



HYDROLOGIC REPORT BIG CYPRESS BASIN — SOUTH FLORIDA WATER MANAGEMENT DISTRICT

APRIL 2019

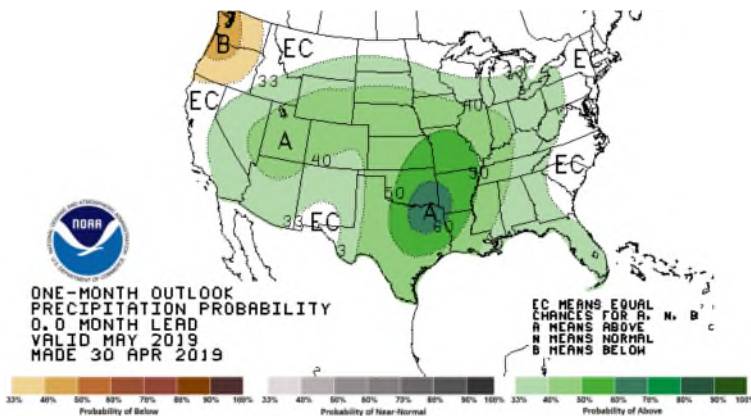
SUMMARY OF HYDROLOGIC CONDITIONS IN THE BIG CYPRESS BASIN

April 2019

SUMMARY

April was a calm month in terms of rainfall for the Basin. April rainfall came in around 78% of average for the month, however 2019 so far is slightly above average at 118% of normal. Even though all BCB water control structures were operated with dry season criteria, canal water levels dropped through the Basin. Below average rainfall and increased evapotranspiration contributed to the Basin wide decrease.

Six of the ten structures reported are in the upper quartile for their respective period of record. The remaining four structures maintain levels near the 50th percentile. The BCB canal system is in excellent condition from both a water level and maintenance viewpoint, as the Basin transitions from dry to wet season.



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

Also, the 3 month long term forecast no longer shows an above average chance for higher than average rainfall. Most of Florida now has equal chances for above or below average rainfall for June, July, and August (see below).

Area groundwater levels have generally trended downward during April as expected for the end of the dry season. All but two reporting wells (C-1004R, L-2194) are still reporting in the green concern indicator.

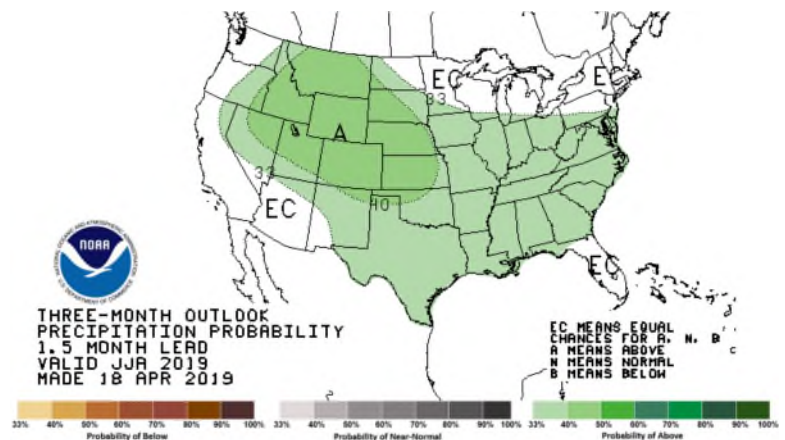
BCB RAINFALL

April was slightly below average in terms of rainfall and at about 78% of normal. As measured by twenty-two (22) reporting stations (ref. **Figures 1, 2, Table 1**), the basin-wide monthly average was **1.80 inches**, which is 78% of the normal 2.25 inches typically collected.

Based on collected gage data, rainfall distribution across all BCB localities was mixed in April. The month's highest total was collected at Dan House Prairie (Site R-6), which received **3.31 inches**, and the lowest at G.G. Fire Station (Site R-12) with **1.14 inches**. **Figure 10** shows the historical trends for Corkscrew, Bird Rookery, and Cork 3 structure and the 2019 corresponding levels. The rainfall totals and their locality distribution across the BCB/ Lower West Coast are shown on **Figure 3**.

BCB CANAL SYSTEMS

All of the canals were maintained in dry season operations. All 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 are now passing below the 50th percentile (ref **Figure 10**).



- **GOLDEN GATE SYSTEM**

The Golden Gate Main canal levels have all decreased throughout April and releases to Naples Bay at GG1 have stopped with the lower than average rainfall. (ref **Figure 5A & 5B**). Back-pump operations have stopped at Airport Road Canal and CR951 Canal due to the lack of excess water.

- **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 April in the upper quartile but all are expected to continue decreasing until the dry season ends.

- **FAKA UNION SYSTEM**

Water levels in this system are decreasing to below the upper quartile for the period of record (ref **Figure 7A & 7B**). The downward trend is expected to continue, but is on track to stay above the 50th percentile until the close of dry season.

- **HENDERSON CREEK SYSTEM**

Henderson Creek continues to run in dry season operations. Water levels in upper watershed continue to decrease and are approaching the 75th 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 (05/05/2019) for the Lower West Coast [LWC] notes that all but one groundwater wells decreased but remain near historic averages for the end of dry season. By the end of April, only two (C-1004R, L-2194) of the six reporting wells were below the normal concern indicator (green color) (ref. **Table 2**).

All reported wells in **Table 2** show an average decrease of 1.2 feet. C-1004R recorded the highest decrease of 2.5 feet, and C-462 was the only well to increase at 0.2 feet (ref. **Table 2, Figure 9**).

BIG CYPRESS BASIN

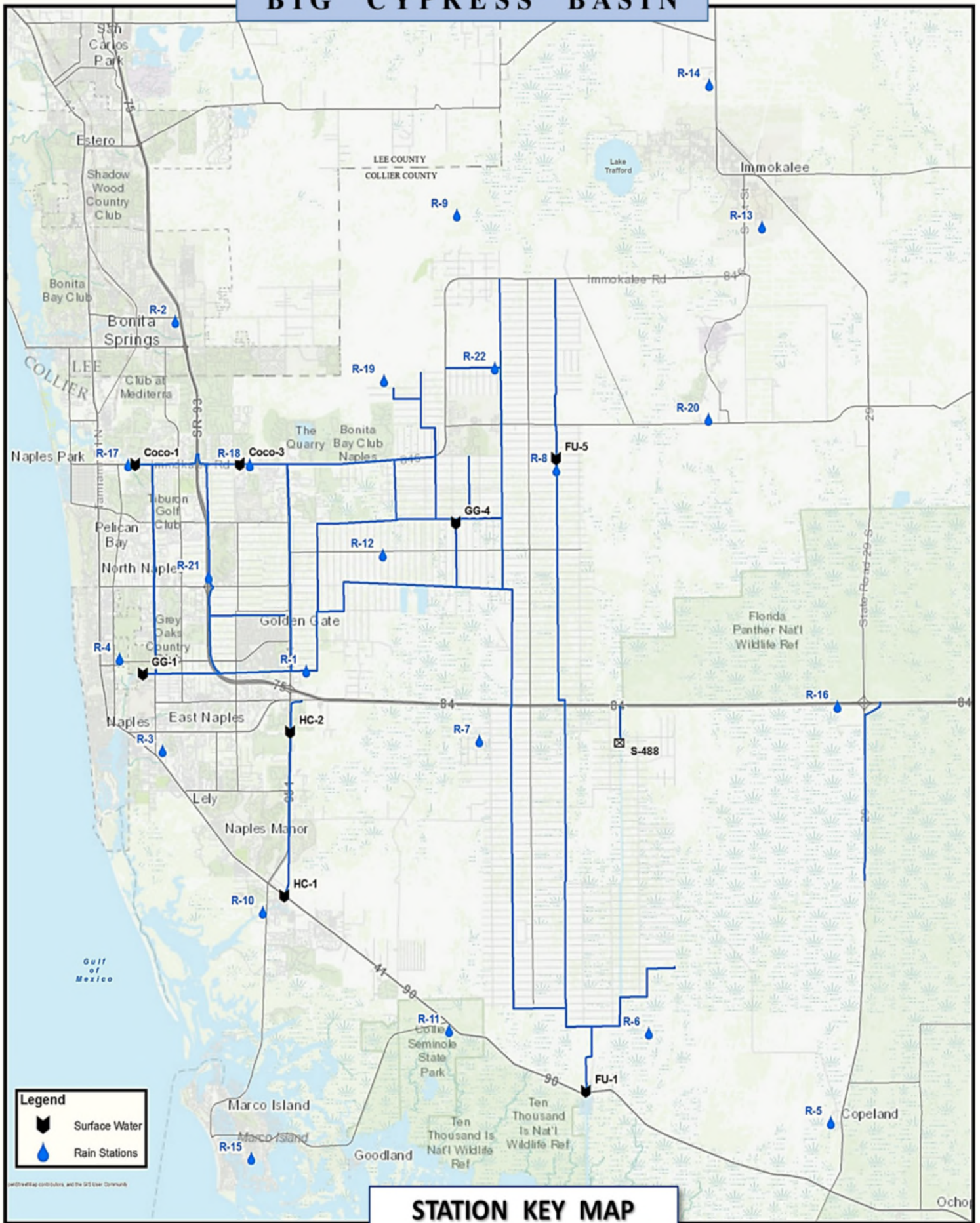


FIGURE 1

TABLE 1
RAINFALL REPORT - APRIL 2019
DISTRICT/BASIN RAINFALL STATIONS

(ALL NUMBERS ARE IN INCHES)

STATION INDEX NO.	STATION NAME	APRIL 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	1.24	1.50	-0.26	9.50	7.47	2.03
R-2	BONITA SPRINGS WATER PLANT	1.75	2.01	-0.26	9.01	8.46	0.55
R-3	COLLIER COUNTY COURTHOUSE	1.57	2.31	-0.74	10.57	8.19	2.38
R-4	FREEDOM PARK	1.73	1.75	-0.02	8.49	7.99	0.50
R-5	FAKAHATCHEE STRAND HQ	1.51	2.27	-0.76	7.69	8.38	-0.69
R-6	DAN HOUSE PRAIRIE	3.31	2.17	1.14	10.58	6.97	3.61
R-7	SGGE WEATHER STATION	2.49	2.50	-0.01	10.43	7.28	3.15
R-8	FAKA UNION #5	1.59		New Site	9.75	No Historical Data	
R-9	CORKSCREW SWAMP NORTH END	2.28	2.03	0.25	12.16	7.36	4.80
R-10	ROOKERY BAY HQ	1.59	2.13	-0.54	8.31	7.75	0.56
R-11	COLLIER SEMINOLE STATE PARK	2.15	2.40	-0.25	9.77	8.14	1.63
R-12	G.G. FIRE STATION	1.14	2.46	-1.32	8.97	8.65	0.32
R-13	IMMOKALEE LANDFILL	1.44	2.39	-0.95	10.55	9.11	1.44
R-14	IFAS	2.28	2.29	-0.01	10.58	9.13	1.45
R-15	MARCO R.O. PLANT	2.62	2.34	0.28	9.88	8.94	0.94
R-16	FAKAHATCHEE STRAND NORTH END	1.68	2.94	-1.26	11.74	10.08	1.66
R-17	COCO#1	1.45	1.93	-0.48	9.31	7.81	1.50
R-18	COCO#3	1.48	2.45	-0.97	9.42	7.72	1.70
R-19	BIRD ROOKERY	1.61		New Site	9.14	No Historical Data	
R-20	AVE MARIA	2.14	2.62	-0.48	12.06	9.19	2.87
R-21	I75W2	1.30		New Site	8.15	No Historical Data	
R-22	GG#7	1.23		New Site	8.93	No Historical Data	

AVERAGES	1.80	2.25	-0.45	9.77	8.26	1.52
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BCB ANNUAL RAINFALL
MONTHLY AVERAGE & HISTORICAL AVERAGE TRENDS
(FROM BCB RAINFALL GAGE DATA)

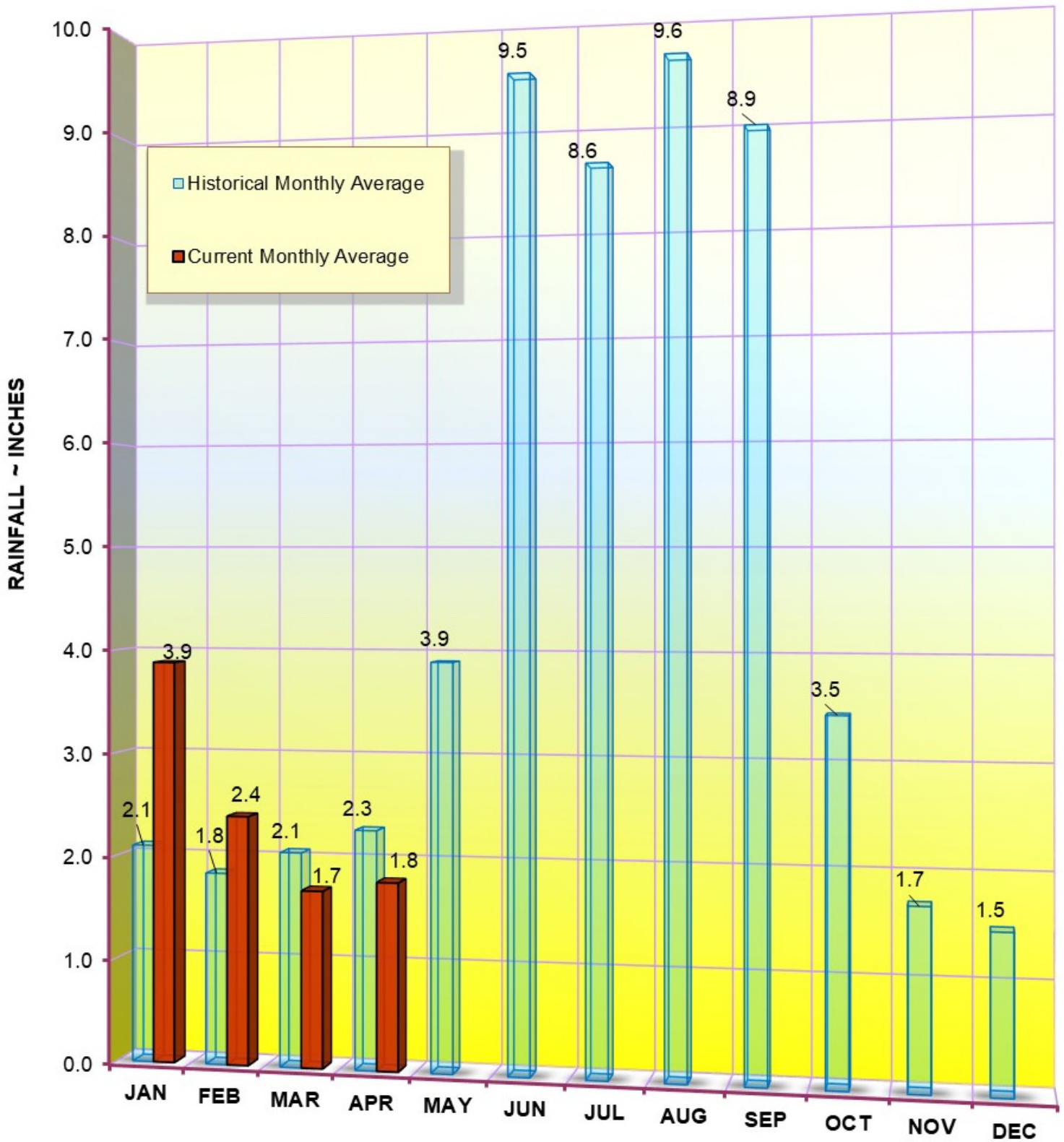


FIGURE 2
BCB GAGE RAINFALL
MONTHLY AVERAGES THROUGH APRIL 2019

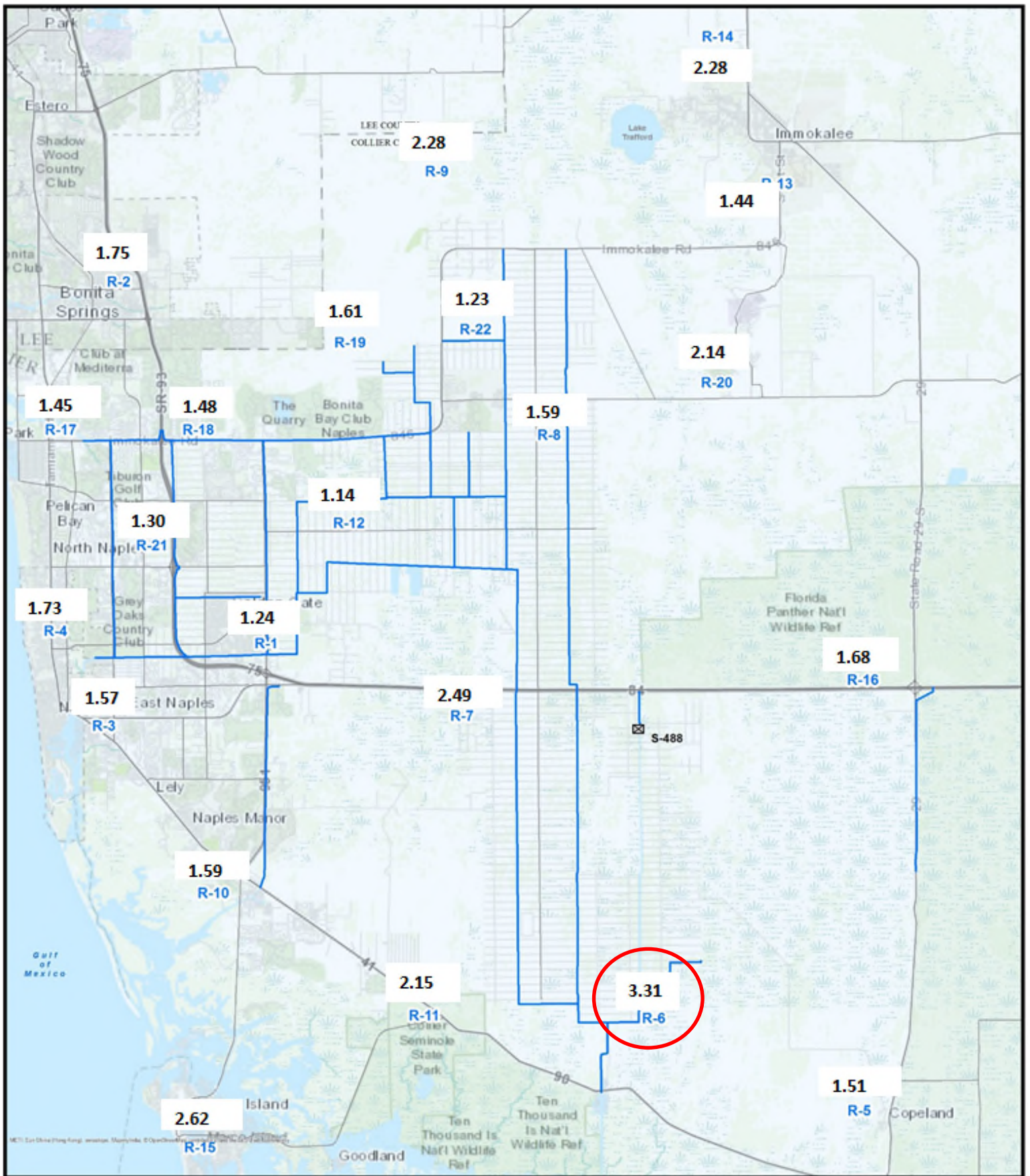


FIGURE 3
BCB RAINFALL DISTRIBUTION
APRIL 2019

BCB APRIL RAINFALL Period (1990 ~ 2019)

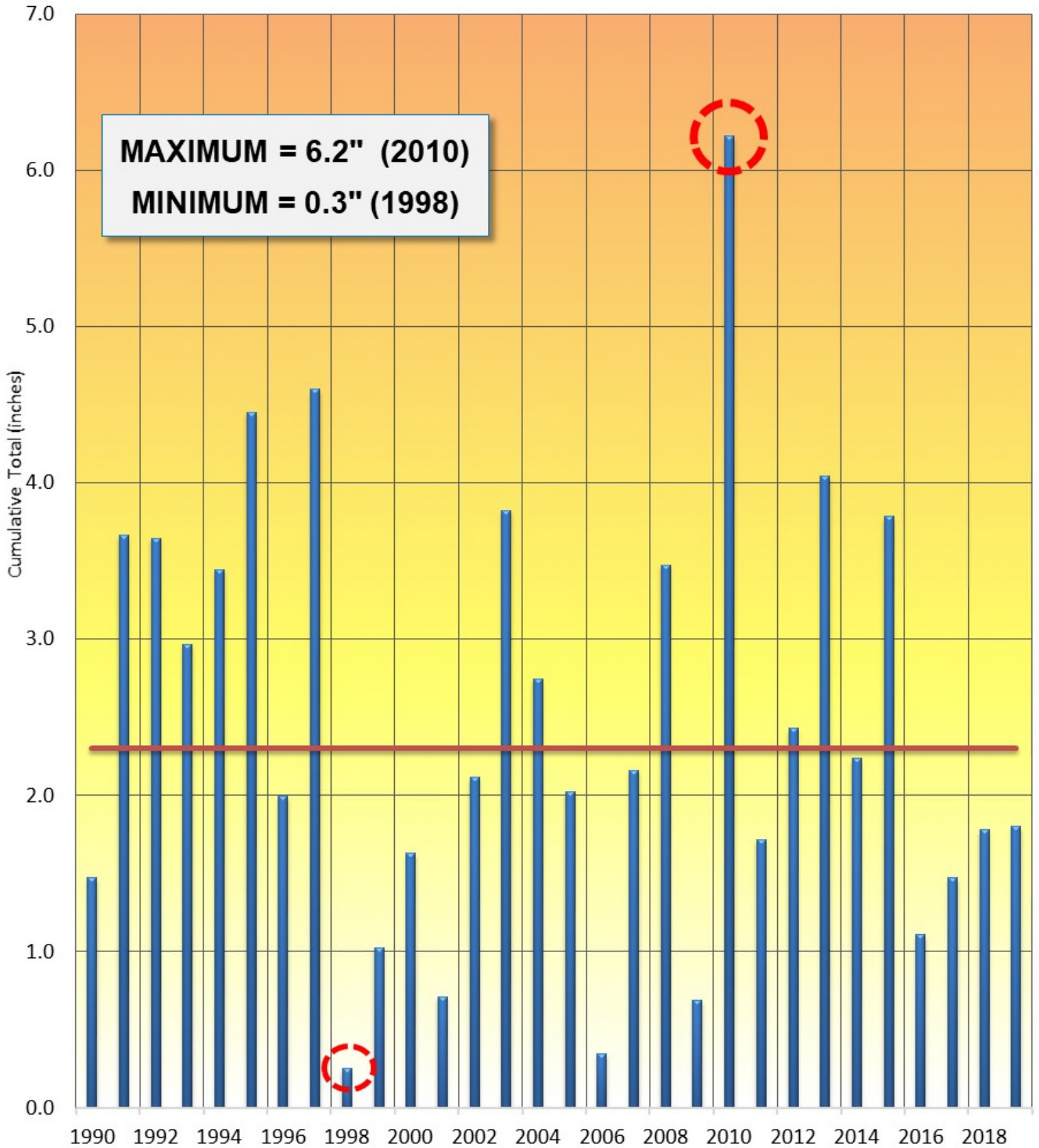


FIGURE 4

**HISTORICAL TRENDS
(PERIOD OF RECORD: 1990—2019)**

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

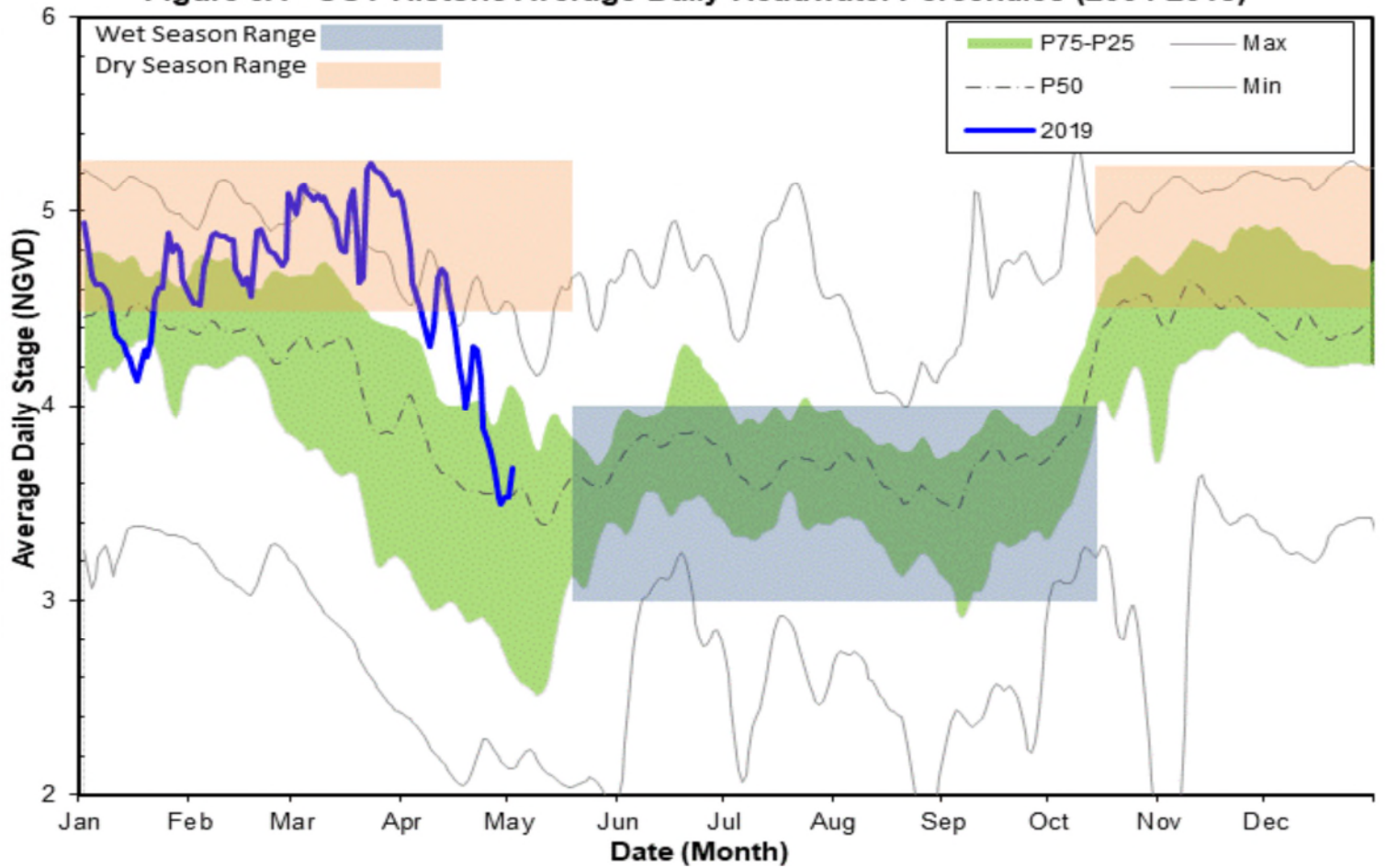


Figure 5B - GG4 Historic Average Daily Headwater Percentiles (1994-2017)

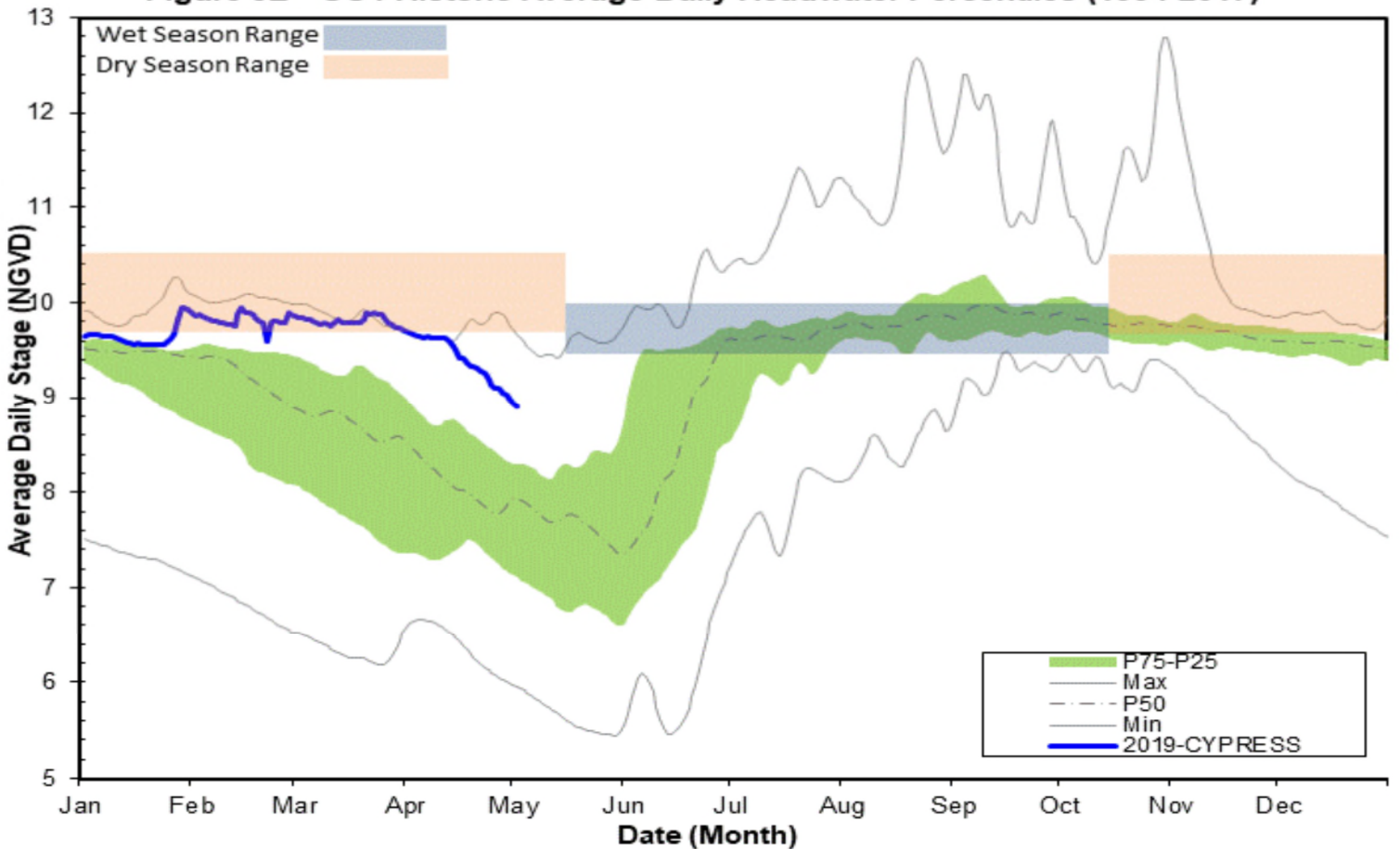


Figure 6A - COCO1 Historic Daily Headwater Percentiles (1994-2018)

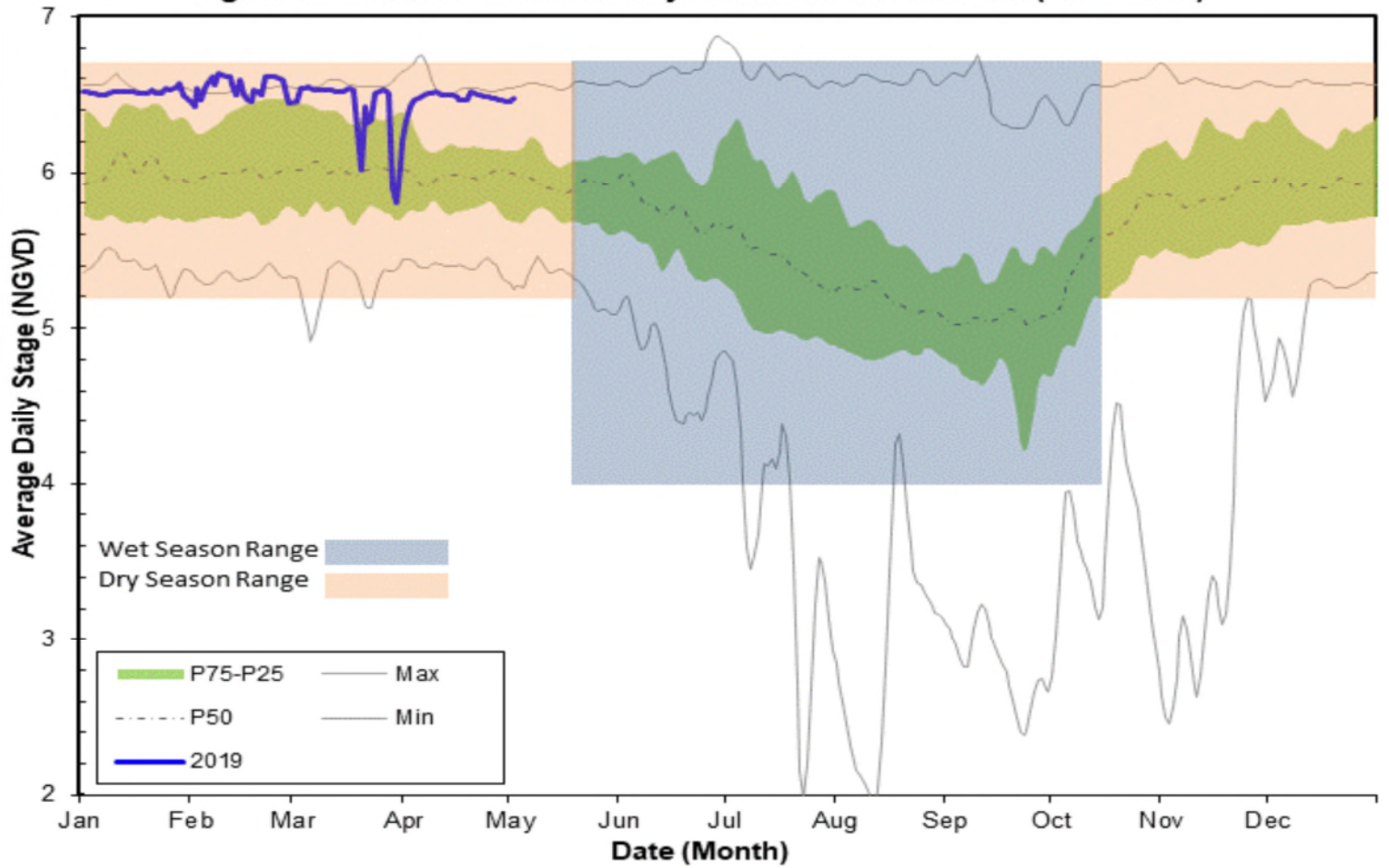


Figure 6B - COCO3 Historic Average Headwater Percentiles (2000-2018)

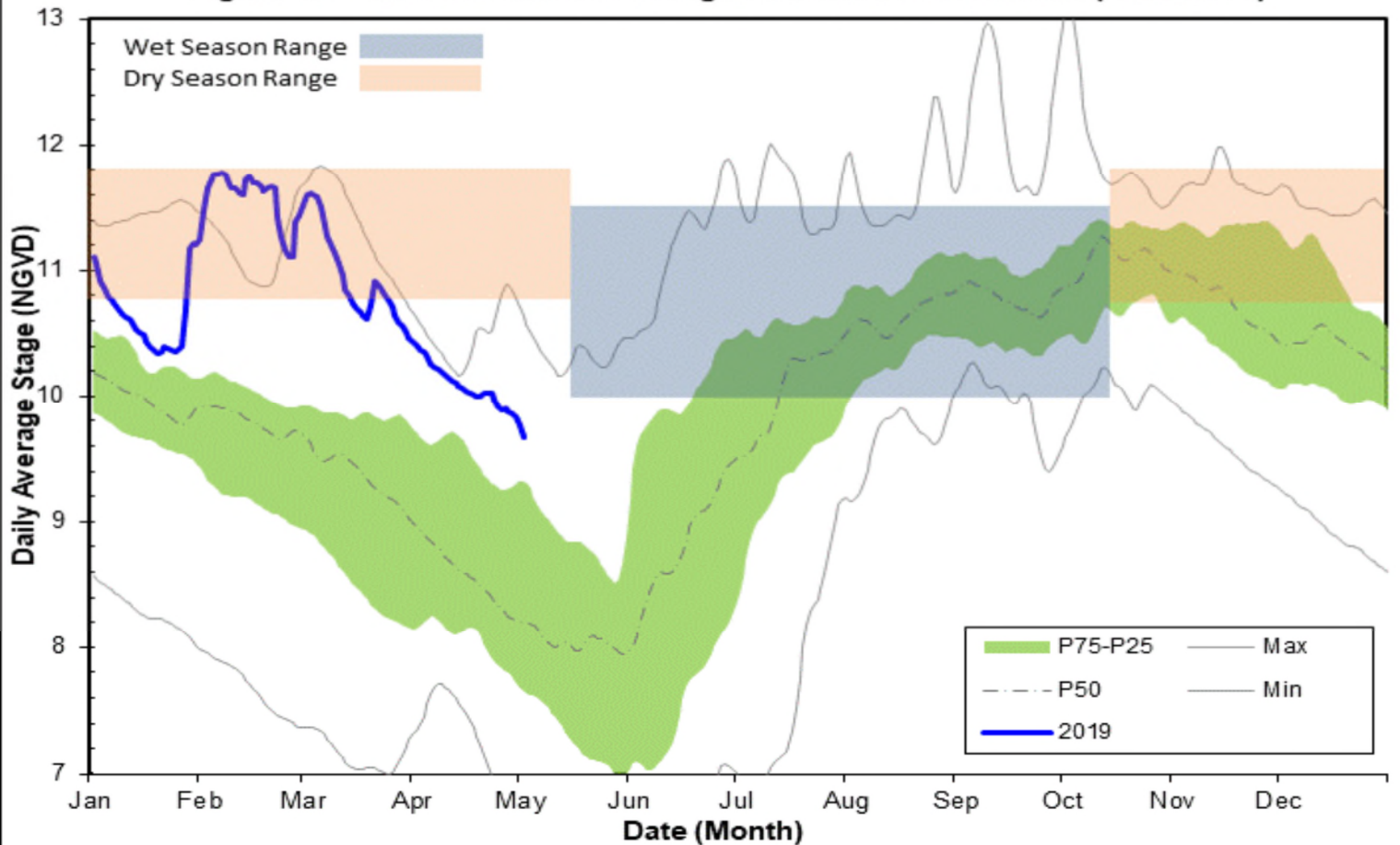


Figure 6C - CORK1 Historic Average Daily Headwater Percentiles (1989-2018)

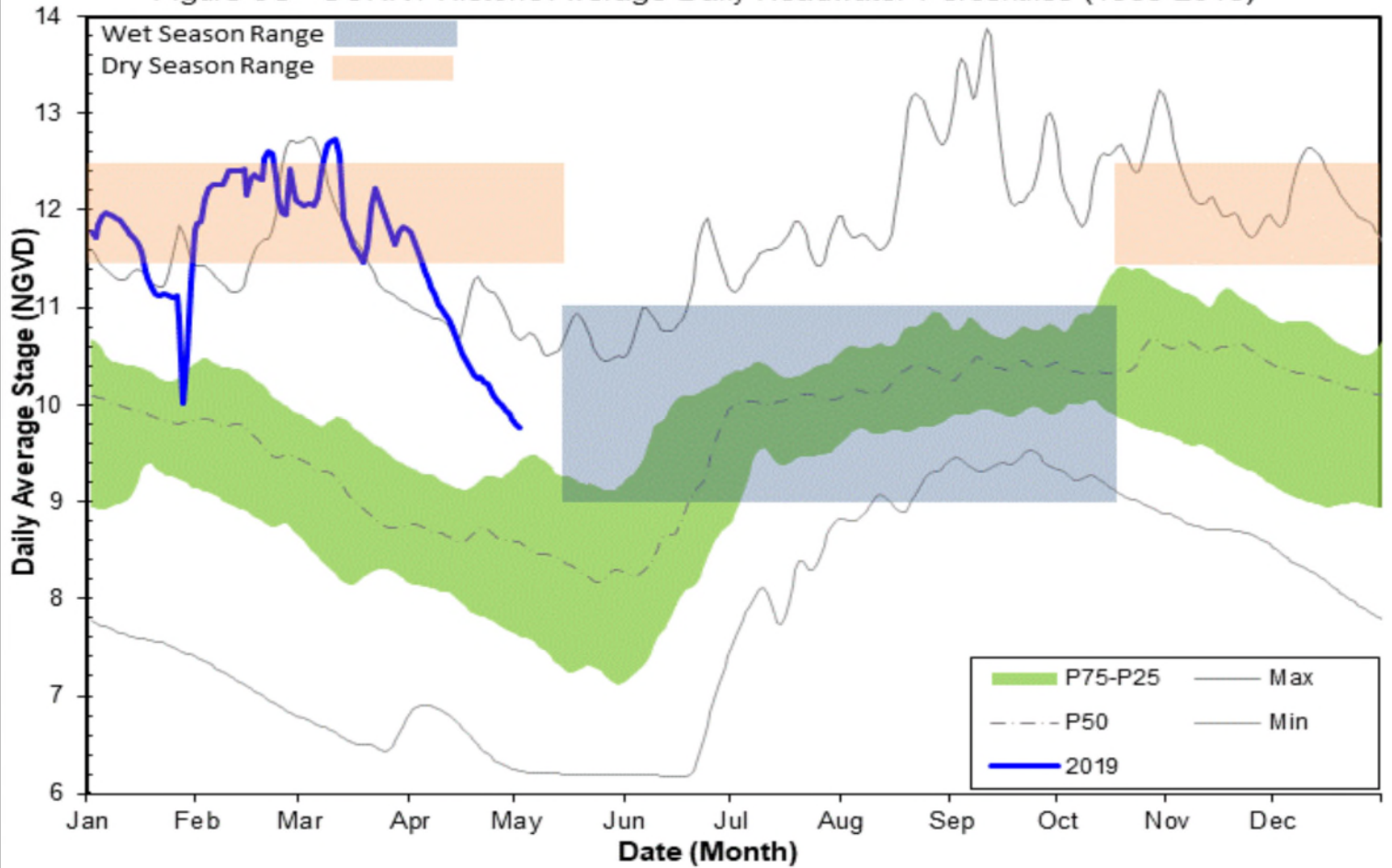


Figure 6D - CORK3 Average Daily Headwater Percentiles (2004-2018)

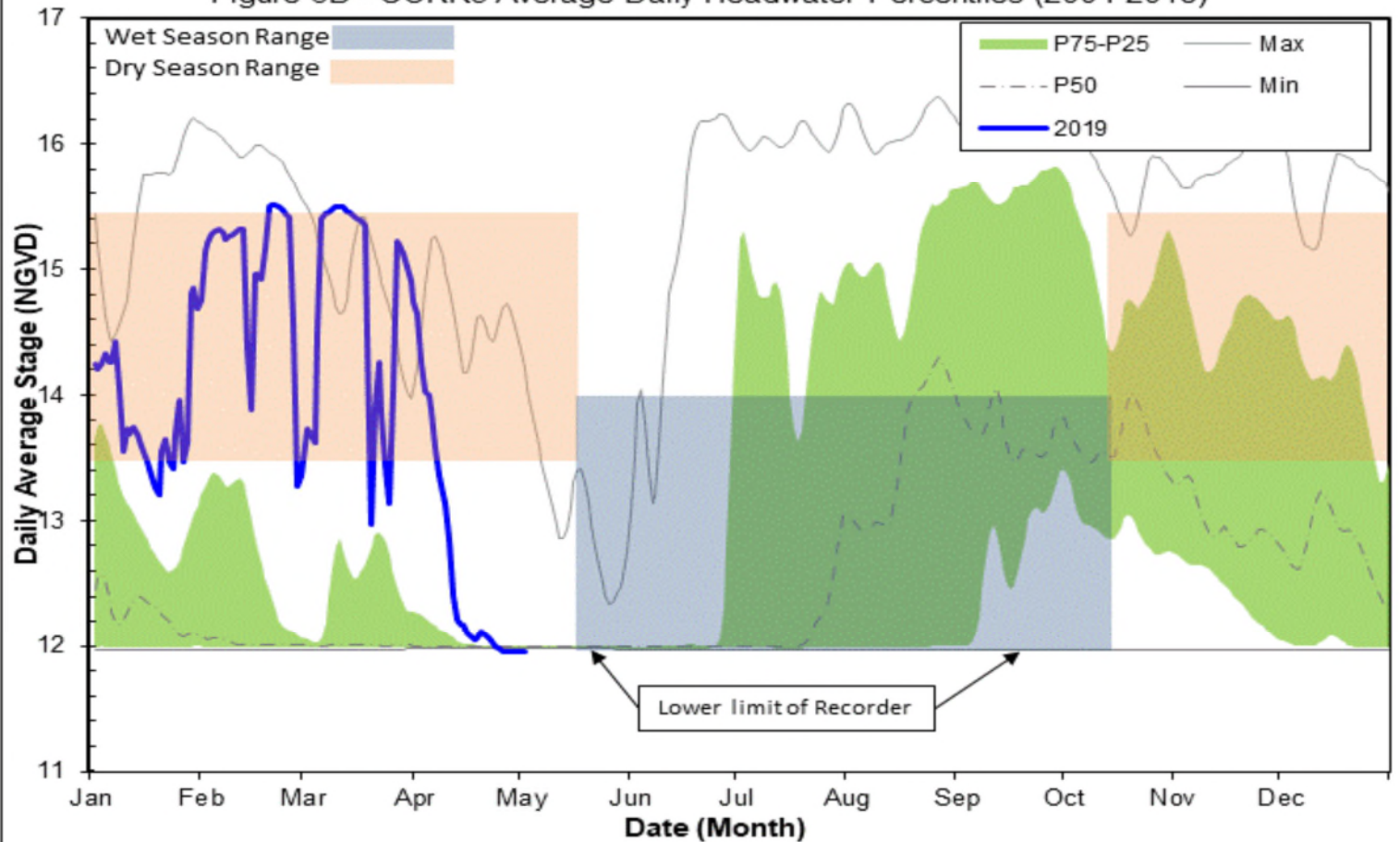


Figure 7A - FU1 Historic Average Daily Headwater Percentiles (1984-2018)

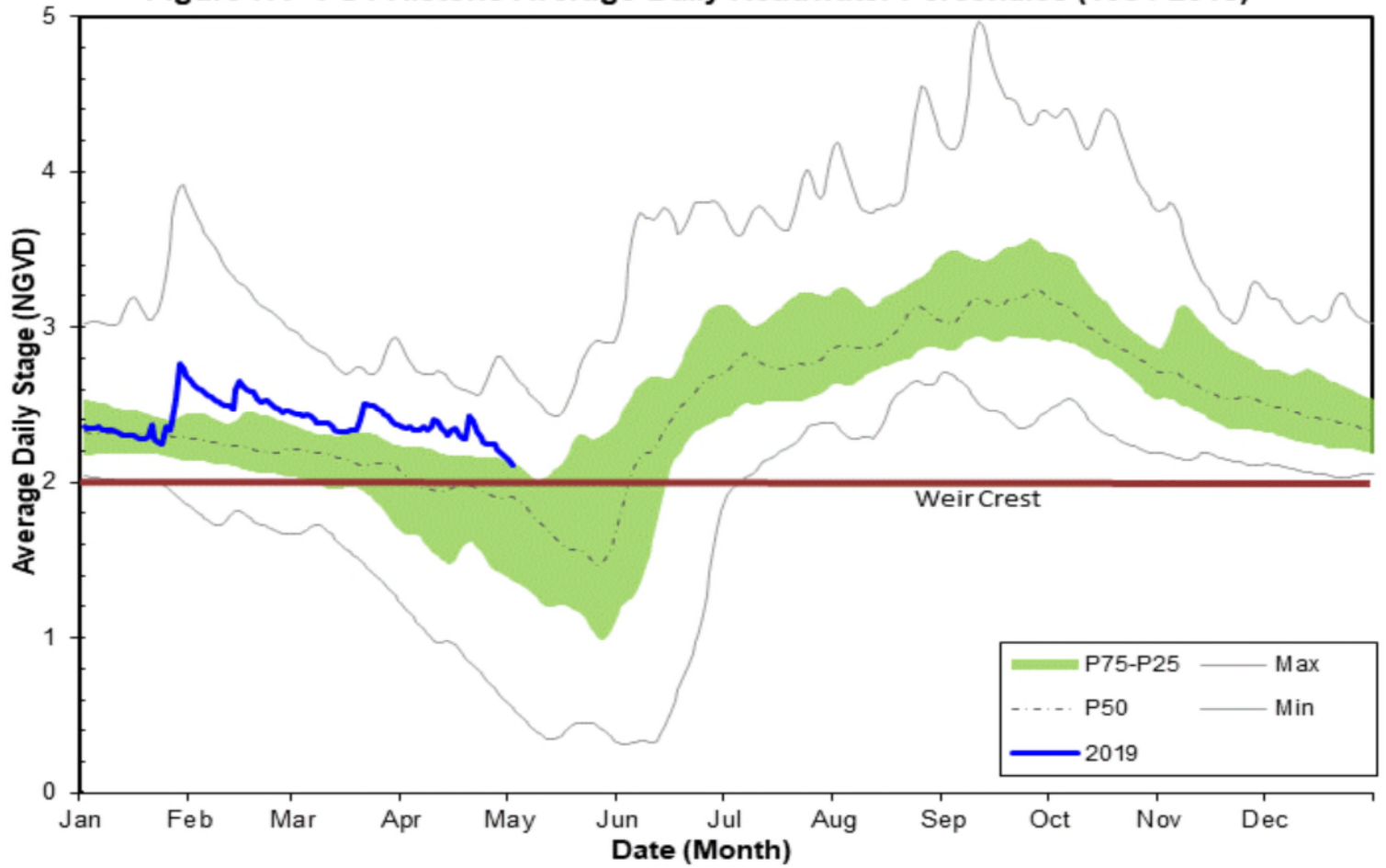


Figure 7B - FU5 Historic Average Daily Headwater Percentiles (2003-2018)

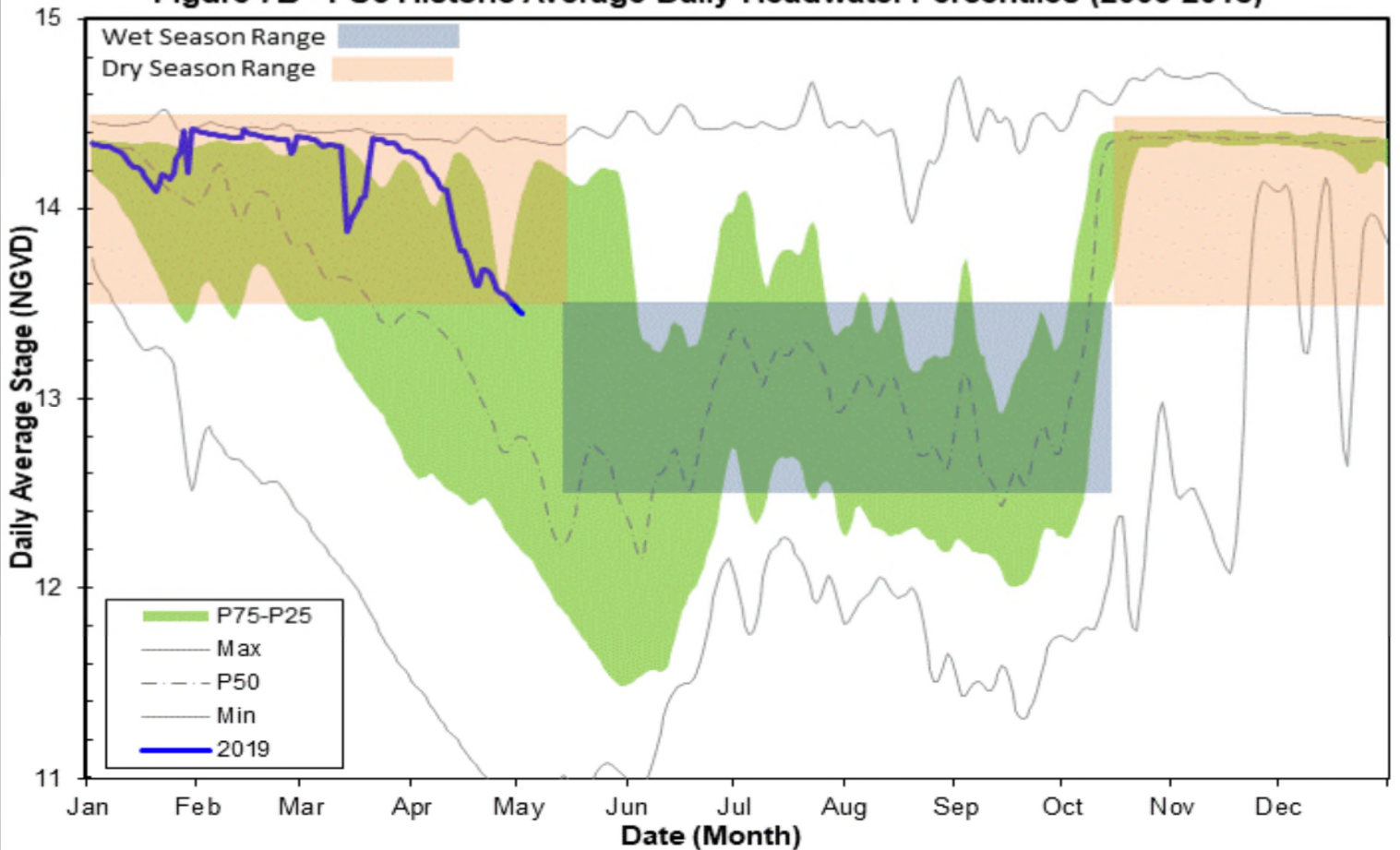


Figure 8A - HC1 Historic Average Daily Headwater Percentiles (1997-2018)

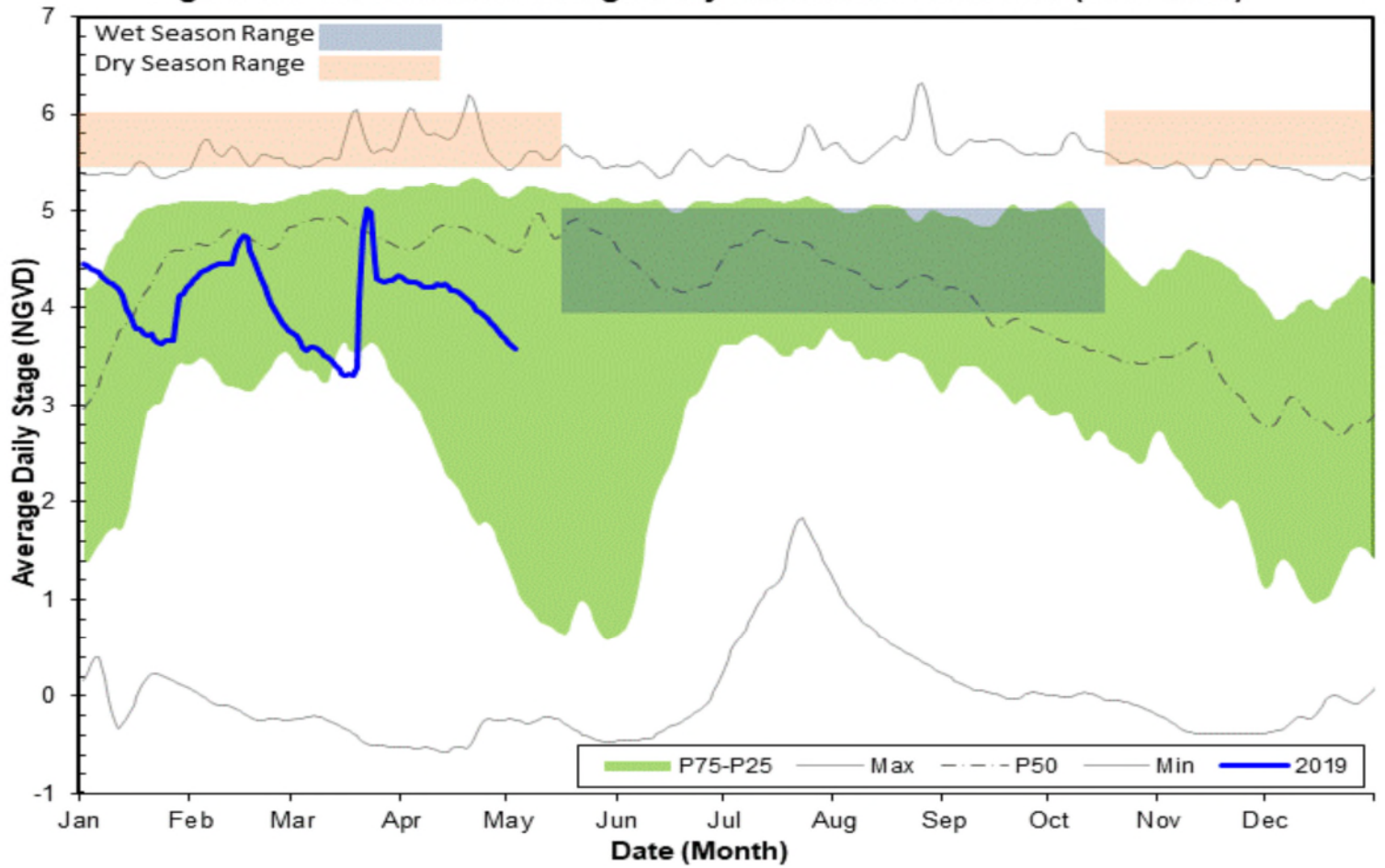
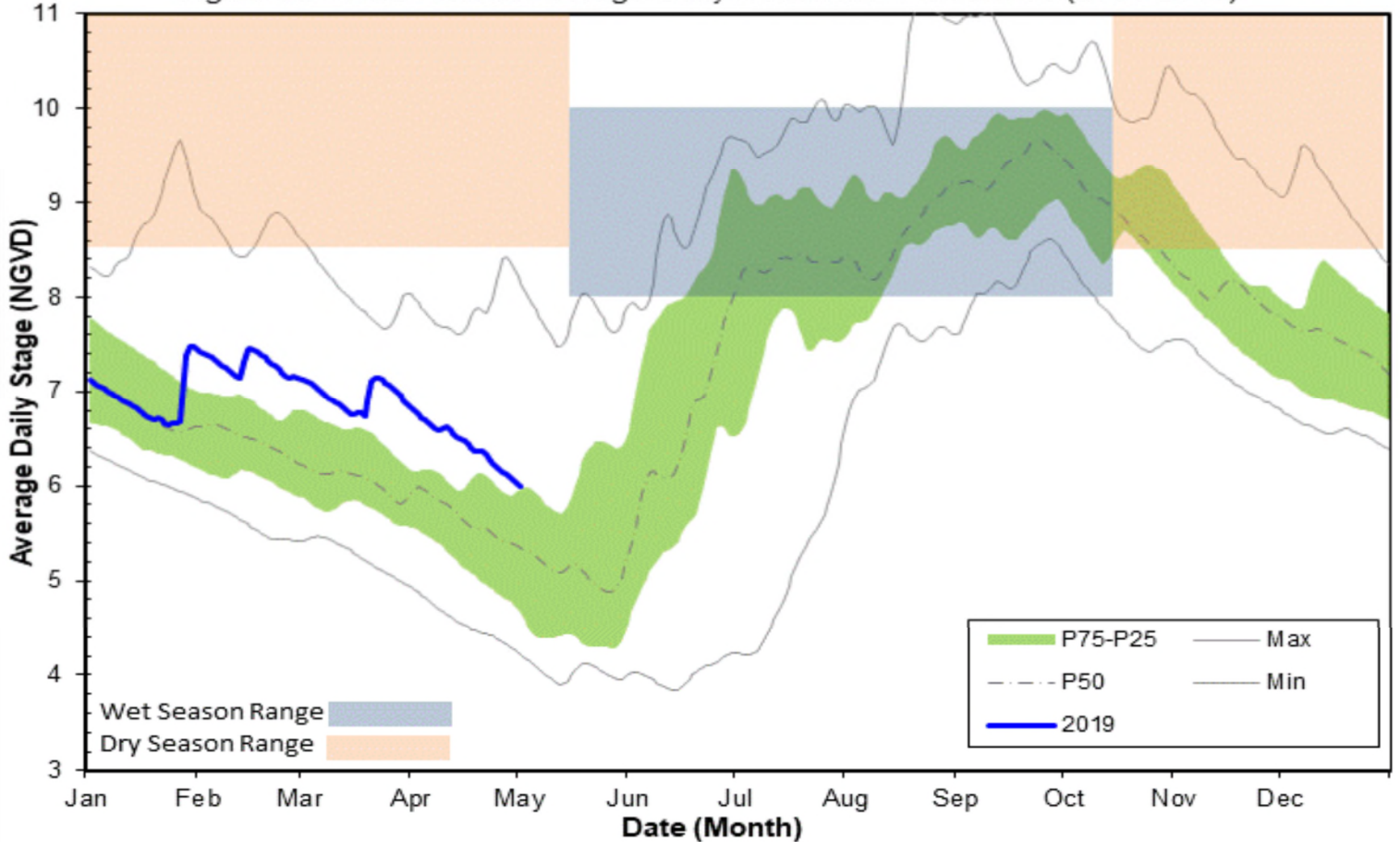


Figure 8B - HC2 Historic Average Daily Headwater Percentiles (2005-2018)



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

Last Reading Date :		May 5, 2019					
Previous Period Reading Date:		April 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	0.20	28.75	28.95	↑	GREEN
C-1004R	Naples	Lower Tamiami Aquifer	-2.50	1.49	-1.01	↓	YELLOW
C-1224	Marco Lakes	Lower Tamiami Aquifer	-0.69	3.77	3.08	↓	GREEN
L-2194	Bonita Springs	Sandstone Aquifer	-1.71	1.99	0.28	↓	YELLOW
L-2195	Bonita Springs	Surficial Aquifer System	-0.89	9.50	8.61	↓	GREEN
L-738	Bonita Springs	Lower Tamiami Aquifer	-1.40	-0.78	-2.18	↓	GREEN

TABLE 2
BCB WATER CONDITIONS SUMMARY
APRIL 2019

BIG CYPRESS BASIN

APRIL 2019

GROUNDWATER LEVEL DAILY TRENDS COMPARED TO HISTORICAL AVERAGE

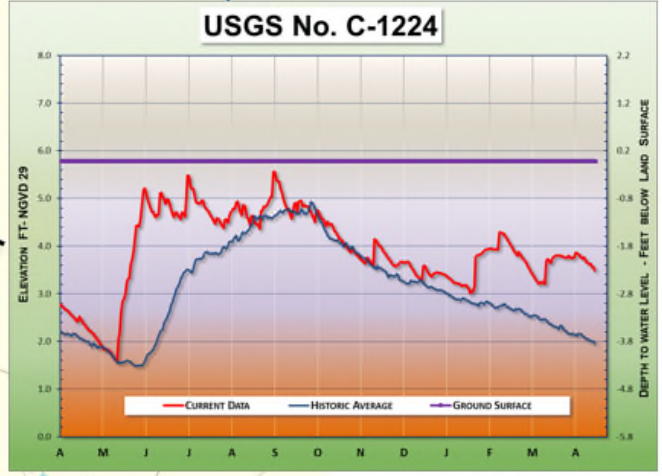
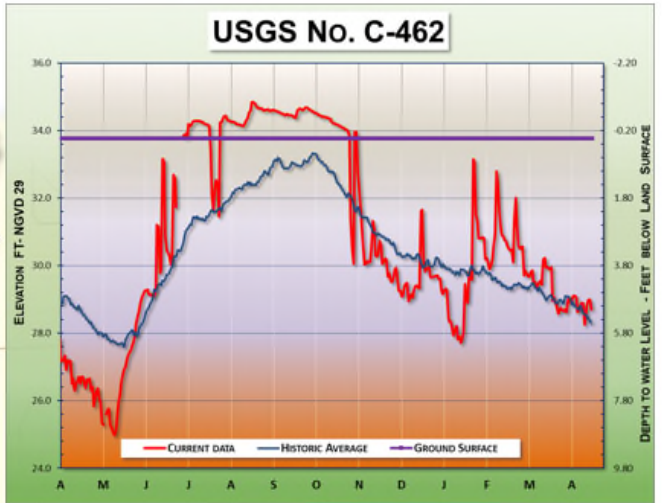
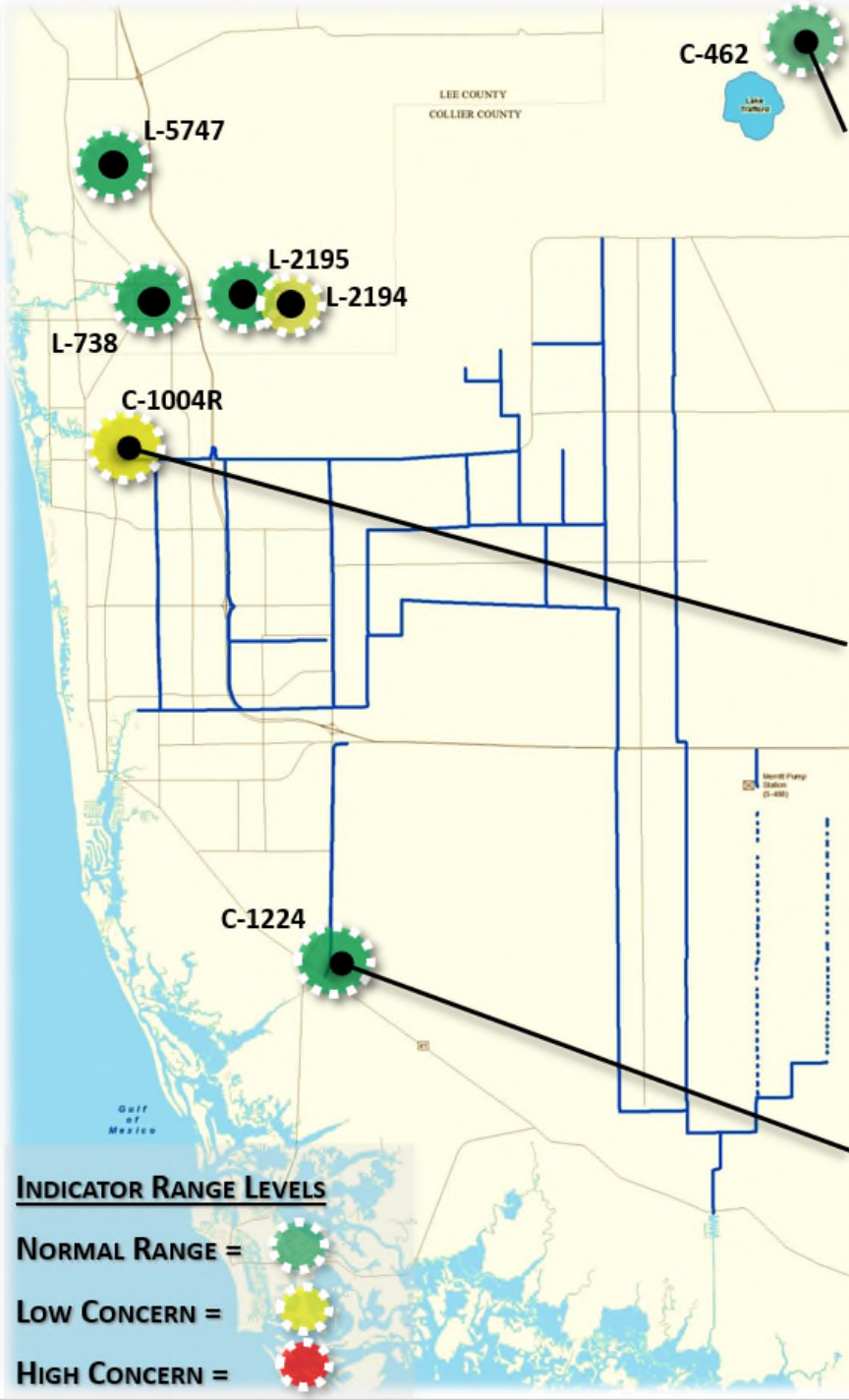


FIGURE 9

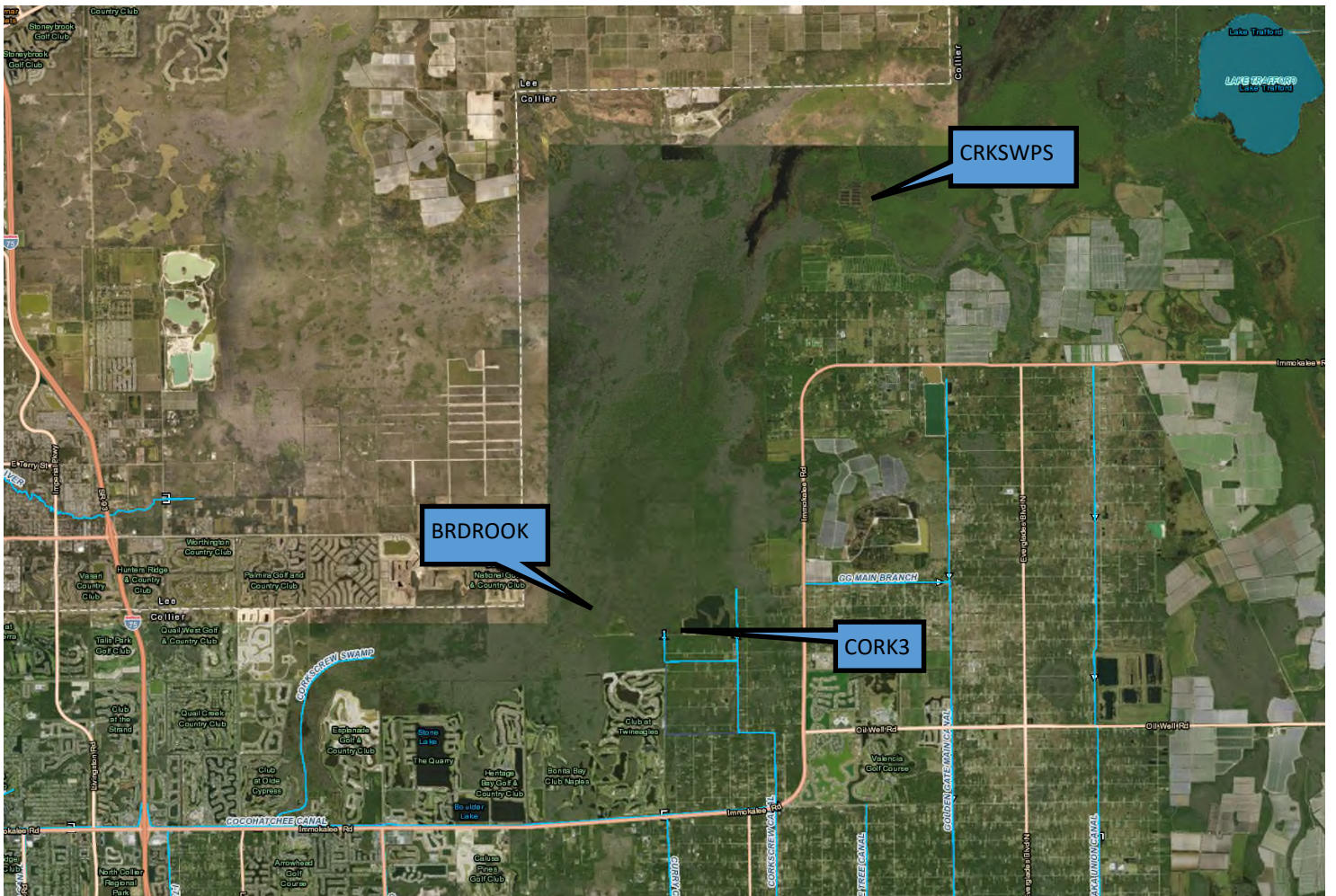


Figure 10-Corkscrew Historic Average Daily Headwater Percentiles(1984-2018)

