Hydrologic Conditions

for the month of

July 2020

Prepared by the

Hydrologic Data Section

Data Collection Bureau

Southwest Florida Water Management District

August 25, 2020

http://www.watermatters.org

ACKNOWLEDGMENTS

The Hydrologic Conditions Report is a monthly effort of the Data Collection Bureau's Hydrologic Data Section. Acknowledgment is made to the following staff for their significant contributions, hard work and dedication to the timely production of this report:

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INTRODUCTION

The Hydrologic Conditions Report is generated monthly by the Hydrologic Data Section, Data Collection Bureau, of the Southwest Florida Water Management District. This report provides an end-of-month analytical summary of regional and temporal variations in the hydrologic conditions across the District's 16-county area for planning and regulatory purposes. In addition, it provides an excellent historical record for long-term local and regional hydrologic analysis. **[Notice: There have been substantial changes to the content of this monthly report, as of the July 2020 report.]**

The Hydrologic Data Section is responsible for the implementation and maintenance of a network of observation and monitoring stations used to track changes in various hydrologic parameters over time. Data collected are used by the regulatory, technical, and analytical sections of the District. All data collected are processed and analyzed, uploaded into a centralized data base maintained by the District and then made available to the public through the District's Environmental Data Portal. The District's data collection program is augmented with data collected by the United States Geological Survey (USGS) through a cooperative joint funding agreement. Data derived from both District and USGS sources are used in this report.

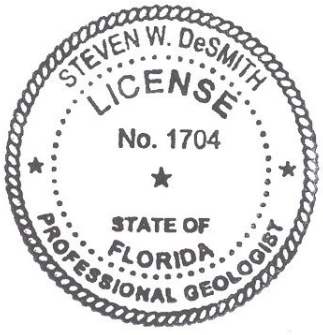
The data contained in this report were collected and analyzed in accordance with generally accepted procedures consistent with applicable scientific and technical standards of practice. The data presented are considered to be the best available at the time of publication and are subject to revision.

Any questions about the significance, accuracy, or interpretation of these data should be referred to Granville Kinsman, Manager of the Hydrologic Data Section at (352) 796-7211 or (800) 423-1476, extension 4284.

The data evaluation, analyses and interpretation contained within this report have been prepared or approved by a certified Professional Geologist in accordance with Chapter 492, Florida Statutes.

Steven W. DeSmith 08/20/2020

Registration #PG-1704



Americans with Disabilities Act (ADA)

The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs, services and activities. Anyone requiring reasonable accommodation, or would like information as to the existence and location of accessible services, activities, and facilities, as provided for in the Americans with Disabilities Act, should contact Donna Kaspari, Sr. Performance Management Professional, at 2379 Broad St., Brooksville, FL 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only), ext. 4706; or email **ADACoordinator@WaterMatters.org**. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1-800-955-8771 (TDD) or 1-800-955-8770 (Voice). If requested, appropriate auxiliary aids and services will be provided at any public meeting, forum, or event of the District. In the event of a complaint, please follow the grievance procedure located at **WaterMatters.org/ADA**.

EXECUTIVE SUMMARY

Hydrologic Conditions for July 2020

In July, average rainfall totals were within the normal range in the northern and central counties of the District, while they were below-normal in the southern counties. The normal range for rainfall is defined by totals that fall on or between the 25th to 75th percentiles of the historical monthly accumulation for each region and where the 50th percentile represents the historical mean. The northern counties received an average of 8.38 inches of rainfall, equivalent to the 51st percentile of the historical July record. The central counties received an average of 7.60 inches of rainfall, equivalent to the 41st percentile, while the southern counties received an average of 5.89 inches of rainfall, equivalent to the 12th percentile of the historical July record. The District-wide rainfall average of 7.22 inches was equivalent to the 31st percentile of the historical July record.

During the 12-month period from August 1, 2019 through July 31, 2020, the average rainfall totals in the northern and central counties were classified as "normal," while in the southern counties they were classified as "drier than normal." The northern region received an average of 49.64 inches of rainfall, equivalent to the 32nd percentile of the historical annual record. The central region received an average of 48.86 inches of rainfall, equivalent to the 36th percentile, while the southern region received an average of 45.72 inches of rainfall, equivalent to the 24th percentile. The District-wide rainfall average of 47.97 inches was equivalent to the 30th percentile of the historical annual record.

Average lake levels in July were below the annual normal range in the Northern region of the District, while they were within the annual normal range in the Tampa Bay, Polk Uplands and Lake Wales Ridge regions. Normal lake levels are defined as levels that fall between the minimum low management level and the minimum flood level. Lake levels in the Northern region increased by an average of 0.10 foot and were 0.79 foot below the annual normal range. Lake levels in the Tampa Bay region increased an average of 0.06 foot and were 0.71 foot above the base of the annual normal range. Lake levels in the Polk Uplands region increased 0.38 foot and were 1.83 feet above the base of the annual normal range. Average lake levels in the Lake Wales Ridge region increased by 0.53 foot and ended the month 0.05 foot above the base of the annual normal range.

Total streamflow in July, based on three regional index rivers, was at the low-end of the normal range in the northern and southern regions of the District, while it was within the normal range in the central region. Normal streamflow is defined as the flow that falls on or between the 25th and 75th percentiles. Streamflow measured at the Withlacoochee River near Holder station in the northern region increased and was at the 29th percentile. Streamflow in the Hillsborough River near Zephyrhills station in the central region increased and was at the 47th percentile, while total streamflow measured at the Peace River at Arcadia station in the southern region decreased and was at the 27th percentile during July.

In July, groundwater data showed that levels in the Upper Floridan aquifer were within the normal range in all three regions of the District. The normal range is defined as levels that falls on or between the 25th and 75th percentiles. The groundwater level in the northern, central and southern counties were in the 53rd, 57th and 63rd percentiles, respectively.

REGIONAL OVERVIEW OF HYDROLOGIC CONDITIONS

JULY 2020

For this report, the District has been divided into three geographical regions that are defined by county boundaries, unless otherwise indicated. Each regional area includes all or part of each county that is located within that region and that is also within the District's jurisdictional boundaries. The northern region includes the counties of Citrus, Hernando, Lake, Levy, Marion and Sumter; the central region includes the counties of Hillsborough, Pasco, Pinellas and Polk; while the southern region includes the counties of Charlotte, DeSoto, Hardee, Highlands, Manatee and Sarasota.

Northern Region

In July, the northern region received an average of 8.38 inches of rainfall, equivalent to the 51st percentile of the historical July readings, which is considered "normal." Average lake levels increased in the northern region and ended the month an average of 0.79 foot below the annual normal range. Total streamflow measured in the Withlacoochee River near Holder station increased and was in the 29th percentile. Regional groundwater levels indicated Upper Floridan aquifer water levels increased and were in the 53rd percentile.

Central Region

In July, the central region received an average of 7.60 inches of rainfall, equivalent to the 41st percentile of historical July readings, which is considered "normal." Average lake levels increased in the Tampa Bay and Polk Uplands regions, ending the month 0.71 foot and 1.83 feet, respectively, above the base of the annual normal range. Total streamflow measured at the Hillsborough River near Zephyrhills station increased and was in the 47th percentile. Regional groundwater levels indicated average Upper Floridan aquifer water levels increased and were in the 57th percentile.

Southern Region

In July, the southern region received an average of 5.89 inches of rainfall, equivalent to the 12th percentile of historical July readings, which is considered "drier than normal." Average lake levels increased in the Lake Wales Ridge region and ended the month 0.05 foot above the base of the annual normal range. Total streamflow measured at the Peace River at Arcadia station decreased and was in the 27th percentile. Regional groundwater levels indicated average Upper Floridan aquifer water levels increased and were in the 63rd percentile.

RAINFALL

The rainfall data used for all tabulations in this report are provided to the District under contract with an external vendor. These data are created by enhancing contractor-developed NEXRAD radar rainfall imagery with 15-minute rainfall data collected from the District's network of real-time gauges. This process results in rainfall estimates for every 1.5 square-miles over the entire District, filling in those portions where rainfall data collection would otherwise be limited due to gaps in the gauging network.

Rainfall data are evaluated by using the current values to calculate percentiles in order to determine how normal or abnormal they are. As defined by the United States Geological Survey (USGS, a percentile is a value on a scale of one hundred that indicates the percent of a distribution that is equal to or below it. For example, a rainfall total that is calculated to be equivalent to the 90th percentile indicates that it is higher than 90 percent of the rainfall totals ever recorded for this month during all years that rainfall has been measured.

Percentiles for rainfall were calculated from the historical record by region, and by specific interval. The "wet season" total is the sum of the rainfall from June through September. The "dry season" total is the sum of the rainfall from October through May. The annual total characterization was calculated from a dataset of moving 12-month rainfall sum for the same period (1915 through the most recent completed year). The moving 12-month rainfall sum was used for annual statistics because it provided a much larger dataset, and therefore a better estimate of the true percentiles. The historical 12-month cumulative average is updated monthly.

Characterization ranges were established for each region, and for the whole District, with breaks at the 10th (P10), the 25th (P25), the 75th (P75) and the 90th (P90) percentiles. The normal range for rainfall is defined by totals that fall on or between the 25th to 75th percentiles of the historical monthly average for each region and where the 50th percentile represents the historical median. The zero percentile indicates a new period-of-record low and the 100th percentile is a new record high. The rainfall in inches for each percentile break, by rainfall interval and by region and the characterization ranges are summarized in the Appendix.

In July, rainfall totals were within the normal range in the northern and central counties of the District, while they were below the normal range in the southern counties. The normal range for rainfall is defined by totals that fall on or between the 25th to 75th percentiles of the historical monthly average for each region and where the 50th percentile represents the historical median. The northern counties received an average of 8.38 inches of rainfall, equivalent to the 51st percentile of the historical July record. The central counties received an average of 7.60 inches, equivalent to the 41st percentile of the historical July record, while the southern counties received an average of 5.89 inches, equivalent to the 12th percentile. District-wide, rainfall averaged 7.22 inches, which is equivalent to the 31st percentile.

During the 12-month period from August 1, 2019 through July 31, 2020, the average rainfall totals in the northern and central counties were classified as “normal,” while the rainfall totals in the southern counties were classified as “drier than normal.” The northern counties received an average of 49.64 inches of rainfall, equivalent to the 32nd percentile of the historical record. The central counties received an average of 48.86 inches of

rainfall, equivalent to the 36th percentile. The southern counties received an average of 45.72 inches of rainfall, equivalent to the 24th percentile. The District-wide rainfall average was 47.97 inches, which is equivalent to the 30th percentile of the historical annual record.

Tampa Monthly Climate Summary for July 2020

According to the National Weather Service (NWS), the monthly average temperature (°F) for Tampa was 85.5 degrees, which set a record high monthly average temperature for July and was 2.5 degrees above normal. The highest temperature recorded during the month was 96.0 degrees, while the lowest temperature recorded during the month was 74.0 degrees. The July 2020 monthly average temperature of 85.5 degrees ranks as the warmest July since records began in 1890. The previous record warmest July had an average temperature of 84.9 degrees, which occurred in 2016 and 1932.

Temperature and Precipitation Outlook

The Climate Prediction Center's (CPC) three-month weather forecast, as of August 20, 2020, indicates above-normal chances for rainfall throughout the District during the composite 3-month period from September through November 2020. The temperature forecast for this same time-period indicates above-normal temperatures throughout the District.

For more information log on to the CPC's website at:

http://www.cpc.ncep.noaa.gov/products/OUTLOOKS_index.html

RELATIONSHIP OF JULY 2020 RAINFALL TO HISTORICAL RAINFALL AVERAGES

Regional Summary:

Region	*JUL 2020 Average Rainfall*	*Historical Average for JUL*	*Departure from Historical Average*	*Calendar Year 2020 Cumulative Rainfall JAN-JUL*	*Calendar Year Historical Cumulative Rainfall JAN-JUL*	*Departure from Historical Cumulative JUL 2020*	*Cumulative 12-month Rainfall AUG 2019-JUL 2020*	*Historical 12-month Cumulative Rainfall*	*Departure from Historical 12-month Cumulative*
Northern Counties	8.38	8.29	0.09	25.88	31.78	-5.90	49.64	53.61	-3.97
Central Counties	7.60	8.24	-0.64	25.36	29.98	-4.62	48.86	52.43	-3.57
Southern Counties	5.89	8.19	-2.30	26.41	30.12	-3.71	45.72	52.40	-6.68
District All Counties	7.22	8.24	-1.02	25.86	30.53	-4.67	47.97	52.74	-4.77

Regional Counties Summary:

NORTHERN COUNTIES	*JUL 2020 Average Rainfall*	*Historical Average for JUL*	*Departure from Historical Average*	*Calendar Year 2020 Cumulative Rainfall JAN-JUL*	*Calendar Year Historical Cumulative Rainfall JAN-JUL*	*Departure from Historical Cumulative JUL 2020*	*Cumulative 12-month Rainfall AUG 2019-JUL 2020*	*Historical 12-month Cumulative Rainfall*	*Departure from Historical 12-month Cumulative*
Levy County	7.93	8.18	-0.25	26.90	31.62	-4.72	53.91	54.01	-0.10
Marion County	7.94	8.13	-0.19	26.74	32.24	-5.50	49.14	54.34	-5.20
Citrus County	8.85	8.54	0.31	24.69	32.17	-7.48	48.74	54.12	-5.38
Sumter County	8.83	7.97	0.86	26.08	31.20	-5.12	48.28	51.95	-3.67
Hernando County	8.05	8.79	-0.74	25.53	32.51	-6.98	49.64	55.03	-5.39
CENTRAL COUNTIES									
Pasco County	7.78	8.46	-0.68	25.53	31.53	-6.00	49.80	54.08	-4.28
Pinellas County	6.38	8.44	-2.06	23.41	28.58	-5.17	49.97	51.76	-1.79
Hillsborough County	6.07	8.34	-2.27	23.20	30.51	-7.31	46.18	52.68	-6.50
Polk County	8.77	7.99	0.78	27.09	31.02	-3.93	50.03	52.03	-2.00
SOUTHERN COUNTIES									
Manatee County	5.16	8.59	-3.43	25.77	30.11	-4.34	46.63	53.44	-6.81
Hardee County	5.92	8.14	-2.22	25.35	30.68	-5.33	45.53	52.12	-6.59
Highlands County	8.52	7.99	0.53	30.93	30.35	0.58	49.42	52.01	-2.59
Sarasota County	6.13	8.26	-2.13	28.22	29.26	-1.04	47.70	52.67	-4.97
DeSoto County	5.55	7.96	-2.41	25.69	29.93	-4.24	42.94	51.86	-8.92
Charlotte County	5.31	8.04	-2.73	24.40	29.47	-5.07	43.04	52.56	-9.52

JULY 2020 RAINFALL CHARACTERIZATION

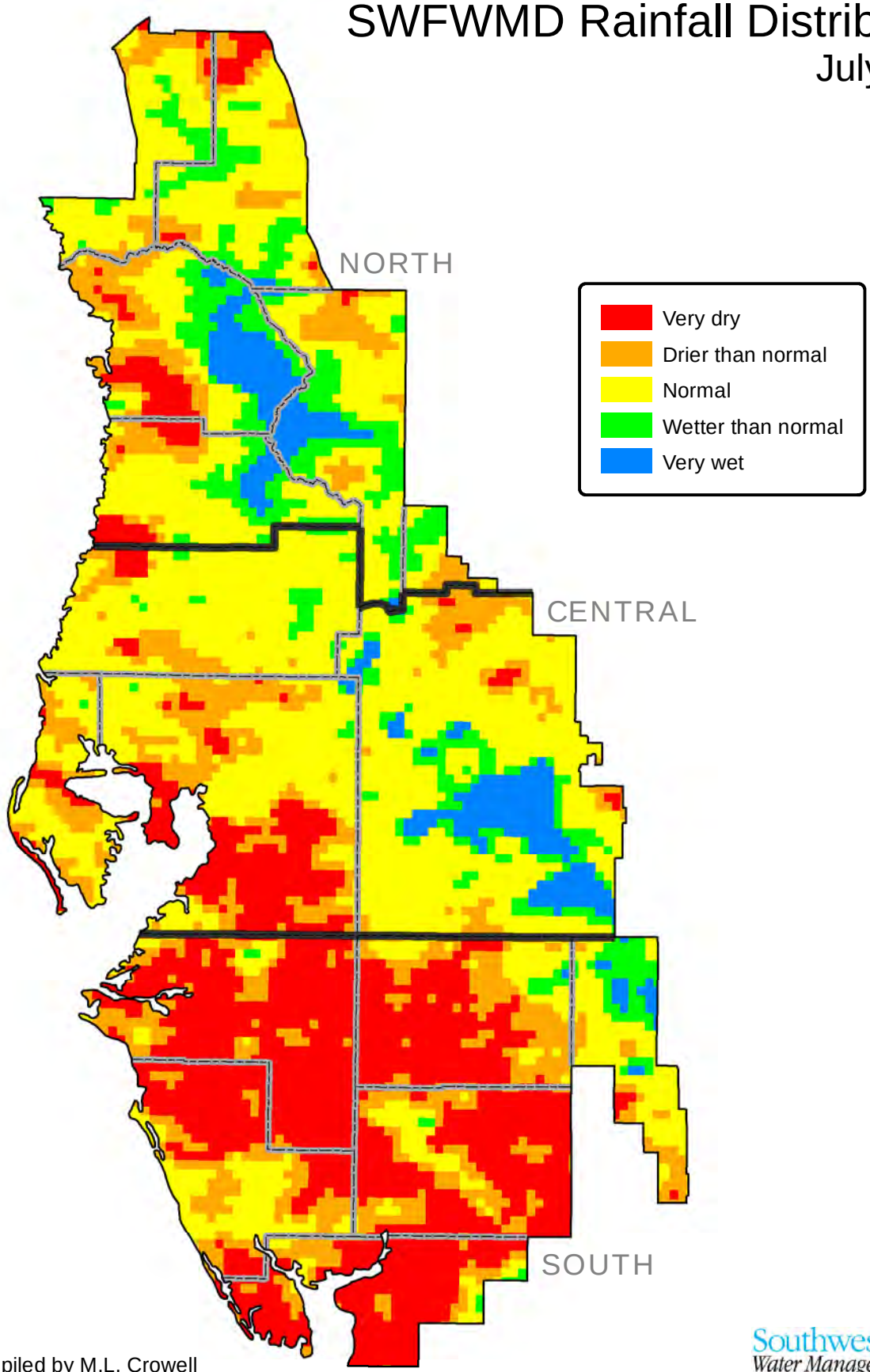
Regional Characterization:

Region	*JUL 2020 Average Rainfall*	*Historical JUL Percentile*	*JUL Rainfall Characterization*	*Cumulative 12-month Rainfall AUG 2019-JUL 2020*	*Historical 12-month Cumulative Percentile*	*12-month Cumulative Rainfall Characterization*
Northern Counties	8.38	51	Normal	49.64	32	Normal
Central Counties	7.60	41	Normal	48.86	36	Normal
Southern Counties	5.89	12	Drier than normal	45.72	24	Drier than normal
District Counties	7.22	31	Normal	47.97	30	Normal

Regional Counties Characterization:

NORTHERN COUNTIES	*JUL 2020 Average Rainfall*	*Historical JUL Percentile*	*JUL Rainfall Characterization*	*Cumulative 12-month Rainfall AUG 2019-JUL 2020*	*Historical 12-month Cumulative Percentile*	*12-month Cumulative Rainfall Characterization*
Levy County	7.93	51	Normal	53.91	54	Normal
Marion County	7.94	52	Normal	49.14	30	Normal
Citrus County	8.85	57	Normal	48.74	28	Normal
Sumter County	8.83	69	Normal	48.28	33	Normal
Hernando County	8.05	45	Normal	49.64	30	Normal
CENTRAL COUNTIES						
Pasco County	7.78	39	Normal	49.80	32	Normal
Pinellas County	6.38	29	Normal	49.97	46	Normal
Hillsborough County	6.07	19	Drier than normal	46.18	24	Drier than normal
Polk County	8.77	68	Normal	50.03	42	Normal
SOUTHERN COUNTIES						
Manatee County	5.16	9	Very dry	46.63	25	Normal
Hardee County	5.92	16	Drier than normal	45.53	25	Normal
Highlands County	8.52	65	Normal	49.42	40	Normal
Sarasota County	6.13	21	Drier than normal	47.70	32	Normal
DeSoto County	5.55	19	Drier than normal	42.94	18	Drier than normal
Charlotte County	5.31	16	Drier than normal	43.04	17	Drier than normal

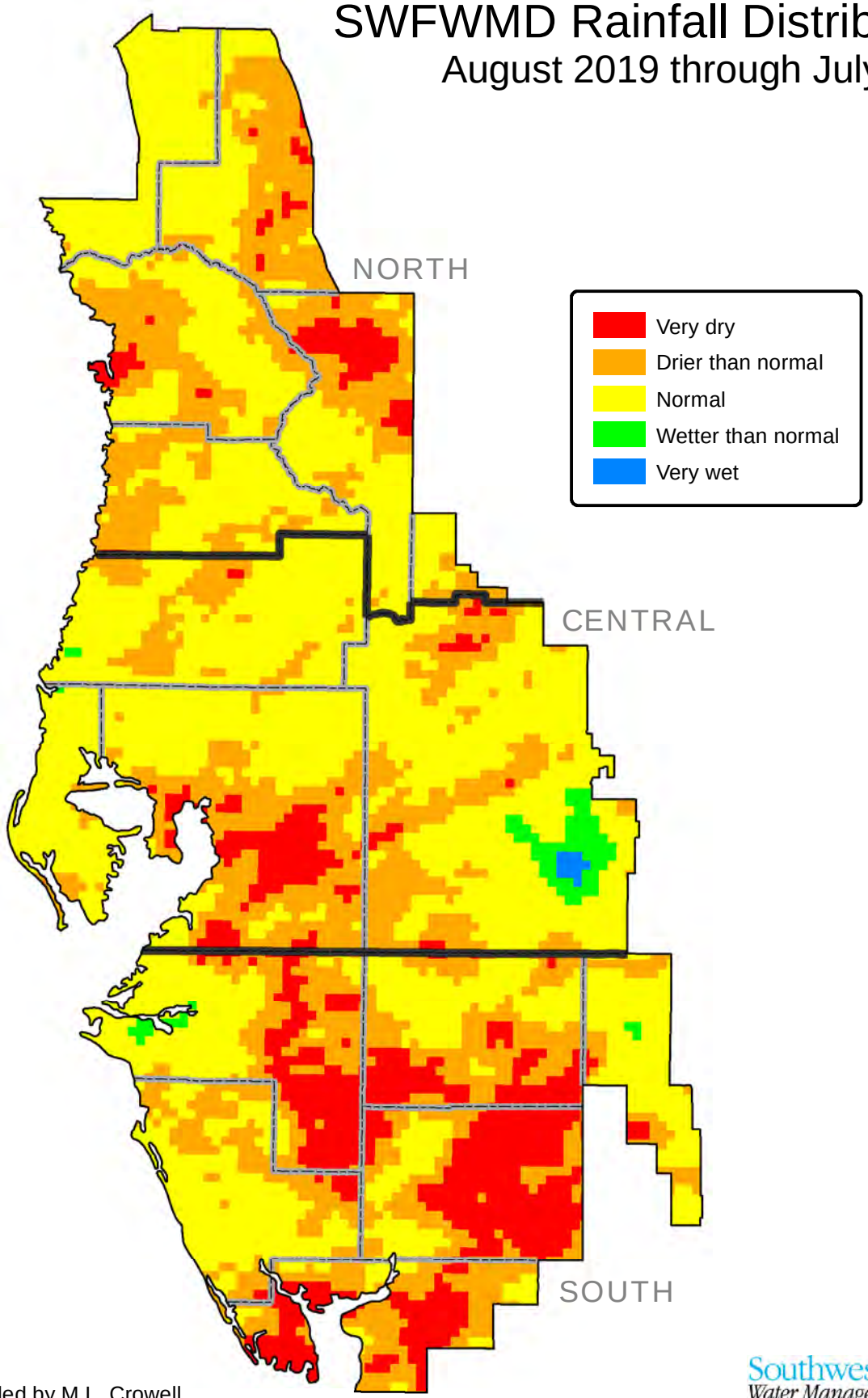
SWFWMD Rainfall Distribution
July 2020



Compiled by M.L. Crowell
Data source: Vieux, Inc.

Southwest Florida Water Management District

SWFWMD Rainfall Distribution
August 2019 through July 2020



Compiled by M.L. Crowell
Data source: Vieux, Inc.

Southwest Florida Water Management District

SURFACE WATER

Lakes

Across the District, 76 lakes have been selected as excellent indicators of current surface water conditions (see index map in Appendix). Water levels of these lakes are read monthly. In general, these lakes are concentrated in four regions, the northern region of Citrus, Hernando, and Sumter Counties, the Tampa Bay region of Hillsborough and Pasco Counties, the Polk Uplands region of northern Polk County, and the Lake Wales Ridge region of Polk and Highlands Counties. In this report, current monthly lake levels are tabulated and compared with previous records as well as District-established management levels. In addition, lake-level data representative of the four regions are presented in hydrographs showing a 15-year history of water levels, as a general indicator of surface-water conditions in that region.

The District's Governing Board (the Board) has established lake management levels for approximately 410 lakes within District boundaries, which are specified in Chapter 40D-8, Florida Administrative Code (F.A.C.). Management levels help protect the water resources of the District and the ecology of the lake or water-body for which it was established. In this report, the following three management levels are used to indicate normal and low lake levels: the Minimum Flood (MF) level, the Minimum Low Management (MLM) level, and the Minimum Extreme Low Management (MELM) level. In general, the MF level corresponds to the normal high level, the MLM to the normal low level, and the MELM to a drought-year low. These levels were derived from various sources, including technical publications, topographic maps, Water Resource Data Reports of the USGS, and other studies. Field investigations are also used to determine past surface levels from water marks, wetland vegetation, dry land vegetation, and to establish the elevation of septic tanks, docks, sea walls, roads and floor slabs.

During a normal year, each of the indicator lakes should reach both the designated normal high (MF) and the normal low (MLM) levels. In addition, it is generally beneficial for lakes to reach the adopted drought year low (MELM) level every four to six years for a short period of time for the biological health of the lake. In this report, hydrographs of representative lakes compare current and recent water levels against **"normal ranges"** defined by the adopted MF and MLM levels.

Of the 76 lakes presented in this report, 17 have water-control structures. These structures are used for water conservation and do not generally influence the water levels with regard to meteorologically wet or dry conditions. During periods of extreme high water, the structures may be operated to minimize flooding.

Compared to June data, 51 of the 76 lakes monitored for this report recorded water level increases, while 25 recorded decreases. Water levels increased in the Northern, Tampa Bay, Polk Uplands and Lake Wales Ridge regions by 0.10, 0.06, 0.38 and 0.53 foot, respectively. District-wide, average water levels increased by 0.20 foot, compared to last month.

Compared to July 2019 data, 59 of the 76 lakes monitored for this report recorded water level decreases, while 16 recorded increases and one lake recorded the same level. In the Northern, Tampa Bay and Polk Uplands regions, average lake levels were lower by 1.10 feet, 0.83 foot and 0.13 foot, respectively, while in the Lake Wales Ridge region, average lake levels were 0.58 foot higher. District-wide, average lake levels were lower by 0.54 foot, compared to last year's levels.

In July 2020, water levels in 57 of the 76 lakes were within the annual normal range, while 19 were below. Lake levels in the Northern region averaged 0.79 foot "below-normal," while average lake levels in the Tampa Bay, Polk Uplands and Lake Wales Ridge regions averaged 0.71 foot, 1.83 feet and 0.05 foot, respectively, above the base of the annual normal range. District-wide, average lake levels were 0.62 foot above the base of the annual normal range. Water levels in 70 of the 76 lakes were above the drought-year levels.

SUMMARY OF LAKE ELEVATIONS OF REGIONAL LAKES (feet)

NORTHERN LAKES

Lake Name	County	Beginning of Record	JUN 2020	JUL 2020	JUL 2019	Change from JUN 2020	Change from JUL 2019	Diff from MELM	(MELM) Drought Year Low	(MLM) Normal Year Low	(MF) Normal Year High	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Big Fish Lake	Pasco	1980	72.85	72.71	73.87	-0.14	-1.16	0.96	71.75	73.05	76.05	65.45	JUN 1997	77.40	SEP 2004
Crews Lake	Pasco	1986	50.48	49.94	51.45	-0.54	-1.51	-0.06	50.00	52.00	55.00	42.63	APR 2001	54.92	MAR 1998
Hancock Lake	Pasco	1978	99.34	99.00	101.18	-0.34	-2.18	-3.00	102.00	104.00	106.50	90.00	MAR 2009	108.90	MAR 1998
Hunters Lake	Hernando	1967	17.78	17.12	18.71	-0.66	-1.59	1.12	16.00	17.50	20.50	11.70	JUN 2001	20.50	MAR 1970
Lake Iola	Pasco	1984	140.57	140.49	140.97	-0.08	-0.48	-2.01	142.50	145.00	147.50	128.96	MAY 2012	148.70	JAN 1989
Lake Lindsey	Hernando	1982	65.25	65.17	65.63	-0.08	-0.46	0.67	64.50	66.00	69.00	59.38	MAY 2012	69.47	MAR 1998
Little Lake (Consu	Citrus	1985	37.08	37.26	39.20	0.18	-1.94	0.01	37.25	39.00	41.50	31.10	MAY 2001	42.84	SEP 2004
Lake Miona	Sumter	1985	54.33	54.25	54.17	-0.08	0.08	3.25	51.00	53.00	55.00	47.88	MAY 2002	55.37	SEP 2019
Moon Lake	Pasco	1990	38.92	38.75	40.15	-0.17	-1.40	3.25	35.50	37.50	40.50	32.98	APR 2009	41.26	SEP 2004
Lake Panasoffkee	Sumter	1962	39.78	40.21	41.70	0.43	-1.49	1.71	38.50	39.50	42.50	36.88	MAY 2007	43.04	OCT 2004
Lake Pasadena	Pasco	1984	90.97	90.91	91.83	-0.06	-0.92	0.91	90.00	91.50	94.50	81.56	MAY 2001	94.86	OCT 2004
Spring Lake	Hernando	1965	179.71	179.93	181.13	0.22	-1.20	1.68	178.25	181.25	184.25	174.85	JUN 1965	183.57	OCT 1984
Floral City Pool	Citrus	1981	39.28	40.44	40.84	1.16	-0.40	2.19	38.25	40.25	42.50	0.83	MAY 2000	42.66	SEP 2004
Inverness Pool	Citrus	1985	37.92	38.85	39.83	0.93	-0.98	2.60	36.25	38.25	40.50	0.77	MAY 2000	40.89	OCT 2004
Hernando Pool	Citrus	1985	37.04	37.74	38.67	0.70	-0.93	2.99	34.75	36.75	39.00	0.86	MAY 2000	40.17	FEB 1998

TAMPA BAY LAKES

Lake Name	County	Beginning of Record	JUN 2020	JUL 2020	JUL 2019	Change from JUN 2020	Change from JUL 2019	Diff from MELM	(MELM) Drought Year Low	(MLM) Normal Year Low	(MF) Normal Year High	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Lake Alice	Hillsborough	1981	39.48	39.84	41.27	0.36	-1.43	2.34	37.50	40.25	42.25	19.84	JUN 2017	42.42	SEP 2004
Lake Ann-Parker	Pasco	1983	46.77	46.98	48.08	0.21	-1.10	1.98	45.00	45.75	48.75	43.28	JUN 2001	49.29	AUG 2015
Bay Lake	Hillsborough	1982	45.57	45.73	45.62	0.16	0.11	3.23	42.50	44.00	46.75	41.86	APR 1985	46.47	DEC 1997
Lake Brant	Hillsborough	1981	57.24	56.83	58.33	-0.41	-1.50	2.33	54.50	56.50	58.75	51.65	JUN 1994	59.57	AUG 2015
Brooker Lake	Hillsborough	1977	62.80	62.64	63.14	-0.16	-0.50	3.64	59.00	61.00	64.25	56.49	MAY 2002	64.08	DEC 1997
Calm Lake	Hillsborough	1982	48.80	48.99	50.37	0.19	-1.38	3.99	45.00	47.50	50.50	41.88	JUN 2002	51.04	JUL 2015
Camp Lake	Pasco	1983	61.80	61.45	61.44	-0.35	0.01	2.45	59.00	61.75	64.00	50.82	MAY 2002	64.05	JUL 2015
Carlton Lake	Hillsborough	1976	92.01	92.09	92.16	0.08	-0.07	4.09	88.00	90.50	93.50	86.82	MAY 2001	94.60	FEB 1998
Lake Carroll	Hillsborough	1985	36.34	36.38	36.57	0.04	-0.19	3.88	32.50	34.50	37.00	0.90	MAY 1999	37.87	AUG 2015
Church Lake	Hillsborough	1983	34.50	34.48	35.96	-0.02	-1.48	2.98	31.50	34.00	36.25	27.94	MAY 2002	36.90	JUL 1987
Lake Cooper	Hillsborough	1980	59.74	59.67	60.36	-0.07	-0.69	2.67	57.00	59.75	61.75	55.60	JUN 2001	62.44	AUG 2015
Crescent Lake	Hillsborough	1981	41.67	41.74	42.22	0.07	-0.48	3.24	38.50	40.00	42.50	35.34	JUN 2001	42.89	SEP 2017
Deer Lake	Hillsborough	1977	65.74	65.44	66.50	-0.30	-1.06	2.94	62.50	64.50	67.25	60.72	MAY 2002	67.42	DEC 1997
Egypt Lake	Hillsborough	1978	36.80	36.57	36.99	-0.23	-0.42	4.07	32.50	35.00	37.50	33.06	MAY 2000	38.15	SEP 1985
Gornto Lake	Hillsborough	1979	36.17	36.63	36.83	0.46	-0.20	2.63	34.00	36.00	38.50	29.86	MAR 1979	39.48	FEB 1998
Lake Harvey	Hillsborough	1970	61.07	60.73	61.42	-0.34	-0.69	2.73	58.00	60.25	62.50	53.94	MAY 2002	63.90	DEC 1997
Lake Hiawatha	Hillsborough	1981	49.78	49.98	51.16	0.20	-1.18	4.98	45.00	48.00	50.50	46.14	JUN 2000	51.16	JUL 2019
Horse Lake	Hillsborough	1930	44.26	44.38	46.87	0.12	-2.49	2.38	42.00	44.00	46.50	0.83	MAR 2000	50.00	AUG 1959
Lake Keene	Hillsborough	1981	62.06	62.14	62.43	0.08	-0.29	3.14	59.00	60.50	63.00	56.12	JUN 2002	63.69	SEP 2017
Keystone Lake	Hillsborough	1984	40.67	41.30	41.41	0.63	-0.11	2.30	39.00	39.75	42.00	0.92	MAY 2000	43.64	AUG 2015
King Lake	Pasco	1983	101.81	101.98	102.66	0.17	-0.68	1.98	100.00	102.50	105.25	94.20	APR 2009	104.80	MAR 1987
Lake Leclare	Hillsborough	1977	50.74	50.87	51.91	0.13	-1.04	3.87	47.00	49.50	52.00	44.95	JUN 2001	52.99	JUL 2015
Lake Linda	Pasco	1983	65.27	64.87	65.50	-0.40	-0.63	2.87	62.00	64.00	66.75	60.07	MAY 2001	67.17	SEP 2017
Little Lake	Hillsborough	1979	44.79	45.17	45.79	0.38	-0.62	3.17	42.00	43.50	46.50	38.06	JUN 1994	48.55	JUN 2017
Long Pond	Hillsborough	1978	44.48	45.23	45.99	0.75	-0.76	3.23	42.00	44.00	46.50	36.33	MAY 1979	48.27	SEP 1998
Mud (Walden) Lake	Hillsborough	1978	112.73	112.77	113.95	0.04	-1.18	2.27	110.50	112.50	115.00	111.45	MAY 2017	114.42	MAR 1978
Lake Padgett	Pasco	1965	69.24	69.07	69.84	-0.17	-0.77	1.57	67.50	69.00	71.25	66.27	JUN 2001	71.90	SEP 1988
Platt Lake	Hillsborough	1981	49.32	48.88	49.21	-0.44	-0.33	2.88	46.00	47.75	50.50	42.53	JUN 2001	51.61	AUG 2015
Rainbow Lake	Hillsborough	1981	37.70	37.81	39.79	0.11	-1.98	2.81	35.00	37.50	40.50	29.82	JUN 2002	40.95	JUL 2015
Lake Stemper	Hillsborough	1983	60.33	60.27	60.82	-0.06	-0.55	2.27	58.00	59.50	62.00	53.36	JUN 2001	61.68	SEP 2004
Lake Thomas	Hillsborough	1981	62.42	62.33	63.26	-0.09	-0.93	3.08	59.25	61.25	63.50	56.48	JUN 2002	64.13	AUG 2015
Turkey Ford Lake	Hillsborough	1970	51.85	51.05	52.82	-0.80	-1.77	1.05	50.00	51.50	54.00	48.07	JUN 1985	55.28	SEP 1988
Lake Wimauma	Hillsborough	1985	76.62	78.27	79.27	1.65	-1.00	-2.73	81.00	83.00	86.75	70.12	MAY 2001	84.38	MAR 1998

NOTE: M='no data' or 'not determined'

All elevations are referenced to NGVD 1929 datum. Report compiled by Hannah Kolb

SUMMARY OF LAKE ELEVATIONS OF REGIONAL LAKES (feet)

POLK UPLANDS LAKES

Lake Name	County	Beginning of Record	JUN 2020	JUL 2020	JUL 2019	Change from JUN 2020	Change from JUL 2019	Diff from MELM	(MELM) Drought Year Low	(MLM) Normal Year Low	(MF) Normal Year High	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Lake Alfred	Polk	1990	130.80	131.33	130.10	0.53	1.23	5.08	126.25	128.25	130.75	124.17	MAY 2013	132.76	MAR 1998
Lake Ariana	Polk	1984	136.20	136.40	136.80	0.20	-0.40	3.90	132.50	134.50	137.00	131.68	MAY 2009	137.66	JAN 2016
Lake Arietta	Polk	1970	142.01	142.25	142.06	0.24	0.19	4.25	138.00	141.00	144.00	136.50	MAY 1977	144.12	SEP 2004
Blue Lake South	Polk	1986	114.59	115.25	112.37	0.66	2.88	2.75	112.50	114.00	117.00	103.38	FEB 1991	119.19	DEC 2005
Lake Bonny	Polk	1954	129.40	130.28	130.82	0.88	-0.54	4.28	126.00	128.00	130.50	122.34	MAY 2009	133.08	SEP 2004
Lake Buffum	Polk	1982	131.80	132.10	132.55	0.30	-0.45	5.35	126.75	129.25	132.25	123.90	JUN 1991	133.00	JUN 2005
Clearwater Lake	Polk	1979	142.36	142.26	143.40	-0.10	-1.14	3.26	139.00	141.00	143.50	137.93	MAY 2001	146.06	AUG 1984
Lake Conine	Polk	1989	128.11	128.42	128.42	0.31	0.00	3.92	124.50	126.50	128.75	123.83	NOV 2009	129.95	SEP 2004
Eagle Lake	Polk	1965	128.81	129.05	129.86	0.24	-0.81	2.55	126.50	128.50	130.75	120.87	MAY 1967	131.50	SEP 1996
Lake Fannie	Polk	1967	124.55	125.02	125.50	0.47	-0.48	5.02	120.00	123.50	125.75	58.51	JUN 2008	127.51	SEP 2004
Lake Garfield	Polk	1982	102.20	103.28	102.63	1.08	0.65	3.28	100.00	101.00	104.75	97.38	JUN 2001	105.70	FEB 1998
Lake Hamilton	Polk	1962	120.69	120.75	121.15	0.06	-0.40	3.50	117.25	119.00	121.50	111.25	MAR 2008	123.96	OCT 2004
Lake Helene	Polk	1961	144.55	144.19	145.34	-0.36	-1.15	5.19	139.00	141.00	144.00	134.06	JUN 2008	146.71	OCT 2017
Lake Howard	Polk	1987	130.71	131.06	131.86	0.35	-0.80	4.06	127.00	129.50	132.00	127.69	MAY 2001	133.08	SEP 2004
Lake Juliana	Polk	1984	132.75	132.98	132.75	0.23	0.23	5.48	127.50	130.00	132.50	127.40	NOV 2009	134.10	MAR 1998
Lake Mcleod	Polk	1983	128.89	129.26	129.86	0.37	-0.60	1.26	128.00	129.50	132.00	120.76	JUL 1985	131.98	SEP 1998
Lake Otis	Polk	1954	126.19	126.49	127.40	0.30	-0.91	3.49	123.00	125.00	128.00	119.58	MAY 1976	129.12	SEP 1960
Lake Ruby	Polk	1974	124.22	125.31	125.08	1.09	0.23	4.31	121.00	123.00	125.25	120.68	JUN 1974	125.98	SEP 2004
Lake Gibson	Polk	1984	142.79	143.15	143.38	0.36	-0.23	1.65	141.50	141.50	143.50	140.21	MAY 2009	145.40	SEP 1988

LK WALES RIDGE LAKES

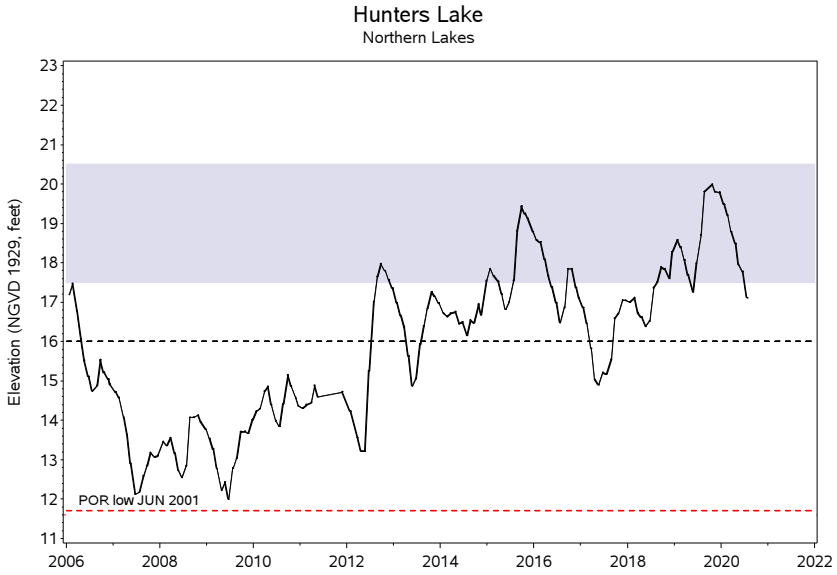
Lake Name	County	Beginning of Record	JUN 2020	JUL 2020	JUL 2019	Change from JUN 2020	Change from JUL 2019	Diff from MELM	(MELM) Drought Year Low	(MLM) Normal Year Low	(MF) Normal Year High	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Lake Annie	Polk	1983	116.12	116.69	115.47	0.57	1.22	2.69	114.00	116.00	119.00	108.36	JUN 1990	117.56	OCT 2005
Lake Clay	Highlands	1983	78.21	78.27	78.11	0.06	0.16	3.27	75.00	76.00	78.75	74.34	MAY 2001	78.82	JUN 2013
Crooked Lake	Polk	1982	120.55	121.09	118.35	0.54	2.74	4.09	117.00	118.50	122.00	106.28	APR 1991	123.44	AUG 2005
Lake Jackson	Highlands	1984	102.19	102.95	101.71	0.76	1.24	4.95	98.00	100.00	103.00	96.47	JUN 2008	103.75	SEP 2017
Lake Letta	Highlands	1981	96.27	97.79	97.19	1.52	0.60	2.79	95.00	97.00	100.00	90.27	JUN 2008	100.74	OCT 2017
Lake Lotela	Highlands	1989	103.96	104.28	105.24	0.32	-0.96	0.28	104.00	105.00	108.50	96.63	JUN 2008	109.13	SEP 2017
Lake Placid	Highlands	1984	91.52	91.92	91.12	0.40	0.80	1.92	90.00	91.50	94.50	88.08	JUN 2008	94.24	SEP 2003
Starr Lake	Polk	1983	104.14	104.65	103.92	0.51	0.73	-3.35	108.00	110.00	113.00	96.23	JUL 2001	109.80	DEC 2005
Trout Lake	Highlands	1981	94.67	94.79	96.10	0.12	-1.31	-0.21	95.00	98.00	101.00	87.15	MAY 2001	99.89	SEP 2016

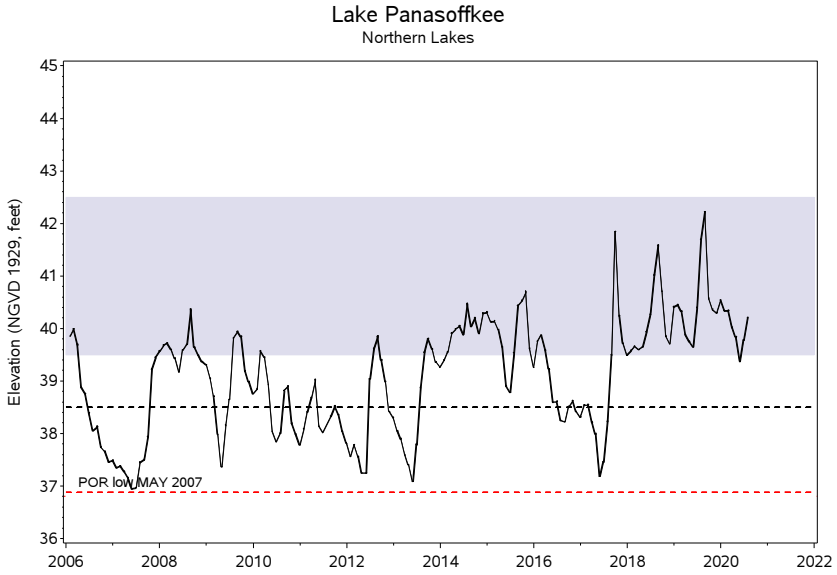
NOTE: M='no data' or 'not determined'

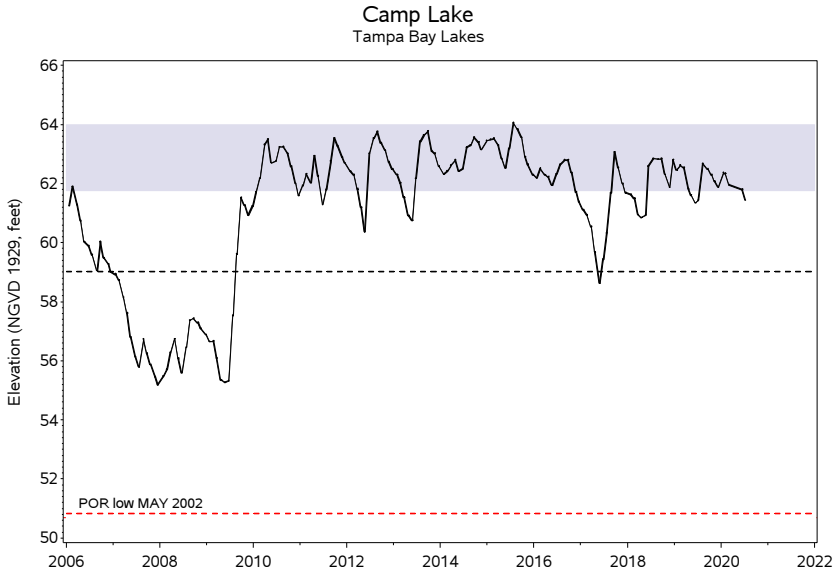
All elevations are referenced to NGVD 1929 datum. Report compiled by Hannah Kolb

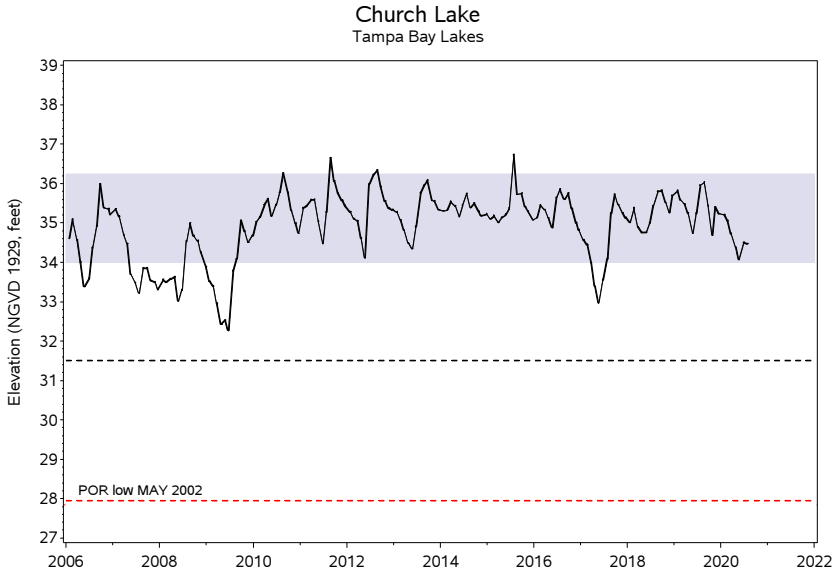
HYDROGRAPHS OF REGIONAL LAKES

15-yr Period of Record





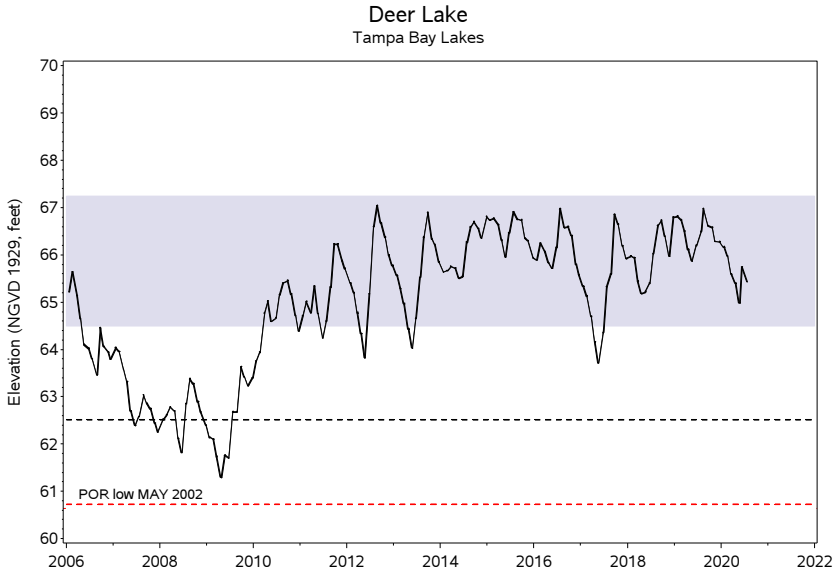


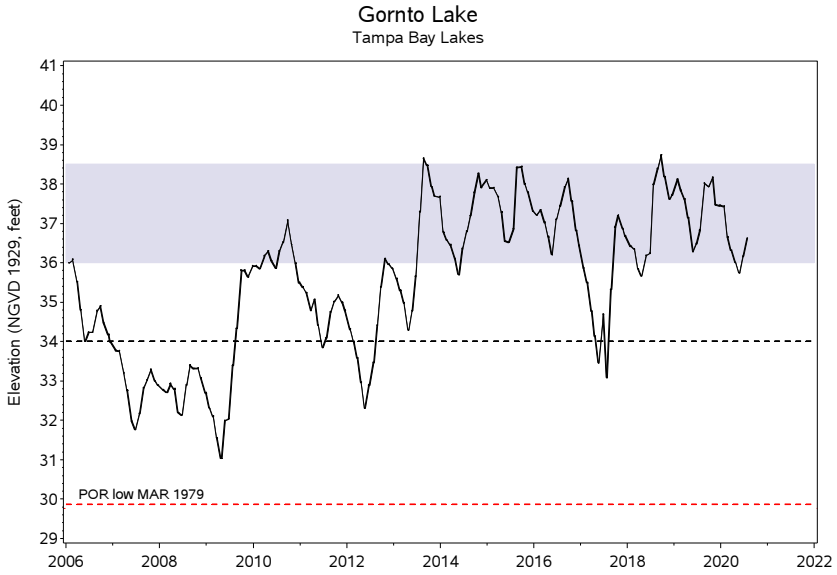


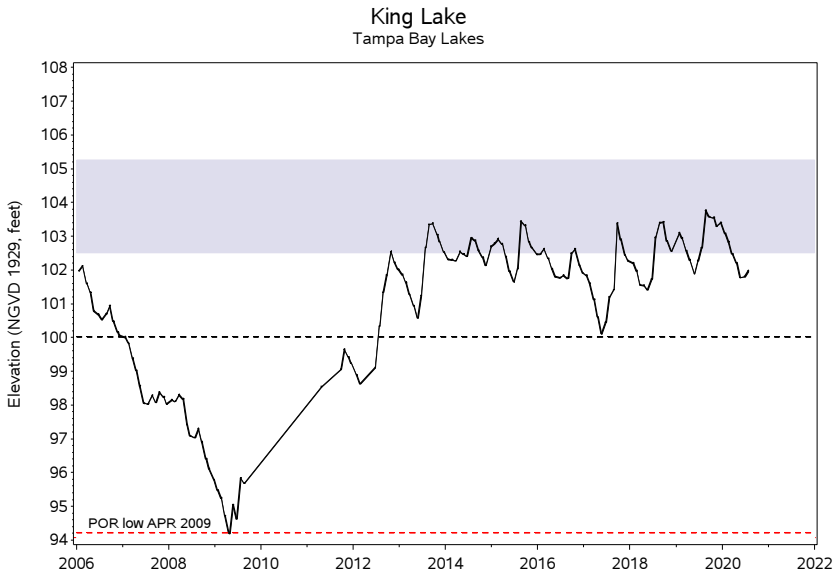
Monthly Mean Elevation **Drought Year Low** **Normal Range**

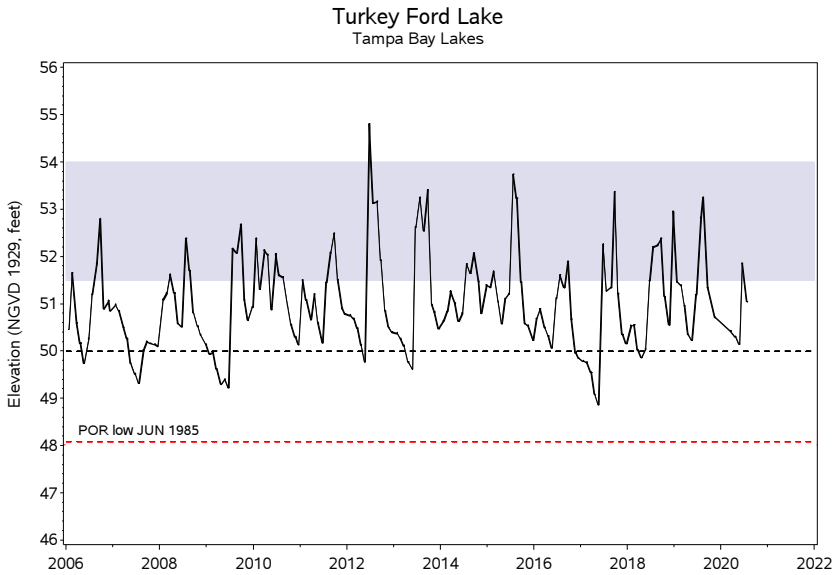
HYDROGRAPHS OF REGIONAL LAKES

15-yr Period of Record





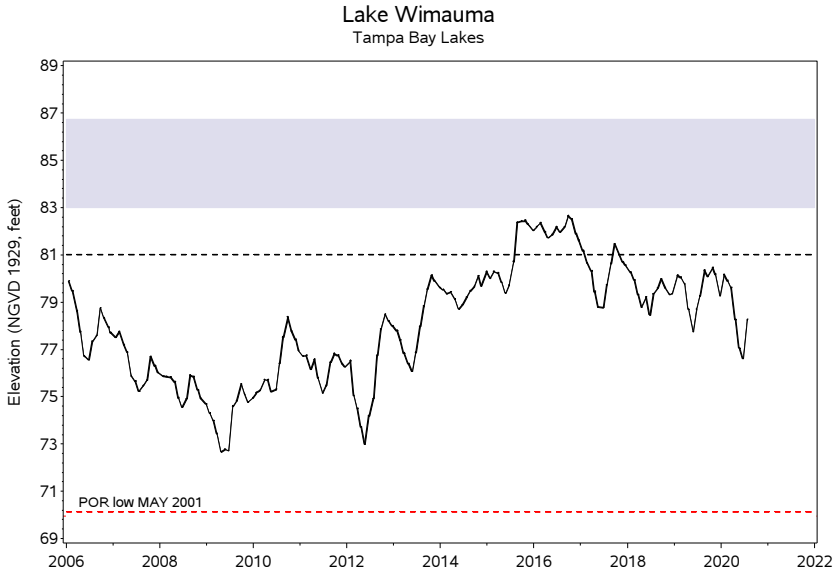


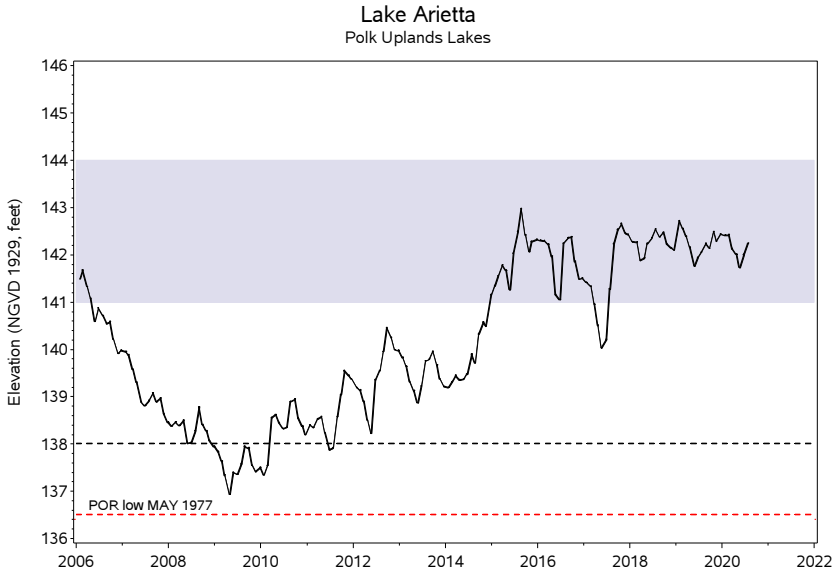


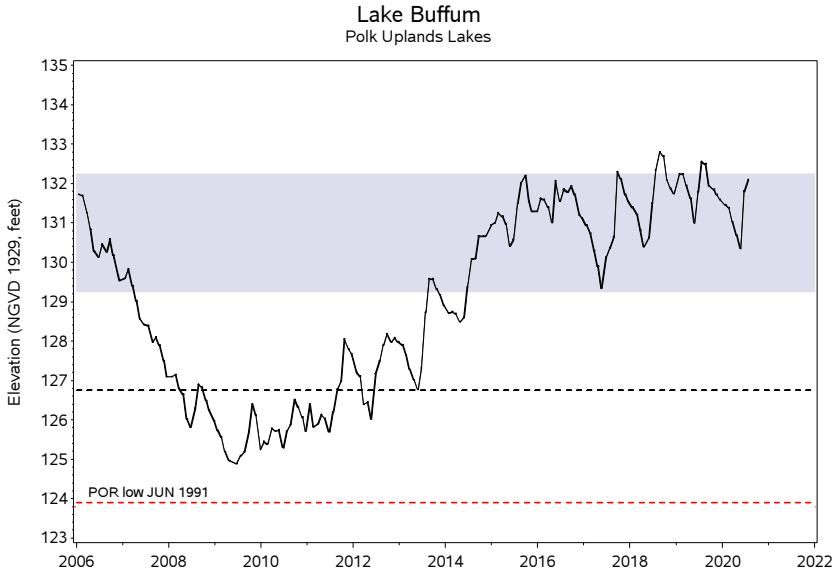
Monthly Mean Elevation Drought Year Low Normal Range

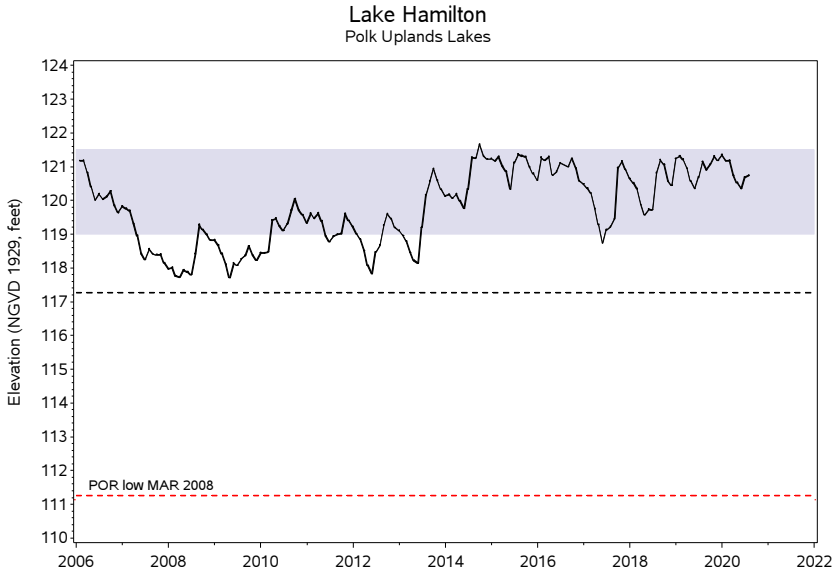
HYDROGRAPHS OF REGIONAL LAKES

15-yr Period of Record









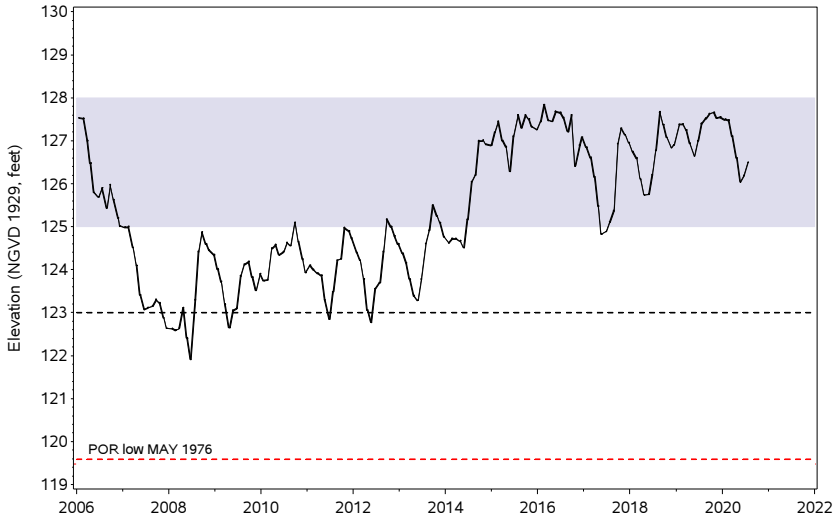


HYDROGRAPHS OF REGIONAL LAKES

15-yr Period of Record

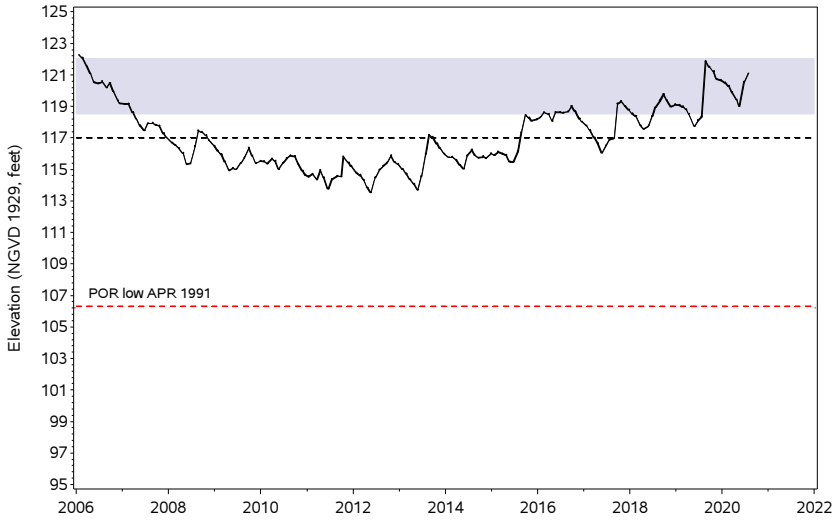
Lake Otis

Polk Uplands Lakes



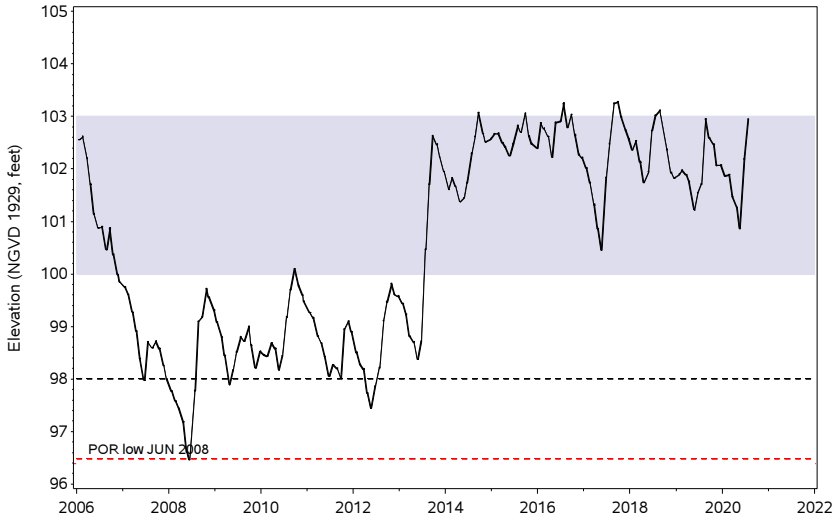
Crooked Lake

Lake Wales Ridge Lakes



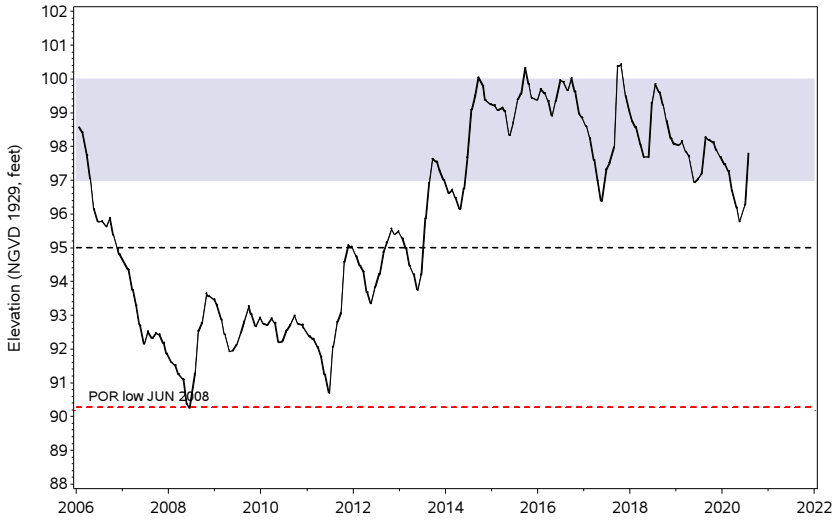
Lake Jackson

Lake Wales Ridge Lakes



Lake Letta

Lake Wales Ridge Lakes



Monthly Mean Elevation Drought Year Low Normal Range

Streams

The District processes streamflow data collected by the U.S. Geological Survey (USGS) under a cooperatively funded program between the District and the USGS. Streamflow is recorded daily as water elevations at 12 gauging stations in three regions of the District (see index map in the Appendix). The USGS uses rating curves developed from water level elevations to calculate streamflow discharge in units of cubic feet per second (cfs). For this report, the reported streamflow values are the means of the daily discharge volumes for the current month. The period-of-record high and low values correspond to monthly means and not to peak events. Percentile values are calculated from the monthly means for the period of record, for each station. The percentile is the monthly mean statistically ranked on a scale of zero to 100 that indicates the percent of the period-of-record monthly means that are at or above the present monthly median. The zero percentile indicates a new period-of-record low and the 100th percentile is a new record high level. The current year's data are provisional and are subject to revision. Revised data are used for all calculations, as they become available.

Hydrographs are produced for each of the stream stations. Current monthly means for each station are compared to respective 25th and 75th percentiles of the period-of-record monthly means, reflecting the normal range of readings for the month.

During July, six of the 12 stations monitored for this report had increased streamflow, while six had decreased flow.

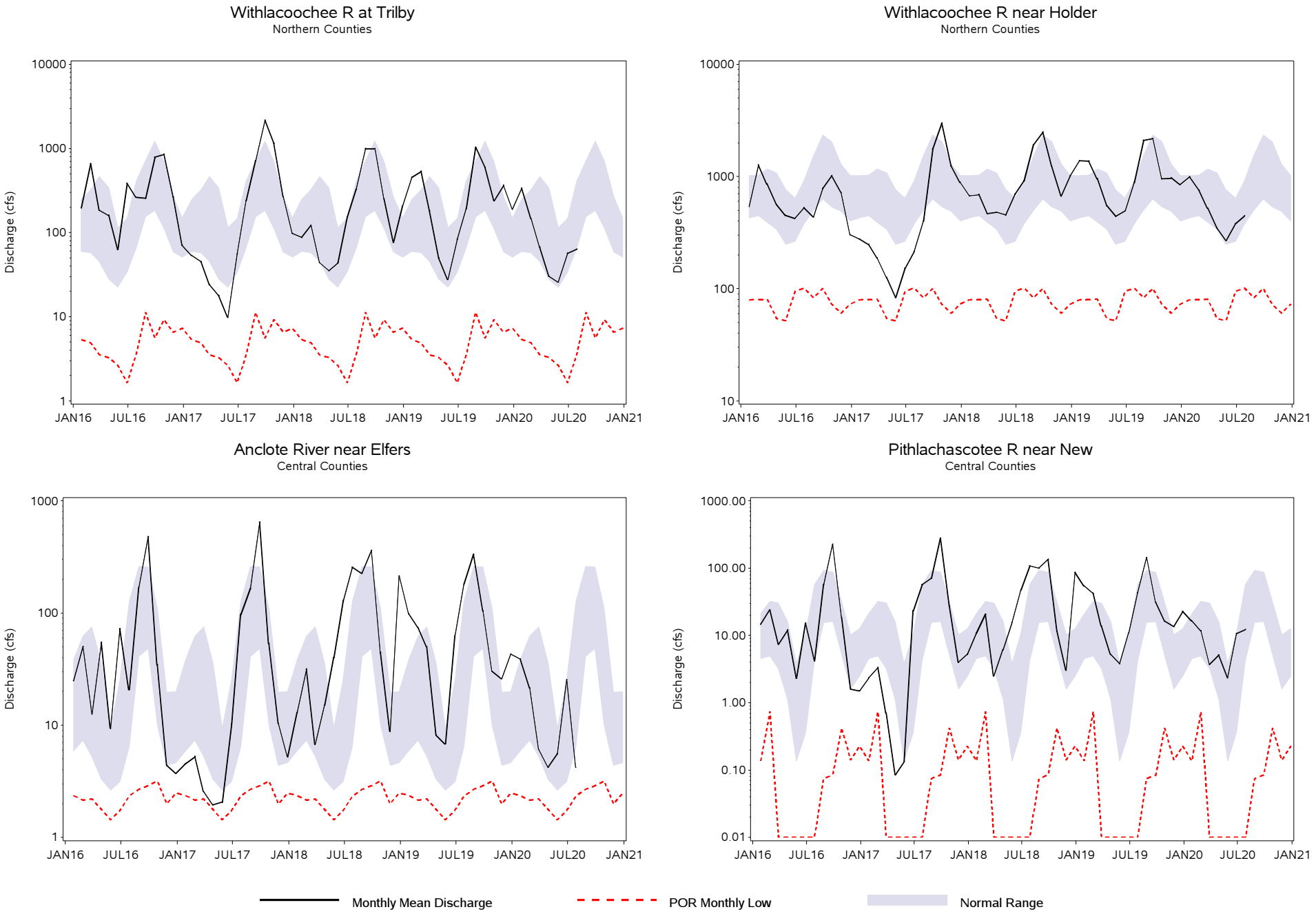
Compared to July 2019, 11 of the 12 stations recorded streamflow decreases, while one reported an increase.

Compared to historical July discharge values, Withlacoochee River streamflow, measured at the Trilby station and the Holder station averaged in the 25th and 29th percentiles, respectively. Streamflow measured at the stations on the Anclote, Pithlachascotee and Hillsborough Rivers averaged in the 16th, 43rd and 47th percentiles of respective historical July readings. Streamflow measured at the Alafia River, Little Manatee River and Peace River at Bartow stations averaged in the 19th, 9th and 69th percentiles of respective historical July readings. Additionally, streamflow measured at the Josephine Creek, Manatee River, Myakka River and Peace River at Arcadia stations averaged in the 68th, 2nd, 24th and 27th percentiles of respective historical July readings.

SUMMARY OF STREAM DISCHARGE FROM MAJOR STREAMS (CFS), JULY 2020

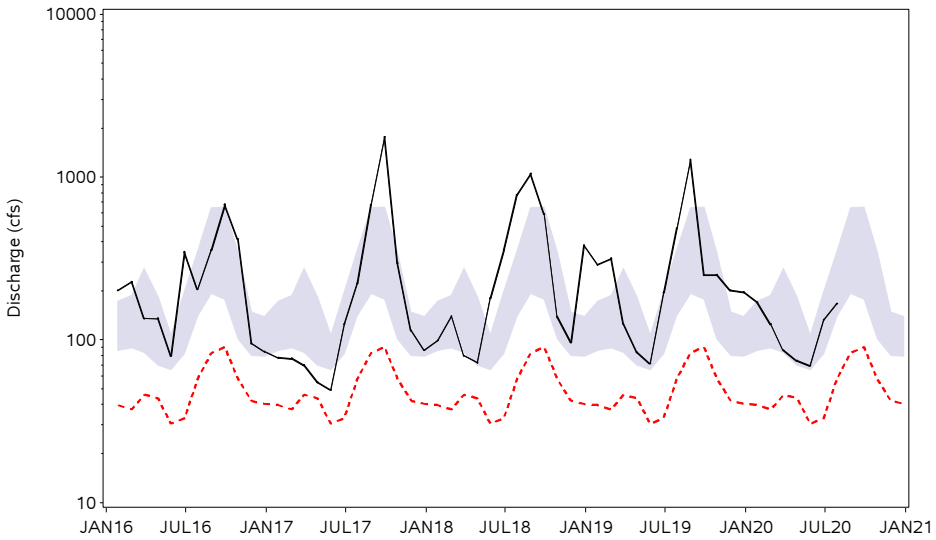
NORTHERN COUNTIES	*Beginning Year of Record*	*Mean Discharge JUL 2020*	*Mean Discharge JUN 2020*	*Mean Discharge JUL 2019*	*Change from JUN 2020*	*Change from JUL 2019*	*JUL 2020 Percentile Rank*	*Period of Record Low*	*Record Low Date*	*Period of Record High*	*Record High Date*
Withlacoochee R at Trilby	1928	63.7	56.6	193.0	7.1	-129.3	25%	0.1	JUN2000	8840	JUN1934
Withlacoochee R near Holder	1928	446.6	380.9	880.0	65.7	-433.4	29%	33.0	MAR2001	8660	APR1960
CENTRAL COUNTIES											
Anclote River near Elfers	1946	4.2	25.5	181.9	-21.3	-177.7	16%	0.8	MAY1962	3710	JUL1960
Pithlachascotee R near New	1963	12.4	10.6	43.4	1.8	-31.0	43%	0.0	MAY2013	2180	JUN2012
Hillsborough R near Zephyrh	1939	166.6	132.4	485.2	34.2	-318.6	47%	27.0	MAY2001	12300	MAR1960
Alafia River at Lithia	1932	176.4	167.8	708.7	8.6	-532.3	19%	4.1	JUN2000	40800	SEP1933
Little Manatee R near Wimau	1939	47.7	235.2	436.4	-187.5	-388.7	9%	0.9	DEC1976	11100	SEP1960
Peace River at Bartow	1939	274.2	132.8	443.1	141.4	-168.9	69%	0.0	MAY2009	4100	SEP1947
SOUTHERN COUNTIES											
Josephine Cr near DeSoto Ci	1946	107.7	126.2	95.1	-18.5	12.6	68%	0.5	MAY1956	1680	SEP1948
Manatee River near Myakka H	1966	12.1	127.7	282.8	-115.6	-270.7	2%	0.1	MAY1975	6440	JUN2003
Myakka River near Sarasota	1936	119.2	233.7	348.3	-114.5	-229.1	24%	0.0	JUN2012	10800	JUN2003
Peace River at Arcadia	1931	746.3	1054.7	1545.4	-308.4	-799.1	27%	5.6	MAY2000	34700	SEP1933

HYDROGRAPHS OF MAJOR STREAMS
JANUARY 2016 TO JULY 2020

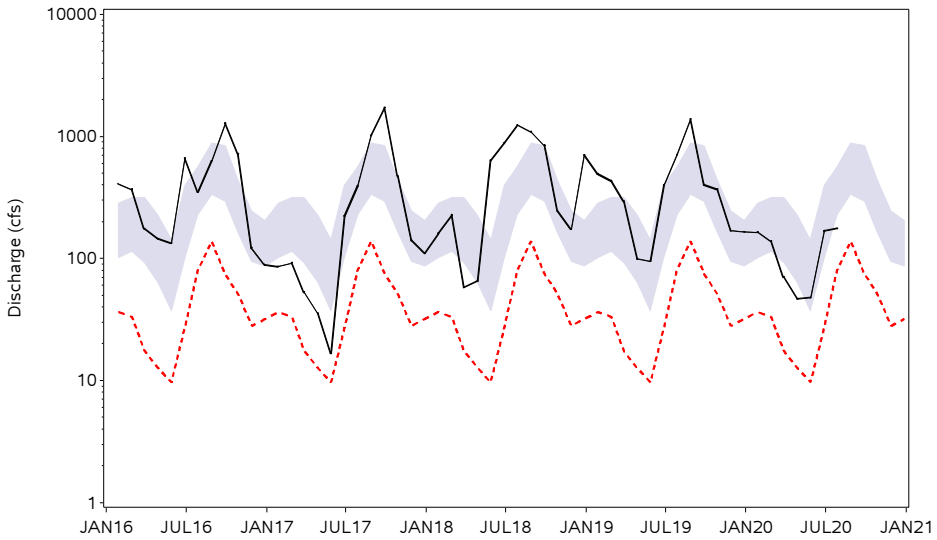


HYDROGRAPHS OF MAJOR STREAMS
JANUARY 2016 TO JULY 2020

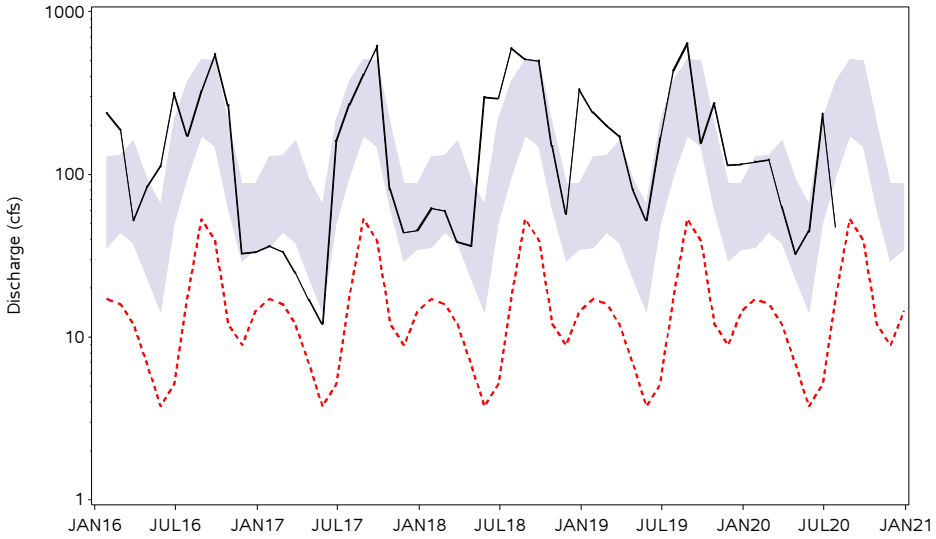
Hillsborough R near Zephyrh
Central Counties



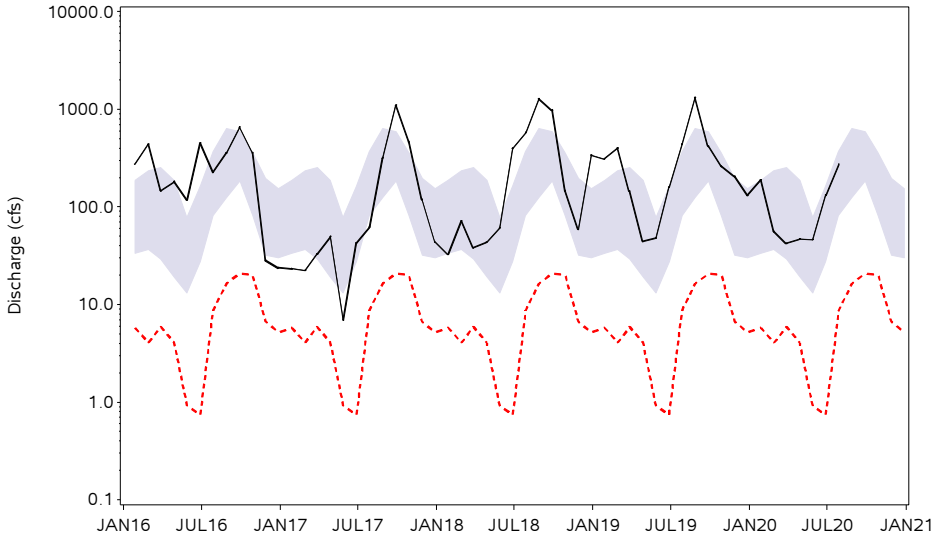
Alafia River at Lithia
Central Counties



Little Manatee R near Wimau
Central Counties



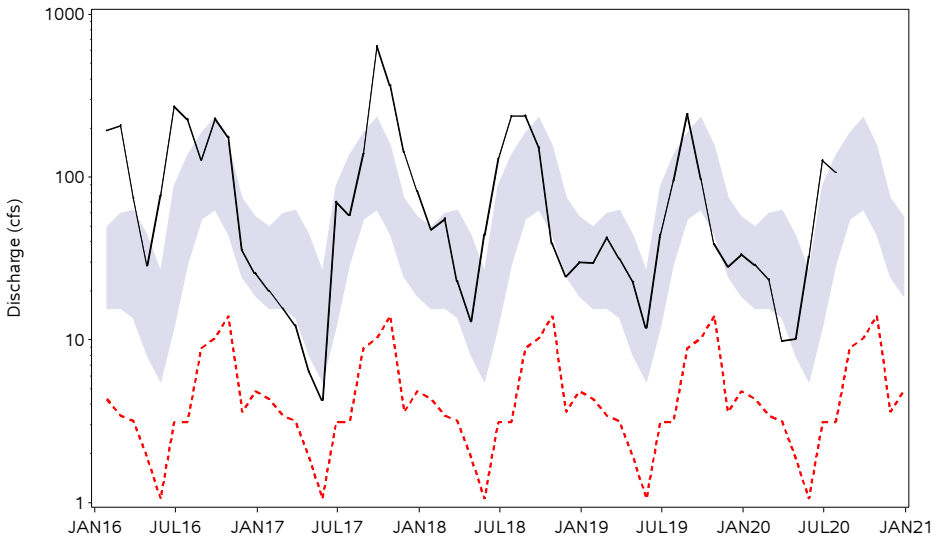
Peace River at Bartow
Central Counties



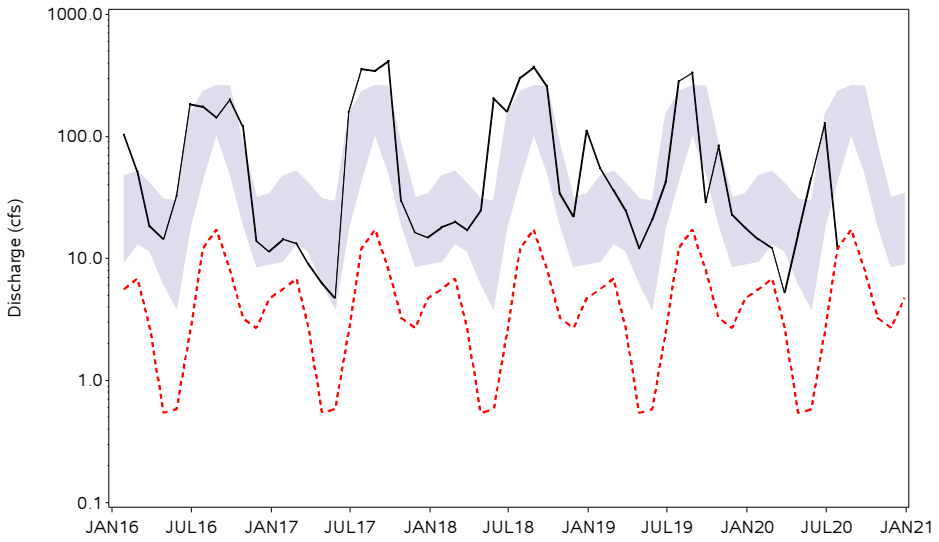
Monthly Mean Discharge
POR Monthly Low
Normal Range

HYDROGRAPHS OF MAJOR STREAMS
JANUARY 2016 TO JULY 2020

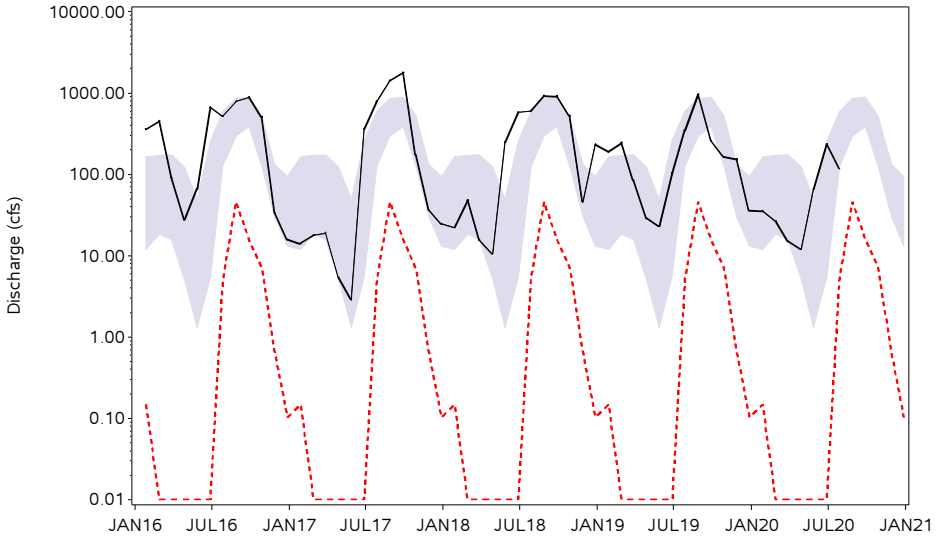
Josephine Cr near DeSoto Ci
Southern Counties



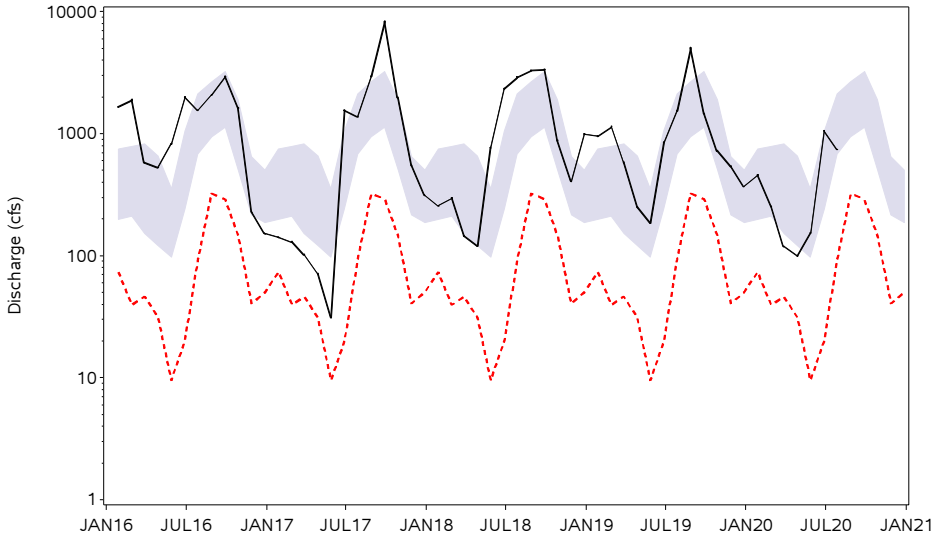
Manatee River near Myakka H
Southern Counties



Myakka River near Sarasota
Southern Counties



Peace River at Arcadia
Southern Counties



Monthly Mean Discharge POR Monthly Low Normal Range

Springs

The District processes springflow data collected by Tampa Bay Water through a mutual agreement and by the U.S. Geological Survey (USGS) under a cooperatively funded program between the District and the USGS. Springflow is monitored at six gauging stations in two regions of the District (see index map in the Appendix). Springflow data for Rainbow, Silver and Sulphur Springs are recorded as daily water levels. The USGS uses rating curves developed for these springs from historical water level elevations to calculate springflow discharge in units of cubic feet per second (cfs). Weeki Wachee Springs discharge (cfs) is provided as an instantaneous reading calculated by the USGS. Buckhorn and Lithia Springs discharge is obtained from Tampa Bay Water biweekly and weekly, respectively. Period-of-record high and low values correspond to monthly theoretical means and not to peak events. Values are reported as percentiles calculated from an analysis of historical monthly means recorded during a given month. The percentile is the monthly mean ranked on a scale of zero to 100, where the normal range is defined by flows between the 25th to 75th percentiles. The zero percentile indicates a new period-of-record low and the 100th percentile is a new record high. The values reported are provisional and are subject to revision at the end of the water year.

Compared to June data, three of the six stations reported increased springflow, while three reported decreased flow.

Compared to July 2019 data, four of the six stations reported decreased springflow, while two reported increased flow.

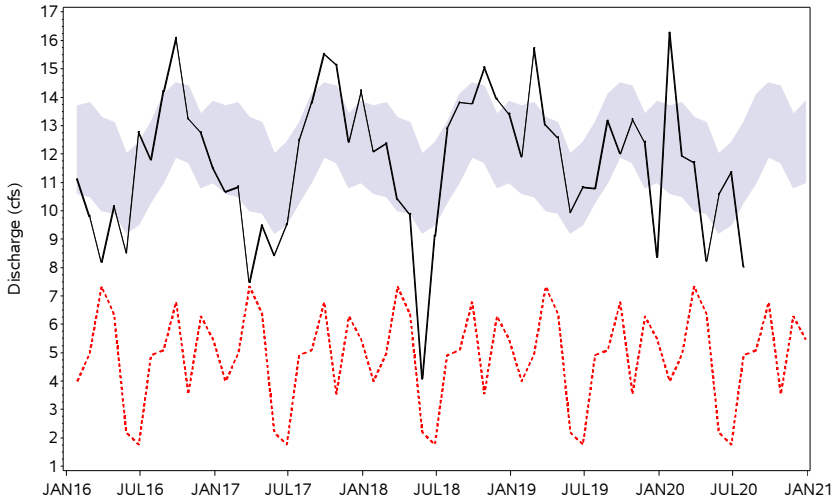
Compared to historical period-of-record values for July, total springflow measured in Rainbow, Silver and Weeki Wachee Springs, in the northern region, was in the 8th, 30th and 69th percentiles of respective historical readings. Springflow measured in Sulphur, Buckhorn and Lithia Springs in the central region was in the 5th, 18th and 71st percentiles, respectively, of historical July readings.

SUMMARY OF SPRINGS DISCHARGE FROM MAJOR SPRINGS (CFS), JULY 2020

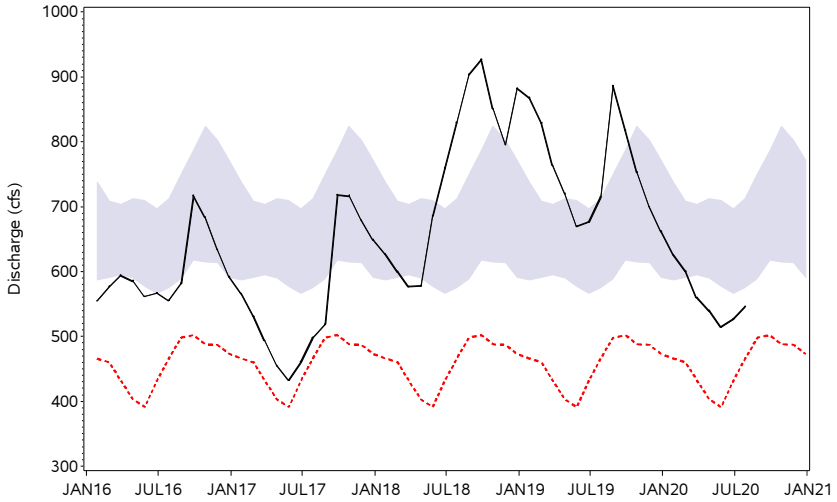
NORTHERN COUNTIES	*JUL 2020 Discharge*	*JUN 2020 Discharge*	*JUL 2019 Discharge*	*Change From JUN 2020*	*Change From JUL 2019*	*JUL 2020 Percentile Rank*	*Period of Record Low*	*Record Low Date*	*Period of Record High*	*Record High Date*
Rainbow Springs	537.7	525.7	686.8	12.0	-149.1	8%	391.0	MAY2012	1060.0	SEP1988
Silver Springs	645.6	636.3	725.2	9.3	-79.6	30%	141.0	JUN2012	1290.0	OCT1960
Weeki Wachee Springs	147.1	150.0	190.4	-2.9	-43.3	69%	101.0	JUN1994	257.0	OCT2004
CENTRAL COUNTIES										
Sulphur Springs	7.3	17.5	34.7	-10.2	-27.4	5%	0.0	JUN1994	145.0	MAR1960
Buckhorn Springs	9.6	8.5	9.2	1.1	0.4	18%	1.8	JUN2020	32.7	AUG2004
Lithia Springs	38.2	39.9	33.4	-1.7	4.8	71%	6.2	OCT2012	91.5	NOV2004

HYDROGRAPHS OF REGIONAL SPRINGS
JANUARY 2016 TO JULY 2020

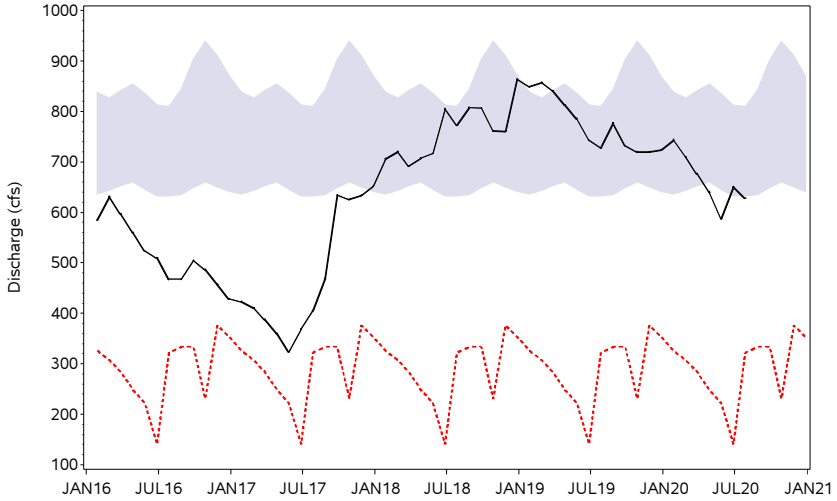
Buckhorn Main Spring
Central Counties



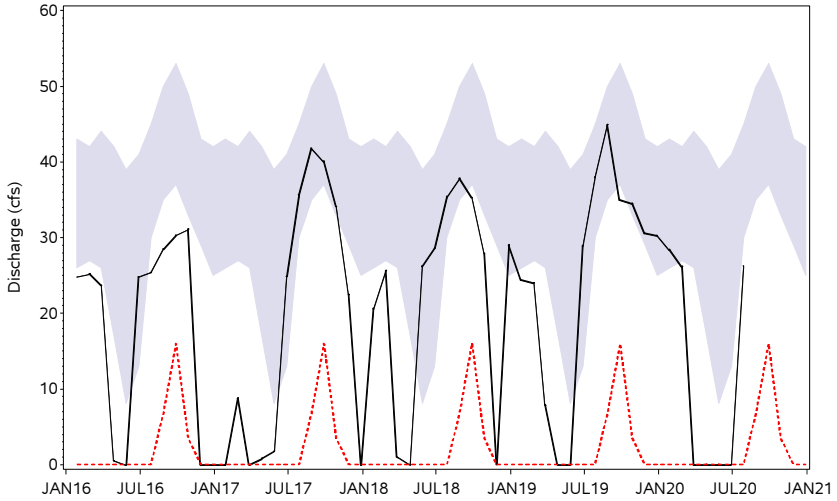
Rainbow River at Dunnellon
Northern Counties



Silver River nr Ocala
Northern Counties



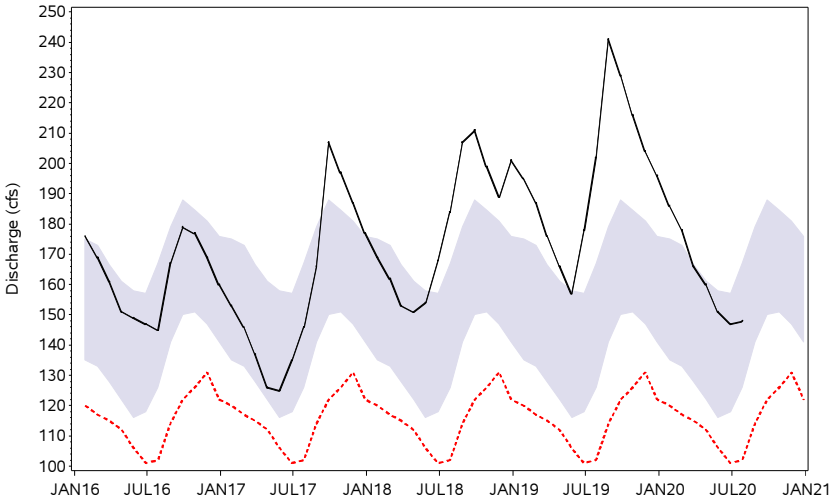
Sulphur Springs (Pool) at Sulphur Springs
Central Counties



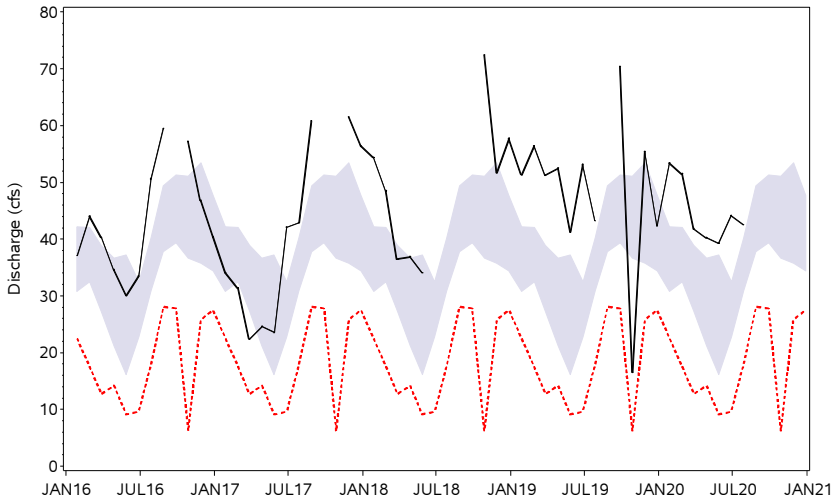
Monthly Discharge POR Monthly Low Normal Range

HYDROGRAPHS OF REGIONAL SPRINGS
JANUARY 2016 TO JULY 2020

Weeki Wachee River nr Brooksville
Northern Counties



Lithia Springs
Central Counties



Monthly Discharge POR Monthly Low Normal Range

GROUNDWATER

The groundwater section of this report provides groundwater level information for the Upper Floridan Aquifer (UFA) located within the District. As earlier indicated, the District is divided into three geographical regions defined by county boundaries (see index maps in the Appendix). In the northern counties, the UFA is generally at or near land surface, allowing rainfall to easily recharge (replenish) the aquifer system. In the central counties, the UFA can be unconfined or confined (overlain by thick clays). Where the UFA is confined, recharge to the aquifer from rainfall is low. In the southern counties, the UFA is confined.

Eighty-two UFA monitor wells are measured for this report to determine the relative health of groundwater levels District-wide. Only monitor wells with an adequate and reliable period-of-record of water level measurements were selected for the network. For each well, the 25th and 75th percentiles ("low normal" and "high normal," respectively) were calculated for each week of the year using the period-of-record data. The 25th and 75th percentiles are used to represent the lower and upper limits of the normal range, as they are considered a reliable and robust measure of the normal range and are less affected by extremes in the data record. The end-of month water-level readings measured for this report are compared to their corresponding normal ranges. Trend data from 16 wells are shown in hydrographs to compare current water levels to the low normal and high normal levels. Data from all 82 wells is further compiled into regional statistics for the three regions of the District. The potentiometric levels of representative Floridan aquifer wells are used to produce the potentiometric surface maps presented in this report.

Upper Floridan Aquifer

Since June, 74 of the 82 wells monitored for this report recorded water level increases, while 8 recorded decreases. Regionally, average water levels increased in the northern, central and southern counties by 0.37 foot, 1.35 feet and 1.28 feet, respectively. District-wide, the average water level in the UFA increased by 1.09 feet.

Compared to July 2019 data, 65 of the 82 wells monitored for this report recorded water level decreases, while 17 recorded increases. Regionally, the mean water level in the northern, central and southern counties was lower by 2.27 feet, 1.84 feet and 0.56 foot, respectively. District-wide, average water levels in UFA wells were 1.48 feet lower than July 2019 levels.

In July, groundwater data showed that levels in the UFA ended the month within the normal range in the northern, central and southern counties of the District. The groundwater level in the northern, central and southern counties were in the 53rd, 57th and 63rd percentiles, respectively.

Record High Monthly Water Level

A record high water level for the historic July record was set in the ROMP 20 UFA (SWNN) well located in the District's southern counties.

SUMMARY OF UPPER FLORIDAN AQUIFER LEVELS IN REPRESENTATIVE WELLS, JULY 2020

Regional Summary:

Region	JUL 2020 Mean Elevation	JUL 2020 Relation to POR Median	JUL 2020 Relation to 25th Percentile	JUL 2020 Mean Percentile Rank	JUN 2020 Mean Percentile Rank	JUL 2019 Mean Percentile Rank
Northern Counties	37.81	0.14	1.43	53%	51%	85%
Central Counties	60.16	0.58	3.25	57%	57%	82%
Southern Counties	35.56	0.84	2.51	63%	77%	60%

Regional Wells Summary:

NORTHERN COUNTIES	JUL 2020 Elev	JUN 2020 Elev	JUL 2019 Elev	Change From JUN 2020	Change From JUL 2019	JUL Historical Low Normal	JUL Historical High Normal	Departure From Low Normal	JUL 2020 Percentile Rank	Period of Record Low	Record Low Date	Period of Record High	Record High Date
CE 14 Dunnellon Deep	38.32	39.02	43.90	-0.70	-5.58	36.09	41.95	2.23	46%	31.94	MAY2012	50.90	MAR1998
Chassahowitzka 1 Deep	6.25	6.00	7.67	0.25	-1.42	6.14	7.27	0.11	36%	4.70	FEB1990	9.75	SEP2004
Inverness Dot Fldn	29.52	28.95	31.67	0.57	-2.15	27.60	30.57	1.92	64%	21.70	JUN2001	37.80	OCT1982
Mascotte Deep	100.54	99.26	100.48	1.28	0.06	99.26	100.63	1.28	71%	93.94	JUN2000	102.66	SEP1988
North Locanto Deep	4.14	4.00	5.64	0.14	-1.50	4.26	5.48	-0.12	18%	2.94	MAY2001	8.10	OCT1982
ROMP 103 Suwannee/Ocala	40.57	40.41	42.42	0.16	-1.85	40.21	41.34	0.36	49%	35.38	AUG1992	48.95	OCT1982
ROMP 107 Ocala/Avon Park	11.08	11.39	13.45	-0.31	-2.37	10.87	13.39	0.21	34%	8.08	AUG2007	19.78	NOV1982
ROMP 111 Ocala/Avon Park	49.88	49.08	51.59	0.80	-1.71	48.40	49.98	1.48	66%	44.23	JUL1992	53.33	SEP2004
ROMP 116 Avon Park	33.37	32.10	35.28	1.27	-1.91	32.03	33.78	1.34	57%	29.24	MAY2012	39.28	OCT2004
ROMP 119 Avon Park	44.34	44.00	46.81	0.34	-2.47	42.56	44.85	1.78	63%	39.86	MAY2012	52.20	MAR1998
ROMP 120 Avon Park	44.19	43.93	46.74	0.26	-2.55	41.55	44.81	2.64	71%	38.71	MAY2012	52.24	MAR1998
ROMP 134 Ocala/Avon Park	49.47	49.60	52.00	-0.13	-2.53	42.98	47.00	6.49	81%	37.80	JUN2012	57.35	APR1998
ROMP 89 Ocala	91.00	89.08	92.72	1.92	-1.72	89.84	93.06	1.16	39%	82.46	JUN2000	94.93	DEC1997
ROMP 97 Avon Park	17.41	17.86	20.99	-0.45	-3.58	14.94	20.61	2.47	52%	11.84	MAY2009	26.24	SEP2004
ROMP TR 124 Avon Park	3.54	3.23	4.23	0.31	-0.69	3.01	3.69	0.53	53%	0.77	SEP2004	7.95	JUN1995
ROMP TR 21-2 Ocala/Avpk	3.32	3.04	3.78	0.28	-0.46	3.00	3.40	0.32	54%	0.40	DEC1981	6.12	OCT1995
Sumter 13 JC 59 Up Fldn	41.08	40.63	45.33	0.45	-4.25	39.82	43.63	1.26	36%	36.52	MAY2012	47.01	JUN2003
Tidewater 1 FLDN	54.45	54.20	56.77	0.25	-2.32	53.01	56.54	1.44	51%	48.05	JUN2012	61.81	SEP1982
Webster City Fldn	83.28	82.67	85.40	0.61	-2.12	79.36	84.02	3.92	78%	74.16	MAY2012	88.77	SEP2005
Weeki Wachee Deep Repl	14.85	14.81	19.12	0.04	-4.27	13.22	17.39	1.63	43%	9.57	MAY2009	22.81	AUG1984

All elevations are referenced to NGVD 1929 datum

Regional Wells Summary (continued):

CENTRAL COUNTIES	*JUL 2020 Elev*	*JUN 2020 Elev*	*JUL 2019 Elev*	*Change From JUN 2020*	*Change From JUL 2019*	*JUL Historical Low Normal*	*JUL Historical High Normal*	*Departure From Low Normal*	*JUL 2020 Percentile Rank*	*Period of Record Low*	*Record Low Date*	*Period of Record High*	*Record High Date*
Bexley 2 Fldn	61.69	61.20	63.35	0.49	-1.66	60.70	62.84	0.99	48%	56.08	JUN2000	64.50	SEP2017
Coley Deep	86.66	82.18	86.86	4.48	-0.20	80.85	88.63	5.81	81%	60.68	JUN2000	93.79	OCT1953
Debuel Road Deep	53.20	52.65	57.57	0.55	-4.37	53.82	56.31	-0.62	9%	46.48	APR2002	60.13	SEP1979
Hills State Park Deep	38.75	38.94	43.66	-0.19	-4.91	38.13	41.12	0.62	41%	35.35	JUN2000	47.42	DEC1997
Lk Alftred Deep	128.76	128.29	129.75	0.47	-0.99	126.81	128.73	1.95	77%	119.85	MAY1974	131.18	MAR1998
Loughman Deep	91.06	90.52	90.93	0.54	0.13	89.60	91.27	1.46	70%	85.90	MAY2001	93.23	OCT1979
Lykes Pasco Fldn	66.79	66.73	68.05	0.06	-1.26	63.94	67.22	2.85	63%	56.94	JUN2000	75.78	OCT2004
Masaryktown Deep	32.64	33.03	35.40	-0.39	-2.76	24.83	35.64	7.81	66%	21.89	AUG1994	50.32	SEP1984
Moon Lake Deep	31.50	30.46	32.14	1.04	-0.64	31.23	31.68	0.27	44%	26.10	JUN2000	34.89	AUG2015
Pasco 13 nr Drexel Fldn	70.87	71.12	74.09	-0.25	-3.22	71.80	74.50	-0.93	12%	68.00	JUN2001	77.14	JUL1960
Pinellas 665 Fldn	9.92	9.51	10.84	0.41	-0.92	9.43	10.96	0.49	60%	6.70	MAY2006	14.79	SEP1959
ROMP 123 Hawthorn/Ocala	19.86	17.01	22.82	2.85	-2.96	18.44	24.48	1.42	46%	-29.47	MAY2000	33.56	FEB1998
ROMP 40 Swnn/AvPk	44.85	42.38	47.03	2.47	-2.18	38.87	45.39	5.98	66%	-4.15	JUN2000	57.37	FEB1998
ROMP 45 Avon Park	74.55	71.72	76.52	2.83	-1.97	66.37	70.77	8.18	77%	31.75	MAY1981	84.44	OCT2004
ROMP 48 Tampa/Suwannee	39.50	37.58	41.86	1.92	-2.36	34.08	40.86	5.42	64%	-7.87	MAY2000	52.64	FEB1998
ROMP 50 Avon Park	7.71	6.38	8.29	1.33	-0.58	2.59	7.70	5.12	74%	-17.42	FEB2018	14.95	AUG1982
ROMP 58 Ocala	105.87	102.11	102.87	3.76	3.00	101.34	103.56	4.53	90%	84.03	JUN2000	111.01	DEC2005
ROMP 59 Swnn/AvPk	75.20	72.31	77.49	2.89	-2.29	61.84	71.30	13.36	85%	33.33	MAY1981	85.92	OCT2004
ROMP 60 Ocala/Avon Park	73.93	71.06	77.02	2.87	-3.09	69.66	70.86	4.27	56%	25.90	MAY1975	87.07	OCT1959
ROMP 66 Tampa	18.80	18.77	21.49	0.03	-2.69	18.80	19.78	0.00	24%	12.04	JUN1977	25.47	AUG2015
ROMP 76 U Fldn	129.35	128.66	130.74	0.69	-1.39	126.98	130.16	2.37	55%	119.37	MAY1981	132.92	SEP2004
ROMP 87 Avon Park	103.65	101.80	104.38	1.85	-0.73	101.99	103.96	1.66	57%	94.90	JUN2000	106.30	FEB1998
ROMP 88 Avon Park	103.82	102.42	105.86	1.40	-2.04	103.42	105.95	0.40	33%	97.42	JUN2000	107.21	SEP2017
ROMP 93 Swnn/AvPk	72.88	71.24	75.05	1.64	-2.17	64.43	73.86	8.45	72%	59.03	JUN2001	76.60	SEP1982
ROMP DV-1 Suwannee	57.56	55.01	62.75	2.55	-5.19	55.66	60.27	1.90	52%	12.06	JAN2010	65.72	FEB1998
ROMP TR 10-2 Tampa	10.32	9.85	11.58	0.47	-1.26	10.38	10.78	-0.06	23%	0.22	MAY1981	14.00	SEP2004
ROMP TR 13-3 Avon Park	15.27	14.50	16.48	0.77	-1.21	14.96	16.82	0.31	39%	10.16	JUL1987	18.79	AUG2015
SR 52 And CR581 Deep	73.14	73.09	75.43	0.05	-2.29	65.89	75.81	7.25	61%	56.96	JUN2001	79.44	AUG1965
SR 52 Deep W nr Fivay Jct	54.79	52.91	53.42	1.88	1.37	52.25	53.82	2.54	93%	48.08	JUN2000	59.53	AUG2010
SR 577 Deep	88.76	88.41	92.98	0.35	-4.22	83.92	92.49	4.84	54%	72.76	JUN2000	98.51	MAR1998
Sanlon Ranch Fldn	96.73	94.26	99.25	2.47	-2.52	87.05	94.47	9.68	86%	66.38	MAY1975	105.27	OCT2004
Tarpon Rd Deep	10.12	9.09	11.45	1.03	-1.33	9.88	11.10	0.24	39%	7.50	JUN2006	13.48	AUG2015

All elevations are referenced to NGVD 1929 datum

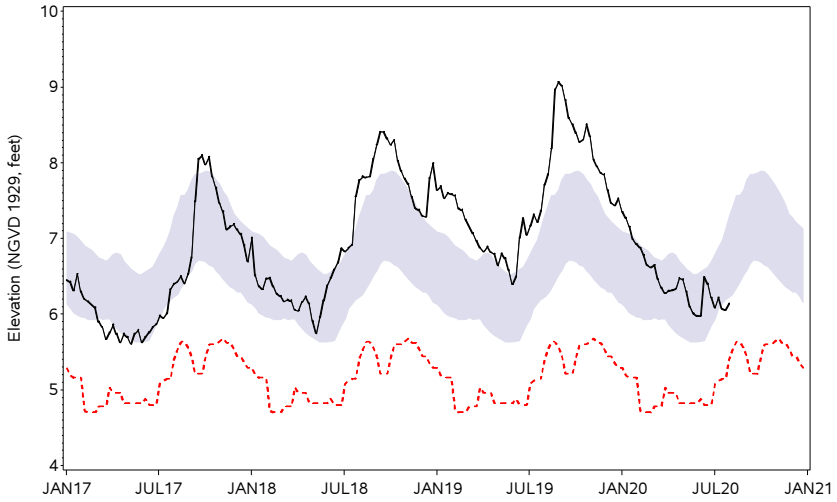
Regional Wells Summary (continued):

SOUTHERN COUNTIES	JUL 2020 Elev	JUN 2020 Elev	JUL 2019 Elev	Change From JUN 2020	Change From JUL 2019	JUL Historical Low Normal	JUL Historical High Normal	Departure From Low Normal	JUL 2020 Percentile Rank	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Big Slough Deep	33.40	33.41	32.19	-0.01	1.21	32.76	34.05	0.64	47%	26.85	MAY2006	36.12	OCT1995
Cargill FA-1 Fldn	72.77	69.86	74.68	2.91	-1.91	63.85	71.53	8.92	72%	30.50	MAY1981	82.95	OCT2004
Edgeville 3 Deep	31.54	30.52	32.95	1.02	-1.41	30.76	36.97	0.78	35%	1.13	MAY2000	41.26	OCT1979
Englewood 14 Deep	6.37	6.03	7.27	0.34	-0.90	5.75	7.05	0.62	41%	-0.97	FEB2001	11.37	SEP1974
Florida Pwr @ Piney Point	19.03	18.08	20.02	0.95	-0.99	16.14	18.46	2.89	80%	-4.84	MAY1989	21.68	AUG2019
Kibler Deep	17.10	13.81	20.00	3.29	-2.90	16.34	22.45	0.76	36%	-29.95	MAY2000	29.30	AUG1978
Manasota 14 Deep	18.65	18.61	18.43	0.04	0.22	18.55	21.25	0.10	29%	15.46	MAY2017	22.70	NOV1971
Marshell Deep	45.13	44.08	45.14	1.05	-0.01	42.09	46.30	3.04	72%	8.96	JUN2000	55.24	MAR1964
ROMP 16 Ocala	48.22	47.49	48.29	0.73	-0.07	48.14	49.31	0.08	30%	28.94	JAN2001	51.21	SEP1995
ROMP 17 Up Fldn	46.77	46.28	46.44	0.49	0.33	46.46	47.67	0.31	44%	31.89	JUN2000	51.64	OCT1994
ROMP 19 West UFA Swnn	30.98	30.80	30.47	0.18	0.51	25.41	30.17	5.57	85%	10.99	JUN2000	33.80	SEP2017
ROMP 19X UFA (SWNN)	36.41	36.13	35.79	0.28	0.62	32.95	36.66	3.46	83%	19.28	JUN2000	40.19	JAN1984
ROMP 20 UFA (SWNN)	24.12	23.51	23.71	0.61	0.41	21.08	23.06	3.04	100%	11.99	MAY2007	26.66	SEP2017
ROMP 22 UFA (SWNN)	23.27	22.04	24.17	1.23	-0.90	21.10	24.46	2.17	63%	-3.71	MAY2000	30.18	FEB1998
ROMP 26 Swnn/AvPk	46.91	46.03	47.01	0.88	-0.10	46.14	47.99	0.77	53%	19.48	JAN2010	51.28	OCT1979
ROMP 28X Swnn/AvPk	71.53	68.34	71.02	3.19	0.51	69.23	71.30	2.30	80%	57.24	JAN2010	74.68	OCT1995
ROMP 30 Swnn/AvPk	50.89	47.44	50.74	3.45	0.15	43.94	50.42	6.95	77%	-0.20	JUN2000	60.52	MAR1998
ROMP 31 Swnn/AvPk	46.04	43.71	46.86	2.33	-0.82	39.59	46.51	6.45	72%	-6.22	JUN2000	57.92	MAR1998
ROMP 32 Low Ocala/Avpk	31.67	29.37	33.31	2.30	-1.64	27.98	34.22	3.69	66%	-17.74	JUN2000	44.73	FEB1998
ROMP 43XX Avon Park	89.59	85.20	90.30	4.39	-0.71	86.17	90.39	3.42	66%	70.93	JAN2010	94.26	SEP1983
ROMP 9 UFA (SWNN)	43.16	43.03	42.88	0.13	0.28	42.76	43.48	0.40	57%	37.00	JAN2001	46.35	SEP2006
ROMP TR 1-2 Up Fldn	45.69	45.68	45.56	0.01	0.13	45.21	45.88	0.48	69%	40.72	JUN2000	47.22	SEP2015
ROMP TR 3-1 Up Fldn	34.83	34.81	34.54	0.02	0.29	33.91	34.61	0.92	88%	29.04	JUN2000	35.98	SEP2017
ROMP TR 5-1 Suwannee	20.89	19.85	20.15	1.04	0.74	19.21	20.82	1.68	97%	13.26	JUN2000	23.00	SEP1983
ROMP TR 5-2 UFA (SWNN)	27.95	27.51	27.21	0.44	0.74	25.39	28.23	2.56	78%	13.75	MAY2006	31.26	OCT1994
ROMP TR 7-1 Tampa	21.02	20.63	21.93	0.39	-0.91	18.94	20.79	2.08	91%	10.01	JUN2000	24.23	SEP2017
ROMP TR 7-4 Swnn/Ocala	18.29	16.43	21.42	1.86	-3.13	16.85	19.19	1.44	59%	-3.55	MAY2000	24.35	AUG2019
Romp TR SA-1 UFS (SWNN)	12.15	11.58	14.39	0.57	-2.24	10.99	16.48	1.16	54%	2.89	MAY2017	22.04	SEP1999
Sarasota Office Up Floridan	19.02	17.43	20.90	1.59	-1.88	17.92	26.67	1.10	33%	-4.25	JUN2000	34.20	MAR1931
Verna T 0-1	21.29	18.47	23.74	2.82	-2.45	20.15	26.41	1.14	35%	-15.73	MAY2000	33.32	JAN1984

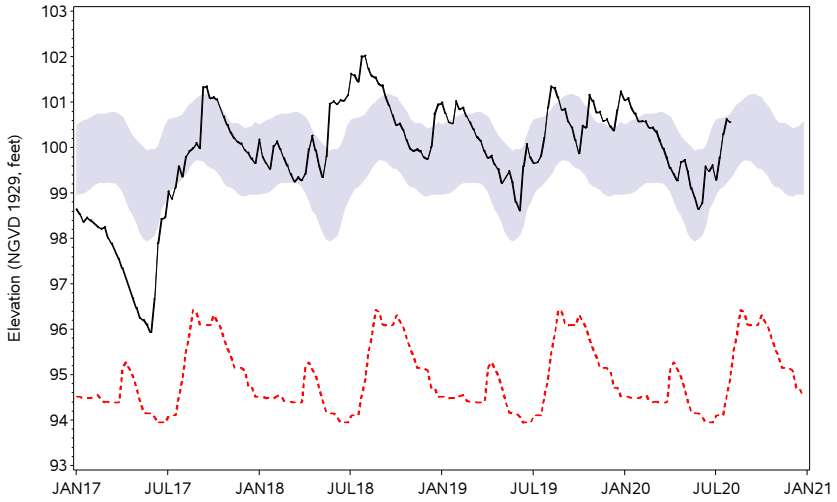
All elevations are referenced to NGVD 1929 datum

HYDROGRAPHS OF REPRESENTATIVE UPPER FLORIDAN AQUIFER WELLS
JANUARY 2017 TO JULY 2020

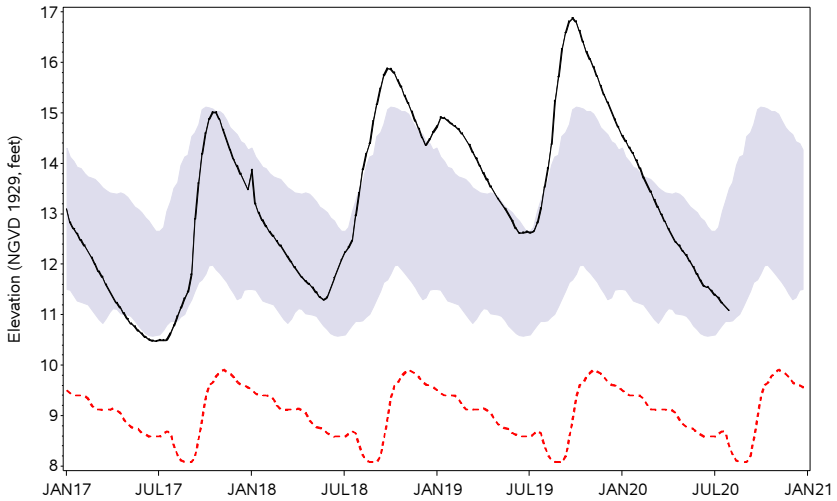
Chassahowitzka #1
Northern Region



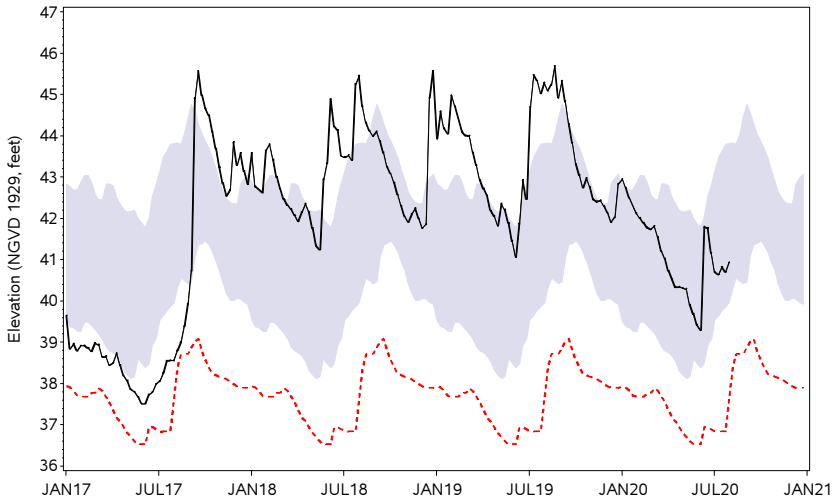
Mascotte Deep
Northern Region



ROMP 107 Ocala/Avon Park
Northern Region



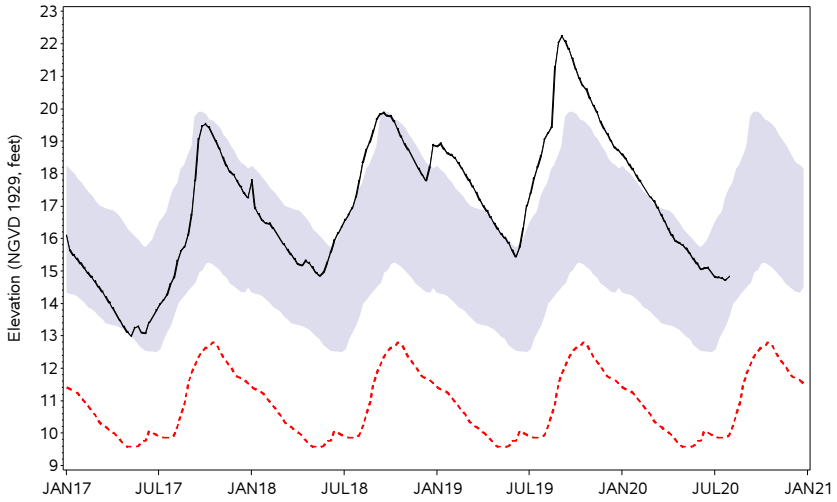
Sumter 13 Upper Fldn
Northern Region



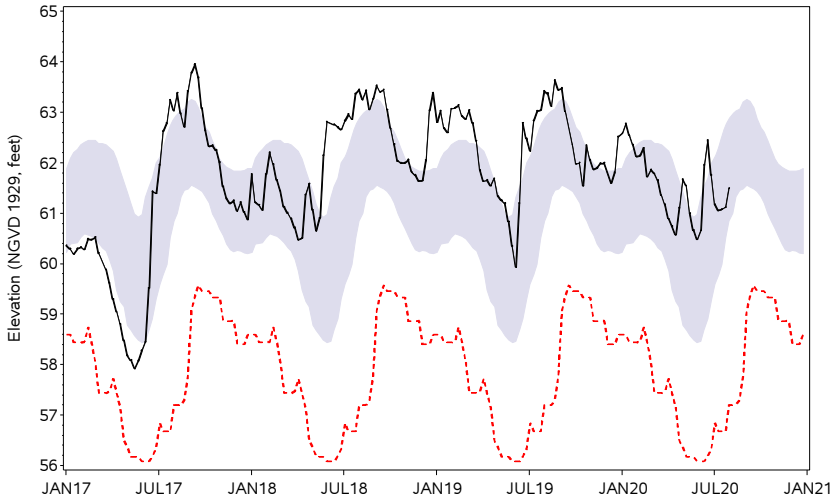
Average Weekly Elevation
POR Weekly Low
Normal Range

HYDROGRAPHS OF REPRESENTATIVE UPPER FLORIDAN AQUIFER WELLS
JANUARY 2017 TO JULY 2020

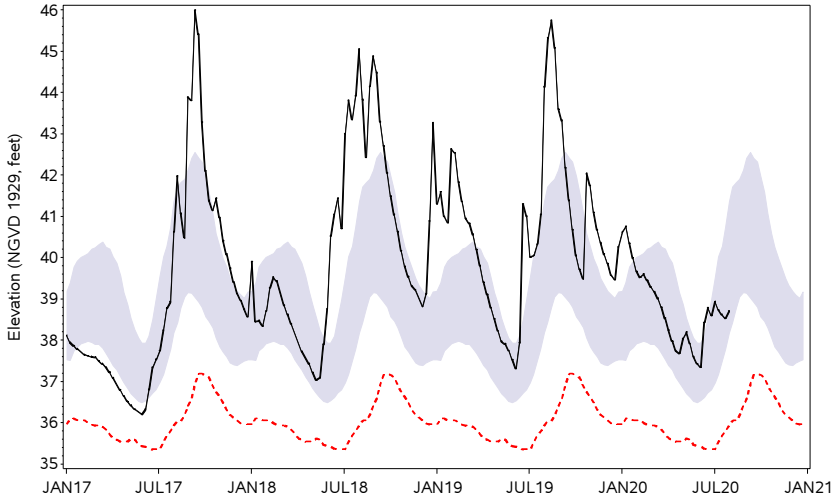
Weeki Wachee Deep
Northern Region



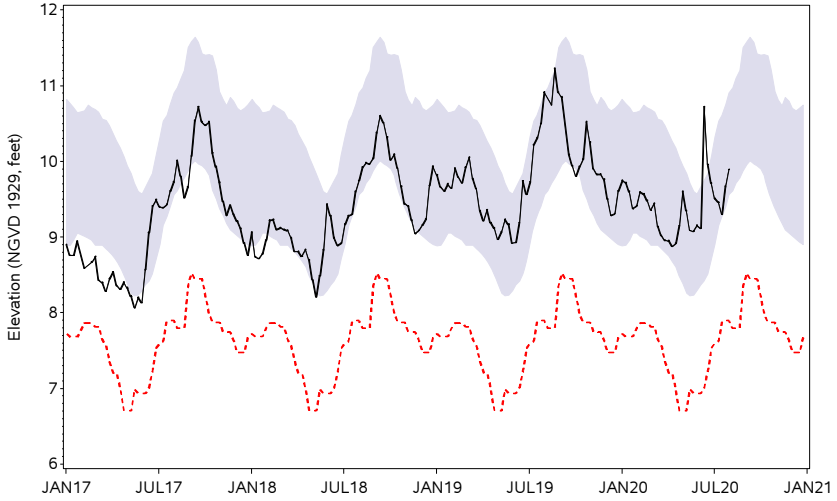
Bexley Well 2
Central Region



Hillsborough St Park Deep
Central Region



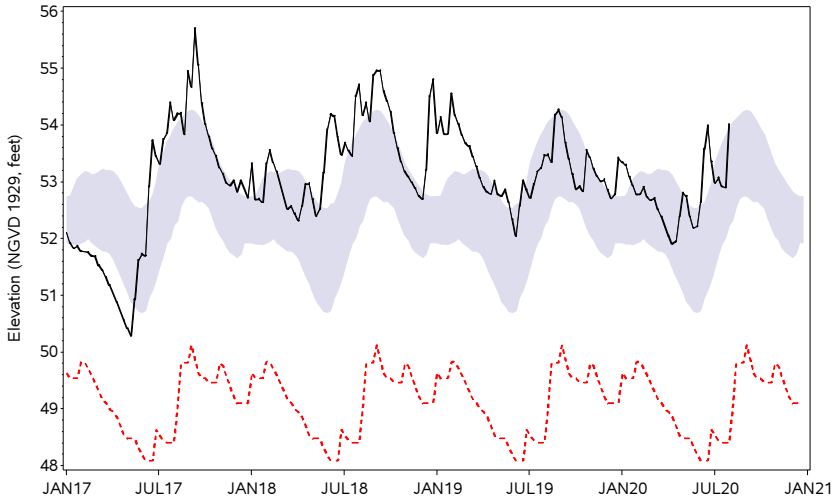
Pinellas 665
Central Region



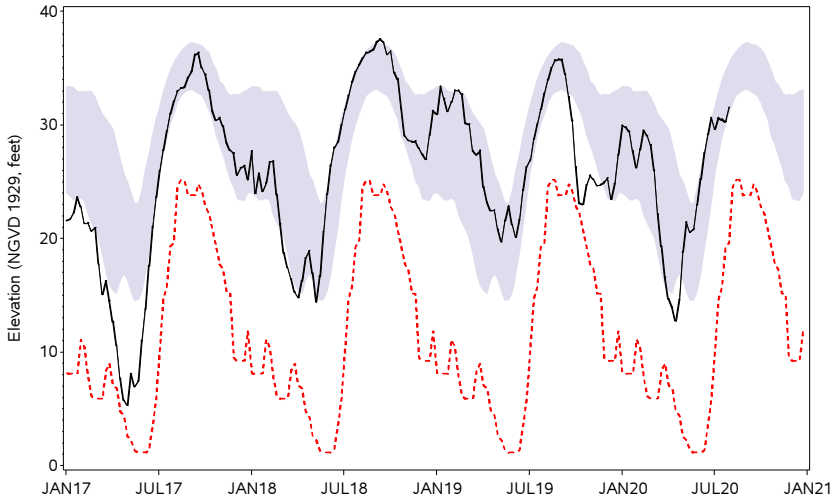
Average Weekly Elevation
POR Weekly Low
Normal Range

HYDROGRAPHS OF REPRESENTATIVE UPPER FLORIDAN AQUIFER WELLS
JANUARY 2017 TO JULY 2020

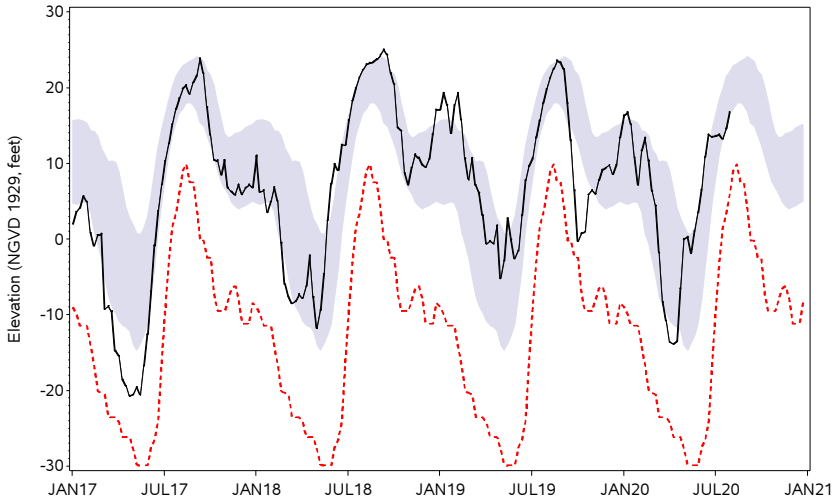
SR 52 Deep (West) near Fivay
Central Region



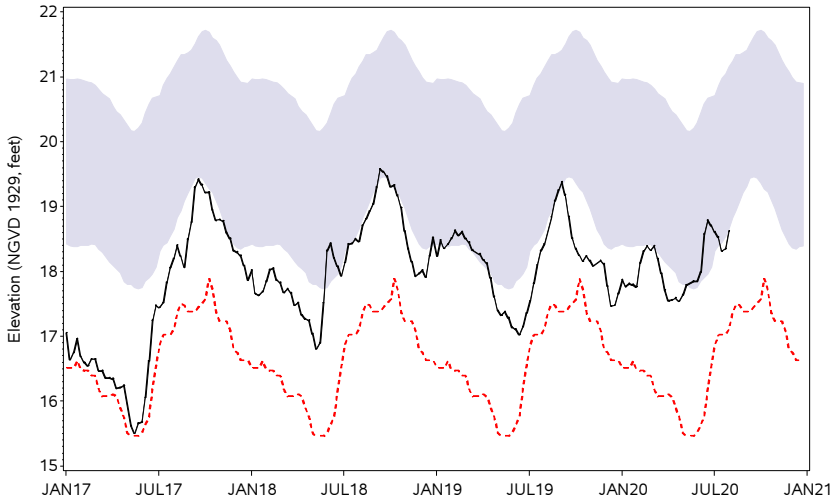
Edgeville 3 Deep
Southern Region



Kibler Deep
Southern Region



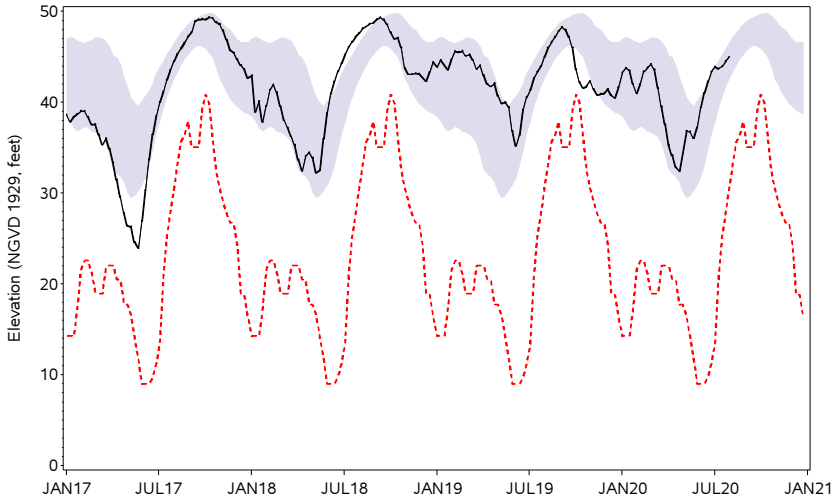
Manasota 14 Deep
Southern Region



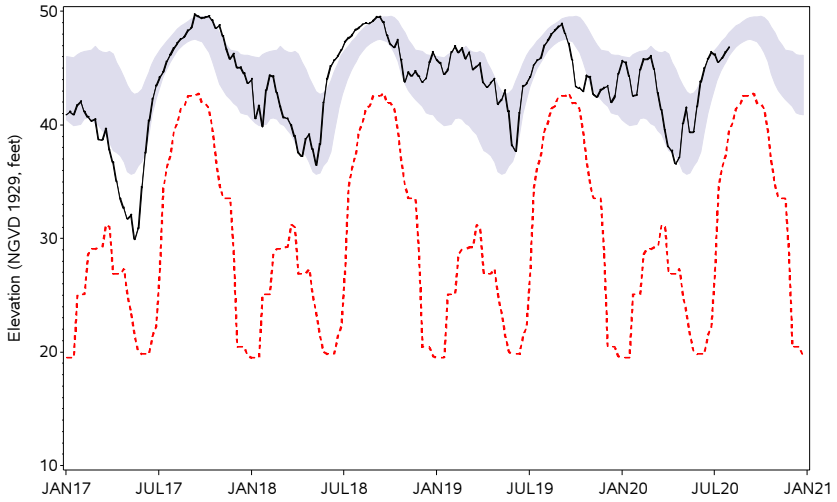
Average Weekly Elevation
POR Weekly Low
Normal Range

HYDROGRAPHS OF REPRESENTATIVE UPPER FLORIDAN AQUIFER WELLS
JANUARY 2017 TO JULY 2020

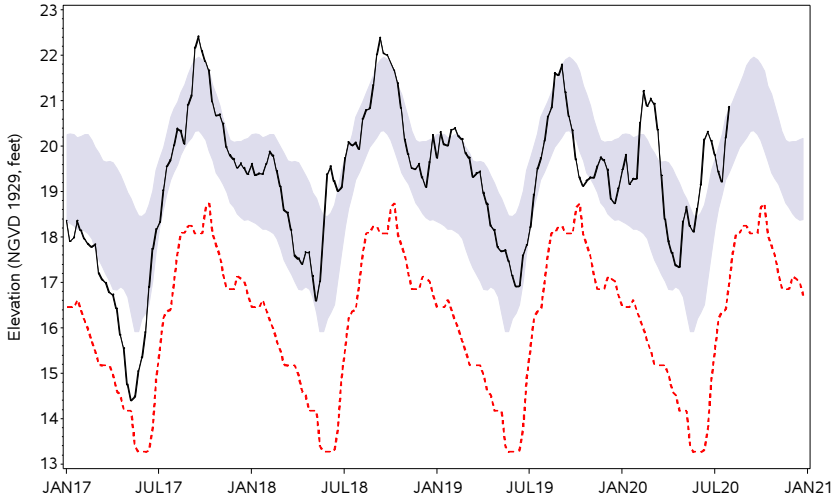
Marshall Deep
Southern Region



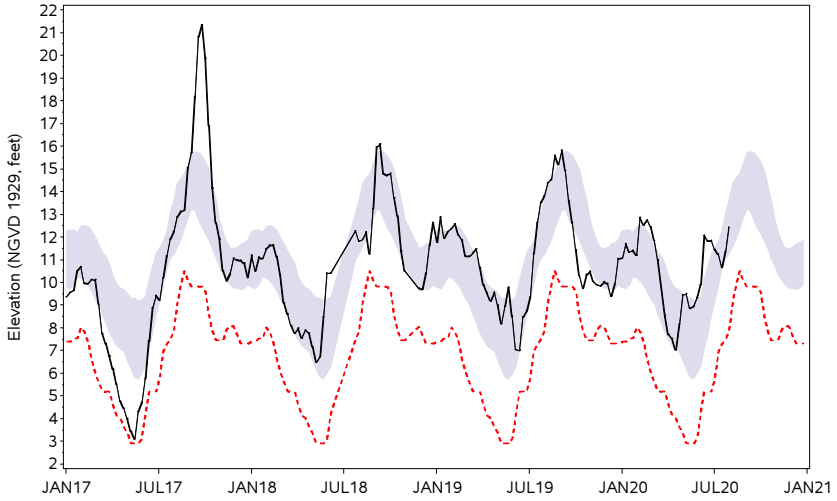
ROMP 26 Suwannee/Avon Park
Southern Region



ROMP TR 5-1 Suwannee
Southern Region



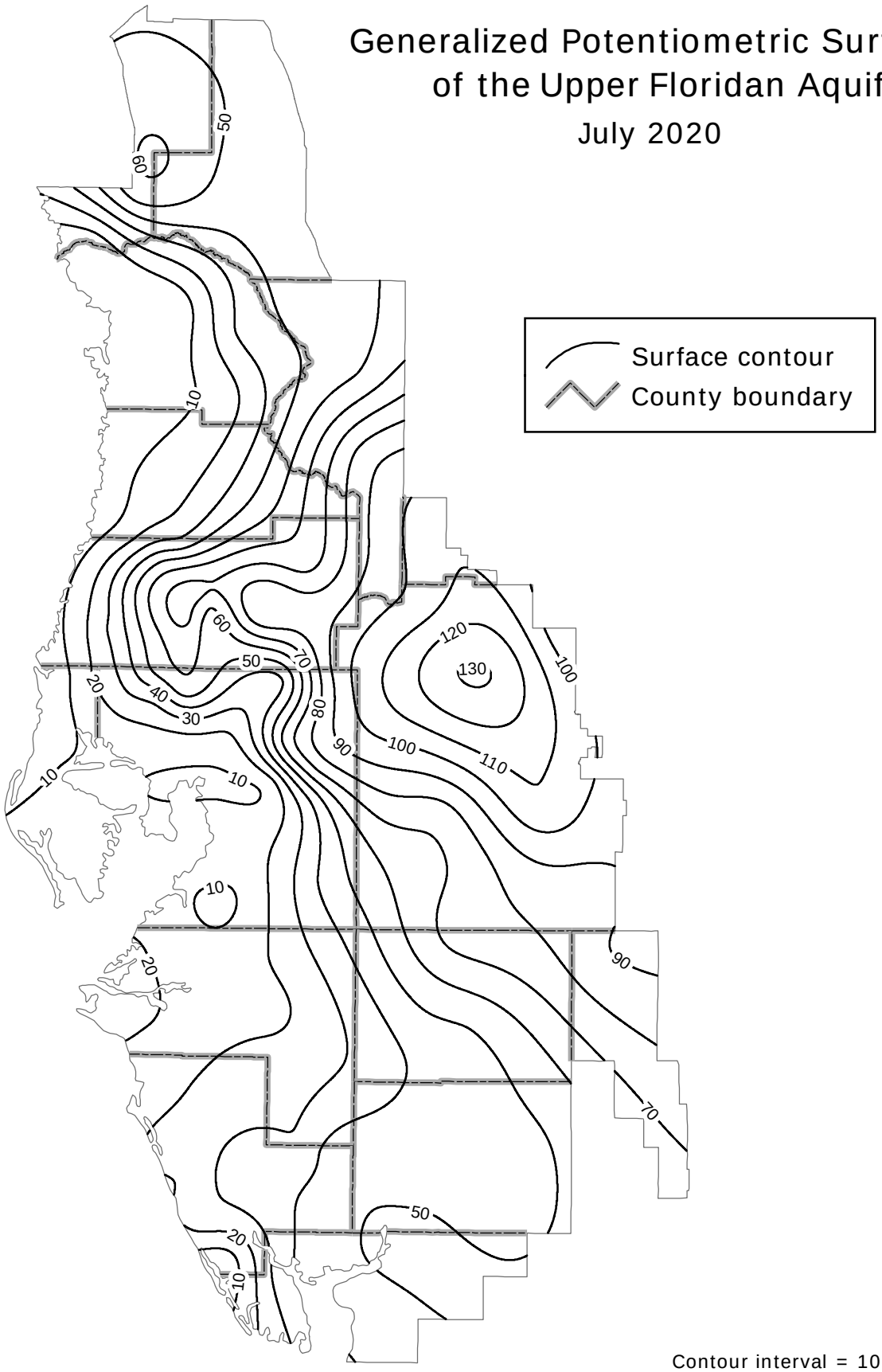
Romp TR SA-1
Southern Region



Average Weekly Elevation POR Weekly Low Normal Range

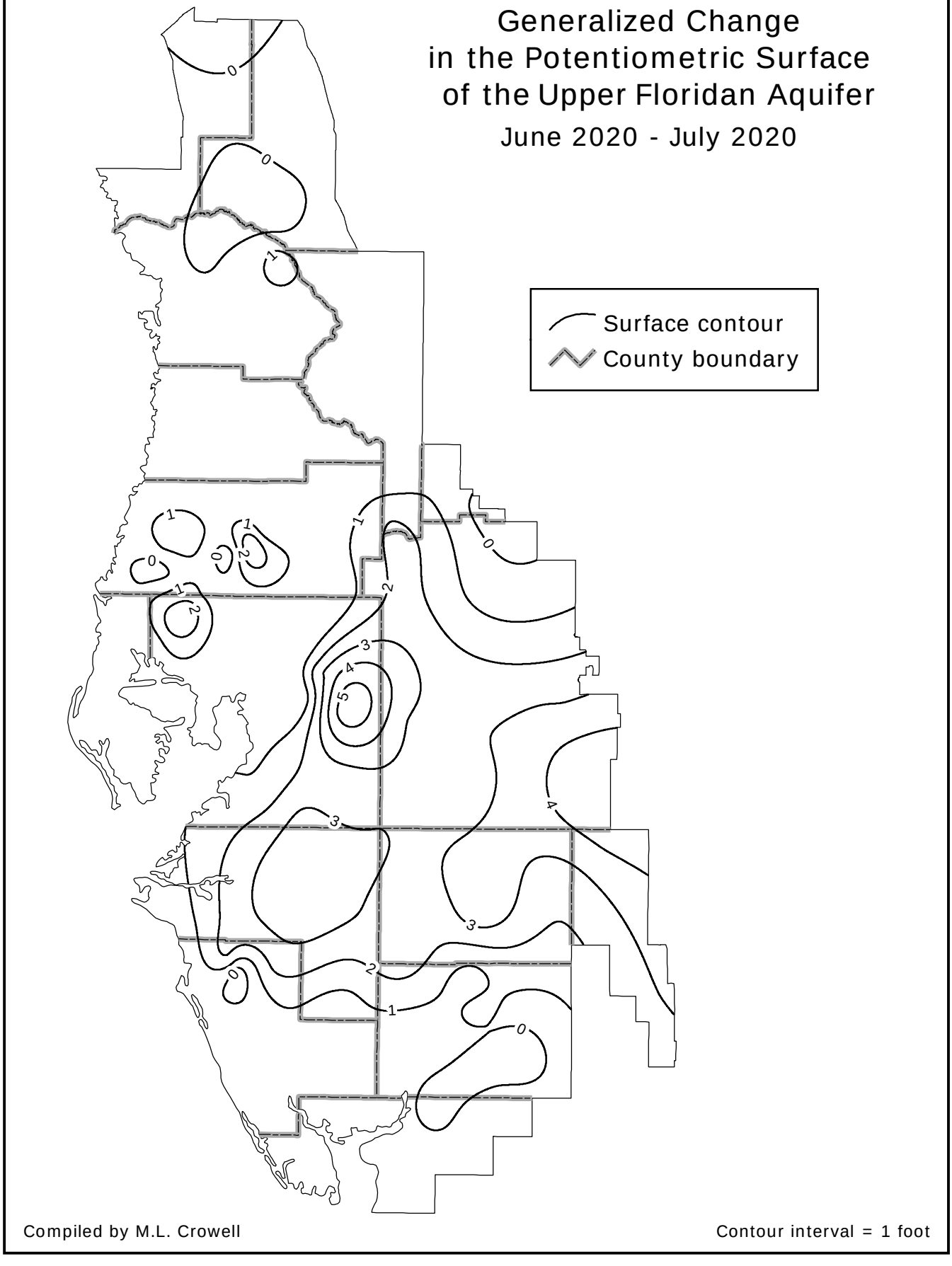
Generalized Potentiometric Surface of the Upper Floridan Aquifer

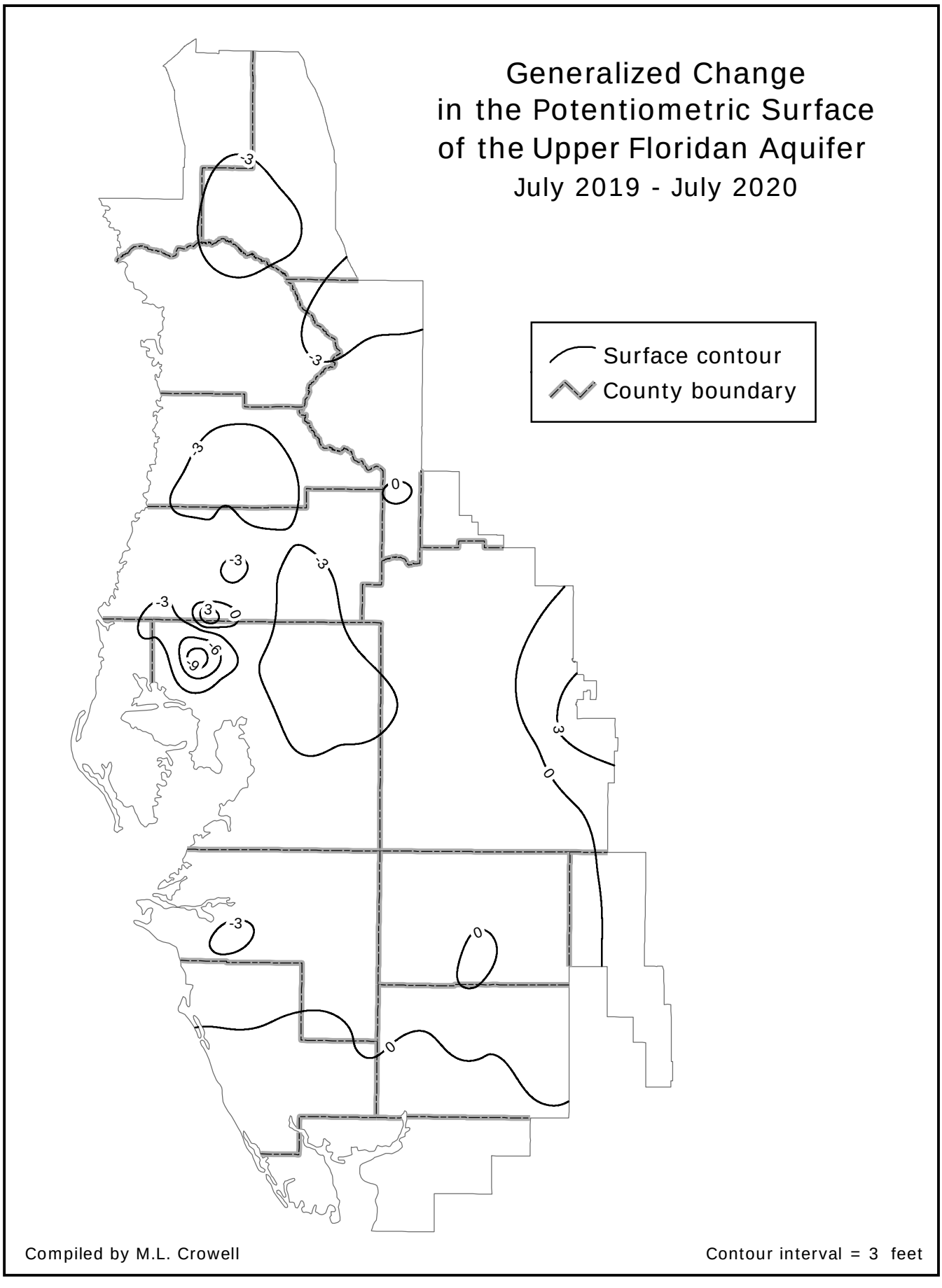
July 2020



Compiled by M.L. Crowell

Contour interval = 10 feet
Water levels are in feet relative to NGVD29


Generalized Change
in the Potentiometric Surface
of the Upper Floridan Aquifer
June 2020 - July 2020
Surface contour
County boundary
Compiled by M.L. Crowell
Contour interval = 1 foot


Generalized Change
in the Potentiometric Surface
of the Upper Floridan Aquifer
July 2019 - July 2020
Surface contour
County boundary
-3
-3
-3
0
-3
-3
-3
3
0
-6
-9
3
0
-3
0
0
Compiled by M.L. Crowell
Contour interval = 3 feet

Regional Aquifer Resource Index

Aquifers are underground layers of rock and sand that hold water. In southwest Florida, more than 80 percent of the water supply comes from aquifers. The Regional Aquifer Resource Index (ARI) was created to provide information to the media, residents, local governments and other interested parties about current groundwater conditions and how they compare to historical records. The underlying purpose of this index is to provide the public with a gauge of groundwater conditions in their area, so they can develop an understanding of the severity and cycles of drought and recovery

This ARI report reflects percentile values to compare current aquifer levels to historical levels during the same time of year on a scale of 0-100. For example, if the regional groundwater level is at the 50th percentile, it means that half of the historical groundwater levels for this time of year were higher and half were lower than the current level.

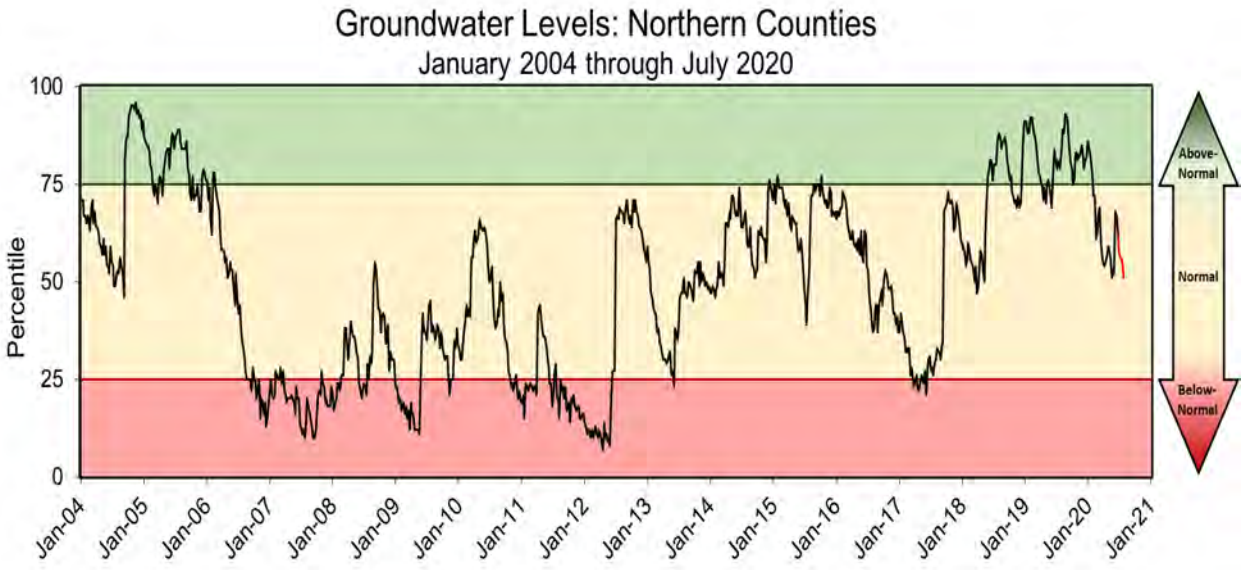
To determine the ARI percentile value for each geographic region (indicated below), the percentile values of the monitor wells located within that region are averaged. Monitor wells with an adequate and reliable period-of-record to calculate weekly percentiles were selected for the network. There are 20 wells located in the northern counties, 32 wells located in the central counties and 30 wells located in the southern counties, that are currently used for determining the regional percentiles. A total of 82 wells District-wide are used for the ARI Network (see index map in Appendix).

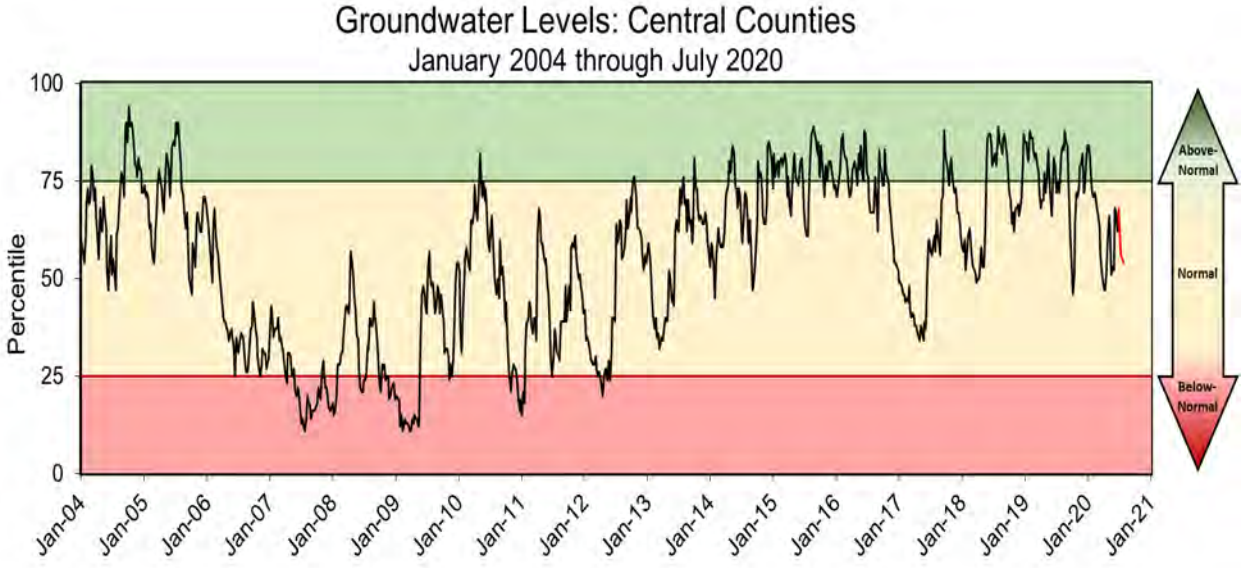
Weekly Aquifer Resource Index Level (Percentile)

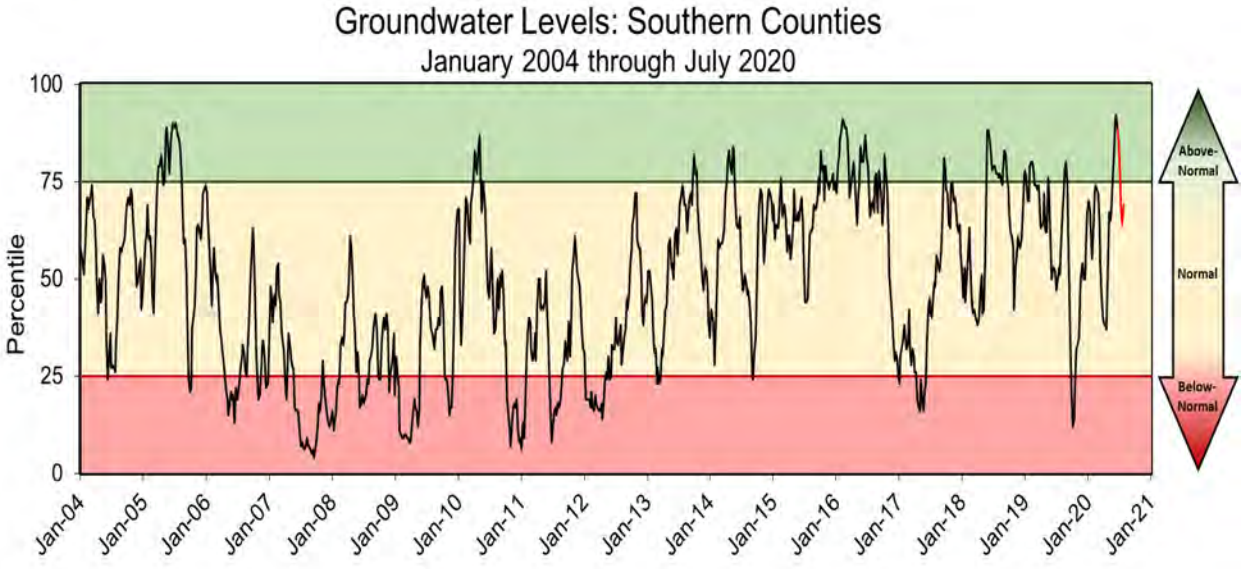
Report Date	Northern Counties	Central Counties	Southern Counties
07/05/2020	56	59	76
07/12/2020	56	56	69
07/19/2020	54	55	64
07/26/2020	51	54	69
07/31/2020	51	58	67

Note: Any regional percentile value that falls on or between the 25th and 75th percentile is considered “normal.” Less than the 25th would be considered” below-normal,” while above the 75th would be considered “above-normal.”

REGIONAL AQUIFER RESOURCE INDEX
July 2020







Reservoirs

Water-level data for the seven reservoirs are obtained weekly from the USGS, Manatee County Utilities Department, Peace River/Manasota Regional Water Supply Authority, or Tampa Bay Water. The last weekly water-level value of the month is indicated in this report. The values reported are provisional and subject to revision.

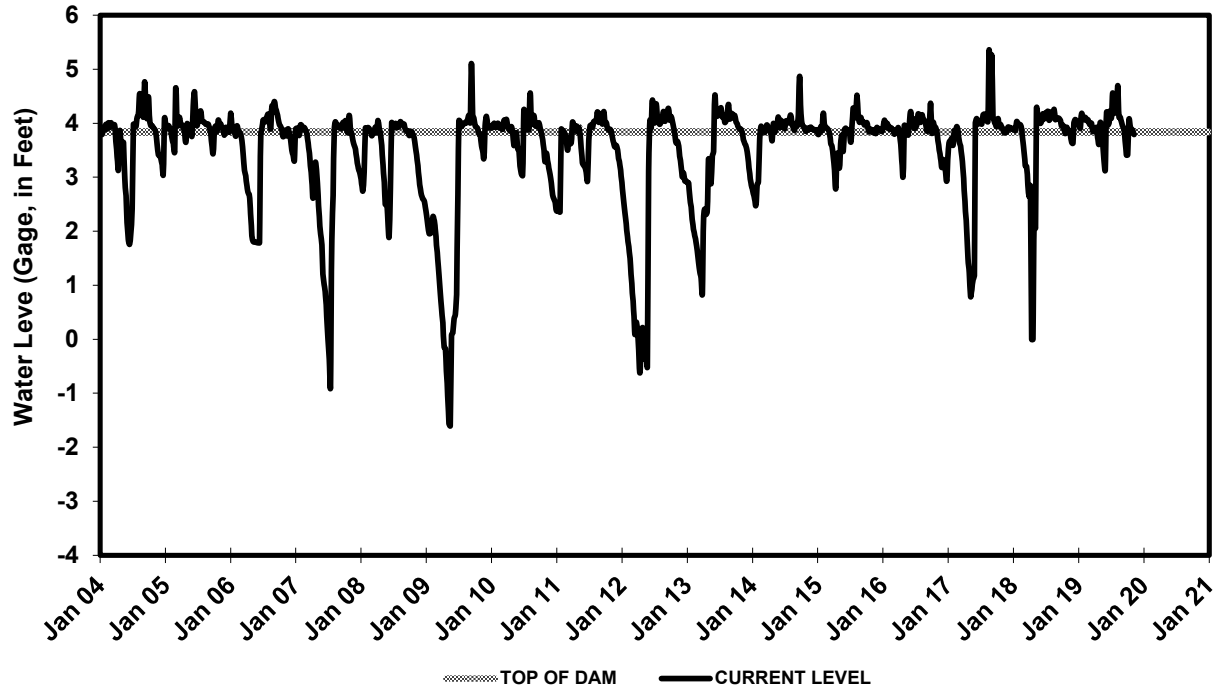
In July, four of the seven reservoirs monitored for this report recorded water-level increases, compared to last month. The Evers, Hillsborough River and Peace River Nos. 1 and 2 reservoirs posted water level increases of 0.10 foot, 0.21 foot, and 3.00 and 5.30 feet, respectively, compared to last month. The Lake Manatee, Bill Young and Shell Creek reservoirs posted water level decreases of 0.41 foot, 3.57 feet and 0.08 foot, respectively, for the month.

SUMMARY OF WATER LEVELS IN WATER SUPPLY RESERVOIRS (GAGE LEVEL, IN FEET)

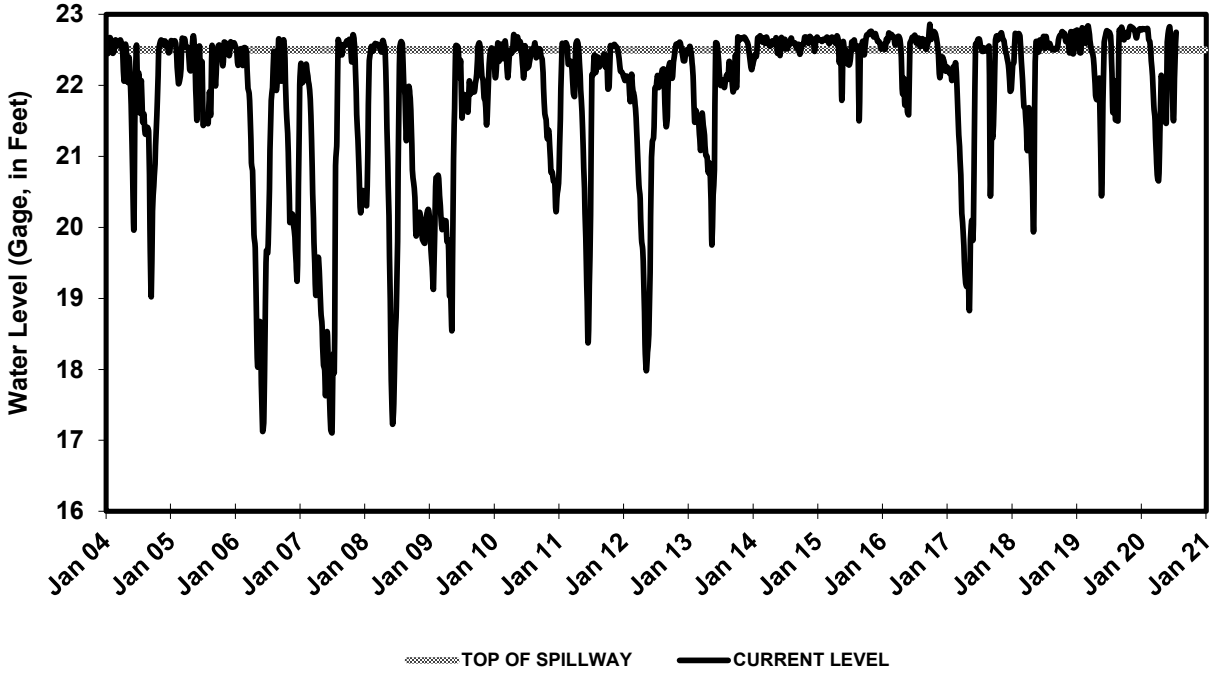
RESERVOIR	2020 June	2020 July	2019 July	Change from Prior Month	Change from Prior Year
Evers					
City of Bradenton	3.93	4.03	4.19	0.10	-0.16
Hillsborough					
City of Tampa	22.54	22.75	22.34	0.21	0.41
Lake Manatee					
Manatee County	38.24	37.83	37.92	-0.41	-0.09
C.W. Bill Young Regional					
Tampa Bay Water	110.07	106.50	131.60	-3.57	-25.10
Peace River					
PRMRWSA Reservoir #1	21.70	24.70	24.80	3.00	-0.10
PRMRWSA Reservoir #2	52.30	57.60	55.70	5.30	1.90
Shell Creek					
City of Punta Gorda	5.35	5.27	5.57	-0.08	-0.30

Reported data are provisional and subject to revision.

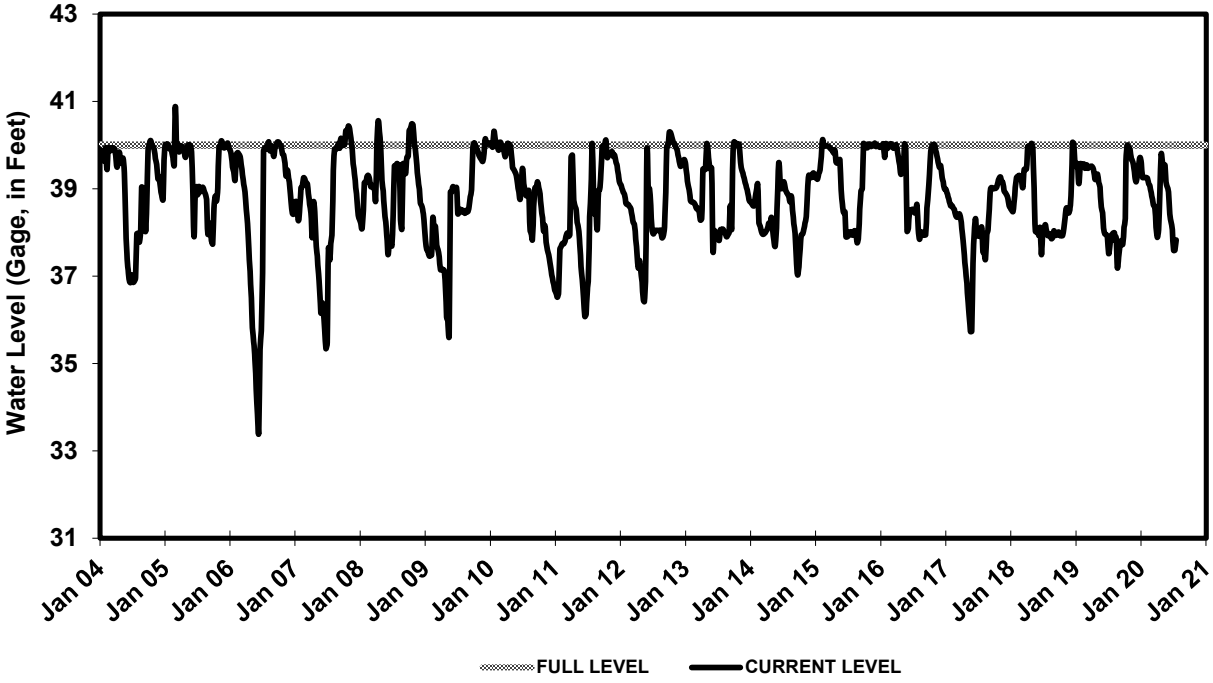
EVERS RESERVOIR
City of Bradenton



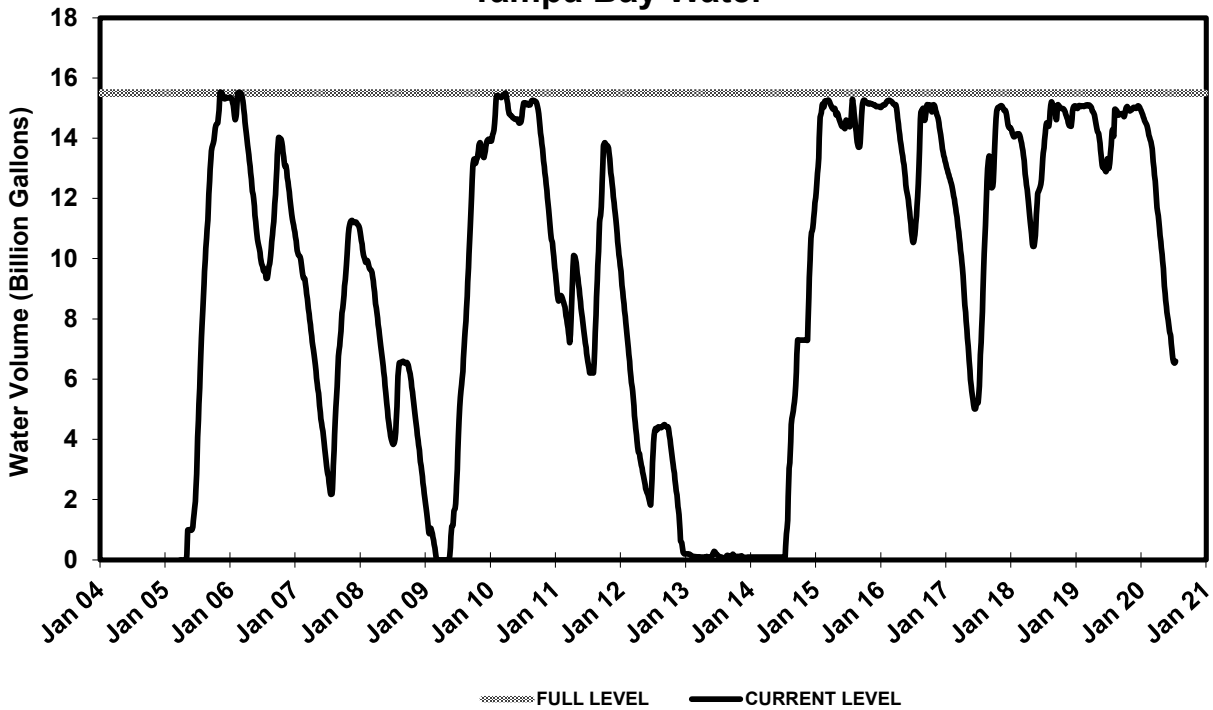
HILLSBOROUGH RESERVOIR
City of Tampa



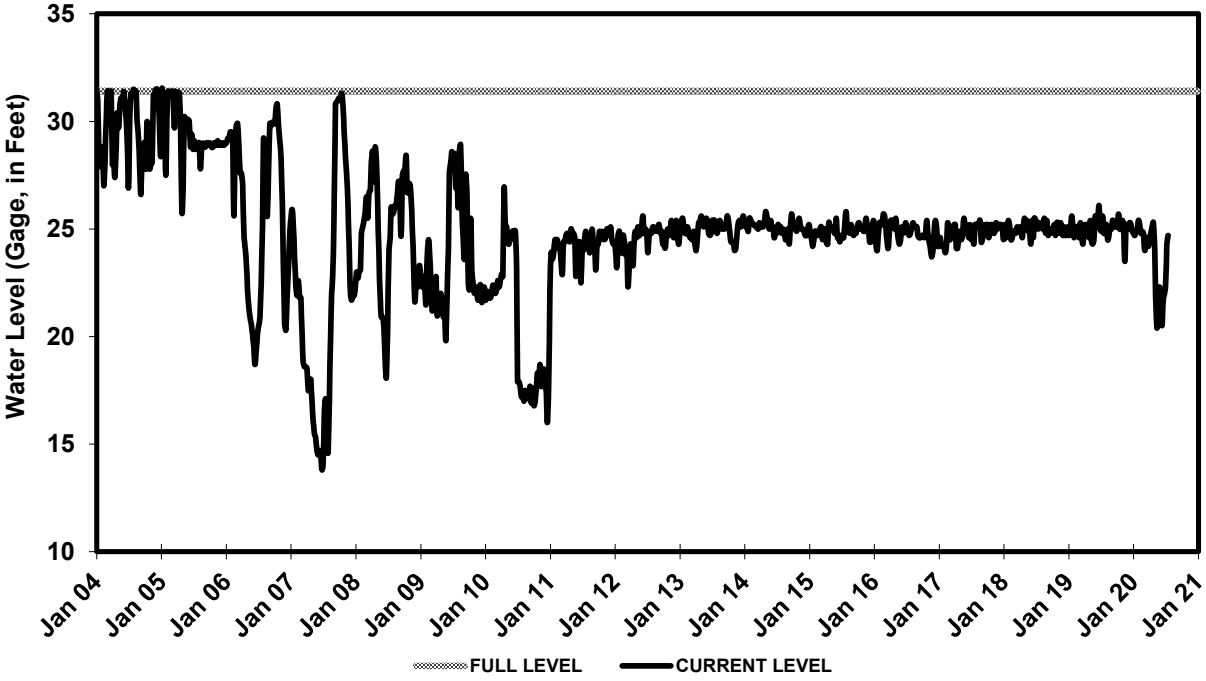
LAKE MANATEE RESERVOIR
Manatee County



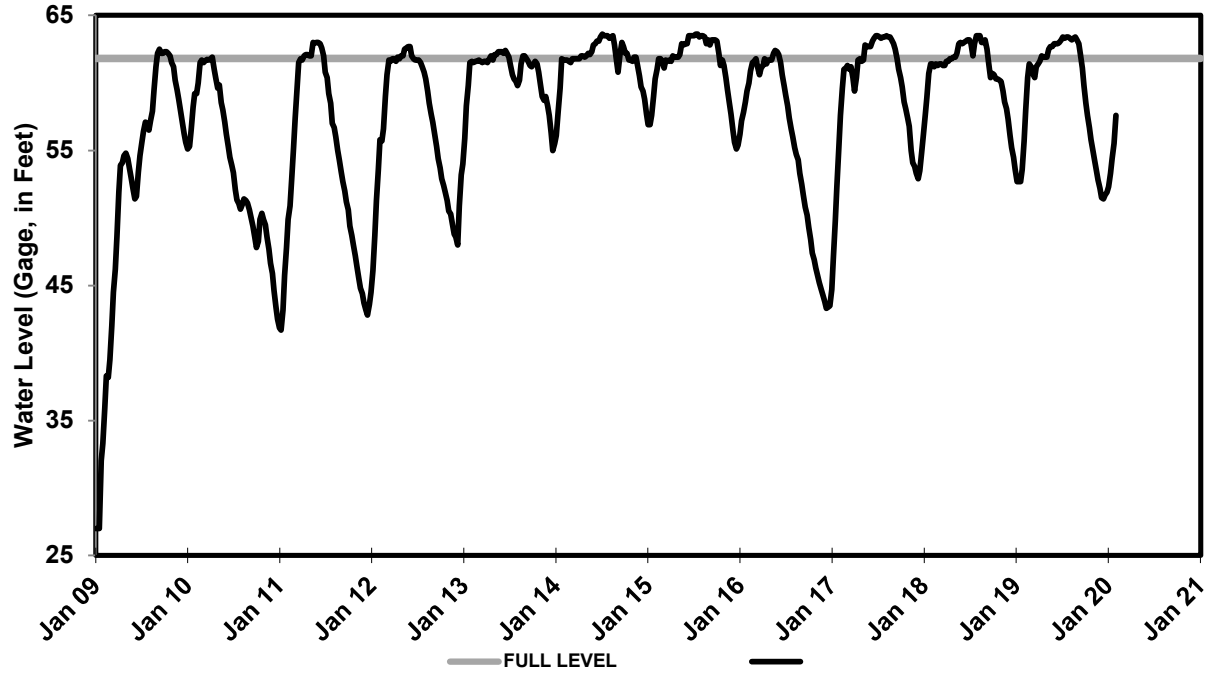
C.W. BILL YOUNG REGIONAL RESERVOIR
Tampa Bay Water

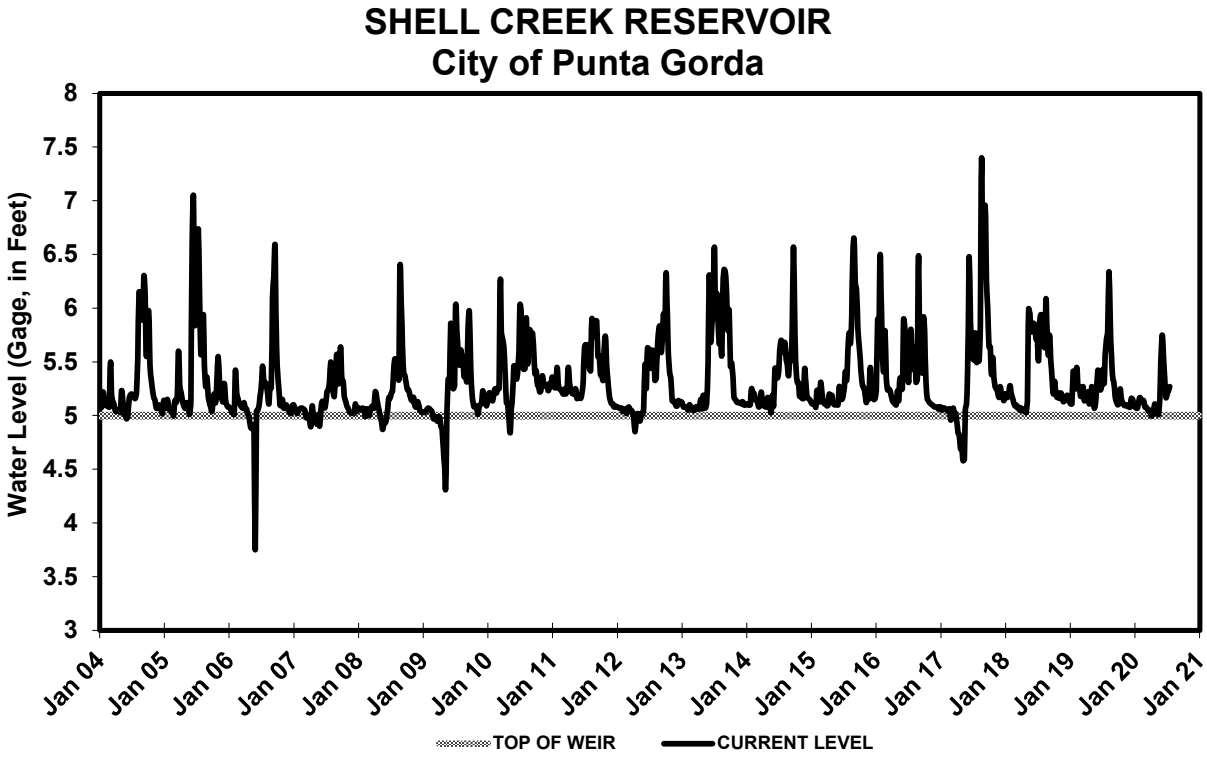


PEACE RIVER RESERVOIR No. 1
Peace/Manasota Reg. Water Supply



PEACE RIVER RESERVOIR No. 2
Peace/Manasota Reg. Water Supply




SHELL CREEK RESERVOIR
City of Punta Gorda
Water Level (Gage, in Feet)
8
7.5
7
6.5
6
5.5
5
4.5
4
3.5
3
Jan 04
Jan 05
Jan 06
Jan 07
Jan 08
Jan 09
Jan 10
Jan 11
Jan 12
Jan 13
Jan 14
Jan 15
Jan 16
Jan 17
Jan 18
Jan 19
Jan 20
Jan 21
TOP OF WEIR
CURRENT LEVEL

APPENDICES

Rainfall percentiles by interval and region, inches.

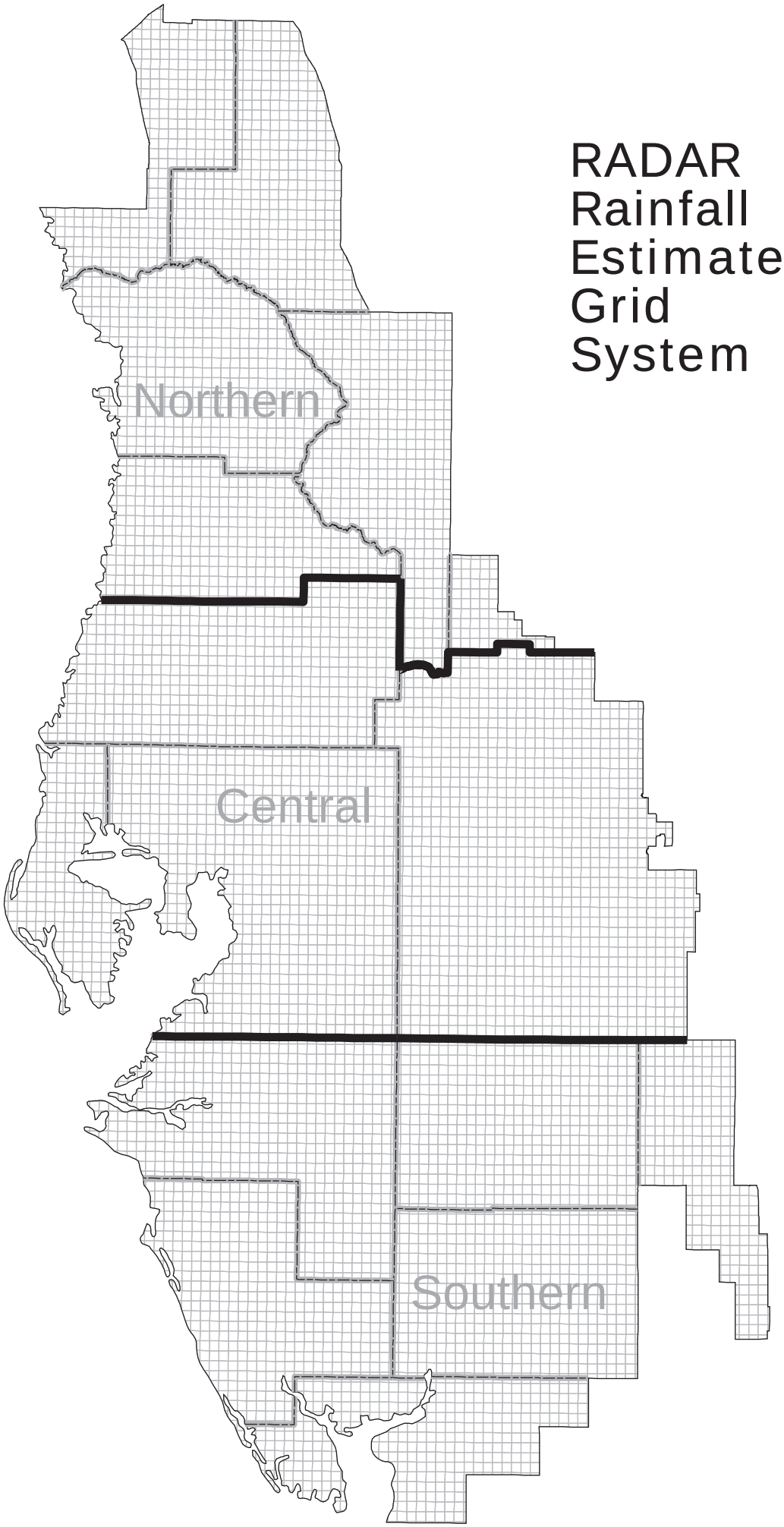
Rainfall Interval	Region	10TH Percentile (P10)	25th Percentile (P25)	50th Percentile (P50)	75th Percentile (P75)	90th Percentile (P90)
Annual total	*Northern*	43.19	48.35	54.01	58.86	63.46
Annual total	*Central*	41.45	46.10	52.16	57.28	63.82
Annual total	*Southern*	42.05	46.25	52.19	57.82	63.43
Annual total	*District*	43.12	47.22	52.99	57.46	62.83
Dry season total	*Northern*	15.27	18.42	23.79	28.72	32.10
Dry season total	*Central*	13.32	16.48	21.59	26.86	30.83
Dry season total	*Southern*	12.35	15.68	21.24	26.23	30.01
Dry season total	*District*	13.71	16.79	22.02	27.22	29.70
Wet season total	*Northern*	22.79	25.44	29.45	33.43	38.16
Wet season total	*Central*	23.22	25.79	29.71	34.86	39.22
Wet season total	*Southern*	24.37	27.37	30.58	35.88	41.68
Wet season total	*District*	23.92	27.16	29.97	34.71	38.93
January total	*Northern*	0.73	1.50	2.45	4.00	5.30
January total	*Central*	0.72	1.21	2.23	3.72	4.60
January total	*Southern*	0.39	0.93	1.88	3.31	4.93
January total	*District*	0.65	1.17	2.10	3.55	4.90
February total	*Northern*	0.82	1.42	2.82	4.08	5.76
February total	*Central*	0.60	1.12	2.38	4.17	5.50
February total	*Southern*	0.36	1.26	2.21	3.63	4.93
February total	*District*	0.73	1.32	2.38	3.94	5.12
March total	*Northern*	1.00	2.06	3.15	5.43	7.21
March total	*Central*	0.97	1.66	2.96	4.95	6.44
March total	*Southern*	0.81	1.28	2.56	4.29	6.68
March total	*District*	1.09	1.64	3.04	4.86	6.92
April total	*Northern*	0.65	1.33	2.38	3.95	5.52
April total	*Central*	0.51	0.96	1.87	3.44	5.59
April total	*Southern*	0.48	1.19	2.04	3.75	4.66
April total	*District*	0.65	1.20	2.24	3.72	5.12
May total	*Northern*	1.18	1.95	3.21	4.67	6.92
May total	*Central*	0.87	1.64	2.73	4.58	5.75
May total	*Southern*	1.17	1.91	3.36	5.22	6.75
May total	*District*	1.23	2.04	3.24	4.87	6.29
June total	*Northern*	4.60	5.47	7.27	8.63	10.16
June total	*Central*	3.65	4.79	6.46	8.27	9.48
June total	*Southern*	4.22	5.63	7.44	9.06	12.06
June total	*District*	4.55	5.46	7.24	8.60	10.99
July total	*Northern*	5.36	6.75	8.29	9.16	11.52
July total	*Central*	4.89	5.98	8.35	10.05	11.44
July total	*Southern*	5.68	6.94	8.11	9.50	10.99
July total	*District*	5.60	6.83	8.19	9.57	10.58
August total	*Northern*	5.44	6.30	7.31	9.72	11.33
August total	*Central*	5.52	6.55	7.90	9.62	12.03
August total	*Southern*	5.55	6.22	7.70	8.97	10.49
August total	*District*	5.65	6.52	7.70	9.37	10.67
September total	*Northern*	2.79	4.18	5.84	8.04	11.35
September total	*Central*	3.19	5.11	6.46	8.50	11.69
September total	*Southern*	4.30	5.46	6.94	9.33	11.85
September total	*District*	3.85	5.21	6.53	8.62	11.65
October total	*Northern*	0.63	1.27	2.46	4.40	6.15
October total	*Central*	0.69	1.39	2.61	4.03	6.13
October total	*Southern*	0.92	1.78	2.73	4.27	6.04
October total	*District*	1.06	1.57	2.80	4.15	5.79

Rainfall percentiles by interval and region, inches (continued).

Rainfall Interval	Region	10TH Percentile (P10)	25th Percentile (P25)	50th Percentile (P50)	75th Percentile (P75)	90th Percentile (P90)
November total	*Northern*	0.38	0.71	1.63	2.88	4.56
November total	*Central*	0.25	0.47	1.42	2.82	4.33
November total	*Southern*	0.40	0.64	1.46	2.56	3.82
November total	*District*	0.37	0.63	1.53	2.73	4.39
December total	*Northern*	0.54	1.06	2.06	3.71	5.19
December total	*Central*	0.48	0.84	1.89	3.03	4.87
December total	*Southern*	0.45	0.77	1.56	2.63	4.18
December total	*District*	0.54	0.89	1.86	2.92	4.34

Rainfall characterization ranges

Characterization	Range	Corresponding Rainfall Percent of Normal (approximate)
Very dry	Less than the P10 rainfall	Less than 80 percent of normal
Drier than normal	P10 to P24 rainfall	80 to 90 percent of normal
Normal	P25 to P75 rainfall	90 to 110 percent of normal
Wetter than normal	P76 to P90 rainfall	110 to 120 percent of normal
Very Wet	Greater than the P90 rainfall	Greater than 120 percent of normal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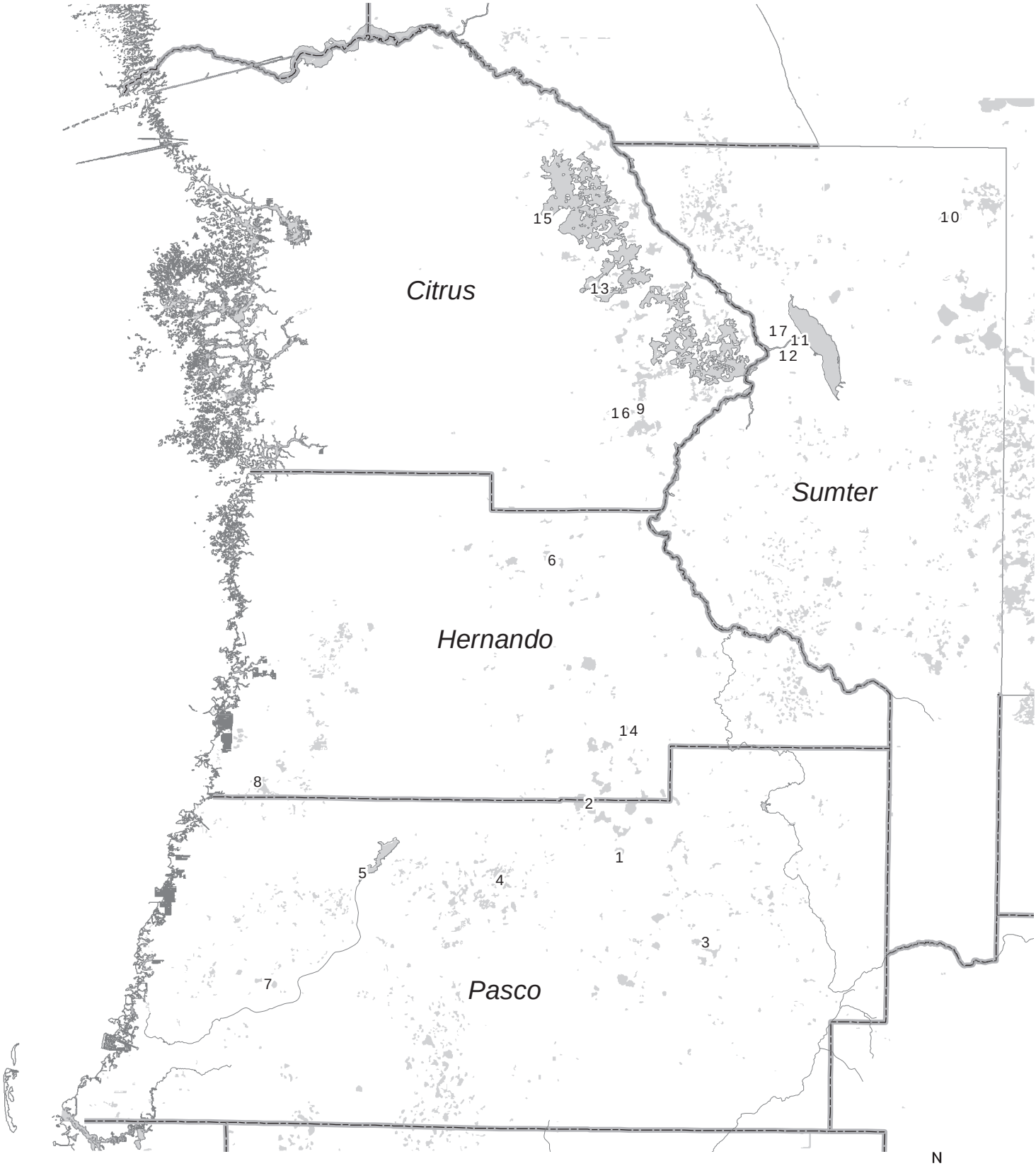
Selected Lake Monitoring Stations
Northern Region



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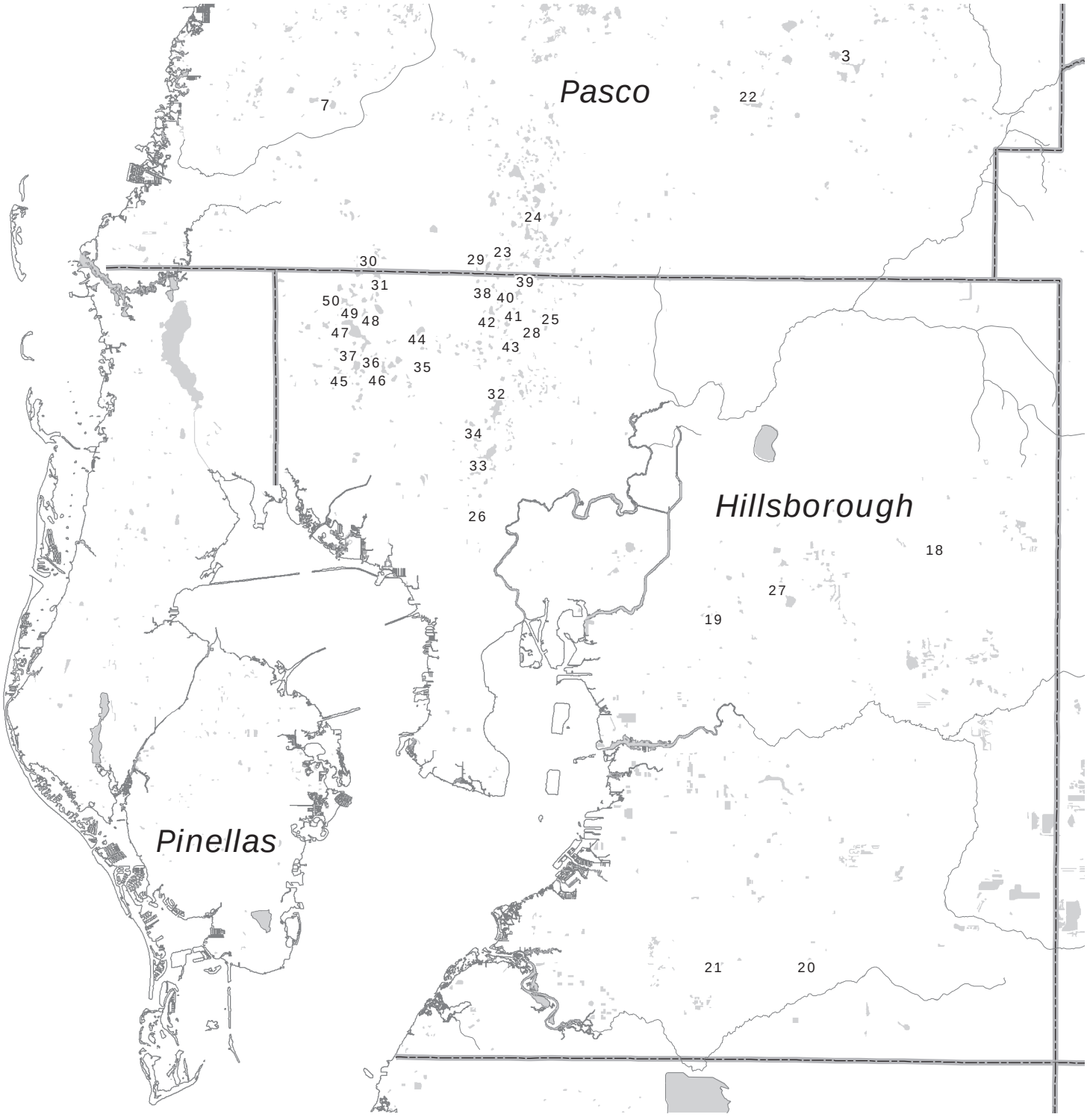
Selected Lake Monitoring Stations
Tampa Bay Region



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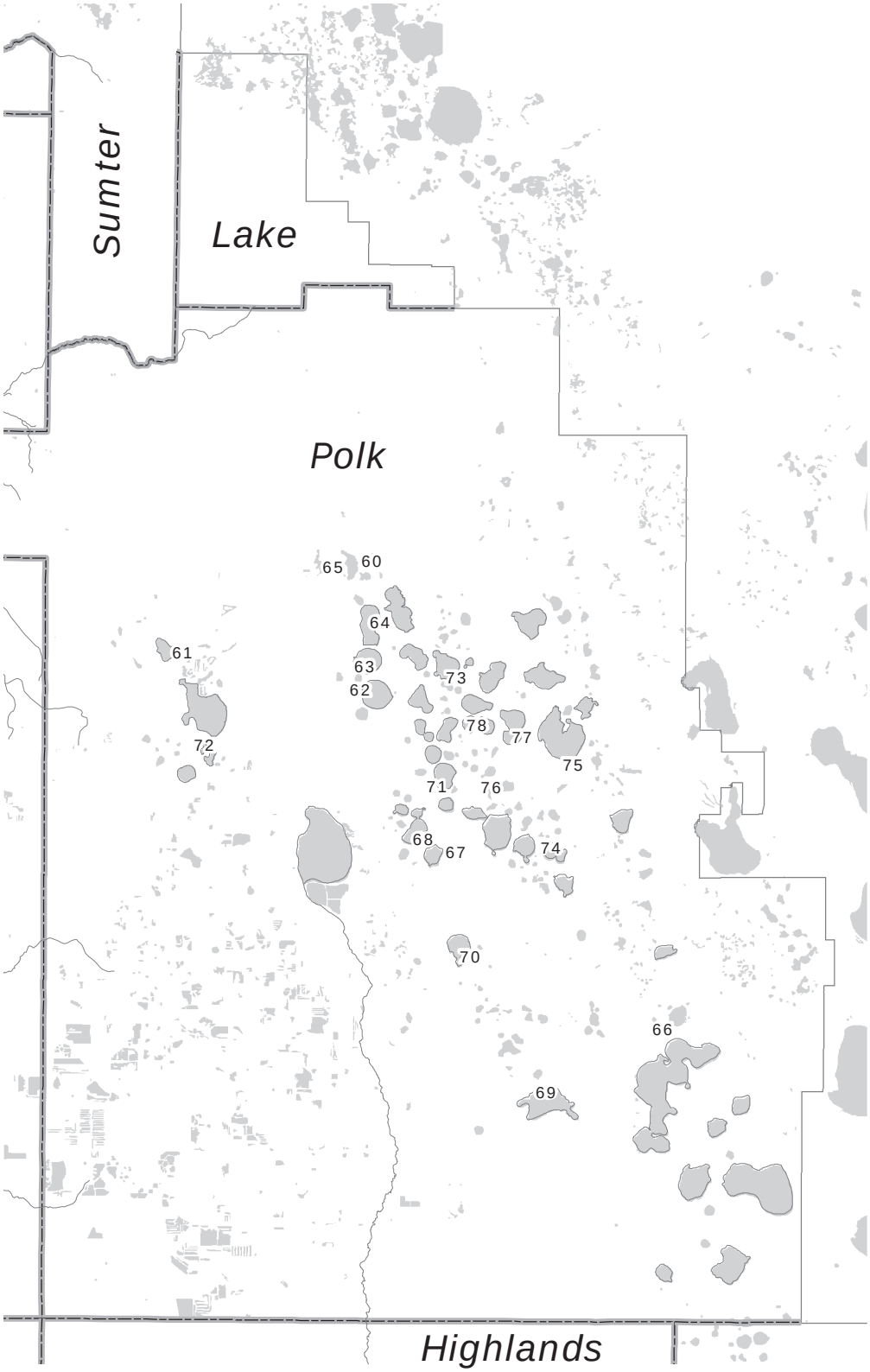
Selected Lake Monitoring Stations
Polk Uplands Region



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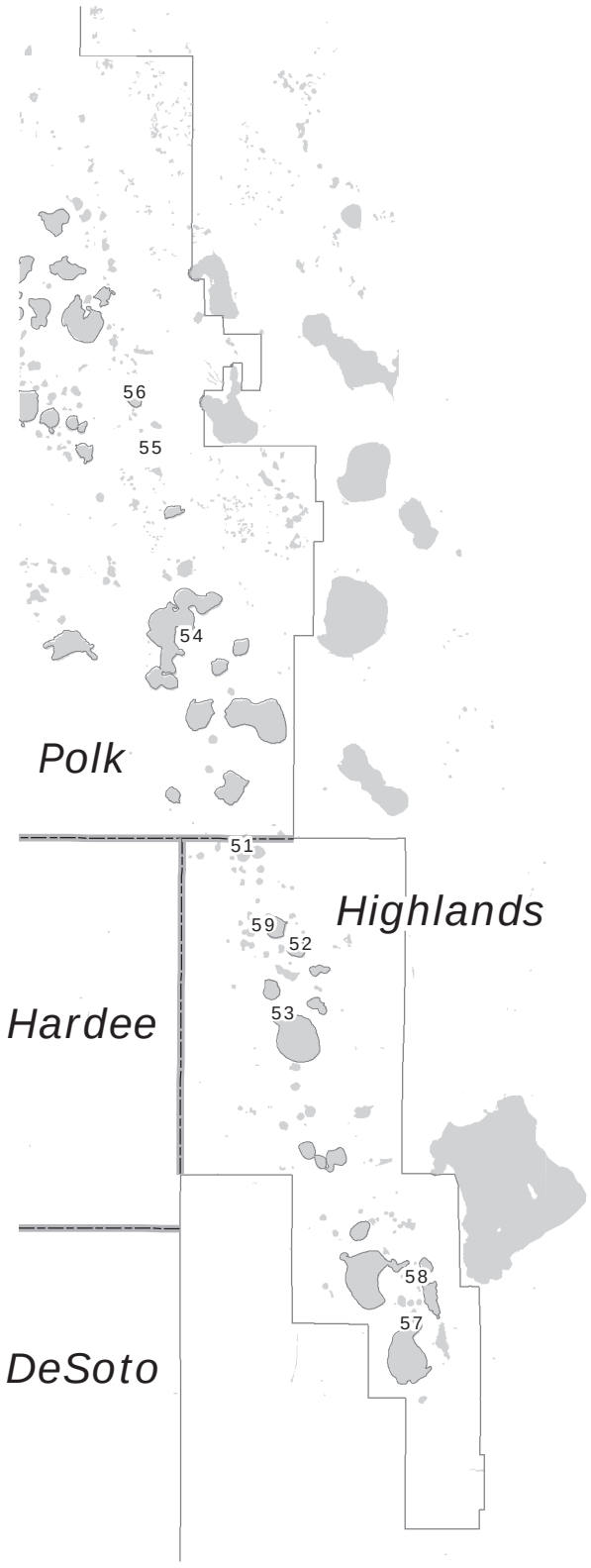
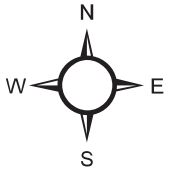
Selected Lake Monitoring Stations
Lake Wales Ridge Region





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Selected Lake Monitoring Stations

Northern Region

Map ID	Site Name
1	Lake Iola
2	Hancock Lake
3	Lake Pasadena
4	Big Fish Lake
5	Crews Lake
6	Lake Lindsey
7	Moon Lake
8	Hunters Lake
9	Tsala Apopka at Floral City
10	Lake Miona
11	Pana Vista Outlet River
12	Outlet River at Panacoochee
13	Tsala Apopka at Inverness
14	Spring Lake
15	Tsala Apopka at Hernando
16	Little Lake (Consuella)
17	Lake Panasoffkee

Tampa Bay Region

Map ID	Site Name
18	Mud (Walden) Lake
19	Gornto Lake
20	Carlton Lake
21	Lake Wimauma
22	King Lake near San Antonio
23	Lake Linda
24	Lake Padgett
25	Keene Lake
26	Egypt Lake
27	Long Pond
28	Lake Stemper
29	Camp Lake
30	Lake Ann (Parker)
31	Lake Hiawatha
32	Platt Lake
33	Lake Carroll
34	Bay Lake
35	Lake LeClare
36	Little Lake
37	Rainbow Lake
38	Lake Harvey
39	Deer Lake

Map ID	Site Name
40	Lake Brooker
41	Cooper Lake
42	Lake Thomas
43	Brant Lake
44	Turkey Ford Lake
45	Church Lake
46	Horse Lake
47	Lake Alice
48	Lake Calm
49	Keystone Lake
50	Crescent Lake

Selected Lake Monitoring Stations

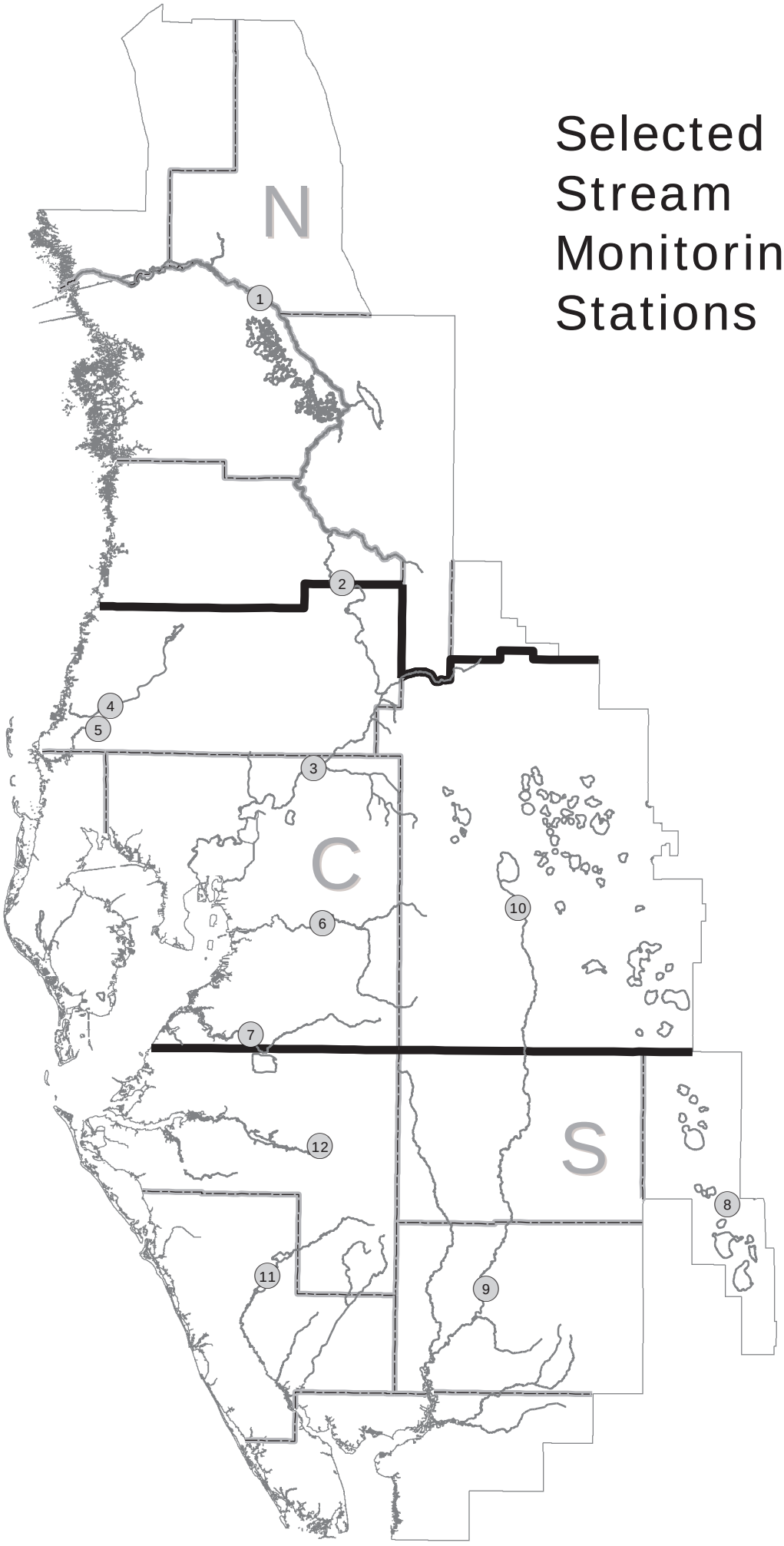
Lake Wales Ridge Region

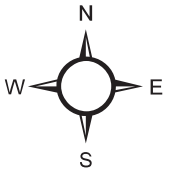
Map ID	Site Name
51	Trout Lake
52	Lake Letta
53	Lake Jackson at Sebring
54	Crooked Lake near Babson Park
55	Lake Starr
56	Lake Annie
57	Lake Placid
58	Lake Clay
59	Lake Lotela

Polk Uplands Region

Map ID	Site Name
60	Lake Helene
61	Lake Gibson
62	Lake Ariana
63	Lake Arietta
64	Lake Juliana
65	Clearwater Lake
66	Blue Lake South
67	Lake McLeod
68	Eagle Lake
69	Lake Buffum
70	Lake Garfield
71	Lake Howard
72	Lake Bonny
73	Lake Alfred
74	Lake Ruby
75	Lake Hamilton
76	Lake Otis
77	Lake Fannie
78	Lake Conine

Selected Stream Monitoring Stations





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Selected Stream Monitoring Stations

Map ID	Site Name
1	Withlacoochee River near Holder
2	Withlacoochee River at Trilby
3	Hillsborough River near Zephyrhills
4	Pithlachascotee River near New Port Richey
5	Anclote River near Elfers
6	Alafia River at Lithia
7	Little Manatee River near Wimauma
8	Josephine Creek near DeSoto City
9	Peace River at Arcadia
10	Peace River at Bartow
11	Myakka River near Sarasota
12	Manatee River near Myakka Head

STREAM MONITORING STATIONS

WITHLACOOCHEE RIVER (Northern Region)

Total length:	157 miles
Headwaters:	NW Polk and southern Sumter Counties
Elevation:	135 feet
Tributaries:	Little Withlacoochee, Big Gant Canal, Jumper Creek, Shady Brook, Outlet River of Lake Panasoffkee, Leslie Heifner Canal, Orange State Canal, Tsala Apopka Outfall Canal and Rainbow Springs.
Mouth:	Gulf of Mexico, Citrus County
Average fall:	0.9 feet/mile
Drainage area:	2000 square miles

Holder Station

County:	Marion
Period-of-record:	1928
Location:	38 miles upstream from mouth
Drainage area:	1825 square miles

Trilby Station

County:	Hernando
Period-of-record:	1928
Location:	93 miles upstream from mouth
Drainage area:	570 square miles

ANCLOTE RIVER (Central Region)

Total length:	27.5 miles
Headwaters:	South-central Pasco County, west of Land O Lakes
Elevation:	65 feet
Tributaries:	South Branch and Hollin Creek
Mouth:	Gulf of Mexico, Pasco County
Drainage area:	113 square miles

Elfers Station

County:	Pasco
Period-of-record:	1946
Location:	16 miles upstream from mouth
Drainage area:	72.5 square miles

HILLSBOROUGH RIVER (Central Region)

Total length:	55 miles
Headwaters:	Southeast Pasco County
Elevation:	77 feet
Tributaries:	Crystal Springs, Blackwater Creek, Flint Creek, Trout Creek, Cypress Creek, Curiosity Creek and Sulphur Springs
Mouth:	Hillsborough Bay
Drainage area:	690 square miles

Zephyrhills Station

County:	Hillsborough
Period-of-record:	1939
Location:	40 miles upstream from mouth
Drainage area:	200 square miles

PITHLACHASCOTEE RIVER (Central Region)

Total length: 41 miles
Headwaters: Crews Lake and Masaryktown area in central Pasco and southern Hernando Counties
Elevation: 120 feet
Mouth: Gulf of Mexico
Drainage area: 191 square miles

New Port Richey Station:

County: Pasco
Period-of-record: 1963
Location: 10.5 miles upstream from mouth
Drainage area: 180 square miles

ALAFIA RIVER (Central Region)

Total length: 24 miles
Headwaters: Western Polk and eastern Hillsborough Counties
Tributaries: North and South Prongs, Lithia Springs, and Buckhorn Creek.
Elevation: 30 feet
Mouth: Tampa Bay
Drainage area: 420 square miles

Lithia Station:

County: Hillsborough
Period-of-record: 1932
Location: 16 miles upstream from mouth
Drainage area: 335 square miles

LITTLE MANATEE RIVER (Central Region)

Total length: 39 miles
Headwaters: Southeast Hillsborough County
Tributaries: Carlton Branch, the South Fork, Dug Creek and Cypress Creek.
Elevation: 130 feet
Mouth: Tampa Bay
Drainage area: 225 square miles

Wimauma Station:

County: Hillsborough
Period-of-record: 1939
Location: 15 miles upstream from mouth
Drainage area: 149 square miles

JOSEPHINE CREEK (Southern Region)

Total length: 12 miles
Headwaters: Lake Josephine in central Highlands County
Elevation: 80 feet
Mouth: Lake Istokpoga in Highlands County
Drainage area: 143 square miles

DeSoto City Station:

County: Highlands
Period-of-record: 1946
Location: 4.9 miles upstream of mouth
Drainage area: 109 square miles

MANATEE RIVER (Southern Region)

Total length: 45 miles
Headwaters: Four corners area Hillsborough, Polk, Hardee and manatee Counties.
Elevation: 130 feet
Mouth: Tampa Bay
Drainage area: 330 square miles

Myakka Head Station:

County: Manatee
Period-of-record: 1966
Location: 36 miles upstream from mouth
Drainage area: 65.3 square miles

MYAKKA RIVER (Southern Region)

Total length: 54.1 miles
Headwaters: Western Hardee and Eastern Manatee Counties
Tributaries: Howard Creek, Deer Prairie, and Big Slough Canal
Elevation: 105 feet
Mouth: Charlotte Harbor
Drainage area: 540 square miles

Sarasota Station:

County: Sarasota
Period-of-record: 1936
Location: 36 miles upstream from mouth
Drainage area: 229 square miles

PEACE RIVER (Central and Southern Region)

Total length: 120 miles
Headwaters: Green Swamp in northern Polk County through Lake Hancock, Winter Haven chain of lakes, and Lake Hamilton.
Tributaries: Peace Creek Canal, Saddle Creek, Charlie Creek, Prairie Creek, Horse Creek, Joshua Creek and Shell Creek. Elevation: 110 feet
Mouth: Charlotte Harbor
Drainage area: 2300 square miles

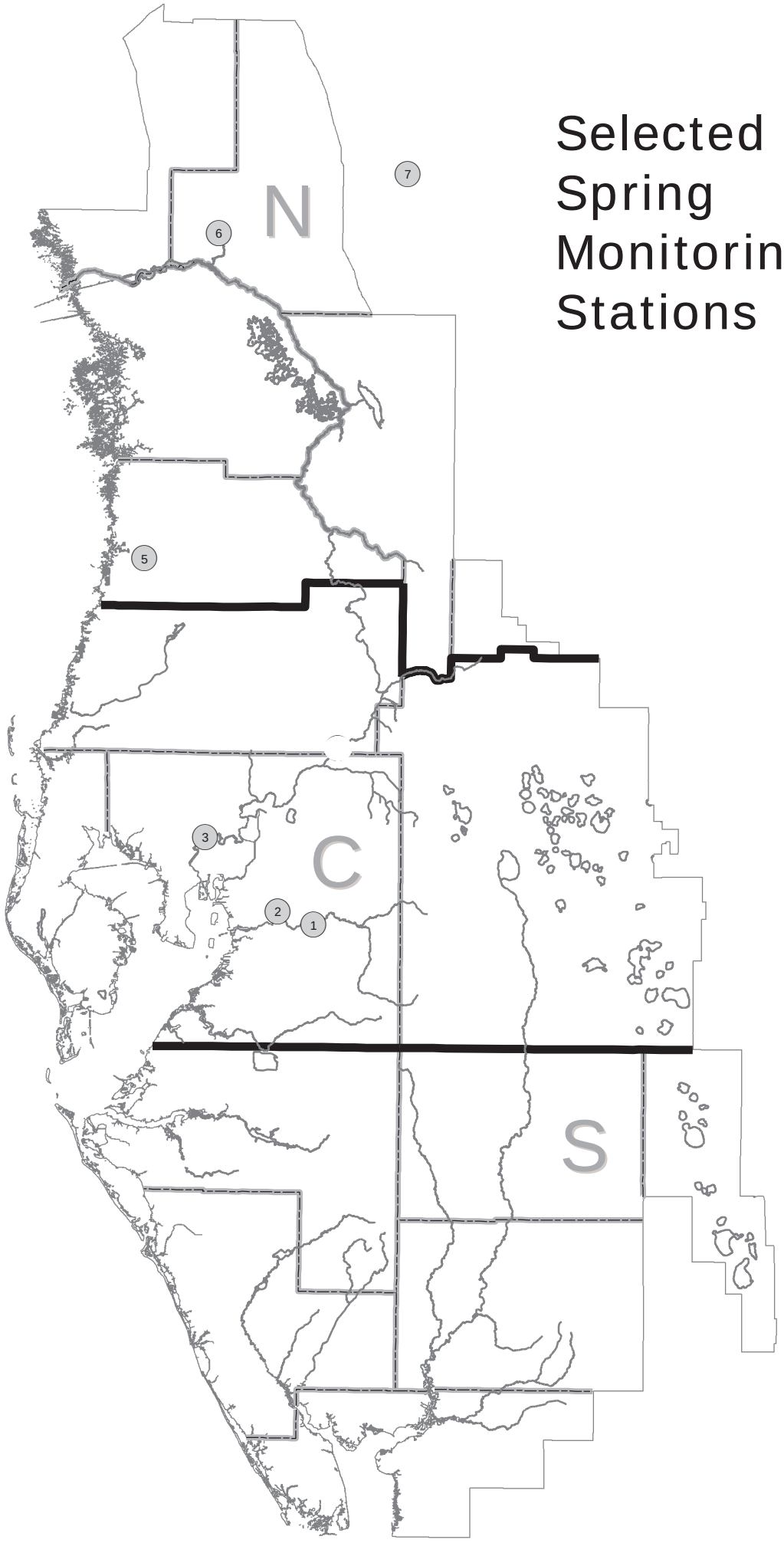
Arcadia Station (Southern Region):

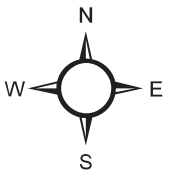
County: Desoto
Period-of-record: 1931
Location: 36 miles upstream from mouth
Drainage area: 1367 square miles

Bartow Station (Central Region):

County: Polk
Period-of-record: 1939
Location: 105 miles upstream from mouth
Drainage area: 390 square miles

Selected Spring Monitoring Stations





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Selected Spring Monitoring Stations

Map ID	Site Name
1	Lithia Main Spring
2	Buckhorn Main Spring
3	Sulphur Springs at Sulphur Springs
5	Weeki Wachee River near Brooksville
6	Rainbow Springs near Dunnellon
7	Silver Springs near Ocala

SPRINGS MONITORING STATIONS

RAINBOW SPRINGS (Northern Region)

County:	Marion
Basin:	Withlacoochee River
Magnitude:	1st
Discharge measurement location:	5 mi downstream from head of springs
Discharge contributes to:	Rainbow River, Withlacoochee River
Public Access:	Yes
Period-of-record:	1965
Gage:	Non-recording gage

SILVER SPRINGS (Northern Region)

County:	Marion
Basin:	Ocklawaha River
Magnitude:	1st
Discharge measurement location:	4 to 5 mi downstream from head of springs
Discharge contributes to:	Silver Springs River, Ocklawaha River, St. Johns River
Public Access:	Yes
Period-of-record:	1932
Gage:	Water-stage recorder

WEEKI WACHEE SPRINGS (Northern Region)

County:	Hernando
Basin:	Coastal Rivers
Magnitude:	1st
Discharge measurement location:	1 mi downstream from head of springs
Discharge contributes to:	Weeki Wachee River
Public Access:	Yes
Period-of-record:	1993
Gage:	Water-stage

SULPHUR SPRINGS (Central Region)

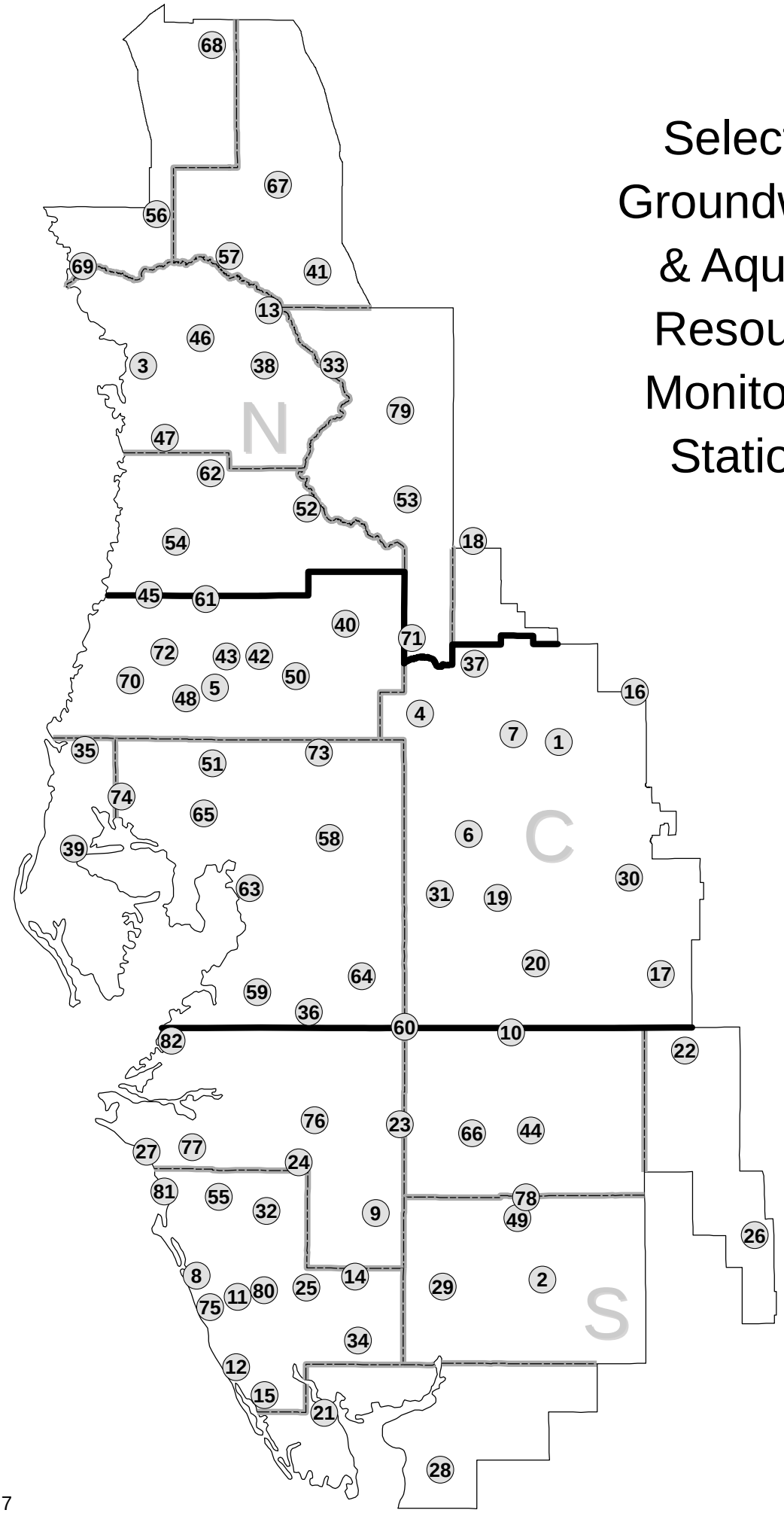
County:	Hillsborough
Basin:	Hillsborough River
Magnitude:	2nd
Discharge measurement location:	300 ft downstream from gage
Discharge contributes to:	Hillsborough River
Public Access:	Yes
Period-of-record:	1956
Gage:	Water-stage recorder

BUCKHORN SPRINGS (Central Region)

County:	Hillsborough
Basin:	Alafia River
Magnitude:	2nd
Discharge measurement location:	Difference between discharge measurements of Buckhorn Creek made 25 ft upstream from and 100 ft downstream from Buckhorn Springs
Discharge contributes to:	Buckhorn Creek, Alafia River
Public Access:	No
Period-of-record:	1987
Gage:	Water-stage recorder

LITHIA SPRINGS: (Central Region)

County:	Hillsborough
Basin:	Alafia River
Magnitude:	2nd
Discharge measurement location:	50 feet downstream from main pool
Discharge contributes to:	Alafia River
Public Access:	Yes
Period-of-record:	1934
Gage:	Water-stage recorder


Selected Groundwater & Aquifer Resource Monitoring Stations
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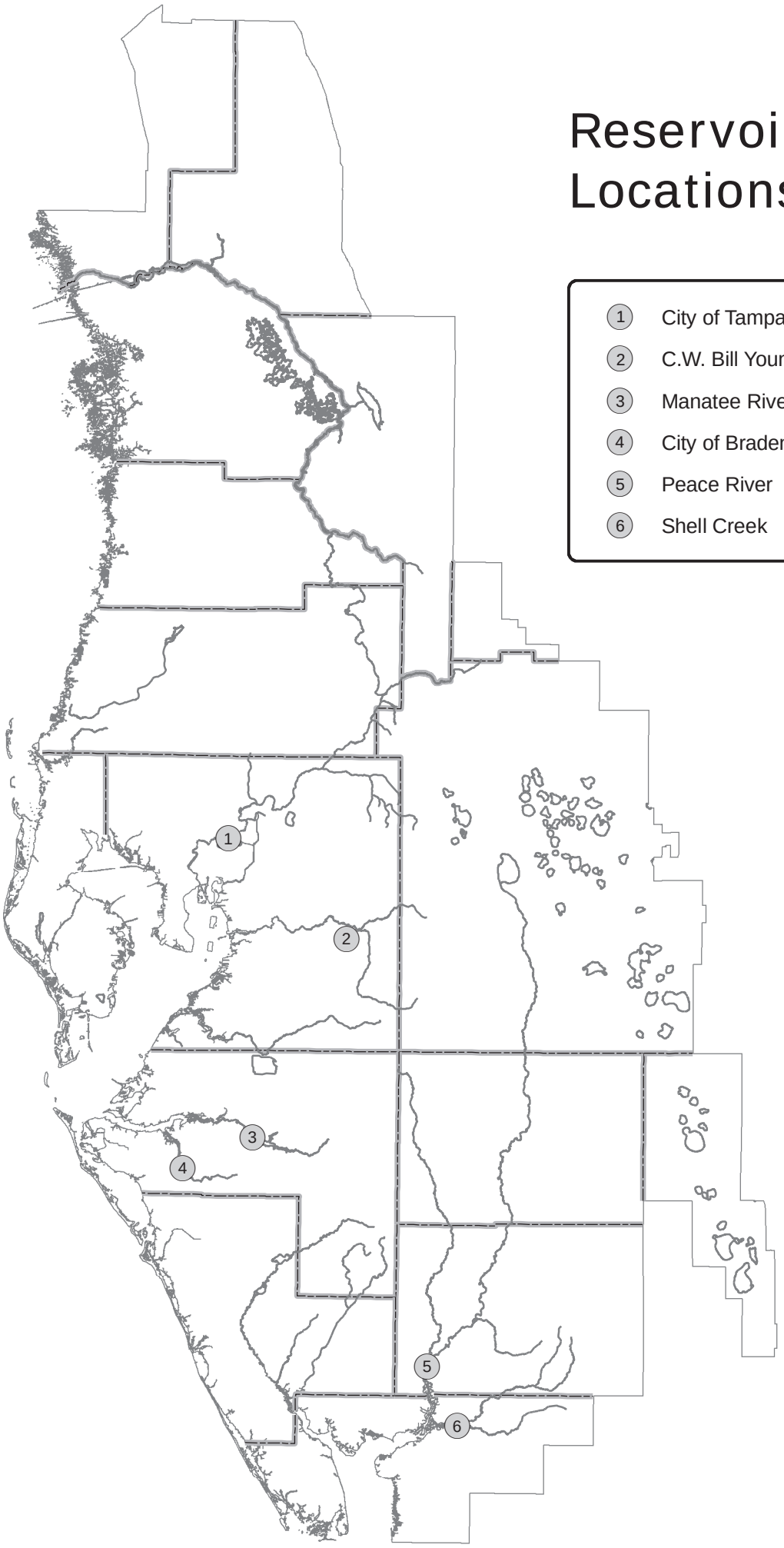
11/2017

Select Groundwater & Aquifer Resource Monitoring Stations

Map ID	Site Name
1	Lake Alfred Deep nr Lake Alfred
2	ROMP 16 U Fldn Aq Monitor
3	ROMP TR 21-2 U Fldn Aq Chloride Monitor
4	ROMP 87 U Fldn Aq (Avpk) Monitor
5	Pasco 13 nr Drexel Fldn
6	Sanlon Ranch Fldn
7	ROMP 76 U Fldn Aq Monitor
8	ROMP 20 U Fldn Aq (Swnn) Monitor
9	Edgeville 3 Deep
10	Cargill FA-1 Fldn
11	ROMP TR 5-2 U Fldn Aq (Swnn) Monitor
12	Manasota 14 Deep
13	ROMP 116 U Fldn Aq Monitor
14	Big Slough Deep
15	Englewood 14 Deep
16	Loughman Deep
17	Coley Deep
18	Mascotte Deep (L-0062)
19	ROMP 59 U Fldn Aq Interface Monitor
20	ROMP 45 U Fldn Aq (Avpk) Monitor
21	ROMP TR 3-1 U Fldn Aq Monitor
22	ROMP 43XX U Fldn Aq Monitor
23	ROMP 32 U Fldn Aq (Avpk) Monitor
24	Verna Test 0-1
25	ROMP 19X U Fldn Aq (Swnn) Monitor
26	ROMP 28X U Fldn Aq Monitor
27	ROMP TR 7-1 L Arca Aq Interface Monitor
28	ROMP TR 1-2 U Fldn Aq Monitor
29	ROMP 17 U Fldn Aq (Swnn) Monitor
30	ROMP 58 U Fldn Aq Monitor
31	ROMP 60 U Fldn Aq (Avpk) Monitor Repl
32	ROMP 22 U Fldn Aq (Swnn) Monitor
33	Sumter 13 JC 59 Up Fldn Repl
34	ROMP 9 U Fldn Aq (Swnn) Monitor
35	Tarpon Road Deep
36	ROMP 123 Htrn As/U Fldn Aq Monitor
37	ROMP 88 U Fldn Aq Monitor
38	Inverness DOT Fldn
39	Pinellas 665 Fldn
40	Lykes Pasco Fldn
41	ROMP 119 U Fldn Aq Sulfate Monitor
42	SR 52 And CR 581 Deep
43	ROMP 93 U Fldn Aq Monitor
44	ROMP 30 U Fldn Aq Monitor
45	ROMP 97 U Fldn Aq Monitor
46	North Lecanto Deep
47	Chassahowitzka 1 Deep
48	Bexley 2 Fldn
49	ROMP 26 U Fldn Aq Monitor
50	SR 577 Deep
51	Debuel Road Deep
52	ROMP 103 U Fldn Aq Monitor
53	Webster City Fldn
54	Weeki Wachee Fldn Repl
55	Sarasota Service Office U Fldn Aq Monitor
56	Tidewater 1 Fldn
57	CE 14 Dunnellon Deep
58	DV-1 U Fldn Aq (Swnn) Monitor
59	ROMP 50 U Fldn Aq (Avpk) Chloride Monitor
60	ROMP 40 U Fldn Aq Monitor
61	Masaryktown Deep
62	ROMP 107 U Fldn Aq Monitor
63	ROMP TR 10-2 U Fldn Aq Monitor
64	ROMP 48 U Fldn Aq (Tmpa/Swnn) Monitor
65	ROMP 66 U Fldn Aq Monitor
66	ROMP 31 U Fldn Aq Monitor
67	ROMP 120 U Fldn Aq Monitor
68	ROMP 134 U Fldn Aq (Ocal-Avpk-Oldm) Monitor
69	ROMP TR 124 U Fldn Aq Monitor (Avpk) 2
70	Moon Lake Deep
71	ROMP 89 U Fldn Aq Monitor
72	SR 52 Deep West nr Fivay Junction
73	Hillsborough River State Park Parking Lot Deep
74	ROMP TR 13-3 U Fldn Aq Monitor
75	ROMP TR 5-1 U Fldn Aq Sulfate Monitor
76	Kibler Deep
77	ROMP TR 7-4 U Fldn Aq (Swnn) Monitor
78	Marshall Deep (USGS)
79	ROMP 111 U Fldn Aq Monitor
80	ROMP 19 U Fldn Aq (Swnn) Monitor
81	ROMP TR SA-1 U Fldn Aq (Swnn) Monitor
82	Florida Power Fldn at Piney Point

Reservoir Locations



1. City of Tampa
2. C.W. Bill Young Regional
3. Manatee River
4. City of Bradenton (Evers)
5. Peace River
6. Shell Creek

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02/2009

DESCRIPTION OF PUBLIC SUPPLY SURFACE WATER RESERVOIRS

CITY OF TAMPA RESERVOIR (Hillsborough River Basin): Constructed in 1924, it is located on the Hillsborough River in Hillsborough County. It is the fourth largest public supply surface water facility in the District. It is the main water supply for the City of Tampa and has a total storage capacity of 1.7 billion gallons (bg). The total usable volume is 1.4 bg, when the reservoir elevation is 22.5 feet NGVD. It is an in-stream reservoir with a depth that ranges between nine and 22 feet. Given this amount of water, it is estimated that a 15-day supply of water is available from this facility over an extended dry period. During periods of low water due to drought conditions, the facility is permitted to pump water from two alternate sources. The first of these two sources is the Tampa Bypass Canal. Water is pumped over the water control structure at S-161 into the Hillsborough River above the dam. The second source is Sulphur Springs, just downstream from the dam, where water is captured at the spring and pumped back behind the dam. Withdrawals from both sources are in strict accordance with pumpage schedules as outlined in the facility's water use permit. When water levels fall below 12 feet NGVD, water cannot be withdrawn because the reservoir level is below the intake pipes. The permitted average daily withdrawal for this facility is 82 mgd, with a permitted maximum daily withdrawal of 104 mgd. Currently, ground water wells are not used to augment this facility. The minimum producible level is 9.00 feet.

PEACE RIVER RESERVOIRS - PEACE RIVER/MANASOTA REGIONAL WATER SUPPLY AUTHORITY (Peace River Basin): The Peace River reservoirs are located in southwestern DeSoto County. They are an off-stream reservoir system consisting of two reservoirs that store surface water captured from the Peace River during wet periods. The first reservoir, Reservoir 1, was built in 1980 and encompasses approximately 85 acres, has a water depth of approximately 31 feet, and has a total storage capacity of approximately 625 million gallons. The second reservoir, Reservoir 2, was built in 2009, covers about 616 acres, has a water depth of approximately 35 feet, and has a total storage capacity of about 6.0 billion gallons. The PRMRWSA facility ranks as the third largest in the District for total volume storage and supplies water to Charlotte, DeSoto, Manatee and Sarasota counties and to the City of North Port. The facility also uses an aquifer storage recovery (ASR) system for storing treated water pumped from the river. The minimum producible level at Reservoir 1 is Elevation 8.0 feet, while Reservoir 2 is Elevation 27.0 feet.

MANATEE RESERVOIR (Manasota Basin): Completed in 1967 by the damming of the Manatee River, the Manatee Reservoir is the second largest of the six surface-water public supply facilities within the District. Located in Manatee County, this in-stream facility has a storage capacity of 7.5 bg. The service area of the Manatee reservoir is the unincorporated portions of Manatee County, the City of Palmetto and Anna Maria Island, and also the Sarasota SUD#1. This reservoir provides essentially all public supply for Manatee County, with the exception of the City of Bradenton. The total size of this reservoir is 1800 acres with an average depth of 15 feet. With the reservoir full, the

facility has approximately 220 days of available water supply. When the surface-water elevation drops below 21.0 feet, water cannot be withdrawn because levels are below the facility's intakes. The permitted average daily withdrawal for this facility is 34.9 mgd, with a permitted peak monthly quantity of 41.9 mgd. The minimum producible level is 21.00 feet.

EVERS RESERVOIR (Manasota Basin): Constructed in 1935 and expanded in 1985, it is located on the Braden River in Manatee County. This is the fifth largest public supply reservoir in the District. Its main service area is the City of Bradenton and approximately 500 customers outside the city. It has a total storage capacity of 1.5 bg. The total size of the facility is 300 acres with an average depth of 12 feet. Water ceases to flow over the dam when the level falls below 3.84 feet NGVD. During the 1985 drought, while expansion of the facility was taking place, the water level dropped to one foot below sea level and demand was still met. Given a completely full reservoir, with no water going over the spillway, it is estimated the facility could supply water for approximately 260 days, with no input from rainfall. The permitted average daily withdrawal for this facility is 6.95 mgd, with a permitted peak monthly quantity of 8.13 mgd. Currently, ground-water wells are not used to augment this facility.

SHELL CREEK RESERVOIR (Peace River Basin): Shell Creek Reservoir, located in Charlotte County, is the sixth largest surface water system within the District. This system was built in 1964 and services the City of Punta Gorda as well as unincorporated areas surrounding the city limits. The Shell Creek Reservoir is fed by two primary tributaries, Shell Creek from the east and Prairie Creek from the northwest. The total drainage area at Hendrickson Dam is 373 square miles. It has a surface area of 800 acres and depths of 10 to 12 feet. Total storage capacity is 765 mg. Even with this low volume of water, personnel at this facility estimate they have approximately 125 days of available supply with no input from rainfall. Water ceases to flow across the weir when surface elevations drop below 5.0 feet NGVD, and at 3.7 feet NGVD water quality becomes a major concern. When surface elevations drop below 1.75 feet NGVD, the water is below the intakes and withdrawal of water is not possible. The permitted average daily withdrawal by this facility is 5.358 mgd, with a permitted peak monthly quantity of 6.901 mgd. The minimum producible level is 1.70 feet.

C.W. BILL YOUNG REGIONAL RESERVOIR - TAMPA BAY WATER (Alafia River Basin): Constructed in early 2005, it is the largest public supply surface water facility in the District. Located in southern Hillsborough County, it is an off-stream reservoir that stores surface water skimmed from the Tampa Bypass Canal and Alafia and Hillsborough Rivers. It services the Tampa Bay region through the Tampa Bay Water regional public supply water distribution system. The reservoir has an estimated storage capacity of 15.0 bg when the water level elevation is 136.5 feet NGVD. The reservoir is approximately 45 feet deep, two miles long and one mile wide, and encompasses a land area of approximately 1,100 acres. It reportedly has the capacity to provide 25 percent of the Tampa Bay region's public supply needs for six months and can supply the Tampa Bay regional surface water treatment plant at full capacity for 227 days.