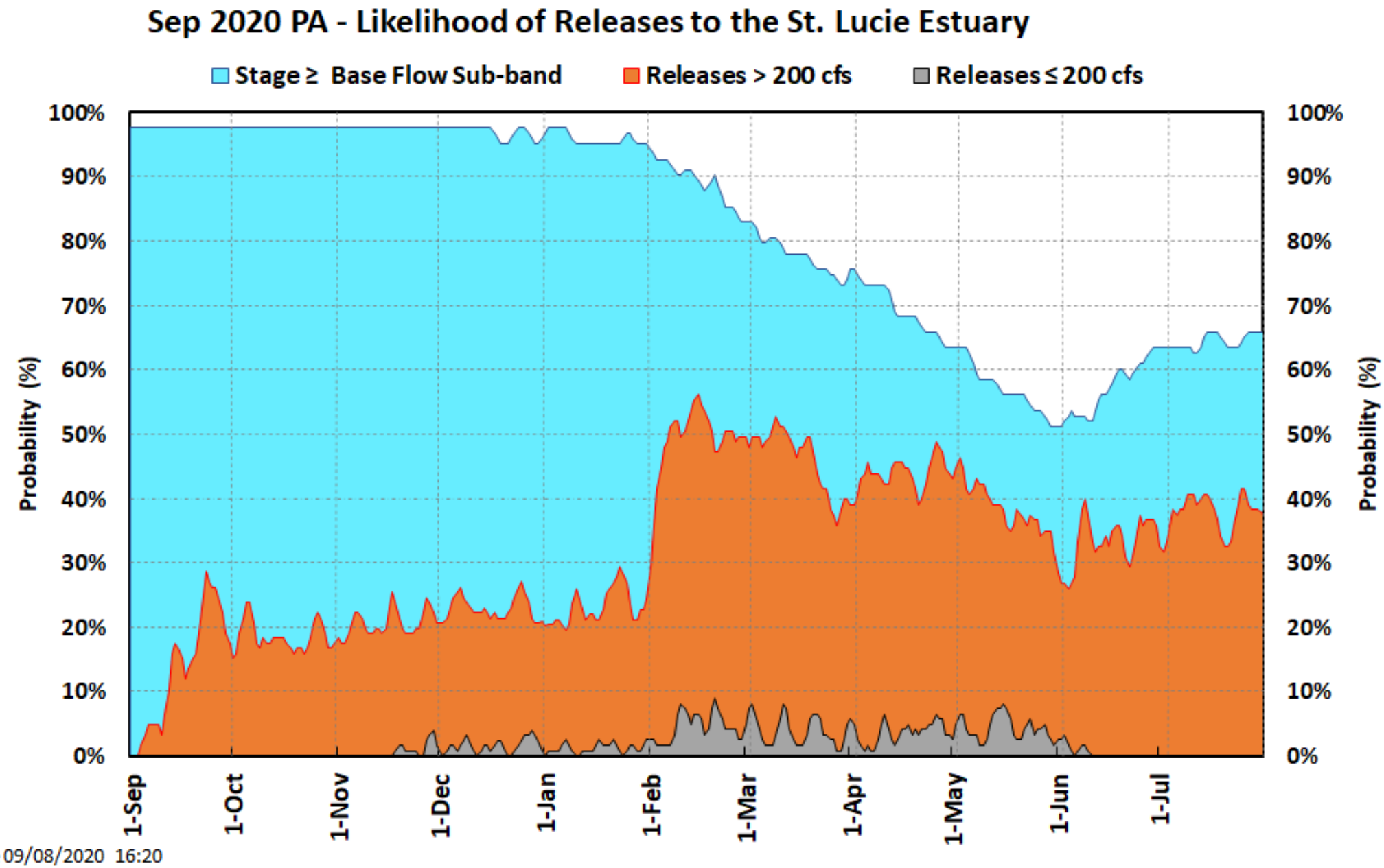
# September 2020 Dynamic Position Analysis
# Lake Okeechobee – LORS2008 Releases to the WCA's




 Presenter: John Mitnik

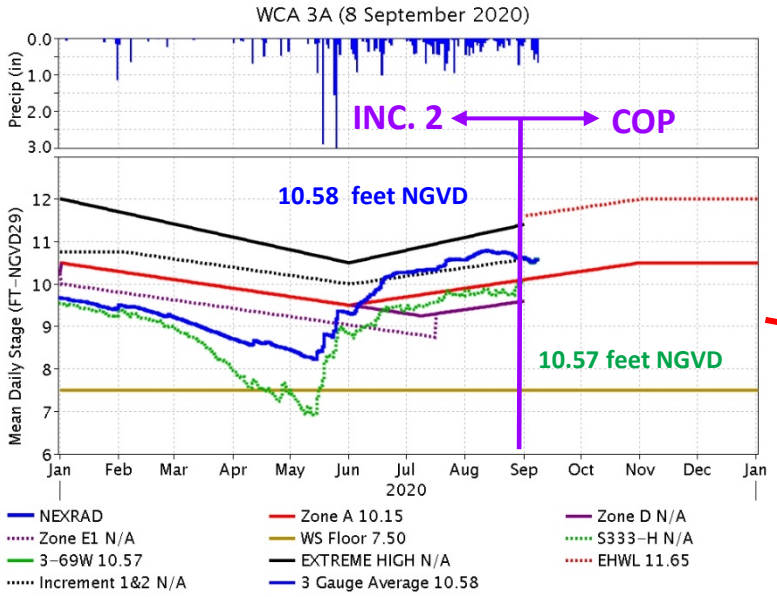



 Presenter: John Mitnik

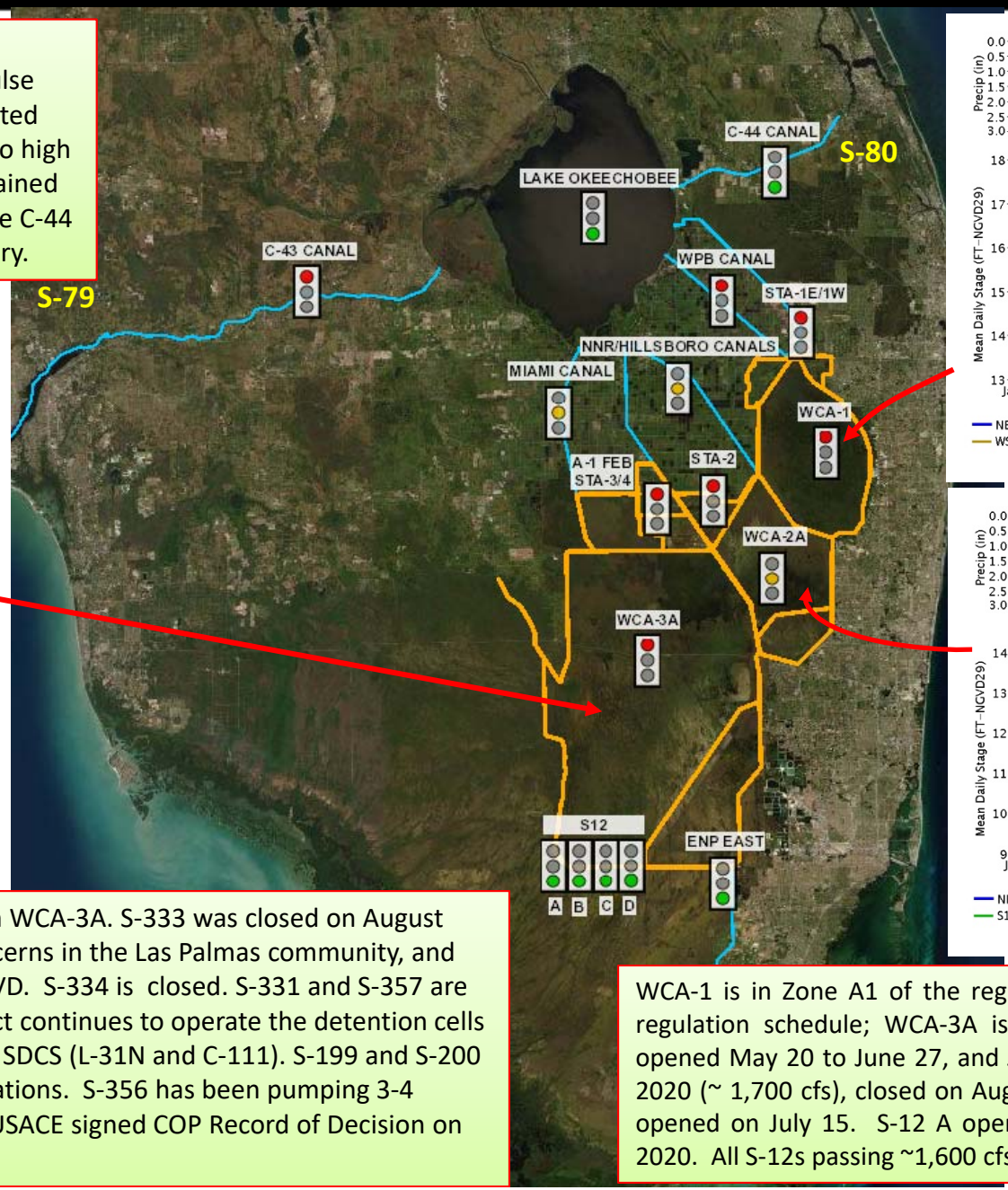


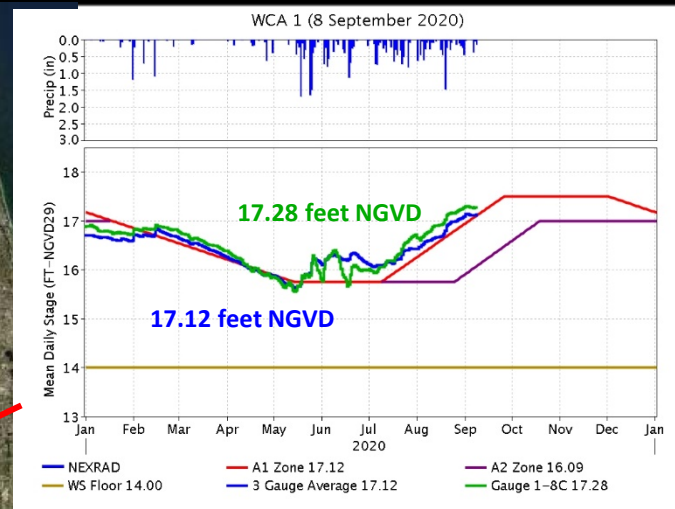

 Presenter: John Mitnik

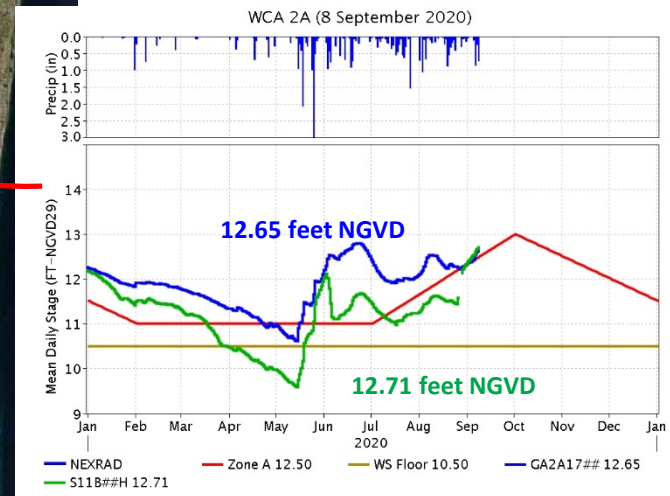
Lake Okeechobee stage is in the Low Sub-band of LORS-2008 Regulation schedule. The USACE is implementing a 650 cfs pulse release to the Caloosahatchee Estuary. The Corps has requested the District not send any Lake regulatory releases south due to high water conditions in the Everglades. S-308 (C-44 to Lake) remained open until lake stage crossed above 14.0 ft NGVD and now the C-44 canal is being managed to discharge basin runoff to the estuary.




Note: With COP floor gauge switched from S333-H to 3-69W



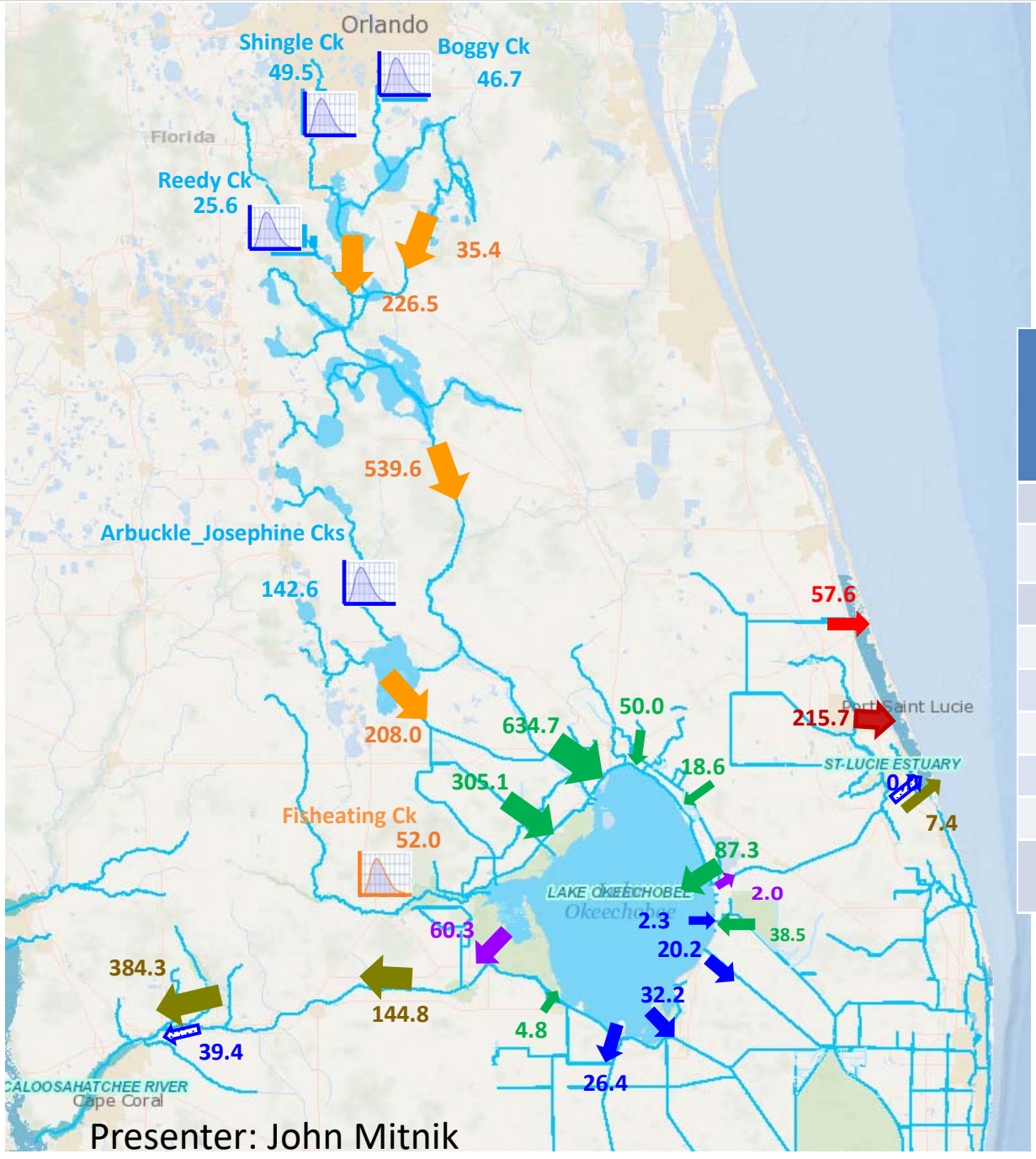




Tamiami Trail Flow Formula calls for MAXIMUM releases from WCA-3A. S-333 was closed on August 27th to reduce L-29 target stage of 8.0 feet NGVD due to concerns in the Las Palmas community, and is now discharging ~ 1080 cfs with canal levels at 8.3 feet NGVD. S-334 is closed. S-331 and S-357 are pumping with very low stage settings to help 8.5 SMA. District continues to operate the detention cells to provide flood mitigation and seepage management for the SDCS (L-31N and C-111). S-199 and S-200 pumps are running with no Cape Sable Seaside Sparrow limitations. S-356 has been pumping 3-4 units. S-197 remains closed. S-152 was opened August 13. USACE signed COP Record of Decision on August 28, 2020.

WCA-1 is in Zone A1 of the regulation schedule; WCA-2A is in Zone A of the regulation schedule; WCA-3A is in Zone A of its regulation schedule. S-10s opened May 20 to June 27, and July 31 to August 3. S-11s opened on May 26, 2020 (~ 1,700 cfs), closed on August 26. S-12B, S-343 A and B, and S-344 were opened on July 15. S-12 A opened on July 22. S-12 C&D opened on June 1, 2020. All S-12s passing ~1,600 cfs currently.



**System considerations for sending water south for the period 09/01/2020 to 09/07/2020**




## SFWMD – Selected Release Volumes for the Period May 1, 2020 to September 8, 2020

(volumes in 1,000 acre-feet)

| Symbol | Description | Volume (1,000 acre- feet) | |
|---|---|---|---|
| | | Season to Date | Last Month |
| | Upper Kissimmee to Lower Kissimmee | 539.6 | 183.4 |
| | Inflows to Lake Okeechobee (including Fisheating Creek) | 1190.8 | 452.5 |
| | Lake Releases and Basin Runoff | 391.7 | 139.7 |
| | Lake Releases East and West | 62.3 | 11.8 |
| | Lake Flood Control to Estuaries | 39.4 | 7.5 |
| | Total Lake Releases South | 81.1 | 3.6 |
| | Releases to Indian River Lagoon | 57.6 | 8.4 |
| | Upper East Coast discharges to St. Lucie Estuary | 215.7 | 22.1 |
| | Uncontrolled flows - Creeks (does not include Fisheating Creek) | 264.4 | 77.6 |

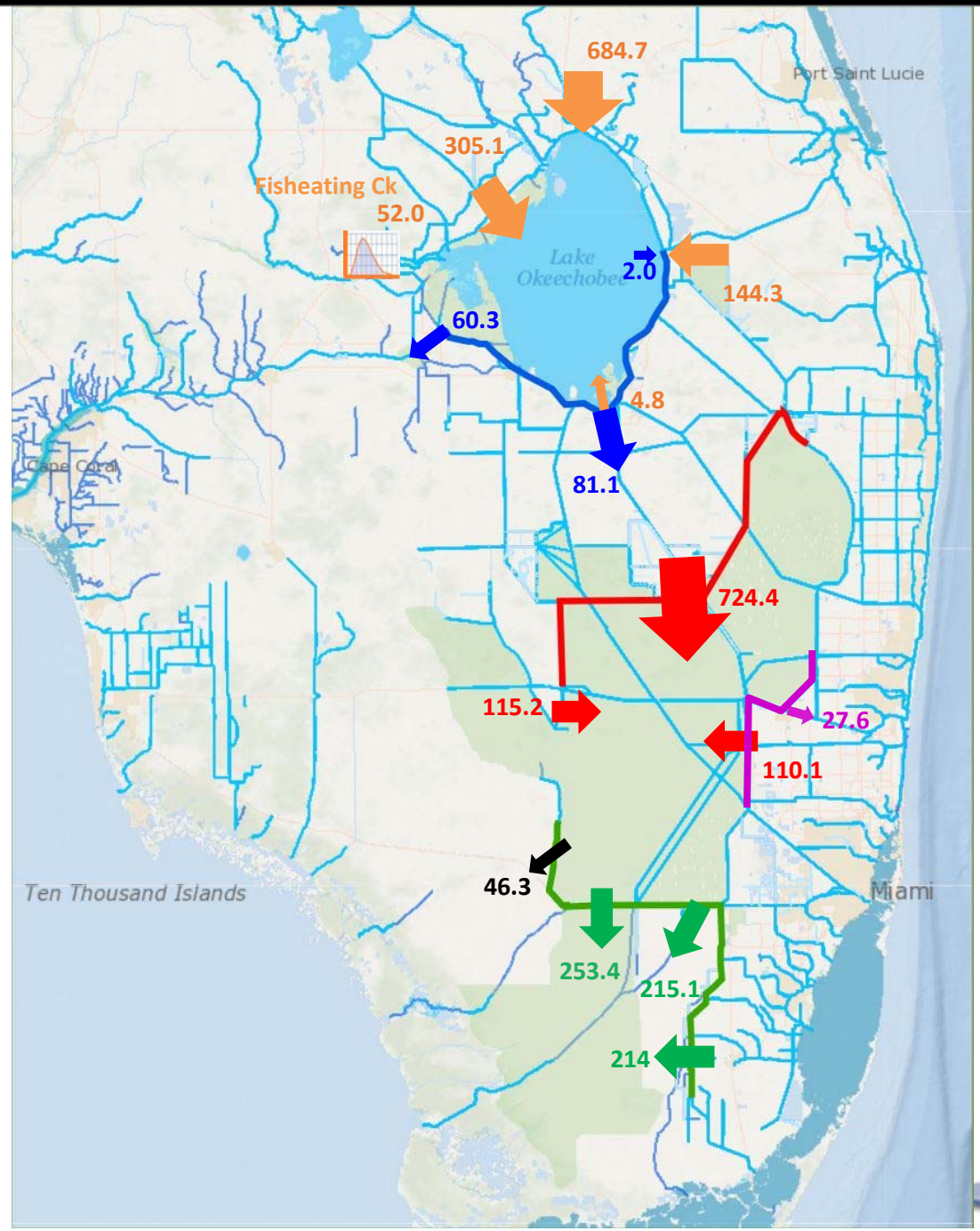
**1,000 acre-feet = 325.9 Million Gallons**



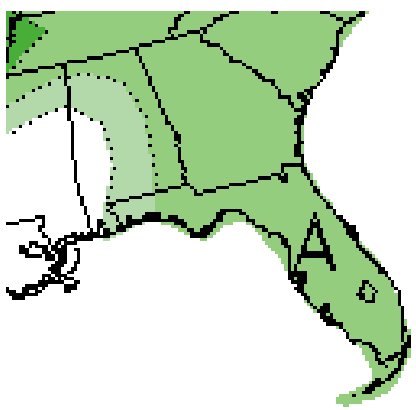
Presenter: John Mitnik

**SFWMD –Volumes Flowing Down the System**
**May 1, 2020 to September 8, 2020**
(volumes in 1,000 acre-feet)

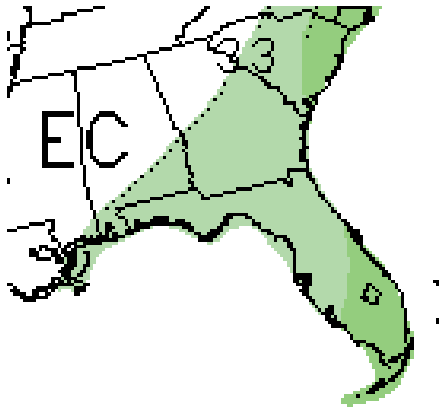
| Symbol | Description | Volume (1,000 acre- feet) | |
|---|---|---|---|
| | | Season to Date | Last Month |
| → | Lake Okeechobee Inflows | 1190.8 | 452.5 |
| → | Lake Okeechobee Outflows | 143.4 | 15.4 |
| → | WCAs Inflows | 949.7 | 196.0 |
| → | ENP / Detention Cell Inflows | 682.5 | 239.1 |
| → | WCAs to East | 27.6 | 22.2 |



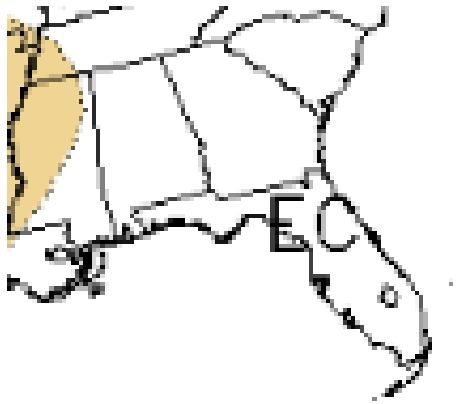
# CPC Precipitation Outlook for South Florida



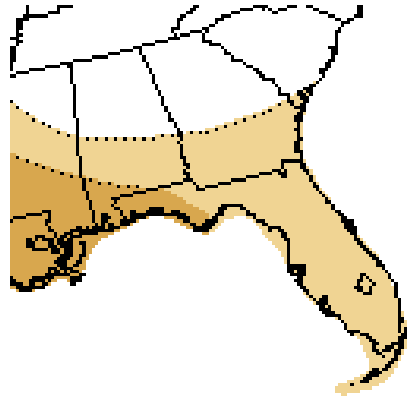

Sep 2020



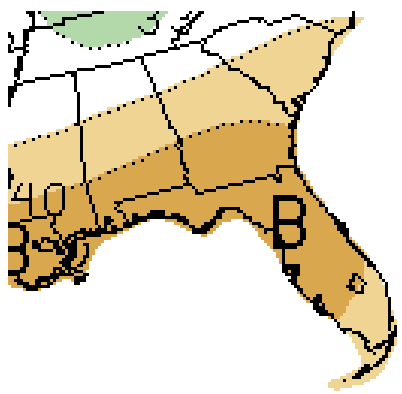

Sep-Nov




Oct-Dec

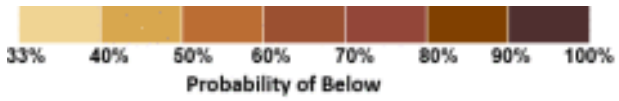


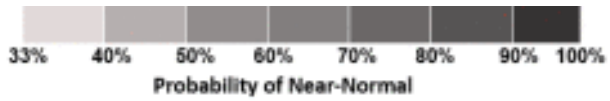
Nov-Jan

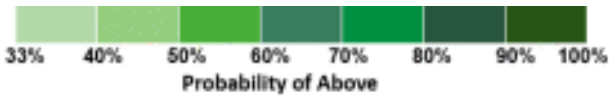



Dec-Feb

- The most recent CPC precipitation outlooks for September 2020 and for the 3-month window of Sep-Nov show increased chances of above normal rainfall for south Florida.
- The outlook for the 3-month window of Oct-Dec is for equal chances of above-normal, normal, and below-normal rainfall.
- The precipitation outlook for the 3-month window Nov-Jan is for slightly increased chances of below normal rainfall.
- The outlook for the 3-month windows Dec-Feb and Jan-Mar call for increased chances of below normal rainfall for Lake Okeechobee and areas to the north, and slightly increased chances of below normal rainfall for the remaining of the District.
- The outlook corresponding to the remainder months in the dry show equal chances of above-normal, normal, and below-normal rainfall.



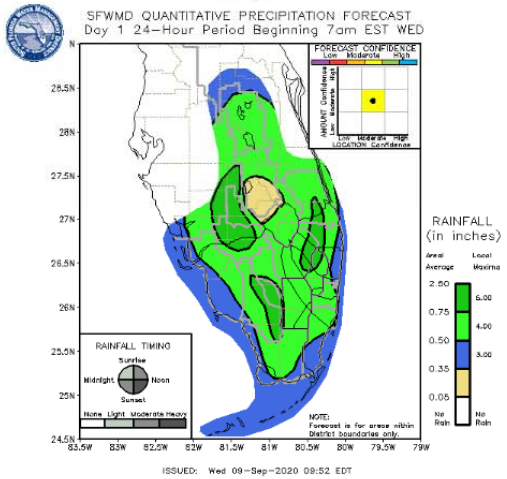

 Presenter: John Mitnik

**Posted 09/09/2020**

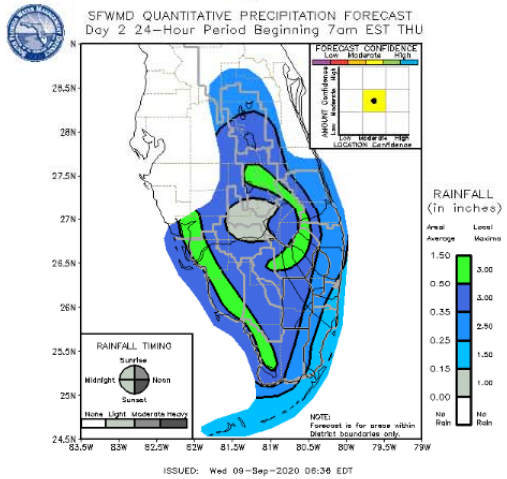
# Daily Quantitative Precipitation Forecasts



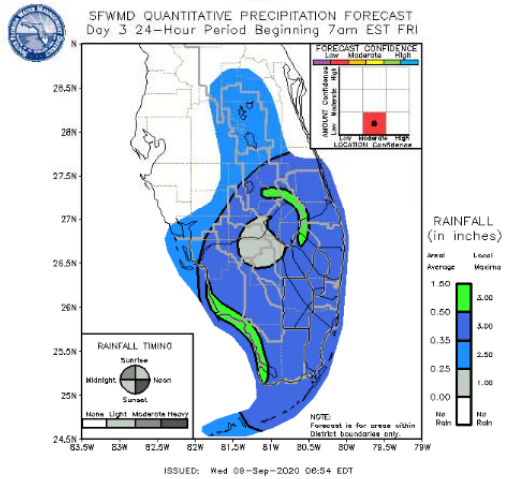

## Day 1



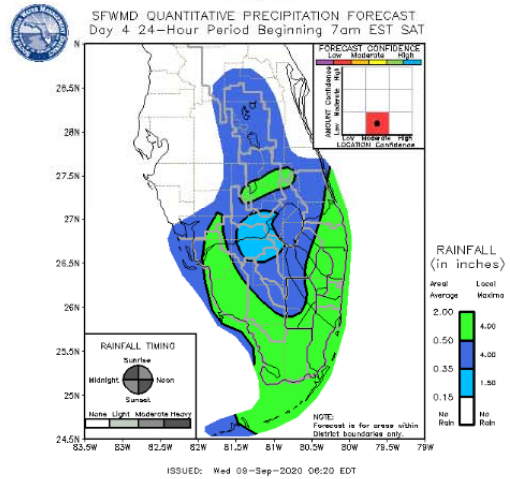

## Day 2



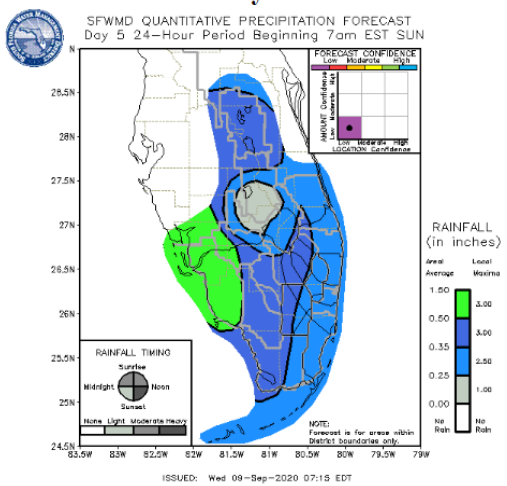

## Day 3



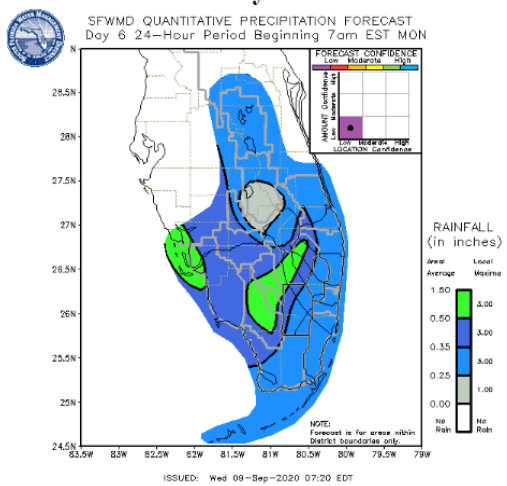

## Day 4



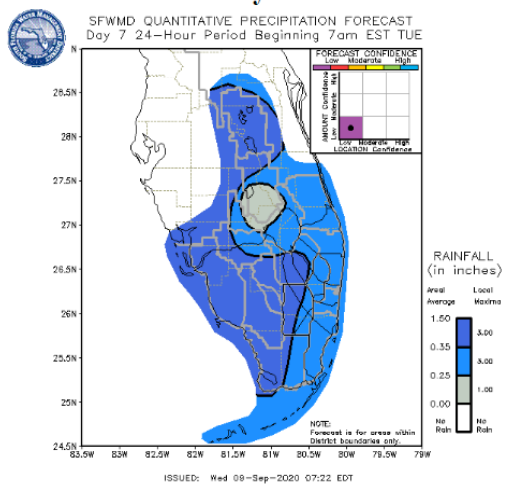

## Day 5



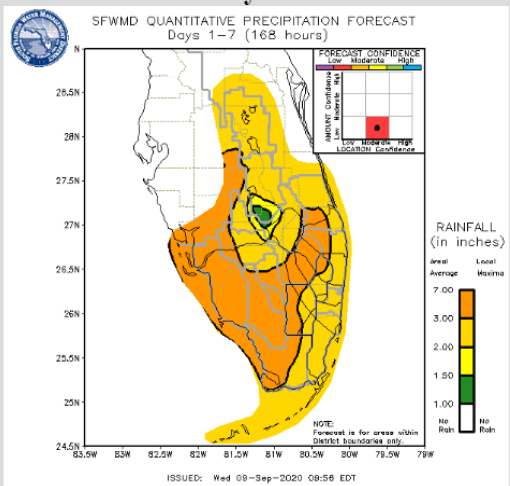

## Day 6

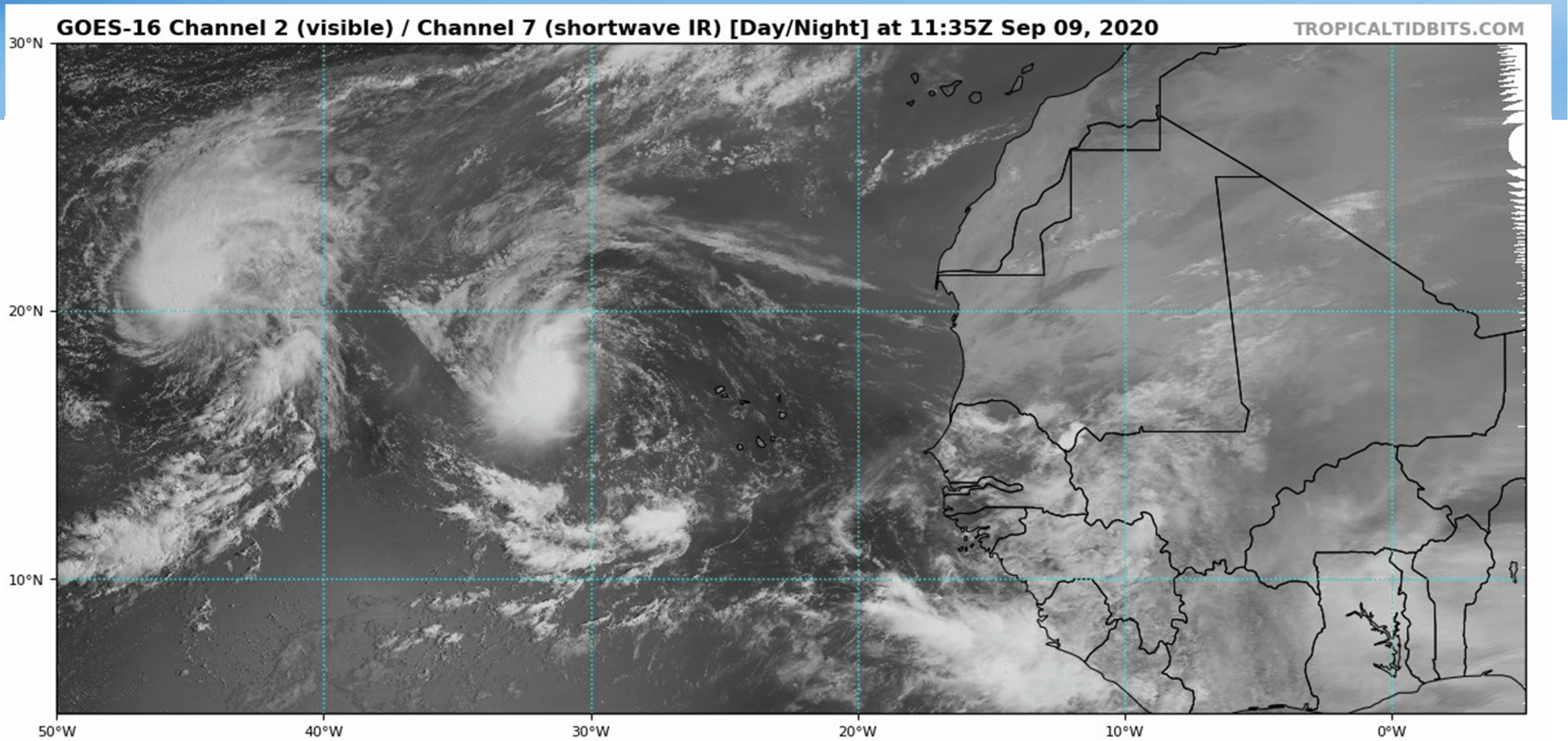


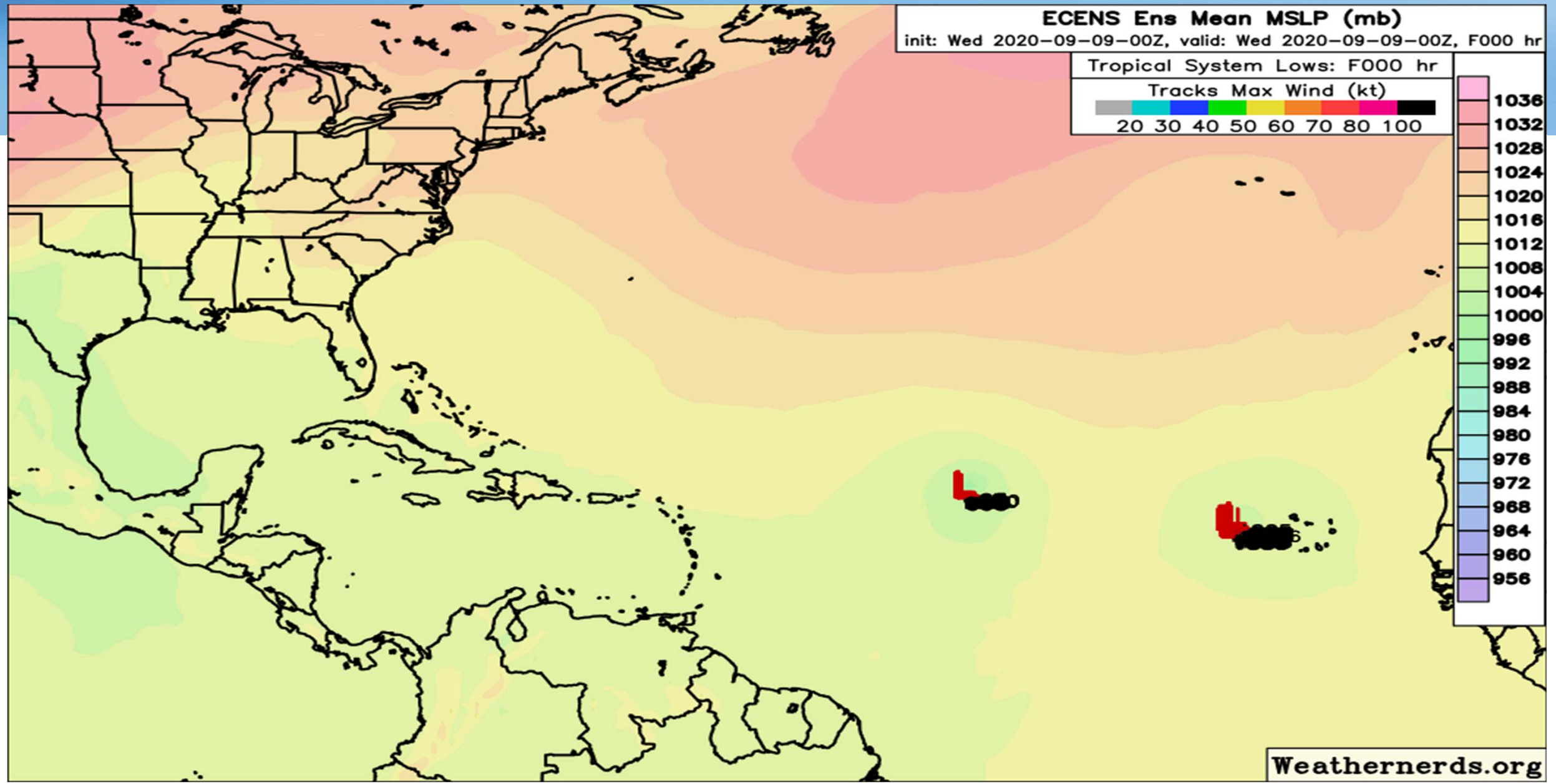

## Day 7




## 7-Day Total




GOES-16 Channel 2 (visible) / Channel 7 (shortwave IR) [Day/Night] at 11:35Z Sep 09, 2020
TROPICALTIDBITS.COM
30°N
20°N
10°N
50°W
40°W
30°W
20°W
10°W
0°W


ECENS Ens Mean MSLP (mb)
init: Wed 2020-09-09-00Z, valid: Wed 2020-09-09-00Z, F000 hr
Tropical System Lows: F000 hr
Tracks Max Wind (kt)
20 30 40 50 60 70 80 100
1036
1032
1028
1024
1020
1016
1012
1008
1004
1000
996
992
988
984
980
976
972
968
964
960
956
Weathernerds.org