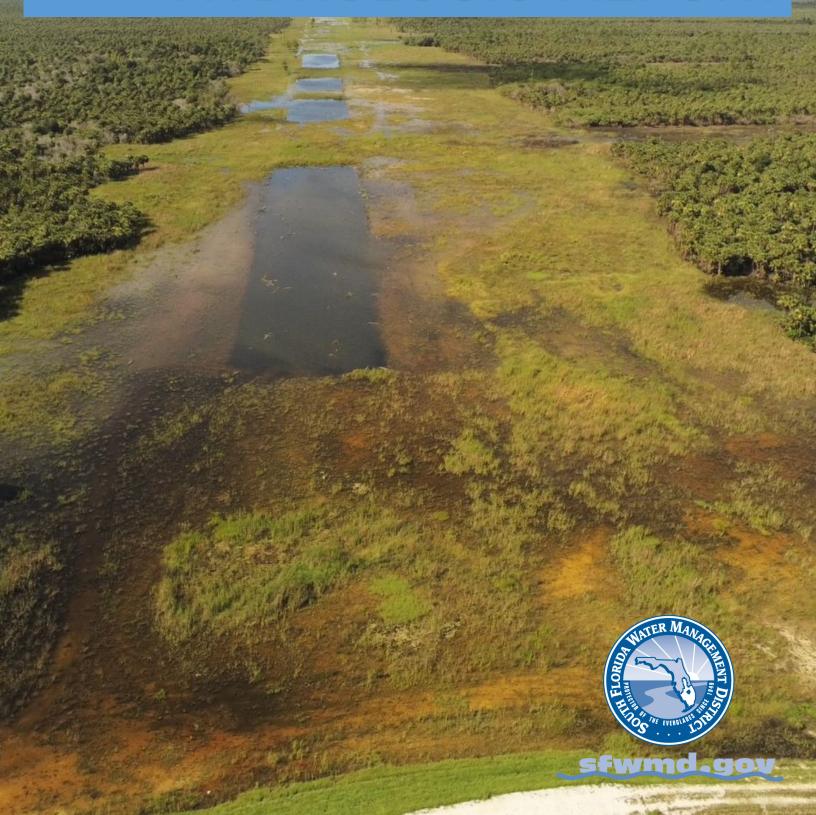
May, June, & July 2022 BIG CYPRESS BASIN HYDROLOGIC REPORT



SUMMARY OF HYDROLOGIC CONDITIONS IN THE BIG CYPRESS BASIN

May, June, & July 2022

SUMMARY

May started with widespread beneficial rainfall which helped to alleviate the dry conditions that prevailed through the early portions of the year. The official wet season began on May 12th, approximately 2 weeks earlier than normal, which pushed the region's rainfall above average for May. As May ended, the 2022 rainfall deficit was eliminated and the Basin started accruing about an inch surplus.

As June began, eyes turned to the tropics at what later became Tropical Storm Alex approached the southwest coast of Florida. While rainfall totals were quite high from the storm, 6" - 8" areal average, the region still had ample room to accept the rainfall. Southern regions of the Basin received the highest totals with local maximum of around 13" in about 24 hours and average rainfall for the event everywhere else was close to six inches. The system handled the rainfall extremely well with no major exceedances from normal operational levels.

As the system recovered from the event, the western regions of South Florida remained the focus for rainfall. No major rainfall events occurred but there was almost no break from the daily heavy thunderstorm activity. Totals for June were approximately 132% of normal.

While the tropics remained quiet during July, the daily thunderstorm activity remained focused on the western side of the peninsula for the majority of the month. As the month ended, ample Saharan dust helped to limit the daily rainfall totals for the last week of the month, but total July rainfall still ended above normal.

BCB RAINFALL

<u>May</u>

As measured by twenty-four (24) reporting stations (ref. **Figures 1, 2, Table 1**), the basin-wide May monthly average was **5.2 inches (131% of normal)**, which is above the average 3.98 inches typically collected.

Based on collected gauge and radar data, the rainfall distribution across the Basin was fairly uniform aside from select few isolated areas in Picayune Strand Forest that received 8-9" of rainfall. **Figure 3a** shows the average rainfall for each of the Basin's watersheds based on gauge adjusted radar. The Fakahatchee basin received the lowest rainfall with about **3.7 inch** areal average across the watershed and the highest was the Henderson Creek basin with about **5.9 inches**. The Basin's total areal weighted average rainfall was **4.6 inches**. The month's lowest gauge total was collected at the Fakahatchee Strand HQ (Site R-5), which received **1.95 inches**. This month's highest rainfall was recorded at Bird Rookery (Site R-19), which received **8.76 inches**. The rainfall totals and their distribution across the BCB/Lower West Coast are shown on **Figure 3, 3a** and **4**.

February

As measured by twenty-four (24) reporting stations (ref. **Figures 1, 2, Table 1**), the basin-wide June monthly average was **13.41 inches (131% of normal)**, which is above the average 10.23 inches typically collected.

Based on collected gauge and radar data, the rainfall distribution across the Basin was not very uniform due to the early month potential tropical cyclone. The largest rainfall totals were at the southern end of the Basin with monthly totals in excess of 20", mostly due to the early month tropical rain event. **Figure 3a**

shows the average rainfall for each of the Basin's watersheds based on gauge adjusted radar. The Henderson Creek basin received the highest rainfall with about **15.9 inch** areal average across the watershed and the lowest was the Gordon River basin with about **10.0 inches**. The Basin's total areal weighted average rainfall was **14.5 inches**. The month's highest gauge total was collected at Dan House Prairie (Site R-6), which received **18.10 inches**. This month's lowest rainfall was recorded at Coco #1 (Site R-14), which received **8.7 inches**. The rainfall totals and their distribution across the BCB/Lower West Coast are shown on **Figure 3**, **3a** and **4**.

<u>July</u>

As measured by twenty-four (24) reporting stations (ref. **Figures 1, 2, Table 1**), the basin-wide July monthly average was **9.3 inches (106% of normal)**, which is above the average 8.8 inches typically collected.

Based on collected gauge and radar data, the rainfall distribution across the Basin was very uniform due to the daily widespread afternoon thunderstorm activity. **Figure 3a** shows the average rainfall for each of the Basin's watersheds based on gauge adjusted radar. The East Naples basin received the highest rainfall with about **12.8 inch** areal average across the watershed and the lowest was the OK slough basin with about **8.2 inches**. The Basin's total areal weighted average rainfall was **9.7 inches**. The month's highest gauge total was collected at Faka Union #5 (Site R-8), which received **14.3 inches**. This month's lowest rainfall was recorded at IFAS (Site R-14), which received **6.43 inches**. The rainfall totals and their distribution across the BCB/Lower West Coast are shown on **Figure 3, 3a** and **4**.

BCB CANAL SYSTEMS

All of the BCB canals were transitioned to flood control mode in advance of the potential tropical cyclone in early June and was maintained throughout June and July. Canal levels have been maintained in normal operational levels as is appropriate for the hydrologic conditions. Canals levels were generally held between the 75th and 90th percentile during the May—July period (**Figure 4a**).

GOLDEN GATE SYSTEM

Control structures in the Golden Gate Main canal system were operated in flood control mode. All water control structures were activity discharging for flood control since the potential tropical cyclone passed through in June (ref **Figure 5A & 5B**).

COCOHATCHEE SYSTEM

All portions of the Cocohatchee system were also transitioned to flood control mode ahead of the storm event and have maintained water levels between the 75th and 90th percentile except during times of higher flows and rainfall (ref **Figure 6A, 6B, 6C, & 6D**).

FAKA UNION SYSTEM

With early season rainfall in the Faka Union basin, the system was transitioned to flood control operations approximately 1 month earlier than normal. Since then all structures have been maintained in flood control operations with levels between the 75th and 90th percentiles (ref Figure 7A & 7B).

HENDERSON CREEK SYSTEM

Both control structures in Henderson Creek were opened for the tropical event in early June but

were then transitioned back to normal operations shortly after the event passed. Since then water levels have remained just above the 75th percentile in the canal with discharges starting from HC2 in mid-July. Flows from HC1 remain steady and fairly typical for wet season. (ref Figure 8A & 8B).

CORKSCREW SWAMP

Figure 10 shows the historical trends for Corkscrew, Bird Rookery, and the Cork 3 structure and the 2022 corresponding levels. All sites experienced a rapid accession in water levels as the wet season started. Discharges into the Corkscrew canal started, like everywhere else in the Basin, approximately 1 month early. Flood control operations are currently balanced to maintain Corkscrew canal levels for flood control, but not too low to have an impact in upstream wetlands in Bird Rookery Swamp. Lake Trafford levels continue increase and are near the 90th percentile as July ended.

BIG CYPRESS BASIN & LOWER WEST COAST GROUNDWATER LEVELS

The current reporting (08/01/2022) for the Lower West Coast [LWC] indicate steady groundwater trends for July. All wells recovered quickly in May and June from the low stages in early 2022. All reporting wells are now in the normal (green) indictor levels. Most wells are above average for the end of July with some even above the 75th percentile (ref. **Table 2**).

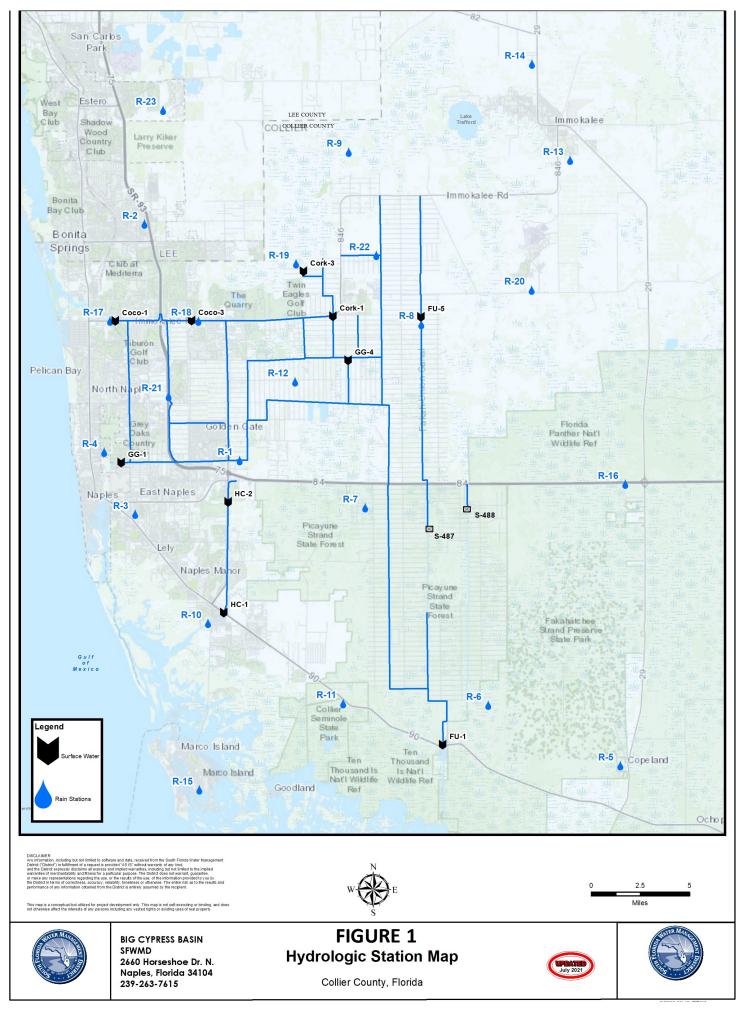


TABLE 1 RAINFALL REPORT - MAY 2022 DISTRICT/BASIN RAINFALL STATIONS

(ALL NUMBERS ARE IN INCHES)

		•		TO AIRE IIVIIVOI		AVED AGE	
STATION			LONG		CALENDAR	AVERAGE	YEAR TO
INDEX	STATION NAME	M AV 2022	TERM	MONTHLY	YEAR 2022	CALENDAR	DATE
	STATION NAME	WAT ZUZZ	MONTHLY	DIFFERENCE	CUMULATIVE	YEAR TO	
NO.			AVERAGE		TOTAL	DATE	DIFFERENCE
R-1	GG#3	6.99	5.70	1.29	15.43	12.98	2.45
1	BONITA	0.55	3.70	1.23	13.43	12.30	2.40
D 0		5 00	0.05	4.07	0.50	44.04	0.05
R-2	SPRINGS	5.32	3.35	1.97	9.56	11.61	-2.05
	WATER PLANT						
	COLLIER						
R-3	COUNTY	4.51	3.75	0.76	9.97	11.87	-1.90
	COURTHOUSE						
	FREEDOM			4.00	40.00	40.00	
R-4	PARK	5.81	4.55	1.26	10.83	12.00	-1.17
	FAKAHATCHEE						
R-5		1.95	4.75	-2.80	10.23	12.97	-2.74
	STRAND HQ						
R-6	DAN HOUSE	4.40	3.55	0.85	9.23	10.56	-1.33
	PRAIRIE	-			-		
	SGGE						
R-7	WEATHER	7.42	4.67	2.75	23.33	11.93	11.40
	STATION						
R-8	FAKA UNION #5	4.85	4.85	0.00	17.94	13.21	4.73
	CORKSCREW						
R-9	SWAMP NORTH	4.23	3.39	0.84	10.10	10.77	-0.67
	END	7.23	3.33	0.04	10.10	10.77	-0.07
R-10	ROOKERY BAY	5.15	3.41	1.75	12.76	11.00	1.76
	HQ						
	COLLIER						
R-11	SEMINOLE	4.46	3.51	0.95	9.47	11.52	-2.05
	STATE PARK						
R-12	G.G. FIRE	7.41	4.00	3.41	14.05	12.50	1.55
K-12	STATION	7.41	4.00	3.41	14.05	12.50	1.55
D 40	IMMOKALEE	<i></i>	4.00	4.40	44.07	40.00	4.00
R-13	LANDFILL	5.57	4.39	1.18	11.37	13.30	-1.93
R-14	IFAS	5.11	4.06	1.05	11.29	13.08	-1.79
1. 17	MARCO R.O.						-1.75
R-15		2.17	3.15	-0.98	5.27	11.92	-6.65
	PLANT						
D 40	FAKAHATCHEE	0.00		4.00	40.00	4400	0.00
R-16	STRAND	3.82	5.05	-1.23	18.82	14.96	3.86
	NORTH END						
R-17	COCO#1	3.38	2.82	0.56	10.32	10.54	-0.22
R-18	COCO#3	4.37	3.21	1.16	10.12	10.78	-0.66
R-19	BIRD ROOKERY	8.76	4.02	4.74	14.54	9.64	4.90
D 20		2 50	4 4 4	0.05	0.46	12 40	4.04
R-20	AVE MARIA	3.59	4.44	-0.85	8.46	13.40	-4.94
R-21	175W2	6.98	4.28	2.70	13.27	10.17	3.10
R-22	GG#7	5.99	4.24	1.75	17.92	9.63	8.29
R-23							
	FPWX	6.81	2.37	4.44	13.00	10.55	2.45
R-24	DSOTO10	6.30	New Site	New Site	New Site	No Histo	orical Data
					·	· · · · · · · · · · · · · · · · · · ·	

AVERAGES	5.22	3.98	1.24	12.49	11.78	0.71
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RAINFALL REPORT - JUNE 2022 DISTRICT/BASIN RAINFALL STATIONS

(ALL NUMBERS ARE IN INCHES)

		(- :-	LONG	S ARE IN INCE	CALENDAR	AVERAGE	
STATION			TERM	MONTHLY	YEAR 2022	CALENDAR	YEAR TO
INDEX	STATION NAME	JUNE 2022					DATE
NO.			MONTHLY	DIFFERENCE			DIFFERENCE
			AVERAGE		TOTAL	DATE	
R-1	GG#3	12.55	12.68	-0.13	27.98	25.66	2.32
	BONITA						
R-2	SPRINGS	17.17	8.45	8.72	26.73	20.06	6.67
	WATER PLANT						
	COLLIER						
R-3	COUNTY	11.10	8.42	2.68	21.07	20.29	0.78
	COURTHOUSE						
R-4	FREEDOM	10.87	10.12	0.75	21.70	22.13	-0.43
	PARK	10.07	10.12	0.70	21.70	22.10	0.40
R-5	FAKAHATCHEE	13.97	11.07	2.90	24.20	24.03	0.17
110	STRAND HQ	10.07	11.01	2.50	27.20	2-7.00	V.17
R-6	DAN HOUSE	18.10	9.01	9.09	27.33	19.57	7.76
	PRAIRIE		0.01		200		
	SGGE						
R-7	WEATHER	16.84	11.35	5.49	40.17	23.28	16.89
	STATION						
R-8	FAKA UNION #5	13.41	13.01	0.40	31.35	26.22	5.13
	CORKSCREW						
R-9	SWAMP NORTH	13.75	11.52	2.23	23.85	22.30	1.55
	END						
R-10	ROOKERY BAY	13.07	9.55	3.52	25.83	20.55	5.28
12-10	HQ	13.07	9.00	5.52	25.05	20.55	3.20
	COLLIER						
R-11	SEMINOLE	13.90	10.01	3.89	23.37	21.53	1.84
	STATE PARK						
R-12	G.G. FIRE	14.11	9.95	4.16	28.16	22.45	5.71
11-12	STATION	17.11	3.33	7.10	20.10	22.40	3.71
R-13	IMMOKALEE	12.13	8.84	3.29	23.50	22.14	1.36
11-13	LANDFILL	12.10	0.04	J.23	25.50	22.17	1.50
R-14	IFAS	17.53	8.73	8.80	28.82	21.81	7.01
R-15	MARCO R.O.	15.88	9.12	6.76	21.15	21.04	0.11
K-15	PLANT	15.00	9.12	0.70	21.15	21.04	0.11
	FAKAHATCHEE						
R-16	STRAND	9.28	10.50	-1.22	28.10	25.46	2.64
	NORTH END						
R-17	COCO#1	8.74	8.31	0.43	19.06	18.86	0.20
R-18	COCO#3	11.67	8.63	3.05	21.79	19.40	2.39
D 40	DIDD DOOKEDY	44.50	42.00	0.04	20.04	22.20	E 74
R-19	BIRD ROOKERY	14.50	13.66	0.84	29.04	23.30	5.74
R-20	AVE MARIA	12.16	8.74	3.42	20.62	22.14	-1.52
R-21	I75W2	11.10	11.99	-0.89	24.37	22.17	2.20
R-22	GG#7	10.92	12.05	-1.13	28.84	21.68	7.16
R-23	FPWX	13.93	9.68	4.25	26.93	20.23	6.70
R-24	DSOTO10	15.26	New Site	New Site	New Site	No Histo	orical Data

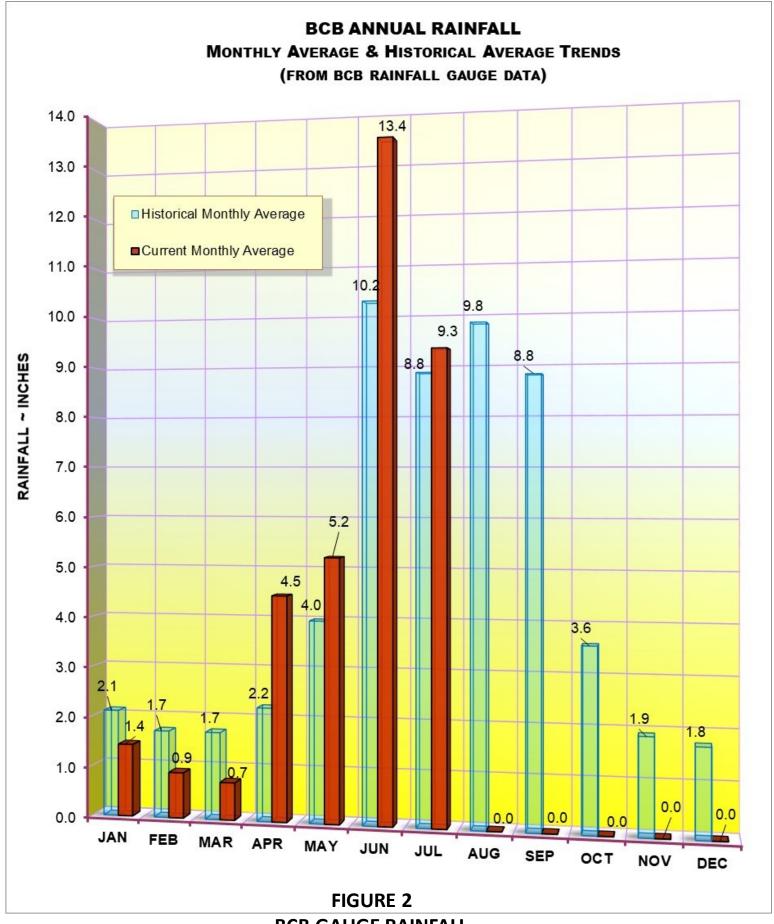
AVERAGES	13.41	10.23	3.18	25.82	22.01	3.81
	-	-			-	-

RAINFALL REPORT - JULY 2022 DISTRICT/BASIN RAINFALL STATIONS

(ALL NUMBERS ARE IN INCHES)

		(A)		RS ARE IN INCH		AVED ACE	
STATION			LONG	MONTHLY	CALENDAR	AVERAGE	YEAR TO
INDEX	STATION NAME	JULY 2022	TERM	MONTHLY	YEAR 2022	CALENDAR	DATE
NO.			MONTHLY	DIFFERENCE		YEAR TO	DIFFERENCE
D. 4	0040	40.74	AVERAGE	0.00	TOTAL	DATE	0.04
R-1	GG#3	12.74	8.76	3.98	40.72	34.41	6.31
D 0	BONITA	0.00	0.40	4 74	00.50	00.47	0.00
R-2	SPRINGS	9.83	8.12	1.71	36.56	28.17	8.39
	WATER PLANT						
R-3	COLLIER COUNTY	13.83	8.35	5.49	34.90	28.64	6.27
14-5	COURTHOUSE	13.03			34.90	20.04	0.27
	FREEDOM						
R-4	PARK	10.13	9.62	0.51	31.83	31.74	0.09
_	FAKAHATCHEE			4.55			
R-5	STRAND HQ	5.03	9.12	-4.09	29.23	33.15	-3.92
D. C	DAN HOUSE	7.64	0.25	0.74	24.07	27.00	7.05
R-6	PRAIRIE	7.64	8.35	-0.71	34.97	27.92	7.05
	SGGE						
R-7	WEATHER	10.69	9.13	1.56	50.86	32.41	18.45
	STATION						
R-8	FAKA UNION #5	14.28	9.50	4.78	45.63	35.72	9.91
	CORKSCREW						
R-9	SWAMP NORTH	9.20	7.85	1.35	33.05	30.14	2.91
	END						
R-10	ROOKERY BAY	8.90	8.58	0.32	34.73	29.14	5.59
	HQ						
R-11	COLLIER SEMINOLE	11.73	8.77	2.96	35.10	30.31	4.79
13-11	STATE PARK	11.73	0.77	2.30	33.10	30.31	4.73
	G.G. FIRE						
R-12	STATION	8.56	10.28	-1.72	36.72	32.73	3.99
D 42	IMMOKALEE	0.57	7.00	0.60	22.07	20.02	2.05
R-13	LANDFILL	8.57	7.88	0.69	32.07	30.02	2.05
R-14	IFAS	6.43	7.29	-0.86	35.25	29.10	6.15
R-15	MARCO R.O.	6.84	7.63	-0.79	27.99	28.68	-0.69
11.10	PLANT	0.07	7.00	-0.10	21.33	20.00	-0.03
	FAKAHATCHEE						
R-16	STRAND	7.19	9.35	-2.16	35.29	34.81	0.48
D 47	NORTH END	7.00		0 = 4	00.40	00.00	0.50
R-17	COCO#1	7.06	7.77	-0.71	26.12	26.62	-0.50
R-18	COCO#3	8.01	10.30	-2.29	29.80	29.70	0.10
R-19	BIRD ROOKERY	8.58	11.19	-2.61	37.62	34.49	3.13
D 20		6.47	0.07	4 60	27.00	20.24	2.42
R-20	AVE MARIA	6.47	8.07	-1.60	27.09	30.21	-3.12
R-21	175W2	10.24	8.71	1.53	34.61	30.87	3.74
R-22	GG#7	14.05	9.83	4.22	42.89	31.51	11.38
R-23	FPWX	7.09	8.67	-1.58	34.02	28.91	5.11
R-24	DSOTO10	10.14	New Site	New Site	New Site	No Histo	orical Data

AVERAGES	9.30	8.83	0.47	35.09	30.84	4.25
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BCB GAUGE RAINFALL
MONTHLY AVERAGES THROUGH JULY 2022

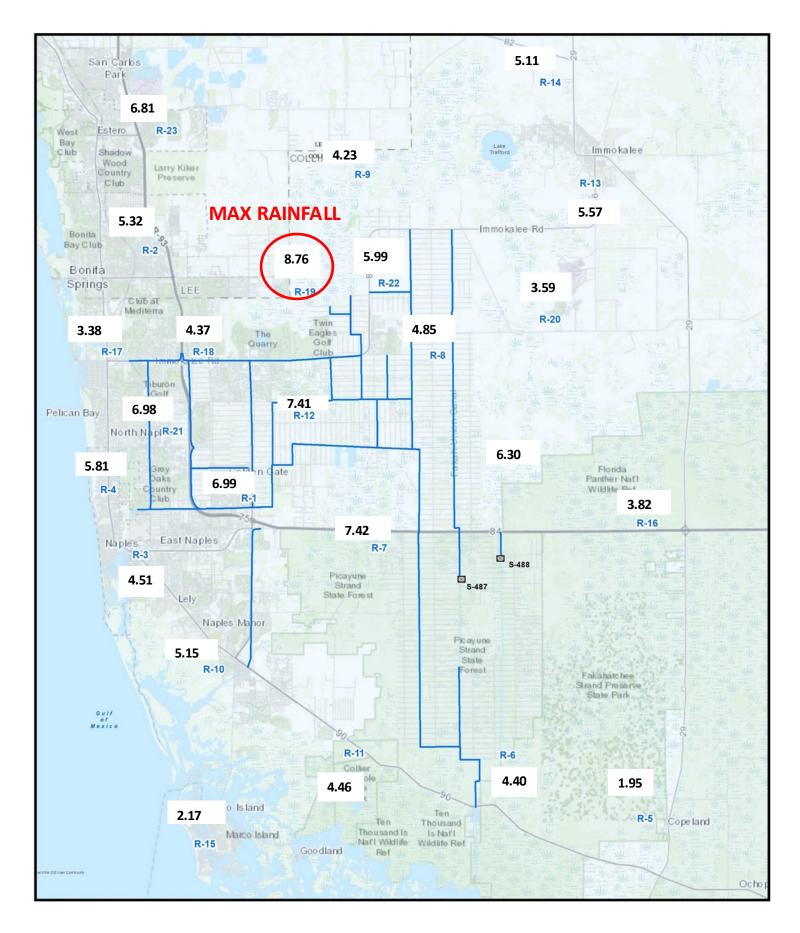


FIGURE 3
BCB RAINFALL DISTRIBUTION
MAY 2022

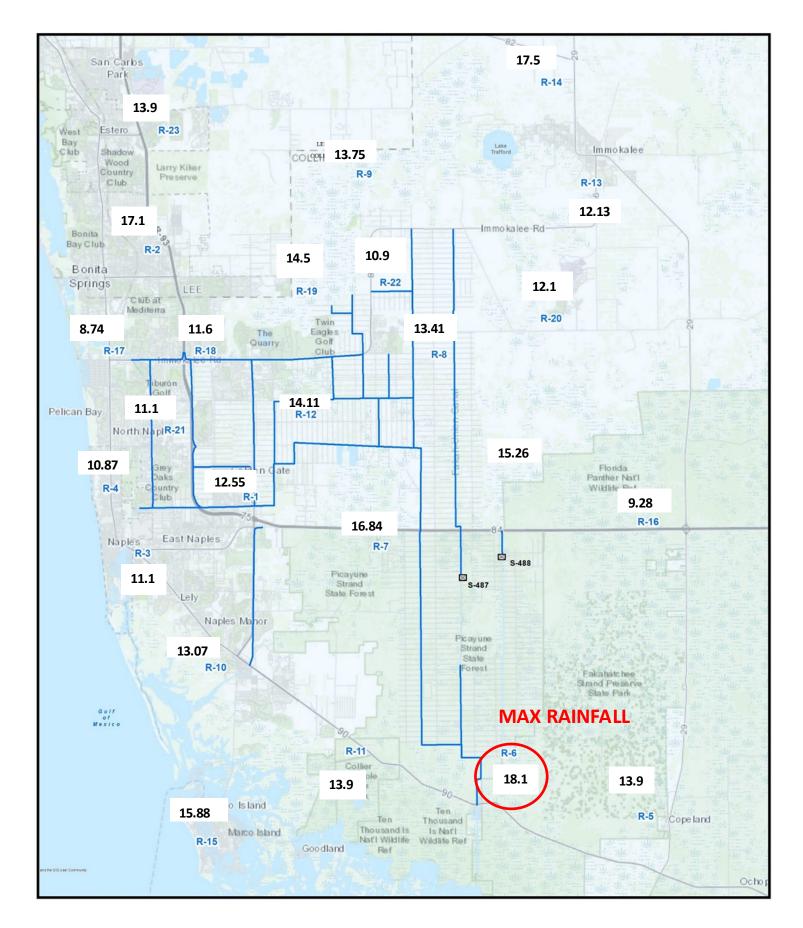


FIGURE 3
BCB RAINFALL DISTRIBUTION
JUNE 2022

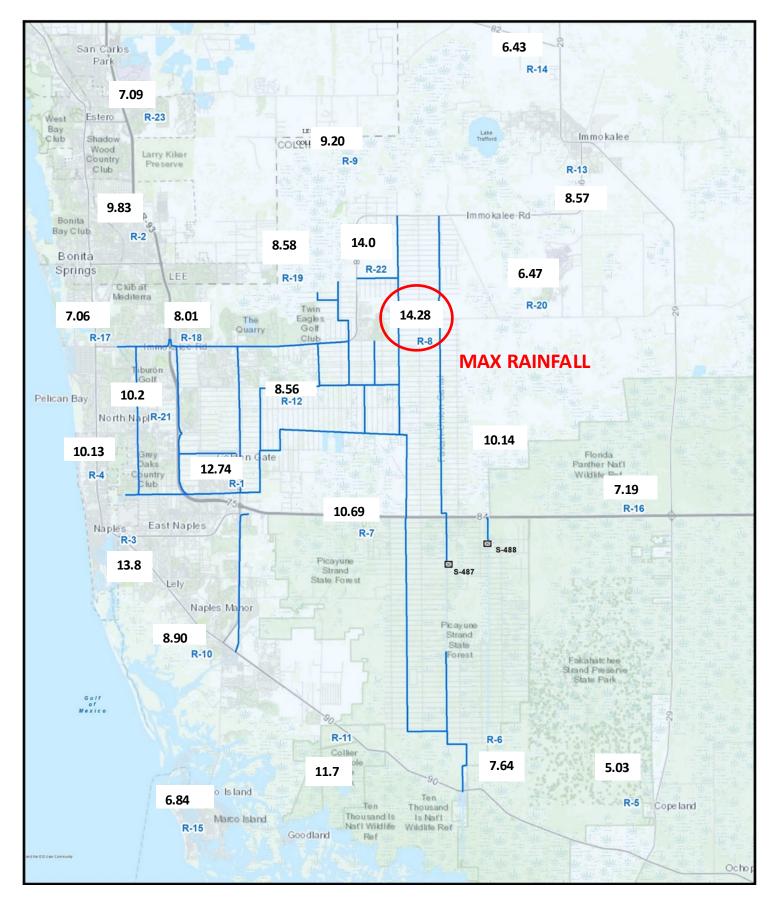
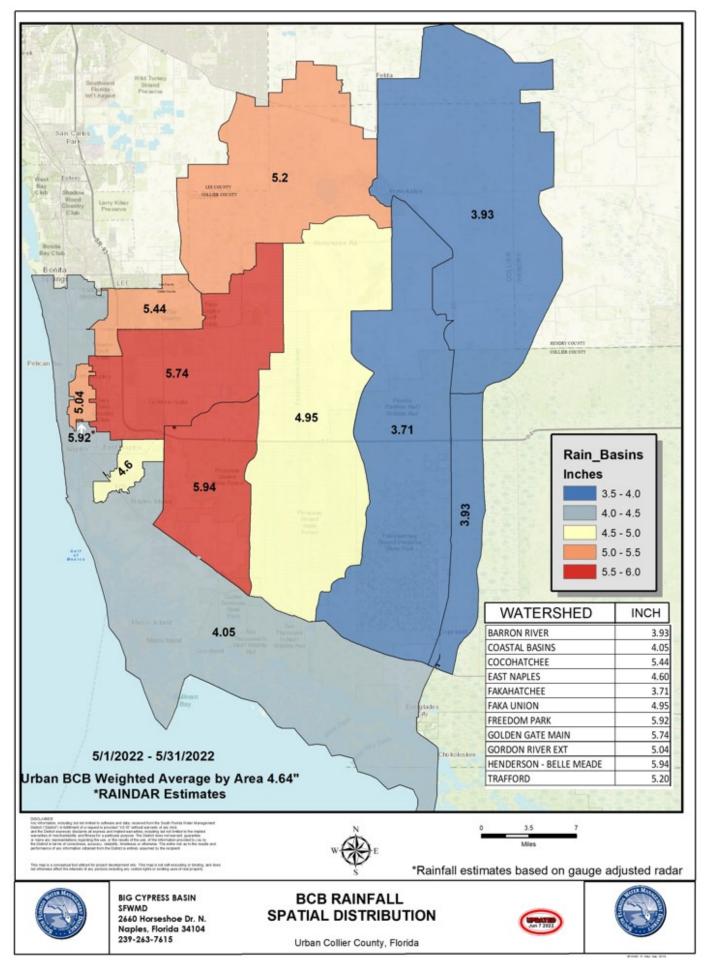


FIGURE 3
BCB RAINFALL DISTRIBUTION
JULY 2022



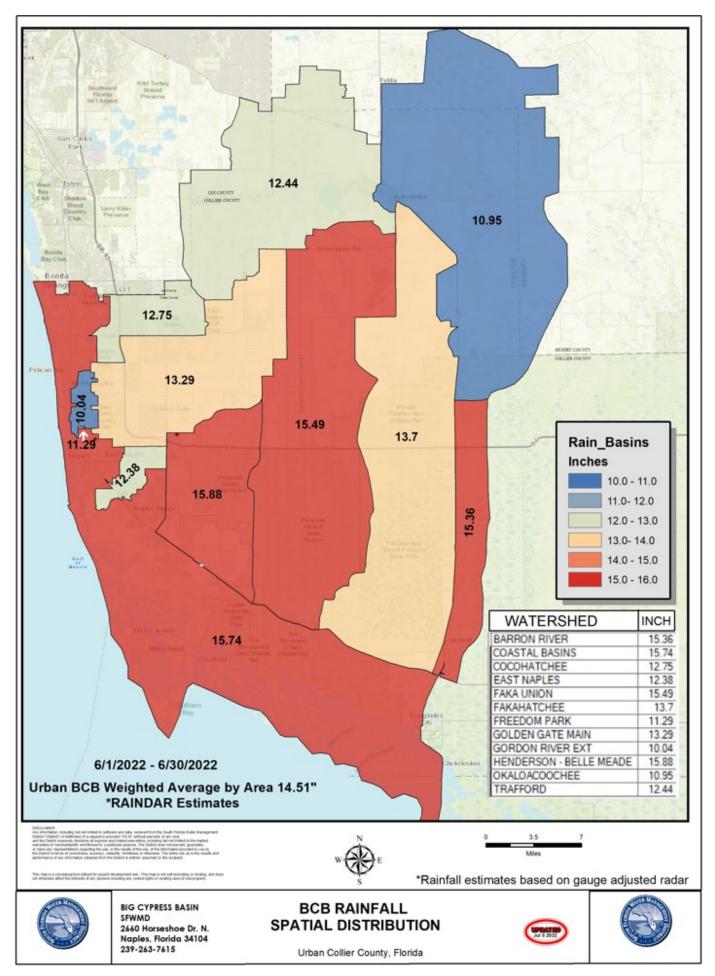


FIGURE 3a

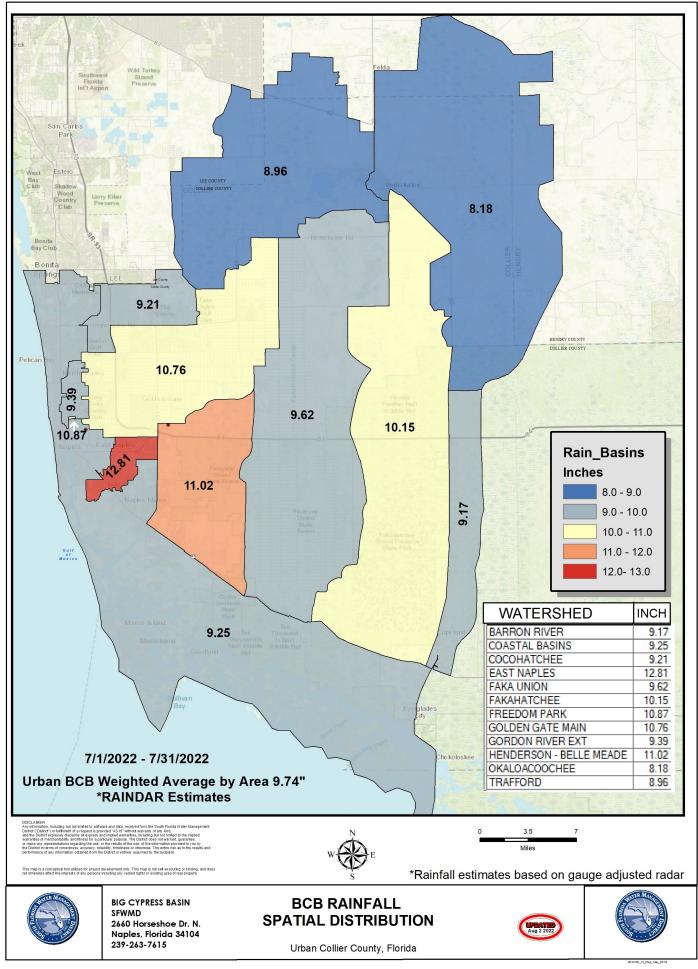


FIGURE 3a

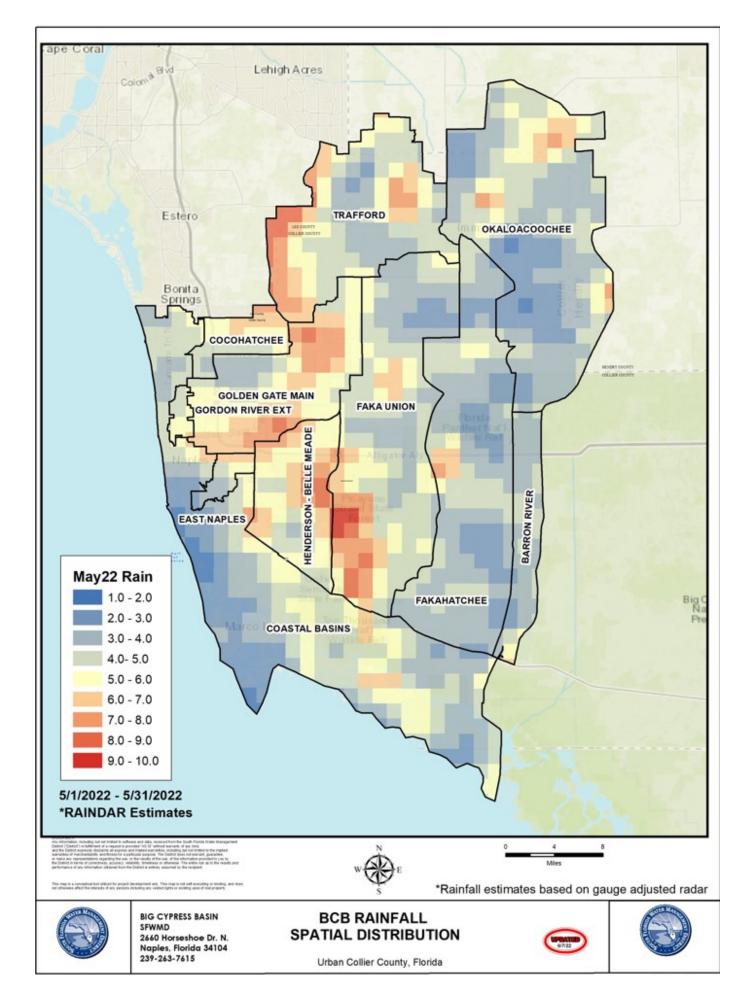


FIGURE 4

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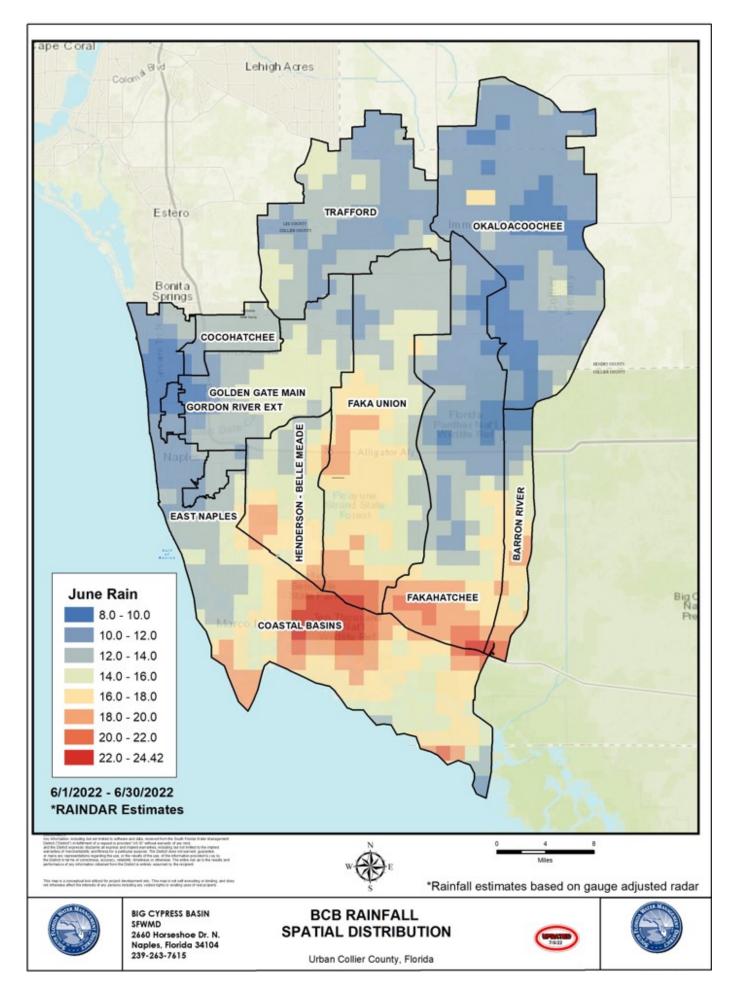


FIGURE 4

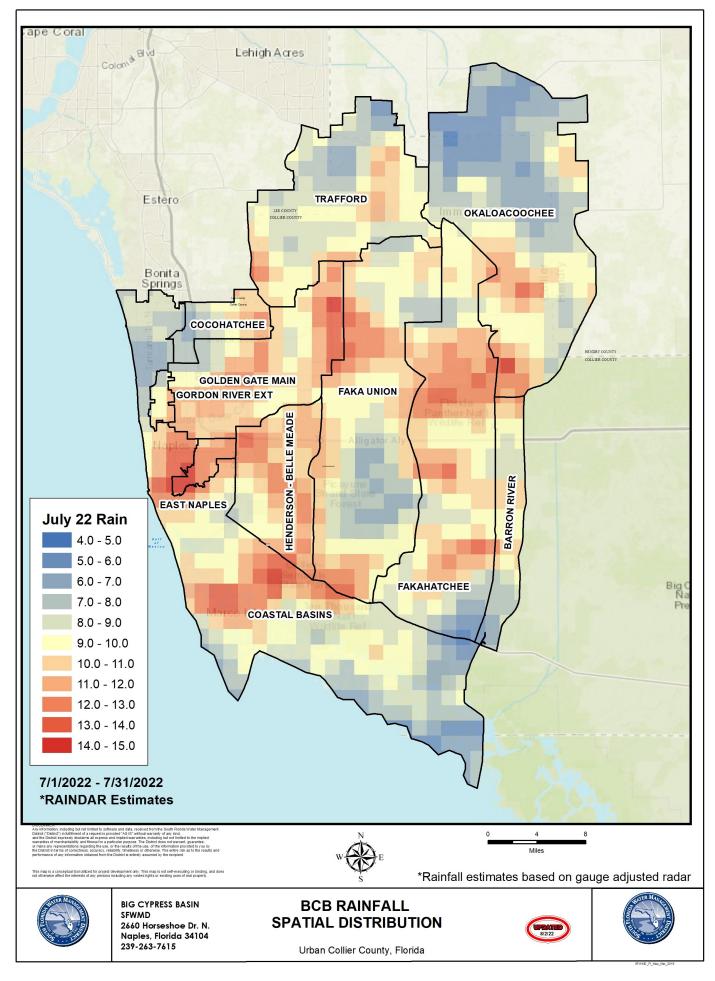
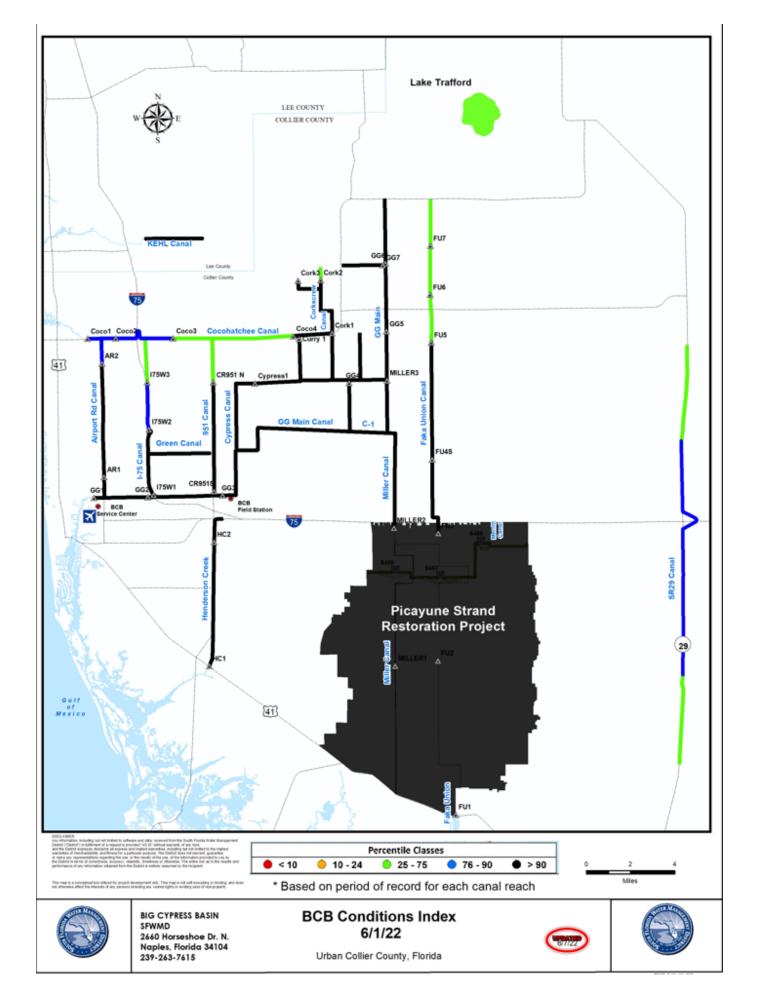


FIGURE 4



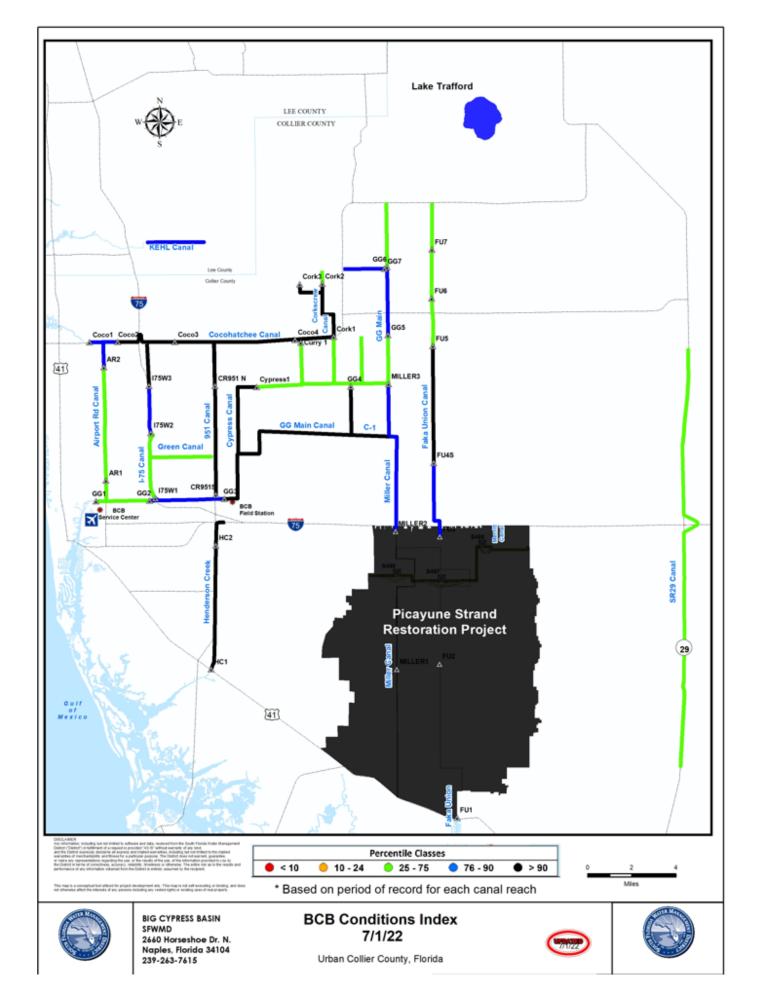
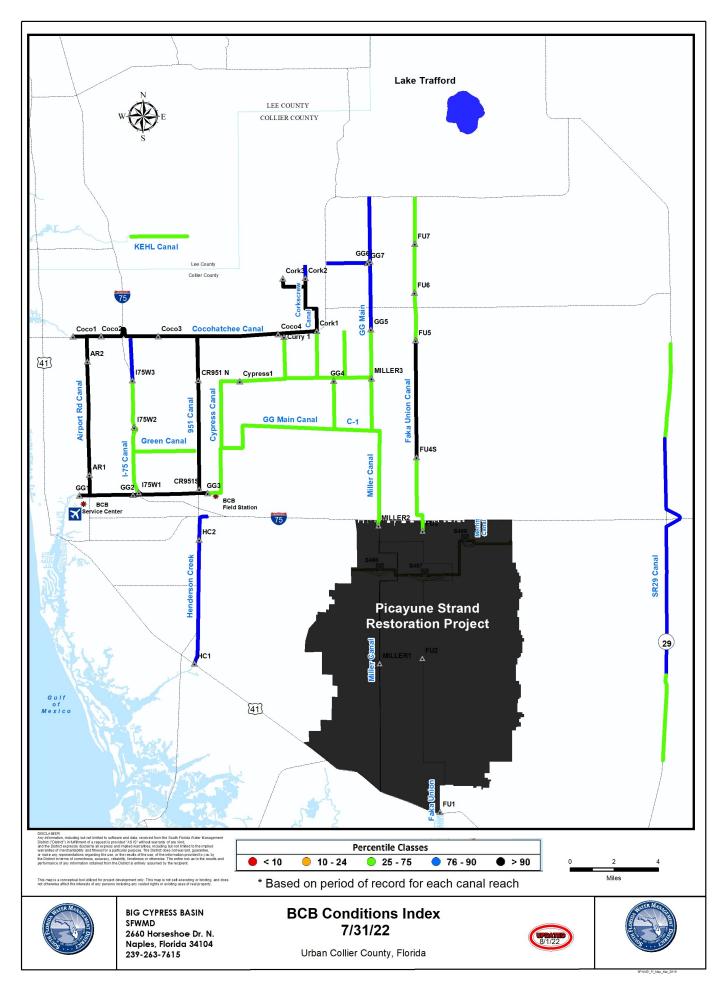
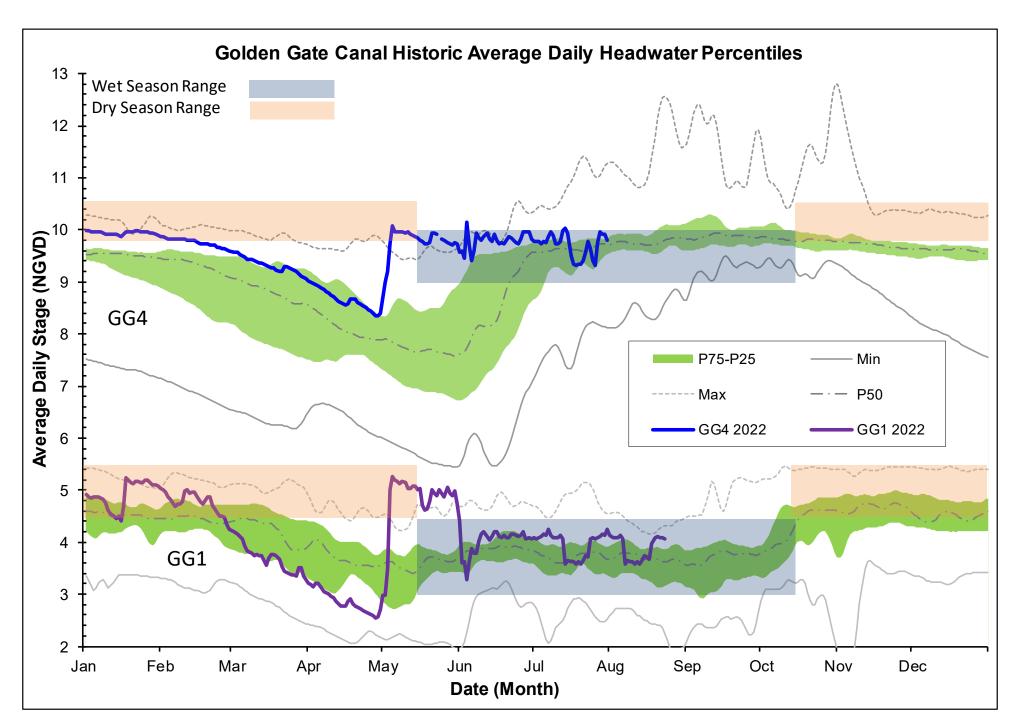
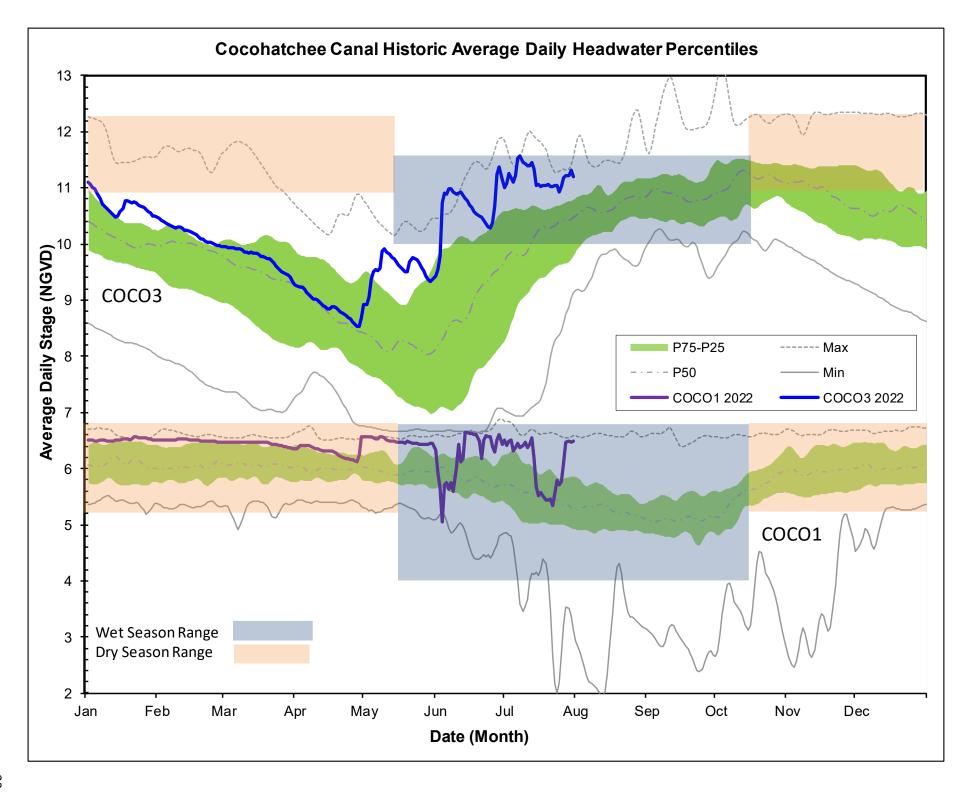
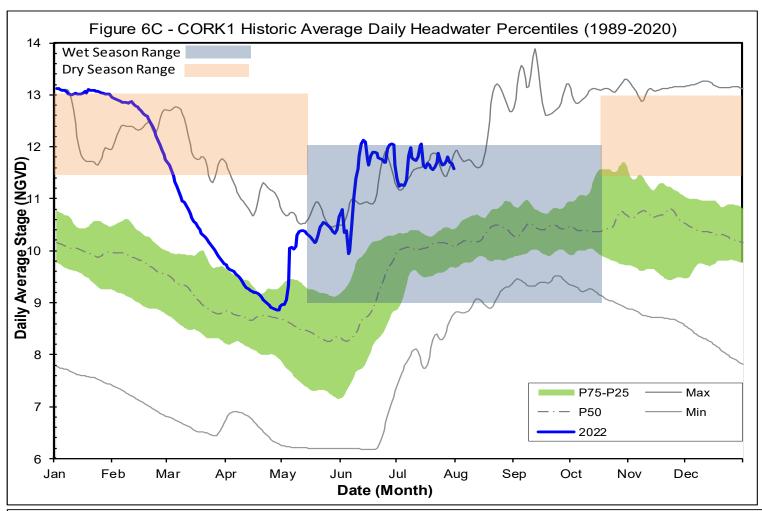


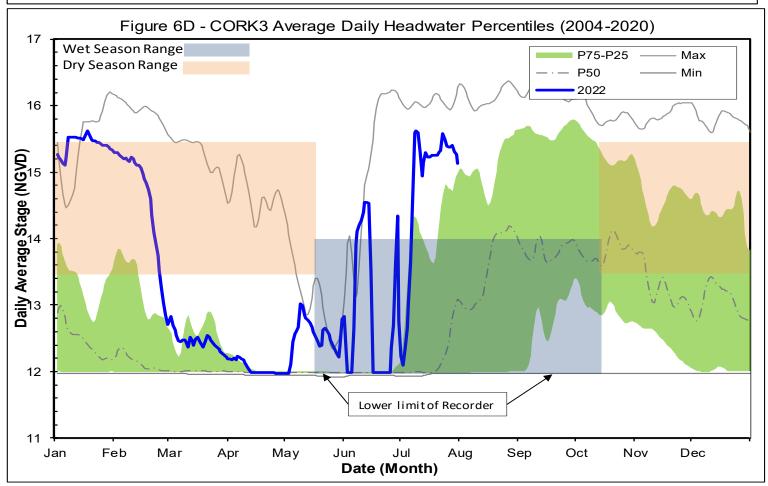
FIGURE 4A

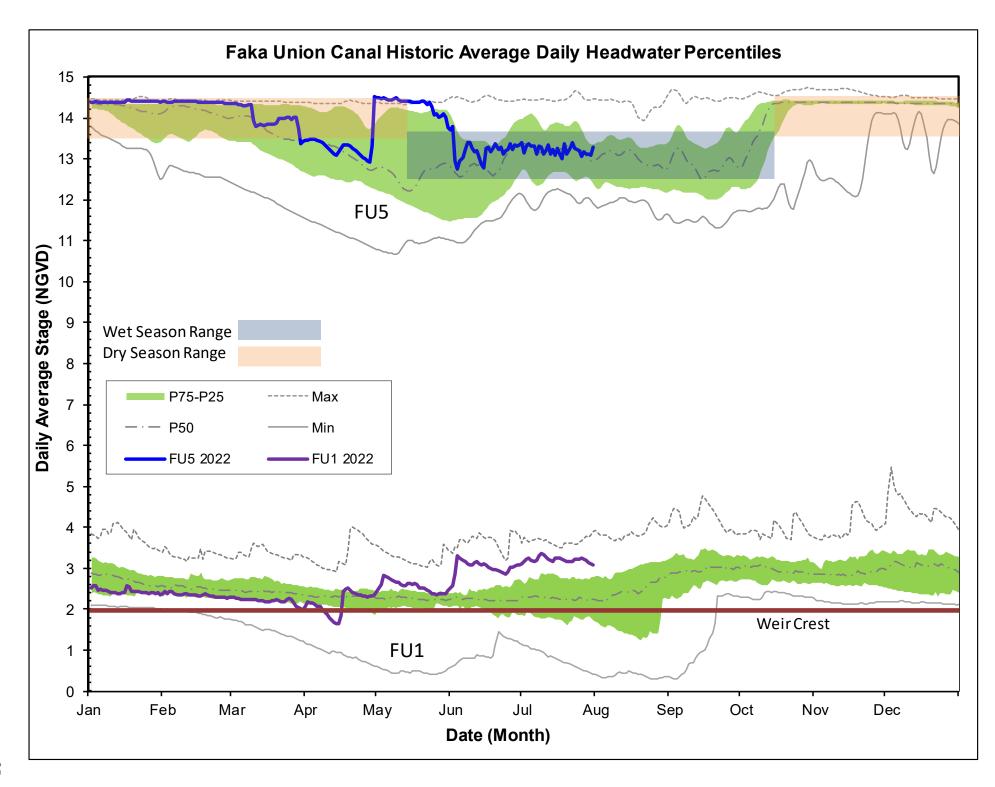


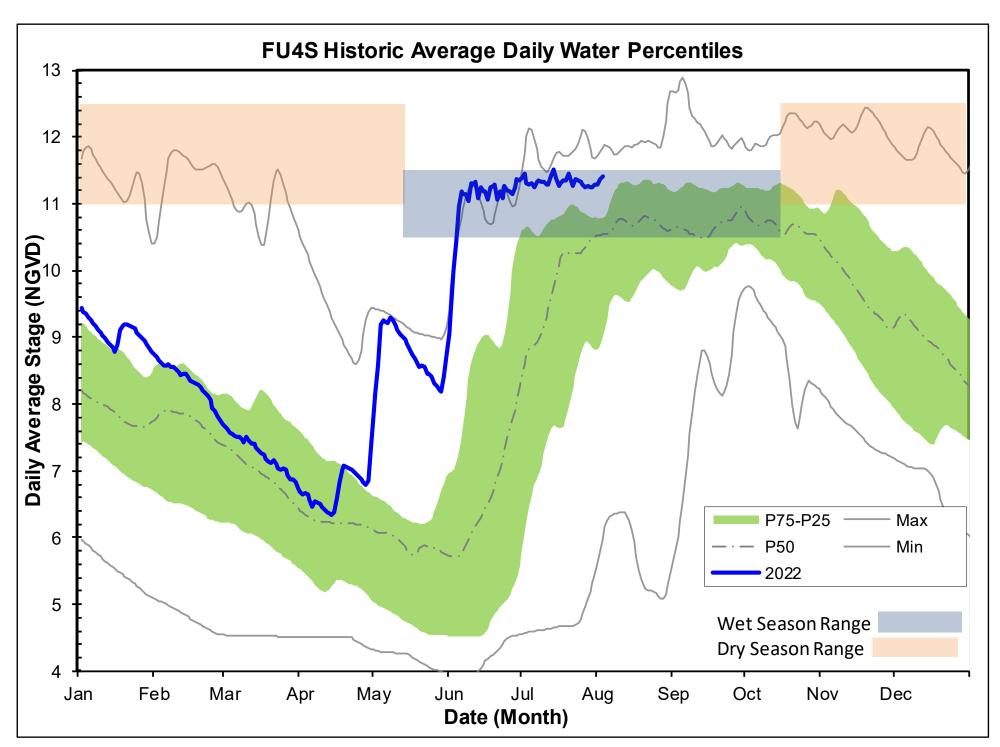


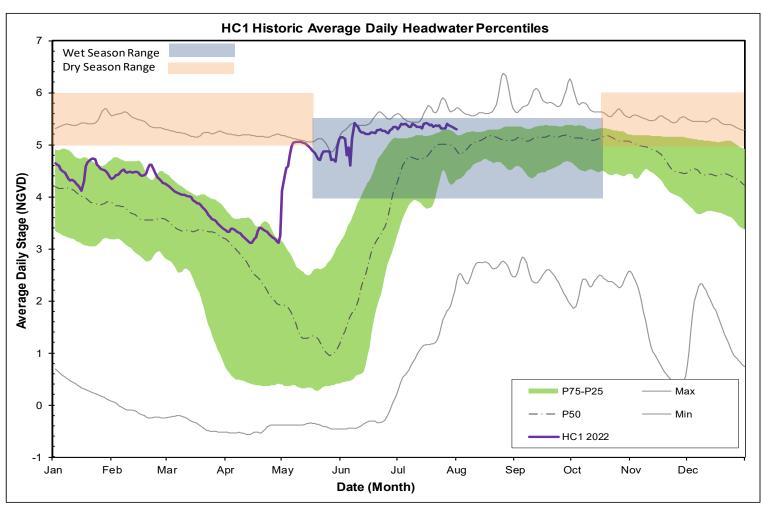


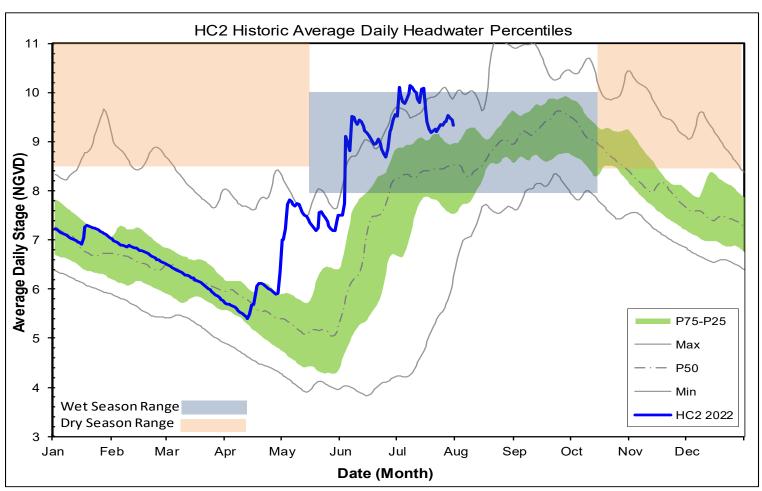












WATER CONDITIONS SUMMARY - May & June 2022 SELECTED STATIONS for BCB AREA / SW FLORIDA

Last Readir	ng Date :	May 1, 2022					
Previous Pe	eriod Reading Date:	June 29, 2022					
STATION INDEX NO.	WELL LOCATION	WELL / AQUIFER - TYPE	CHANGE (from previous date)	PREVIOUS LEVEL	CURRENT LEVEL (ft)	DIRECTION OF CHANGE	CONCERN INDICATOR
ALL INDICA	TOR LEVELS SHOWN	I IN FT-NGVD					
C-462	Immokalee	Lower Tamiami Aquifer	6.91	27.80	34.71	\uparrow	GREEN
C-1004R	Naples	Lower Tamiami Aquifer	3.09	0.82	3.91	\uparrow	GREEN
C-1224	Marco Lakes	Lower Tamiami Aquifer	1.87	3.16	5.03	\uparrow	GREEN
C-948R	Golden Gate	Mid Hawthorn Aquifer	0.44	30.31	30.75	\uparrow	
C-951R	Golden Gate	Lower Tamiami Aquifer	3.09	2.51	5.60	\uparrow	
L-2194	Bonita Springs	Sandstone Aquifer	6.94	-0.93	6.01	\uparrow	GREEN
L-2195	Bonita Springs	Surficial Aquifer System	4.02	7.75	11.77	\uparrow	GREEN
L-738	Bonita Springs	Lower Tamiami Aquifer	6.31	-4.21	2.10	↑	GREEN

TABLE 2 BCB WATER CONDITIONS SUMMARY MAY & JUNE 2022

WATER CONDITIONS SUMMARY - July 2022 SELECTED STATIONS for BCB AREA / SW FLORIDA

Last Readir	ng Date :	August 1, 2022					
Previous Pe	eriod Reading Date:	June 29, 2022					
STATION INDEX NO.	WELL LOCATION	WELL / AQUIFER - TYPE	CHANGE (from previous date)	PREVIOUS LEVEL	CURRENT LEVEL (ft)	DIRECTION OF CHANGE	CONCERN INDICATOR
ALL INDICA	TOR LEVELS SHOWN	I IN FT-NGVD					
C-462	Immokalee	Lower Tamiami Aquifer	-0.31	34.71	34.40	\downarrow	GREEN
C-1004R	Naples	Lower Tamiami Aquifer	-0.11	3.91	3.80	\downarrow	GREEN
C-1224	Marco Lakes	Lower Tamiami Aquifer	-0.20	5.03	4.83	\rightarrow	GREEN
C-948R	Golden Gate	Mid Hawthorn Aquifer	1.35	30.75	32.10	\uparrow	
C-951R	Golden Gate	Lower Tamiami Aquifer	0.72	5.60	6.32	\uparrow	
L-2194	Bonita Springs	Sandstone Aquifer	0.19	6.01	6.20	\uparrow	GREEN
L-2195	Bonita Springs	Surficial Aquifer System	1.16	11.77	12.93	\uparrow	GREEN
L-738	Bonita Springs	Lower Tamiami Aquifer	1.46	2.10	3.56	\uparrow	GREEN

TABLE 2 BCB WATER CONDITIONS SUMMARY JULY 2022

BIG CYPRESS BASIN

May - July 2022

