



MAY 2019

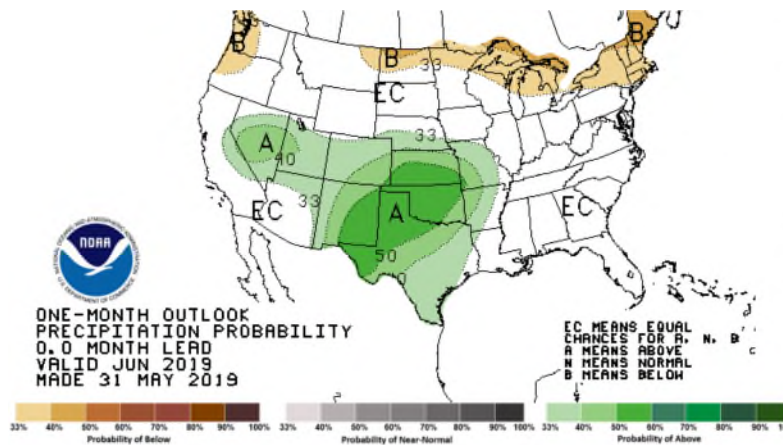
HYDROLOGIC REPORT
BIG CYPRESS BASIN —
SOUTH FLORIDA WATER
MANAGEMENT DISTRICT

SUMMARY OF HYDROLOGIC CONDITIONS IN THE BIG CYPRESS BASIN

May 2019

SUMMARY

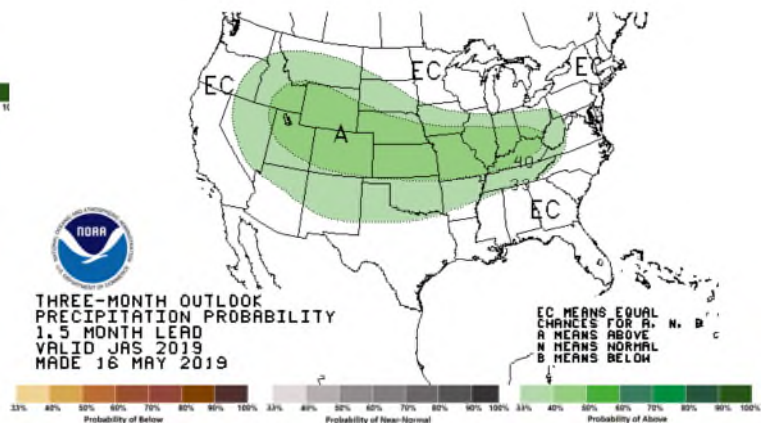
May was relatively normal for a transition month into wet season. The monthly rainfall was slightly below normal at 88%. May is now the third consecutive month with below average rainfall for the Basin. Even with this trend, the Basin is still running a slight surplus of rainfall for 2019 at 108% of normal. Most water levels continued the downward trend and ended the month below wet season levels but above the 50th percentile, which positions the Basin nicely for the upcoming rain season.



Meteorologists are anticipating equal chances for above or below average rainfall for the next 30 days (see left).

Also, the 3 month long term forecast continues the equal chances for above or below average rainfall for all of Florida (see below).

Area groundwater levels have generally trended downward during May as expected for the end of the dry season. Three of the six reporting wells (C-1004R, L-2194, & L-738) are now reporting in the yellow concern indicator.



BCB RAINFALL

May was slightly below average in terms of rainfall and at about 88% of normal. As measured by twenty-two (22) reporting stations (ref. **Figures 1, 2, Table 1**), the basin-wide monthly average was **3.58 inches**, which is 88% of the normal 4.06 inches typically collected.

Based on collected gage data, rainfall distribution across all BCB localities was fairly varied in May. The month's highest total was collected at Collier County Courthouse (Site R-2), which received **6.63 inches**. Ninety (90) percent of the 6.63 inches fell between May 8th and 10th. The remainder of the month was very dry at this site. The lowest rainfall was recorded at Fakahatchee Strand North End (Site R-16) with **1.68 inches**. **Figure 10** shows the historical trends for Corkscrew, Bird Rookery, and Cork 3 structure and the 2019 corresponding levels which are all converging on the 50th percentile line. The rainfall totals and their locality distribution across the BCB/ Lower West Coast are shown on **Figure 3**.

BCB CANAL SYSTEMS

Most of the canals were maintained in dry season operations and a handful were transitioned to wet season levels by the end of May. Most canals showed a decrease in water levels as is normal for the Basin for the end of the dry season. Levels in Corkscrew Swamp responded to the rain events, but levels continue to decrease and are now converging near the 50th percentile (ref **Figure 10**).

- **GOLDEN GATE SYSTEM**

The Golden Gate Main canal levels have all decreased throughout May and releases to Naples Bay at GG1 have stopped with the lower than average rainfall. (ref **Figure 5A & 5B**). Some water supply releases were made from GG2 which is the cause of the water level spikes at GG1.

- **COCOHATCHEE SYSTEM**

The addition of the new Curry Canal structure continues to assist in holding water levels higher than normal (ref **Figure 6A, 6B, 6C, & 6D**). COCO1, COCO3, and CORK1 all ended May above the 50th percentile even with the 3 consecutive months of below average rainfall.

- **FAKA UNION SYSTEM**

Water levels in this system are decreasing to below the upper quartile for the period of record (ref **Figure 7A & 7B**). As expected last month, the downward trend continued and the levels are now just above the 50th percentile.

- **HENDERSON CREEK SYSTEM**

Henderson Creek levels continue to trend below wet season levels. Water levels in upper watershed continue to decrease and are now approaching the 50th percentile. The lower watershed continues its downward trend to wet season levels. (ref **Figure 8A & 8B**).

BIG CYPRESS BASIN & LOWER WEST COAST GROUNDWATER LEVELS

The current reporting (06/06/2019) for the Lower West Coast [LWC] notes that all but two groundwater wells decreased but remain near historic averages for the end of dry season. By the end of May, three (C-1004R, L-2194, and L-738) of the six reporting wells were below the normal concern indicator (yellow color) (ref. **Table 2**).

All reported wells in **Table 2** show an average decrease of 0.45 feet. L-738 recorded the highest decrease of 1.60 feet, and C-462 was the only well to have a significant increase at 0.54 feet (ref. **Table 2, Figure 9**).

BIG CYPRESS BASIN

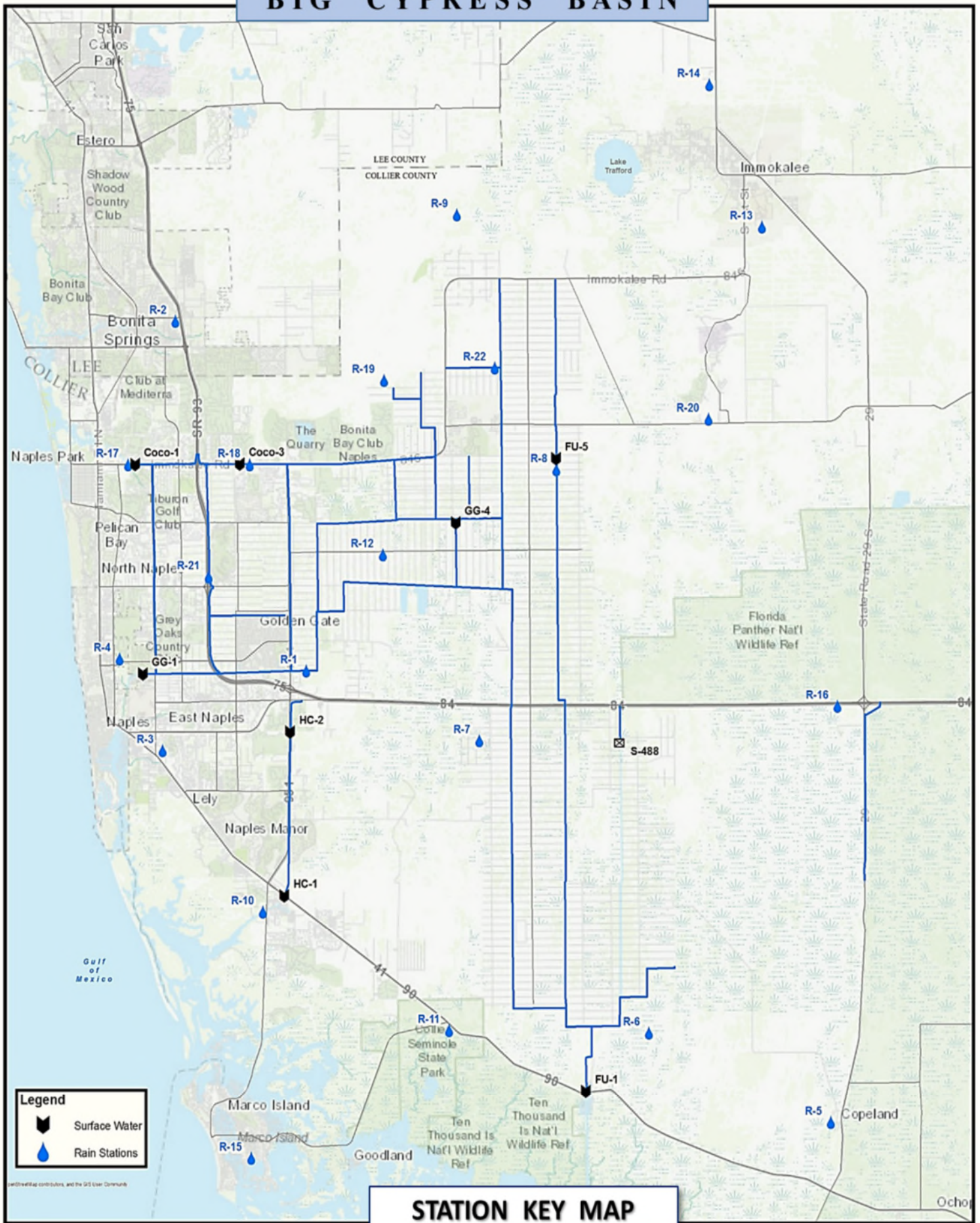


FIGURE 1

RAINFALL REPORT - MAY 2019
DISTRICT/BASIN RAINFALL STATIONS

(ALL NUMBERS ARE IN INCHES)

STATION INDEX NO.	STATION NAME	MAY 2019	LONG TERM AVERAGE FOR THIS MONTH	MONTHLY DIFFERENCE	CALENDAR YEAR 2019 CUMULATIVE TOTAL	AVERAGE CALENDAR YEAR TO DATE	YEAR TO DATE DIFFERENCE
R-1	GOLDEN GATE #3	4.36	6.68	-2.32	13.86	14.15	-0.29
R-2	BONITA SPRINGS WATER PLANT	1.97	3.39	-1.42	10.98	11.85	-0.87
R-3	COLLIER COUNTY COURTHOUSE	6.63	3.62	3.01	17.20	11.80	5.40
R-4	FREEDOM PARK	4.41	4.63	-0.22	12.90	12.62	0.28
R-5	FAKAHATCHEE STRAND HQ	4.07	4.89	-0.82	11.76	13.27	-1.51
R-6	DAN HOUSE PRAIRIE	4.09	3.52	0.57	14.67	10.49	4.18
R-7	SGGE WEATHER STATION	4.80	4.60	0.20	15.23	11.88	3.35
R-8	FAKA UNION #5	2.49		New Site	12.24	No Historical Data	
R-9	CORKSCREW SWAMP NORTH END	3.63	3.48	0.15	15.79	10.83	4.96
R-10	ROOKERY BAY HQ	2.60	3.43	-0.83	10.91	11.18	-0.27
R-11	COLLIER SEMINOLE STATE PARK	2.31	3.56	-1.25	12.08	11.71	0.37
R-12	G.G. FIRE STATION	2.16	4.01	-1.85	11.13	12.66	-1.53
R-13	IMMOKALEE LANDFILL	4.09	4.38	-0.29	14.64	13.49	1.15
R-14	IFAS	5.57	4.08	1.49	16.15	13.20	2.95
R-15	MARCO R.O. PLANT	2.28	3.25	-0.97	12.16	12.19	-0.03
R-16	FAKAHATCHEE STRAND NORTH END	1.68	5.18	-3.50	13.42	15.26	-1.84
R-17	COCO#1	4.92	2.77	2.15	14.23	10.57	3.66
R-18	COCO#3	2.43	3.18	-0.75	11.85	10.91	0.94
R-19	BIRD ROOKERY	2.19		New Site	11.33	No Historical Data	
R-20	AVE MARIA	5.24	4.43	0.81	17.30	13.61	3.69
R-21	I75W2	2.90		New Site	11.05	No Historical Data	
R-22	GG#7	3.97		New Site	12.90	No Historical Data	

AVERAGES	3.58	4.06	-0.48	13.35	12.32	1.04
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BCB ANNUAL RAINFALL
MONTHLY AVERAGE & HISTORICAL AVERAGE TRENDS
(FROM BCB RAINFALL GAGE DATA)

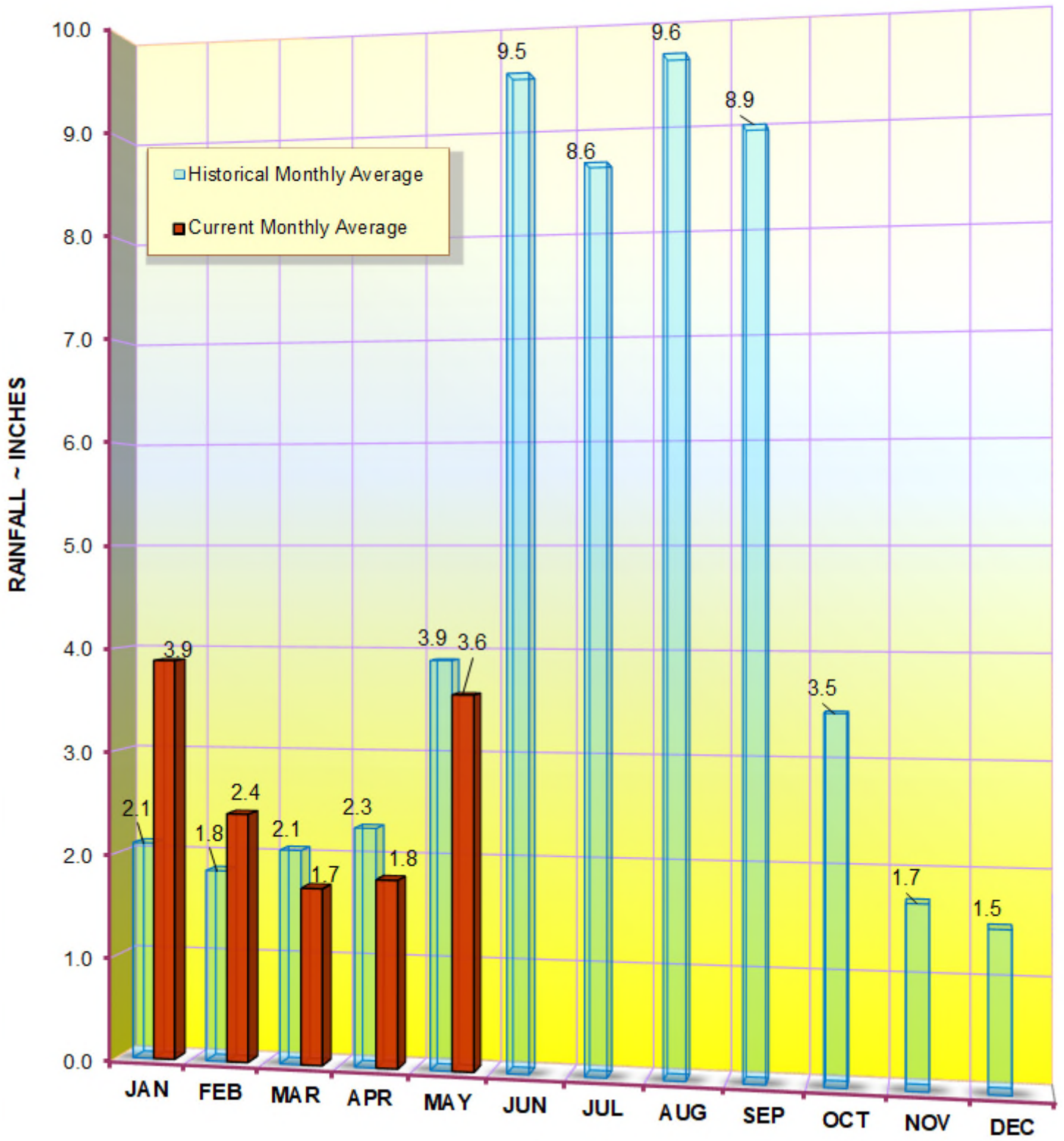


FIGURE 2
BCB GAGE RAINFALL
MONTHLY AVERAGES THROUGH MAY 2019

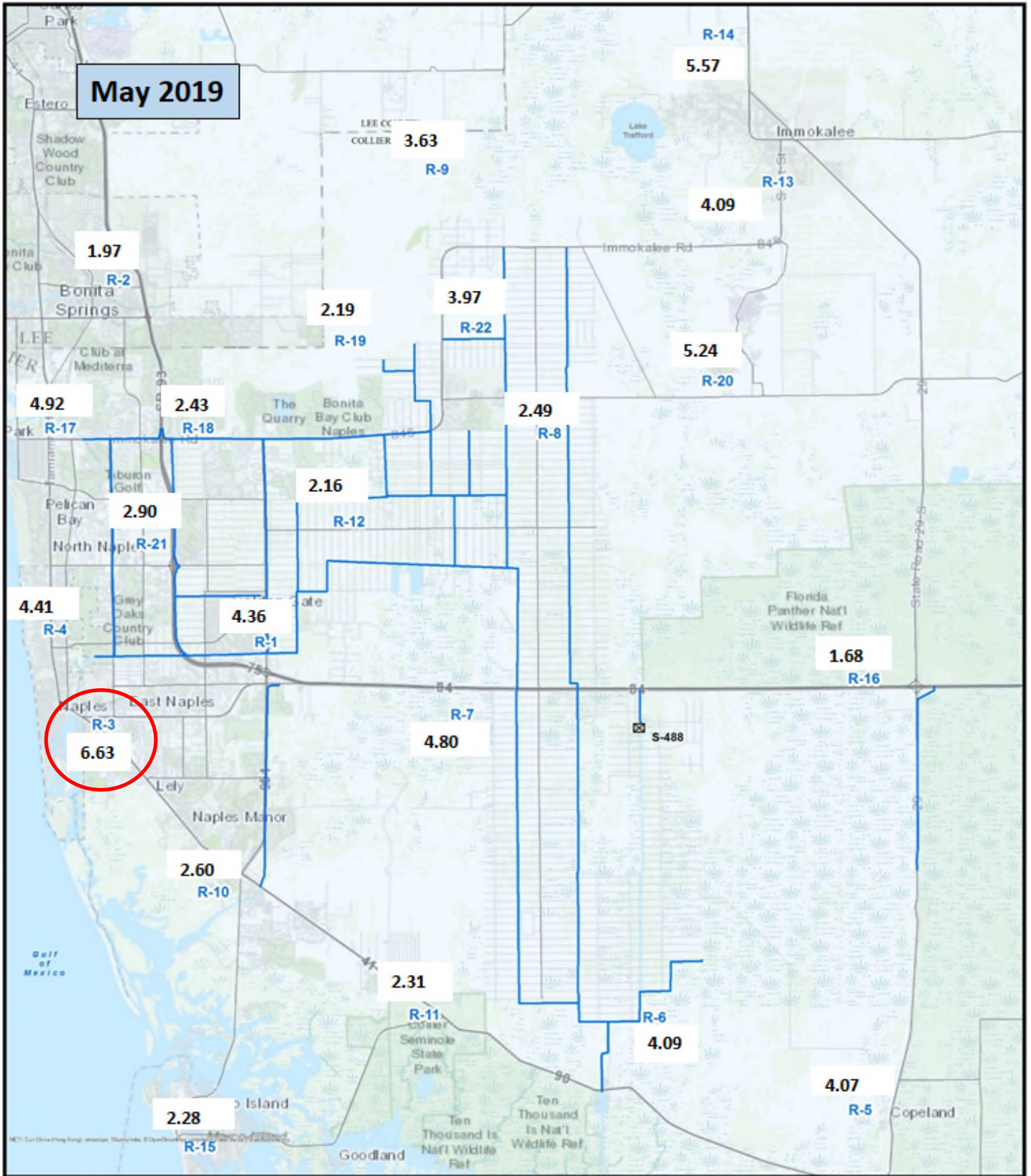


FIGURE 3
BCB RAINFALL DISTRIBUTION
MAY 2019

BCB MAY RAINFALL Period (1990 ~ 2019)

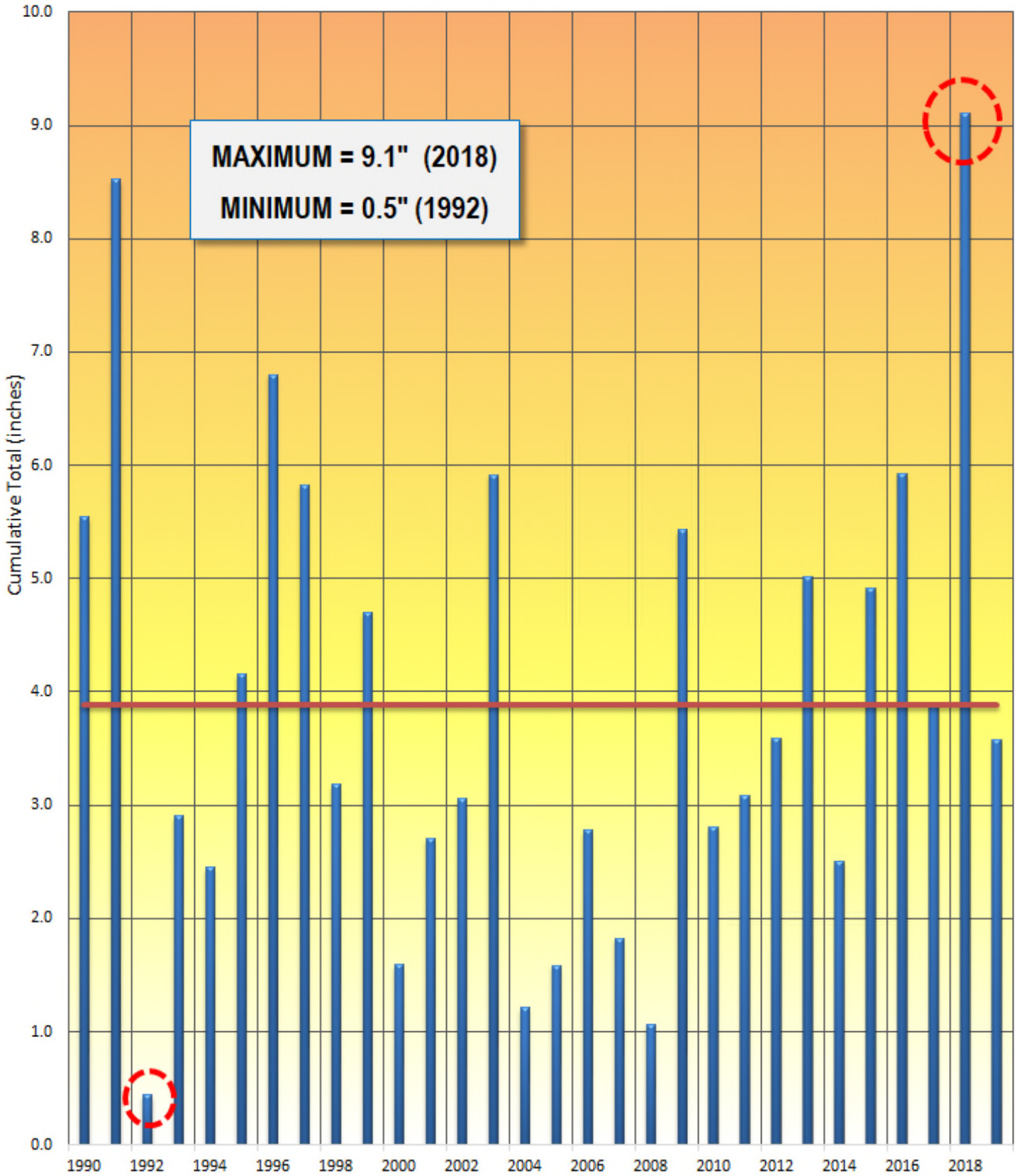


FIGURE 4
HISTORICAL TRENDS
(PERIOD OF RECORD: 1990—2019)

Figure 5A - GG1 Historic Average Daily Headwater Percentiles (2004-2018)

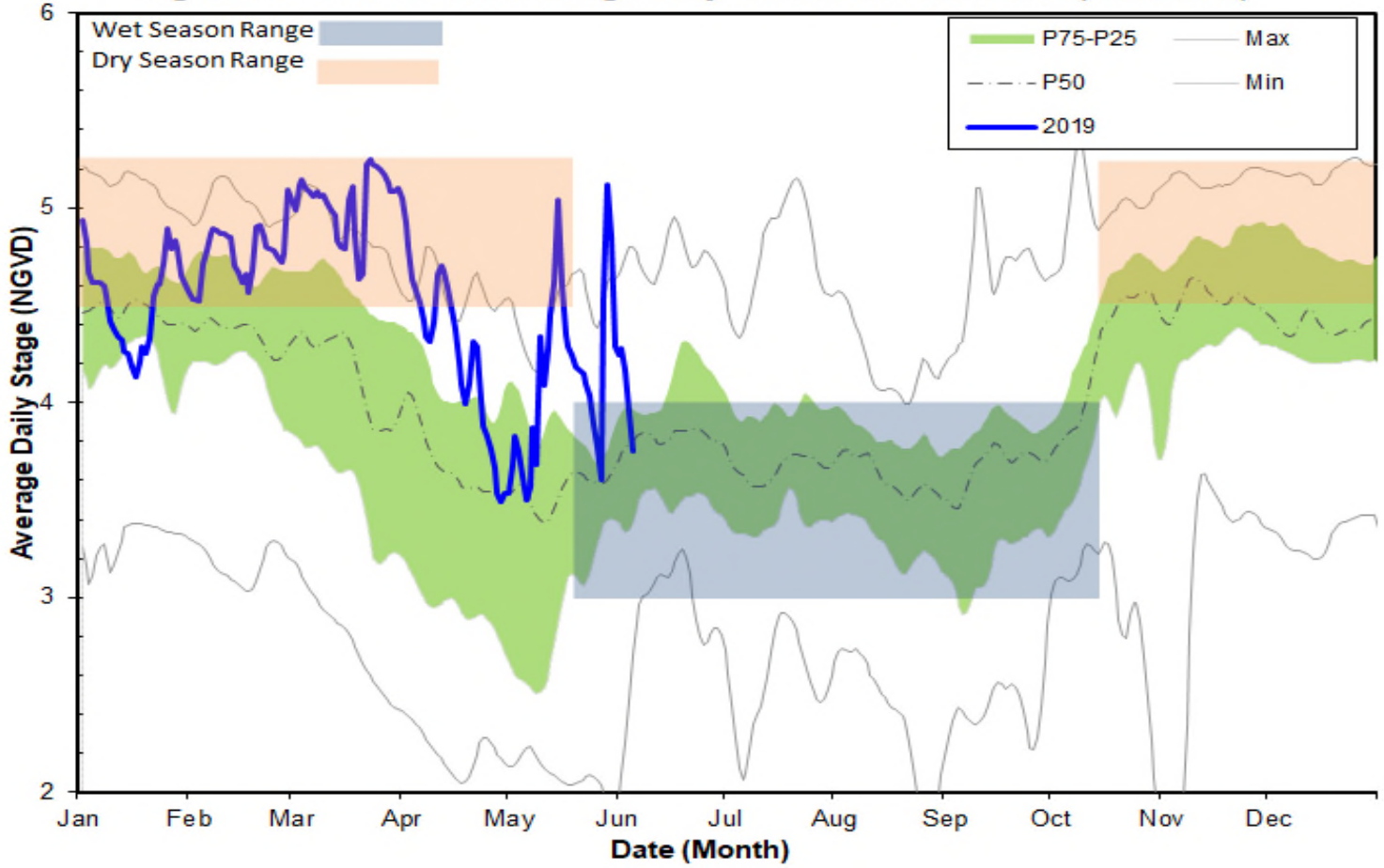


Figure 5B - GG4 Historic Average Daily Headwater Percentiles (1994-2017)

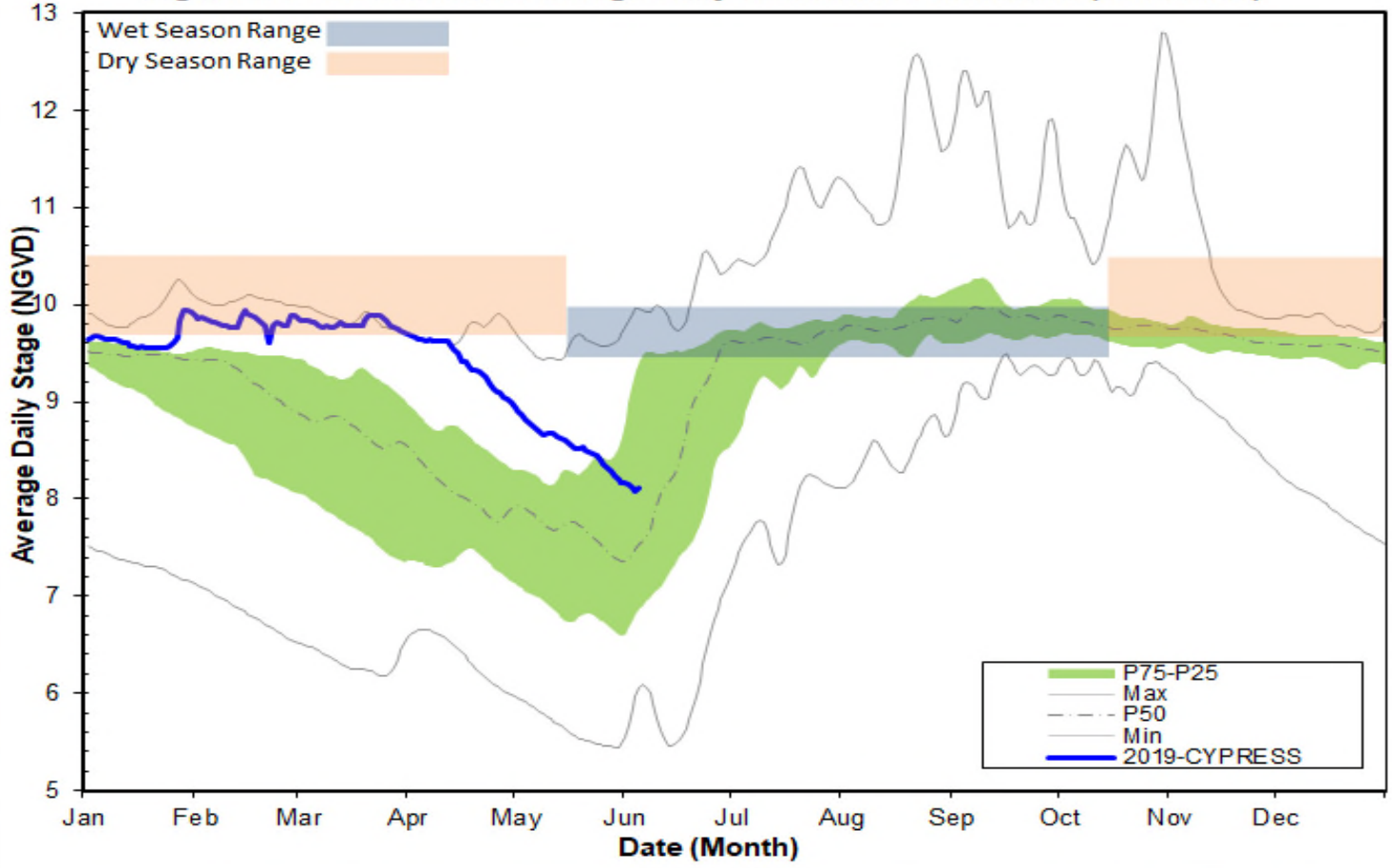


Figure 6A - COCO1 Historic Daily Headwater Percentiles (1994-2018)

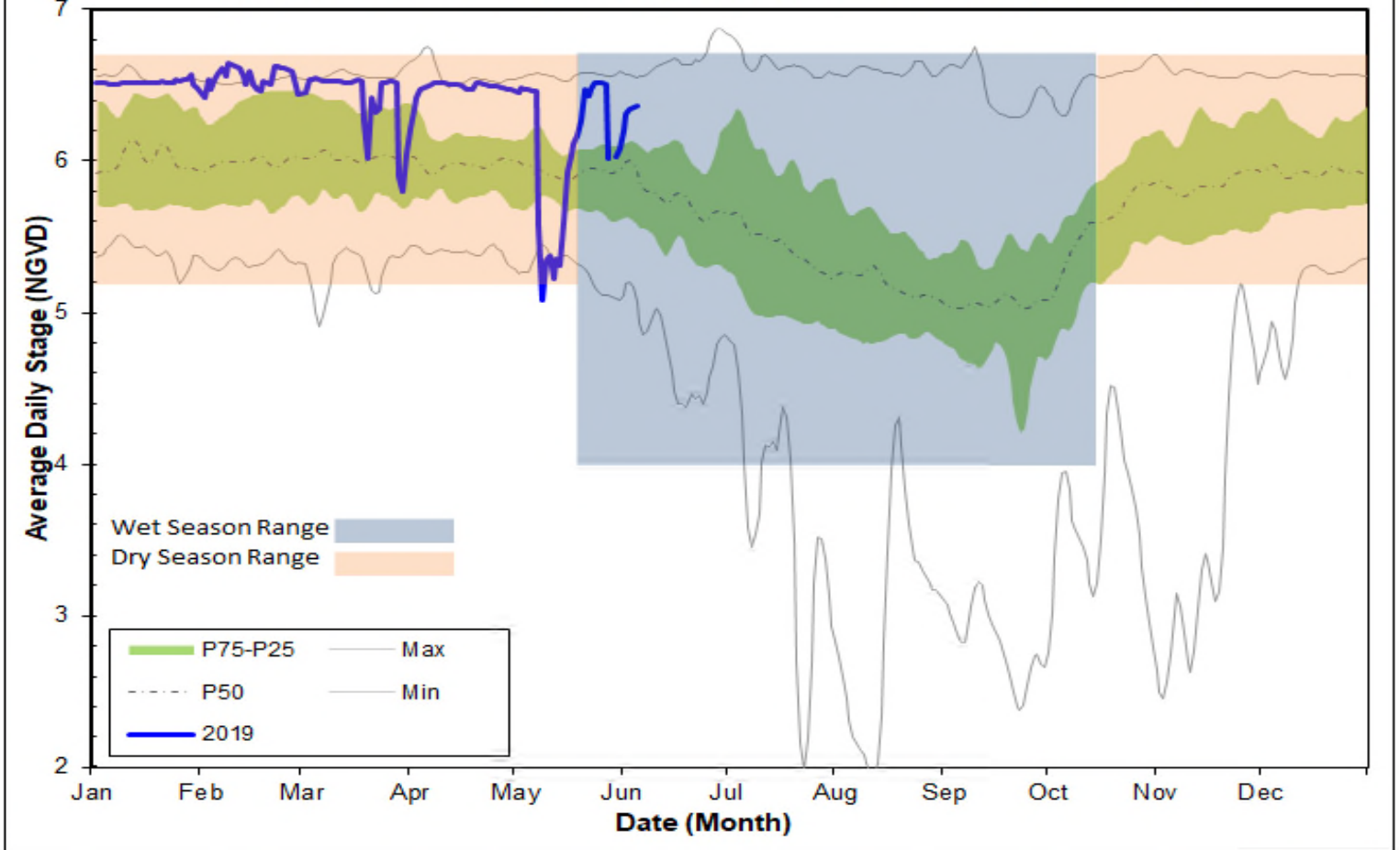


Figure 6B - COCO3 Historic Average Headwater Percentiles (2000-2018)

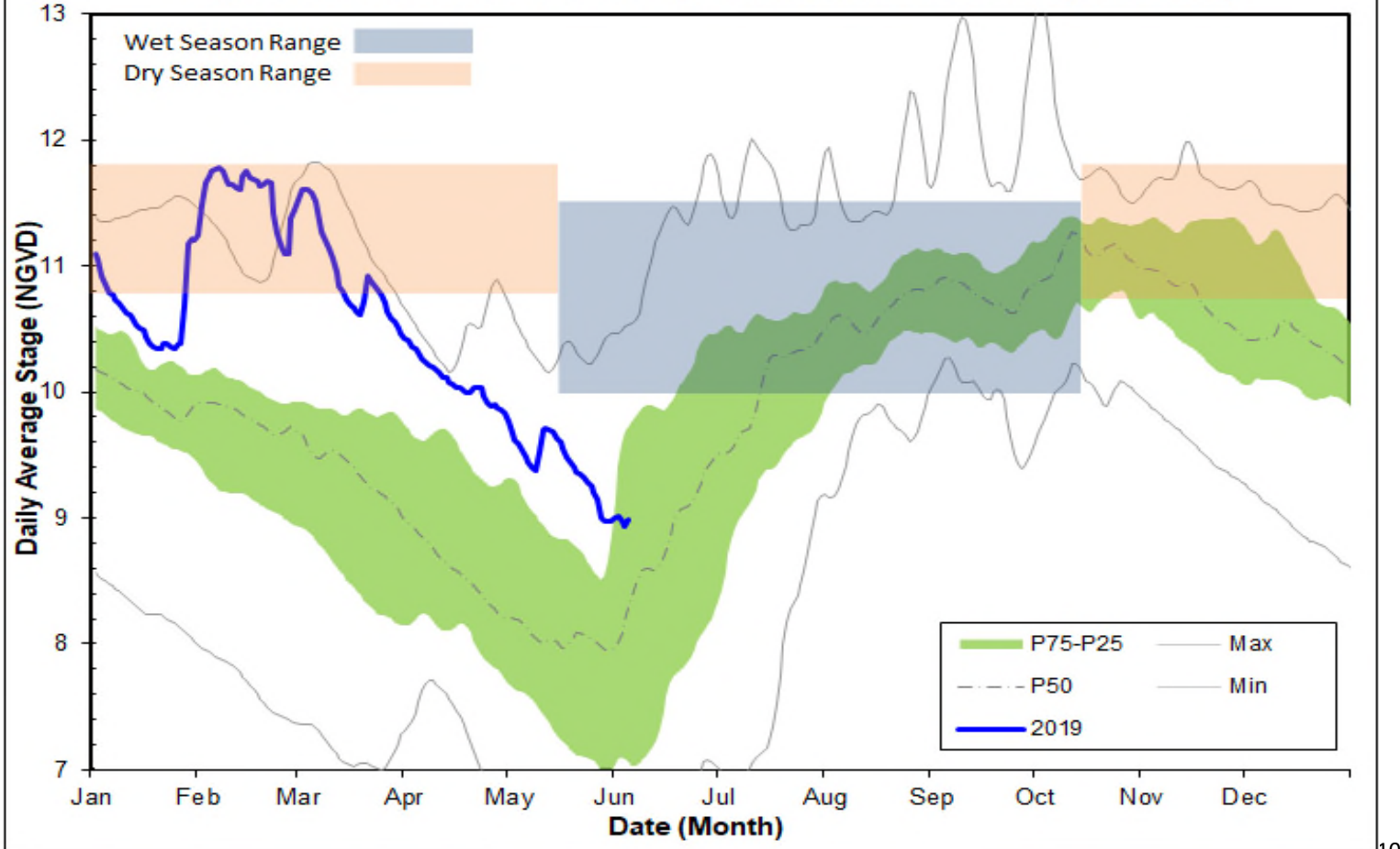


Figure 6C - CORK1 Historic Average Daily Headwater Percentiles (1989-2018)

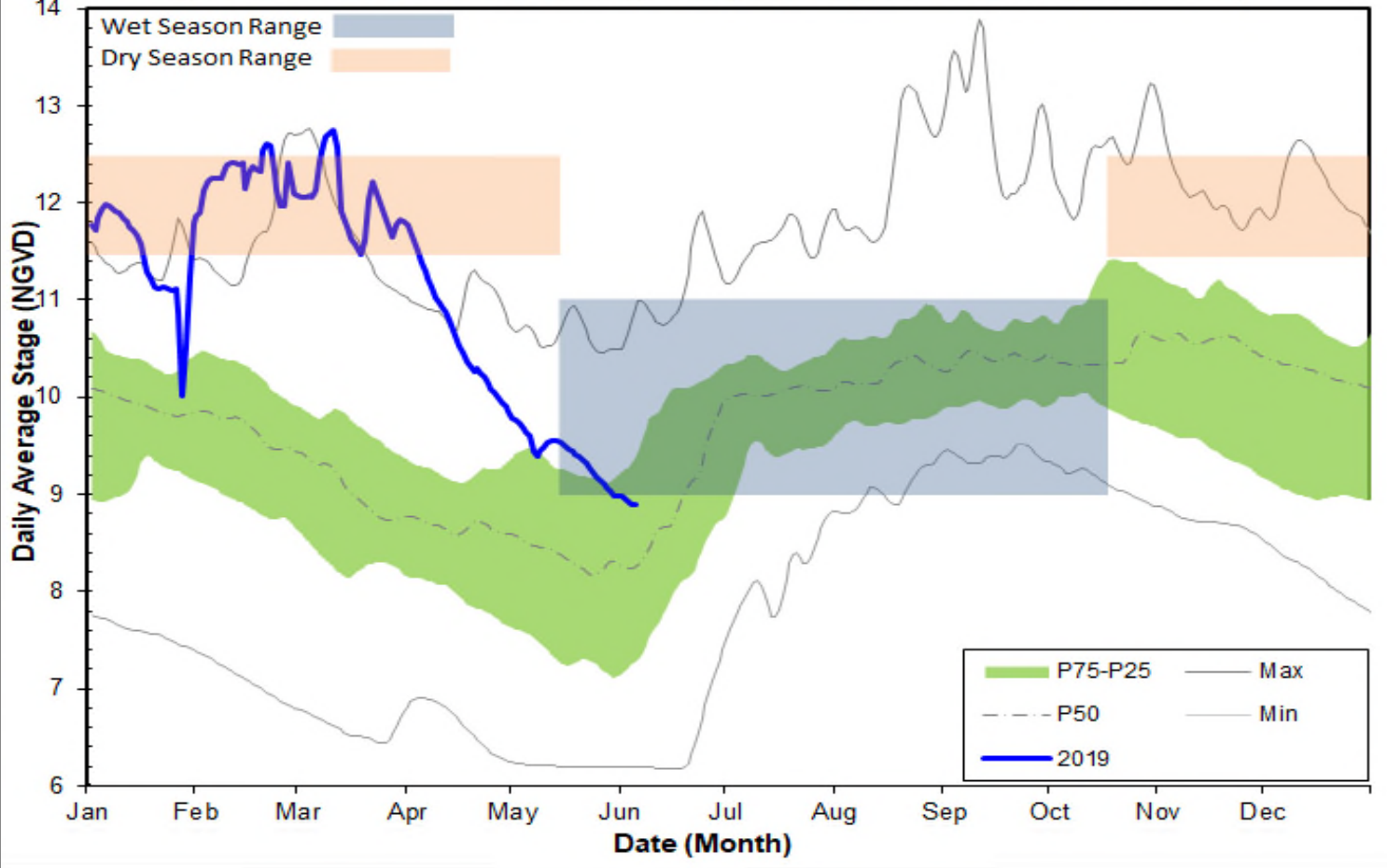


Figure 6D - CORK3 Average Daily Headwater Percentiles (2004-2018)

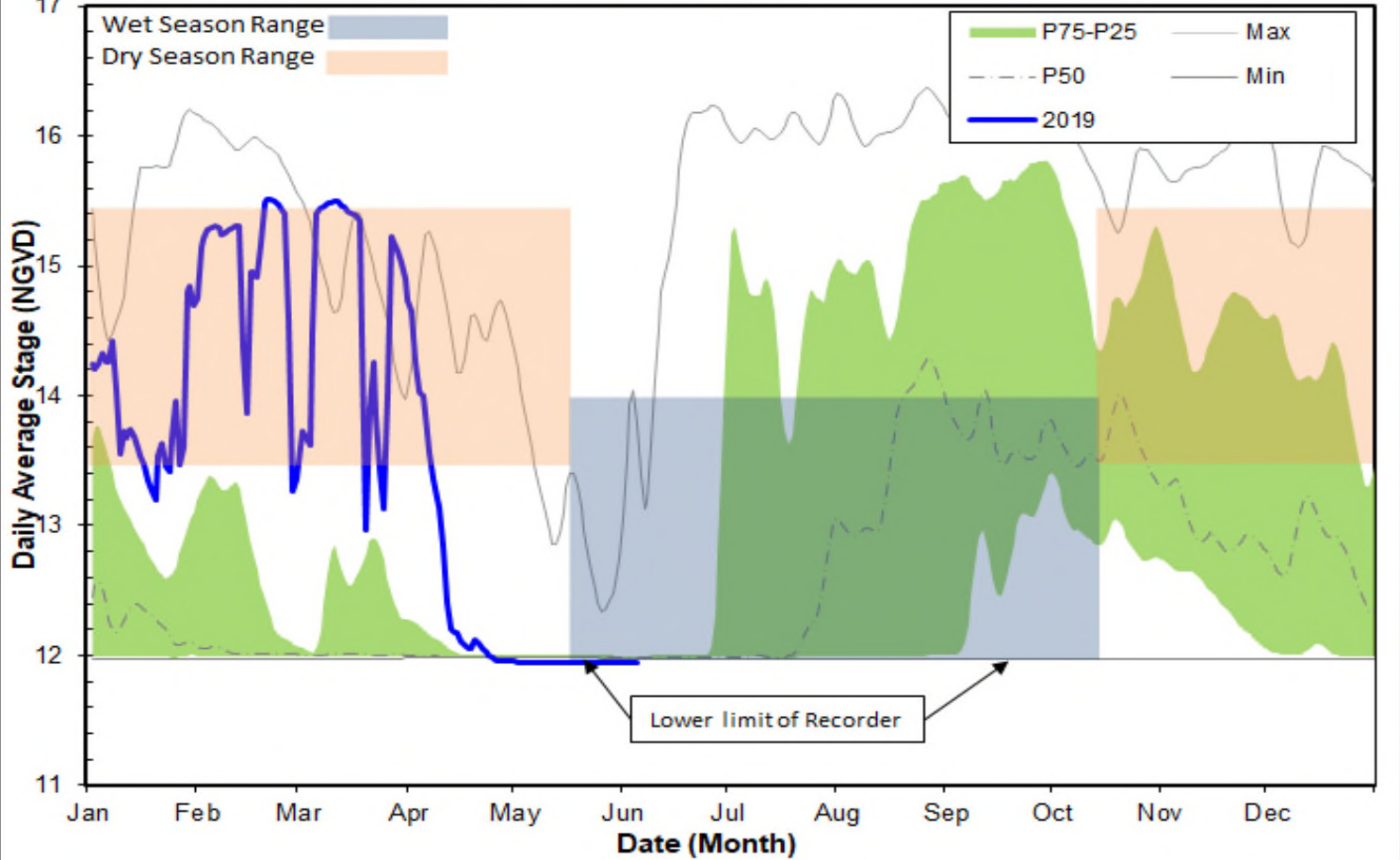


Figure 7A - FU1 Historic Average Daily Headwater Percentiles (1984-2018)

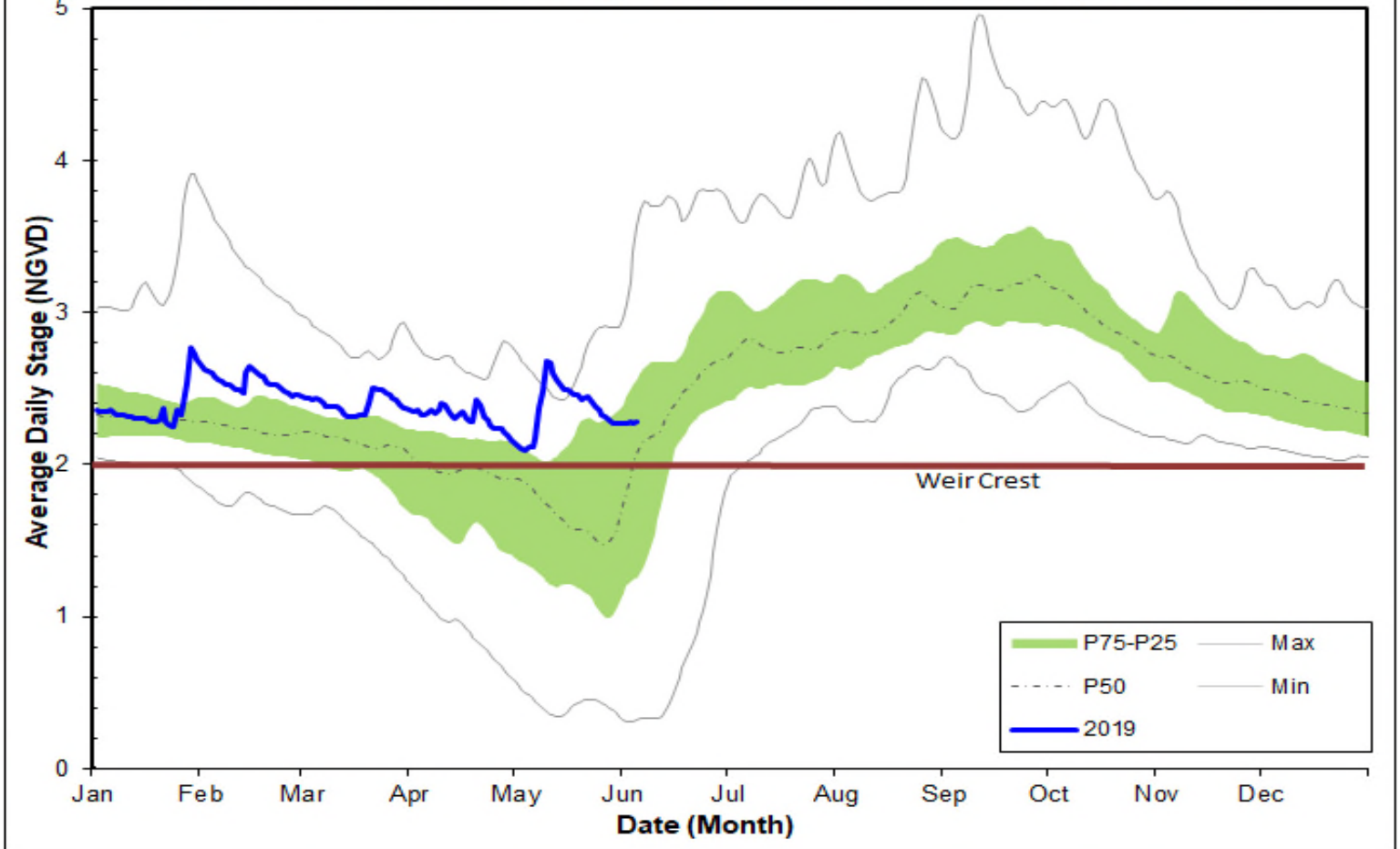


Figure 7B-FU5 Historic Average Daily Headwater Percentiles (2003-2018)

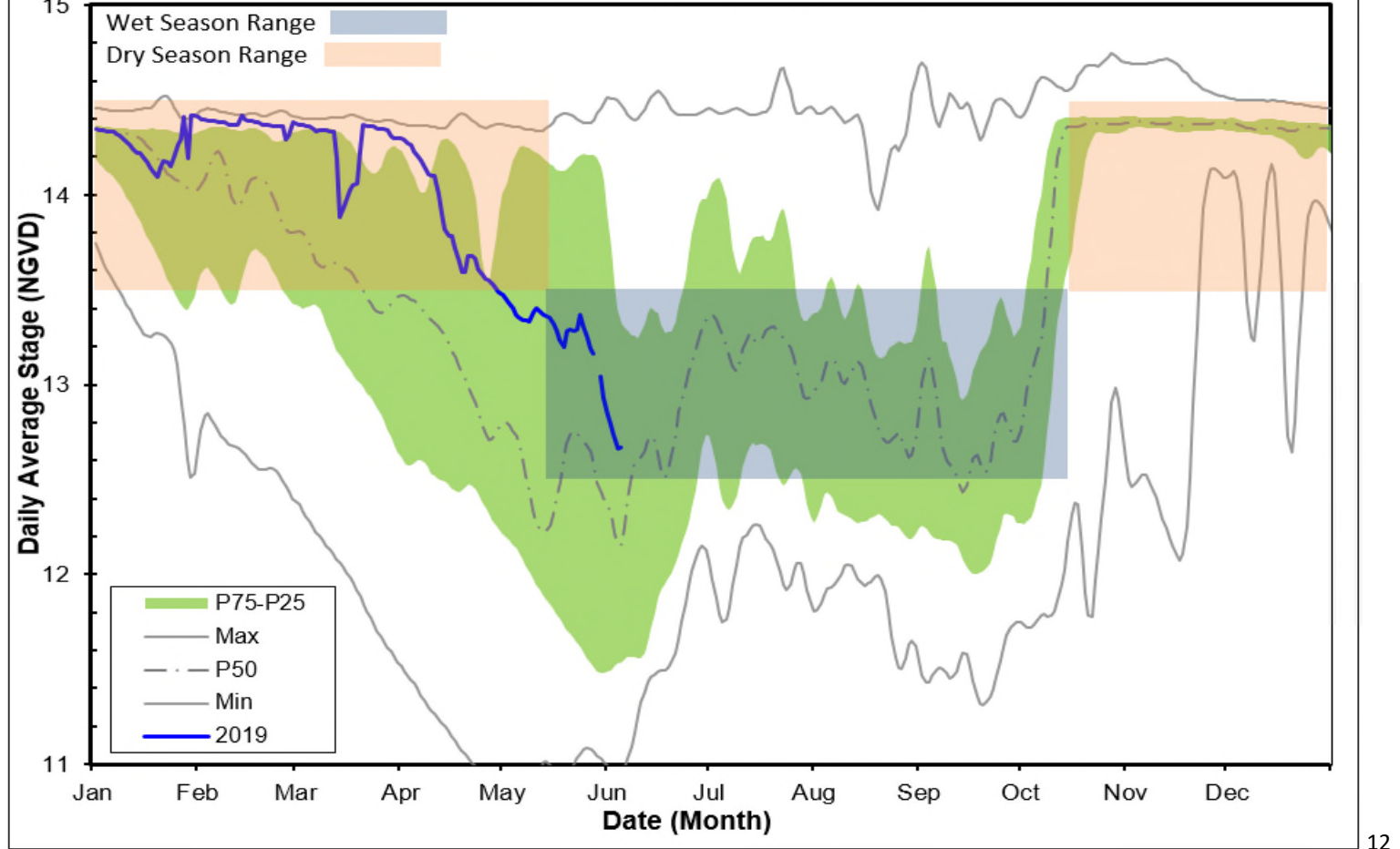


Figure 8A - HC1 Historic Average Daily Headwater Percentiles (1997-2018)

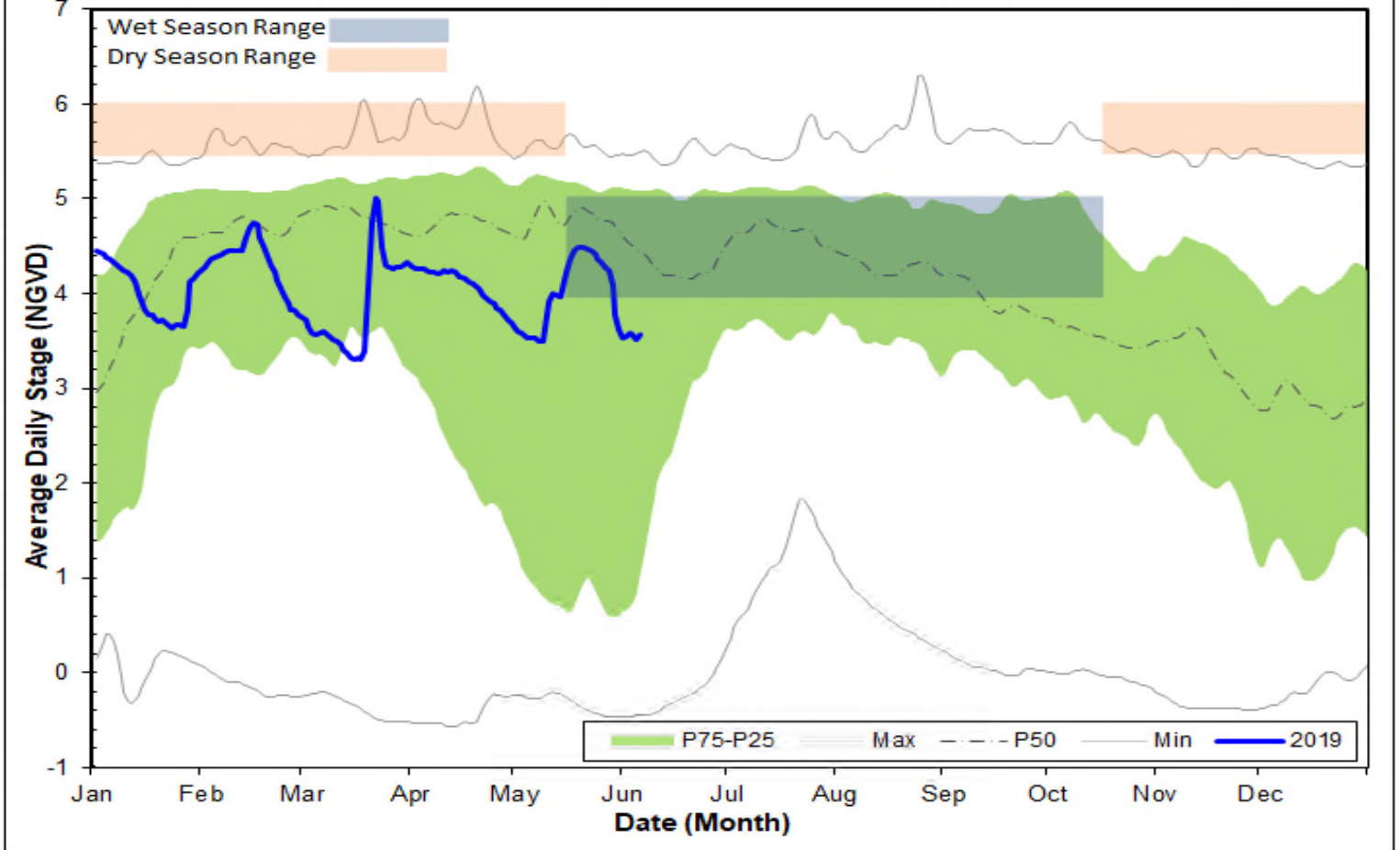
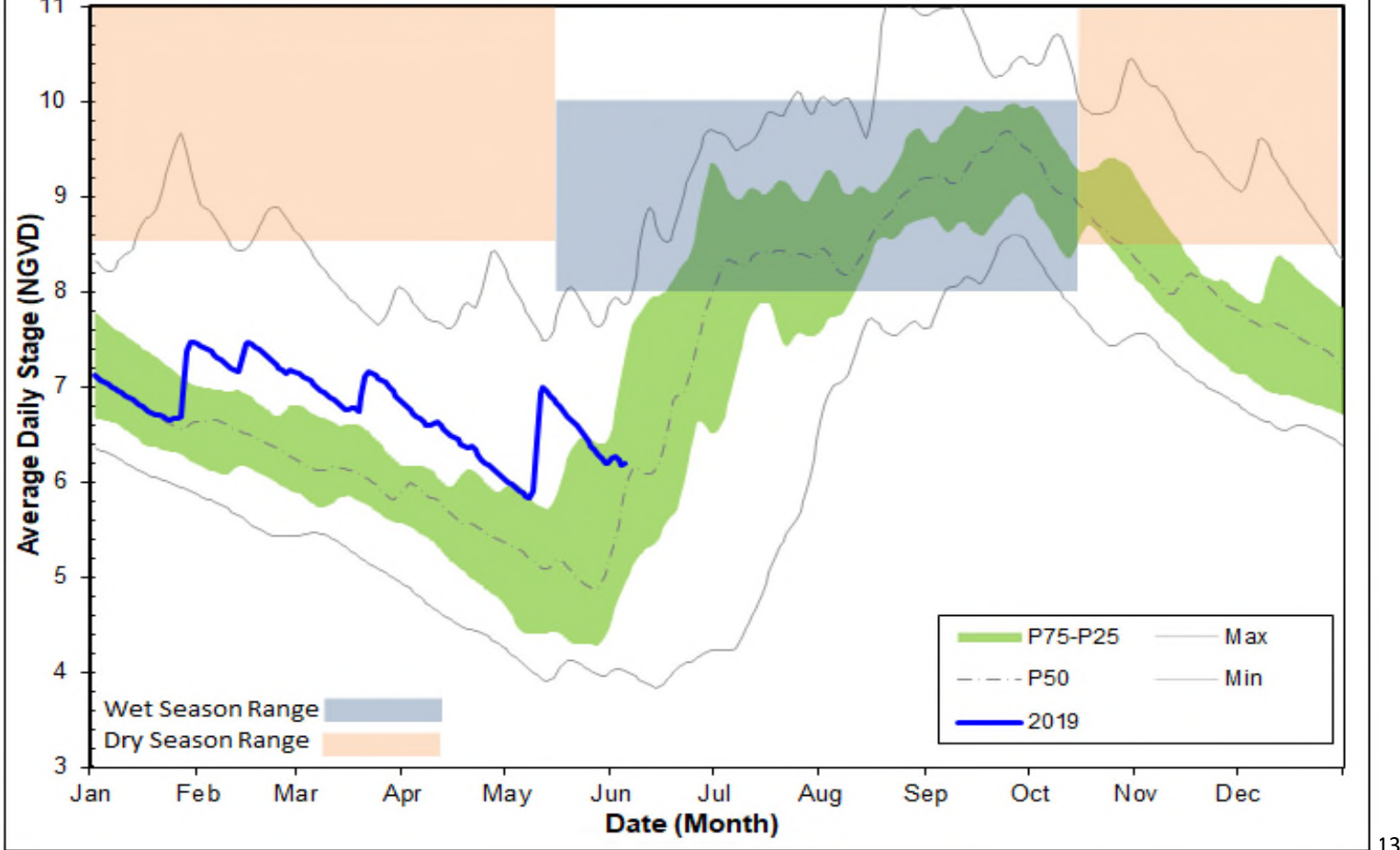


Figure 8B - HC2 Historic Average Daily Headwater Percentiles (2005-2018)



WATER CONDITIONS SUMMARY - May 2019
SELECTED STATIONS for BCB AREA / SW FLORIDA

Last Reading Date :		June 6, 2019					
Previous Period Reading Date:		May 1, 2019					
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	0.54	27.85	28.39	↑	GREEN
C-1004R	Naples	Lower Tamiami Aquifer	0.03	-1.30	-1.27	↑	YELLOW
C-1224	Marco Lakes	Lower Tamiami Aquifer	-0.06	3.23	3.17	↓	GREEN
L-2194	Bonita Springs	Sandstone Aquifer	-1.25	0.63	-0.62	↓	YELLOW
L-2195	Bonita Springs	Surficial Aquifer System	-0.34	8.75	8.41	↓	GREEN
L-738	Bonita Springs	Lower Tamiami Aquifer	-1.60	-2.08	-3.68	↓	YELLOW

TABLE 2
BCB WATER CONDITIONS SUMMARY
MAY 2019

BIG CYPRESS BASIN

MAY 2019

GROUNDWATER LEVEL DAILY TRENDS COMPARED TO HISTORICAL AVERAGE

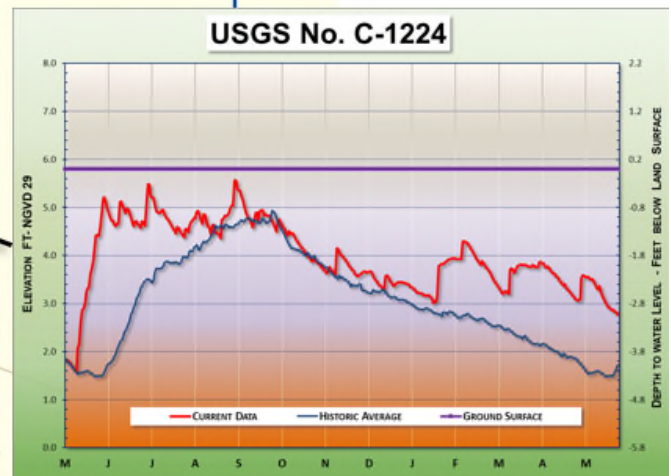
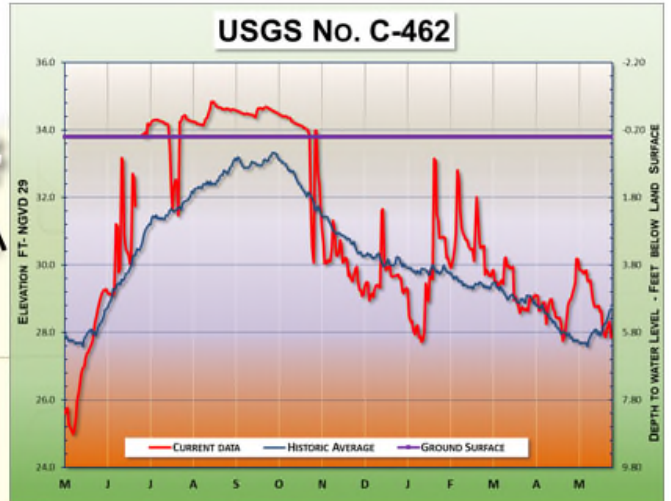
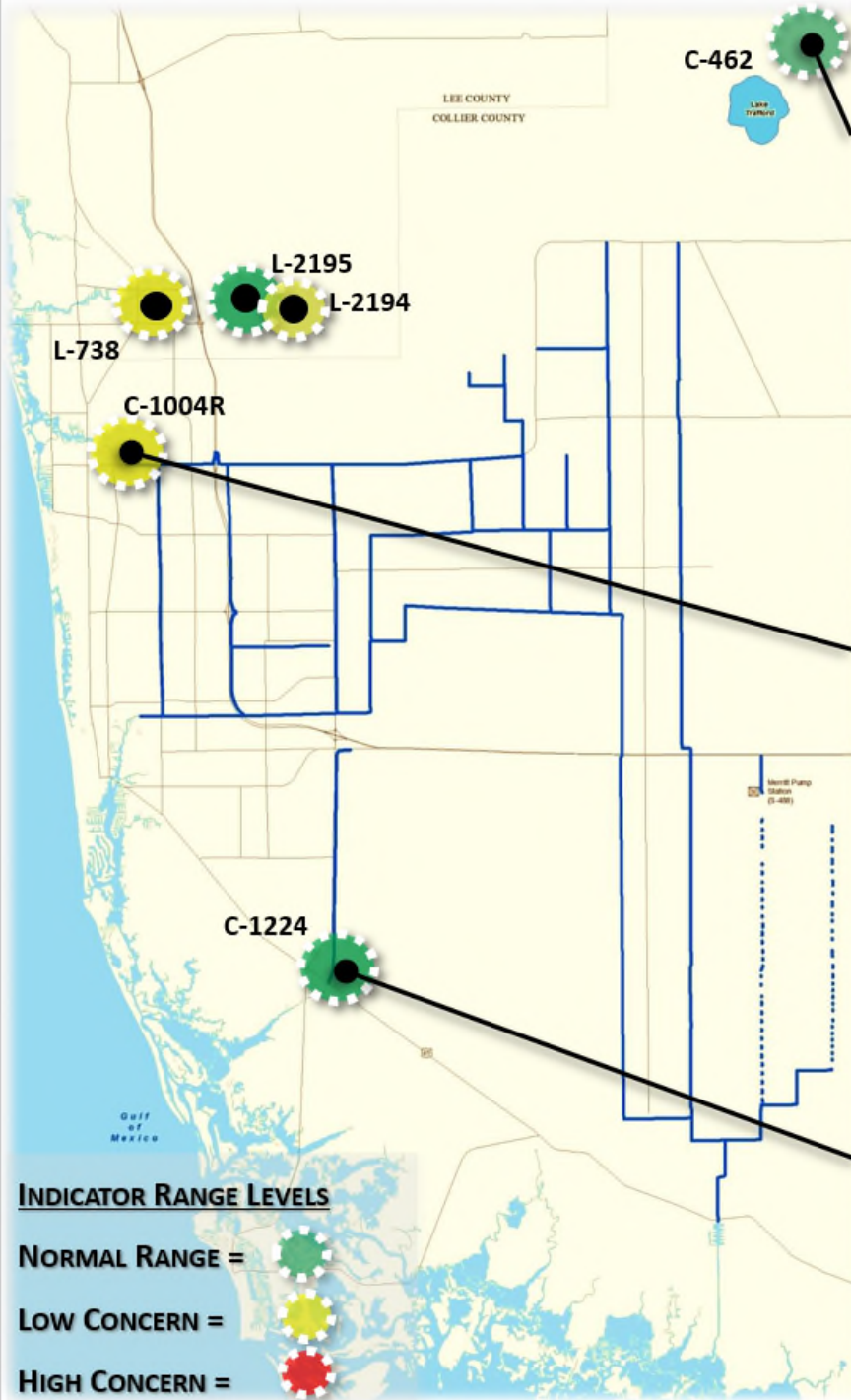


FIGURE 9

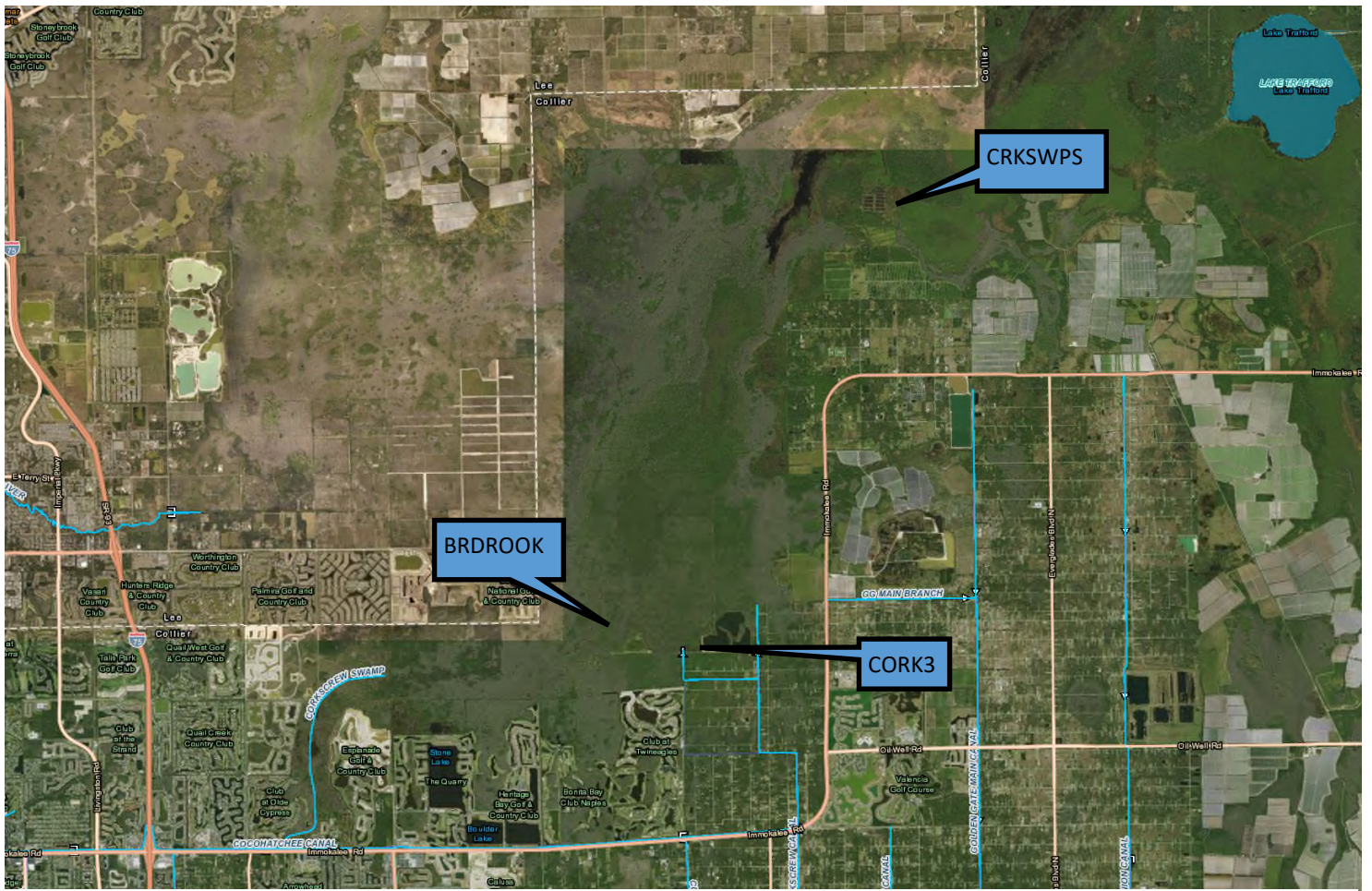


Figure 10-Corkscrew Historic Average Daily Headwater Percentiles(1984-2018)

