

Water Conditions Summary

South Florida Water Management District Governing Board Meeting

July 11, 2013

Tommy B. Strowd, P.E., Assistant Executive Director
Operations, Maintenance & Construction Division

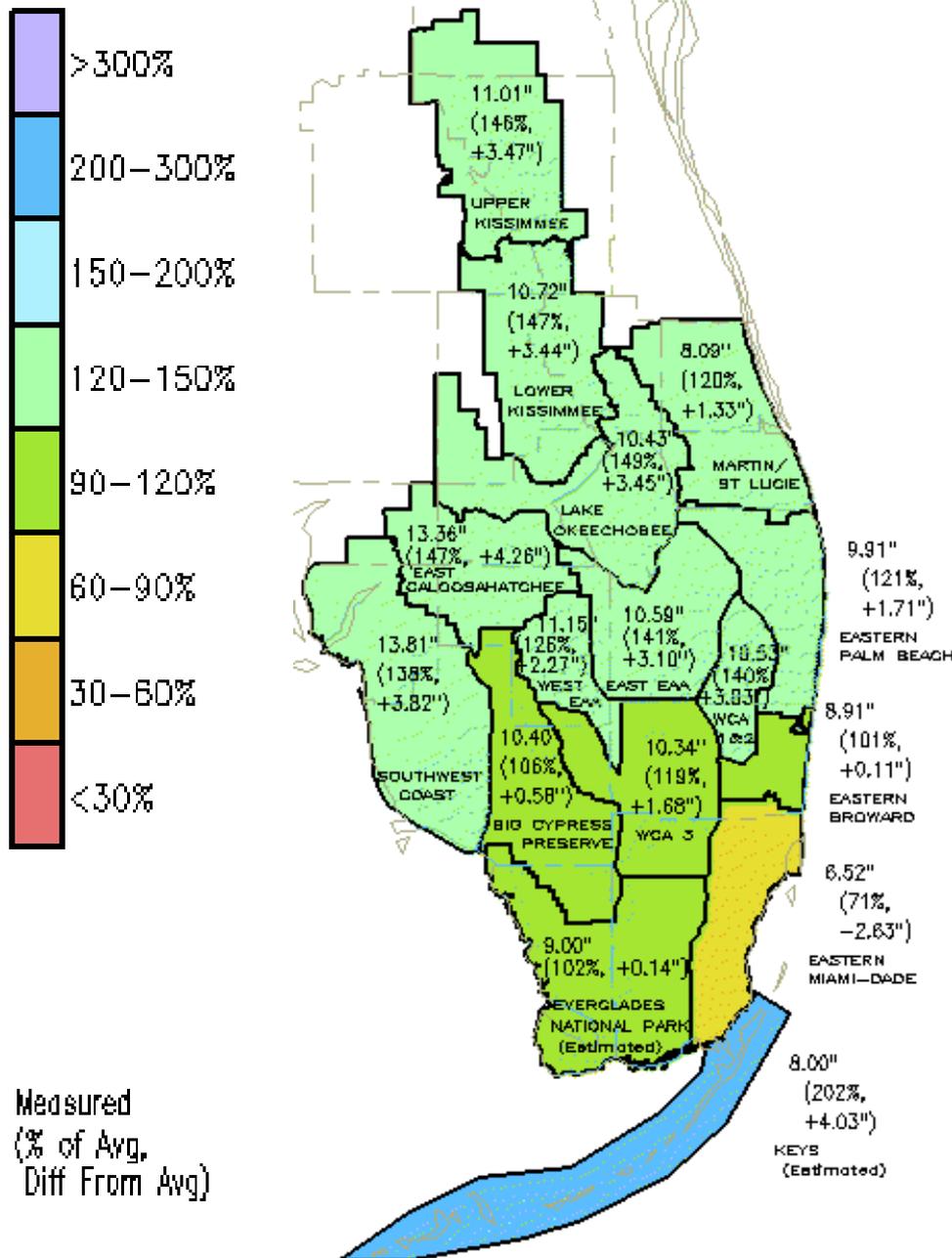
SFWMD

June 2013 Rainfall

(June 2 – July 1, 2013)

DISTRICT-WIDE: 10.68"
(129% of Avg, or 2.42")

- June 2013 had a very wet start.
- The District experienced record rainfall for the first 9 days of June
- TS Andrea produced about 3.1" District wide
- All basins with exception of Eastern Miami-Dade are above average



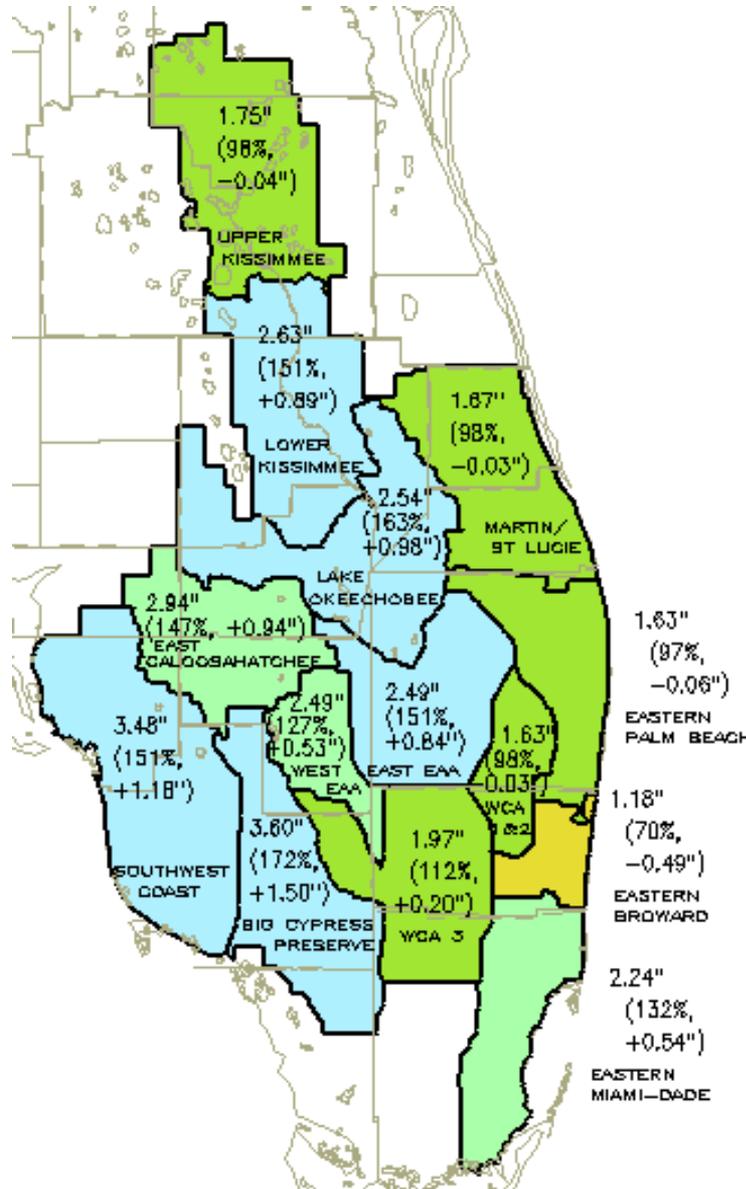
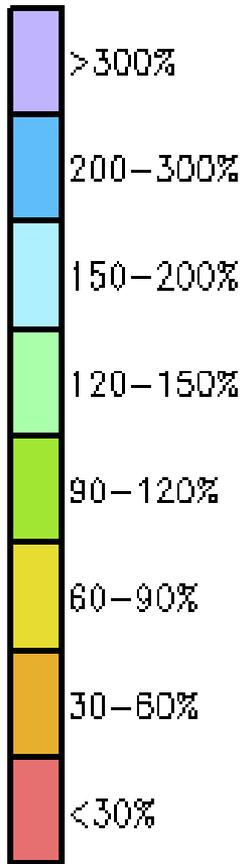
SFWMD

July 2013 Rainfall

(July 2 - 9, 2013)

DISTRICT-WIDE: 2.46"
(136% of Avg, or +0.65")

- Most basins are above average
- Basins in the West Coast and Lower Kissimmee tend to be above average



Measured
 (% of Avg,
 Diff From Avg)



SFWMD RAINDAR 30-DAY BASIN RAINFALL ESTIMATES

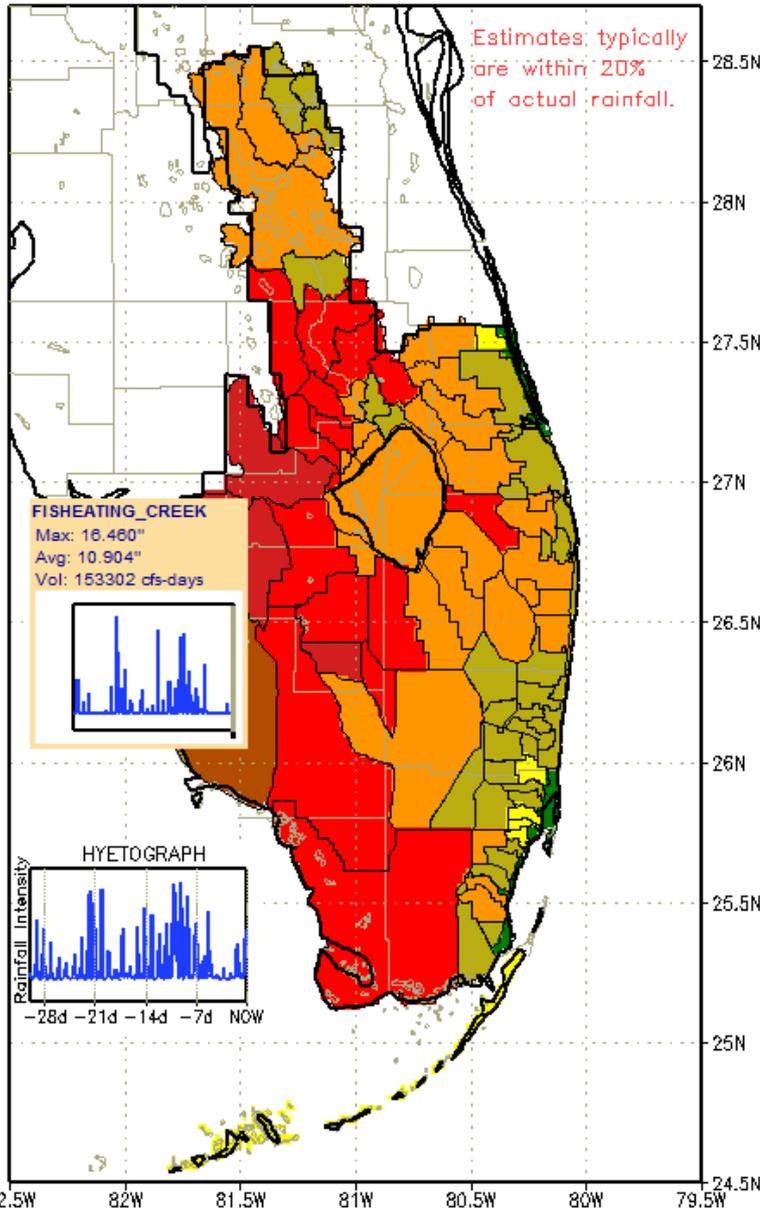
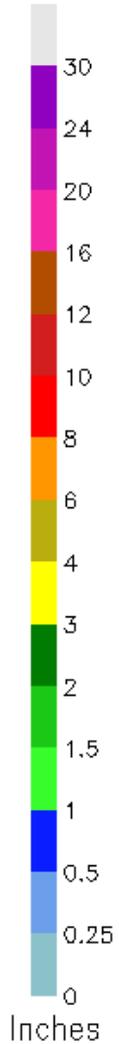
FROM: 1715 EST, 06/10/2013 THROUGH: 1715 EST, 07/10/2013

SFWMD

30 Day Rainfall

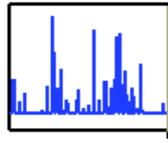
(June 10 – July 10, 2013)

Estimates, typically
are within 20%
of actual rainfall.

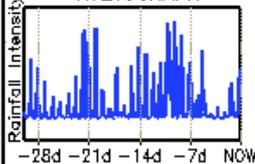


FISHEATING_CREEK

Max: 16.460"
Avg: 10.904"
Vol: 153302 cfs-days



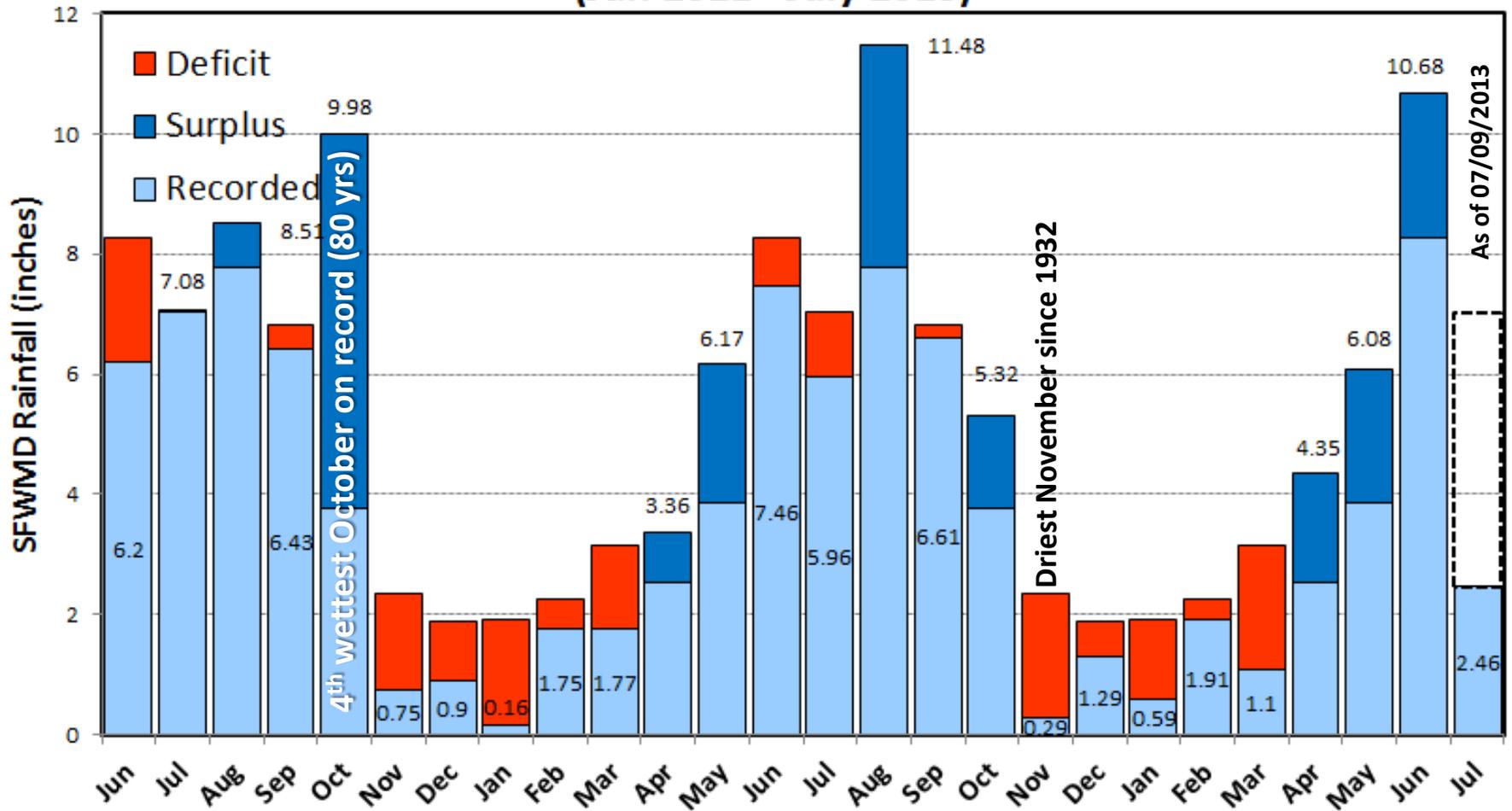
HYETOGRAPH



DISTRICT-WIDE RAINFALL ESTIMATE: 8.093"

- T.S. Andrea occurred outside of this 30-day window (July 6 – 8, 2013)
- Most basins received 4 to 10 inches
- Basins in the West Coast and Lower Kissimmee received the most rainfall

SFWMD Rainfall Distribution Comparison (Jun 2011 - July 2013)



2011 WET SEASON:

- Latest start (June 12) in at least 20 years
- 3 Big Rain Days in October (2.3", 2.3" & 1.7")

2011-12 DRY SEASON:

- Record dry in Upper Kissimmee (98 yrs)
- Ended up close to average

2012 WET SEASON:

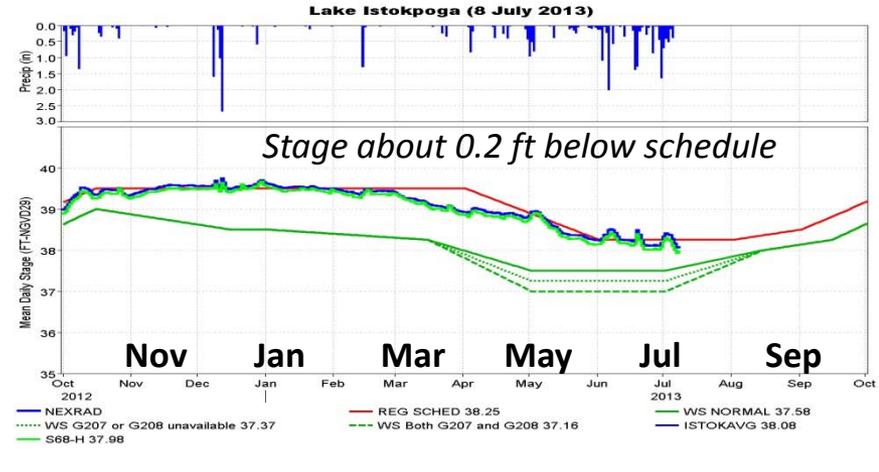
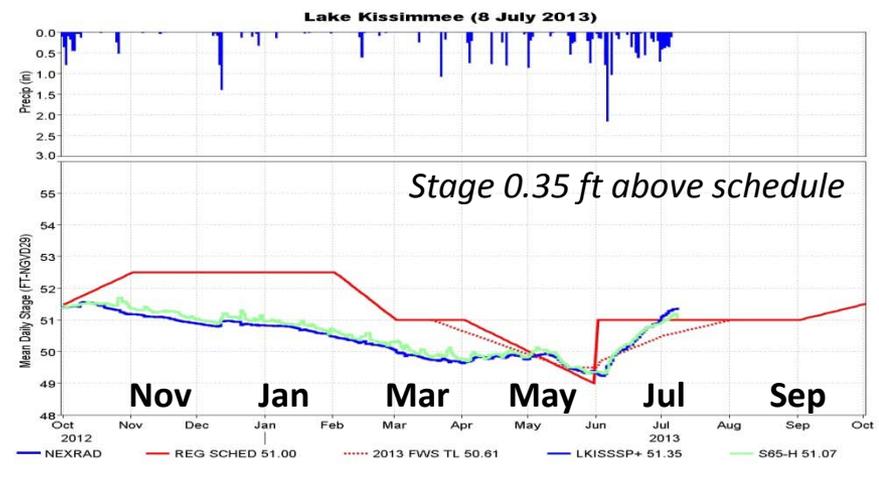
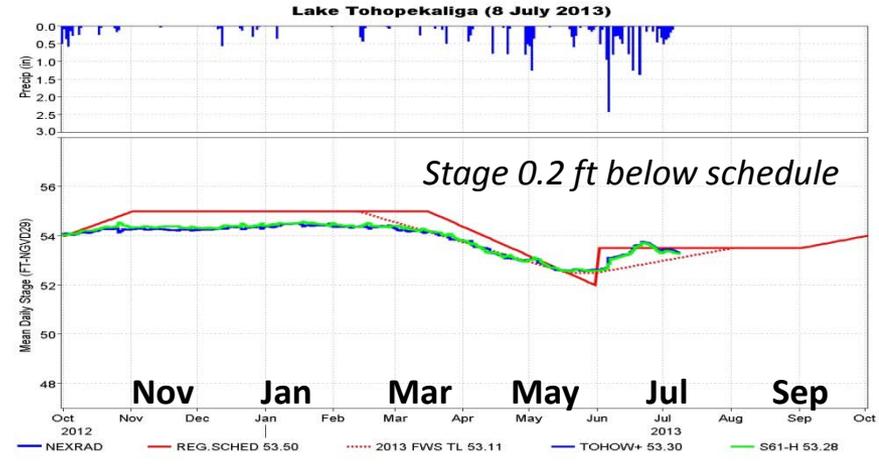
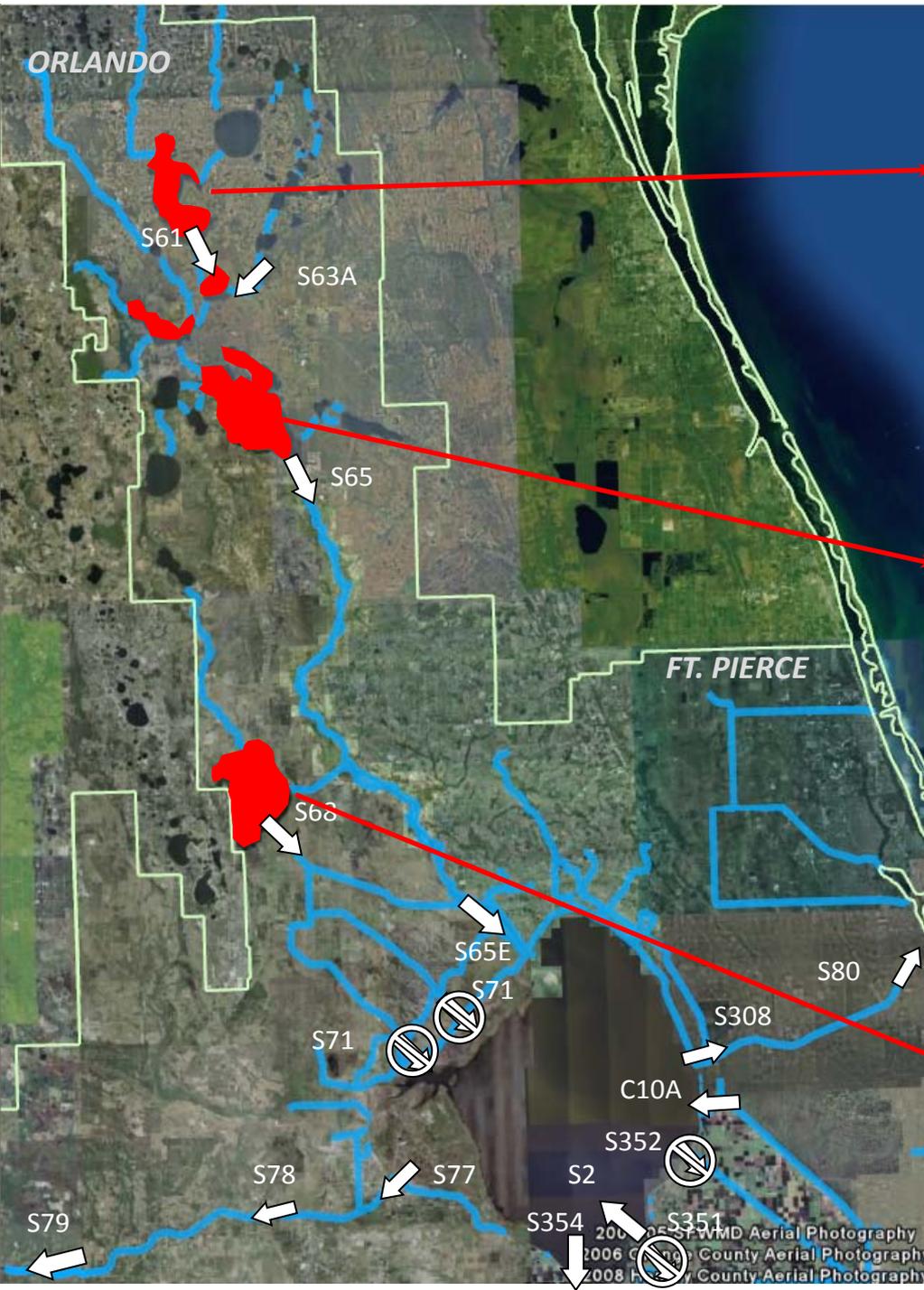
- Started early with wet May, followed by dry June and July . TS Isaac brought August rainfall high above average.
- Ended up above average.

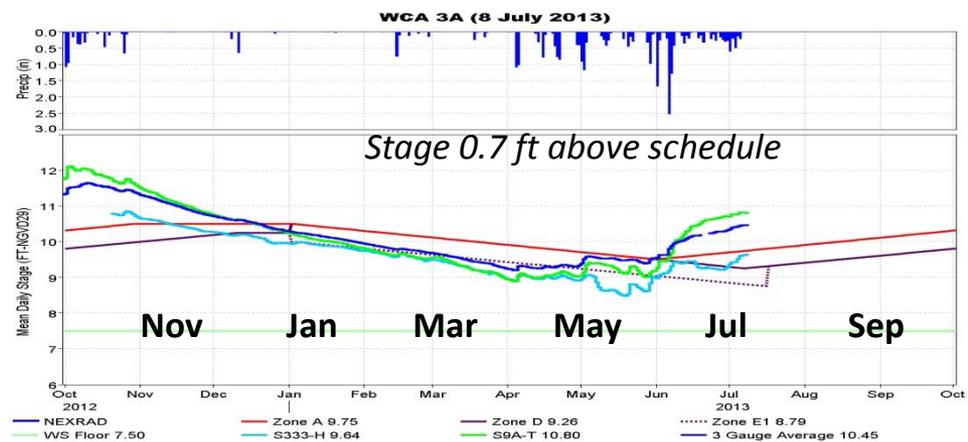
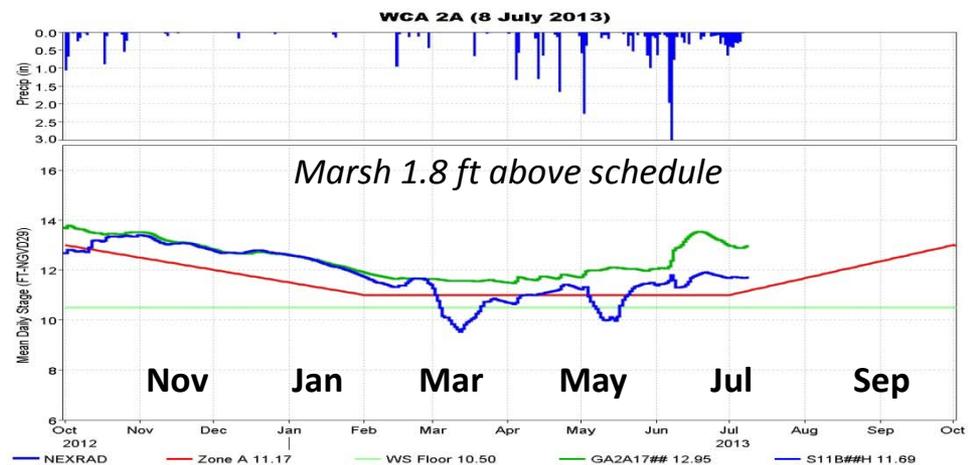
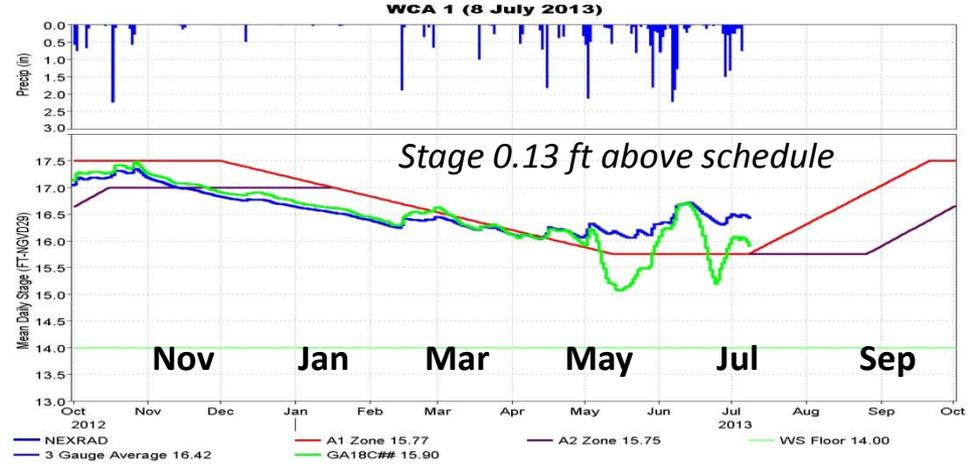
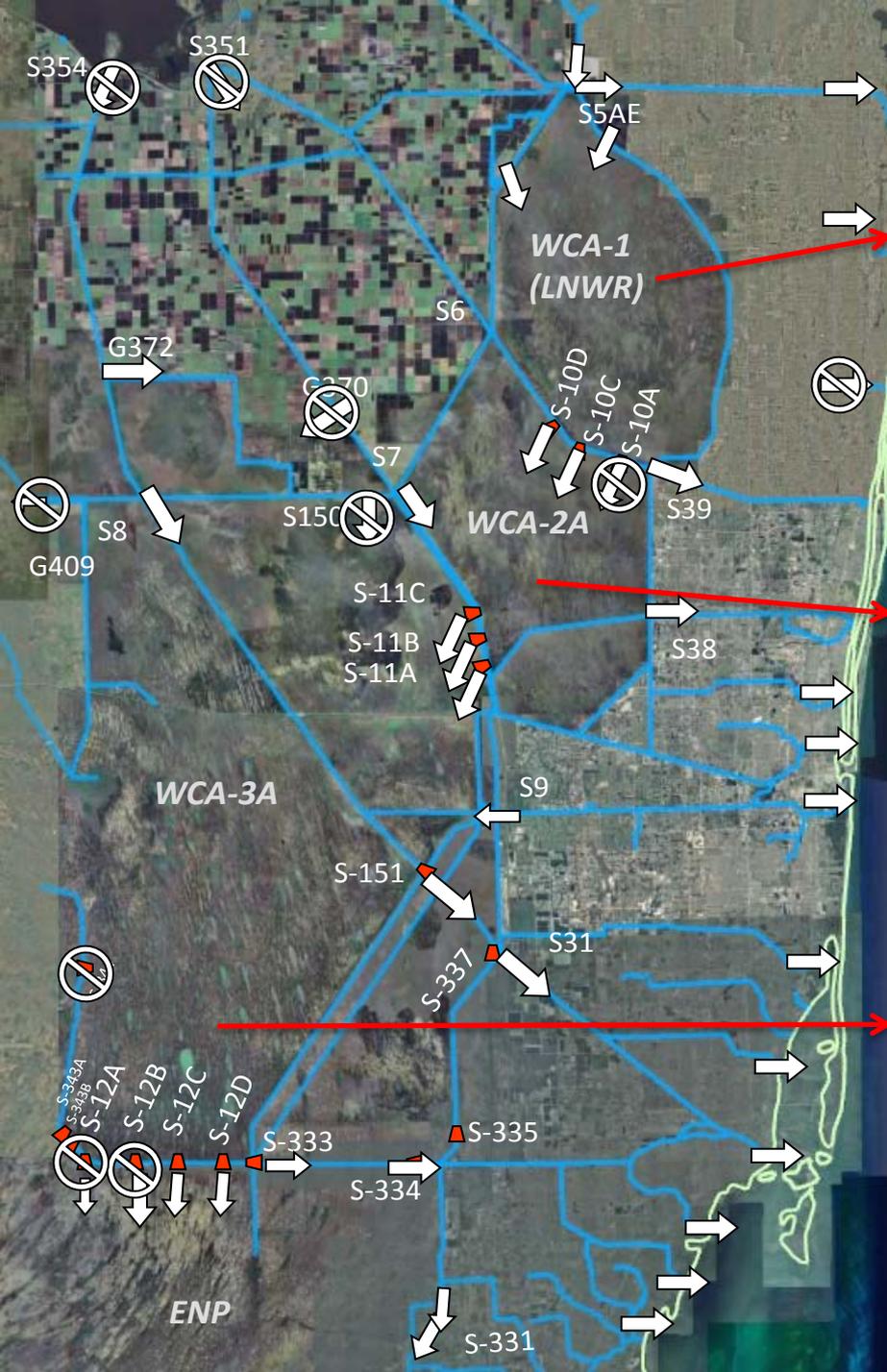
2012-13 DRY SEASON:

- Driest November since 1932
- Below average despite April/May being above

2013 WET SEASON:

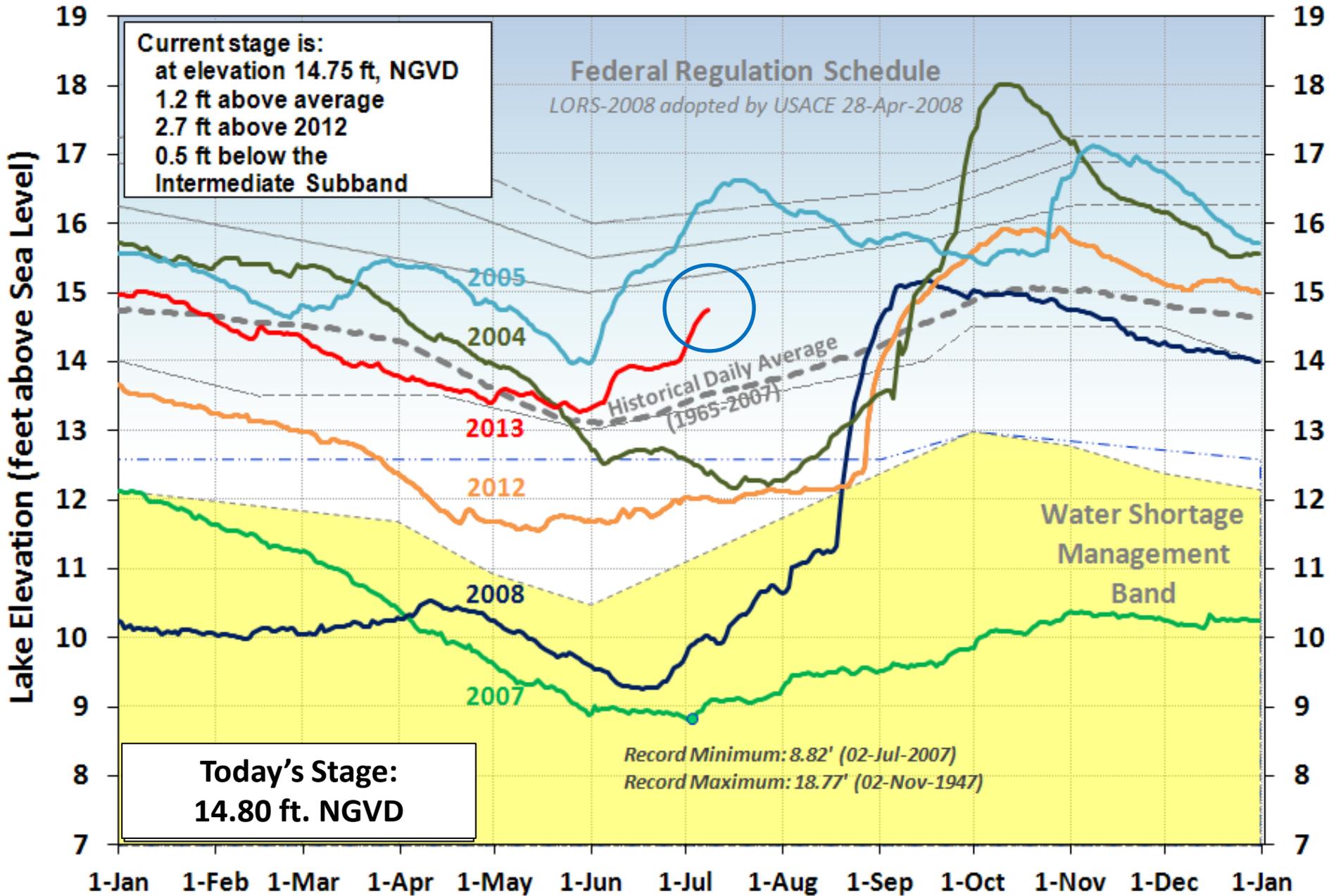
- May 18th Start
- T.S. Andrea produced 3.1 inches District wide
- Above average so far





LAKE OKEECHOBEE OPERATIONS

Lake Okeechobee Water Level Comparison



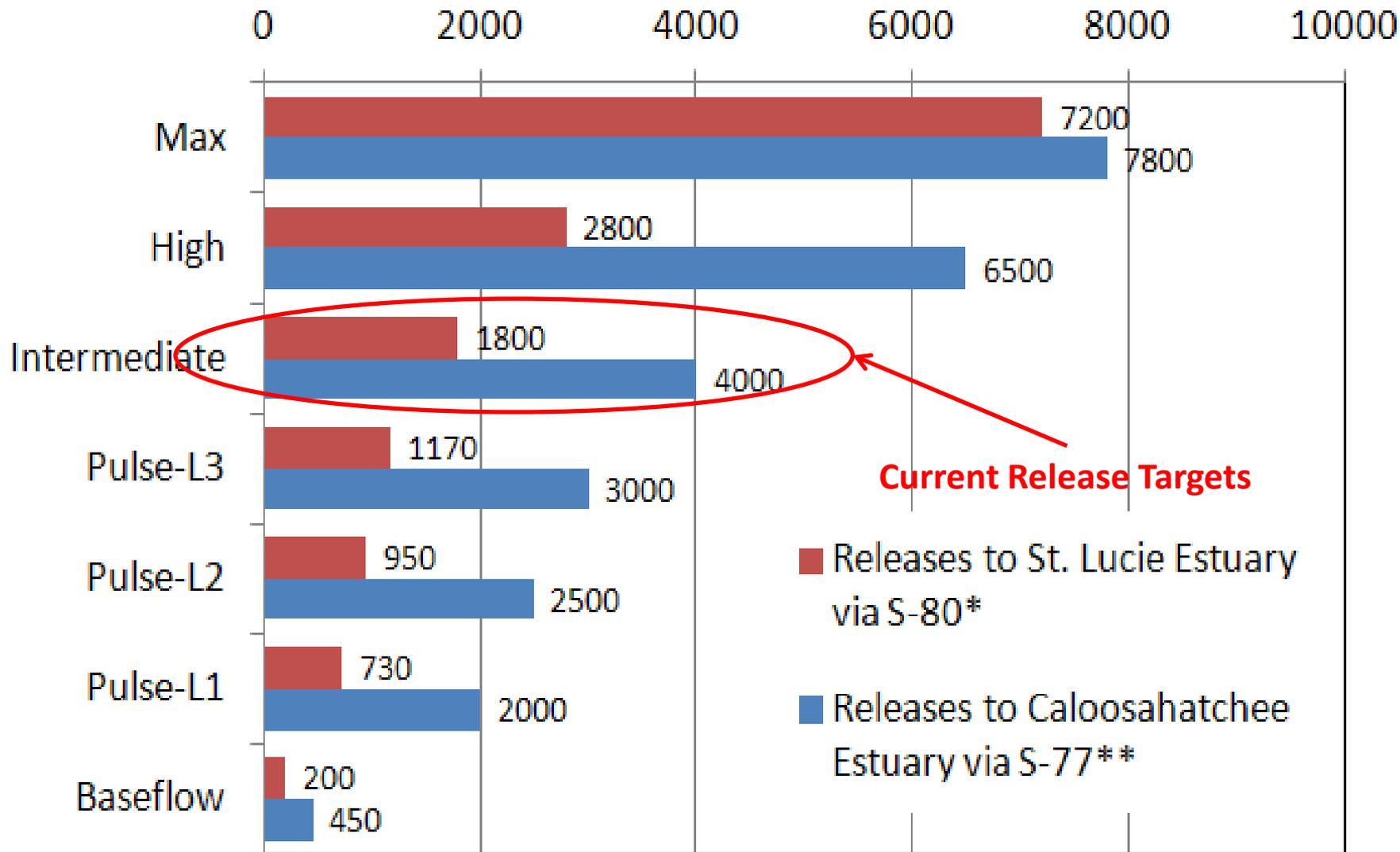
Lake Okeechobee: Current Operations

- **USACE's Lake O Regulation Schedule (2008 LORS)**
 - Stage (~14.8 feet, NGVD) is within a foot of the Intermediate Subband
 - Tributary Hydrologic Condition (THC) and the Seasonal Hydrologic Outlook are in the very wet classifications
 - 5-Jul-2013: USACE increased discharges to the limits allowed by the 2008 LORS Release Guidance and Water Control Plan:
 - Up to 4,000 cfs at S-77, and up to 1,800 cfs at S-80
 - No releases to the WCAs since stages are above regulation schedules
- **SFWMD's Lake O Adaptive Protocol (2010 LOAP)**
 - Will be the basis for SFWMD recommendations if/when the Lake stage recedes into the Baseflow Subband of the 2008 LORS

Lake Okeechobee Regulation Schedule 2008

Release Rates (cfs)

LORS-08 Release Level



Current Release Targets

■ Releases to St. Lucie Estuary via S-80*

■ Releases to Caloosahatchee Estuary via S-77**

* Releases at S-308 are limited by C-44 basin runoff

** Baseflow Releases and Pulse Releases at S-77 are limited by C-43 basin runoff

2013 Lake Okeechobee Regulatory Discharges to the WCAs

- From Jan-Jun 2013, the 2008 LORS release guidance allowed regulatory discharges to the WCAs during 14 weeks
- Lake regulatory releases via STA-3/4 and STA-2 occurred during 10 of the 14 weeks at an estimated volume of 34,000 acre-feet
- During 4 of the 14 weeks there was insufficient conveyance capacity in the primary EAA canals and/or high water levels in the WCAs
- No Lake regulatory releases since 30-May when the WCA-3A stage rose above its regulation schedule

2013 Discharges to the Caloosahatchee Estuary

Data are provisional
and subject to change

Flow Summary

C43 and Tidal Basin Runoff:

Lake Okeechobee:

Total:

Jan-May

167 kaf (50%)

170 kaf (50%)

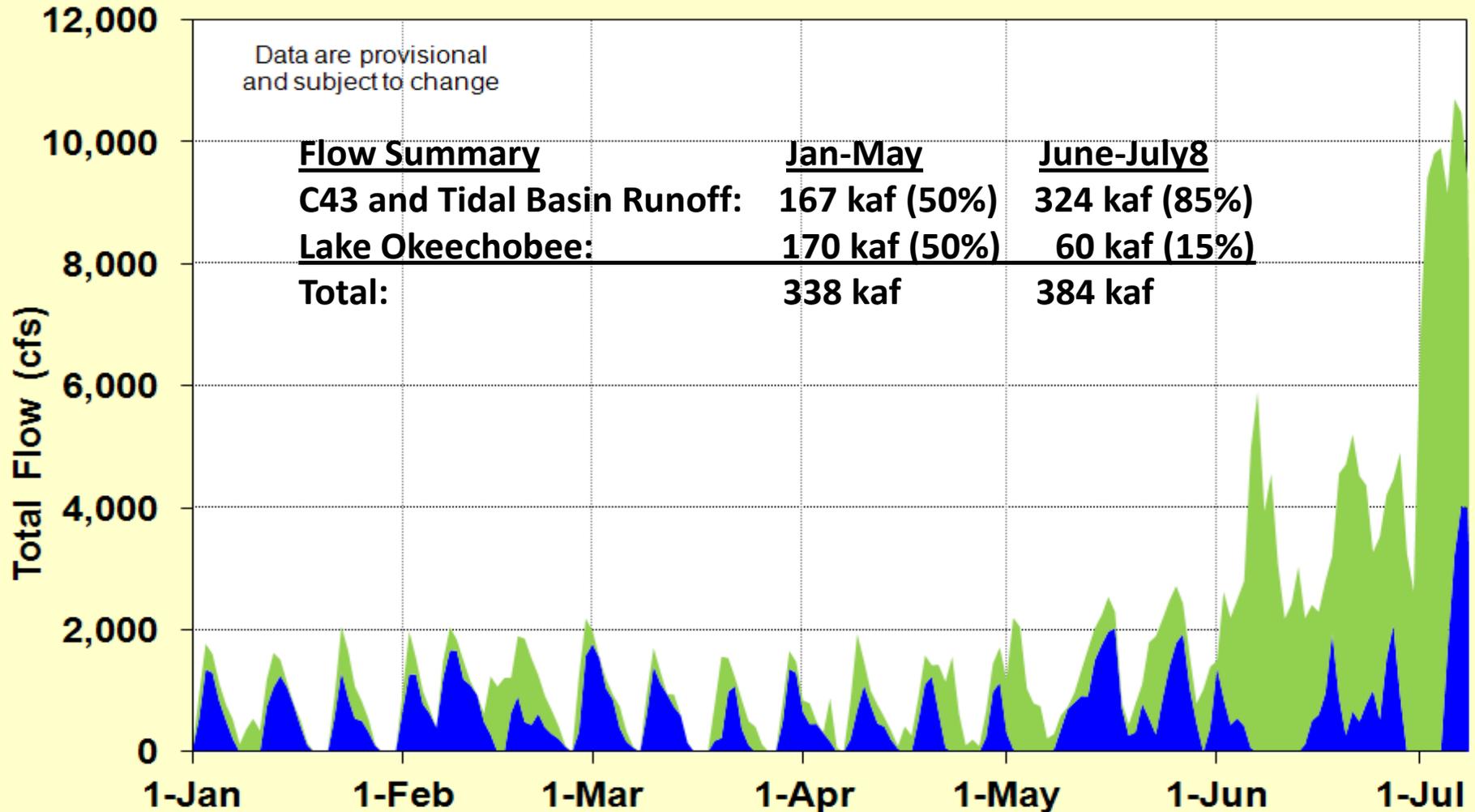
338 kaf

June-July8

324 kaf (85%)

60 kaf (15%)

384 kaf



■ Inflow from Lake

■ C-43 Basin Runoff

2013 Discharges to the St. Lucie Estuary

Data are provisional
and subject to change

Flow Summary

C23,C24 & Tenmile Creek:

Jan-May

33 kaf (59%)

June-July8

61 kaf (45%)

C44 Basin Runoff:

18 kaf (32%)

54 kaf (39%)

Lake Okeechobee:

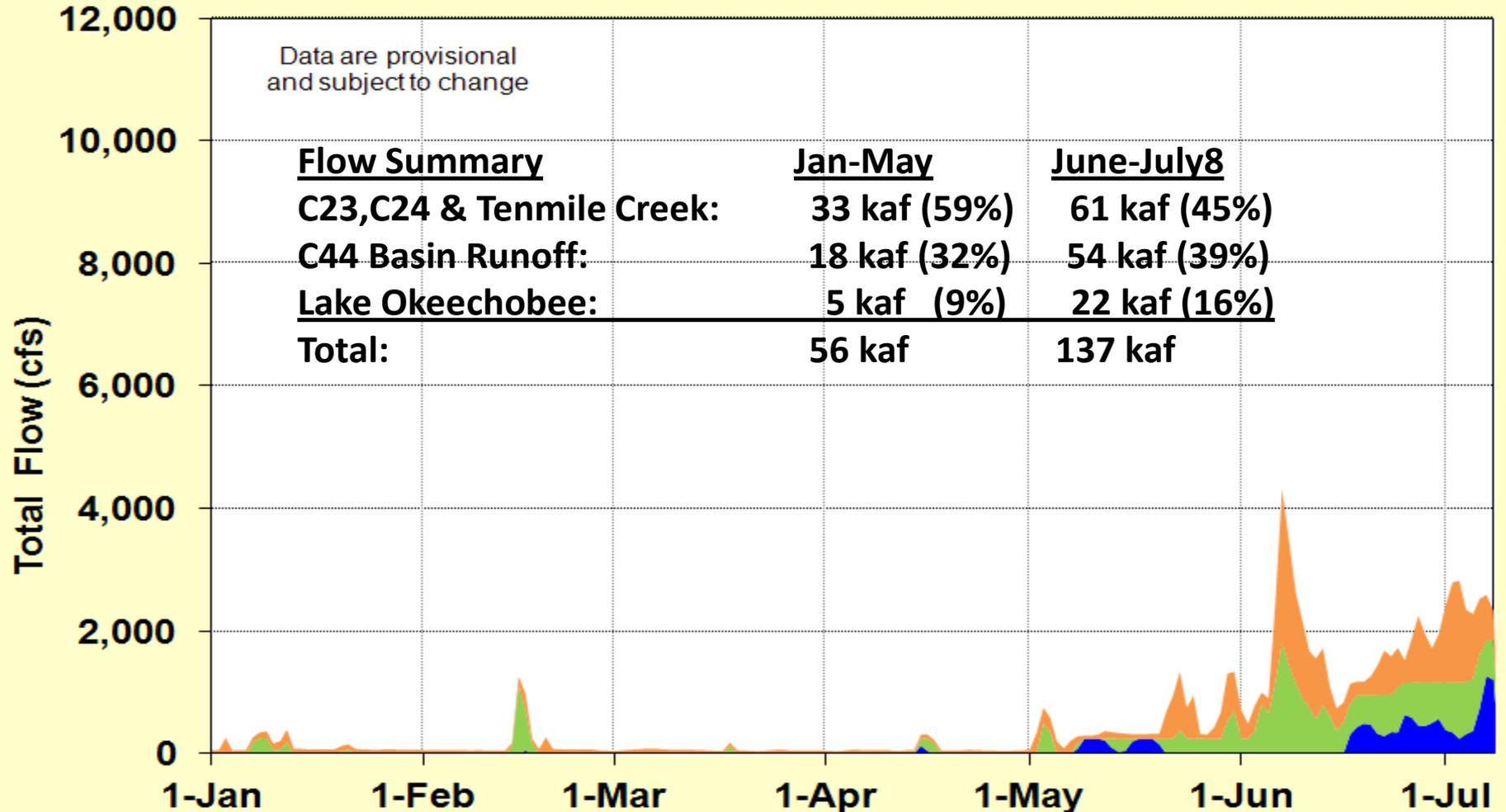
5 kaf (9%)

22 kaf (16%)

Total:

56 kaf

137 kaf



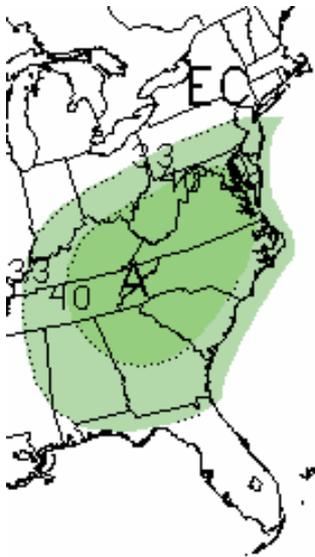
- Inflow from C-24, C23, and Tenmile Creek Basins*
- C-44 Basin Runoff
- Inflow from Lake

OUTLOOK

U. S. Seasonal Precipitation Outlook

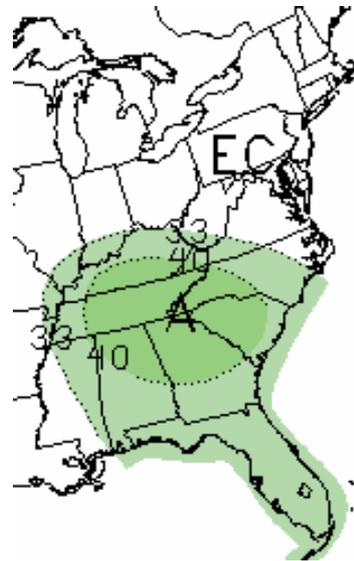
National Climate Prediction Center (CPC)

Jul 2013



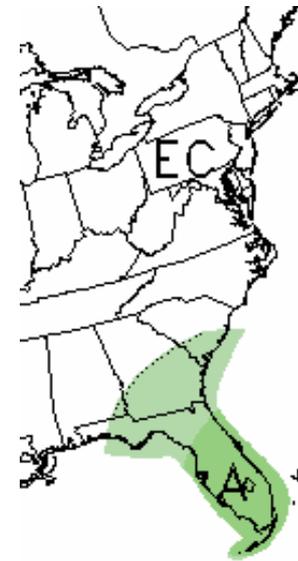
Made 30-June-2013

Jul – Sep 2013



Made 20-June-2013

Aug - Oct 2013

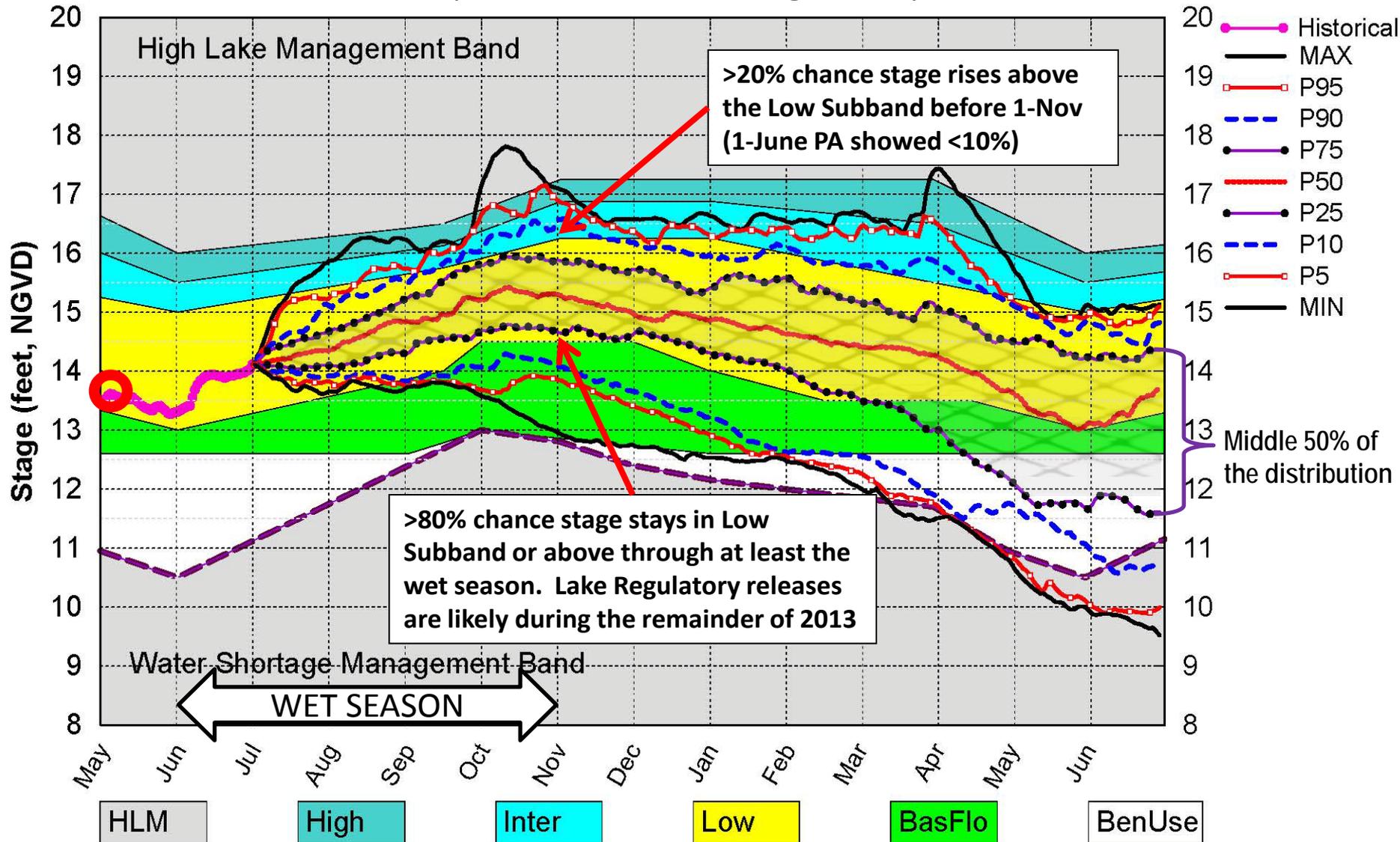


Made 20-June-2013

The recent CPC precipitation outlooks indicate equal chances (EC) of Above-Normal (A), Below-Normal (B), and Normal rainfall for central and southern Florida for July 2013, Above-Normal rainfall conditions for the three-month windows Jul-Aug-Sep and Aug-Sep-Oct, EC for Sep-Oct-Nov and Oct-Nov-Dec, followed with BN for Nov-Dec-Jan and Dec-Jan-Feb.

Lake Okeechobee SFWMM July 2013 Position Analysis

Percentiles based on 41 possible outcomes starting with July 1st initialization

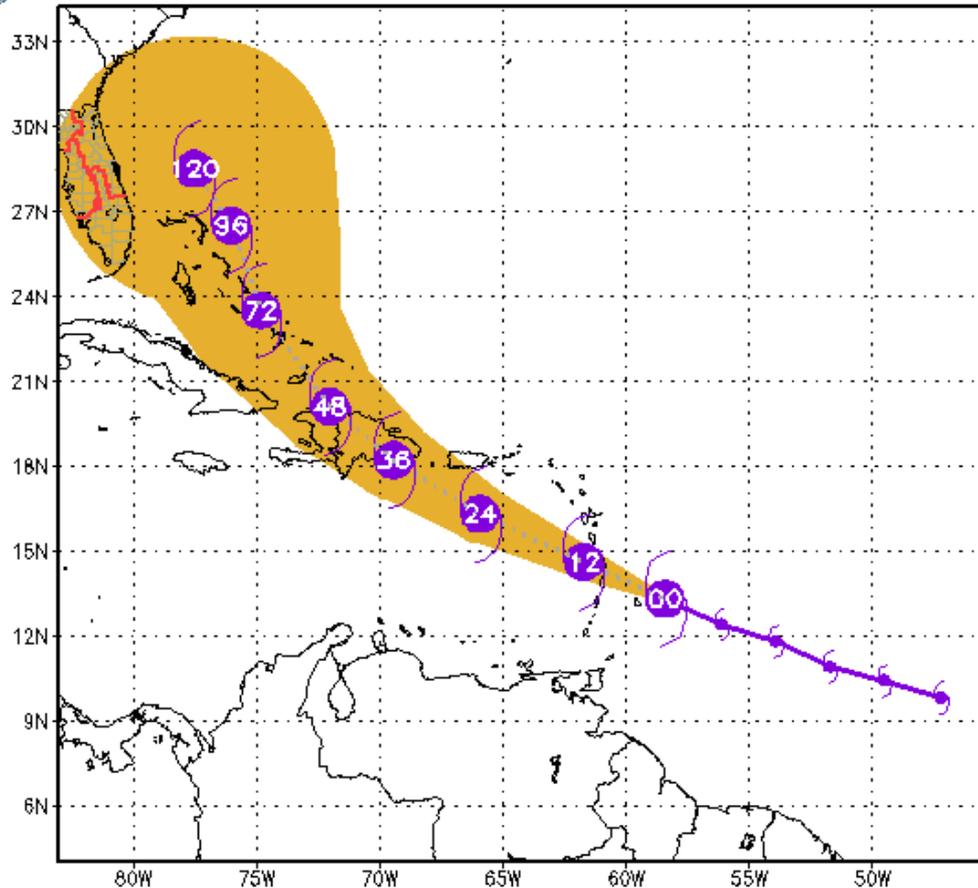


(See assumptions on the Position Analysis Results website)

Tropical Activity



National Hurricane Center Forecast Track
 And Storm Motion During Previous 72 Hours
 Plot Generated: Tue - Jul 09, 2013 - 1400 UTC (-4 for EDT)



TS CHANTAL	
Hour	Date/Time
000	09/0900Z
012	09/1800Z
024	10/0600Z
036	10/1800Z
048	11/0600Z
072	12/0600Z
096	13/0800Z
120	14/0800Z

GRADS: COLA/IGES

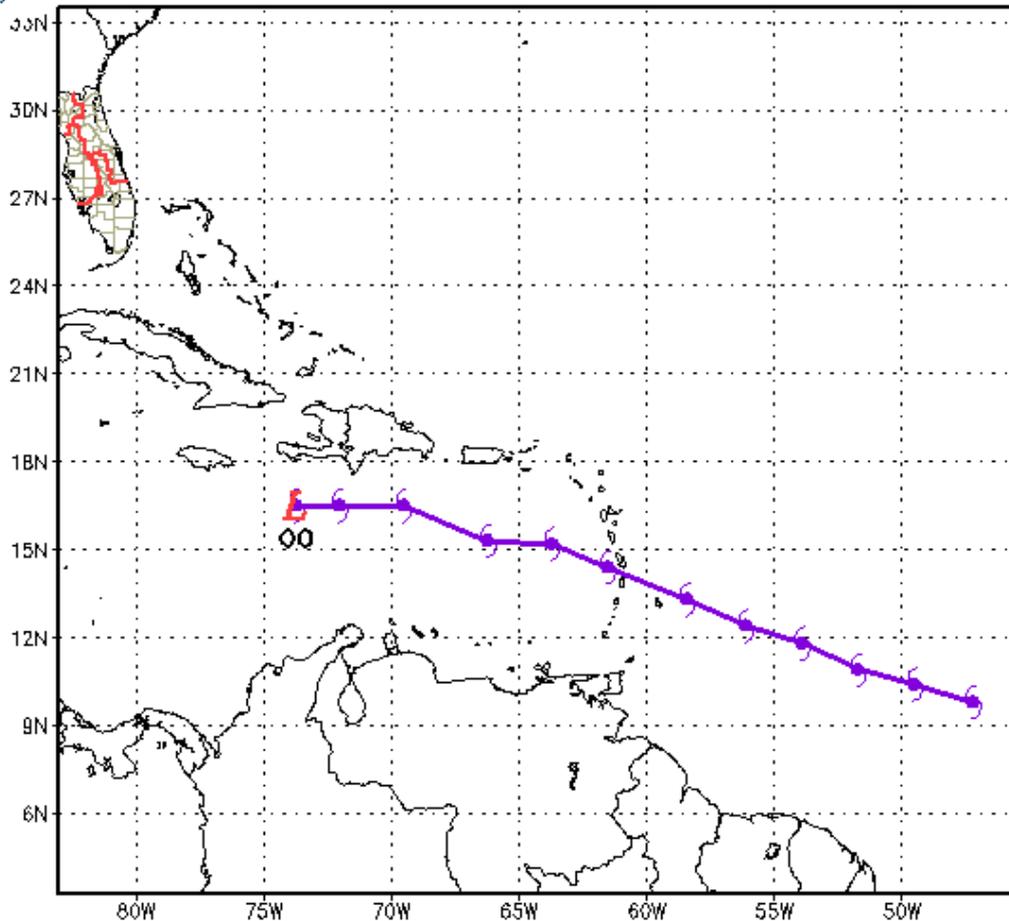
Tropical Depression	Tropical Storm	CAT 1 Hurricane	CAT 2 Hurricane	CAT 3 Hurricane	CAT 4 Hurricane	CAT 5 Hurricane	Tropical Cyclone	Non-tropical Low	Historical Std Dev

'Former' T.S. Chantal



National Hurricane Center Forecast Track And Storm Motion During Previous 72 Hours

Plot Generated: Thu - Jul 11, 2013 - 1000 UTC (-4 for EDT)

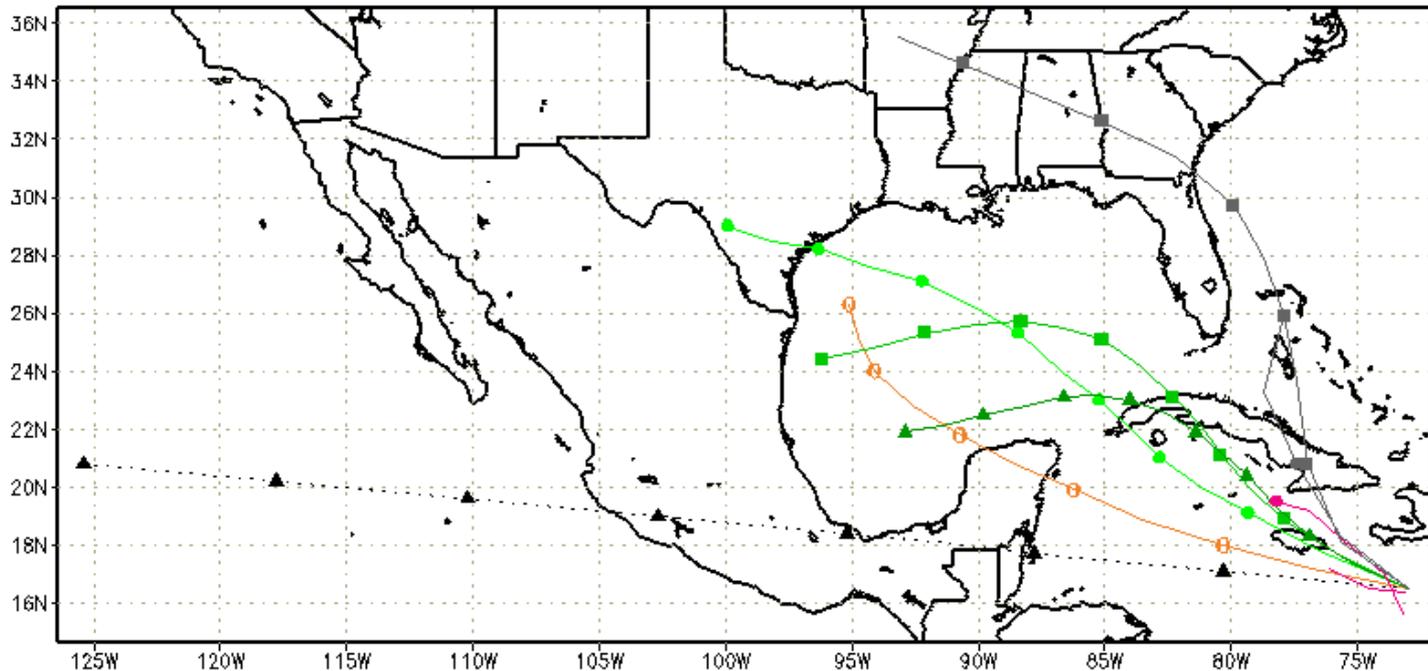


NON TROPICAL CHA
Hour Date/Time
000 10/2100Z

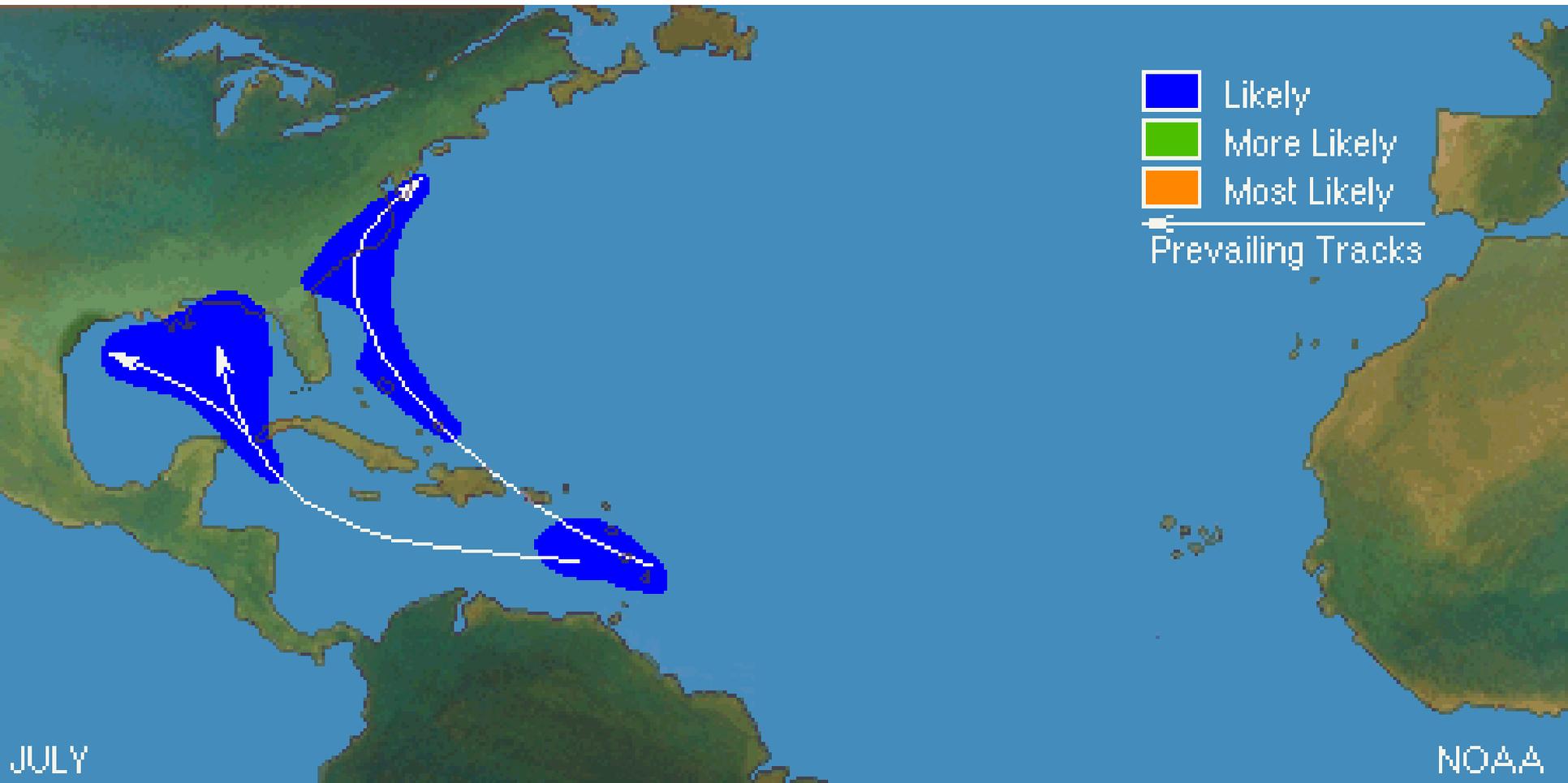


'Former' T.S. Chantal

- | | | | | |
|-----------------------|-----------------|------------------|------------------|------------------|
| ---▲--- XTRP 10/1800Z | ▲ BAMD 10/1800Z | ▲ GFDL 10/1800Z | ▲ AVNO Not Avail | ▲ CMC Not Avail |
| ■ TVCN 10/1800Z | ■ BAMB 10/1800Z | ■ GFDN Not Avail | ■ AEMN Not Avail | ■ UKM 11/0000Z |
| ● TV15 10/1800Z | ● BAMS 10/1800Z | ● HWRF 10/1800Z | ○ APxx Not Avail | ● NGPS Not Avail |
| ● NHC 10/2100Z | ○ AHWI 10/1800Z | ○ FIMS 10/1800Z | ○ GLP5 10/1800Z | |



Typical July Tropical Activity





QUESTIONS?

Towboat removing aquatic vegetation on the C102