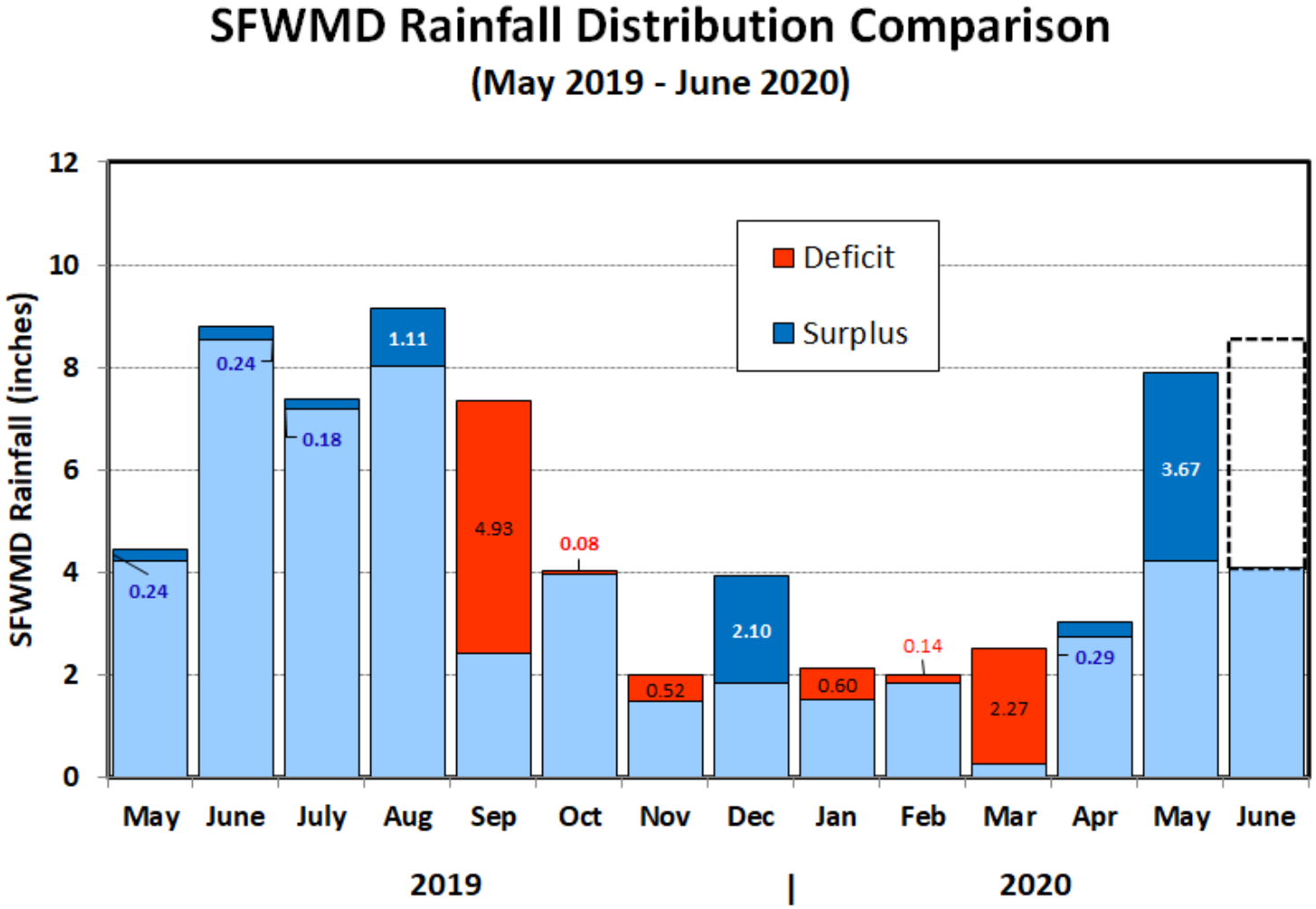
Water Conditions Summary

South Florida Water Management District
Governing Board Meeting
June 11, 2020

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



District Wide Average Rainfall

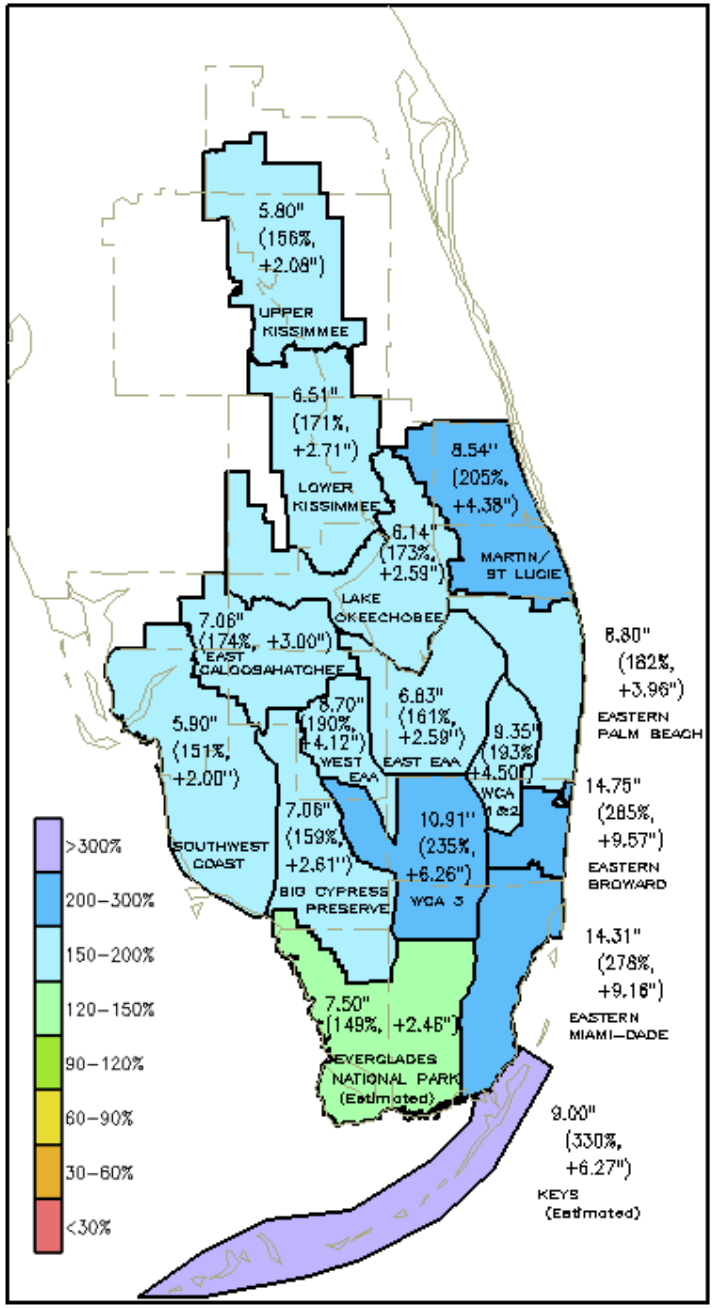
Month	Average (inches)
Jan	2.12
Feb	1.98
Mar	2.51
Apr	2.74
May	4.21
Jun	8.55
Jul	7.18
Aug	8.03
Sep	7.34
Oct	4.03
Nov	1.99
Dec	1.84

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 7.7" since May 15
- Three "Big Rain Days" > 1.00" District Wide
- June to date is above normal



May 2020 Rainfall

DISTRICT-WIDE: 7.88”

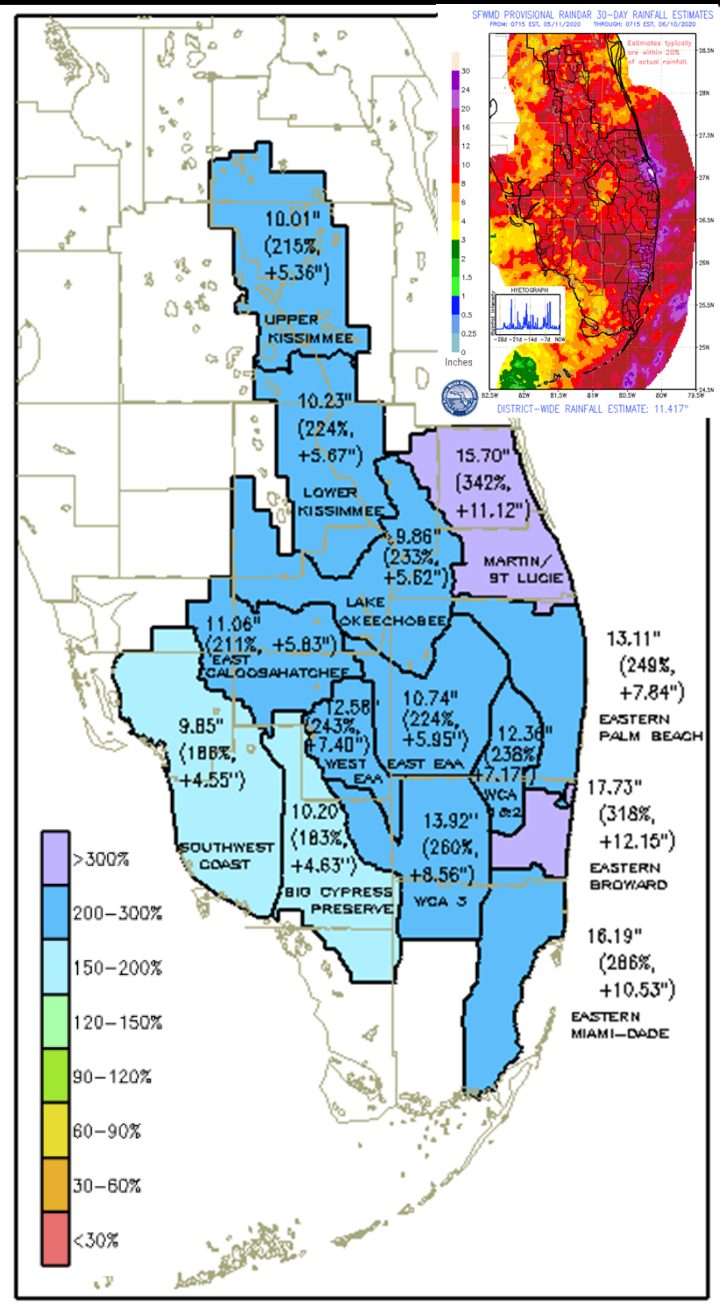
- 187 % of average, +3.67” surplus
- Highest rainfall is estimated for the Keys with 330% of average followed by Eastern Broward with 285%
- Lowest rainfall is estimated for ENP 149% of average
- Wet season started on May 15, 2020

Wet Season Rainfall

15 May 2020 - Present

DISTRICT-WIDE: ~11.79”

- 235% of average, +6.78” surplus
- Hardest hit are Broward County and Martin St. Lucie
- All basins are in excess of 240% of normal



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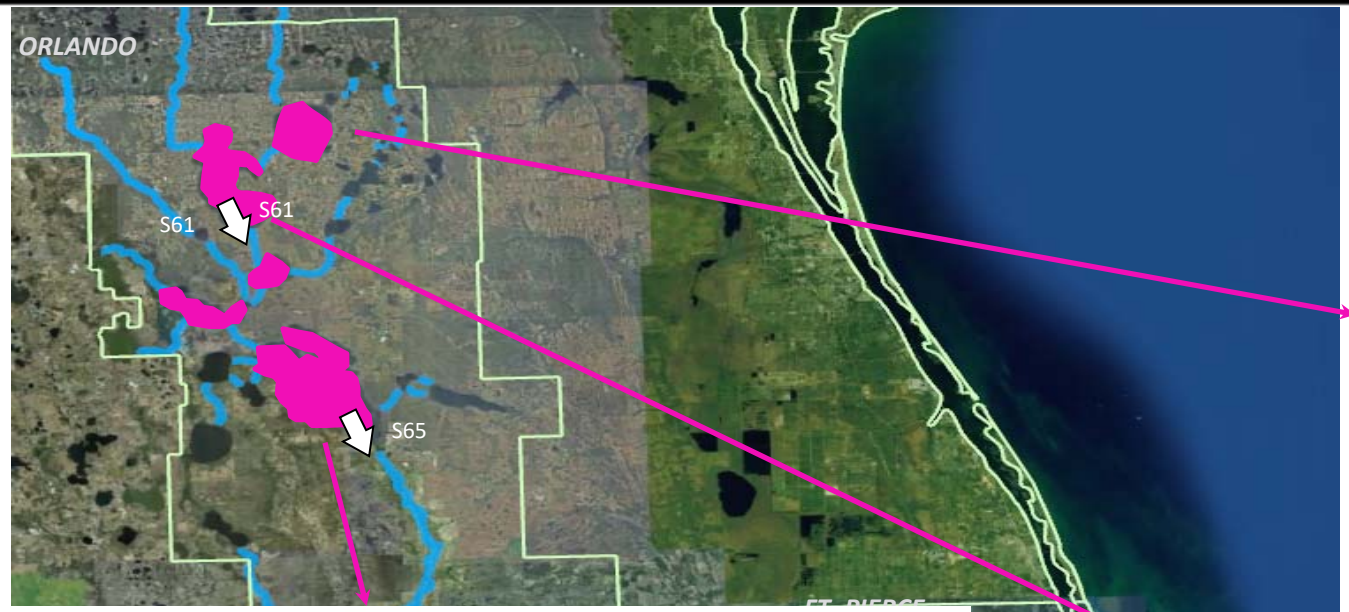
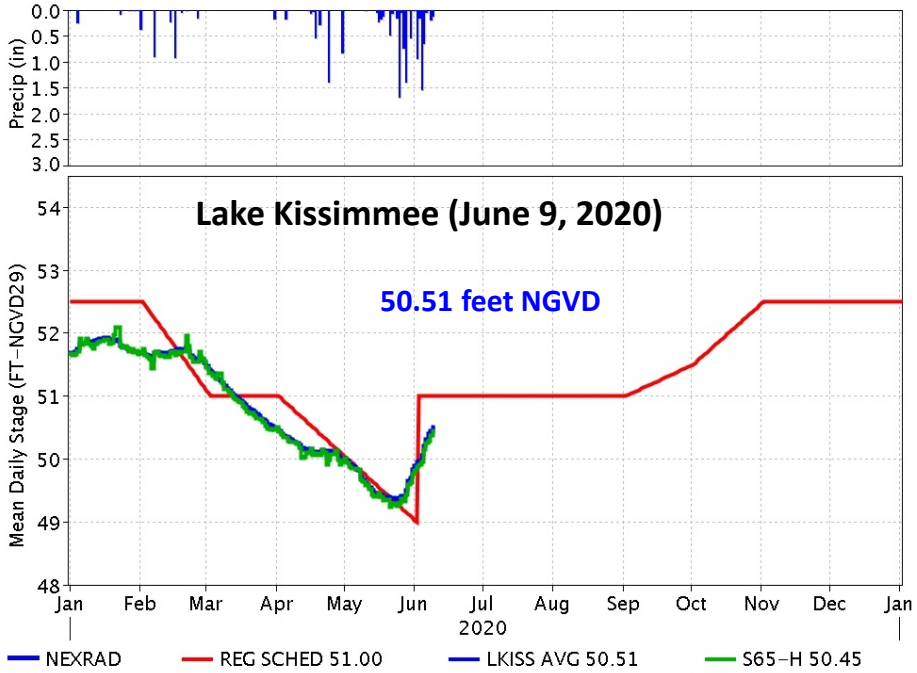
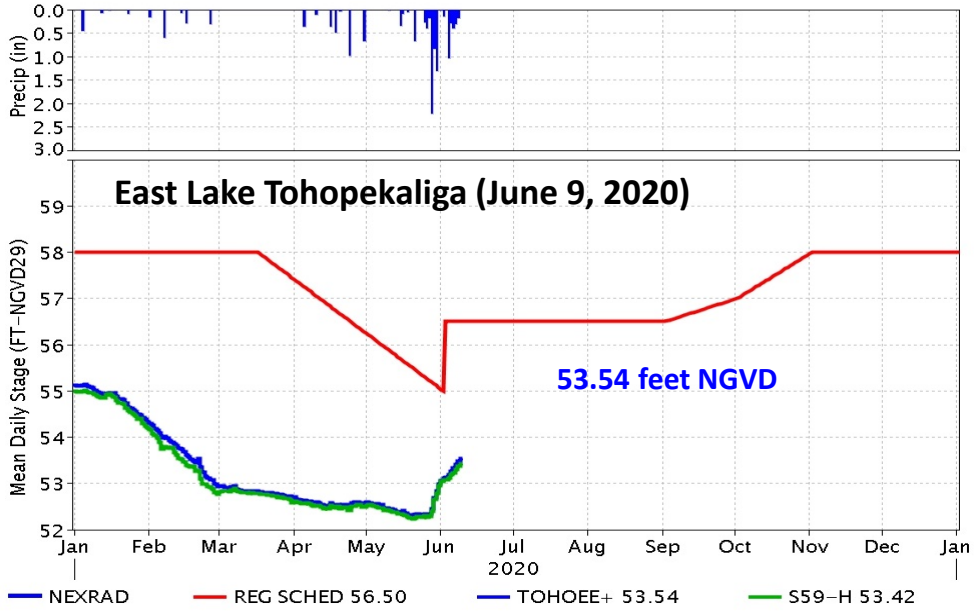
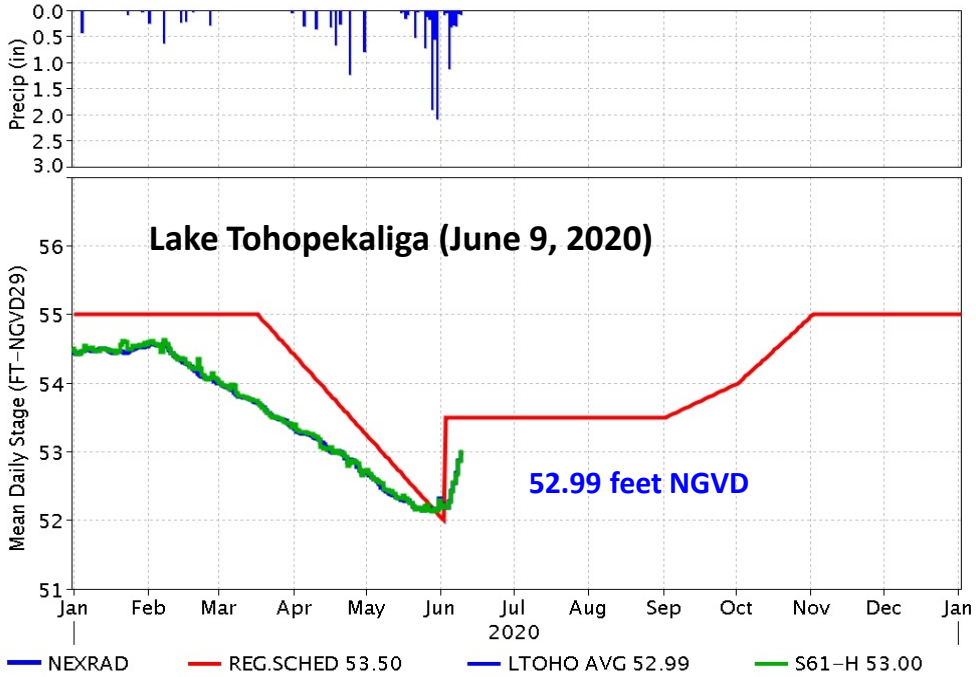

ORLANDO
S61
S61
S65

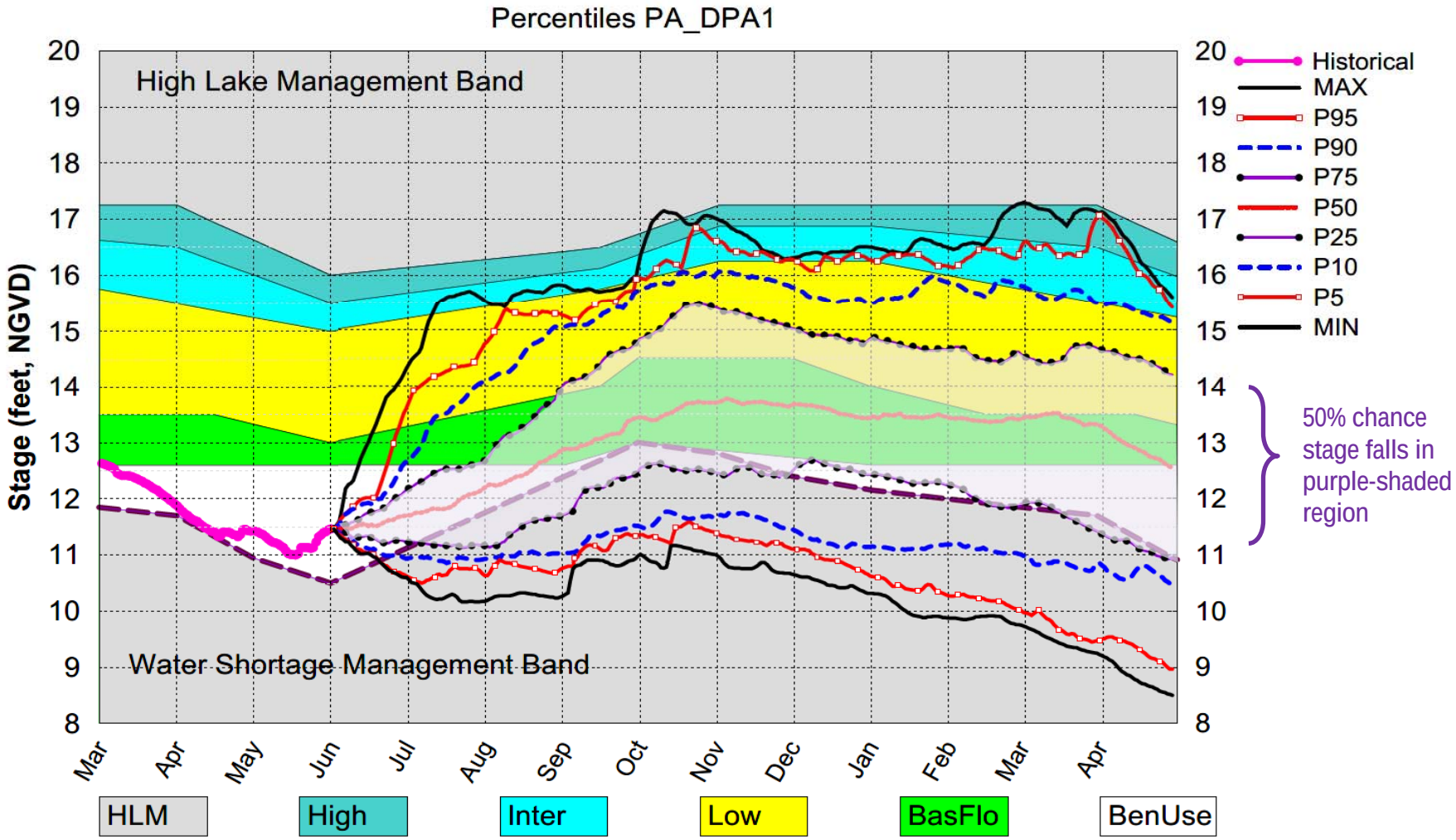

Precip (in)
Lake Kissimmee (June 9, 2020)
50.51 feet NGVD
Mean Daily Stage (FT-NGVD29)
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan
2020
NEXRAD
REG SCHED 51.00
LKISS AVG 50.51
S65-H 50.45

S80


Precip (in)
East Lake Tohopekaliga (June 9, 2020)
53.54 feet NGVD
Mean Daily Stage (FT-NGVD29)
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan
2020
NEXRAD
REG SCHED 56.50
TOHOEE+ 53.54
S59-H 53.42


Precip (in)
Lake Tohopekaliga (June 9, 2020)
52.99 feet NGVD
Mean Daily Stage (FT-NGVD29)
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan
2020
NEXRAD
REG.SCHED 53.50
LTOHO AVG 52.99
S61-H 53.00

Lake Okeechobee SFWMM Jun 2020 Position Analysis



(See assumptions on the Position Analysis Results website)

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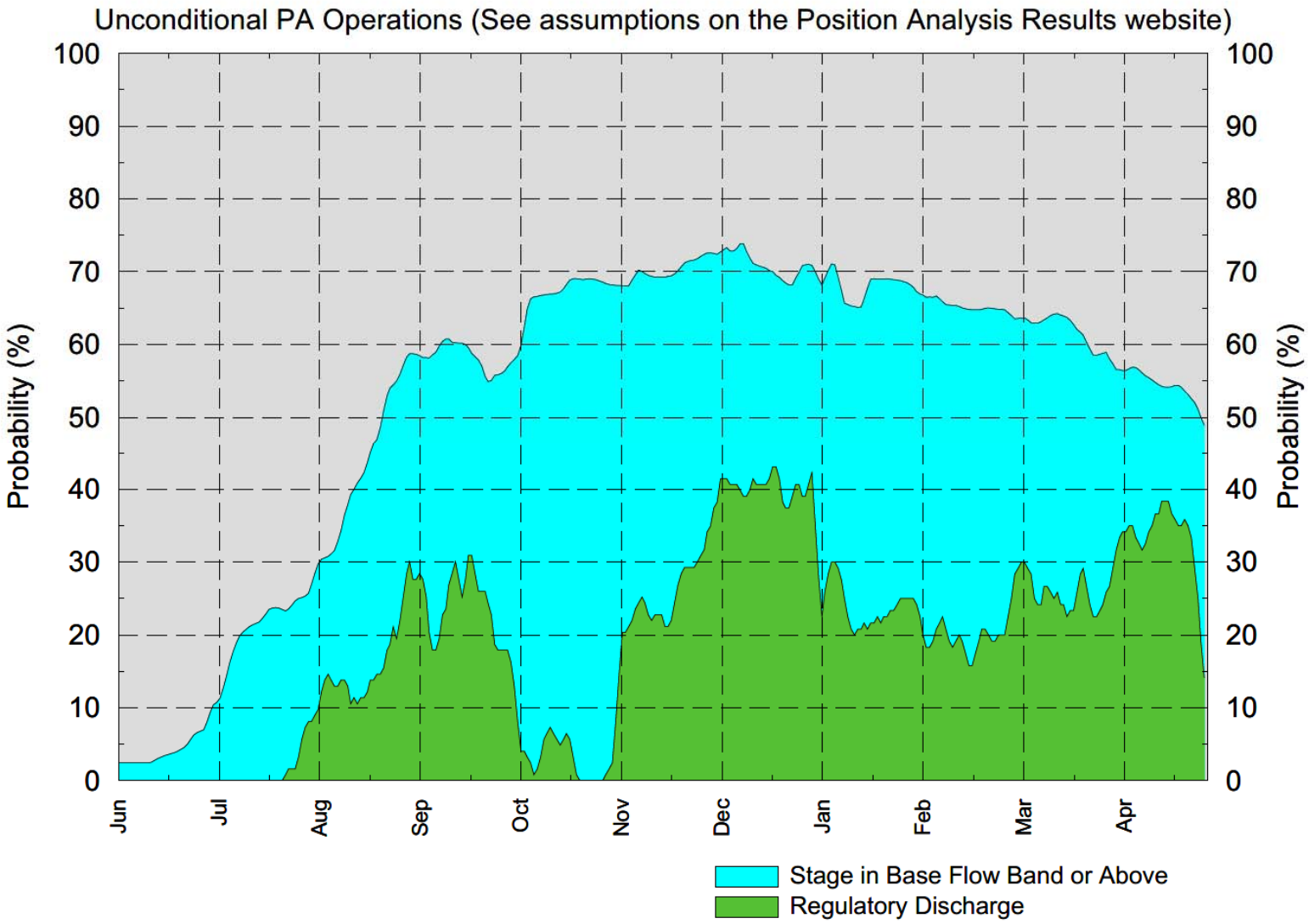
June 2020 Dynamic Position Analysis
Lake Okeechobee – LORS2008 Releases to the WCA's



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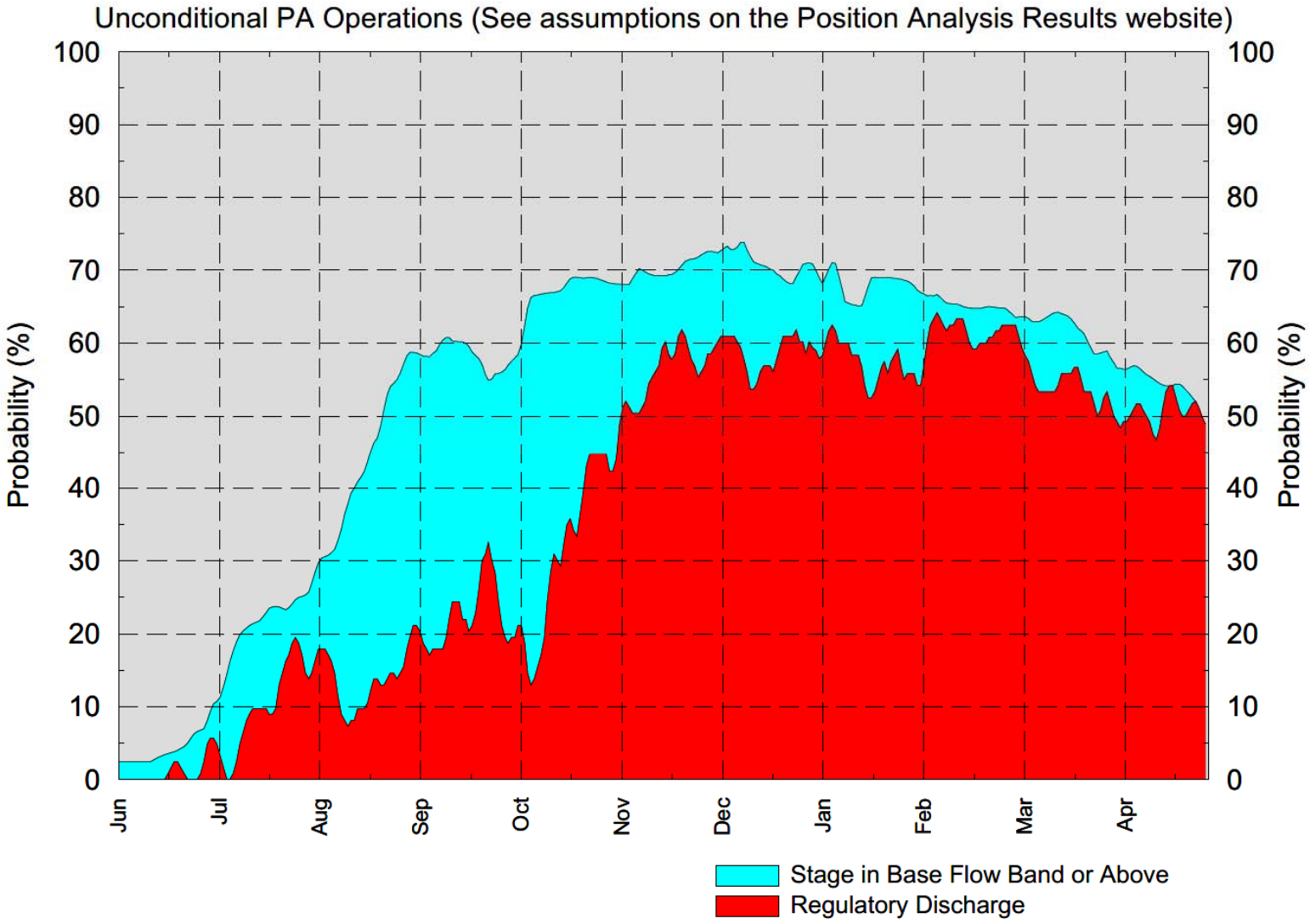
June 2020 Dynamic Position Analysis
Lake Okeechobee – LORS2008 Releases to the Estuaries



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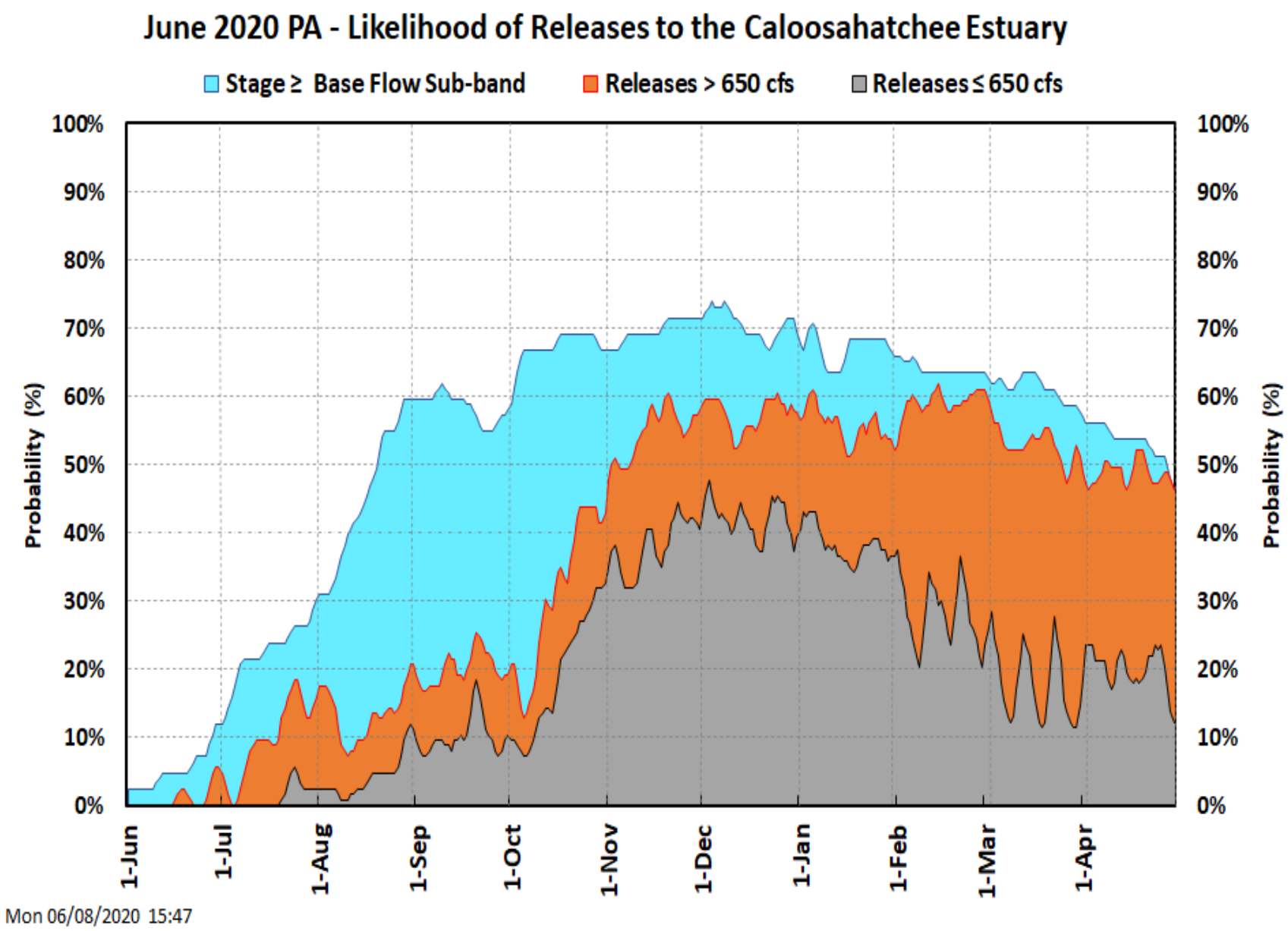
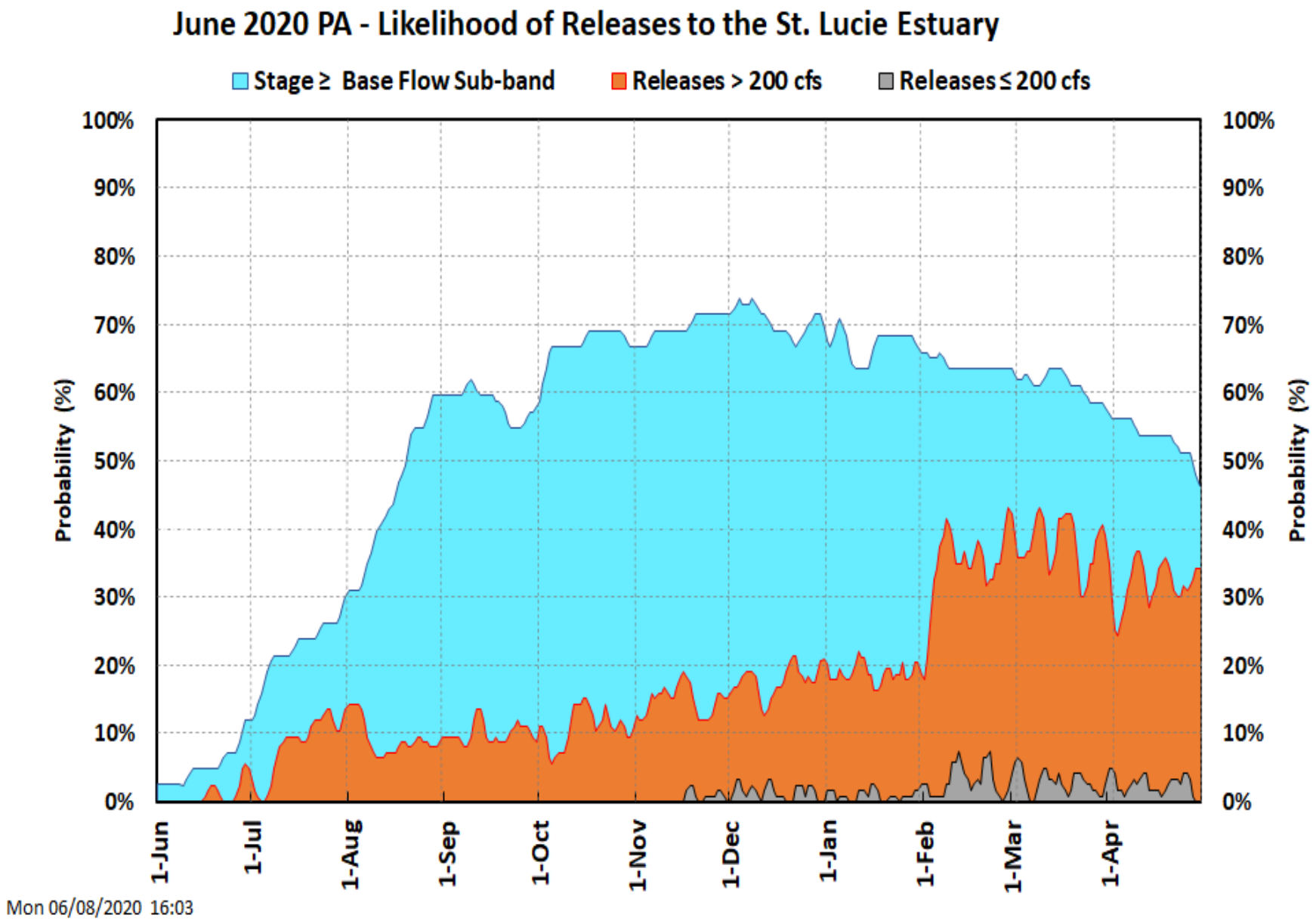
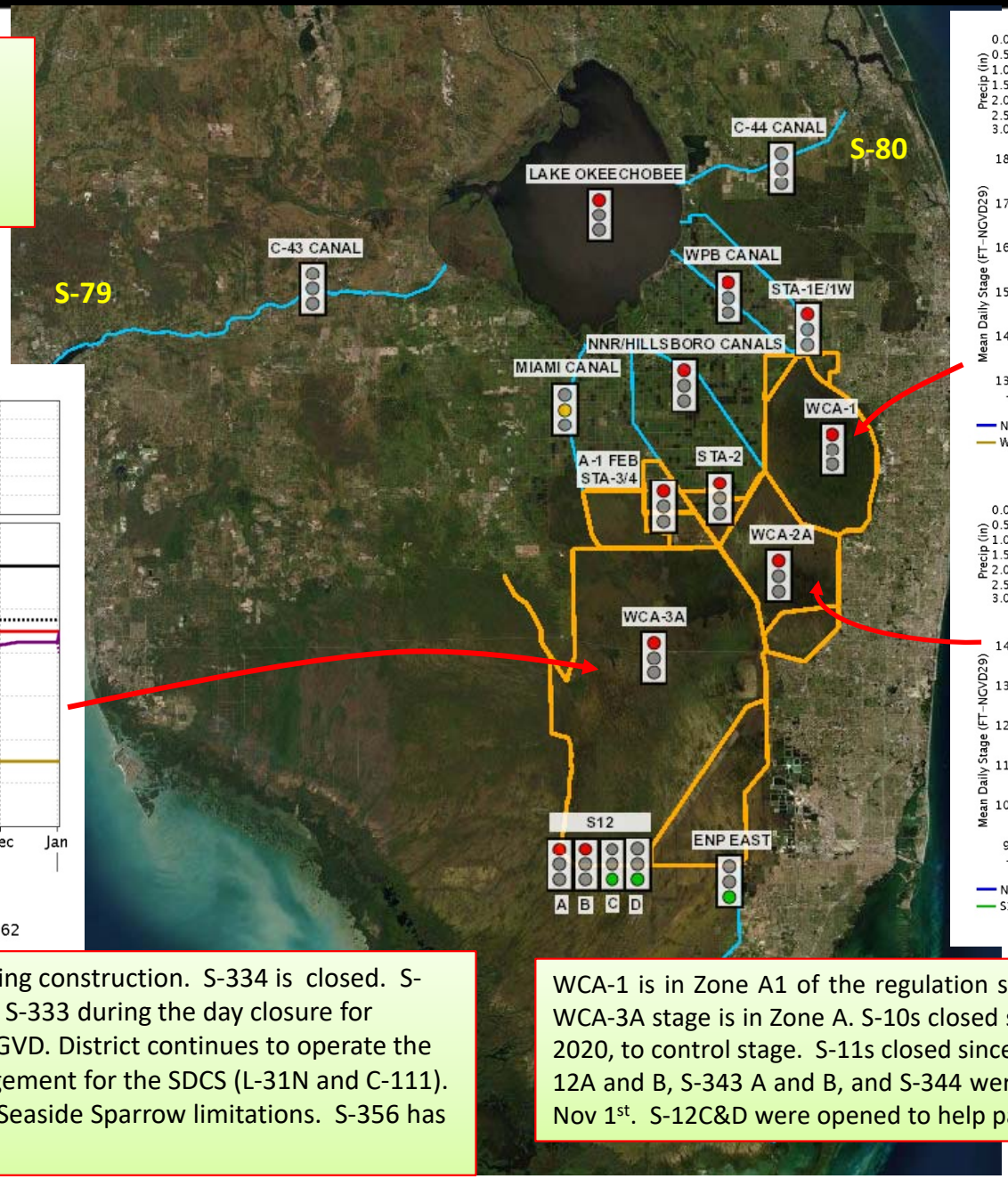
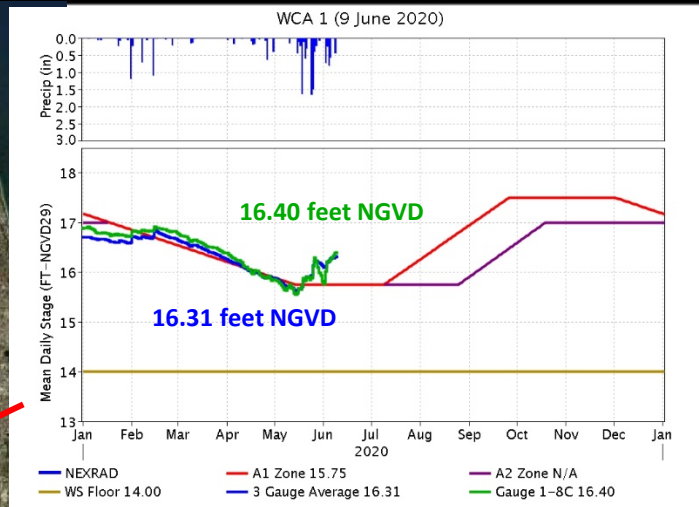
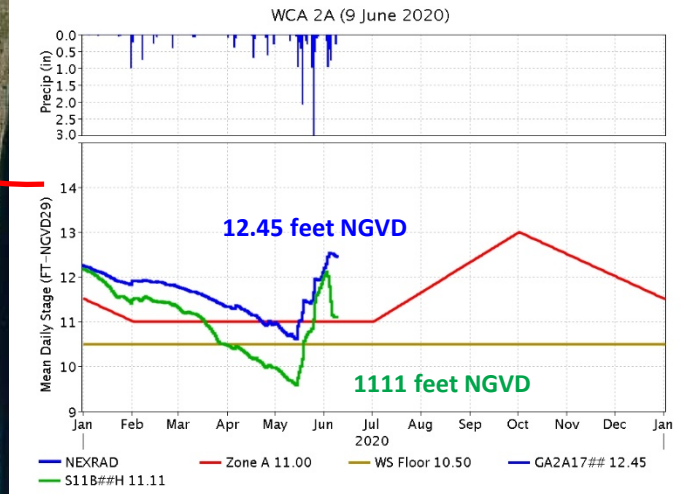

June 2020 PA - Likelihood of Releases to the Caloosahatchee Estuary
Stage ≥ Base Flow Sub-band
Releases > 650 cfs
Releases ≤ 650 cfs
Probability (%)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
Mon 06/08/2020 15:47


June 2020 PA - Likelihood of Releases to the St. Lucie Estuary
Stage ≥ Base Flow Sub-band
Releases > 200 cfs
Releases ≤ 200 cfs
Probability (%)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
Mon 06/08/2020 16:03

Lake Okeechobee stage is in the Beneficial Use Sub-band. Before recent rainfall, environmental and water supply (Big Cypress Reservation and salinity control for South Dade) releases were being sent south, as well as supplemental environmental releases to the Caloosahatchee Estuary.







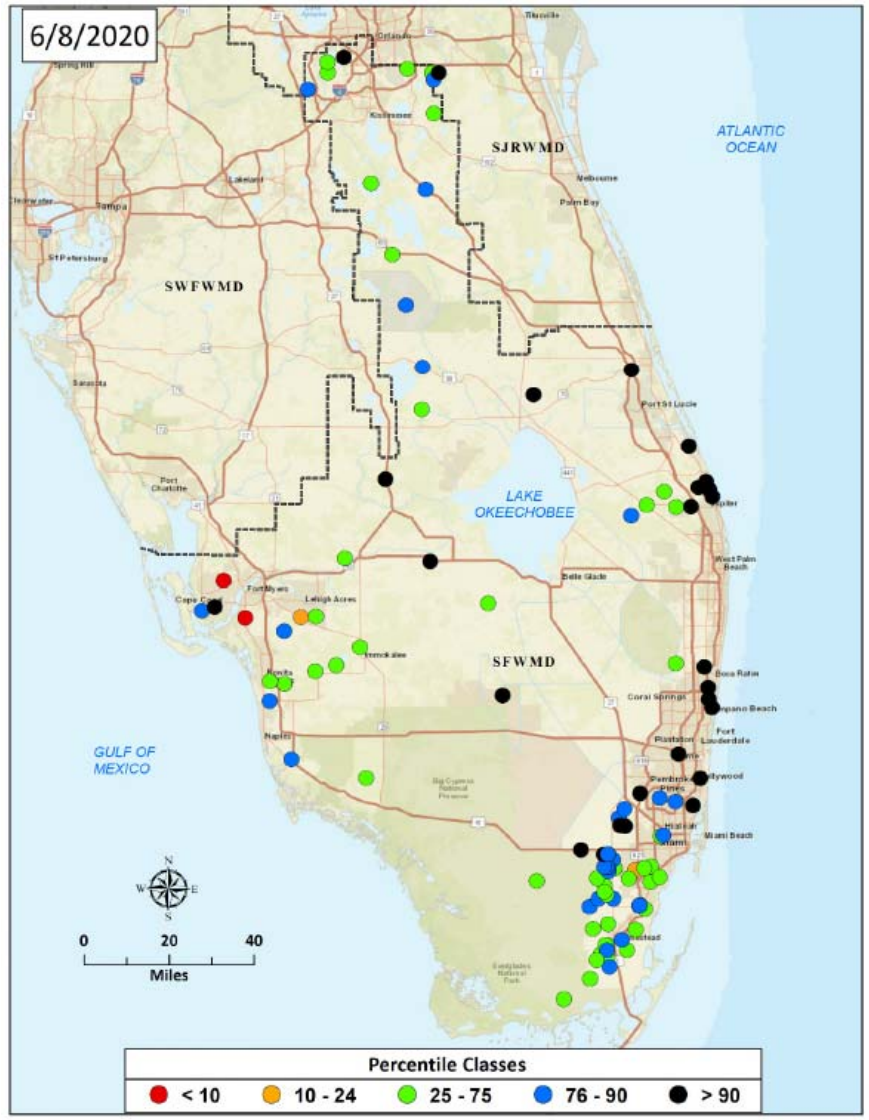
S-333 is passing ~ 500 cfs mean daily to NESRS due to ongoing construction. S-334 is closed. S-12C&D opened to help achieve Rainfall Plan releases due to S-333 during the day closure for construction. L-29 canal stage constraint is 8.3 to 8.5 feet NGVD. District continues to operate the detention cells provide flood mitigation and seepage management for the SDCS (L-31N and C-111). S-199 and S-200 pumps have run contingent on Cape Sable Seaside Sparrow limitations. S-356 has been pumping. S-197 was opened May 25th -28th.

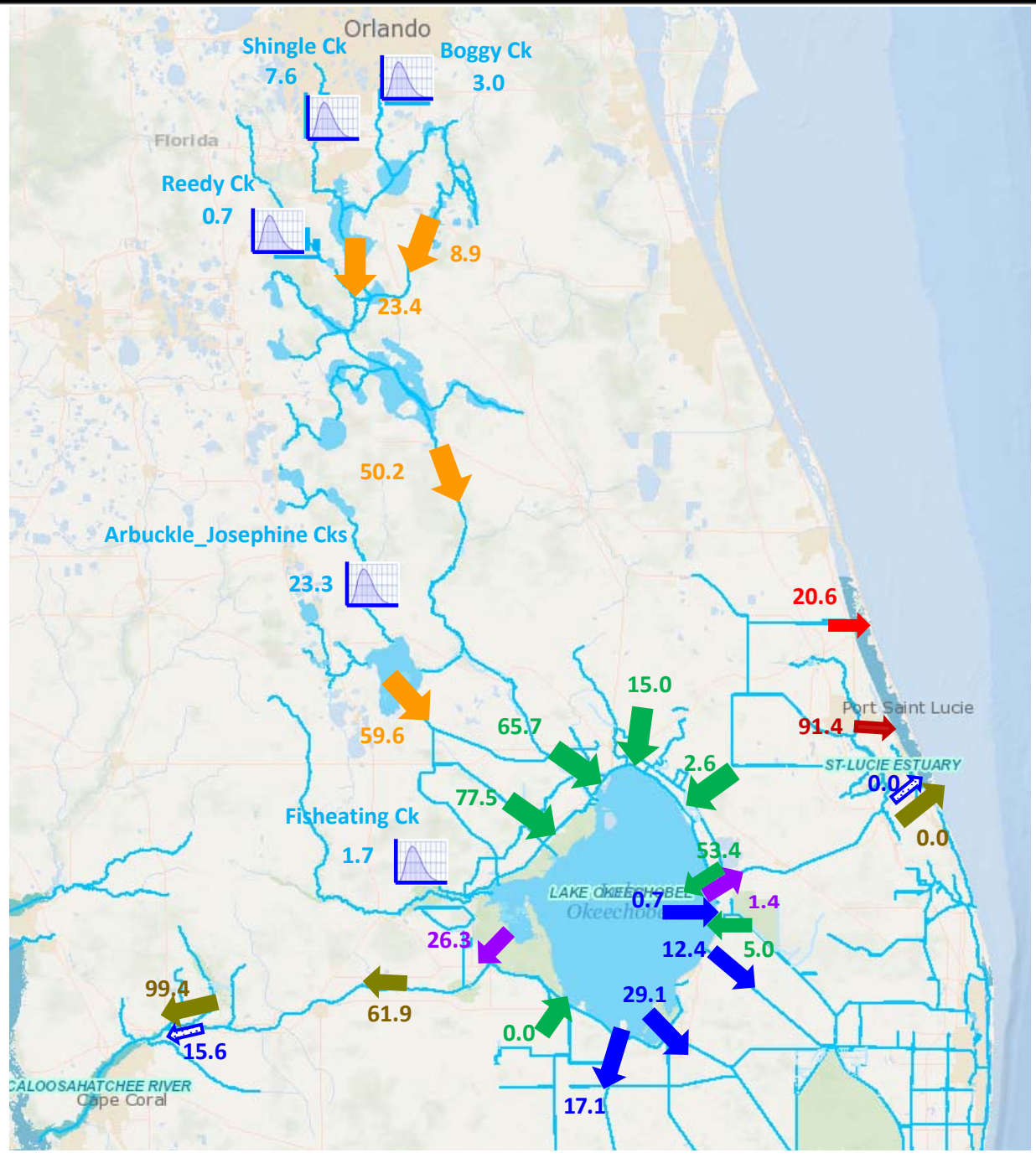
WCA-1 is in Zone A1 of the regulation schedule; WCA-2A is above regulation schedule; WCA-3A stage is in Zone A. S-10s closed since Sep 4, 2019, being operated since May 20, 2020, to control stage. S-11s closed since Jan 10, 2020 were opened on May 27, 2020. S-12A and B, S-343 A and B, and S-344 were closed on Oct 1, 2019. S-12 C&D closed since Nov 1st. S-12C&D were opened to help pass Rainfall Plan releases (S-333N construction).

System considerations for sending water south for the period 06/02/2020 to 06/08/2020

Status of Groundwater Conditions

- 96% of Public Water Supply comes from groundwater
- Real-time groundwater levels
  - Each dot represents a monitoring site, continuously monitoring water levels
  - Color coding corresponds to statistical comparison of current water levels compared to historical for this time of year
  - Most of the wells north and around the lake are within median levels
  - Recent rains substantially improved conditions in the Lower East Coast with most wells within the upper quartile
  - Lower West Coast wells are increasing levels too. Deeper well will take longer to recover



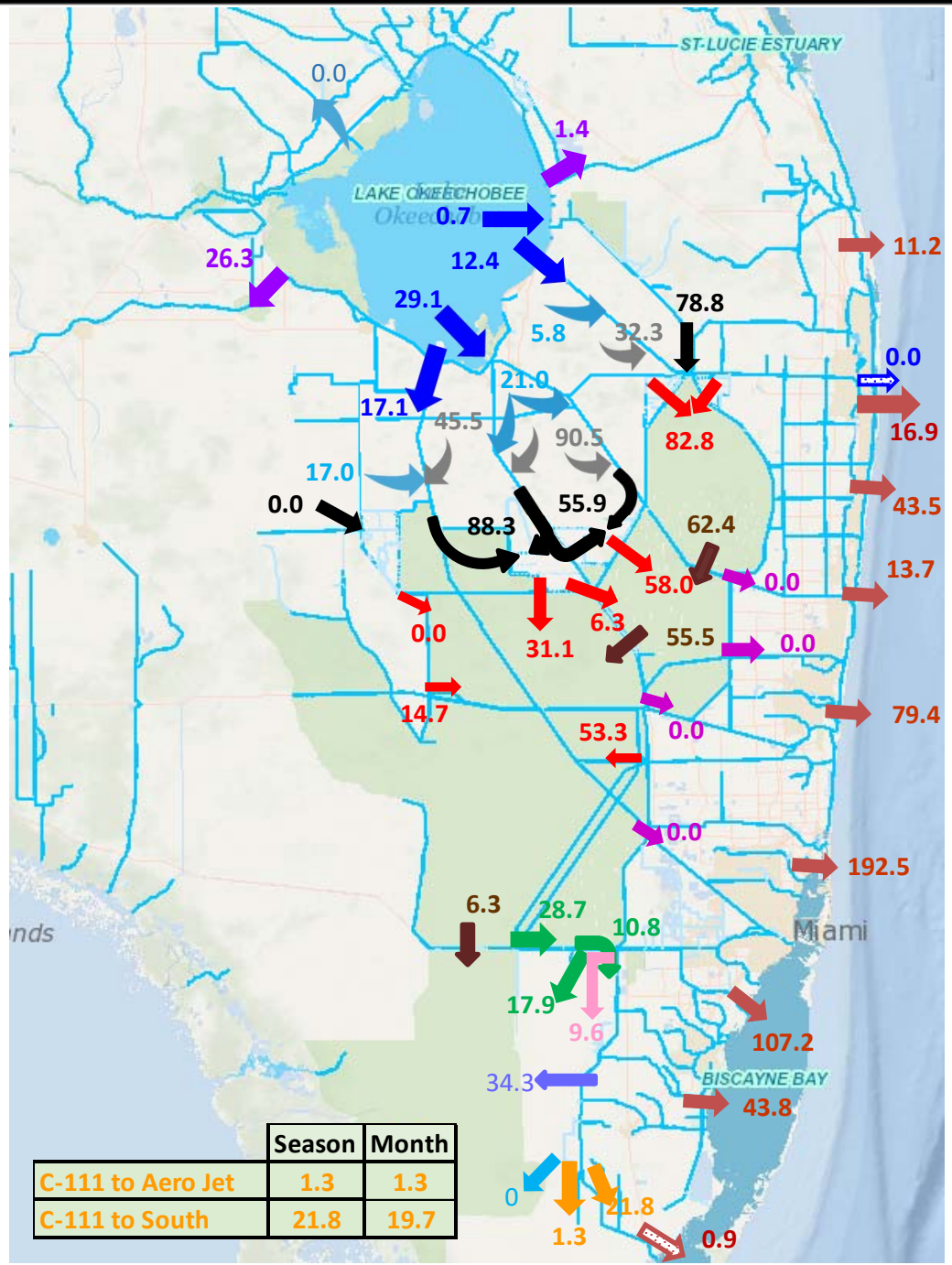


SFWMD – Selected Release Volumes for the Period May 01, 2020 to June 9, 2020

(volumes in 1,000 acre-feet)

Symbol	Description	Volume (1,000 acre- feet)	
		Season to Date	Last Month
	Upper Kissimmee to Lower Kissimmee	50.2	38.5
	Inflows to Lake Okeechobee	219.3	206.2
	Lake Releases and Basin Runoff	99.4	92.1
	Lake Releases East and West	27.7	15.7
	Lake Flood Control to Estuaries	15.6	10.7
	Total Lake Releases South	59.3	41.8
	Releases to Indian River Lagoon	20.6	20.6
	Upper East Coast discharges to St. Lucie Estuary	91.4	89.9
	Uncontrolled flows (creeks)	36.3	34.2

1,000 acre-feet = 325.9 Million Gallons



	Season	Month
C-111 to Aero Jet	1.3	1.3
C-111 to South	21.8	19.7

SFWMD – Selected Release Volumes for the Period May 01, 2020 to June 9, 2020

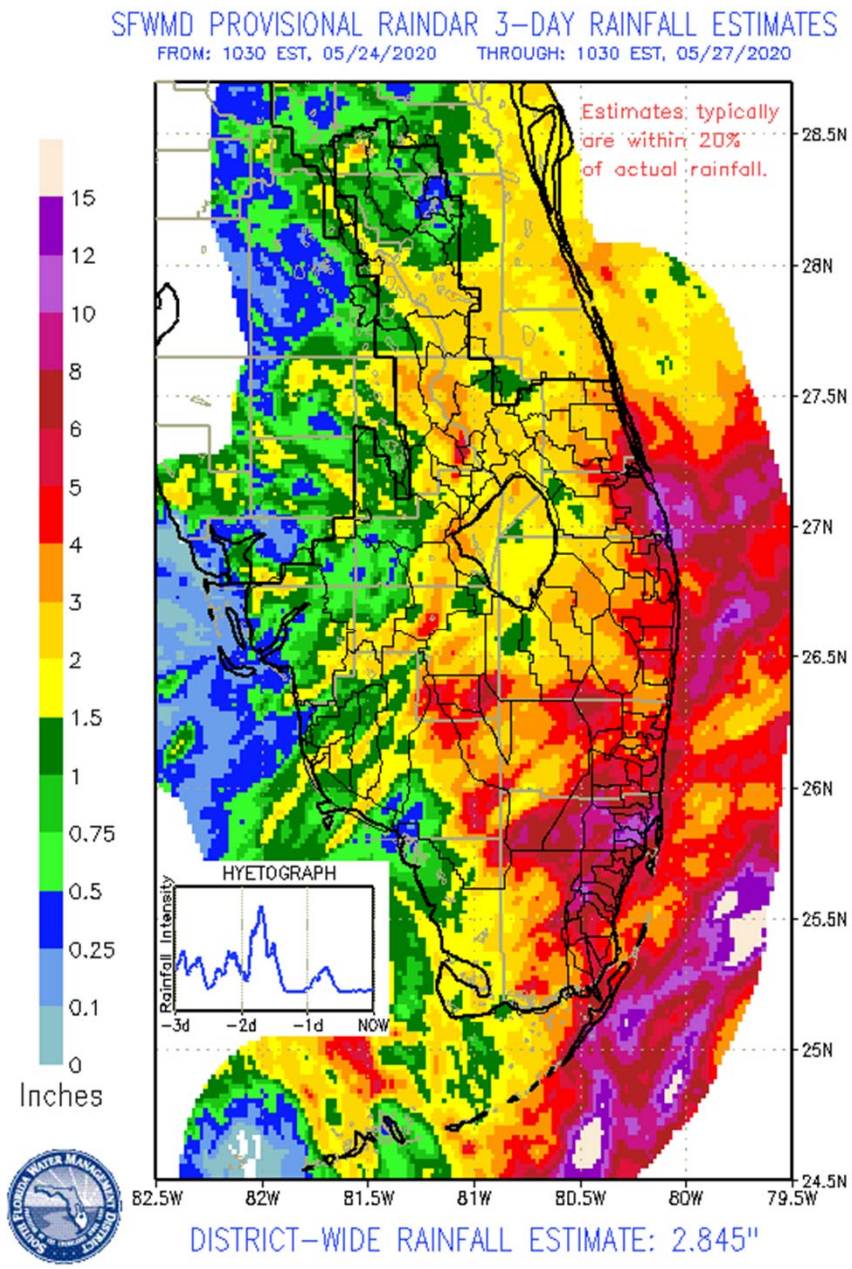
(volumes in 1,000 acre-feet)

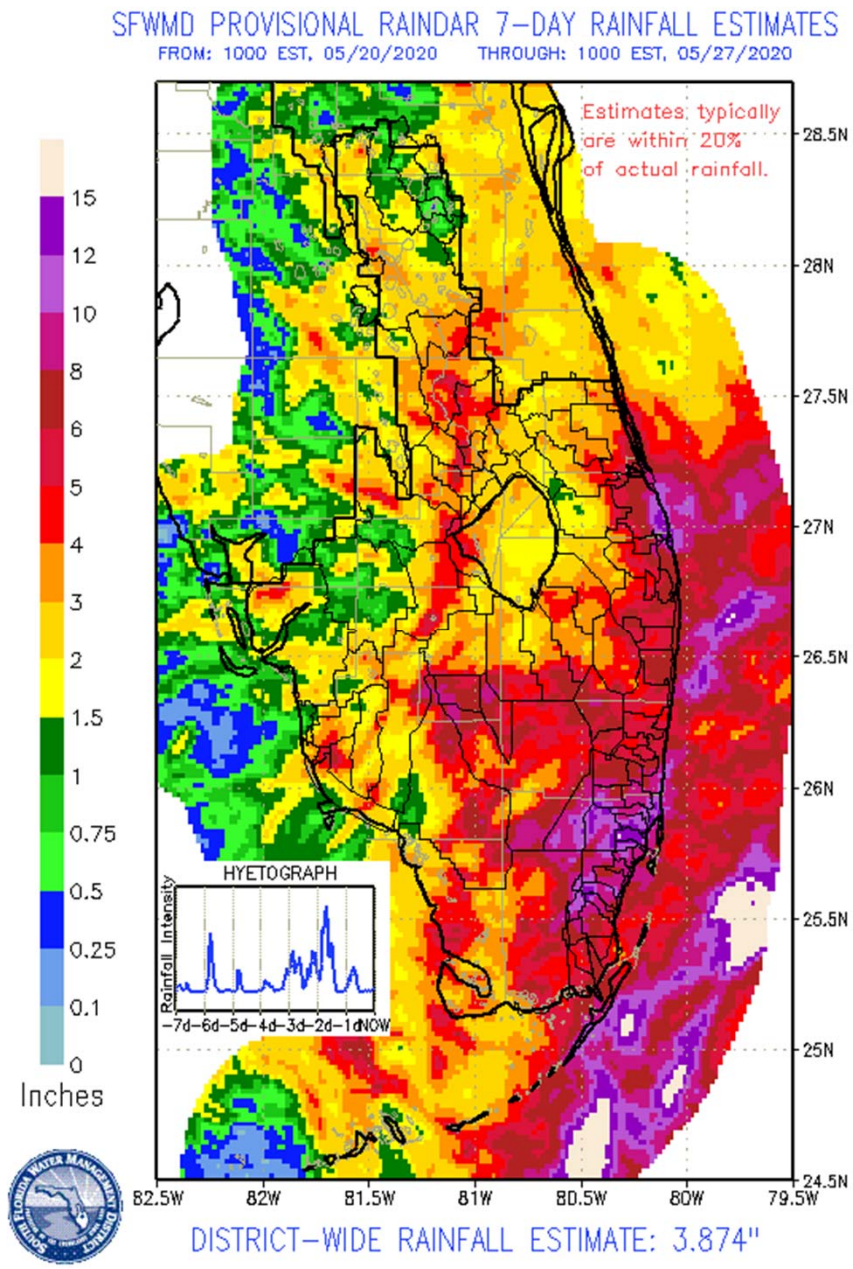
(Added Flows)

Symbol	Description	Volume (1000 acre-feet) Season to Date	Volume (1000 acre-feet) Month
	Lake Releases East and West	27.7	15.7
	Total Lake Releases South	59.3	41.8
	Lake Flood Control to Lake Worth Lagoon	0.0	0.0
	EAA Runoff	168.2	167.1
	Lake Delivery for Irrigation	43.8	32.4
	Inflows to STAs FEBs from Lake	10.8	5.7
	Inflows to STAs FEBs from Runoff +Other	212.1	210.4
	Inflows to WCAs from STAs+Other	246.3	238.5
	Flood Control Releases WCA to WCA	124.3	124.3
	WCA Flood Control to Intracoastal	0.0	0.0
	Urban areas flood control to Intracoastal	508.1	506.1
	WCA-3 Releases to ENP (L-29 Canal)	17.9	17.9
	L-31N Seepage to ENP	9.6	9.6
	Flow to Detention Cells	34.3	34.3
	Flows to Taylor Slough	0.0	0.0
	C-111 to Barnes Sound	0.9	0.9

1,000 acre-feet = 325.9 Million Gallons

District Rainfall May 20th to May 27th

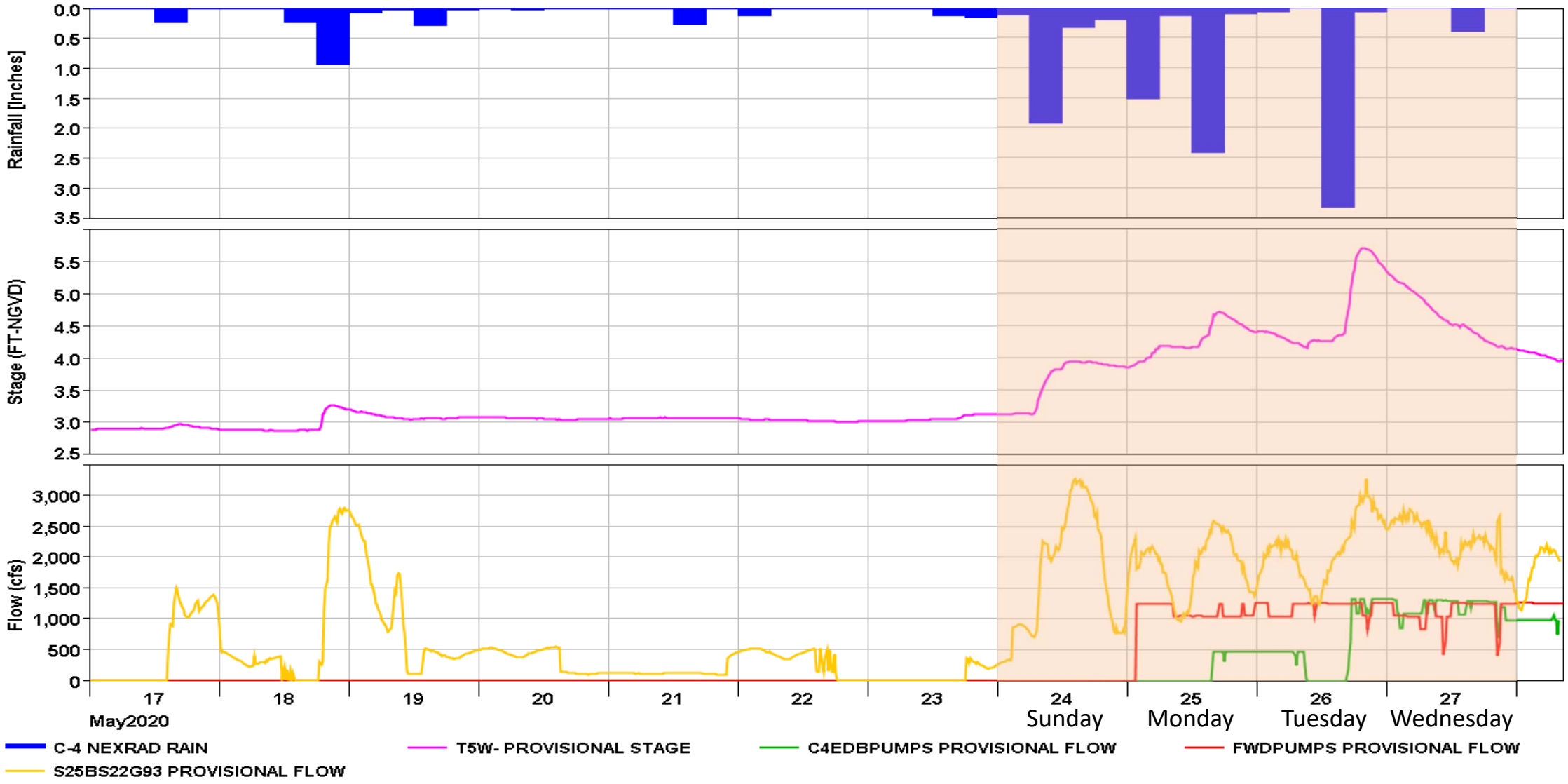


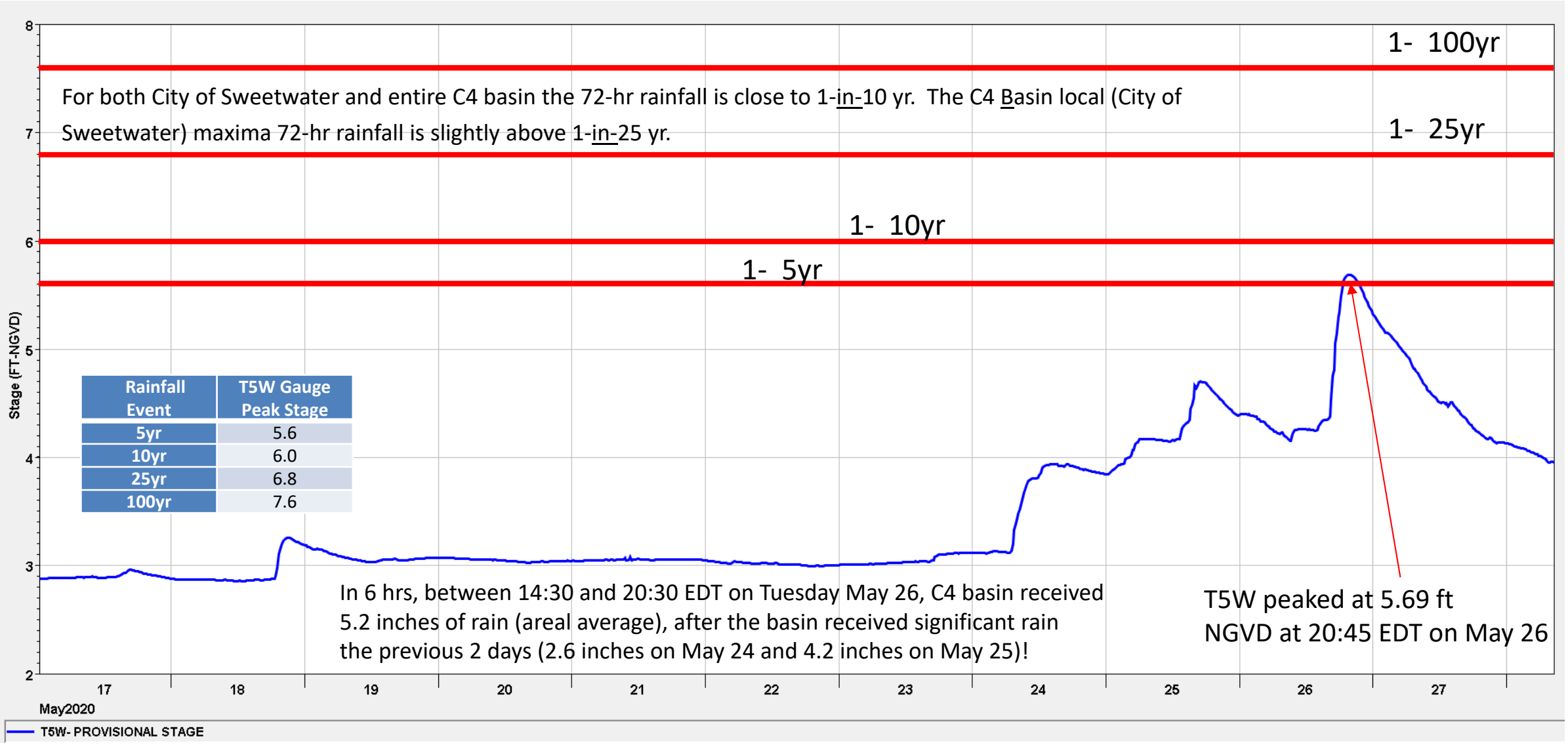


Presenter: John Mitnik

Street Flooding City of Sweetwater

Presenter: John Mitnik


Rainfall [Inches]
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Stage (FT-NGVD)
5.5
5.0
4.5
4.0
3.5
3.0
2.5
Flow (cfs)
3,000
2,500
2,000
1,500
1,000
500
0
17
18
19
20
21
22
23
24
25
26
27
May2020
Sunday
Monday
Tuesday
Wednesday
C-4 NEXRAD RAIN
T5W- PROVISIONAL STAGE
C4EDBPUMPS PROVISIONAL FLOW
FWDPUMPS PROVISIONAL FLOW
S25BS22G93 PROVISIONAL FLOW



For both City of Sweetwater and entire C4 basin the 72-hr rainfall is close to 1-in-10 yr. The C4 Basin local (City of Sweetwater) maxima 72-hr rainfall is slightly above 1-in-25 yr.

Rainfall Event	T5W Gauge Peak Stage
5yr	5.6
10yr	6.0
25yr	6.8
100yr	7.6

In 6 hrs, between 14:30 and 20:30 EDT on Tuesday May 26, C4 basin received 5.2 inches of rain (areal average), after the basin received significant rain the previous 2 days (2.6 inches on May 24 and 4.2 inches on May 25)!

T5W peaked at 5.69 ft NGVD at 20:45 EDT on May 26

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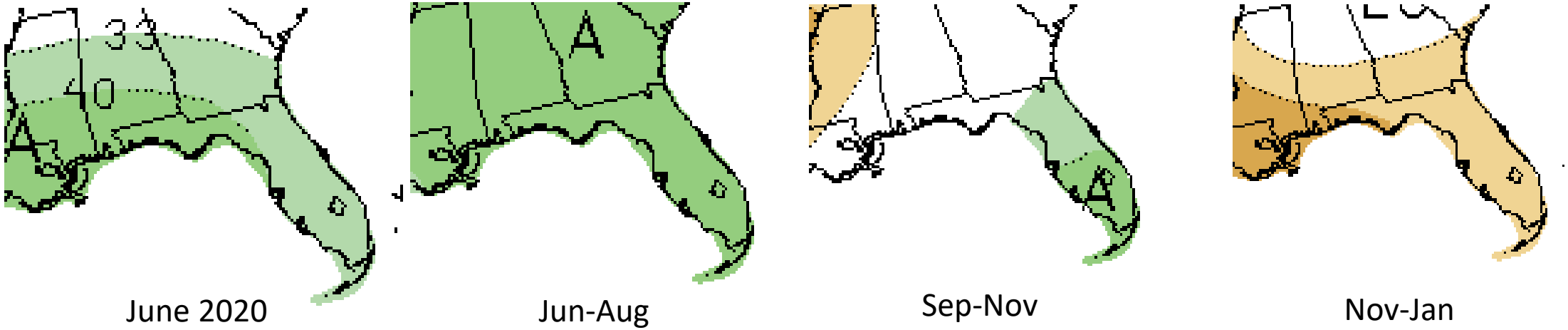
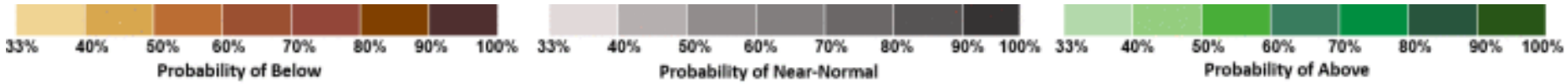
Emergency Response at COVID-19 Testing Site at Hard Rock Stadium

District combined efforts from three field stations, Miami, Fort Lauderdale and West Palm Beach, facilitated the installation of District owned temporary pumps to help drain the Hard Rock Stadium where testing facilities for COVID-19 had been set up

CPC Precipitation Outlook for South Florida



- The most recent CPC precipitation outlook for June 2020 is for slightly increased chances of above normal rainfall
- The 3-month windows of Jun-Aug to Sep-Nov call for increased chances of above-normal rainfall for the entire District.
- The 3-month window of Oct-Dec (not Shown) shows slightly increased chances of above-normal rainfall for areas south of Lake Okeechobee.
- The 3-month window Nov-Jan has an outlook for slightly increased chances of below-normal rainfall.
- All the other the 3-month windows to the end of the 2020-2021 dry season call for equal chances of above-normal, normal, or below-normal rainfall.



QUESTIONS?