

Water Conditions Summary

*South Florida Water Management District
Governing Board Meeting*

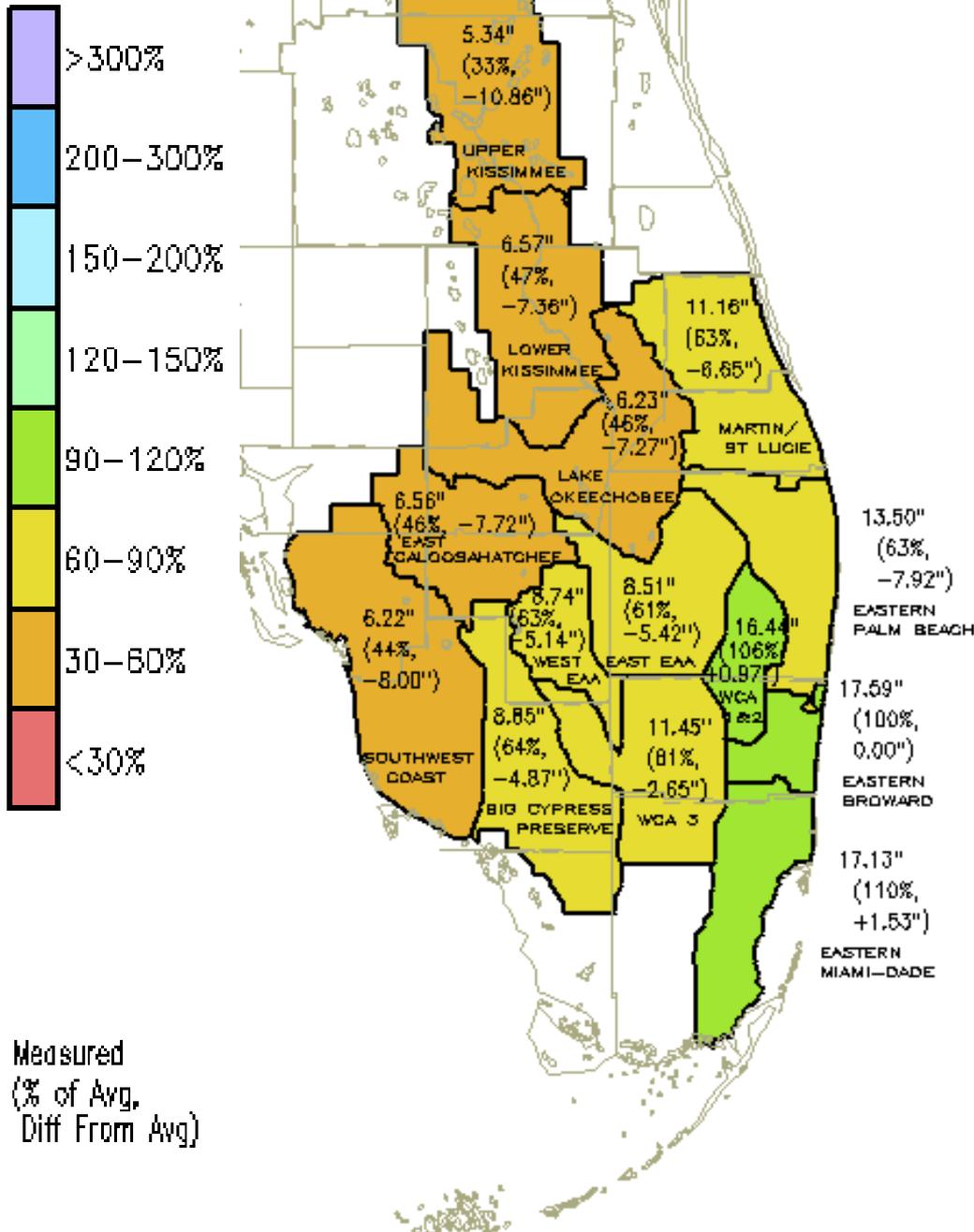
May 10, 2012

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

SFWMD 2011-12 Dry Season Rainfall

02-Nov-2011 – 08-May-2012

**DISTRICT-WIDE: 9.06"
(60% of Avg, or -6.00")**

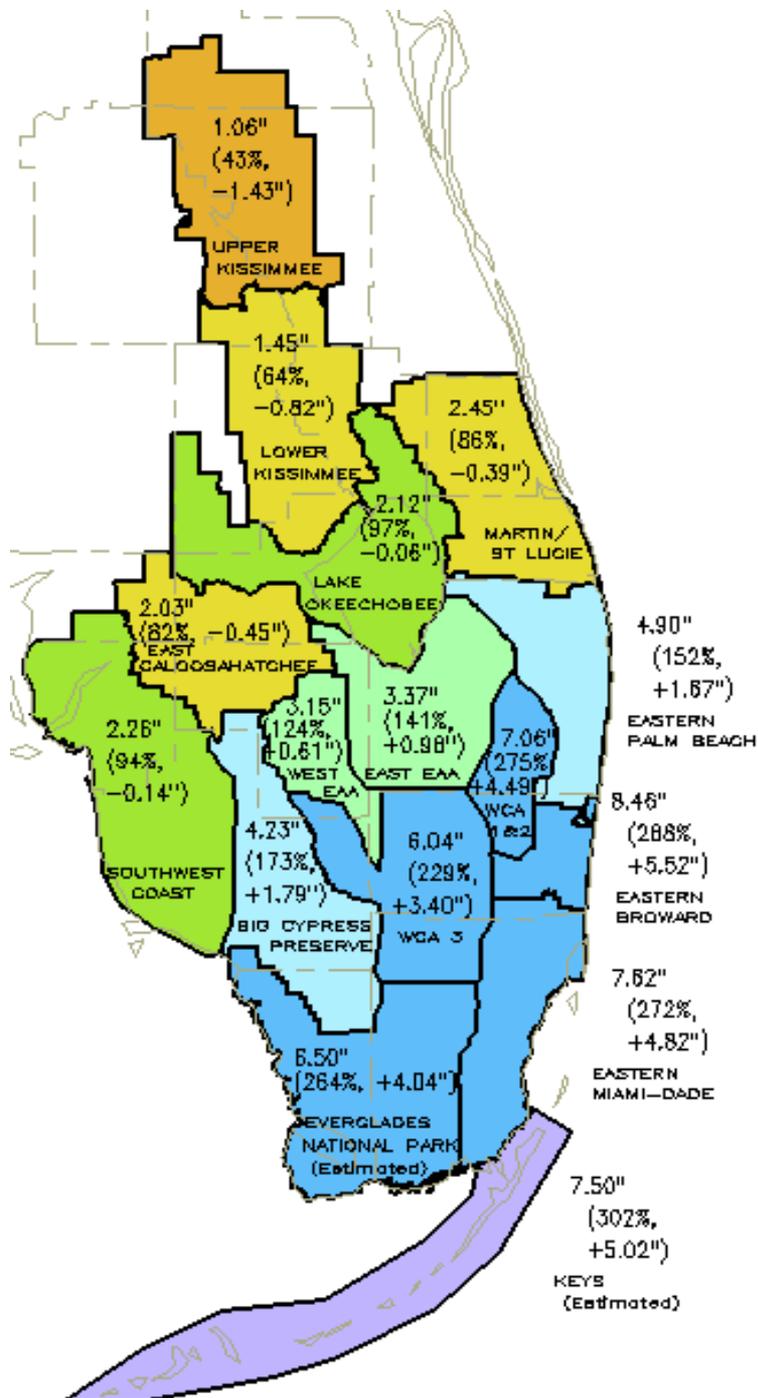
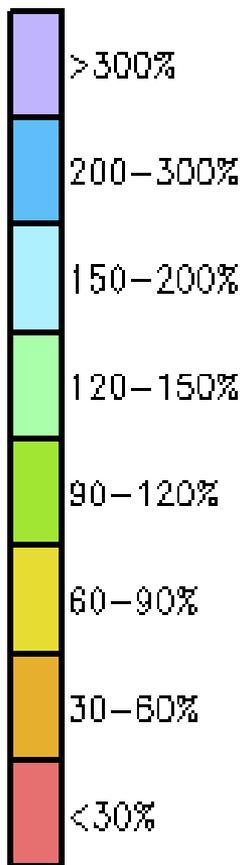


- All Basins have received have a significant rainfall deficit WCA-1, WCA-2, Eastern Broward and Eastern Miami-Dade
- Upper Kissimmee has the largest deficiency at -10.86 inches

Measured
(% of Avg,
Diff From Avg)

SFWMD 2012 April Rainfall

**DISTRICT-WIDE: 3.36"
(133% of Avg, or +0.84")**



Measured
(% of Avg,
Diff From Avg)

- South and East of Lake Okeechobee Basins received mostly above normal rainfall
- Eastern Broward is 288% of average (+5.52")
- Upper Kissimmee is 43% of average (-1.43")

SFWMD Rainfall Distribution Comparison

(Oct 2010 - May 2012)

2010-11 DRY SEASON:

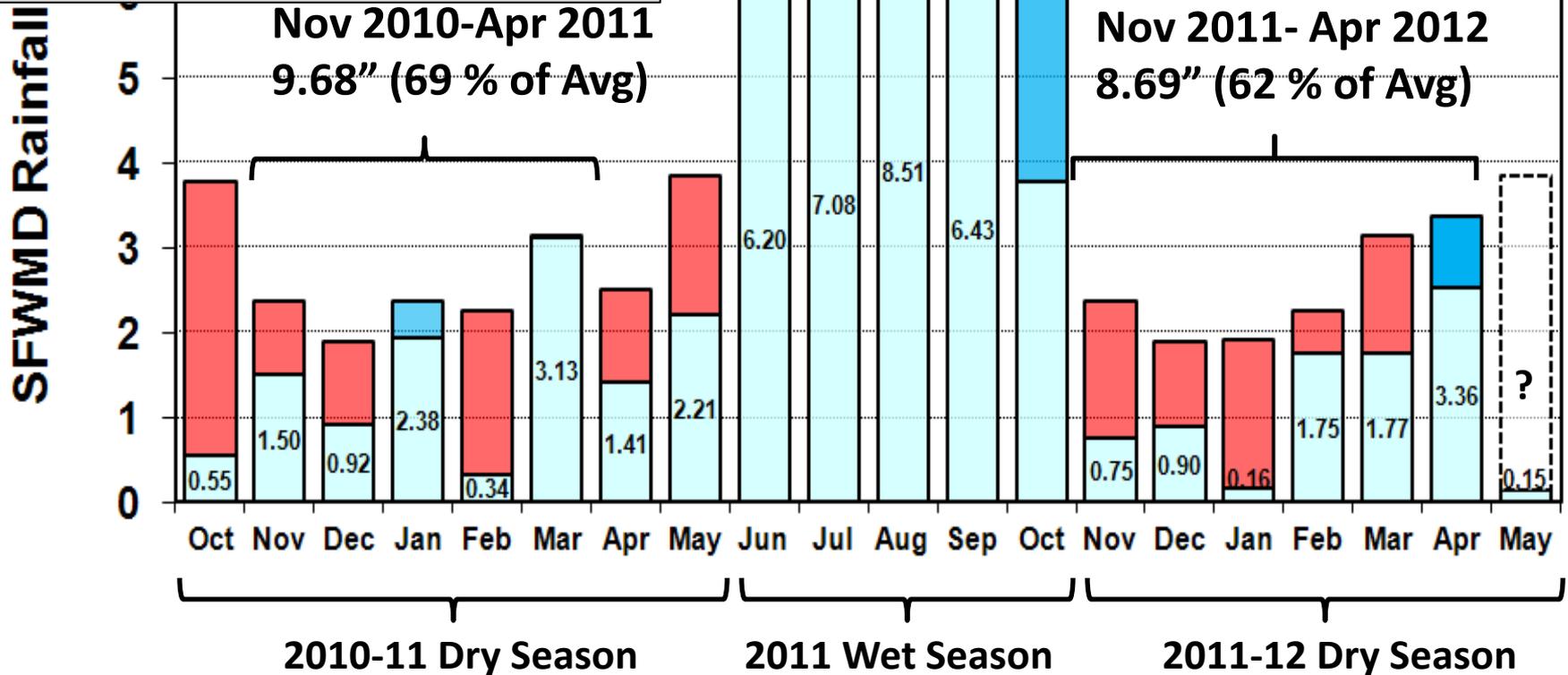
- started early with driest October on record
- 2nd largest deficit on record (80yrs)

2011 WET SEASON:

- latest start (June 12) in at least 20 years
- 3 Big Rain Days in October (2.3", 2.3" & 1.7")
- 4th wettest October on record (80 yrs)

2011-12 DRY SEASON:

- All months below average. April is first month above average since October 2011



U.S. Drought Monitor

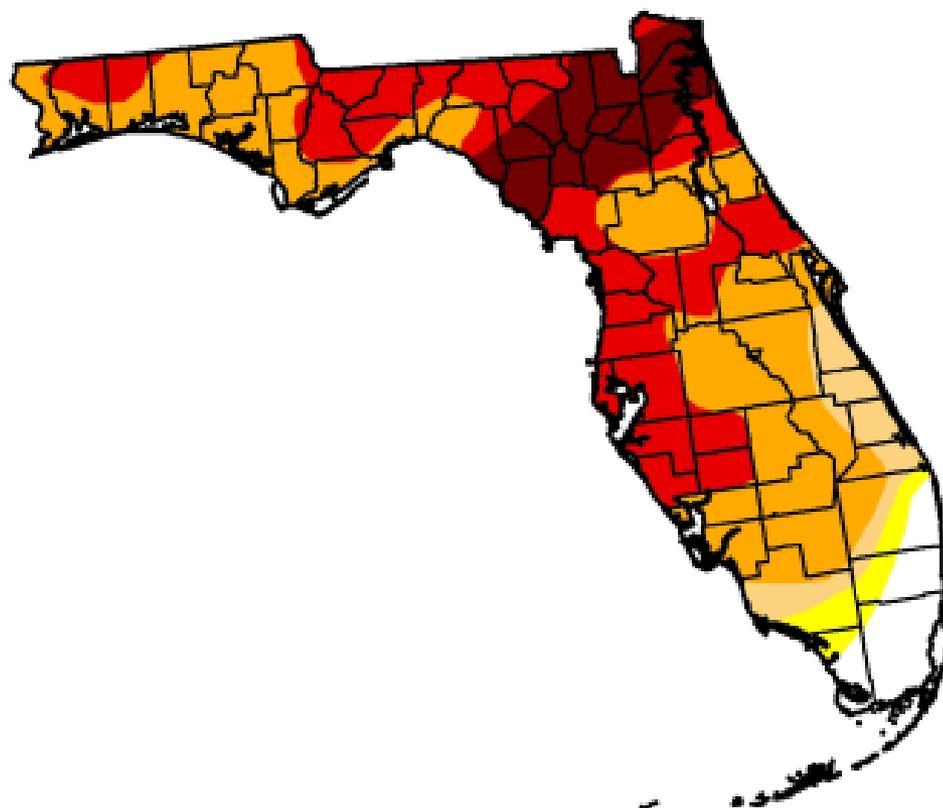
May 1, 2012

Valid 7 a.m. EST

Florida

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7.09	92.91	89.47	82.63	41.42	11.79
Last Week (04/24/2012 map)	0.00	100.00	97.42	72.90	34.86	11.79
3 Months Ago (01/31/2012 map)	0.00	100.00	90.50	45.06	9.22	0.00
Start of Calendar Year (12/27/2011 map)	38.81	61.19	27.41	12.84	2.61	0.00
Start of Water Year (09/27/2011 map)	43.12	56.88	28.83	16.85	7.85	0.00
One Year Ago (04/26/2011 map)	8.72	91.28	76.21	41.19	15.63	0.00



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

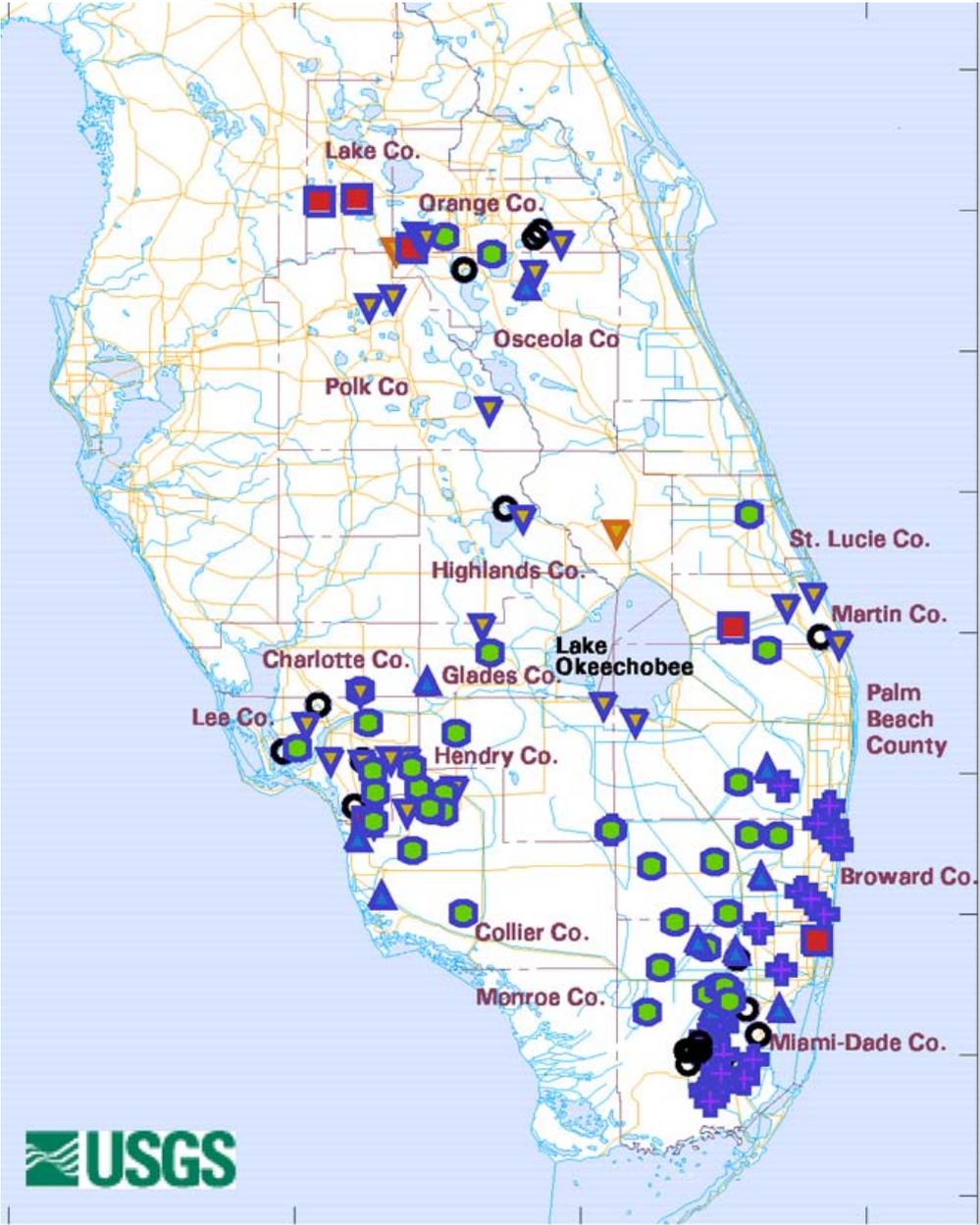


<http://droughtmonitor.unl.edu>

Released Thursday, May 3, 2012
Matthew Rosencrans, Climate Prediction Center/NCEP/NWS/NOAA

Groundwater Levels

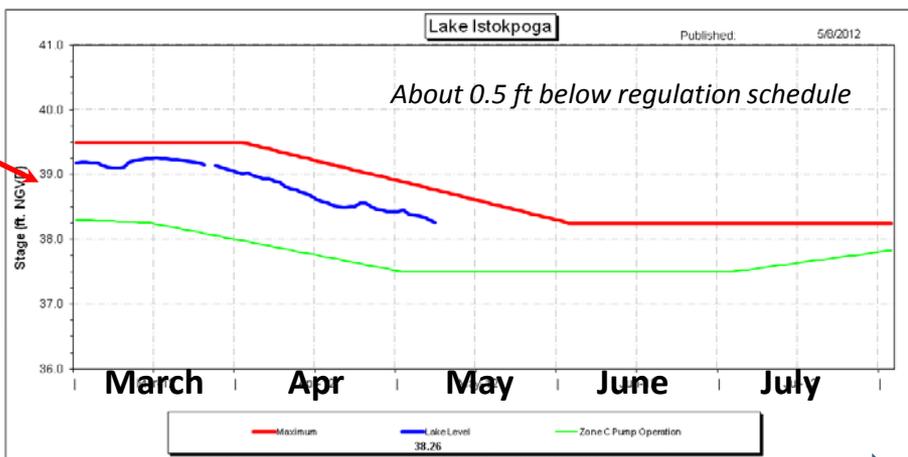
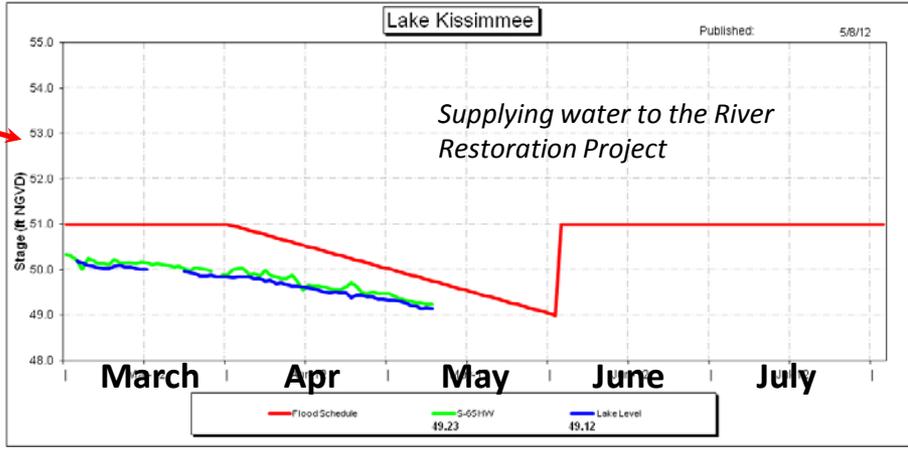
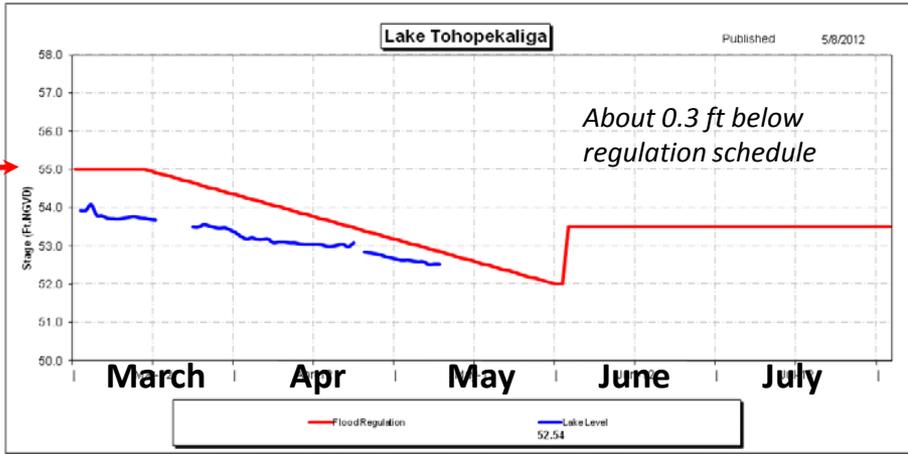
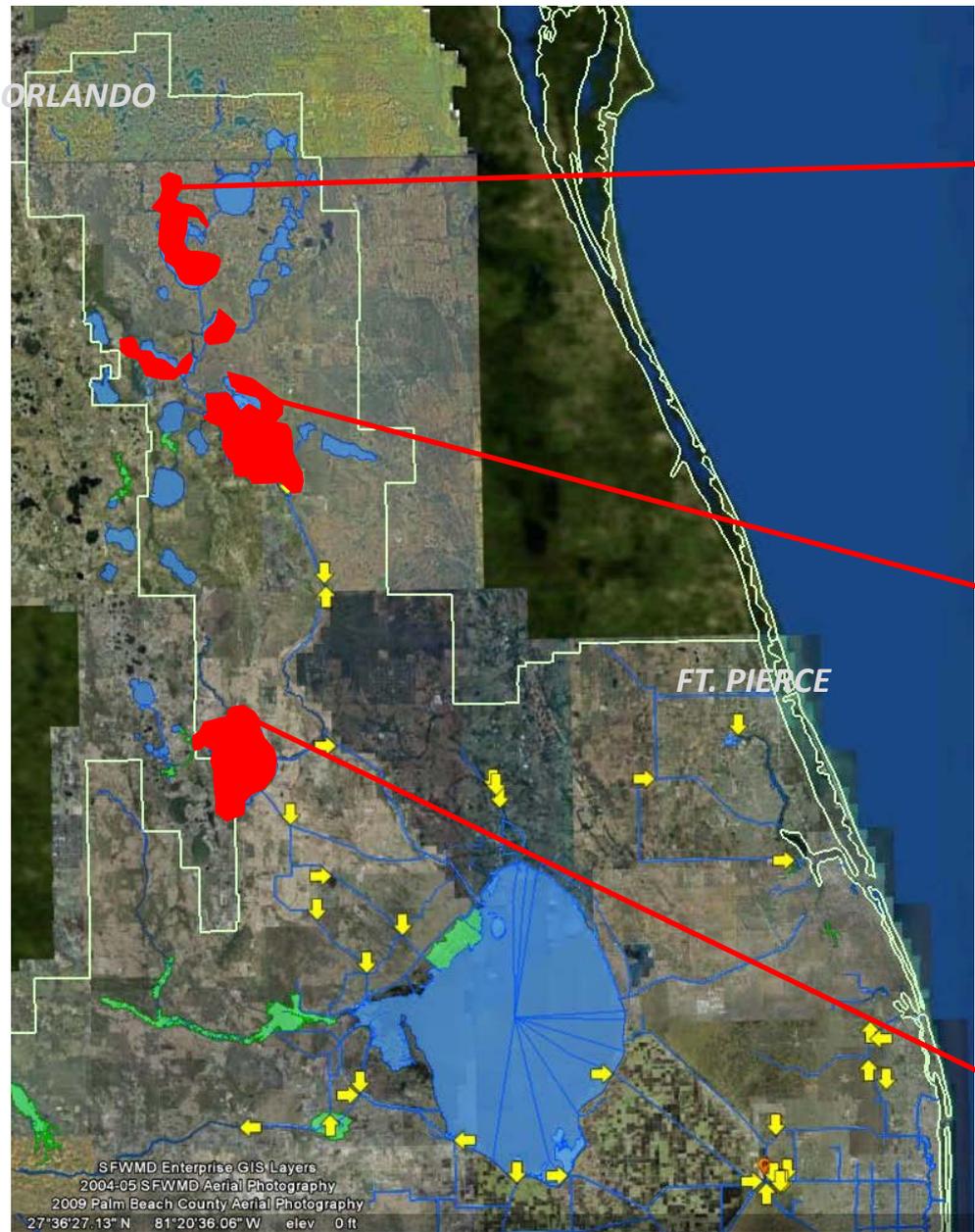
Water levels at selected sites in South Florida,
Based on PROVISIONAL DATA, as of April 9, 2012.

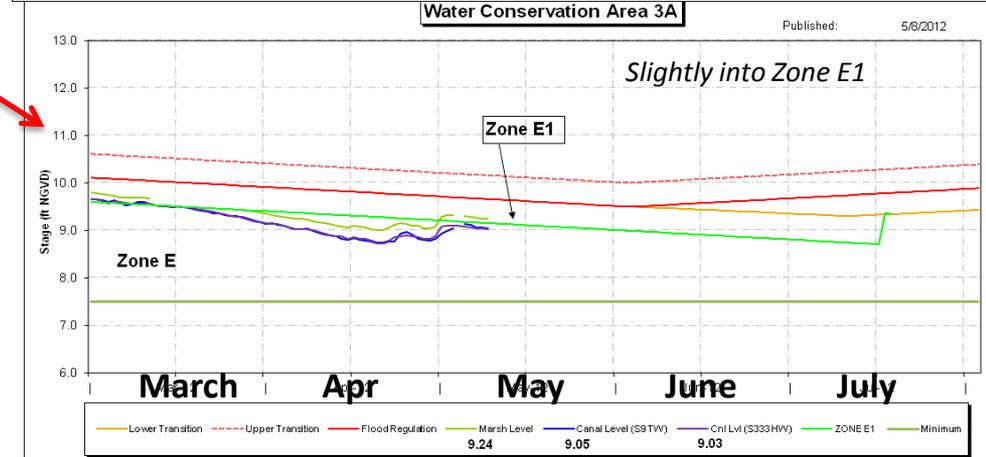
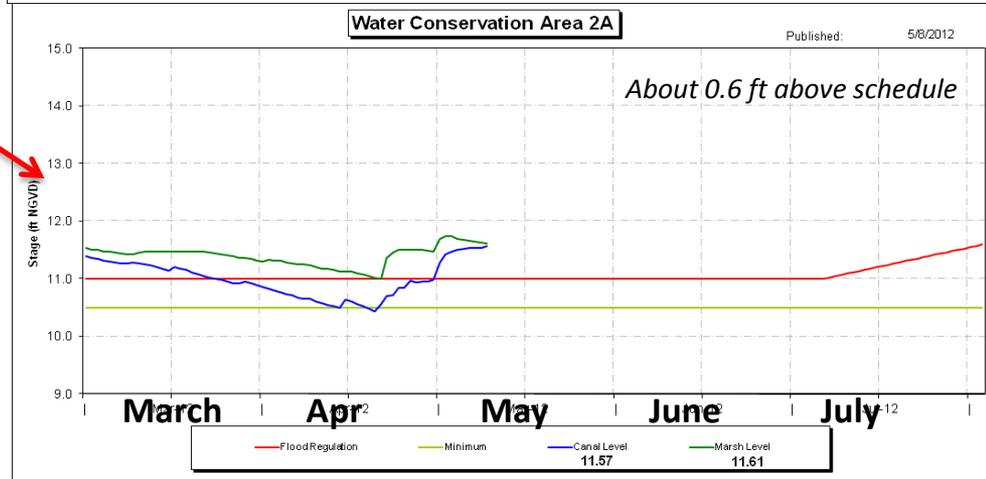
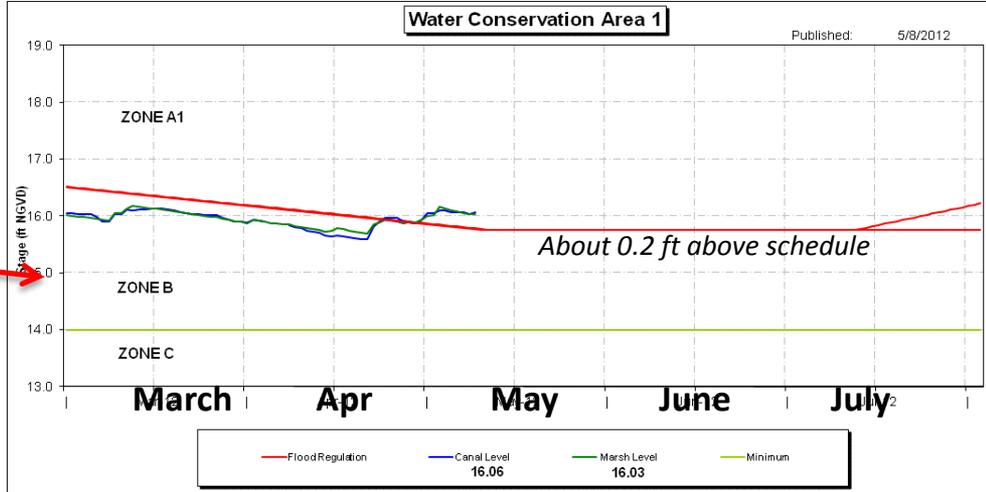
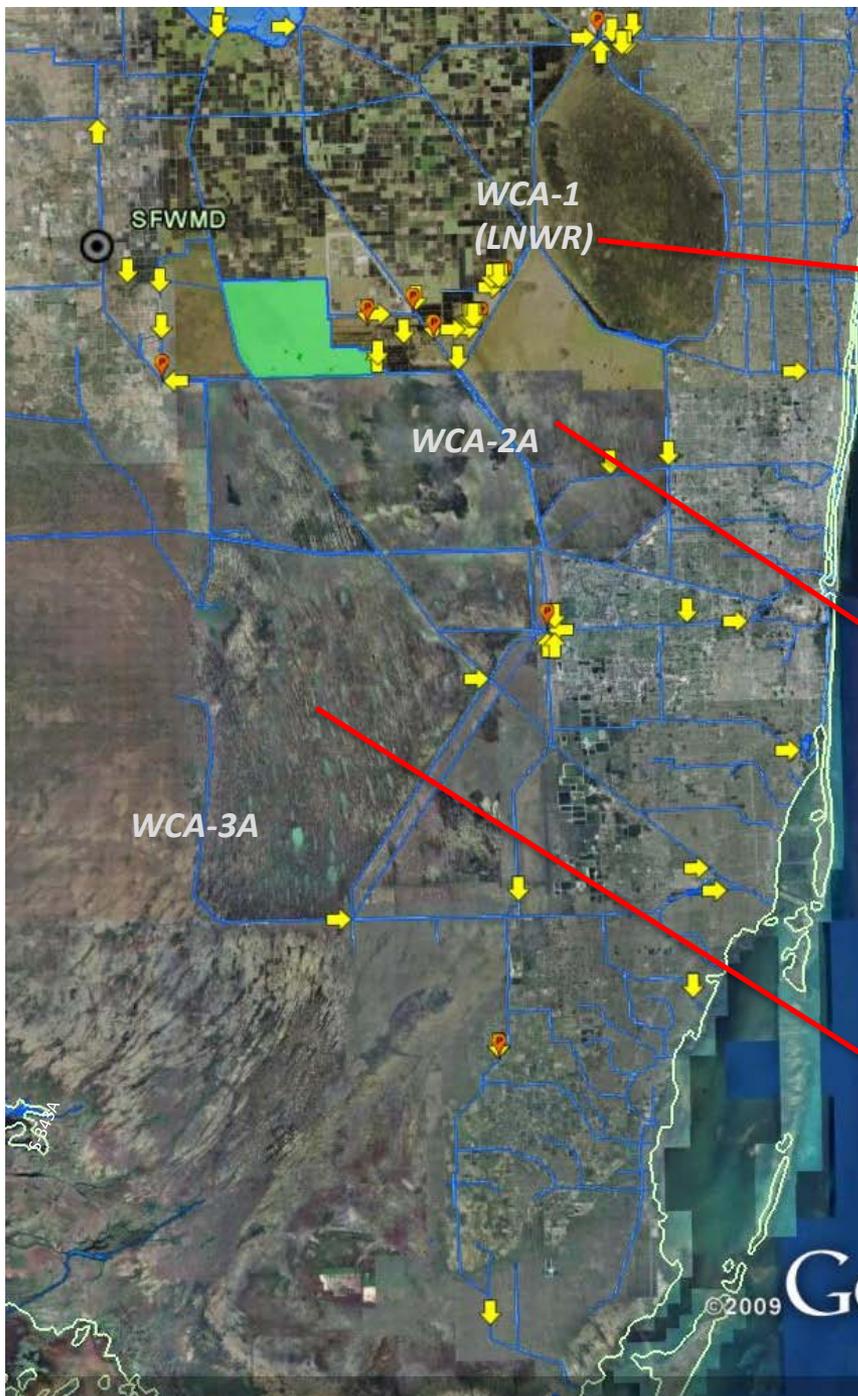


- **Triangles consistent with some rainfall in the Eastern Broward and Miami-Dade County area over the past 30-days**

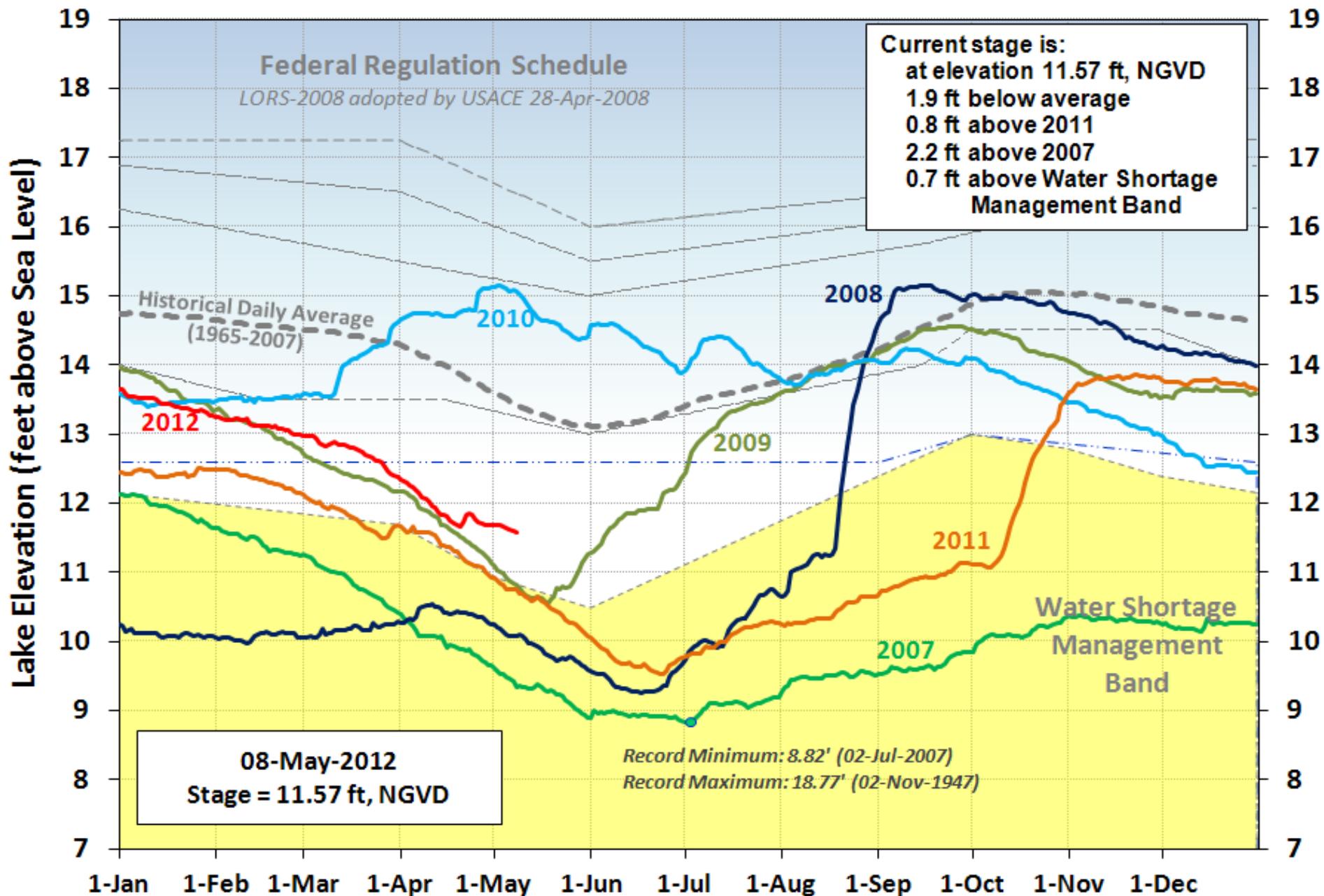
Water level compared to historical data, without trend analysis:

- Insufficient information available to compute water-level statistics
- In lowest 10 percent of past water elevations
- ▼ Within lowest 10 to 30 percent of past water elevations
- Within 20 percent of the median of past water elevations
- ▲ Within highest 10 to 30 percent of past water elevations
- ✚ In highest 10 percent of past water elevations





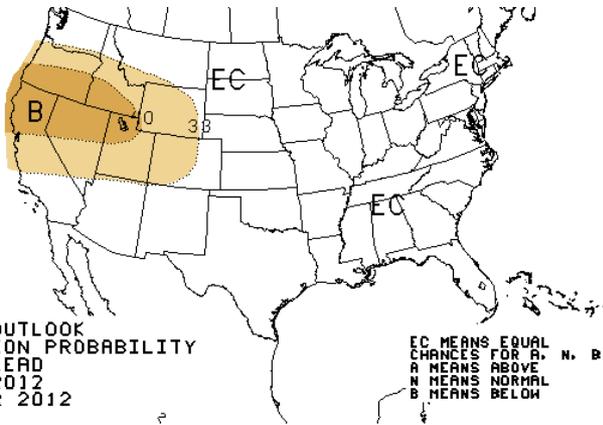
Lake Okeechobee Water Level Comparison



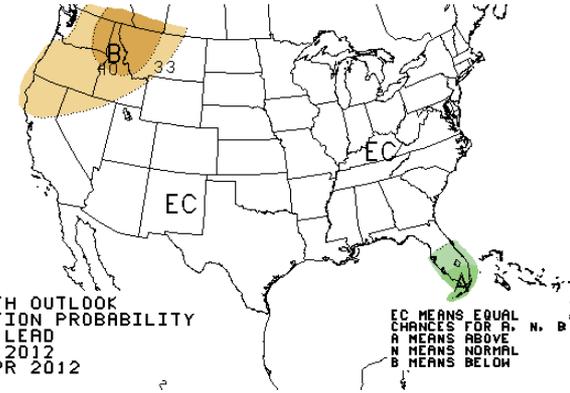
U. S. Seasonal Precipitation Outlook

National Climate Prediction Center (CPC)

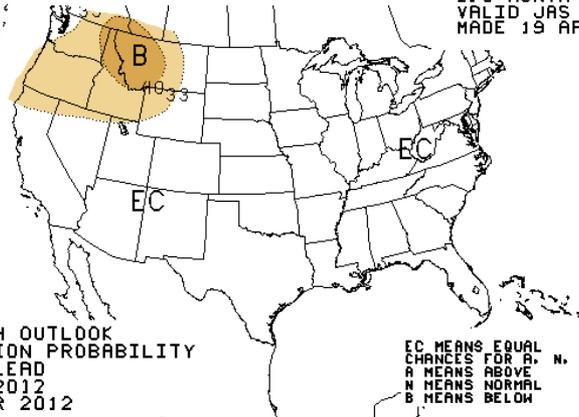
May 2012



Jul-Sep 2012



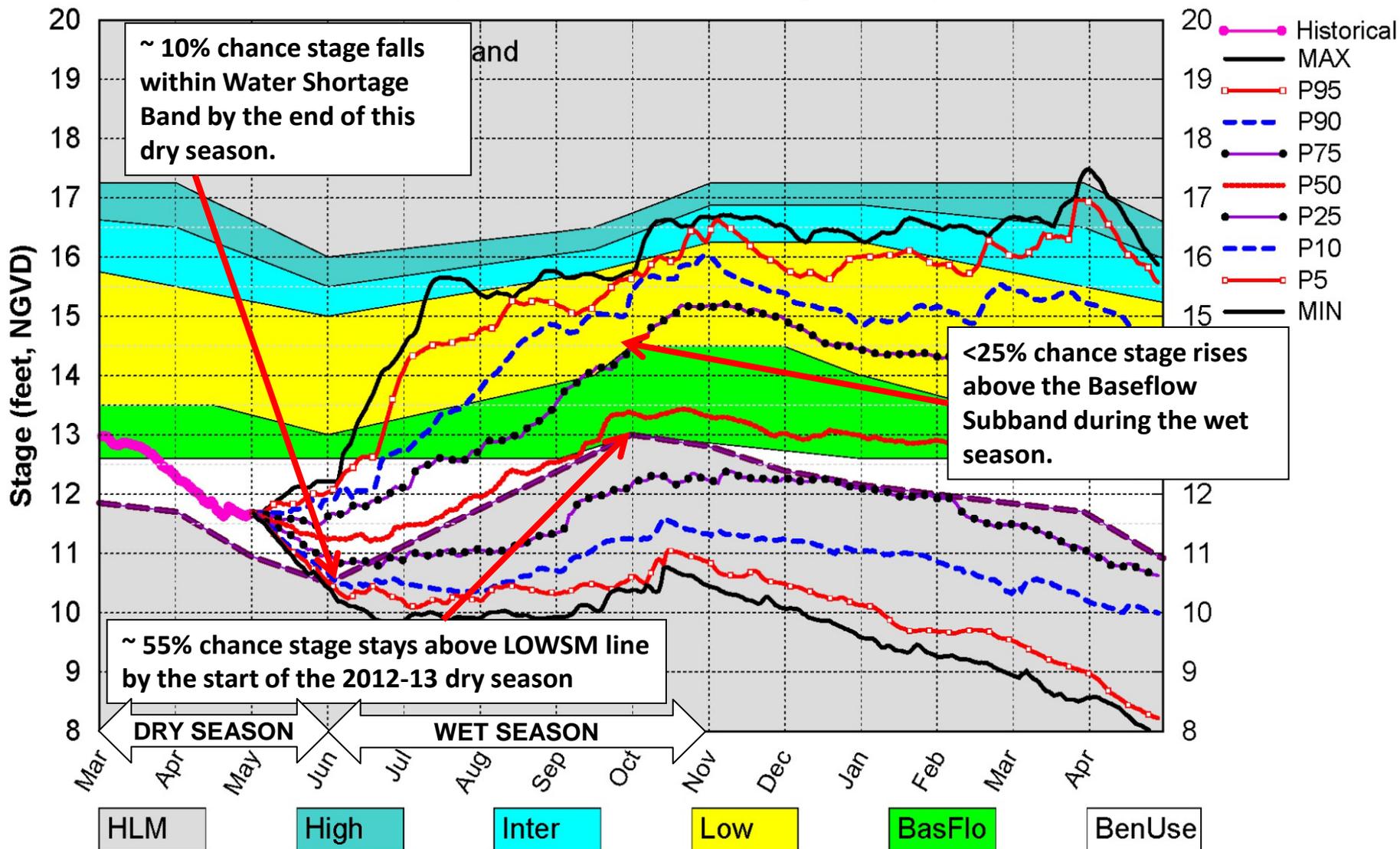
Jun-Jul 2012



The current CPC precipitation outlook for central and southern Florida is for equal chance (EC) for all windows, with the exception of above normal for Jul-Sep and Aug-Oct

Lake Okeechobee SFWMM May 2012 Position Analysis

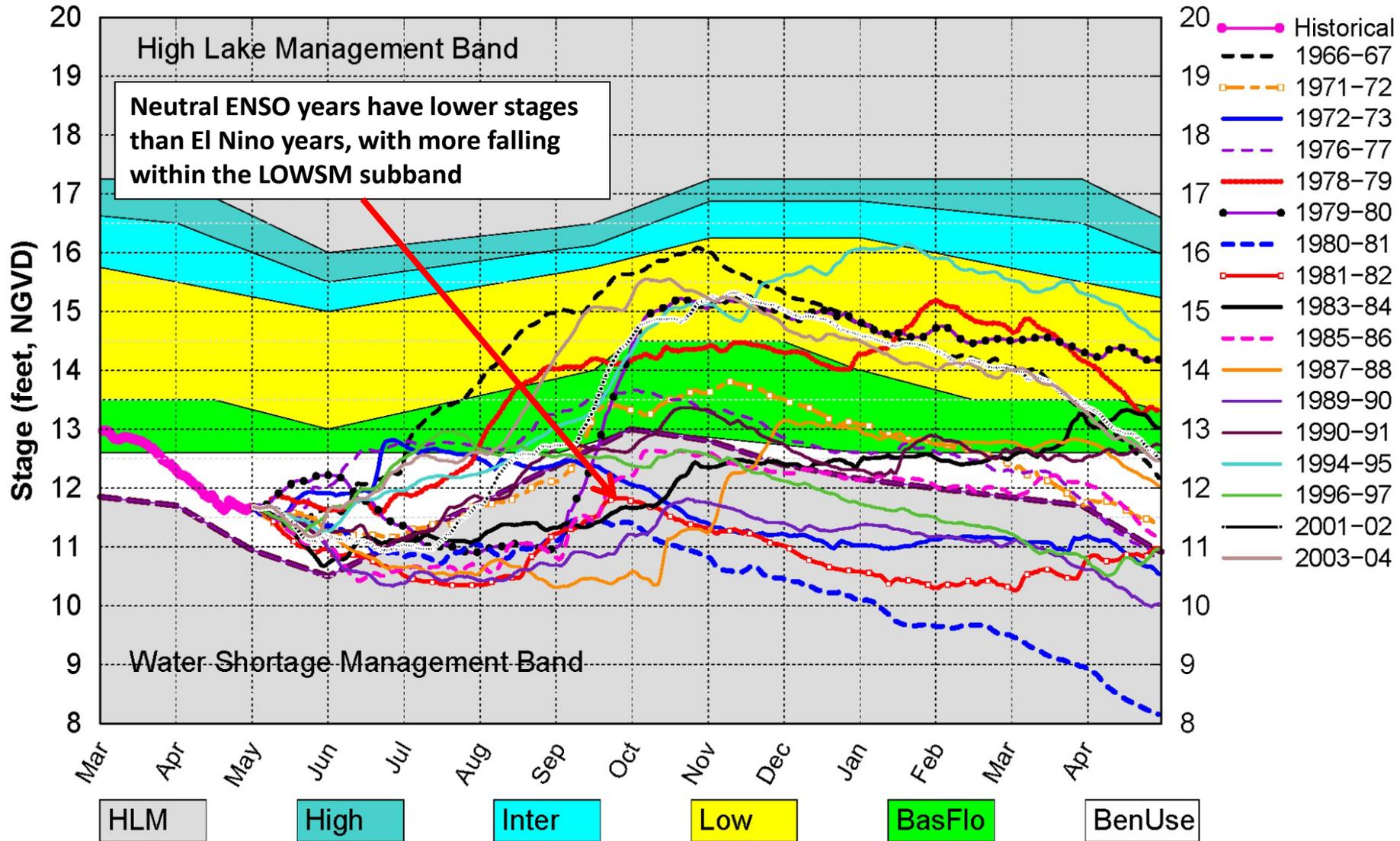
Percentiles based on 41 possible outcomes starting with May 1st initialization



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM May 2012 Position Analysis

17 Neutral ENSO analog years starting with May 1st initialization



5/11/2012

(See assumptions on the Position Analysis Results website)

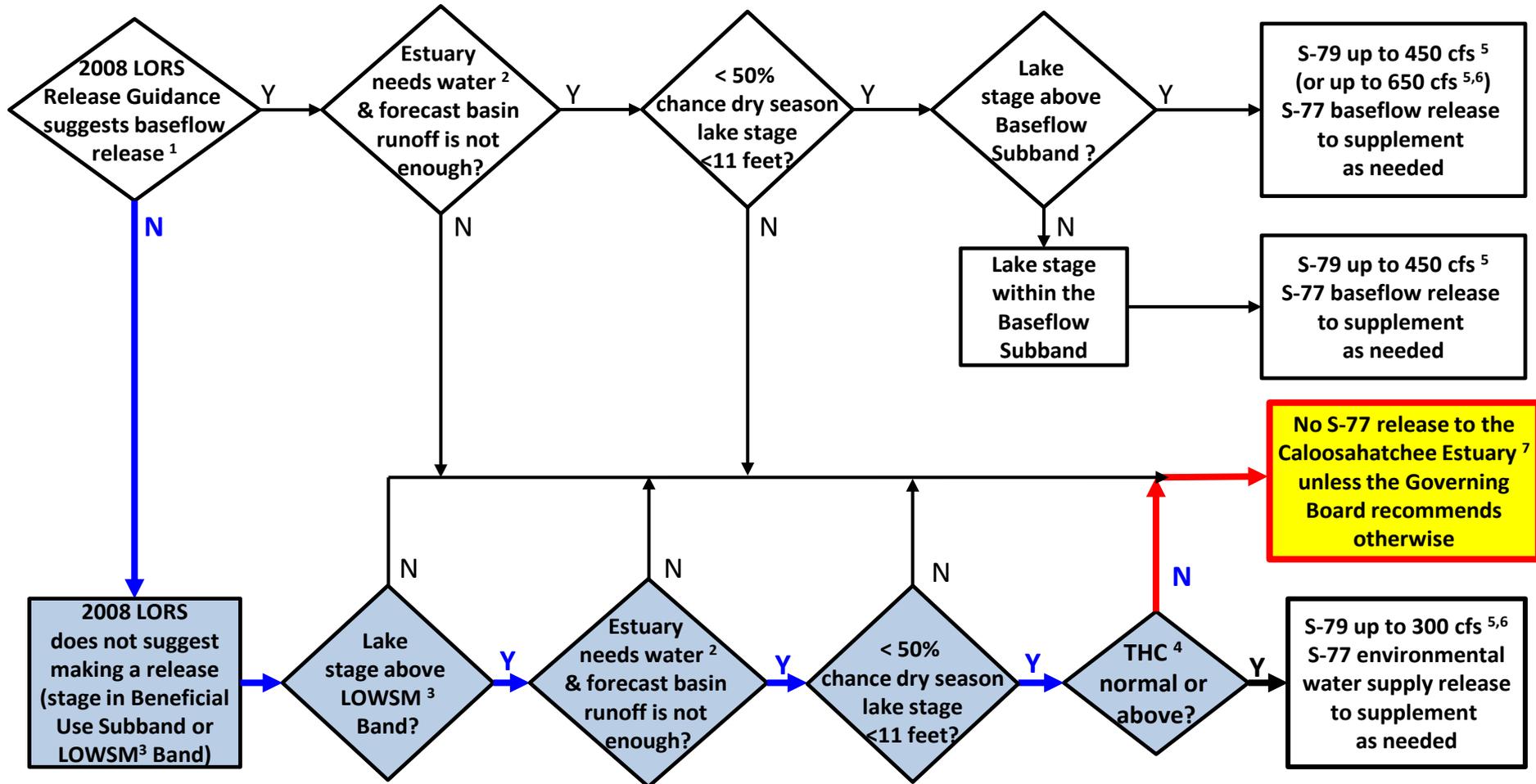
DRAFT

Tue May 8 08:58:52 2012

Lake Okeechobee: Current Operations

- **USACE's Lake O Regulation Schedule (2008 LORS)**
 - Stage is receding and within the Beneficial Use Subband
 - No Lake O releases at this time according to 2008 LORS
- **SFWMD's Lake O Adaptive Protocol (2010)**
 - Release guidance currently suggests no releases to the Caloosahatchee Estuary
 - Lake Stage is in the Beneficial Use Subband
 - Val I75 Salinity forecast > 5 psu for next two weeks
 - Tributary Hydrologic Condition is in the “Dry” class
 - Chance of Lake stage falling below 11.0 ft is < 50%

Flowchart to Guide Recommendations for Lake Okeechobee Releases to the Caloosahatchee Estuary for 2008 LORS Baseflow & for Environmental Water Supply



¹The 2008 LORS Release Guidance (Part D) can suggest baseflow releases in the Intermediate, Low, or Baseflow Subbands.

²Estuary “needs” water when the 30-day moving average salinity at I-75 bridge is projected to exceed 5 practical salinity units (psu) within 2 weeks.

³LOWSM = Lake Okeechobee Water Shortage Management.

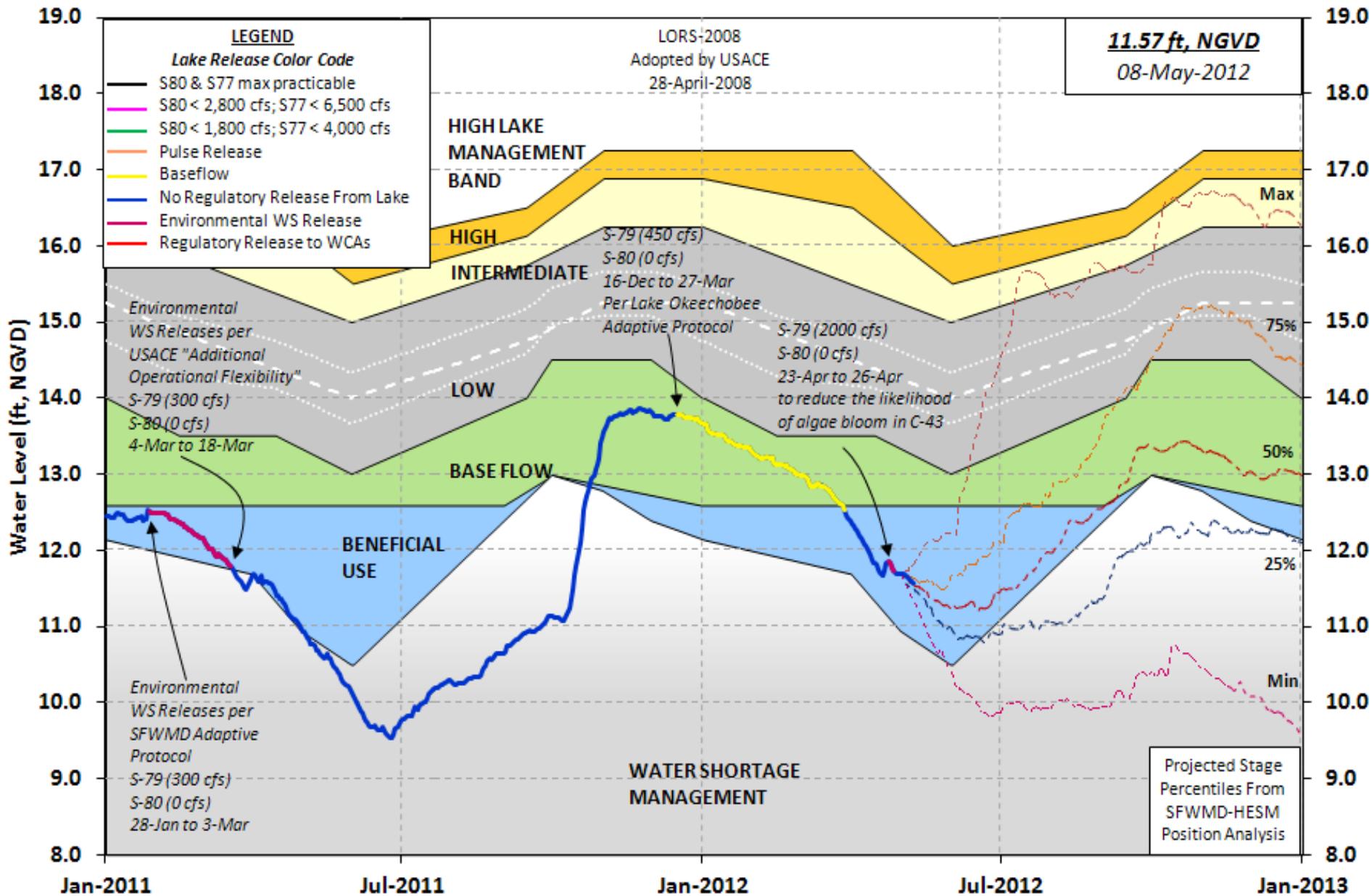
⁴Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

⁵Can release less than the “up to” limit if lower release is sufficient to reach or sustain desired estuary salinity; cfs = cubic feet per second.

⁶After reviewing conditions in Water Conservation Areas (WCAs), Stormwater Treatment Areas (STAs), ENP, St. Lucie Estuary and Lake Okeechobee.

⁷Should this condition be reached, the Governing Board will be briefed at their next regularly scheduled meeting as part of the State of the Water Resources agenda item.

Lake Okeechobee Water Level History and Projected Stages



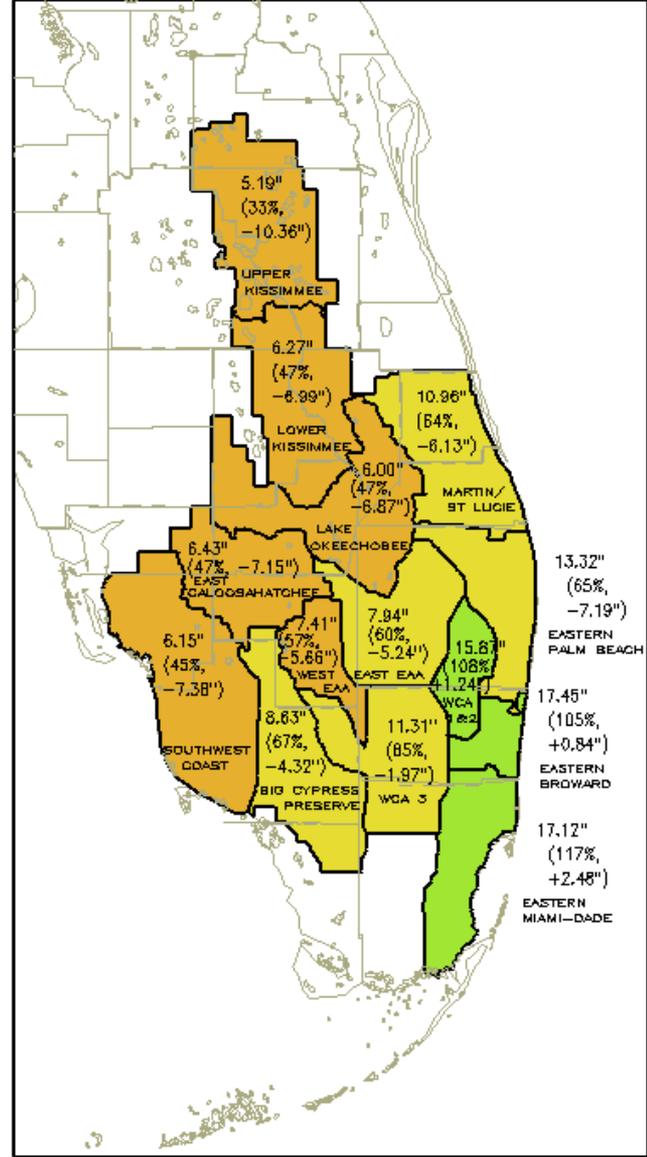
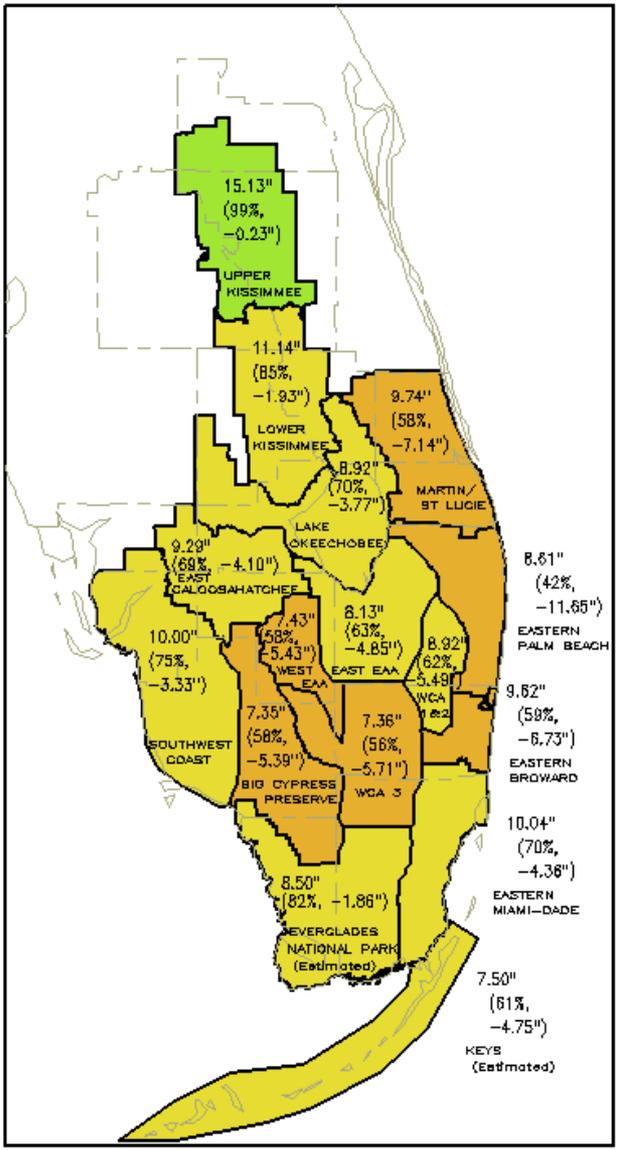


S-197 Structure Replacement

BACK UP SLIDES

Nov 2010 – April 2011
Dry Season

Nov 2011 – April 2012
Dry Season



DISTRICT-WIDE: 9.68" (69%, -4.43")

DISTRICT-WIDE: 8.81" (62%, -5.51")



Meteorological Summary

April 2012

Figure 1

DISTRICT DAILY RAINFALL
April 2012

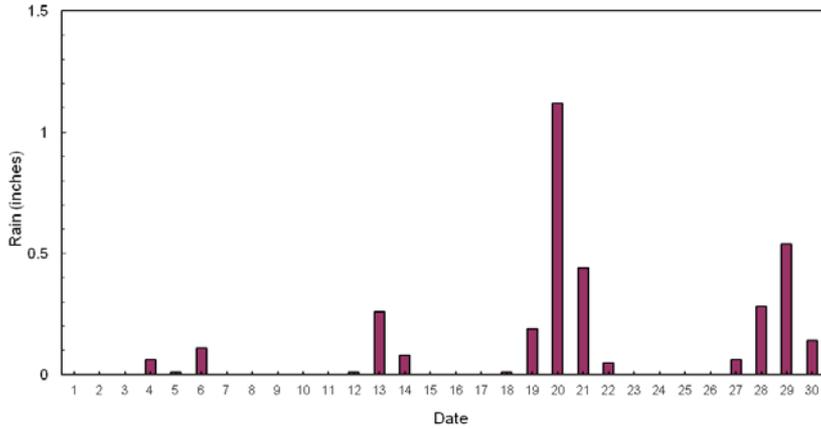


Figure 2

BASIN MONTHLY RAINFALL
April 2012

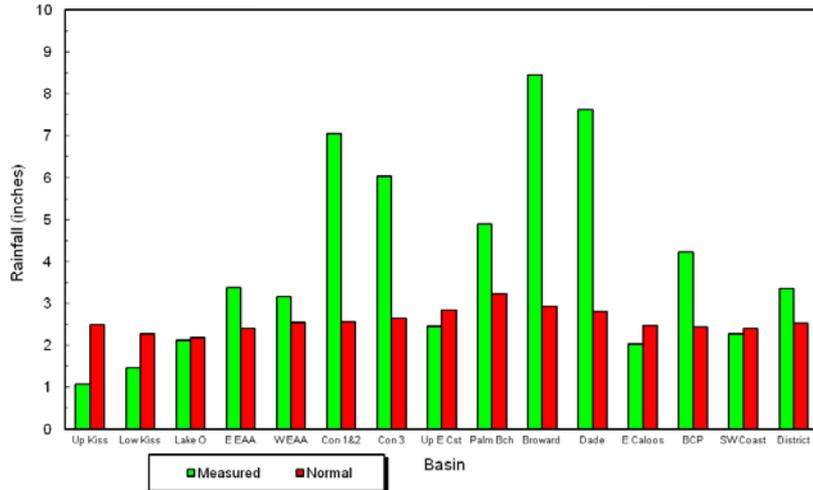
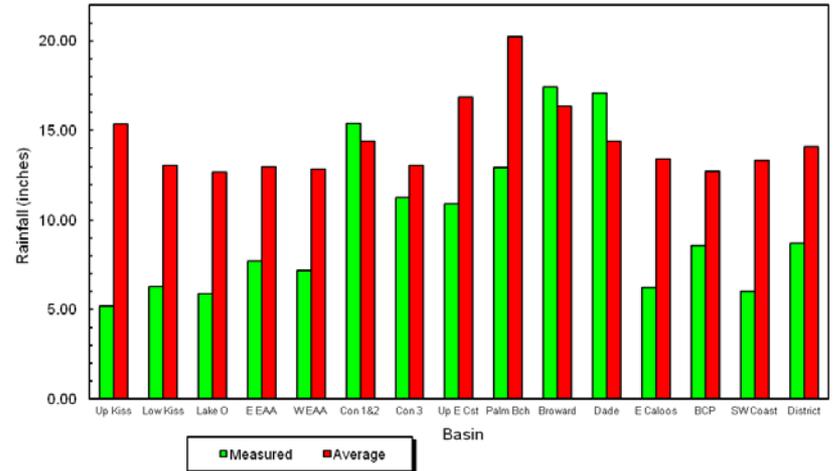


Figure 3

DRY SEASON RAINFALL
November 2011 - April 2012





SFWMD RAINDAR 7-DAY RAINFALL ESTIMATES

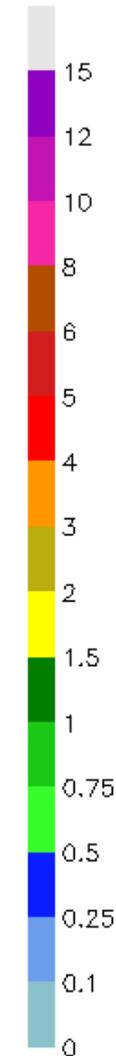
FROM: 0815 EST, 05/01/2012 THROUGH: 0815 EST, 05/08/2012

SFWMD 2012

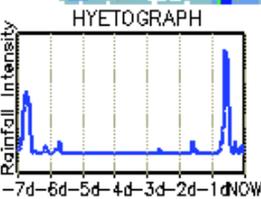
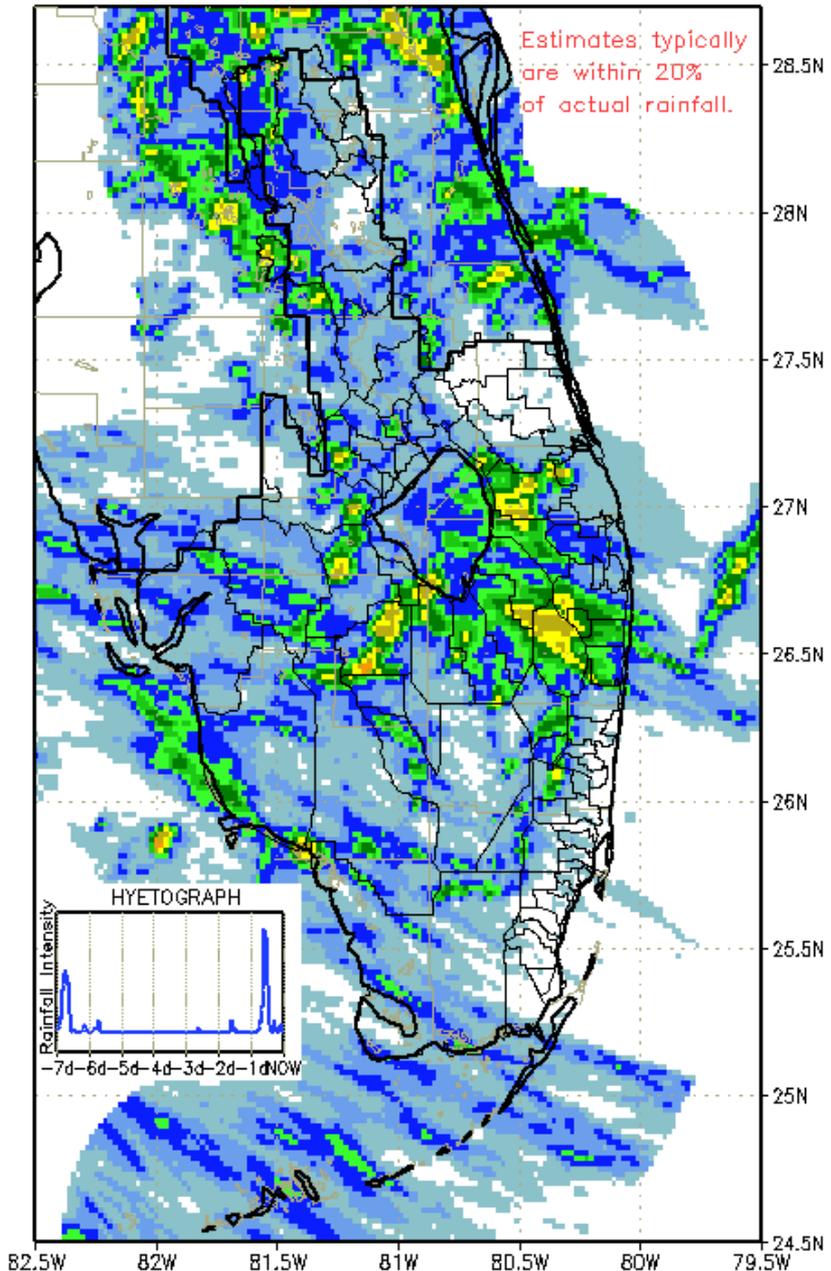
May Rainfall

01-May-2012 – 08-May-2012

DISTRICT-WIDE: 0.32"



Estimates typically are within 20% of actual rainfall.



DISTRICT-WIDE RAINFALL ESTIMATE: 0.316"

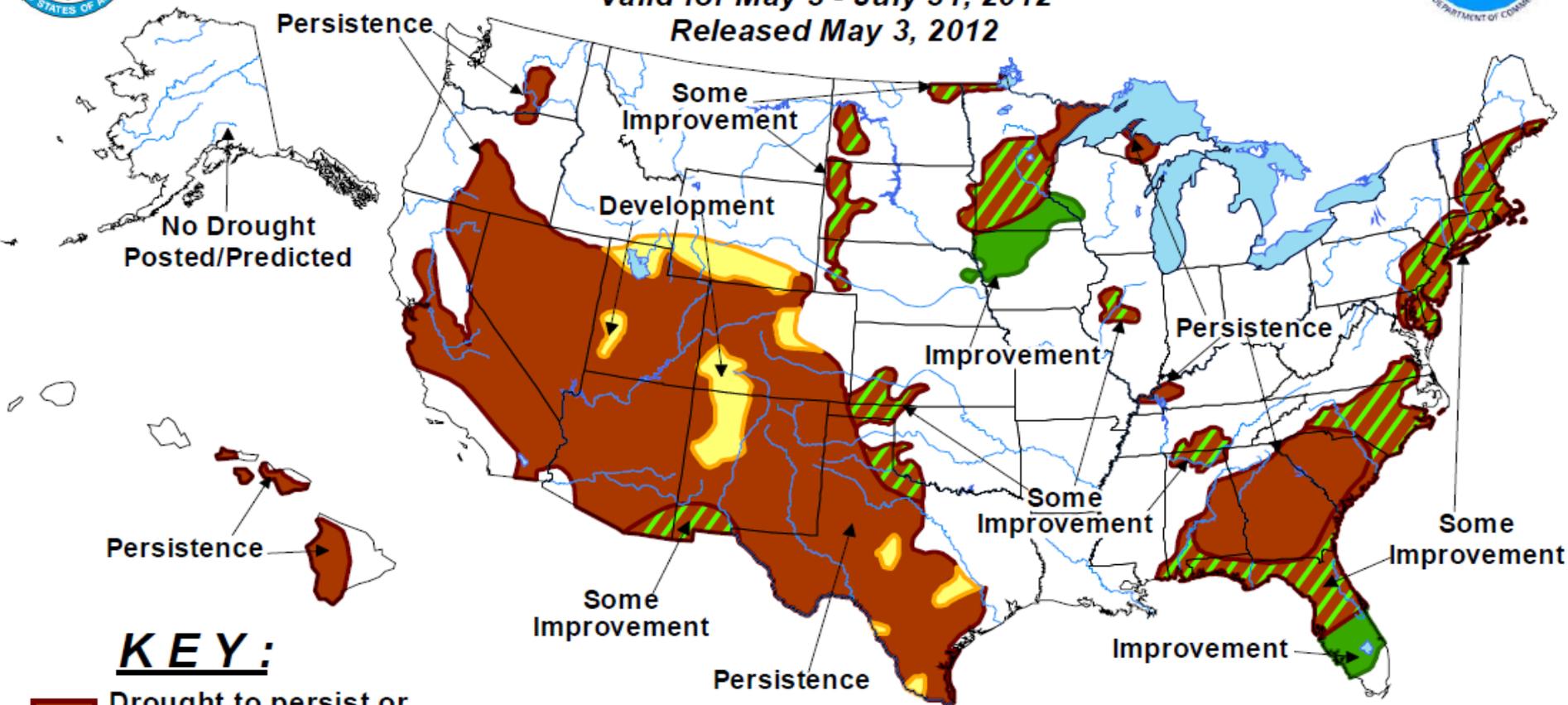


U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for May 3 - July 31, 2012

Released May 3, 2012



KEY:

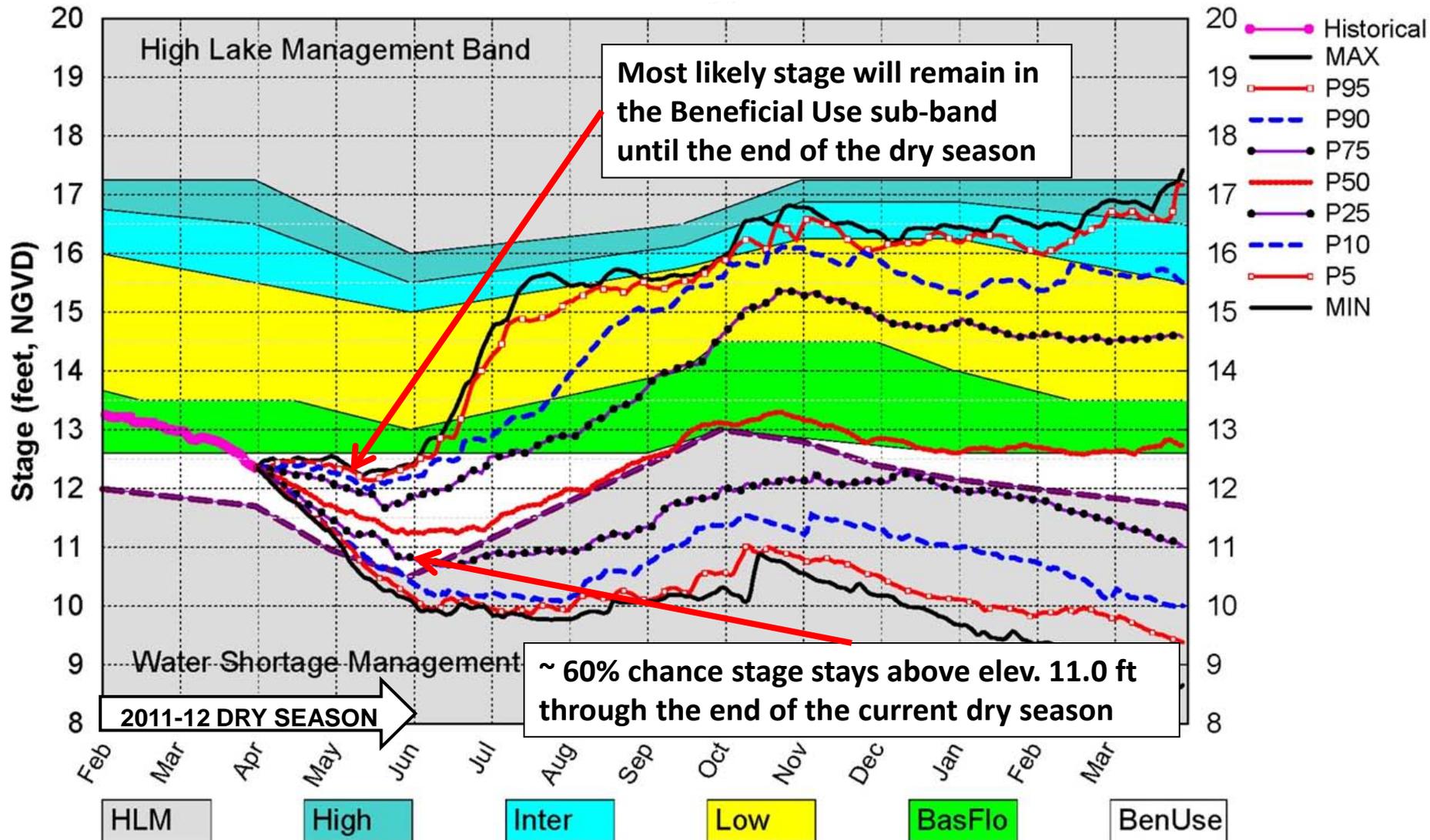
-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

No Drought Posted/Predicted 

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

Lake Okeechobee SFWMM April 2012 Position Analysis

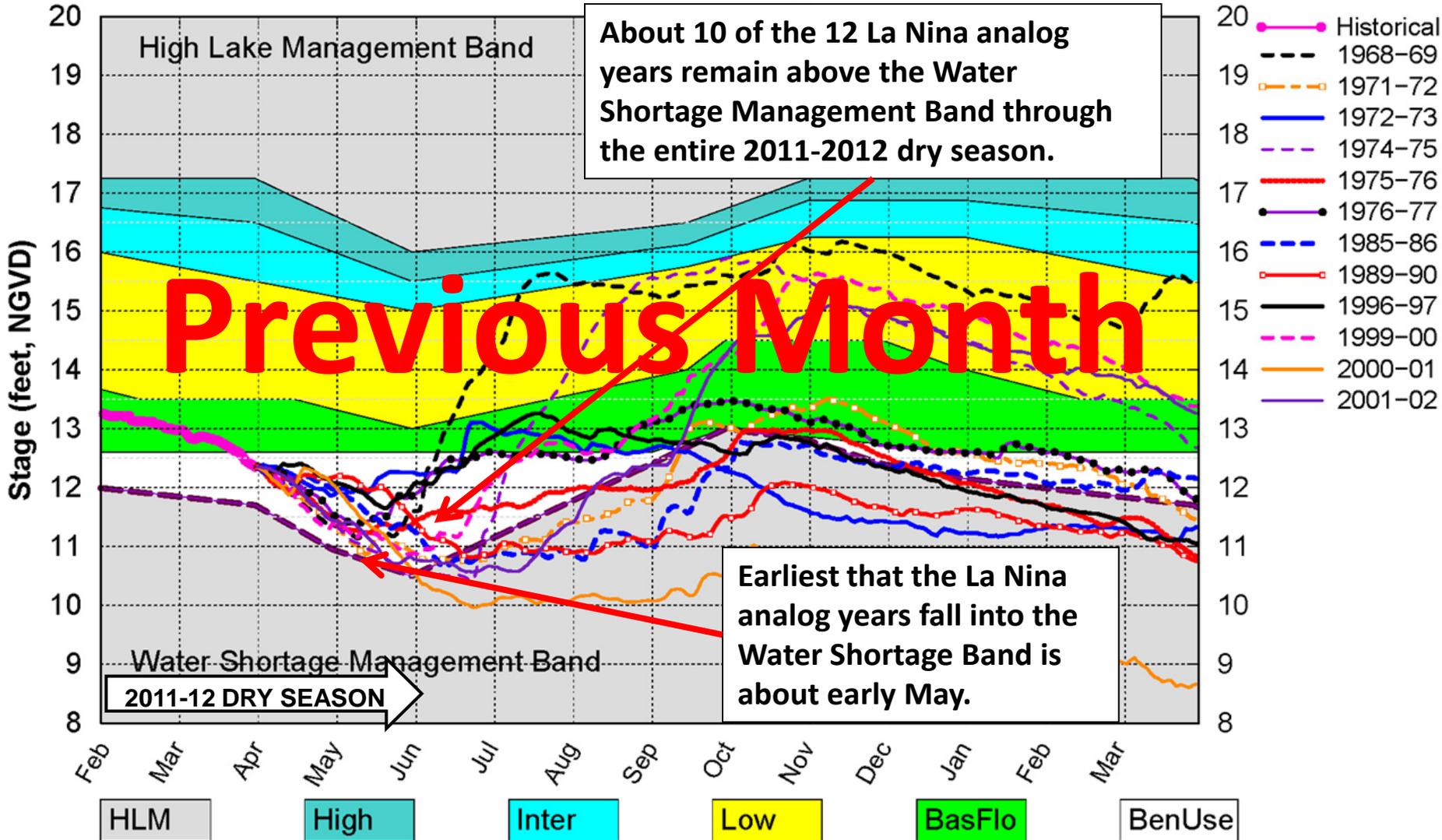
Percentiles based on 41 possible outcomes starting with February 1st initialization



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM April 2012 Position Analysis

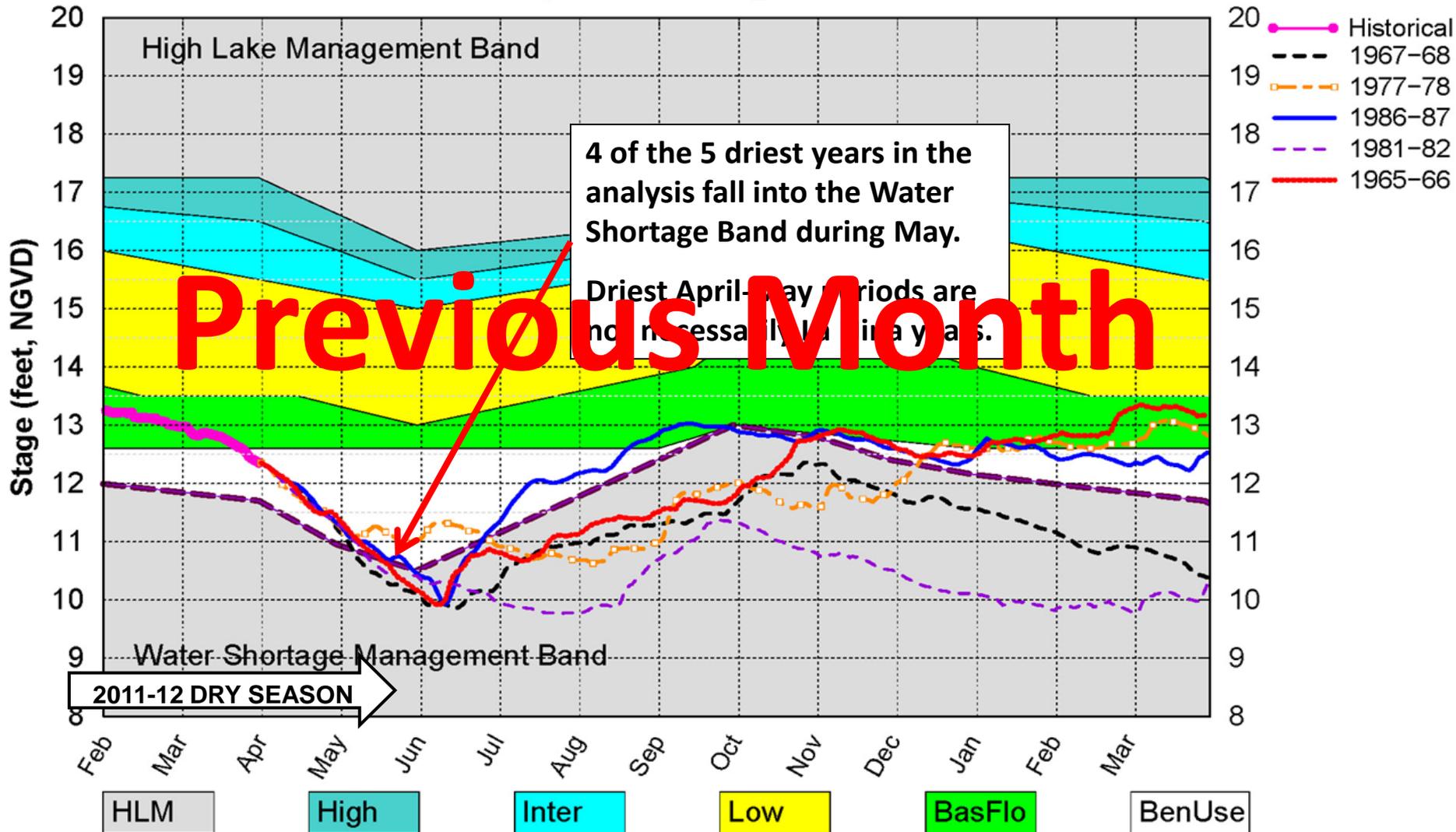
Hydrographs for 12 La Nina Analog Years



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM April 2012 Position Analysis

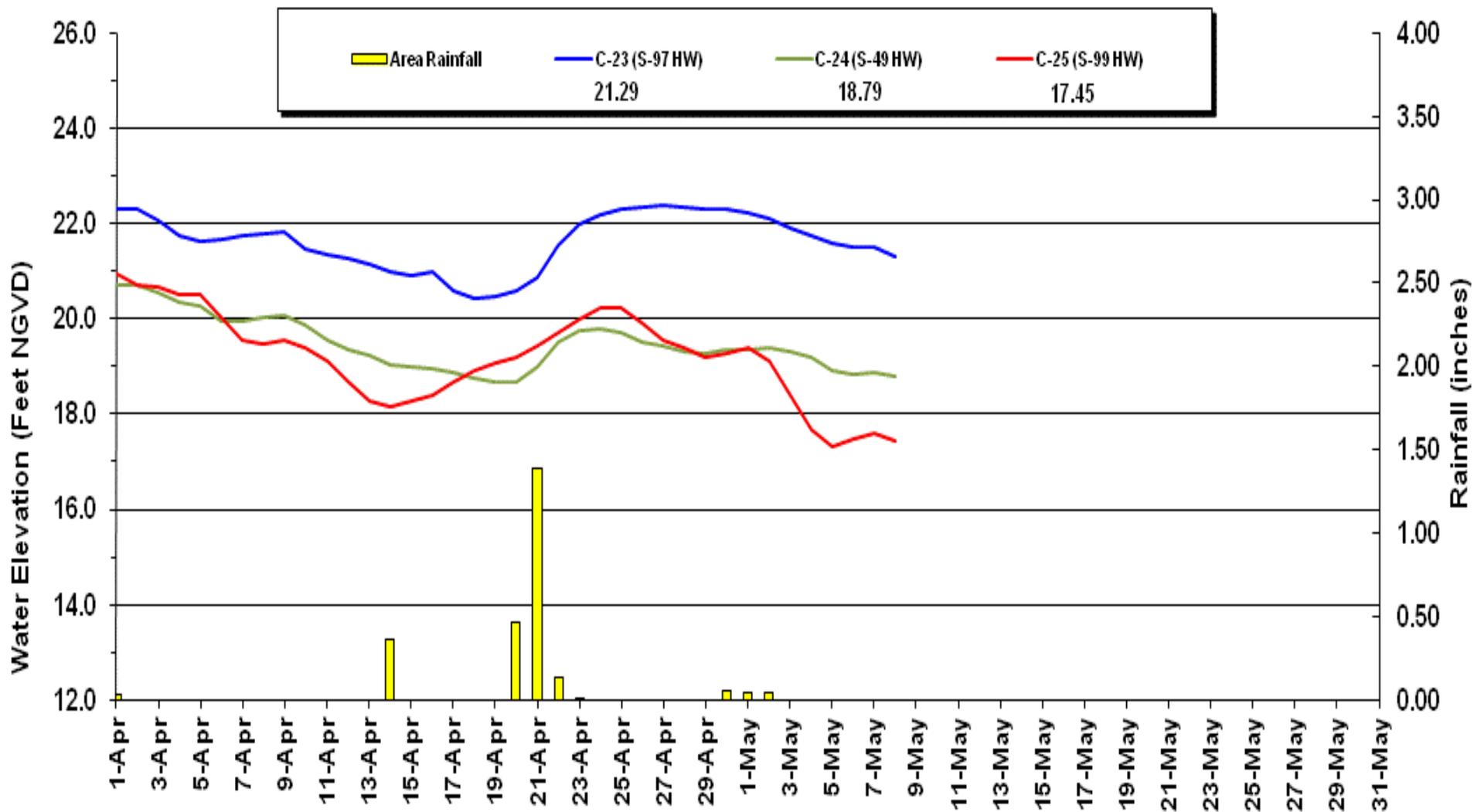
Dry Years Plot PA_V5



(See assumptions on the Position Analysis Results website)

Published: 05/08/12

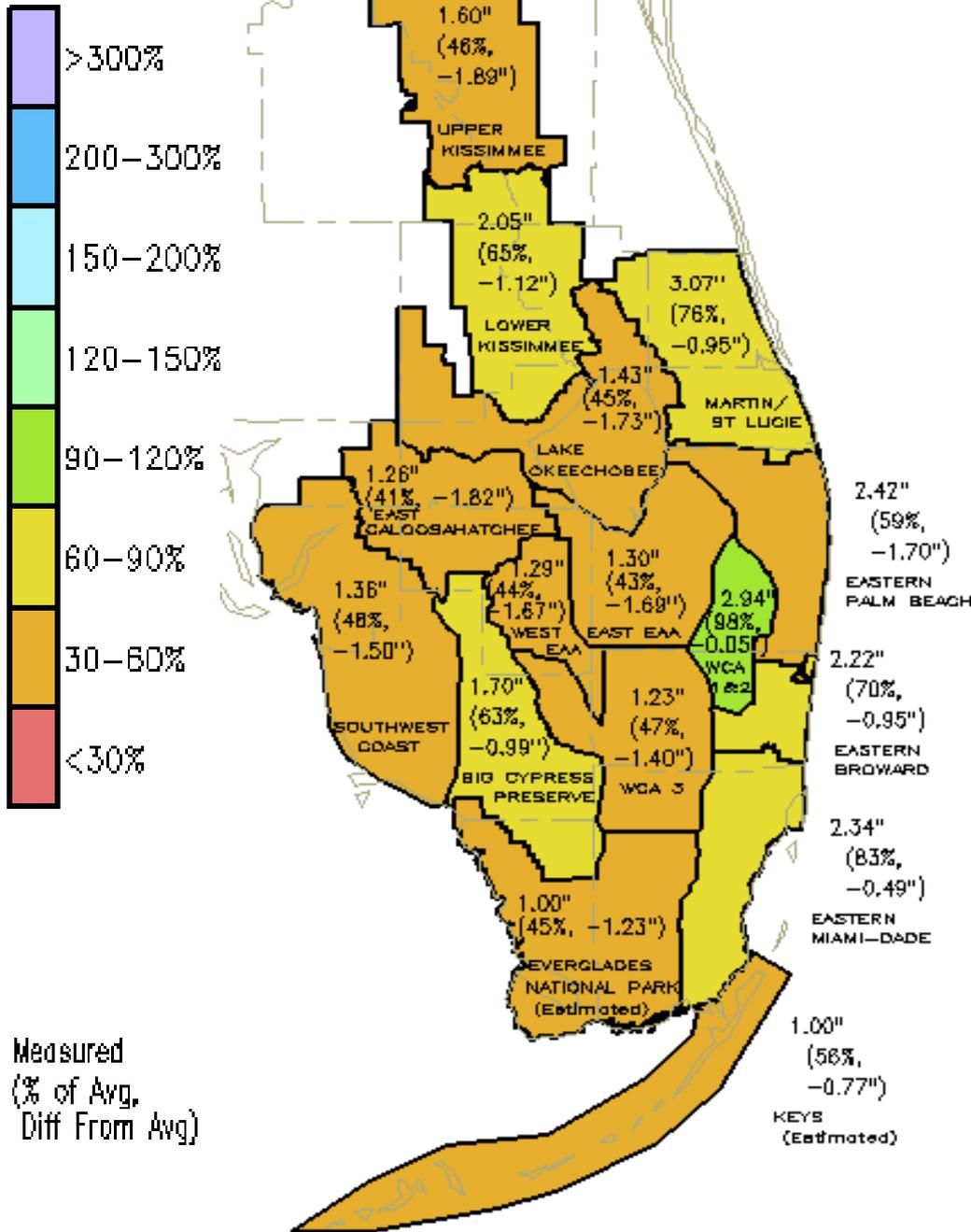
St Lucie Structures on C23, C24 & C25 Canals



SFWMD 2012 March Rainfall

02-Mar-2012 – 01-Apr-2012

**DISTRICT-WIDE: 1.77"
(56% of Avg, or -1.37")**



- All basins, with exception of WCA-1 and WCA-2, are below average

Measured
(% of Avg,
Diff From Avg)