



HYDROLOGIC REPORT
BIG CYPRESS BASIN —
SOUTH FLORIDA WATER
MANAGEMENT DISTRICT

OCTOBER 2018

SUMMARY OF HYDROLOGIC CONDITIONS IN THE BIG CYPRESS BASIN

October 2018

SUMMARY

Below average rainfall continued through October as it has since June. October signaled the start of the dry season as average rainfall dropped significantly from September. Canal operations have transitioned from wet season to dry season protocol and water levels are near or above historic averages. The addition of the new Curry Canal structure now gives the ability to hold higher water levels in the upper portions of the Cocohatchee and Corkscrew watersheds as the basin transitions to dry season.

BCB RAINFALL

October signaled the official end of the 2018 wet season as precipitation dropped significantly. As measured by twenty-two (22) reporting stations (ref. **Figures 1, 2, Table 1**), the basin-wide monthly average was **2.05 inches**, which is only 59% of the normal 3.47 inches typically collected.

By the end of October, the average accumulated precipitation for 2018 measured 46.03 inches, which is 5.97 inches less than the 52.00 inches normally expected by this time of year. (ref: **Table 1**).

Based on collected gage data, rainfall distribution across all BCB localities was fairly consistent in October. A majority of rain site recorded less than 2 inches of rain during October. The basin average was brought up by a small cluster of sites that recorded between 3.23 and 5.0 inches from a single concentrated thunderstorm. The month's highest total collected at Coco#3 (Site R-18), which received **5.00 inches**, and the lowest at IFAS (Site R-14) with **0.78 inches**. These rainfall totals and their locality distribution across the BCB/ Lower West Coast are shown on **Figure 3**.

BCB CANAL SYSTEMS

A majority of the canals were already in dry season operations prior to October due to the below average rainfall for the year. Changes in weather conditions became increasingly apparent with the start of October, and by mid-month all of the basin systems were operating in dry season mode.

- **GOLDEN GATE SYSTEM**

The Golden Gate Main canal levels are trending at or above historical averages for the month (ref **Figure 5**). As October ended, operations are being set to fill the canals to the upper stages of dry season operations.

- **COCOHATCHEE SYSTEM**

The addition of the new Curry Canal structure is holding water levels higher than historic levels (ref **Figure 6**). Both Coco#1 and Coco#3 water levels are above the 90th percentile. Water levels in adjacent CR951 canal are also well above average, now that the new Curry structure is holding more water in the Cocohatchee.

- **FAKA UNION SYSTEM**

This system was transitioned to dry season in September and most levels are holding near or just below the 50th percentile (ref **Figure 7**) with a downward trend beginning . The downward trend is expected to continue given the lack of rainfall in the eastern basins through October.

- **HENDERSON CREEK SYSTEM**

Henderson Creek operations have been stabilized for dry season operations. The water levels in the upper watershed are trending just below the 50th percentile for October (ref **Figure 8**). On the other hand the lower watershed is starting its downward trend closer to the 90th percentile (ref **Figure 8**). Water levels are expected to continue to decrease as dry season continues.

BIG CYPRESS BASIN & LOWER WEST COAST GROUNDWATER LEVELS

The current reporting (11/08/2018) for the Lower West Coast [LWC] notes that groundwater levels have been decreasing since September. By the first week of November, most of the wells in the BCB area maintain levels normal level-of-concern (green color). Only one well, C-1004R, shows a decrease enough to warrant a yellow concern indicator (ref. **Table 2**).

All reported wells in Table 2 show an average decrease of 2.80 feet. C-462 recorded the highest decrease of 3.95 feet, and C-1224 recorded the lowest decrease of 1.01 feet (ref. **Table 2, Figure 9**).

BIG CYPRESS BASIN

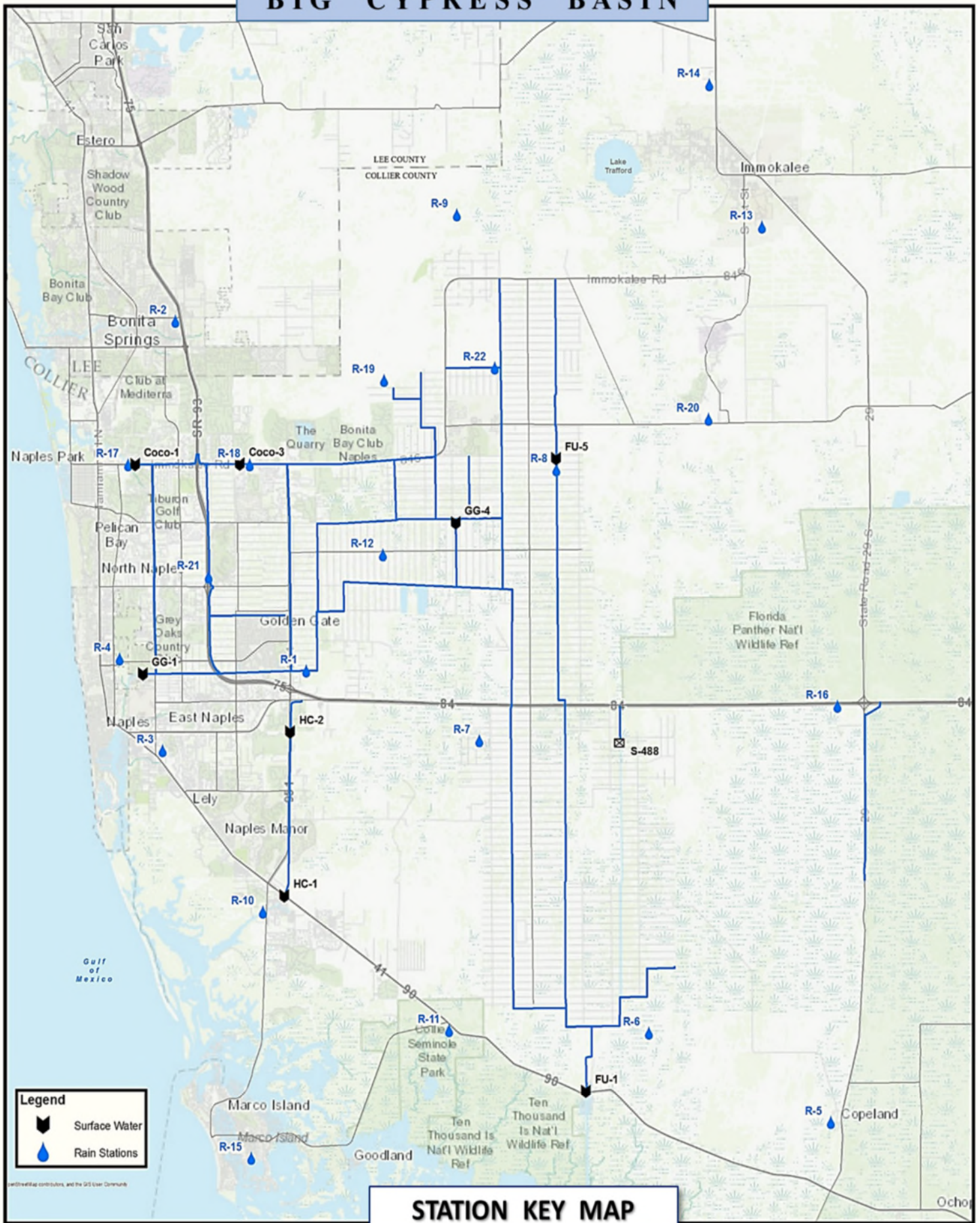


FIGURE 1

**TABLE 1
RAINFALL REPORT - OCTOBER 2018
DISTRICT/BASIN RAINFALL STATIONS**

(ALL NUMBERS ARE IN INCHES)

STATION INDEX NO.	STATION NAME	OCTOBER 2018	LONG TERM AVERAGE FOR THIS MONTH	MONTHLY DIFFERENCE	CALENDAR YEAR 2018 CUMULATIVE TOTAL	AVERAGE CALENDAR YEAR TO DATE	YEAR TO DATE DIFFERENCE
R-1	GOLDEN GATE #3	2.52		New Site	56.23	No Historical Data	
R-2	BONITA SPRINGS WATER PLANT	2.29	3.55	-1.26	40.15	49.08	-8.93
R-3	COLLIER COUNTY COURTHOUSE	1.71	3.52	-1.81	51.76	49.22	2.54
R-4	FREEDOM PARK	3.23		New Site	54.60	No Historical Data	
R-5	FAKAHATCHEE STRAND HQ	2.15	3.27	-1.12	35.60	57.45	-21.85
R-6	DAN HOUSE PRAIRIE	1.40	3.24	-1.84	49.81	48.85	0.96
R-7	SGGE WEATHER STATION	1.20	3.20	-2.00	46.78	58.97	-12.19
R-8	FAKA UNION #5	0.98		New Site	46.85	No Historical Data	
R-9	CORKSCREW SWAMP NORTH END	1.73	3.07	-1.34	47.80	48.53	-0.73
R-10	ROOKERY BAY HQ	1.95	3.64	-1.69	52.00	52.84	-0.84
R-11	COLLIER SEMINOLE STATE PARK	1.21	3.65	-2.44	41.54	53.65	-12.11
R-12	G.G. FIRE STATION	1.92	3.57	-1.65	47.23	56.24	-9.01
R-13	IMMOKALEE LANDFILL	1.01	3.52	-2.51	37.04	49.44	-12.40
R-14	IFAS	0.78	3.03	-2.25	43.92	46.99	-3.07
R-15	MARCO R.O. PLANT	1.74	3.83	-2.09	33.04	50.26	-17.22
R-16	FAKAHATCHEE STRAND NORTH END	0.90	3.63	-2.73	42.07	57.29	-15.22
R-17	COCO#1	4.62	3.82	0.80	45.36	46.47	-1.11
R-18	COCO#3	5.00	3.68	1.32	44.79	55.27	-10.48
R-19	BIRD ROOKERY	2.42		New Site	58.01	No Historical Data	
R-20	AVE MARIA	0.87	3.35	-2.48	41.06	51.43	-10.37
R-21	I75W2	3.38		New Site	50.95	No Historical Data	
R-22	GG#7			New Site		No Historical Data	

AVERAGES	2.05	3.47	-1.43	46.03	52.00	-5.97
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TABLE 1

BCB ANNUAL RAINFALL
MONTHLY AVERAGE & HISTORICAL AVERAGE TRENDS
(FROM BCB RAINFALL GAGE DATA)

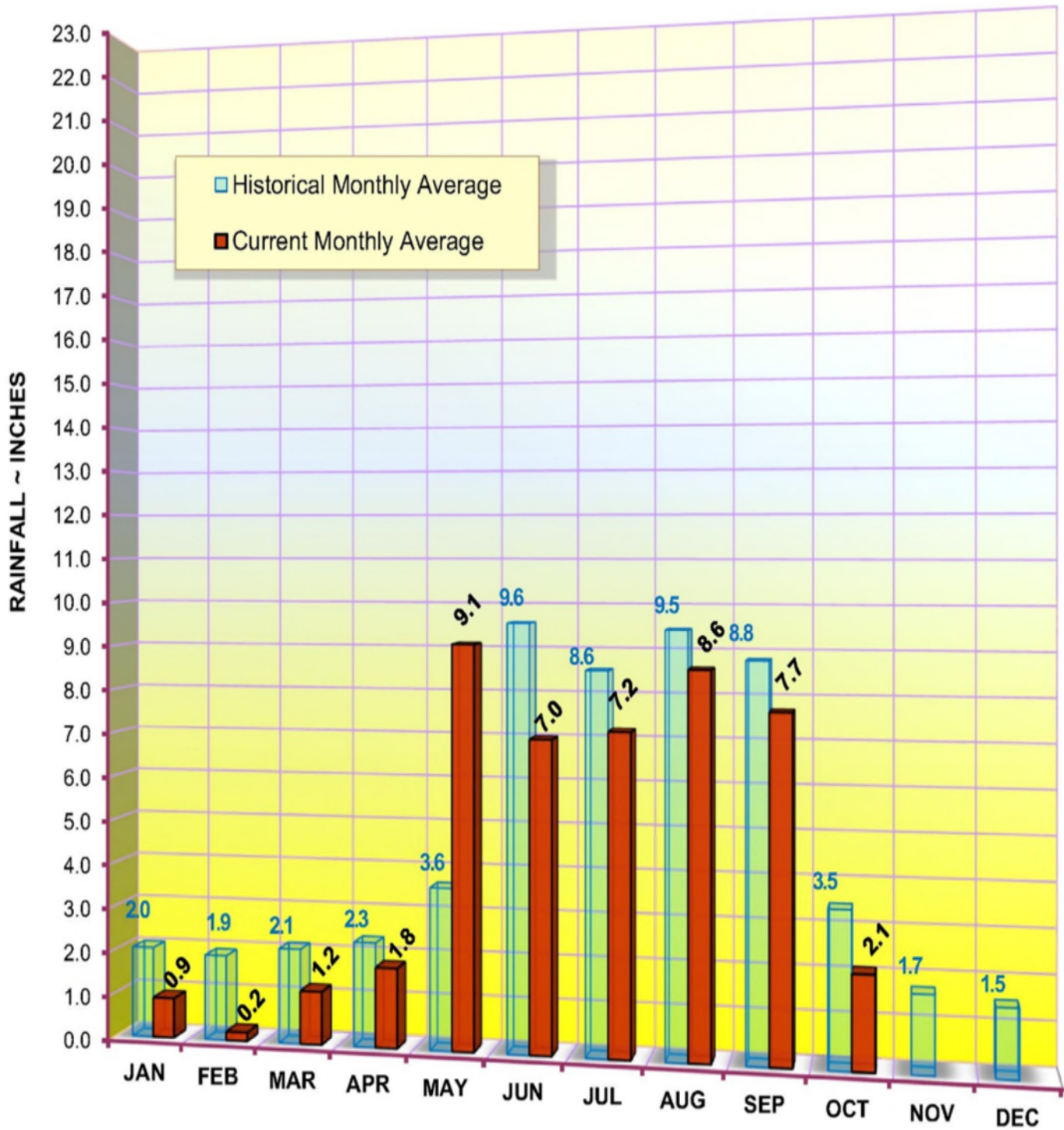
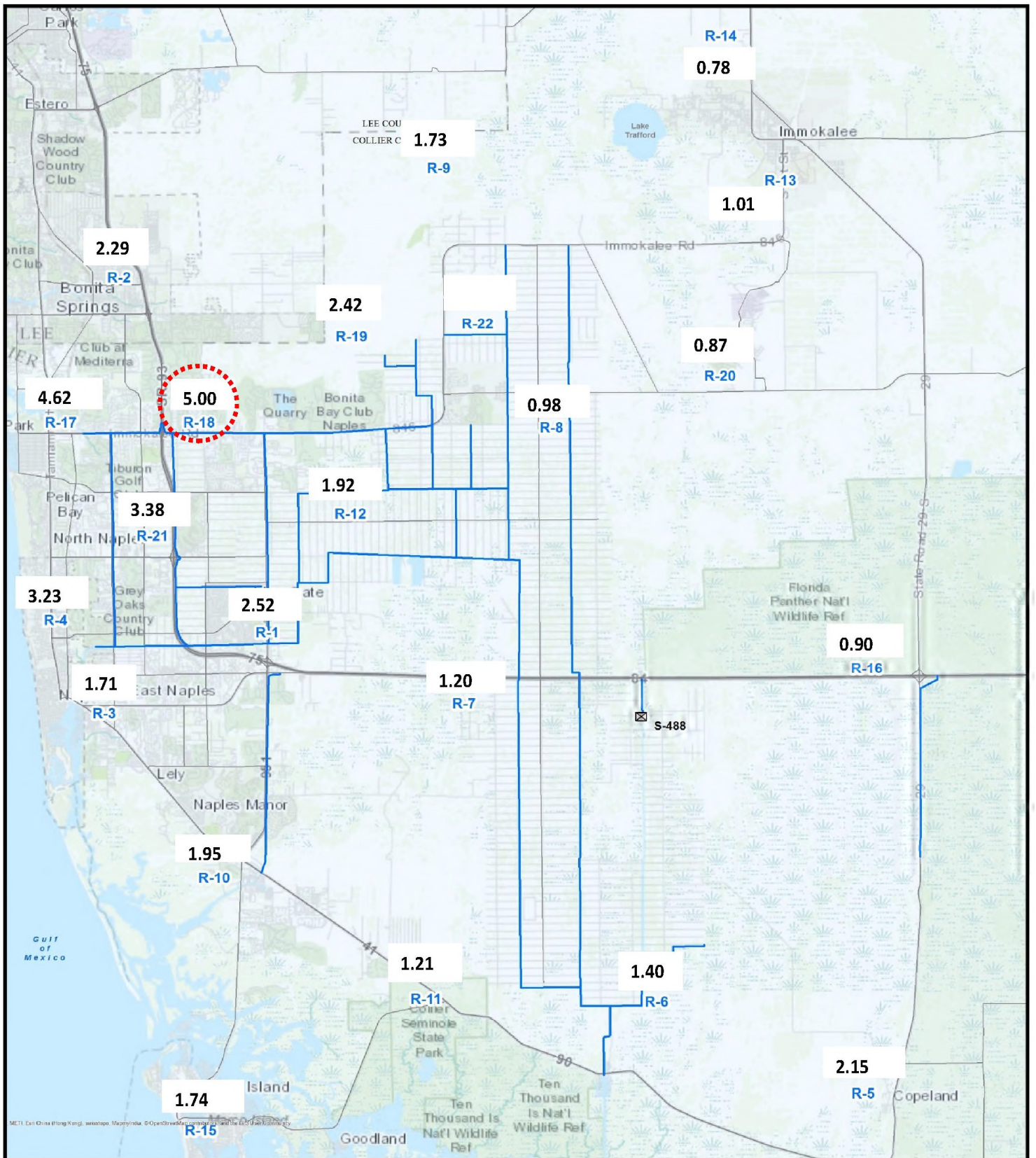


FIGURE 2
BCB GAGE RAINFALL
MONTHLY AVERAGES THROUGH OCTOBER 2018



**FIGURE 3
BCB RAINFALL DISTRIBUTION
OCTOBER 2018**

BCB OCTOBER RAINFALL Period (1990 ~ 2018)

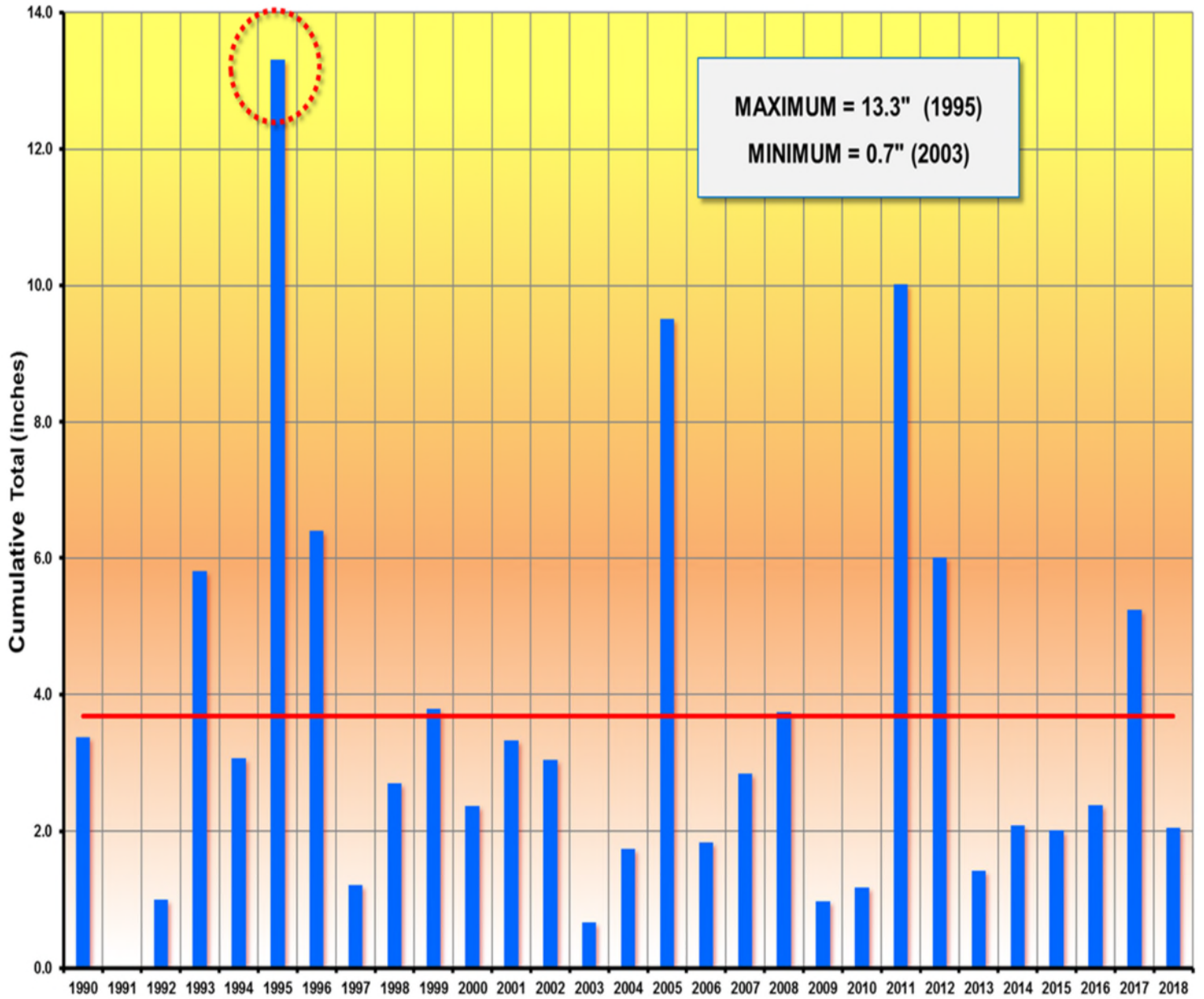
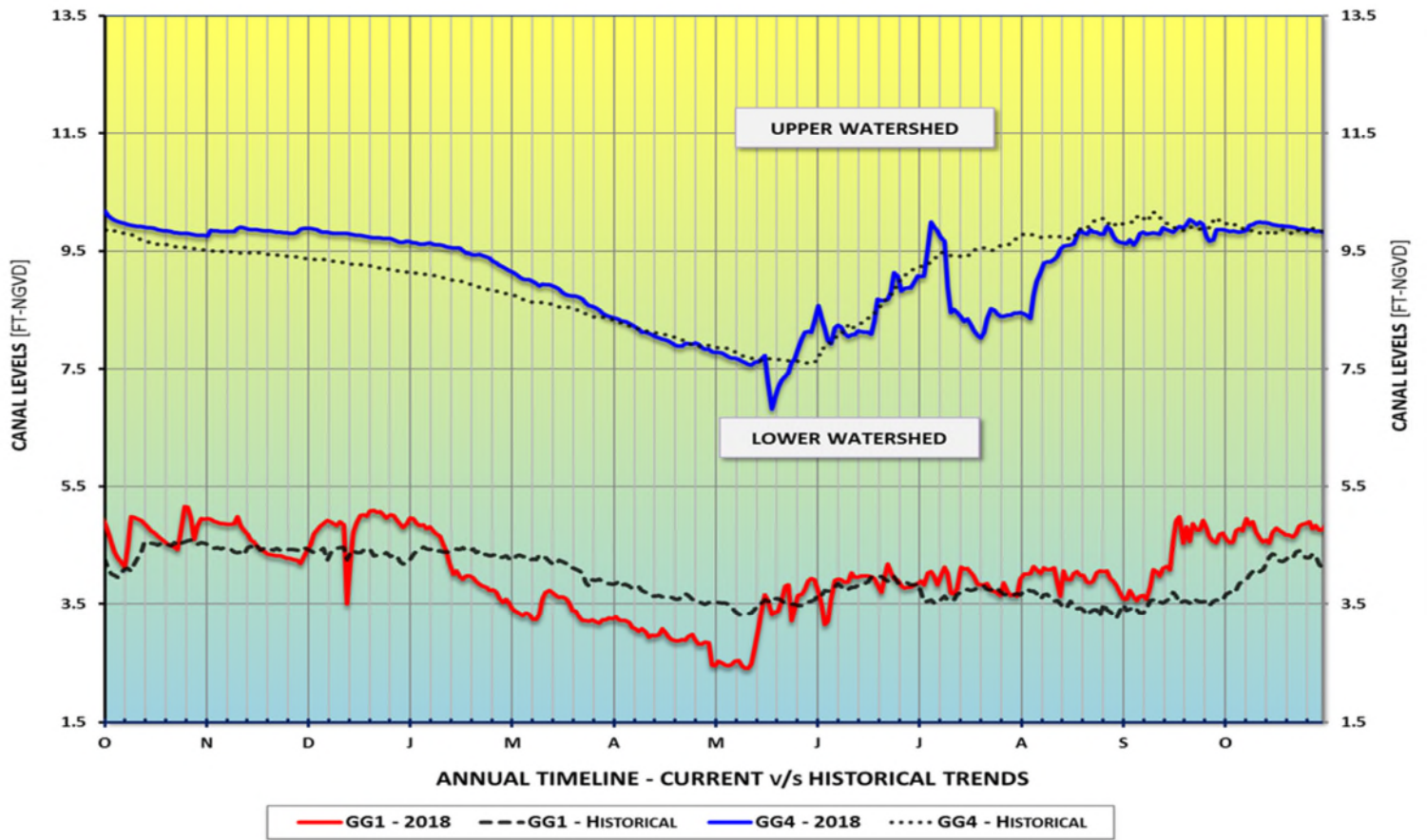


FIGURE 4
BCB MONTHLY AVERAGE RAINFALL
HISTORICAL TRENDS
(PERIOD OF RECORD: 1990—2018)

**GOLDEN GATE MAIN CANAL SYSTEM
AVERAGE DAILY WATER LEVELS**



**GOLDEN GATE MAIN CANAL SYSTEM
DIFFERENCE IN CANAL LEVELS**

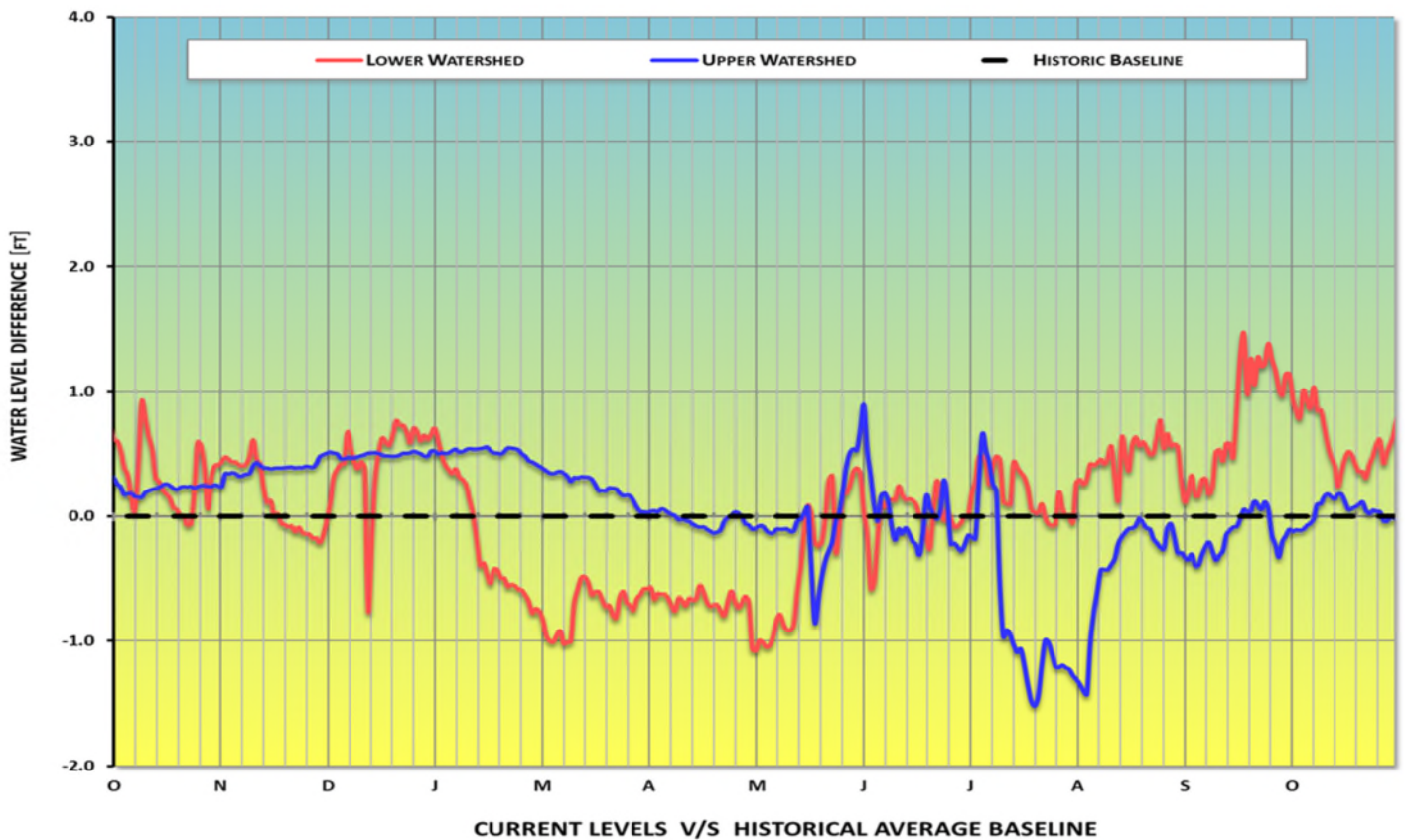
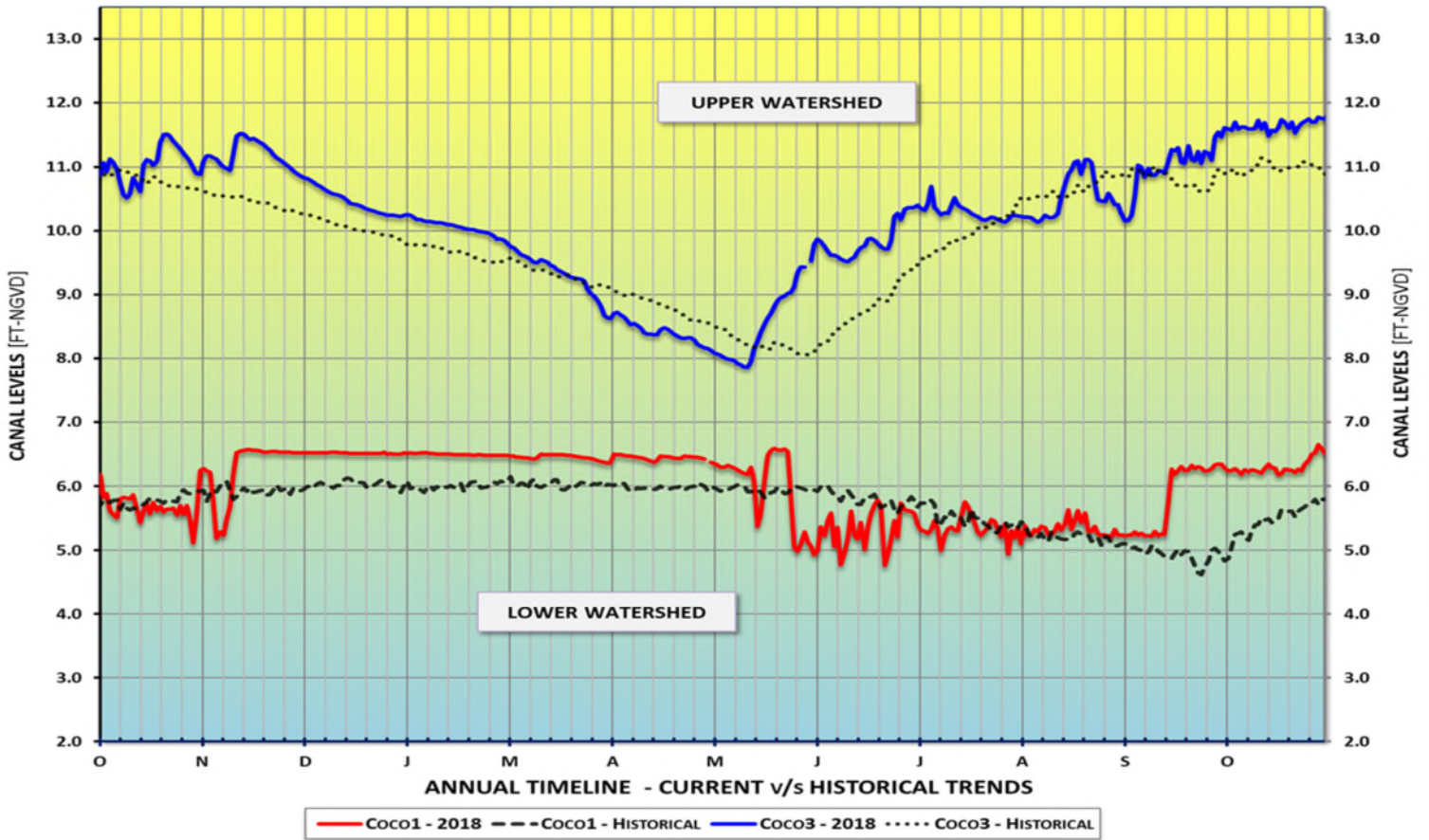


FIGURE 5

COCO HATCHEE CANAL SYSTEM AVERAGE DAILY WATER LEVELS



COCO HATCHEE CANAL SYSTEM DIFFERENCE IN CANAL LEVELS

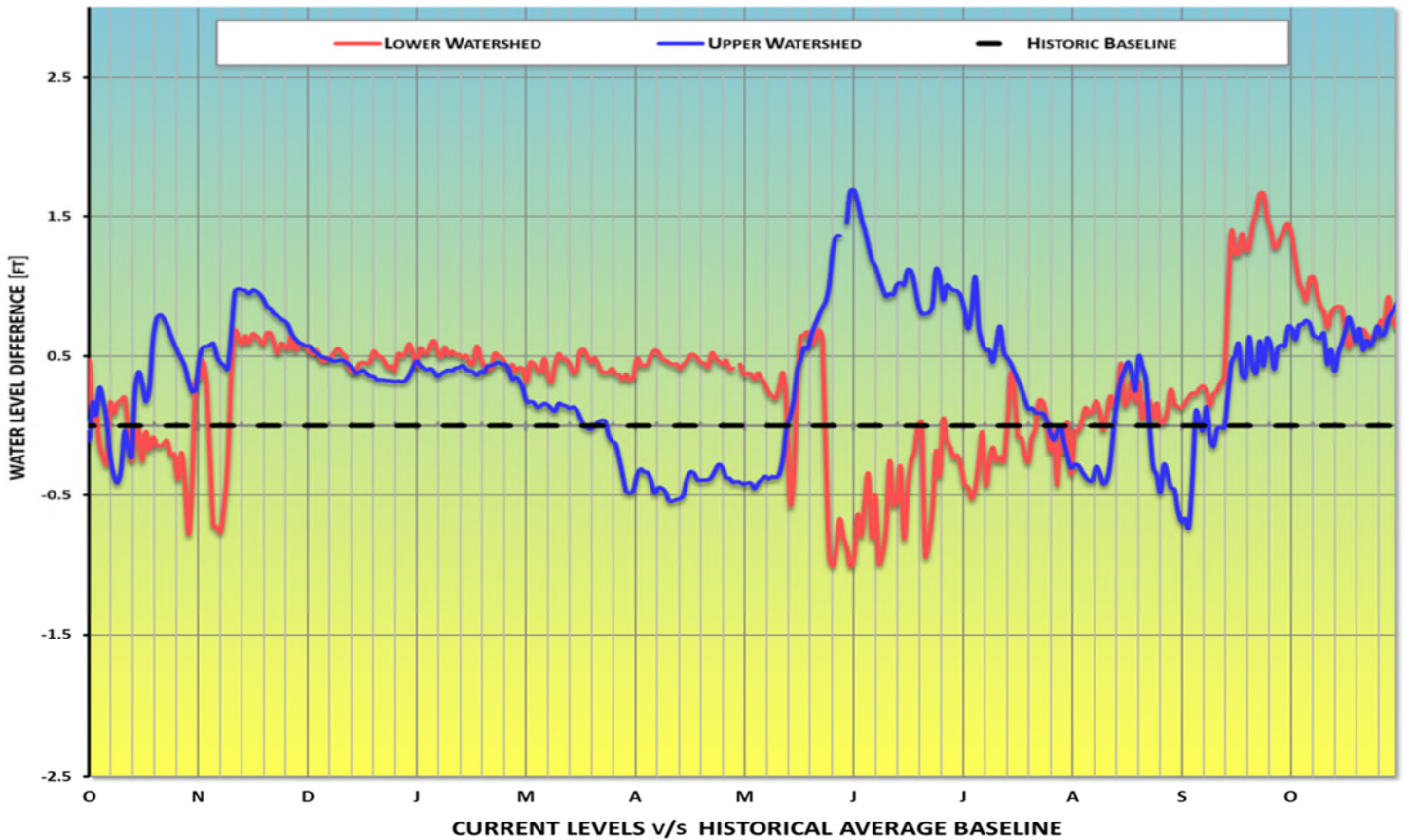
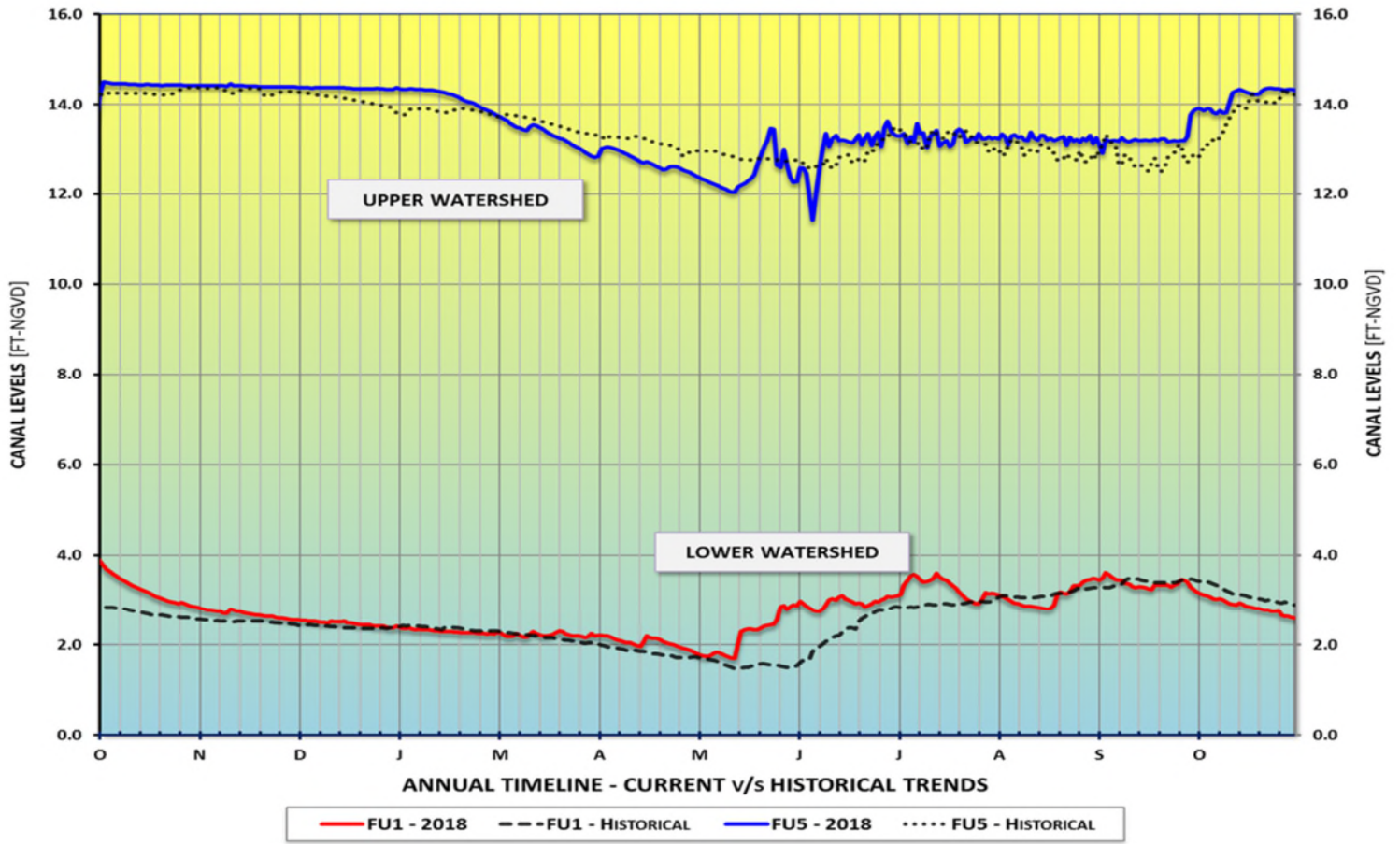


FIGURE 6

**FAKA UNION CANAL SYSTEM
AVERAGE DAILY WATER LEVELS**



**FAKA UNION CANAL SYSTEM
DIFFERENCE IN CANAL LEVELS**

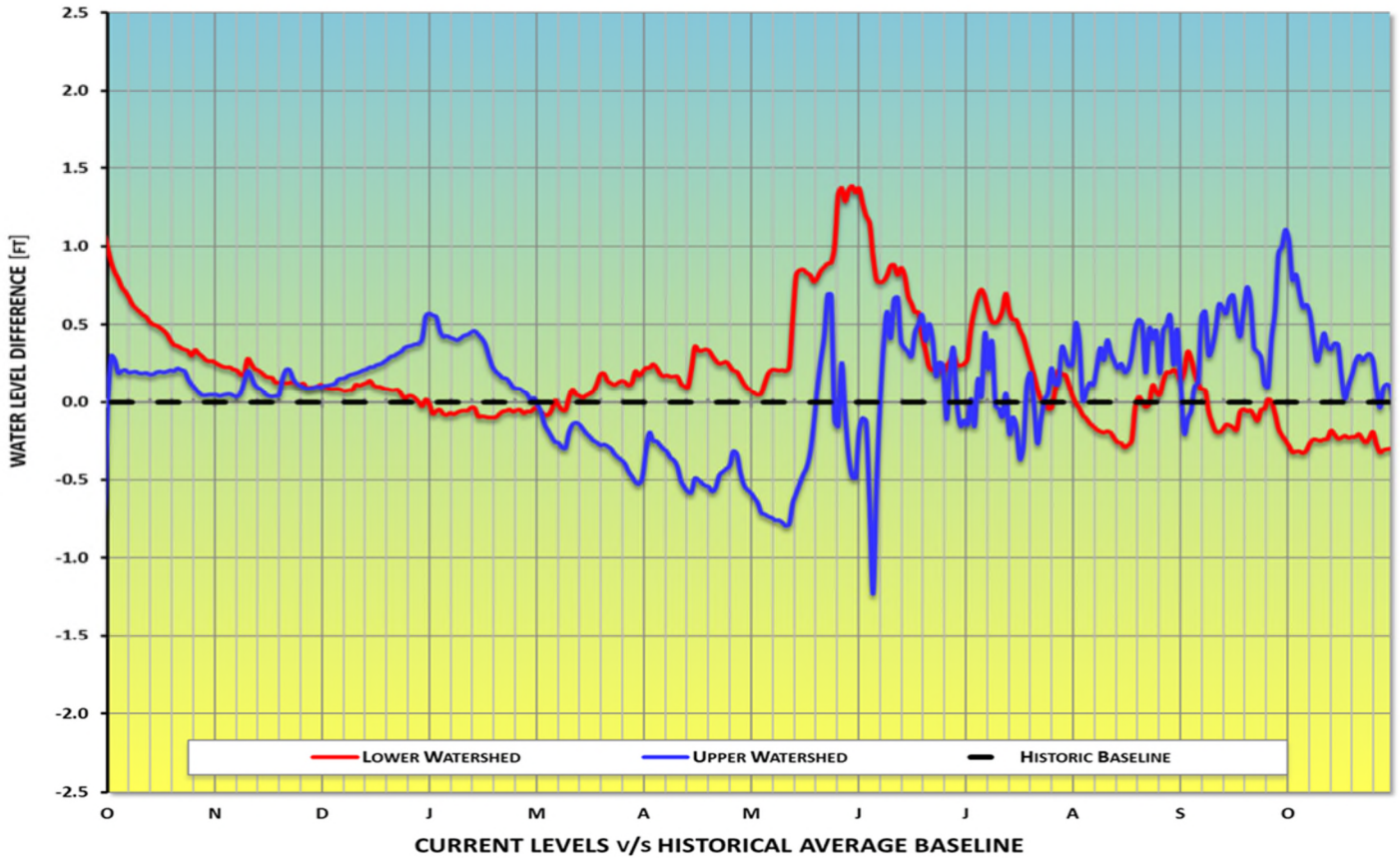
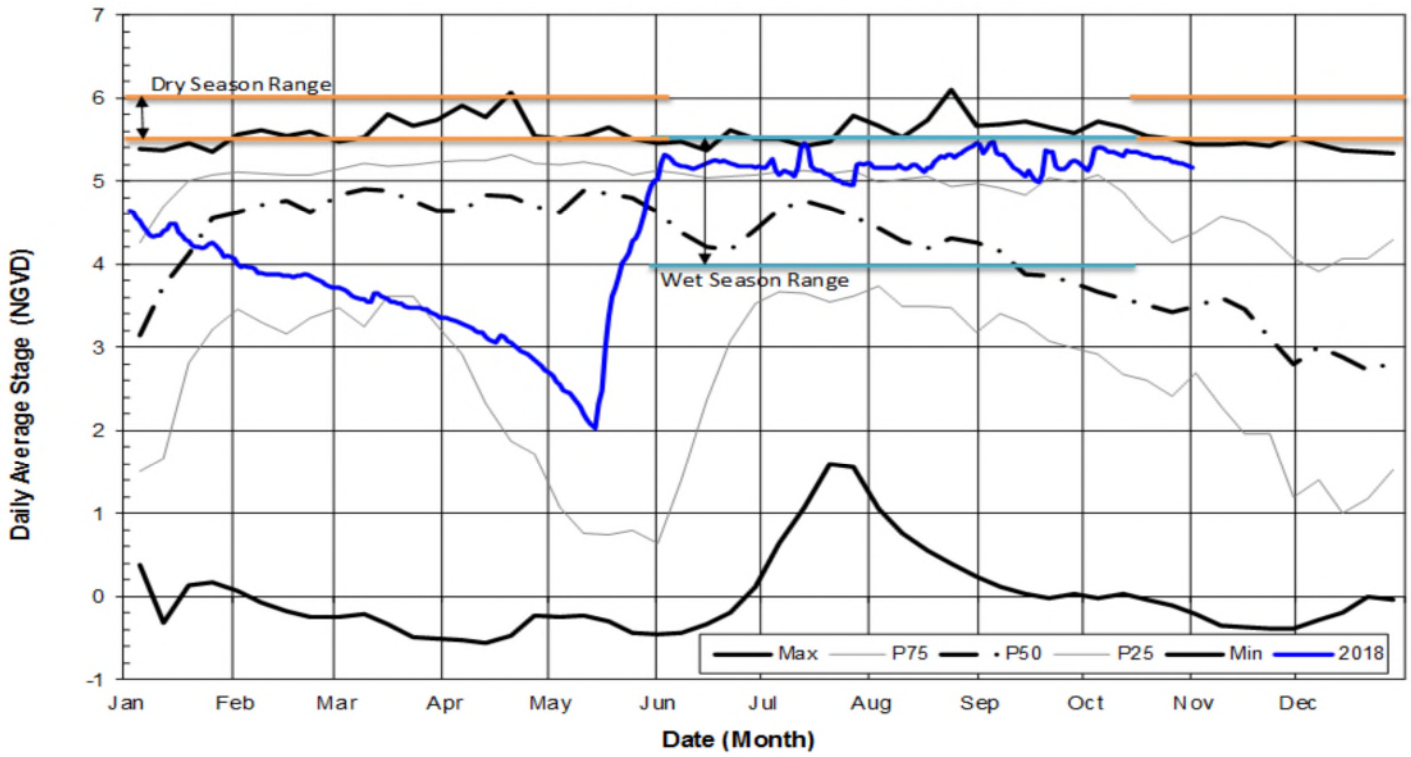


FIGURE 7

HENDERSON CREEK LOWER WATERSHED

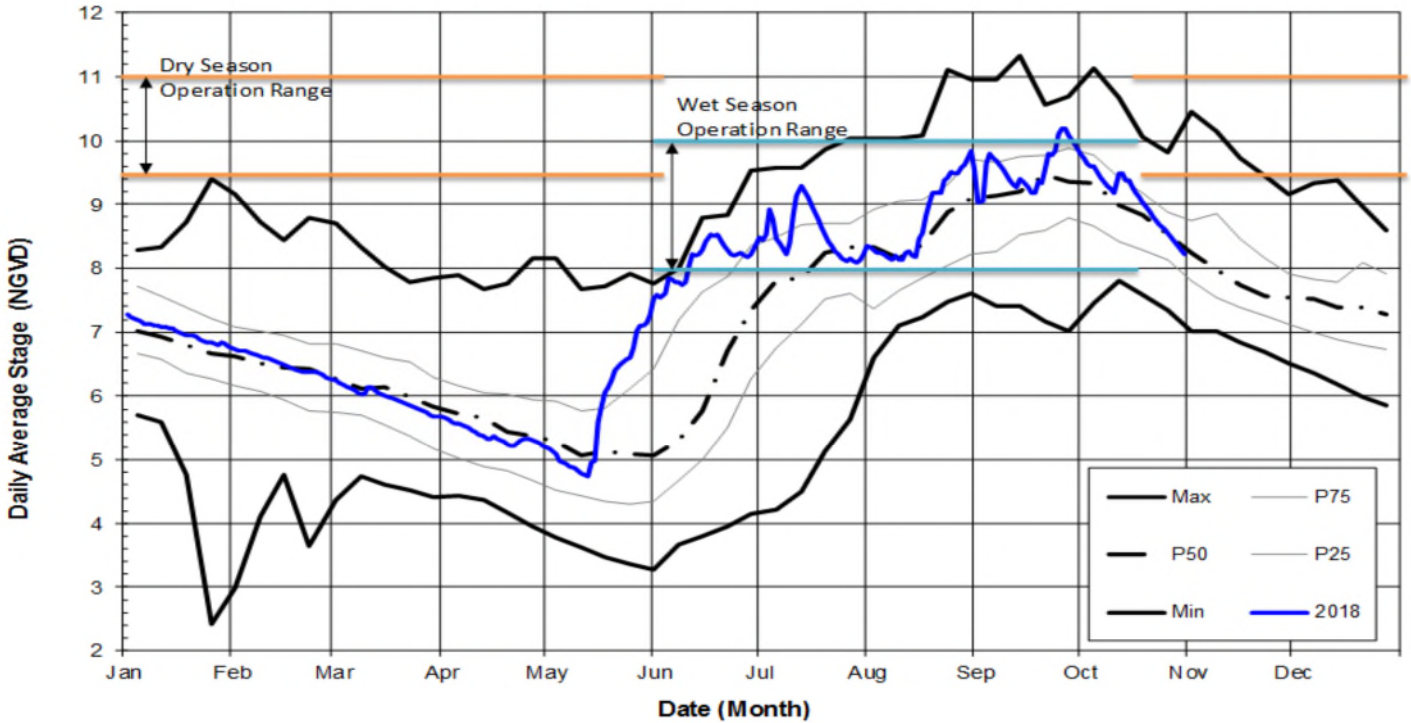


Dry Conditions Range of 6.0 to 5.5 feet NGVD
 Wet Condition Range of 5.5 to 4.0 feet NGVD

FIGURE 8a
 Cyclic Analysis of Daily HW for HC1 1994 to 2018 POR

Big Cypress Basin SFWMD

HENDERSON CREEK UPPER WATERSHED



Dry Conditions Range of 11.0 to 9.5 feet NGVD
 Wet Condition Range of 10.0 to 8.0 feet NGVD

FIGURE 8b
 Cyclic Analysis of Daily HW for HC2 1994 to 2018 POR

Big Cypress Basin SFWMD

FIGURE 8

WATER CONDITIONS SUMMARY - October 2018

SELECTED STATIONS for BCB AREA / SW FLORIDA

Last Reading Date :		November 8, 2018					
Previous Period Reading Date:		October 1, 2018					
STATION INDEX NO.	WELL LOCATION	WELL / AQUIFER - TYPE	CHANGE (from previous date)	PREVIOUS LEVEL	CURRENT LEVEL (ft)	DIRECTION OF CHANGE	CONCERN INDICATOR
ALL INDICATOR LEVELS SHOWN IN FT-NGVD							
C-462	Immokalee	Lower Tamiami Aquifer	-3.95	34.56	30.61	↓	GREEN
C-1004R	Naples	Lower Tamiami Aquifer	-3.15	6.00	2.85	↓	YELLOW
C-1224	Marco Lakes	Lower Tamiami Aquifer	-1.01	4.64	3.63	↓	GREEN
L-2194	Bonita Springs	Sandstone Aquifer	-3.94	9.39	5.45	↓	GREEN
L-2195	Bonita Springs	Surficial Aquifer System	-1.11	12.77	11.66	↓	GREEN
L-738	Bonita Springs	Lower Tamiami Aquifer	-3.63	5.05	1.42	↓	GREEN

**TABLE 2
BCB WATER CONDITIONS SUMMARY
OCTOBER 2018**

BIG CYPRESS BASIN

OCTOBER 2018

GROUNDWATER LEVEL DAILY TRENDS COMPARED TO HISTORICAL AVERAGE

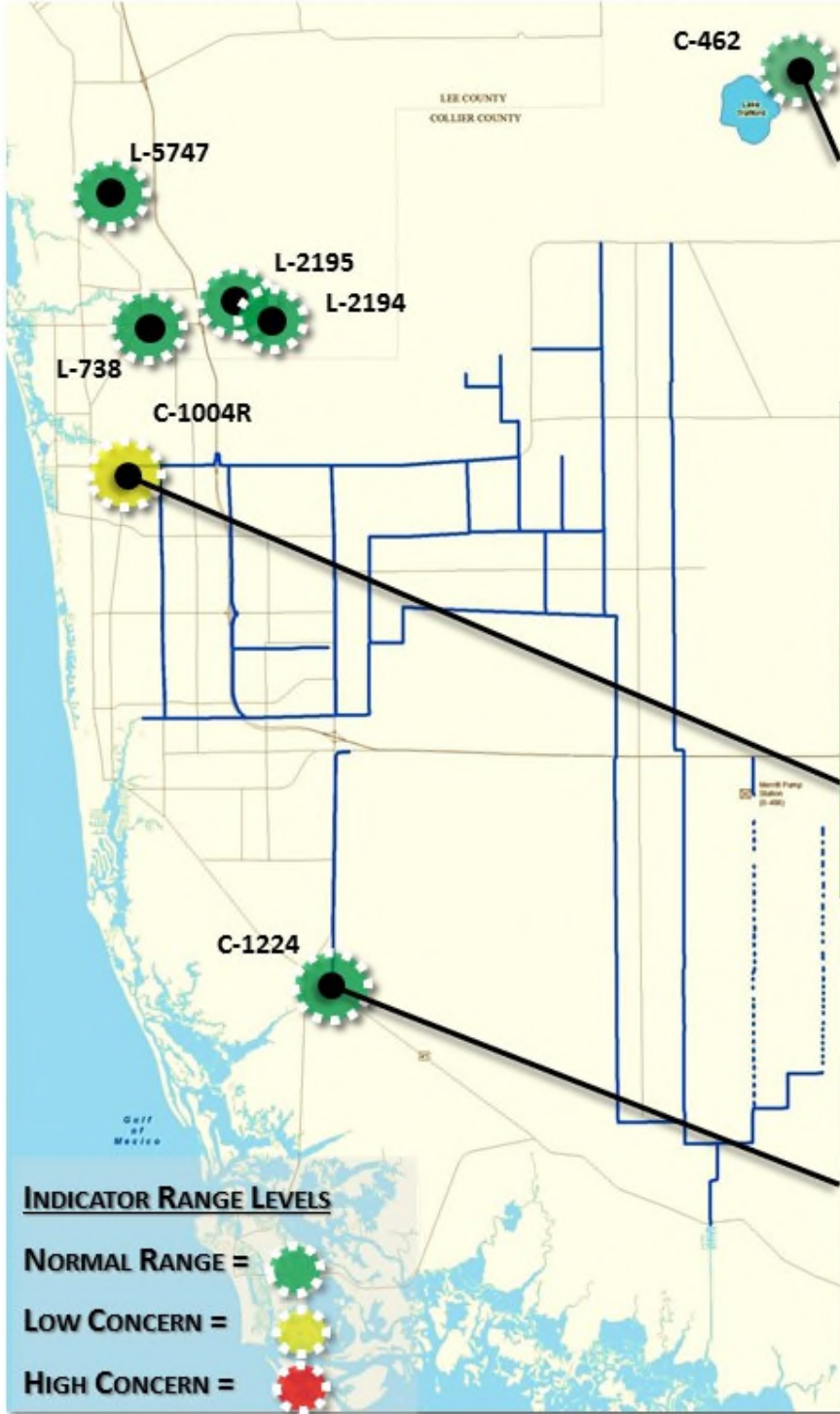


FIGURE 9