# **Hydrologic Conditions**

for the month of

# October 2010

# Prepared by the Hydrologic Data Section Operations Department



November 16, 2010

http://www.watermatters.org

# **TABLE OF CONTENTS**

Introduction	1
Executive Summary – Provisional	2
Executive Summary	3
Regional Overview	4
Rainfall	5 - 12
Surface Water	
Lakes	13 - 20
Streams	21 - 25
Springs	26 - 29
Ground Water	
Surficial Aquifer	30 - 32
Intermediate and Floridan Aquifers	33 - 42
Public Supply Wellfields	43 - 44
Aquifer Resource	45 - 46
Water Demand	
Public Supply Surface Water Reservoirs	47 - 48
Reservoirs	49 - 54
Appendices	
Rainfall Percentiles by Intervals & Region	55 - 56
Rainfall Grid (NEXRAD)	57
Lake Monitoring Stations	58 - 63
Stream Monitoring Stations	64 - 65
Description of Stream Monitoring Stations	66 - 69
Springs Monitoring Stations	70 - 71
Description of Springs Monitoring Stations	72 - 73
Surficial Aquifer Monitoring Stations	74 - 75
Groundwater & Aquifer Resource Monitoring Stations	76 - 77
Wellfield Groundwater Monitoring Stations	78 - 80
Reservoir Locations	81

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#### INTRODUCTION

The Hydrologic Conditions Report is generated monthly by the Hydrologic Data Section, Operations Department, 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.

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. Data recently collected and maintained by the section include: station and basin rainfall totals, stream and spring discharge measurements, and surface and ground water levels. Frequency of data collection ranges from hourly to monthly readings. All data collected are processed and analyzed, then uploaded into the Water Management Data Base for general access by the District. The Water Management Data Base is also periodically augmented from the United States Geological Survey's hydrologic data network.

The data presented in this report are monthly rainfall totals, streamflow, springflow, surface and ground water levels, reservoir levels and the Aquifer Resource Index. Associated maps of station locations are at the end of the report in the Appendices. Also reported herein are levels of public supply surface water reservoirs supplemented by various regional utilities. The data contained in this report was 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.

Registration #PG-1704

#### Americans with Disabilities Act (ADA)

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#### **EXECUTIVE SUMMARY**

# Provisional Hydrologic Conditions as of November 9, 2010

Provisional rainfall totals are provided for the period of November 1, 2010 through November 8, 2010. The northern region has received an average of 1.18 inches, while the historic mean for the month of November is 1.98 inches. The central region has received an average of 1.43 inches, while the historic mean for the central region for November is 1.85 inches. The southern region has received an average of 2.65 inches, while the historic mean for the southern region for November is 1.80 inches.

Provisional lake level data indicate that during the first 9 days of November, regional water levels have decreased in the Northern, Tampa Bay and Lake Wales Ridge regions of the District, while they have increased in the Polk Uplands region. Average lake levels in the Northern region decreased an average of 0.15 foot and were 3.87 feet below the base of the normal range. Lake levels in the Tampa Bay region decreased an average of 0.17 foot and were 0.25 foot above the base of the normal range. Lake levels in the Polk Uplands region increased 0.12 foot and were 0.94 foot below the base of the normal range. The Lake Wales Ridge region posted an average decrease of 0.01 foot and was 3.82 feet below the base of the normal range.

As of November 8, 2010, average streamflow decreased in the northern and southern regions of the District, while it increased in the central region, compared to last month's data from regional index streams. The average streamflow for the Withlacoochee River near Holder in the northern region was below-normal at the 10<sup>th</sup> percentile. The average streamflow measured at the Hillsborough River near Zephyrhills in the central region was within the normal range at the 38<sup>th</sup> percentile, while the Peace River at Arcadia in the southern region was below-normal at the 21<sup>st</sup> percentile.

Provisional groundwater data, as of November 8, 2010, indicate that levels in the intermediate and Floridan aquifers were below-normal in the northern and southern regions of the District, while they were within the normal range in the central region. The normal range is defined as between the 25th and 75th percentiles. The groundwater level in the northern region was at the 15<sup>th</sup> percentile. The groundwater level in the central region was at the 29<sup>th</sup> percentile, while the southern region was at the 14<sup>th</sup> percentile.

#### **EXECUTIVE SUMMARY**

# **Hydrologic Conditions for October 2010**

In October, average rainfall totals for all three regions of the District were below-normal. The normal range for rainfall is defined by totals that fall on or between the 25<sup>th</sup> to 75<sup>th</sup> percentiles of the historical monthly accumulation for each region and where the 50<sup>th</sup> percentile represents the historical median. The northern region received an average of 0.06 inch of rainfall, equivalent to the 1<sup>st</sup> percentile of the historical October record. The central region received an average of 0.09 inch of rainfall, equivalent to the 2<sup>nd</sup> percentile, while the southern region received an average of 0.10 inch of rainfall, equivalent to the 1<sup>st</sup> percentile of the historical October record. The District-wide rainfall average of 0.09 inch was equivalent to the 1<sup>st</sup> percentile of the historical October record. On a District-wide basis, rainfall data indicate that October 2010 was the driest October since records began in 1915.

During the 12-month period from November 1, 2009 through October 31, 2010, the average rainfall totals in all three regions of the District were classified as "normal." The northern region received an average of 53.08 inches of rainfall, equivalent to the 46<sup>th</sup> percentile of the historical annual record. The central region received an average of 52.42 inches of rainfall, equivalent to the 51<sup>st</sup> percentile, while the southern region received an average of 50.74 inches of rainfall, equivalent to the 42<sup>nd</sup> percentile. The District-wide rainfall average of 52.02 inches was equivalent to the 45<sup>th</sup> percentile of the historical annual record.

Average lake levels in October were below the annual normal range in the Northern, Polk Uplands and Lake Wales Ridge regions of the District, while they were within the normal range in the Tampa Bay region. 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 decreased by an average of 0.58 foot and were 3.72 feet below the base of the annual normal range. Lake levels in the Tampa Bay region decreased an average of 0.46 foot and were 0.42 foot above the base of the annual normal range. Lake levels in the Polk Uplands region decreased 0.37 foot and were 1.06 feet below the base of the annual normal range. Average lake levels in the Lake Wales Ridge region decreased 0.31 foot and ended the month 3.81 feet below the base of the annual normal range.

Total streamflow in regional index streams during October was below-normal in all three regions of the District. Normal streamflow is defined as falling between the 25<sup>th</sup> and 75<sup>th</sup> percentiles. Streamflow measured at the Withlacoochee River near Holder station in the northern region was in the 12<sup>th</sup> percentile. Streamflow in the Hillsborough River near Zephyrhills station in the central region was in the 22<sup>nd</sup> percentile, while total streamflow measured at the Peace River at Arcadia station in the southern region was in the 8<sup>th</sup> percentile during October.

In October, groundwater data showed that levels in the intermediate and Floridan aquifers decreased and ended the month below-normal in the northern and southern regions of the District and within the normal range in the central region. The normal range is defined as between the 25<sup>th</sup> and 75<sup>th</sup> percentiles. The groundwater level in the northern region was in the 21<sup>st</sup> percentile, while levels in the central and southern regions were in the 32<sup>nd</sup> and 10<sup>th</sup> percentiles, respectively.

#### REGIONAL OVERVIEW OF HYDROLOGIC CONDITIONS

#### OCTOBER 2010

# **Northern Region**

In October, the northern region received an average of 0.06 inch of rainfall, equivalent to the 1<sup>st</sup> percentile of the historical October readings, which is considered "very dry." Average lake levels decreased in the northern region and ended the month an average of 3.72 feet below the base of the annual normal range. Total streamflow measured in the Withlacoochee River near Holder station decreased and was in the 12<sup>th</sup> percentile. Regional groundwater levels indicated average surficial aquifer water levels decreased and were in the 14<sup>th</sup> percentile; while levels in the intermediate and Floridan aquifer decreased and were in the 21<sup>st</sup> percentile.

# **Central Region**

In October, the central region received an average of 0.09 inch of rainfall, equivalent to the 2<sup>nd</sup> percentile of historical October readings, which is considered "very dry." Average lake levels decreased in the Tampa Bay and Polk Uplands regions, ending the month 0.42 foot above and 1.06 feet below, respectively, the base of the annual range. Total streamflow measured at the Hillsborough River near Zephyrhills station decreased and was in the 22<sup>nd</sup> percentile. Regional groundwater levels indicated average surficial aquifer water levels decreased and were in the 46<sup>th</sup> percentile; while levels in the intermediate and Floridan aquifer decreased and were in the 32<sup>nd</sup> percentile.

#### **Southern Region**

In October, the southern region received an average of 0.10 inch of rainfall, equivalent to the 1<sup>st</sup> percentile of historical October readings, which is considered "very dry." Average lake levels decreased in the Lake Wales Ridge region and ended the month 3.81 feet below the base of the annual normal range. Total streamflow measured at the Peace River at Arcadia station decreased and was in the 8<sup>th</sup> percentile. Regional groundwater levels indicated average surficial aquifer water levels decreased and were in the 43<sup>rd</sup> percentile; while levels in the intermediate and Floridan aquifer decreased and were in the 10<sup>th</sup> 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 hourly rainfall data collected from the District's network of real-time gauges. This process results in highly accurate cell-based rainfall data representative of conditions over the entire District, including those portions where rainfall data collection would otherwise be limited due to gaps in the gauging network.

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 equivalent to the 90<sup>th</sup> percentile is equal to or greater than 90 percent of the rainfall totals recorded for this month during all years that totals have been recorded.

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 10<sup>th</sup> (P10), the 25<sup>th</sup> (P25), the 75<sup>th</sup> (P75) and the 90<sup>th</sup> (P90) percentiles. The rainfall in inches for each percentile break, by rainfall interval and by region and the characterization ranges are summarized in the Appendix.

In October, rainfall totals were below-normal in all three regions of the District. The normal range for rainfall is defined by totals that fall on or between the 25<sup>th</sup> to 75<sup>th</sup> percentiles of the historical monthly average for each region and where the 50<sup>th</sup> percentile represents the historical median. The northern region received an average of 0.06 inch of rainfall, equivalent to the 1<sup>st</sup> percentile of the historical record. The central region received an average of 0.09 inch, equivalent to the 2<sup>nd</sup> percentile; while the southern region received an average of 0.10 inch, equivalent to the 1<sup>st</sup> percentile. District-wide, rainfall averaged 0.09 inch, which is equivalent to the 1st percentile of the historical October record. On a District-wide basis, rainfall data indicate that October 2010 was the driest October since records began in 1915.

During the 12-month period from November 1, 2009 through October 31, 2010, the average rainfall totals in all three regions of the District were classified as "normal." The northern region received an average of 53.08 inches of rainfall, equivalent to the 46<sup>th</sup> percentile of the historical record. The central region received an average of 52.42 inches of rainfall, equivalent to the 51<sup>st</sup> percentile. The southern region received an average of 50.74 inches of rainfall, equivalent to the 42<sup>nd</sup> percentile. The District-wide rainfall average was 52.02 inches, which is equivalent to the 45<sup>th</sup> percentile of the historical annual record.

# **Tampa Monthly Climate Summary for October 2010**

According to the National Weather Service, the monthly average temperature (°F) for Tampa was 76.2 degrees, which was 0.4 degrees above normal. The highest temperature recorded during the month was 90 degrees, while the lowest temperature recorded during the month was 59 degrees.

# **Temperature and Precipitation Outlook**

The Climate Prediction Center's (CPC) three-month weather forecast, as of October 21, 2010, indicates below-normal precipitation for all three regions of the District during the three-month period of December 2010 through January/February 2011. The temperature forecast for the three-month period indicates equal chances for below-normal, normal, or above-normal temperatures conditions. [Note: Due to the publication date of this report on November 16, 2010, the CPC's November 18, 2010 forecast was unavailable].

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

http://www.cpc.ncep.noaa.gov/products/OUTLOOKS\_index.html

# RELATIONSHIP OF OCTOBER 2010 RAINFALL TO HISTORICAL RAINFALL AVERAGES

# **Regional Summary:**

Region	OCT 2010 Average Rainfall	Historical Average for OCT	Departure from Historical Average	Calendar Year 2010 Cumulative Rainfall JAN-OCT	Calendar Year Historical Cumulative Rainfall JAN-OCT	Departure from Historical Cumulative OCT 2010	Cumulative 12-month Rainfall NOV 2009- OCT 2010	Historical 12-month Cumulative Rainfall	Departure from Historical 12-month Cumulative
Northern Counties	0.06	2.92	-2.86	47.31	48.99	-1.68	53.08	53.59	-0.51
Central Counties	0.09	2.91	-2.82	46.91	48.05	-1.14	52.42	52.45	-0.03
Southern Counties	0.10	3.14	-3.04	44.67	48.68	-4.01	50.74	52.45	-1.71
District All Counties	0.09	2.99	-2.90	46.24	48.52	-2.28	52.02	52.72	-0.70
Regional Countie	es Summary:								
NORTHERN COUNTIES	OCT 2010 Average Rainfall	Historical Average for OCT	Departure from Historical Average	Calendar Year 2010 Cumulative Rainfall JAN-OCT	Calendar Year Historical Cumulative Rainfall JAN-OCT	Departure from Historical Cumulative OCT 2010	Cumulative 12-month Rainfall NOV 2009- OCT 2010	Historical 12-month Cumulative Rainfall	Departure from Historical 12-month Cumulative
Levy County Marion County Citrus County Sumter County Hernando County  CENTRAL COUNTIES	0.01	2.96	-2.95	48.12	48.83	-0.71	54.34	53.97	0.37
	0.01	3.02	-3.01	50.88	49.46	1.42	56.95	54.33	2.62
	0.12	2.87	-2.75	50.48	49.46	1.02	56.16	54.03	2.13
	0.09	2.89	-2.80	43.27	47.63	-4.36	49.04	52.06	-3.02
	0.02	2.96	-2.94	44.21	50.43	-6.22	49.61	55.00	-5.39
Pasco County Pinellas County Hillsborough County Polk County SOUTHERN COUNTIES	0.05	2.99	-2.94	49.08	49.52	-0.44	54.84	53.96	0.88
	0.02	2.98	-2.96	48.91	47.24	1.67	53.94	51.58	2.36
	0.09	2.84	-2.75	45.85	48.40	-2.55	50.96	52.60	-1.64
	0.12	2.88	-2.76	46.19	48.13	-1.94	51.94	52.05	-0.11
Manatee County Hardee County Highlands County Sarasota County DeSoto County Charlotte County	0.04	3.11	-3.07	41.12	49.66	-8.54	47.32	53.67	-6.35
	0.16	3.07	-2.91	43.94	48.71	-4.77	50.11	52.28	-2.17
	0.10	3.48	-3.38	44.42	48.55	-4.13	49.18	51.91	-2.73
	0.03	3.29	-3.26	44.18	48.85	-4.67	51.31	52.76	-1.45
	0.16	3.33	-3.17	46.58	48.31	-1.73	52.29	51.90	0.39
	0.10	3.42	-3.32	49.91	48.79	1.12	55.72	52.30	3.42

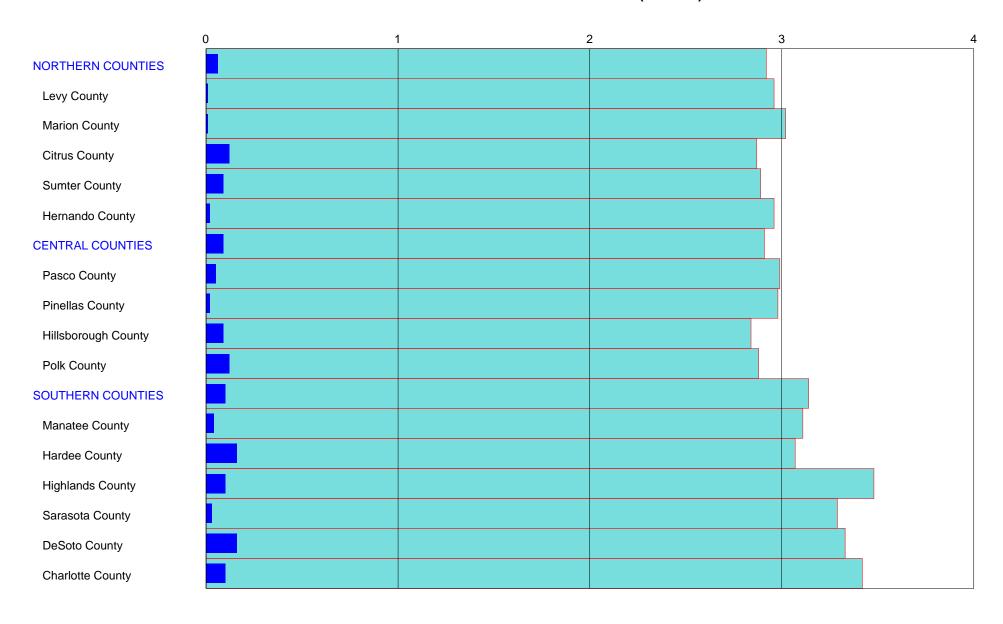
# **OCTOBER 2010 RAINFALL CHARACTERIZATION**

# **Regional Characterization:**

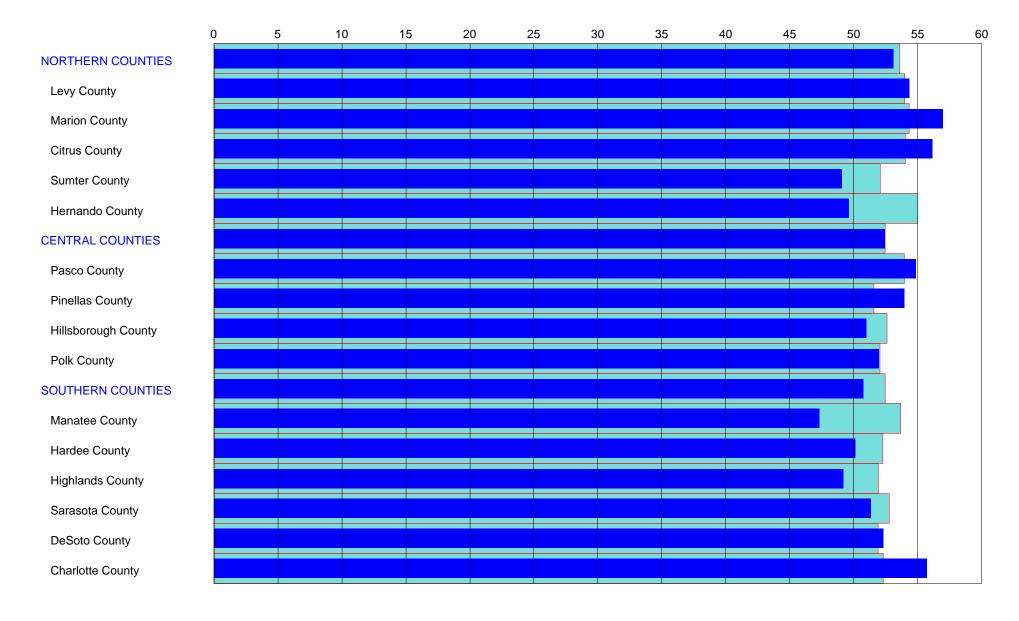
Region	OCT 2010 Average Rainfall	Historical OCT Percentile	OCT Rainfall Characterization	Cumulative 12-month Rainfall NOV 2009- OCT 2010	Historical 12-month Cumulative Percentile	12-month Cumulative Rainfall Characterization
Northern Counties	0.06	1	Very dry	53.08	46	Normal
Central Counties	0.09	2	Very dry	52.42	51	Normal
Southern Counties	0.10	1	Very dry	50.74	42	Normal
District Counties	0.09	1	Very dry	52.02	45	Normal
Regional Coun	ties Characteriza	tion:				
				Cumulative	l lintavian l	40. magneth
	OCT 2010	∐istorical	OCT	12-month	Historical	12-month

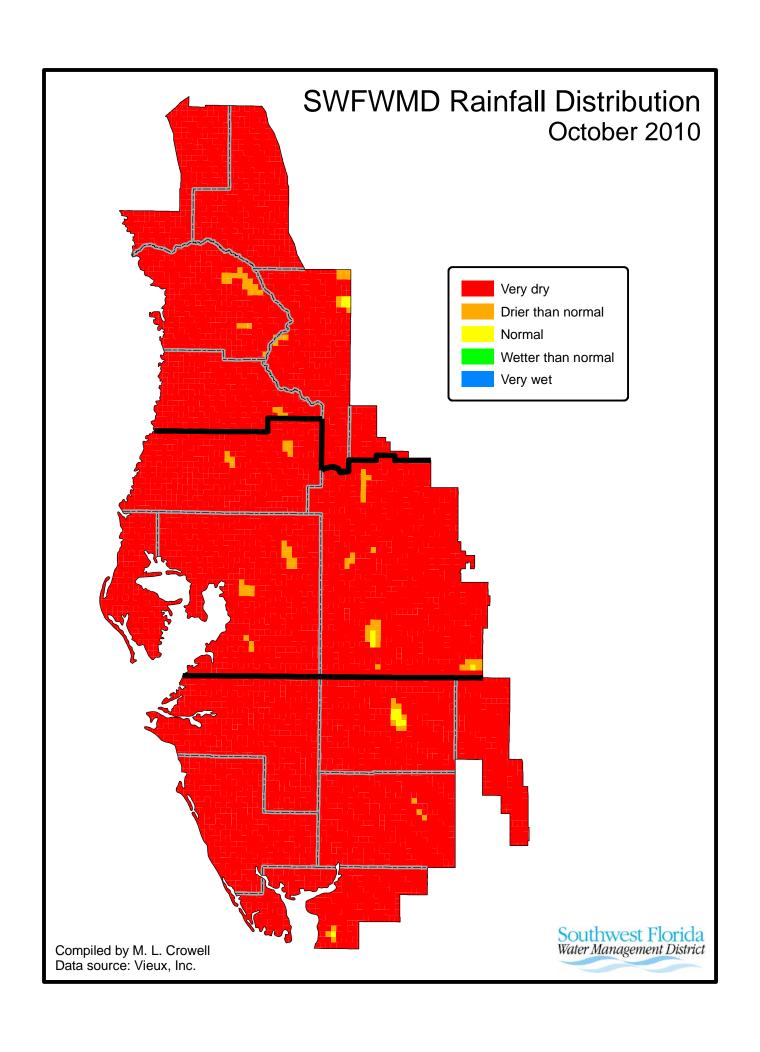
NORTHERN COUNTIES	OCT 2010 Average Rainfall	Historical OCT Percentile	OCT Rainfall Characterization	Cumulative 12-month Rainfall NOV 2009- OCT 2010	Historical 12-month Cumulative Percentile	12-month Cumulative Rainfall Characterization
Levy County	0.01	1	Very dry	54.34	55	Normal
Marion County	0.01	1	Very dry	56.95	62	Normal
Citrus County	0.12	3	Very dry	56.16	58	Normal
Sumter County	0.09	3	Very dry	49.04	35	Normal
Hernando County	0.02	1	Very dry	49.61	29	Normal
CENTRAL COUNTIES						
Pasco County	0.05	1	Very dry	54.84	55	Normal
Pinellas County	0.02	1	Very dry	53.94	61	Normal
Hillsborough County	0.09	2	Very dry	50.96	44	Normal
Polk County	0.12	1	Very dry	51.94	49	Normal
SOUTHERN COUNTIES						
Manatee County	0.04	2	Very dry	47.32	27	Normal
Hardee County	0.16	2	Very dry	50.11	41	Normal
Highlands County	0.10	1	Very dry	49.18	39	Normal
Sarasota County	0.03	2	Very dry	51.31	46	Normal
DeSoto County	0.16	2	Very dry	52.29	51	Normal
Charlotte County	0.10	3	Very dry	55.72	66	Normal

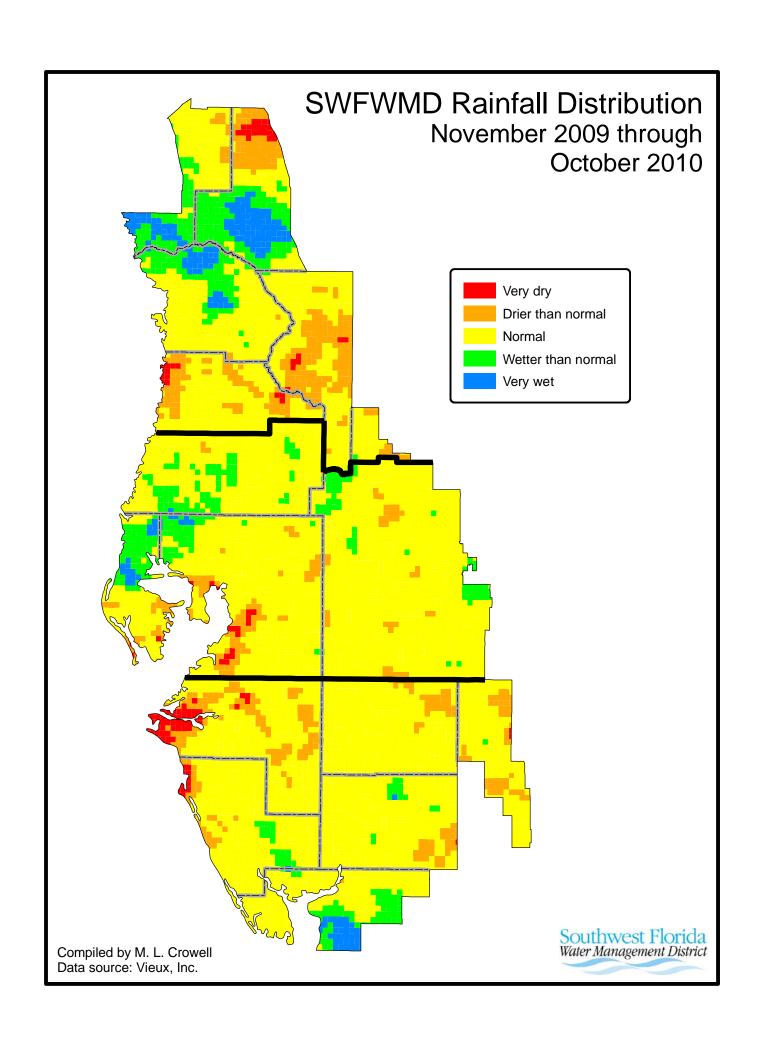
# OCTOBER 2010 RAINFALL HISTORIC AVERAGE VS HISTORICAL OCTOBER AVERAGE (INCHES)



# OCTOBER 2010 12-MONTH CUMULATIVE RAINFALL VS AVERAGE ANNUAL CUMULATIVE (INCHES)







#### **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.

In October, all 76 lakes monitored for this report recorded water level decreases. Water levels decreased in the Northern, Tampa Bay, Polk Uplands and Lake Wales Ridge regions by 0.58, 0.46, 0.37 and 0.31 foot, respectively. District-wide, average water levels decreased by 0.44 foot, compared to last month.

In October, average water levels were higher in 48 of the 76 lakes, compared to October 2009. In the Northern, Tampa Bay, Polk Uplands, and Lake Wakes Ridge regions, the average regional lake level was higher by 0.17 foot, 0.66 foot, 1.04 feet and 0.55 foot, respectively, compared to last year's levels. District-wide, average lake levels were higher by 0.64 foot.

Water levels in 40 of the 76 lakes were above the base of the annual normal range. Average lake levels in the Northern, Polk Uplands, and Lake Wales Ridge regions were 3.72, 1.06 and 3.81 feet, respectively, below the base of the annual normal range. Water levels in the Tampa Bay region were 0.42 foot above the base of the annual normal range. District-wide, average lake levels were 1.27 feet below the base of the annual normal range. Water levels in 51 of the 76 lakes were above the drought-year levels.

# SUMMARY OF LAKE ELEVATIONS OF REGIONAL LAKES (feet)

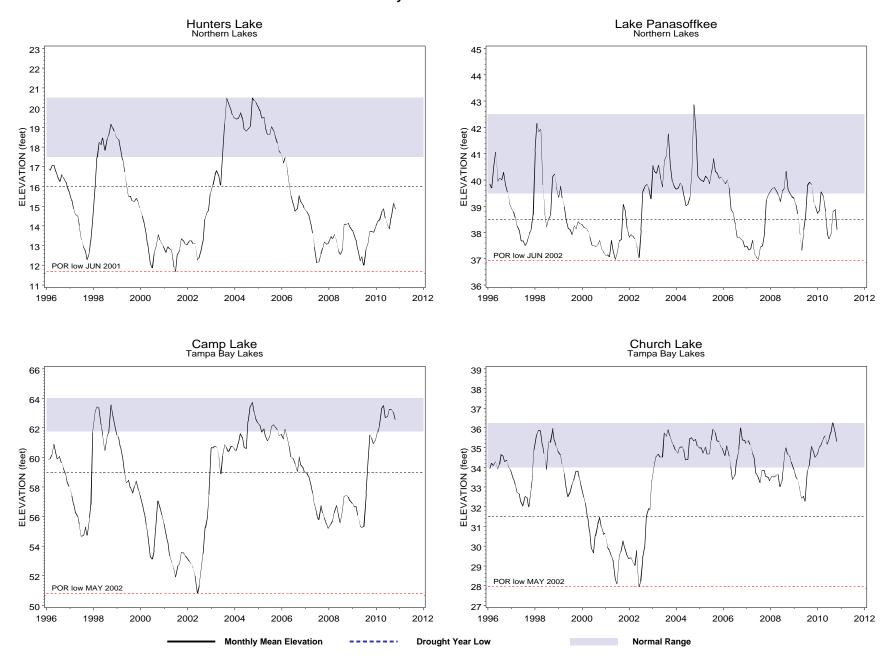
NORTHERN LAKES						Change	Change	Diff	(MELM)	(MLM)	(MF)	Period		Period	
Lake Name	County	Beginning of Record	SEP 2010	OCT 2010	OCT 2009	from SEP 2010	from OCT 2009	from MELM	Drought Year Low	Normal Year Low	Normal Year High	of Record Low	Record Low Date	of Record High	Record High Date
Big Fish Lake	Pasco	1980	69.28	68.42	69.24	-0.86	-0.82	-3.33	71.75	73.05	76.05	65.45	JUN 1997	77.40	SEP 2004
Crews Lake	Pasco	1964	47.64	47.04	48.60	-0.60	-1.56	-2.96	50.00	52.00	55.00	42.63	APR 2001	56.60	SEP 1964
Hancock Lake	Pasco	1978	95.38	94.74	92.24	-0.64	2.50	-7.26	102.00	104.00	106.50	90.00	MAR 2009	108.90	MAR 1998
Hunters Lake	Hernando	1965	15.15	14.87	13.72	-0.28	1.15	-1.13	16.00	17.50	20.50	11.70	JUN 2001	20.50	MAR 1970
Lake Iola	Pasco	1965	132.53	131.98	133.00	-0.55	-1.02	-10.52	142.50	145.00	147.50	131.98	OCT 2010	148.70	JAN 1989
Lake Lindsey	Hernando	1965	62.56	61.99	62.86	-0.57	-0.87	-2.51	64.50	66.00	69.00	61.57	MAY 2009	70.14	AUG 1965
Little Lake (Consu	Citrus	1975	36.38	35.90	36.71	-0.48	-0.81	-1.35	37.25	39.00	41.50	31.10	MAY 2001	42.84	SEP 2004
Lake Miona	Sumter	1978	51.15	50.75	51.17	-0.40	-0.42	-0.25	51.00	53.00	55.00	47.88	MAY 2002	56.60	OCT 1982
Moon Lake	Pasco	1990	37.92	37.56	34.95	-0.36	2.61	2.06	35.50	37.50	40.50	32.98	APR 2009	41.26	SEP 2004
Lake Panasoffkee	Sumter	1955	38.87	38.12	39.16	-0.75	-1.04	-0.38	38.50	39.50	42.50	36.93	JUN 2002	44.28	APR 1960
Lake Pasadena	Pasco	1984	85.66	85.18	83.38	-0.48	1.80	-4.82	90.00	91.50	94.50	81.56	MAY 2001	94.86	OCT 2004
Spring Lake	Hernando	1965	178.36	177.78	177.48	-0.58	0.30	-0.47	178.25	181.25	184.25	174.75	APR 2009	183.57	OCT 1984
Floral City Pool	Citrus	1957	39.56	38.57	39.59	-0.99	-1.02	0.32	38.25	40.25	42.50	30.29	APR 2008	44.22	MAR 1960
Inverness Pool	Citrus	1957	39.05	38.40	37.93	-0.65	0.47	2.15	36.25	38.25	40.50	31.56	MAY 2001	42.94	APR 1960
Hernando Pool	Citrus	1936	37.95	37.38	36.15	-0.57	1.23	2.63	34.75	36.75	39.00	30.92	JUL 1957	41.74	APR 1960

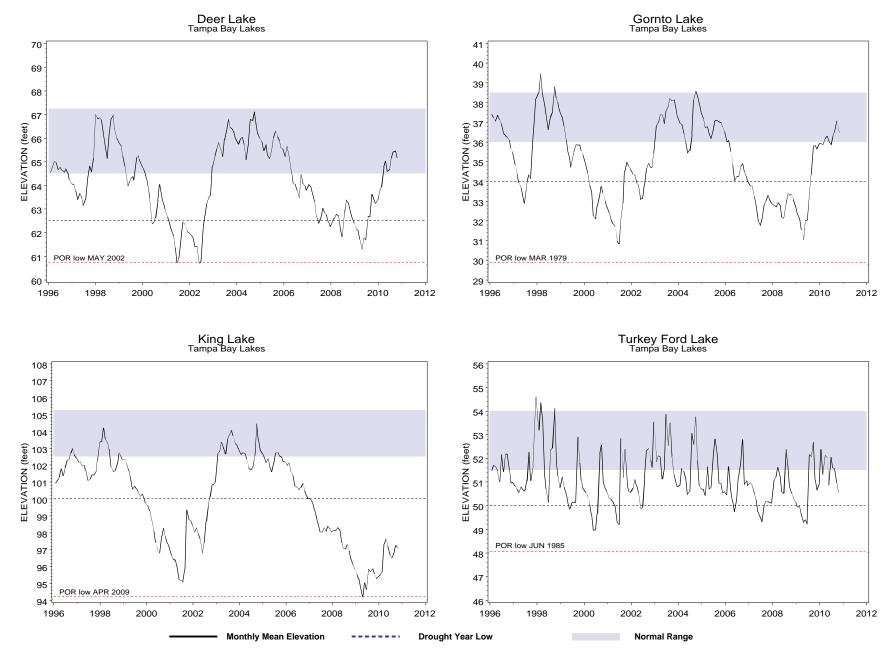
TAMPA BAY L	AKES					Change	Change	Diff	(MELM)	(MLM)	(MF)	Period		Period	
Lake Name	County	Beginning of Record	SEP 2010	OCT 2010	OCT 2009	from SEP 2010	from OCT 2009	from MELM	Drought Year Low	Normal Year Low	Normal Year High	of Record Low	Record Low Date	of Record High	Record High Date
Lake Alice	Hillsborough	1971	40.96	40.36	38.45	-0.60	1.91	2.86	37.50	40.25	42.25	33.24	MAY 2002	42.42	SEP 2004
Lake Ann-Parker	Pasco	1969	47.88	47.32	46.54	-0.56	0.78	2.32	45.00	45.75	48.75	43.28	JUN 2001	49.29	SEP 1979
Bay Lake	Hillsborough	1982	45.52	44.92	45.45	-0.60	-0.53	2.42	42.50	44.00	46.75	41.86	APR 1985	46.46	DEC 1997
Lake Brant	Hillsborough	1971	57.57	57.07	56.64	-0.50	0.43	2.57	54.50	56.50	58.75	51.65	JUN 1994	60.04	AUG 1979
Brooker Lake	Hillsborough	1977	62.50	62.36	62.52	-0.14	-0.16	3.36	59.00	61.00	64.25	56.49	MAY 2002	64.08	DEC 1997
Calm Lake	Hillsborough	1965	49.88	49.42	47.09	-0.46	2.33	4.42	45.00	47.50	50.50	41.88	JUN 2002	50.73	SEP 2004
Camp Lake	Pasco	1968	63.02	62.58	61.27	-0.44	1.31	3.58	59.00	61.75	64.00	50.82	MAY 2002	64.00	SEP 1979
Carlton Lake	Hillsborough	1976	91.74	91.03	91.08	-0.71	-0.05	3.03	88.00	90.50	93.50	86.82	MAY 2001	94.60	FEB 1998
Lake Carroll	Hillsborough	1946	35.32	34.69	34.87	-0.63	-0.18	2.19	32.50	34.50	37.00	30.87	MAY 2002	40.08	SEP 1947
Church Lake	Hillsborough	1957	35.78	35.32	34.80	-0.46	0.52	3.82	31.50	34.00	36.25	27.94	MAY 2002	37.28	AUG 1959
Lake Cooper	Hillsborough	1946	60.21	59.81	59.30	-0.40	0.51	2.81	57.00	59.75	61.75	55.60	JUN 2001	62.54	SEP 1947
Crescent Lake	Hillsborough	1981	41.89	41.70	42.20	-0.19	-0.50	3.20	38.50	40.00	42.50	35.34	JUN 2001	42.48	SEP 2009
Deer Lake	Hillsborough	1977	65.46	65.17	63.42	-0.29	1.75	2.67	62.50	64.50	67.25	60.72	MAY 2002	67.42	DEC 1997
Egypt Lake	Hillsborough	1978	36.44	35.84	36.44	-0.60	-0.60	3.34	32.50	35.00	37.50	33.06	MAY 2000	38.15	SEP 1985
Gornto Lake	Hillsborough	1979	37.08	36.48	35.81	-0.60	0.67	2.48	34.00	36.00	38.50	29.86	MAR 1979	39.48	FEB 1998
Lake Harvey	Hillsborough	1970	61.12	60.79	60.94	-0.33	-0.15	2.79	58.00	60.25	62.50	53.94	MAY 2002	63.90	DEC 1997
Lake Hiawatha	Hillsborough	1981	49.89	49.34	50.01	-0.55	-0.67	4.34	45.00	48.00	50.50	46.14	JUN 2000	51.12	APR 2010
Horse Lake	Hillsborough	1930	45.33	44.64	42.64	-0.69	2.00	2.64	42.00	44.00	46.50	36.33	JUN 2002	50.00	AUG 1959
Lake Keene	Hillsborough	1948	61.95	61.62	61.64	-0.33	-0.02	2.62	59.00	60.50	63.00	56.12	JUN 2002	63.30	SEP 1953
Keystone Lake	Hillsborough	1946	41.39	40.93	41.45	-0.46	-0.52	1.93	39.00	39.75	42.00	37.84	JUN 2000	43.55	MAR 1960
King Lake	Pasco	1977	97.25	97.12	95.56	-0.13	1.56	-2.88	100.00	102.50	105.25	94.20	APR 2009	104.92	SEP 1983
Lake Leclare	Hillsborough	1977	51.18	50.63	49.24	-0.55	1.39	3.63	47.00	49.50	52.00	44.95	JUN 2001	52.34	DEC 1997
Lake Linda	Pasco	1969	65.56	65.23	64.32	-0.33	0.91	3.23	62.00	64.00	66.75	60.07	MAY 2001	67.13	AUG 1979
Little Lake	Hillsborough	1979	45.52	45.14	45.40	-0.38	-0.26	3.14	42.00	43.50	46.50	38.06	JUN 1994	46.44	FEB 1998
Long Pond	Hillsborough	1978	45.25	44.88	42.52	-0.37	2.36	2.88	42.00	44.00	46.50	36.33	MAY 1979	48.27	SEP 1998
Mud (Walden) Lake	Hillsborough	1978	112.74	112.43	112.83	-0.31	-0.40	1.93	110.50	112.50	115.00	111.90	APR 2009	114.42	MAR 1978
Lake Padgett	Pasco	1965	69.55	69.03	69.00	-0.52	0.03	1.53	67.50	69.00	71.25	66.27	JUN 2001	71.90	SEP 1988
Platt Lake	Hillsborough	1946	48.82	48.28	48.38	-0.54	-0.10	2.28	46.00	47.75	50.50	42.53	JUN 2001	51.88	SEP 1979
Rainbow Lake	Hillsborough	1971	38.27	37.71	35.24	-0.56	2.47	2.71	35.00	37.50	40.50	29.82	JUN 2002	40.74	AUG 2003
Lake Stemper	Hillsborough	1946	61.00	60.38	57.84	-0.62	2.54	2.38	58.00	59.50	62.00	53.36	JUN 2001	62.30	MAR 1960
Lake Thomas	Hillsborough	1971	62.80	62.44	62.16	-0.36	0.28	3.19	59.25	61.25	63.50	56.48	JUN 2002	64.48	SEP 1979
Turkey Ford Lake	Hillsborough	1970	50.96	50.56	51.08	-0.40	-0.52	0.56	50.00	51.50	54.00	48.07	JUN 1985	55.28	SEP 1988
Lake Wimauma	Hillsborough	1985	78.38	77.78	75.13	-0.60	2.65	-3.22	81.00	83.00	86.75	70.12	MAY 2001	84.38	MAR 1998

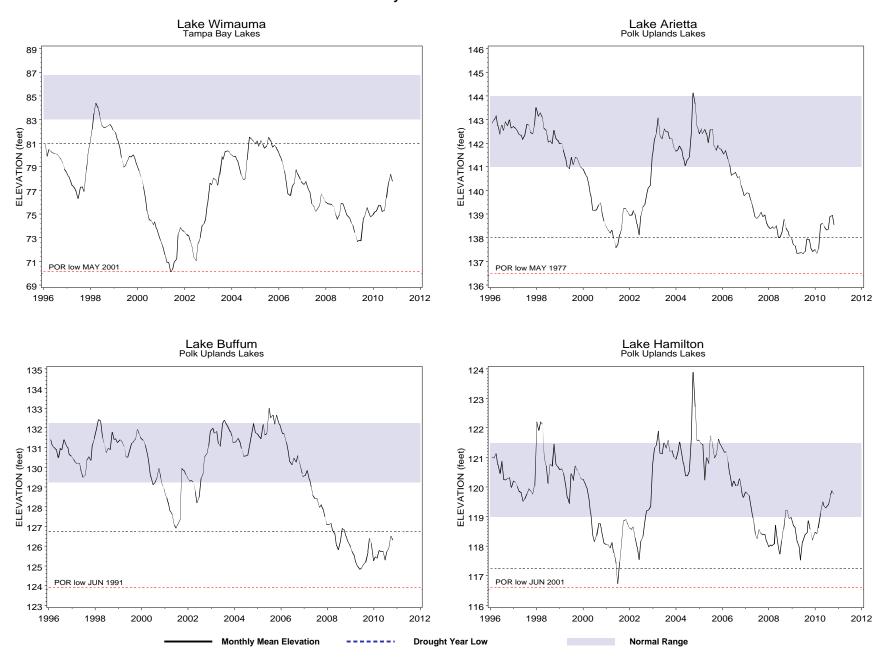
NOTE: M='no data' or 'not determined'

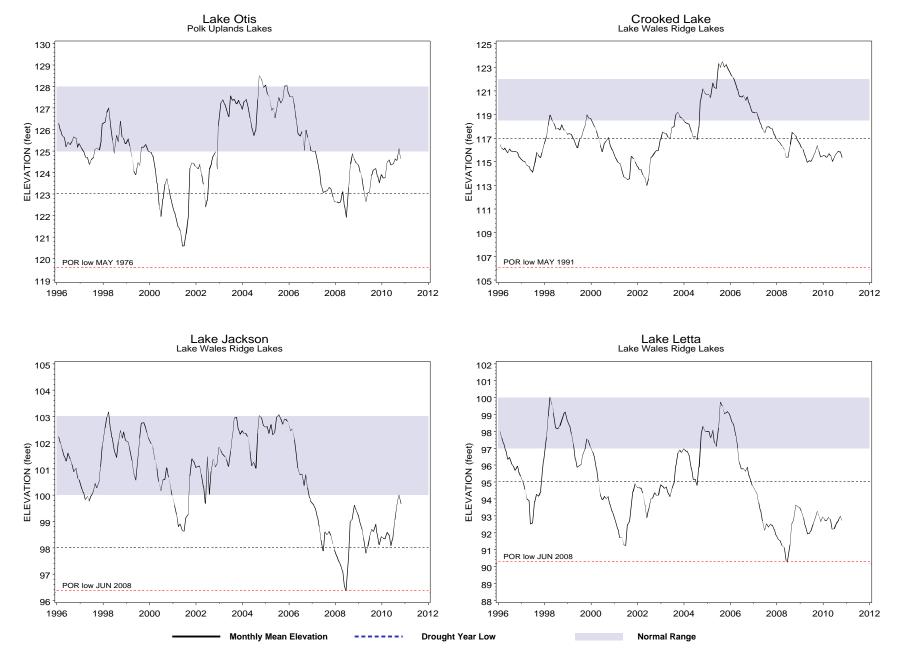
# SUMMARY OF LAKE ELEVATIONS OF REGIONAL LAKES (feet)

POLK UPLAN	DS LAKES					Change	Change	Diff	(MELM)	(MLM)	(MF)	Period		Period	
Lake Name	County	Beginning of Record	SEP 2010	OCT 2010	OCT 2009	from SEP 2010	from OCT 2009	from MELM	Drought Year Low	Normal Year Low	Normal Year High	of Record Low	Record Low Date	of Record High	Record High Date
Lake Alfred	Polk	1961	126.27	125.94	124.75	-0.33	1.19	-0.31	126.25	128.25	130.75	122.40	MAY 1977	132.76	MAR 1998
Lake Ariana	Polk	1945	134.42	134.04	132.47	-0.38	1.57	1.54	132.50	134.50	137.00	131.28	MAY 1976	137.90	AUG 1946
Lake Arietta	Polk	1970	138.95	138.55	137.55	-0.40	1.00	0.55	138.00	141.00	144.00	136.50	MAY 1977	144.12	SEP 2004
Blue Lake South	Polk	1986	111.25	110.83	111.51	-0.42	-0.68	-1.67	112.50	114.00	117.00	103.38	FEB 1991	119.19	DEC 2005
Lake Bonny	Polk	1954	129.28	128.98	124.55	-0.30	4.43	2.98	126.00	128.00	130.50	122.34	MAY 2009	133.08	SEP 2004
Lake Buffum	Polk	1972	126.51	126.33	126.40	-0.18	-0.07	-0.42	126.75	129.25	132.25	123.90	JUN 1991	133.00	JUN 2005
Clearwater Lake	Polk	1979	140.98	140.60	140.20	-0.38	0.40	1.60	139.00	141.00	143.50	137.93	MAY 2001	146.06	AUG 1984
Lake Conine	Polk	1989	127.10	126.75	124.09	-0.35	2.66	2.25	124.50	126.50	128.75	123.83	NOV 2009	129.95	SEP 2004
Eagle Lake	Polk	1965	125.63	125.35	125.24	-0.28	0.11	-1.15	126.50	128.50	130.75	118.76	MAY 1976	131.50	SEP 1996
Lake Fannie	Polk	1967	121.65	121.24	120.00	-0.41	1.24	1.24	120.00	123.50	125.75	118.67	MAY 1977	127.51	SEP 2004
Lake Garfield	Polk	1969	103.83	103.20	100.85	-0.63	2.35	3.20	100.00	101.00	104.75	97.38	JUN 2001	105.91	SEP 1979
Lake Hamilton	Polk	1945	119.88	119.77	118.57	-0.11	1.20	2.52	117.25	119.00	121.50	116.61	JUN 2001	124.34	OCT 1948
Lake Helene	Polk	1961	137.48	137.08	136.30	-0.40	0.78	-1.92	139.00	141.00	144.00	134.06	JUN 2008	146.48	MAR 1998
Lake Howard	Polk	1946	130.50	130.08	128.94	-0.42	1.14	3.08	127.00	129.50	132.00	127.69	MAY 2001	133.10	SEP 1960
Lake Juliana	Polk	1961	128.72	128.39	127.62	-0.33	0.77	0.89	127.50	130.00	132.50	126.20	MAY 1976	134.10	MAR 1998
Lake Mcleod	Polk	1965	125.48	125.00	125.28	-0.48	-0.28	-3.00	128.00	129.50	132.00	115.11	MAY 1976	131.98	SEP 1998
Lake Otis	Polk	1954	125.10	124.65	123.83	-0.45	0.82	1.65	123.00	125.00	128.00	119.58	MAY 1976	129.12	SEP 1960
Lake Ruby	Polk	1976	124.80	124.42	123.40	-0.38	1.02	3.42	121.00	123.00	125.25	117.41	MAY 1976	125.98	SEP 2004
Lake Gibson	Polk	1954	142.96	142.64	142.60	-0.32	0.04	1.14	141.50	141.50	143.50	140.21	MAY 2009	145.40	SEP 1988
LK WALES RI	DOELAKES														
LK WALES KI	DGE LAKES	Beginning	SEP	ост	ост	Change from SEP	Change from OCT	Diff from	(MELM) Drought	(MLM) Normal	(MF) Normal	Period of Record	Record	Period of Record	Record
Lake Name	County	of Record	2010	2010	2009	2010	2009	MELM	Year Low	Year Low	Year High	Low	Low Date	High	High Date
Lake Annie	Polk	1970	111.44	111.02	110.99	-0.42	0.03	-2.98	114.00	116.00	119.00	108.36	JUN 1990	117.56	OCT 2005
Lake Clay	Highlands	1983	77.66	77.31	77.40	-0.35	-0.09	2.31	75.00	76.00	78.75	74.34	MAY 2001	78.38	OCT 1995
Crooked Lake	Polk	1945	115.84	115.36	115.87	-0.48	-0.51	-1.64	117.00	118.50	122.00	106.10	MAY 1991	123.98	OCT 1948
Lake Jackson	Highlands	1945	100.00	99.68	98.55	-0.32	1.13	1.68	98.00	100.00	103.00	96.37	JUN 2008	103.76	SEP 1947
Lake Letta	Highlands	1951	92.98	92.75	93.04	-0.23	-0.29	-2.25	95.00	97.00	100.00	90.27	JUN 2008	101.38	OCT 1953
Lake Lotela	Highlands	1950	99.42	99.24	98.28	-0.18	0.96	-4.76	104.00	105.00	108.50	97.00	JUN 2008	109.38	JUL 1954
Lake Placid	Highlands	1984	91.20	90.98	90.33	-0.22	0.65	0.98	90.00	91.50	94.50	88.08	JUN 2008	94.24	SEP 2003
Starr Lake	Polk	1983	100.17	99.90	98.83	-0.27	1.07	-8.10	108.00	110.00	113.00	96.23	JUL 2001	109.80	DEC 2005
Trout Lake	Highlands	1981	91.84	91.48	89.47	-0.36	2.01	-3.52	95.00	98.00	101.00	87.15	MAY 2001	98.90	MAR 1998









# **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 mean. 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 25<sup>th</sup> and 75<sup>th</sup> percentiles of the period-of-record monthly means.

In October, all twelve stations monitored for this report had decreased streamflow compared to last month. Total streamflow decreased in the northern and central regions of the District by 417.6 cfs (269.8 mgd) and 679.9 cfs (439.2 mgd), while it decreased in the southern region by 1924.6 (1243.3 mgd). District-wide, total streamflow decreased an average of 3022.1 cfs (1952.3 mgd).

Eight of the twelve monitoring stations recorded lower streamflow in October 2010 than in October 2009. Streamflow was lower in the northern region by 125.7 cfs (81.2 mgd), while it was lower in the central and southern regions by 103.1 cfs (66.6 mgd) and 138.8 cfs (89.7 mgd), respectively. District-wide, total streamflow was lower, on average, by 367.6 cfs (237.5 mgd), than the October 2009 average.

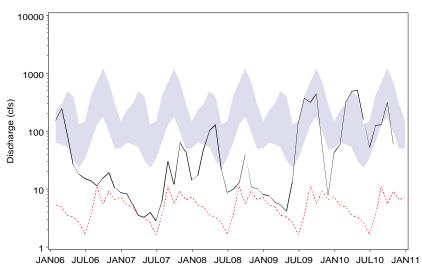
Compared to historical October discharge values, Withlacoochee River streamflow, measured at the Trilby station and the Holder station averaged in the 14<sup>th</sup> and 12th percentiles, respectively. Streamflow measured at the Anclote, Pithlachascotee River, and Hillsborough River stations averaged in the 38<sup>th</sup>, 30<sup>th</sup> and 22<sup>nd</sup> percentiles of respective historical October readings. Streamflow measured at the Alafia River, Little Manatee River and Peace River at Bartow stations averaged in the 6<sup>th</sup>, 29<sup>th</sup> and 10<sup>th</sup> percentiles of respective historical October readings. Additionally, streamflow measured at the Josephine Creek, Manatee River, Myakka River and Peace River at Arcadia stations averaged in the 14<sup>th</sup>, 4<sup>th</sup>, 13<sup>th</sup> and 8<sup>th</sup> percentiles of respective historical October readings.

# SUMMARY OF STREAM DISCHARGE FROM MAJOR STREAMS (CFS), OCTOBER 2010

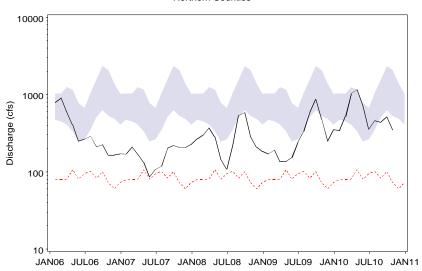
NORTHERN COUNTIES	Beginning	Mean	Mean	Mean	Change	Change	OCT 2010	Period of	Record	Period of	Record
	Year of	Discharge	Discharge	Discharge	from	from	Percentile	Record	Low	Record	High
	Record	OCT 2010	SEP 2010	OCT 2009	SEP 2010	OCT 2009	Rank	Low	Date	High	Date
Withlacoochee R at Trilby Withlacoochee R near Holder	1928	60.0	313.0	55.2	-253.0	4.8	14%	0.1	JUN2000	8840	JUN1934
	1928	348.2	512.8	478.7	-164.6	-130.5	12%	33.0	MAR2001	8660	APR1960
CENTRAL COUNTIES											
Anclote River near Elfers Pithlachascottee R near New Port Riche Hillsborough R near Zephyrhills Alafia River at Lithia Little Manatee R near Wimauma Peace River at Bartow	1946 y 1963 1939 1932 1939	15.7 4.1 94.0 87.6 61.5 33.1	134.5 33.3 176.2 324.4 157.9 193.2	27.1 8.7 90.8 162.4 78.9 23.4	-118.8 -29.2 -82.2 -236.8 -96.4 -160.1	-11.4 -4.6 3.2 -74.8 -17.4 9.7	38% 30% 22% 6% 29% 10%	0.8 0.0 27.0 4.1 0.9 0.0	MAY1962 JUN2009 MAY2001 JUN2000 DEC1976 MAY2009	3710 1420 12300 40800 11100 4100	JUL1960 SEP1988 MAR1960 SEP1933 SEP1960 SEP1947
SOUTHERN COUNTIES											
Josephine Cr near DeSoto City	1946	25.4	141.9	23.5	-116.5	1.9	14%	0.5	MAY1956	1680	SEP1948
Manatee River near Myakka Head	1966	8.6	46.8	19.0	-38.2	-10.4	4%	0.1	MAY1975	6440	JUN2003
Myakka River near Sarasota	1936	91.1	355.9	145.3	-264.8	-54.2	13%	0.0	MAY2009	10800	JUN2003
Peace River at Arcadia	1931	233.3	1694.8	317.2	-1461.5	-83.9	8%	5.6	MAY2000	34700	SEP1933

# HYDROGRAPHS OF MAJOR STREAMS JANUARY 2006 TO OCTOBER 2010

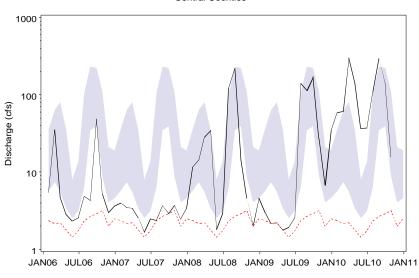




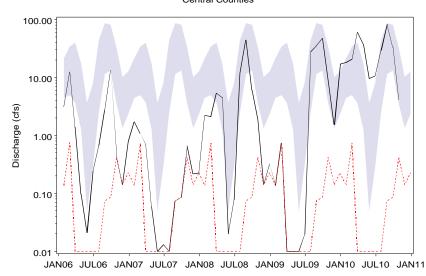
#### Withlacoochee R near Holder Northern Counties



Anclote River near Elfers Central Counties



#### Pithlachascottee R near New Port Richey Central Counties

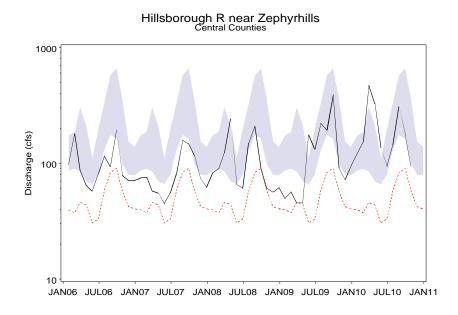


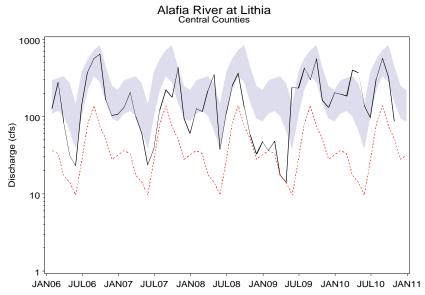
Monthly Mean Discharge

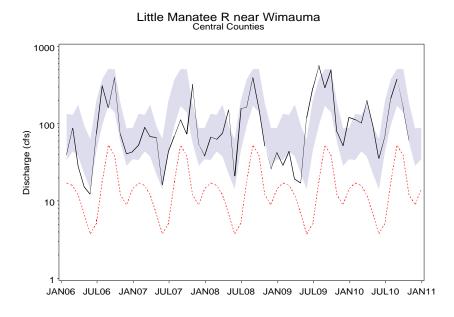
POR Monthly Low

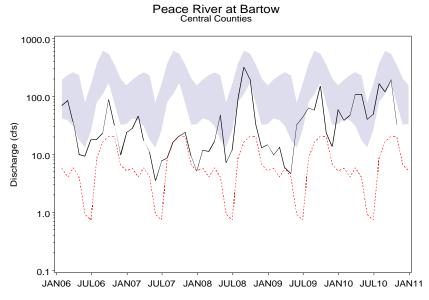
Normal Range

# HYDROGRAPHS OF MAJOR STREAMS JANUARY 2006 TO OCTOBER 2010



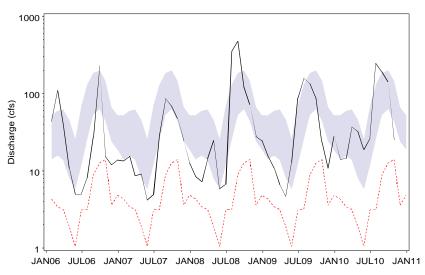




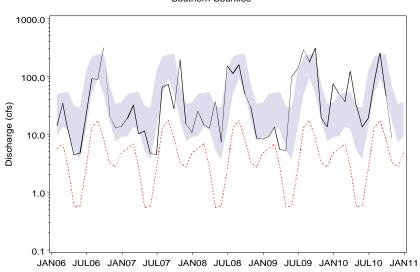


# HYDROGRAPHS OF MAJOR STREAMS JANUARY 2006 TO OCTOBER 2010

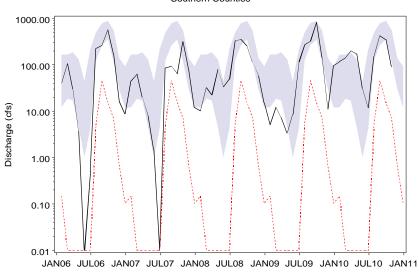
Josephine Cr near DeSoto City Southern Counties



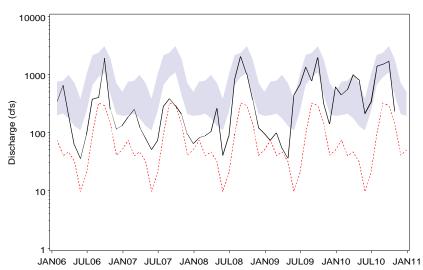
Manatee River near Myakka Head Southern Counties



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 seven 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). Crystal and 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 that indicates the percent of period-of-record values that are above, equal to or below the median (50th percentile) for the current month. The values reported are provisional, and are subject to revision at the end of the water year. Revised USGS springflow data are loaded into the District's WMDB when they become available.

Hydrographs are produced for the seven-springflow stations, and current values are compared to respective 25<sup>th</sup> and 75<sup>th</sup> percentiles that are calculated from historical data. The 25<sup>th</sup> and 75<sup>th</sup> percentiles are calculated using the SAS<sup>TM</sup> software system for data analysis using period-of-record monthly theoretical means for each springflow station analyzed.

In October, all seven stations reported decreased springflow, compared to the previous month. Total springflow decreased in the northern and central regions of the District by 71.8 cfs (46.4 mgd) and 28.4 cfs (18.4 mgd), respectively. District-wide, springflow decreased by 100.2 cfs (64.8 mgd).

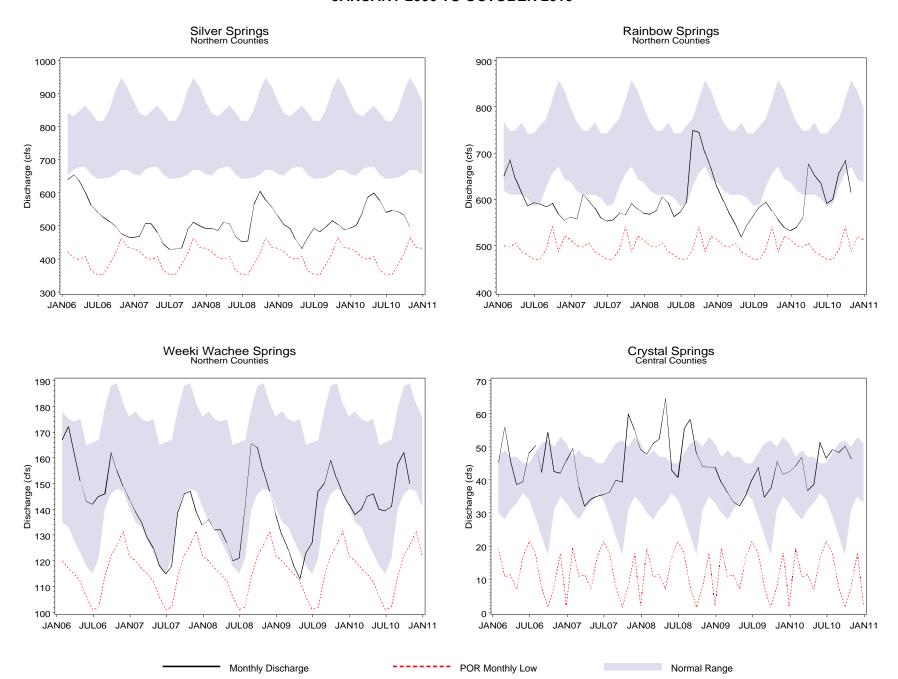
Total springflow recorded in four of the seven stations was lower in October 2010 than October 2009. Total springflow for the northern region was higher by 83.5 cfs (53.9 mgd), while it was lower in the central region by 6.8 cfs (4.4 mgd). District-wide, springflow increased by 76.7 cfs (49.5 mgd), compared to October 2009 rates.

Compared to historical period-of-record values for October, total springflow measured in Rainbow, Silver and Weeki Wachee Springs, in the northern region, was in the 23<sup>rd</sup>, 4<sup>th</sup> and 40<sup>th</sup> percentiles of respective historical readings. Springflow measured in Crystal, Sulphur, Buckhorn and Lithia Springs in the central region was in the 66<sup>th</sup>, 6<sup>th</sup>, 13<sup>th</sup> and 53<sup>rd</sup> percentiles, respectively, of historical October readings.

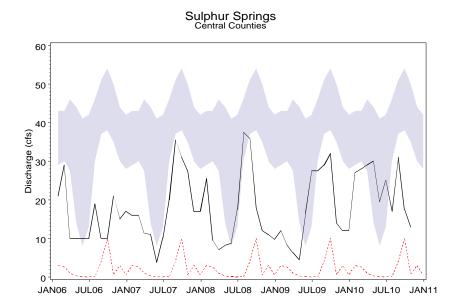
# SUMMARY OF SPRINGS DISCHARGE FROM MAJOR SPRINGS (CFS), OCTOBER 2010

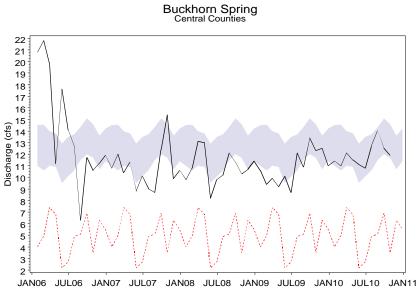
NORTHERN COUNTIES	OCT 2010 Discharge	SEP 2010 Discharge	OCT 2009 Discharge	Change From SEP 2010	Change From OCT 2009	OCT 2010 Percentile Rank	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Rainbow Springs	646.7	685.2	565.4	-38.5	81.3	23%	470.0	JUN2001	1230.0	OCT1964
Silver Springs	513.3	540.3	510.7	-27.0	2.6	4%	352.5	JUN2001	1290.0	OCT1960
Weeki Wachee Springs	155.6	161.9	156.0	-6.3	-0.4	40%	101.0	JUN1994	257.0	OCT2004
CENTRAL COUNTIES										
Crystal Springs	46.4	50.2	45.6	-3.8	0.8	66%	1.5	SEP1988	141.5	DEC2002
Sulphur Springs	14.1	29.6	18.7	-15.5	-4.6	6%	0.0	JUN1994	145.0	MAR1960
Buckhorn Springs	10.9	12.8	12.1	-1.9	-1.2	13%	2.2	MAY2006	32.7	AUG2004
Lithia Springs	46.8	54.0	48.6	-7.2	-1.8	53%	6.1	JUN1985	91.5	NOV2004

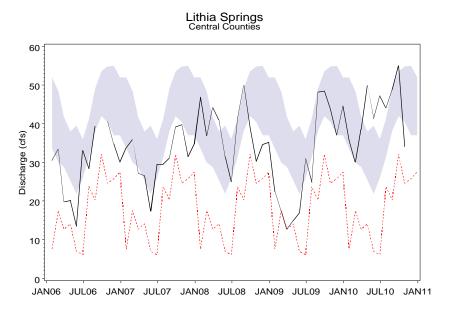
# HYDROGRAPHS OF REGIONAL SPRINGS JANUARY 2006 TO OCTOBER 2010



# HYDROGRAPHS OF REGIONAL SPRINGS JANUARY 2006 TO OCTOBER 2010







#### **GROUND WATER**

The ground-water section of this report has been revised and now provides ground-water level information within the District based on geographically delineated areas (regions) within the District, and no longer uses regional delineations based on hydrogeologic characteristics. The purpose for using geographical boundaries (only) has been to eliminate past confusion that resulted when regional ground-water data pertaining to the surficial aquifer and Intermediate/Floridan aquifer were reported based on hydrogeologic boundaries, while the Aquifer Resource Index section reported ground-water data based on geographic boundaries. This change should provide consistency in the review and reporting of all ground-water information.

For this report, the District has been divided into three geographical regions that are defined by county boundaries (see index maps in the Appendix). 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, where the Floridan aquifer is generally unconfined and at or near land surface, allowing rainfall to easily recharge (replenish) the aquifer system. The central region includes the counties of Hillsborough, Pasco, Pinellas and Polk, where the Floridan aquifer can be unconfined, semi-confined or confined (overlain by thick clays). Where the Floridan aquifer is confined, recharge to the aquifer from rainfall is low. The southern region includes the counties of Charlotte, DeSoto, Hardee, Highlands, Manatee and Sarasota, where the Floridan aquifer is confined.

Twelve surficial aquifer (shallow, non-artesian) and 51 intermediate and Floridan aquifer (deep) monitor wells are measured for this report to determine the relative health of ground-water levels District-wide. Only monitor wells with an adequate and reliable period-of-record water level measurements were selected for the network. For each well, the 25<sup>th</sup> and 75<sup>th</sup> percentiles ("low normal" and "high normal," respectively) were calculated for each week of the year using the period-of-record data. The 25<sup>th</sup> and 75<sup>th</sup> 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 intermediate and Floridan aquifer wells are shown in hydrographs to compare current water levels to the low normal and high normal levels.

Data from these wells are further compiled into regional statistics for the three regions of the District. Wells in the northern counties are unconfined and non-artesian, while those in the southern counties are confined and artesian. Wells included in the central counties vary between confined and unconfined conditions due to the transitional nature of geology in this area. The potentiometric levels of representative Floridan aquifer wells are used to produce the potentiometric surface maps presented in this report.

# **Surficial Aquifer**

During October, eleven of the twelve surficial aquifer wells recorded water level decreases compared to last month, while data were unavailable for the Tarpon Road Shallow well in the central region. Regionally, average surficial aquifer water levels decreased in the northern, central and southern regions of the District by 1.28 feet, 0.91 foot and 1.47 feet, respectively. District-wide, average surficial aquifer water levels decreased by 1.13 feet.

In October, average water levels in seven of the twelve surficial aquifer wells were higher than October 2009 levels. Average surficial aquifer water levels were lower in the northern region by 1.15 feet, while levels were higher in the central and southern regions by 0.66 and 0.16 foot, respectively. District-wide, average water levels in surficial wells were 0.20 foot higher than October 2009 levels.

At the end of October, water levels were in the normal range in seven of the twelve surficial wells. Average surficial aquifer water levels in the northern region were 0.71 foot below the bottom of the normal range, while in the central and southern regions they were above the bottom of the normal range by 0.83 and 0.61 foot, respectively. District-wide, the average water level in surficial wells was 0.49 foot above the bottom of the normal range.

Note: The Tarpon Road Shallow monitor well located in the central region was destroyed (plugged on 7/20/2010) as a result of road construction activities. A replacement well is proposed at that location after road construction activities are completed.

# SUMMARY OF SURFICIAL AQUIFER LEVELS IN REPRESENTATIVE WELLS, OCTOBER 2010

NORTHERN COUNTIES	OCT 2010 Elev	SEP 2010 Elev	OCT 2009 Elev	Change From SEP 2010	Change From OCT 2009	OCT Historical Low Normal	OCT Historical High Normal	Departure From Low Normal	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Green Swamp	88.27	90.50	90.67	-2.23	-2.40	89.75	91.22	-1.48	82.95	MAY2000	93.07	SEP1985
Lecanto 2	7.71	8.03	7.60	-0.32	0.11	7.64	10.10	0.07	5.76	MAY2001	13.92	SEP1974
CENTRAL COUNTIES												
Loughman	91.72	92.17	92.52	-0.45	-0.80	91.56	92.78	0.16	88.19	AUG2000	95.79	SEP2004
Lutz-Lake Fern	56.95	58.03	55.34	-1.08	1.61	56.66	57.51	0.29	52.64	NOV2009	67.92	MAY1966
ROMP 50 Shallow	39.24	41.62	41.21	-2.38	-1.97	41.32	41.83	-2.08	38.01	OCT2010	44.05	SEP2001
SR 33 & Combee Road	132.60	133.84	131.59	-1.24	1.01	133.29	134.73	-0.69	129.16	FEB2001	136.97	OCT1995
SR 577 Shallow	125.27	125.03	122.78	0.24	2.48	121.03	124.52	4.24	110.18	FEB1991	129.02	AUG2003
Tarpon Road Shallow	M	M	11.43	M	M	11.41	13.62	M	9.31	JUN1978	16.30	OCT2006
USGS P-48	101.79	102.36	100.16	-0.57	1.63	98.73	100.58	3.06	67.61	JUN1963	104.79	SEP2004
SOUTHERN COUNTIES												
Edgeville 4 Shallow	66.50	68.25	66.16	-1.75	0.34	66.99	68.11	-0.49	63.85	MAY1975	69.93	SEP1971
ROMP 26 Shallow	70.56	71.98	69.84	-1.42	0.72	68.97	71.11	1.59	64.32	JUN1999	75.11	JUN1982
SR 74	15.92	17.17	16.49	-1.25	-0.57	15.18	15.94	0.74	12.66	MAY2000	18.32	JUL2001

# **Intermediate and Floridan Aquifers**

In October, 50 of the 51 intermediate and Floridan aquifer wells monitored for this report recorded water level decreases. Regionally, average water levels decreased in the northern, central and southern regions of the District by 0.82 foot, 1.94 feet and 5.92 feet, respectively. District-wide, the mean water level in the intermediate and Floridan aquifer wells decreased 3.11 feet.

During October, water levels in 39 of the 51 intermediate and Floridan aquifer wells were lower than those measured in October 2009. Regionally, the mean water level in the northern and southern regions was 0.07 foot and 2.40 feet, respectively, lower than October 2009 levels. In the central region, water levels were 0.13 foot higher than last year's levels. District-wide, average water levels in intermediate and Floridan aquifer wells were 0.87 foot lower than last year.

For October, 37 of the 51 intermediate and Floridan aquifer wells had levels belownormal, compared to historical monthly levels. Regionally, the average water level in the northern and southern regions was 0.67 foot and 4.26 feet, respectively, below the bottom of the normal range. The average water level in the central region was 1.23 feet above the bottom of the normal range. District-wide, the average water level in intermediate and Floridan aquifer wells was 1.34 feet below the bottom of the normal range.

## SUMMARY OF INTERMEDIATE AND FLORIDAN AQUIFER LEVELS IN REPRESENTATIVE WELLS, OCTOBER 2010

## **Regional Summary:**

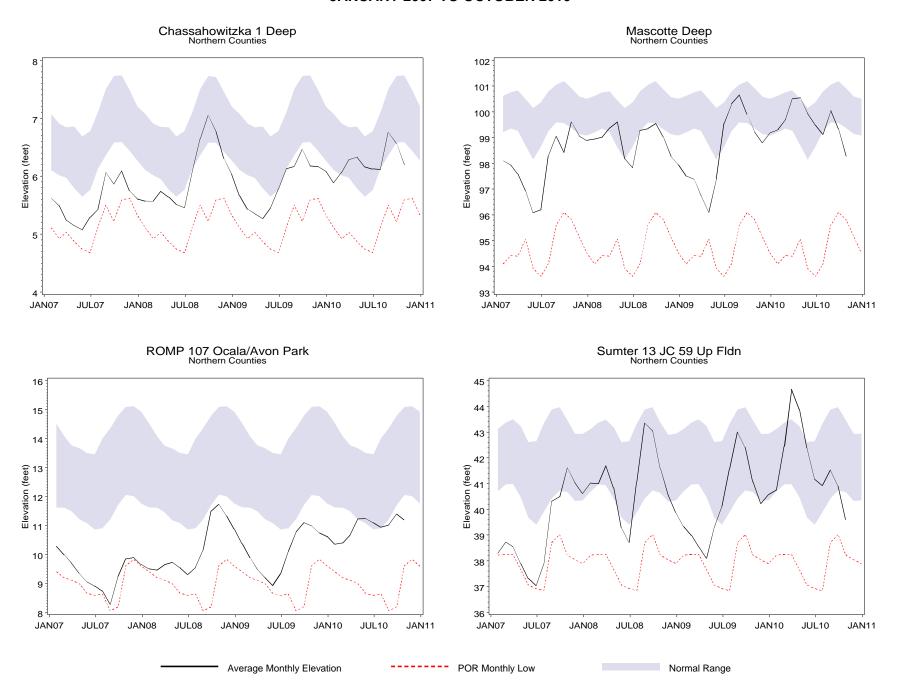
Region	OCT 2010 Mean Elevation	OCT 2010 Relation to POR Median	OCT 2010 Relation to 25th Percentile	OCT 2010 Mean Percentile Rank	SEP 2010 Mean Percentile Rank	OCT 2009 Mean Percentile Rank
Northern Counties	36.72	-1.87	-0.37	21%	36%	25%
Central Counties	55.50	-1.59	0.88	32%	50%	37%
Southern Counties	29.33	-4.68	-2.16	10%	34%	20%

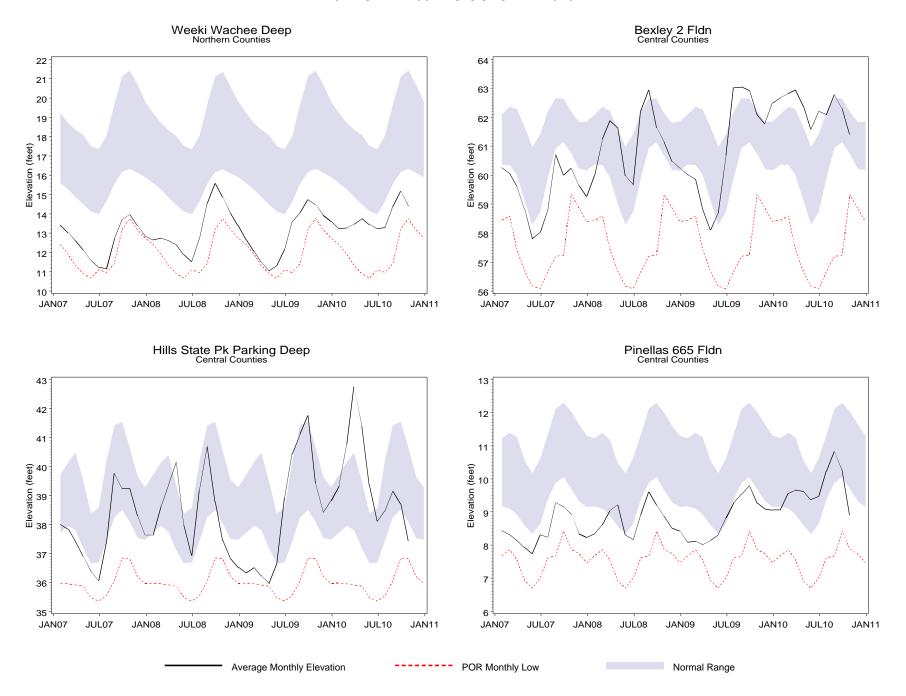
## **Regional Wells Summary:**

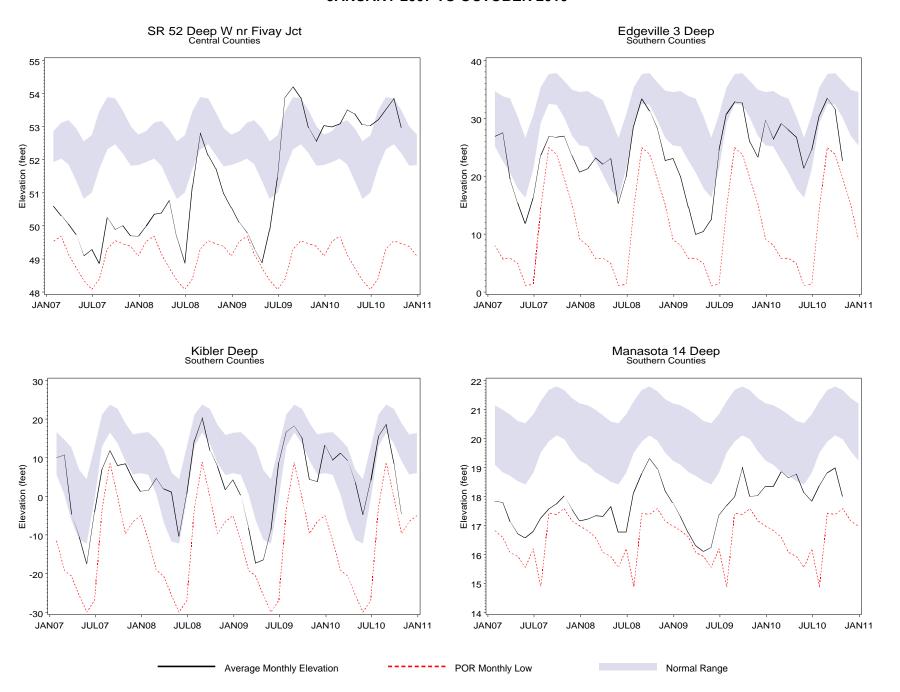
NORTHERN COUNTIES	OCT 2010 Elev	SEP 2010 Elev	OCT 2009 Elev	Change From SEP 2010	Change From OCT 2009	OCT Historical Low Normal	OCT Historical High Normal	Departure From Low Normal	OCT 2010 Percentile Rank	Period of Record Low	Record Low Date	Period of Record High	Record High Date
CE 14 Dunnellon Deep	38.90	39.99	36.91	-1.09	1.99	39.44	44.57	-0.54	22%	34.14	JUN2001	50.90	MAR1998
Chassahowitzka 1 Deep	6.15	6.53	6.21	-0.38	-0.06	6.58	7.72	-0.43	11%	4.68	JUN2001	9.75	SEP2004
Inverness Dot Fldn	27.68	28.12	26.87	-0.44	0.81	28.70	32.95	-1.02	19%	21.63	JUN2001	37.80	OCT1982
Mascotte Deep	98.19	99.37	99.19	-1.18	-1.00	99.33	100.88	-1.14	7%	93.61	JUN2000	102.66	SEP1988
ROMP 103 Suwannee/Ocala	38.36	38.98	38.82	-0.62	-0.46	39.19	45.03	-0.83	17%	33.75	MAY2009	51.03	OCT2004
ROMP 107 Ocala/Avon Park	11.18	11.40	11.03	-0.22	0.15	12.08	15.10	-0.90	15%	8.05	AUG2007	19.78	NOV1982
ROMP 134 Ocala/Avon Park	44.70	44.99	43.67	-0.29	1.03	45.44	51.01	-0.74	24%	38.71	JUL2002	57.37	APR1998
ROMP 89 Ocala	89.70	92.01	90.82	-2.31	-1.12	89.98	92.14	-0.28	21%	82.42	JUN2000	94.99	DEC1997
ROMP 97 Avon Park	16.63	17.24	17.10	-0.61	-0.47	16.73	22.72	-0.10	23%	11.84	MAY2009	26.24	SEP2004
ROMP Tr 124 Avon Park	3.08	3.77	3.10	-0.69	-0.02	2.70	3.35	0.38	56%	0.77	SEP2004	6.11	AUG1985
ROMP Tr 21-2 Ocala/Avon Pk	1.96	2.30	2.07	-0.34	-0.11	1.66	2.28	0.30	51%	0.03	FEB2001	4.56	NOV1987
Sumter 13 JC 59 Up Fldn	39.52	40.79	41.01	-1.27	-1.49	40.65	43.39	-1.13	10%	36.84	JUL2007	47.01	JUN2003
Webster City Fldn	79.48	80.66	79.55	-1.18	-0.07	80.47	85.50	-0.99	13%	74.48	JUL1981	88.77	SEP2005
Weeki Wachee Deep	14.36	15.22	14.50	-0.86	-0.14	16.32	21.39	-1.96	6%	10.67	MAY2009	23.91	AUG1984

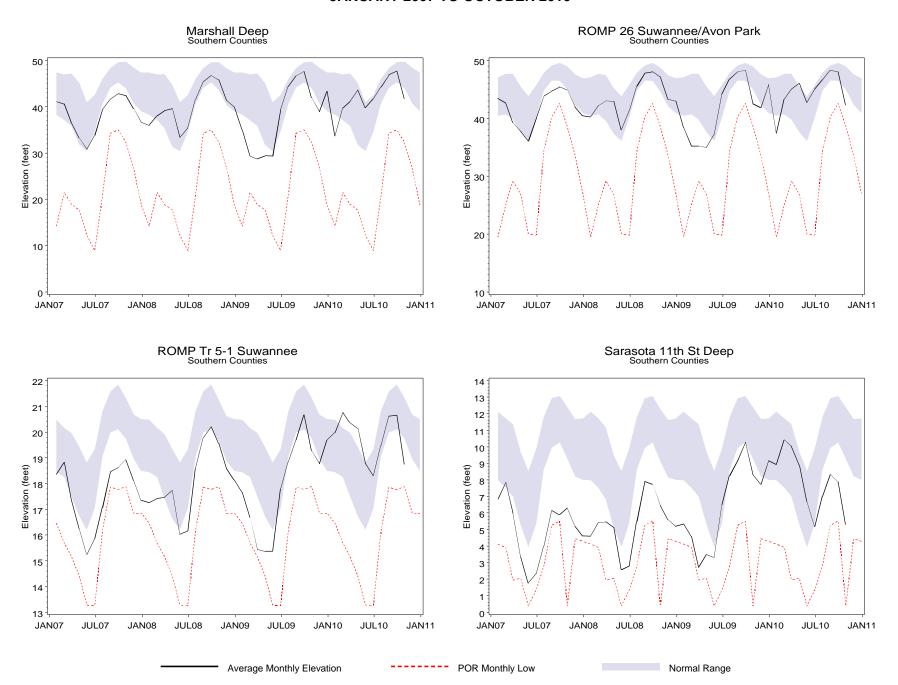
## Regional Wells Summary (continued):

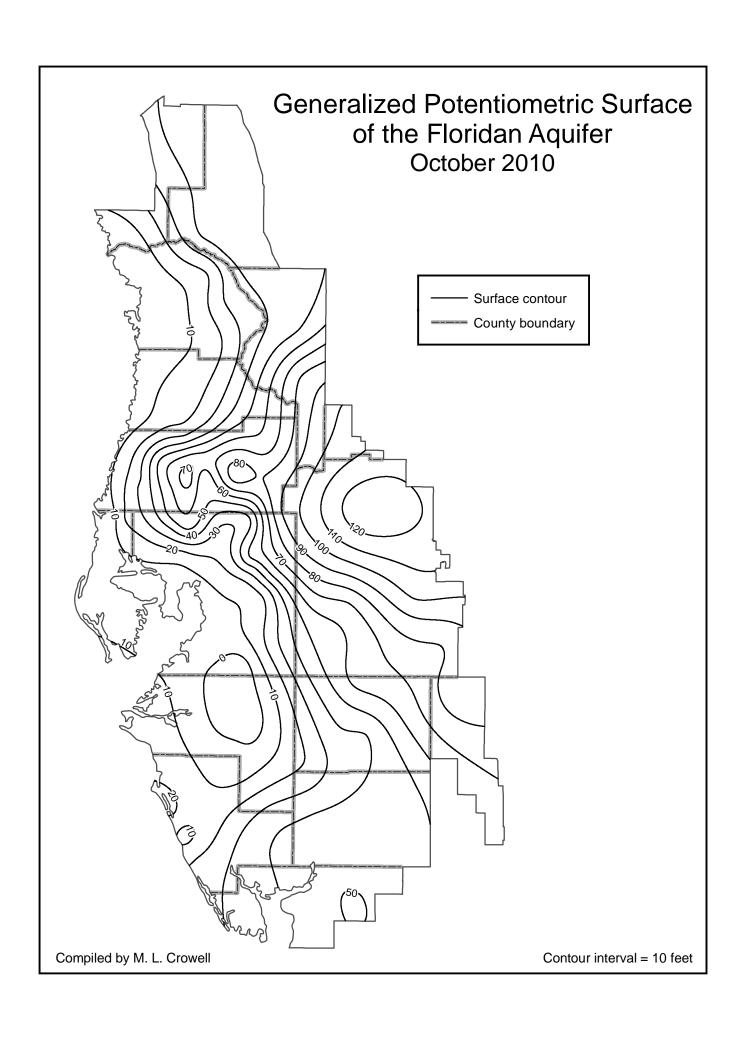
regional front communication	., (	,		Chango	Chango	OCT	OCT	Donortura	OCT				
	OCT	SED	OCT	Change	Change			Departure		Dariad of	Pagard	Dariad of	Dogord
	OCT	SEP	OCT	From	From	Historical	Historical	From	2010	Period of	Record	Period of	Record
OENTDAL COUNTIES	2010	2010	2009	SEP	OCT	Low	High	Low	Percentile	Record	Low	Record	High
CENTRAL COUNTIES	Elev	Elev	Elev	2010	2009	Normal	Normal	Normal	Rank	Low	Date	High	Date
Boylov 2 Elde	64.00	64.00	60.04	0.60	0.75	60.67	60.40	0.60	460/	EC 00	II INIOOOO	64.07	SEP1988
Bexley 2 Fldn	61.29	61.98	62.04	-0.69	-0.75	60.67	62.13	0.62	46%	56.08	JUN2000	64.07	
Hills State Pk Parking Deep	37.35	38.54	39.31	-1.19	-1.96	38.01	40.51	-0.66	7%	35.35	JUN2000	47.42	DEC1997
Lk Alfred Deep nr Lake Alfre	126.27	127.40	125.95	-1.13	0.32	126.76	128.82	-0.49	18%	120.14	MAY1981	131.62	OCT1960
Lykes Pasco Fldn	65.82	66.99	64.65	-1.17	1.17	64.42	69.05	1.40	44%	56.94	JUN2000	75.78	OCT2004
Masaryktown Deep	26.78	26.43	27.02	0.35	-0.24	31.15	43.52	-4.37	9%	21.89	AUG1994	50.32	SEP1984
Moon Lake Deep	30.79	31.51	30.04	-0.72	0.75	30.01	31.52	0.78	54%	26.10	JUN2000	34.38	MAR1998
Pasco Well 13 nr Drexel Fldn	72.16	72.77	71.13	-0.61	1.03	72.54	74.08	-0.38	18%	68.00	JUN2001	77.14	JUL1960
Pinellas 665 Fldn	8.81	10.29	9.27	-1.48	-0.46	9.65	11.99	-0.84	9%	6.70	MAY2006	14.79	SEP1959
ROMP 45 Avon Park	69.44	77.21	69.71	-7.77	-0.27	61.13	72.70	8.31	53%	31.75	MAY1981	84.42	OCT2004
ROMP 50 Avon Park	3.49	7.23	6.13	-3.74	-2.64	4.24	9.17	-0.75	15%	-17.09	JAN2005	14.95	AUG1982
ROMP 59 Swnn/AvPk	73.10	78.02	70.62	-4.92	2.48	61.30	73.14	11.80	75%	33.33	MAY1981	85.92	OCT2004
ROMP 66 Tampa	17.55	18.67	18.77	-1.12	-1.22	17.38	19.94	0.17	28%	12.04	JUN1977	24.51	DEC1997
ROMP 87 Avon Park	102.04	103.57	102.34	-1.53	-0.30	101.98	103.59	0.06	26%	94.90	JUN2000	106.30	FEB1998
ROMP 93 Swnn/AvPk	68.85	69.81	66.29	-0.96	2.56	67.35	73.64	1.50	36%	59.02	JUN2001	76.60	SEP1982
SR 52 Deep W nr Fivay Jct	52.79	53.56	52.90	-0.77	-0.11	52.13	53.42	0.66	49%	48.08	JUN2000	56.75	SEP1988
SR 577 Deep	84.95	87.13	82.89	-2.18	2.06	86.98	93.74	-2.03	16%	72.76	JUN2000	98.51	MAR1998
Sanlon Ranch Fldn	93.84	98.13	93.17	-4.29	0.67	87.21	95.88	6.63	60%	66.38	MAY1975	105.27	OCT2004
Tarpon Rd Deep	9.96	10.93	10.69	-0.97	-0.73	10.20	11.16	-0.24	16%	6.95	MAY2007	13.06	SEP1971
. apota 2 oop	0.00		. 0.00	0.0.	00			0	. 3 / 3	0.00			0
				Change	Change	OCT	OCT	Departure					
	OCT	SEP	OCT	From	From		OCT Historical	Departure From	OCT 2010	Period of	Record	Period of	Record
	OCT 2010	SEP 2010	OCT 2009					,		Period of Record	Record Low	Period of Record	Record High
SOUTHERN COUNTIES				From	From	Historical	Historical	From	2010				
	2010 Elev	2010 Elev	2009 Elev	From SEP 2010	From OCT 2009	Historical Low Normal	Historical High Normal	From Low Normal	2010 Percentile Rank	Record Low	Low Date	Record High	High Date
Big Slough Deep	2010 Elev 33.43	2010 Elev 34.69	2009 Elev 34.01	From SEP 2010	From OCT 2009 -0.58	Historical Low Normal	Historical High Normal 34.49	From Low Normal	2010 Percentile Rank 28%	Record Low 26.82	Low Date MAY2006	Record High 36.12	High Date OCT1995
Big Slough Deep Edgeville 3 Deep	2010 Elev 33.43 21.29	2010 Elev 34.69 30.89	2009 Elev 34.01 25.61	From SEP 2010 -1.26 -9.60	From OCT 2009 -0.58 -4.32	Historical Low Normal 33.38 29.74	Historical High Normal 34.49 36.23	From Low Normal 0.05 -8.45	2010 Percentile Rank 28% 1%	26.82 1.13	Low Date MAY2006 MAY2000	Record High 36.12 46.40	High Date OCT1995 OCT1965
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep	2010 Elev 33.43 21.29 5.77	2010 Elev 34.69	2009 Elev 34.01 25.61 6.22	From SEP 2010	From OCT 2009 -0.58	Historical Low Normal	Historical High Normal 34.49 36.23 7.07	From Low Normal	2010 Percentile Rank 28%	26.82 1.13 -0.97	Low Date MAY2006	Record High 36.12	High Date OCT1995 OCT1965 SEP1974
Big Slough Deep Edgeville 3 Deep	2010 Elev 33.43 21.29 5.77 0.82	2010 Elev 34.69 30.89 7.74 9.10	2009 Elev 34.01 25.61 6.22 4.90	From SEP 2010 -1.26 -9.60	-0.58 -4.32 -0.45 -4.08	Historical Low Normal 33.38 29.74 4.26 11.49	Historical High Normal 34.49 36.23 7.07 19.78	7.51 -10.67	2010 Percentile Rank 28% 1% 59% 1%	26.82 1.13 -0.97 -18.63	MAY2006 MAY2000 FEB2001 MAY1976	36.12 46.40 11.37 25.89	High Date OCT1995 OCT1965 SEP1974 SEP1977
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep	33.43 21.29 5.77 0.82 -4.39	2010 Elev 34.69 30.89 7.74	2009 Elev 34.01 25.61 6.22	From SEP 2010 -1.26 -9.60 -1.97	-0.58 -4.32 -0.45 -4.08 -7.24	Historical Low Normal 33.38 29.74 4.26 11.49 8.62	Historical High Normal 34.49 36.23 7.07 19.78 18.53	7.00 Low Normal 0.05 -8.45 1.51 -10.67 -13.01	2010 Percentile Rank 28% 1% 59% 1% 1%	26.82 1.13 -0.97 -18.63 -29.95	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000	Record High 36.12 46.40 11.37 25.89 29.30	High Date OCT1995 OCT1965 SEP1974 SEP1977 AUG1978
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1	33.43 21.29 5.77 0.82 -4.39 17.92	2010 Elev 34.69 30.89 7.74 9.10	2009 Elev 34.01 25.61 6.22 4.90	From SEP 2010 -1.26 -9.60 -1.97 -8.28	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22	Historical Low Normal 33.38 29.74 4.26 11.49	Historical High Normal 34.49 36.23 7.07 19.78	7.51 -10.67	2010 Percentile Rank 28% 1% 59% 1%	26.82 1.13 -0.97 -18.63 -29.95 14.88	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004	36.12 46.40 11.37 25.89	High Date OCT1995 OCT1965 SEP1974 SEP1977
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep	33.43 21.29 5.77 0.82 -4.39	34.69 30.89 7.74 9.10 6.71	2009 Elev 34.01 25.61 6.22 4.90 2.85	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10	-0.58 -4.32 -0.45 -4.08 -7.24	Historical Low Normal 33.38 29.74 4.26 11.49 8.62	Historical High Normal 34.49 36.23 7.07 19.78 18.53	7.00 Low Normal 0.05 -8.45 1.51 -10.67 -13.01	2010 Percentile Rank 28% 1% 59% 1% 1%	26.82 1.13 -0.97 -18.63 -29.95	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000	Record High 36.12 46.40 11.37 25.89 29.30	High Date OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75	34.69 30.89 7.74 9.10 6.71 18.98	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71	0.05 -8.45 1.51 -10.67 -13.01 -2.02	2010 Percentile Rank  28% 1% 59% 1% 1% 2% 11% 6%	26.82 1.13 -0.97 -18.63 -29.95 14.88	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001	36.12 46.40 11.37 25.89 29.30 22.70	High Date OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep	33.43 21.29 5.77 0.82 -4.39 17.92 40.85	34.69 30.89 7.74 9.10 6.71 18.98 47.71	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65	0.05 -8.45 1.51 -10.67 -13.01 -2.02 -2.79	2010 Percentile Rank 28% 1% 59% 1% 1% 2% 11%	26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24	High Date OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71	0.05 -8.45 1.51 -10.67 -13.01 -2.02 -2.79 -1.74	2010 Percentile Rank  28% 1% 59% 1% 1% 2% 11% 6%	26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21	High Date OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16 -0.58 -0.56	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80	0.05 -8.45 1.51 -10.67 -13.01 -2.02 -2.79 -1.74 -3.31	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 6% 11%	26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001 JAN2010	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28	High Date OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk ROMP 28X Swnn/AvPk	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26	-1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16 -0.58	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22	0.05 -8.45 1.51 -10.67 -13.01 -2.02 -2.79 -1.74 -3.31 -1.37	2010 Percentile Rank  28% 1% 59% 1% 1% 2% 11% 6% 6%	26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001 JAN2010 JAN2010	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68	High Date OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1995
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70 44.72 39.82	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13 53.91	34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26 47.02	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43 -9.19	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16 -0.58 -0.56 -2.30 -2.09	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07 46.16	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22 53.93	0.05 -8.45 1.51 -10.67 -13.01 -2.02 -2.79 -1.74 -3.31 -1.37 -1.44	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 11% 6% 6% 12% 17%	26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24 -0.20 -8.20	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001 JAN2010 JAN2010 JUN2000 JUN2000 JUN2000	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68 60.52	High Date  OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1995 MAR1998
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk ROMP 28X Swnn/AvPk ROMP 30 Swnn/AvPk	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70 44.72 39.82 18.95	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13 53.91 49.36 31.16	34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26 47.02 41.91 23.07	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43 -9.19 -9.54 -12.21	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.16 -0.58 -0.56 -2.30 -2.09 -4.12	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07 46.16 41.17 27.41	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22 53.93 50.15	7.50 1.51 1.51 1.51 1.67 1.3.01 -2.02 -2.79 -1.74 -3.31 -1.37 -1.44 -1.35	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 11% 6% 61% 12% 17% 18% 2%	26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24 -0.20 -8.20 -17.54	MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001 JAN2010 JAN2010 JUN2000 JUN2000 JUN2000 JUN2000	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68 60.52 57.92 44.72	High Date  OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1995 MAR1998 MAR1998
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk ROMP 28X Swnn/AvPk ROMP 30 Swnn/AvPk ROMP 31 Swnn/AvPk ROMP 32 L Ocala/Avon Park ROMP 43XX Avon Park	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70 44.72 39.82 18.95 84.46	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13 53.91 49.36 31.16 87.37	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26 47.02 41.91 23.07 85.52	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43 -9.19 -9.54 -12.21 -2.91	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16 -0.58 -0.56 -2.30 -2.09 -4.12 -1.06	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07 46.16 41.17 27.41 86.18	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22 53.93 50.15 35.43 90.88	7.00 1.00 1.51 1.51 1.0.67 1.3.01 1.2.02 1.74 1.331 1.37 1.44 1.35 1.44 1.35 1.44 1.35	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 11% 6% 61% 12% 17% 18% 2% 14%	Record Low  26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24 -0.20 -8.20 -17.54 70.93	Low Date  MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2010 JAN2010 JUN2000 JUN2000 JUN2000 JUN2000 JAN2010	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68 60.52 57.92 44.72 94.60	High Date  OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1979 OCT1995 MAR1998 MAR1998 FEB1998 MAR1998
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk ROMP 28X Swnn/AvPk ROMP 30 Swnn/AvPk ROMP 31 Swnn/AvPk ROMP 32 L Ocala/Avon Park ROMP 43XX Avon Park ROMP Tr 5-1 Suwannee	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70 44.72 39.82 18.95 84.46 18.56	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13 53.91 49.36 31.16 87.37 20.51	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26 47.02 41.91 23.07 85.52 19.19	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43 -9.19 -9.54 -12.21 -2.91 -1.95	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.16 -0.58 -0.56 -2.30 -2.09 -4.12 -1.06 -0.63	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07 46.16 41.17 27.41 86.18 19.67	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22 53.93 50.15 35.43 90.88 21.24	7.50 1.50 1.51 1.51 1.0.67 1.3.01 -2.02 -2.79 -1.74 -3.31 -1.37 -1.44 -1.35 -8.46 -1.72 -1.11	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 11% 6% 612% 17% 18% 2% 14% 5%	Record Low  26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24 -0.20 -8.20 -17.54 70.93 13.26	Low Date  MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2010 JAN2010 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68 60.52 57.92 44.72 94.60 23.00	High Date  OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1979 OCT1995 MAR1998 MAR1998 FEB1998 MAR1998 SEP1983
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk ROMP 28X Swnn/AvPk ROMP 30 Swnn/AvPk ROMP 31 Swnn/AvPk ROMP 32 L Ocala/Avon Park ROMP 43XX Avon Park ROMP Tr 5-1 Suwannee ROMP Tr 7-1 Tampa	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70 44.72 39.82 18.95 84.46 18.56 16.22	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13 53.91 49.36 31.16 87.37 20.51 19.63	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26 47.02 41.91 23.07 85.52 19.19 18.94	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43 -9.19 -9.54 -12.21 -2.91 -1.95 -3.41	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16 -0.58 -0.56 -2.30 -2.09 -4.12 -1.06 -0.63 -2.72	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07 46.16 41.17 27.41 86.18 19.67 17.95	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22 53.93 50.15 35.43 90.88 21.24 20.17	7.75 7.75	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 11% 6% 612% 17% 18% 2% 14% 5% 3%	Record Low  26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24 -0.20 -8.20 -17.54 70.93 13.26 10.08	Low Date  MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001 JAN2010 JUN2000	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68 60.52 57.92 44.72 94.60 23.00 23.56	High Date  OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1979 OCT1995 MAR1998 MAR1998 FEB1998 MAR1998 SEP1983 SEP2003
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk ROMP 28X Swnn/AvPk ROMP 30 Swnn/AvPk ROMP 31 Swnn/AvPk ROMP 32 L Ocala/Avon Park ROMP 43XX Avon Park ROMP Tr 5-1 Suwannee ROMP Tr 7-1 Tampa Sarasota 11th St Deep	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70 44.72 39.82 18.95 84.46 18.56 16.22 5.32	2010 Elev 34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13 53.91 49.36 31.16 87.37 20.51 19.63 8.91	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26 47.02 41.91 23.07 85.52 19.19 18.94 8.88	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43 -9.19 -9.54 -12.21 -2.91 -1.95 -3.41 -3.59	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16 -0.58 -0.56 -2.30 -2.09 -4.12 -1.06 -0.63 -2.72 -3.56	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07 46.16 41.17 27.41 86.18 19.67 17.95 9.14	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22 53.93 50.15 35.43 90.88 21.24 20.17 12.29	7.72 -1.11 -1.73 -3.82	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 11% 6% 612% 17% 18% 2% 14% 5% 3% 1%	Record Low  26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24 -0.20 -8.20 -17.54 70.93 13.26 10.08 0.39	Low Date  MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2010 JAN2010 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 JUN2000 MAY2000 MAY2000	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68 60.52 57.92 44.72 94.60 23.00 23.56 30.76	High Date  OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1995 MAR1998 MAR1998 FEB1998 MAR1998 SEP1983 SEP2003 MAY2010
Big Slough Deep Edgeville 3 Deep Englewood 14 Deep Florida Cities Test 1 Kibler Deep Manasota 14 Deep Marshall Deep ROMP 16 Ocala ROMP 26 Swnn/AvPk ROMP 28X Swnn/AvPk ROMP 30 Swnn/AvPk ROMP 31 Swnn/AvPk ROMP 32 L Ocala/Avon Park ROMP 43XX Avon Park ROMP Tr 5-1 Suwannee ROMP Tr 7-1 Tampa	33.43 21.29 5.77 0.82 -4.39 17.92 40.85 45.75 41.40 66.70 44.72 39.82 18.95 84.46 18.56 16.22	34.69 30.89 7.74 9.10 6.71 18.98 47.71 48.92 48.03 69.13 53.91 49.36 31.16 87.37 20.51 19.63	2009 Elev 34.01 25.61 6.22 4.90 2.85 18.14 41.07 45.91 41.98 67.26 47.02 41.91 23.07 85.52 19.19 18.94	From SEP 2010 -1.26 -9.60 -1.97 -8.28 -11.10 -1.06 -6.86 -3.17 -6.63 -2.43 -9.19 -9.54 -12.21 -2.91 -1.95 -3.41	-0.58 -4.32 -0.45 -4.08 -7.24 -0.22 -0.22 -0.16 -0.58 -0.56 -2.30 -2.09 -4.12 -1.06 -0.63 -2.72	Historical Low Normal 33.38 29.74 4.26 11.49 8.62 19.94 43.64 47.49 44.71 68.07 46.16 41.17 27.41 86.18 19.67 17.95	Historical High Normal 34.49 36.23 7.07 19.78 18.53 21.63 49.65 49.71 48.80 71.22 53.93 50.15 35.43 90.88 21.24 20.17	7.75 7.75	2010 Percentile Rank  28% 1% 59% 1% 1% 6% 11% 6% 612% 17% 18% 2% 14% 5% 3%	Record Low  26.82 1.13 -0.97 -18.63 -29.95 14.88 8.96 28.94 19.48 57.24 -0.20 -8.20 -17.54 70.93 13.26 10.08	Low Date  MAY2006 MAY2000 FEB2001 MAY1976 MAY2000 JUL2004 JUN2000 JAN2001 JAN2010 JUN2000	Record High  36.12 46.40 11.37 25.89 29.30 22.70 55.24 51.21 51.28 74.68 60.52 57.92 44.72 94.60 23.00 23.56	High Date  OCT1995 OCT1965 SEP1974 SEP1977 AUG1978 NOV1971 MAR1964 SEP1995 OCT1979 OCT1979 OCT1995 MAR1998 MAR1998 FEB1998 MAR1998 SEP1983 SEP2003

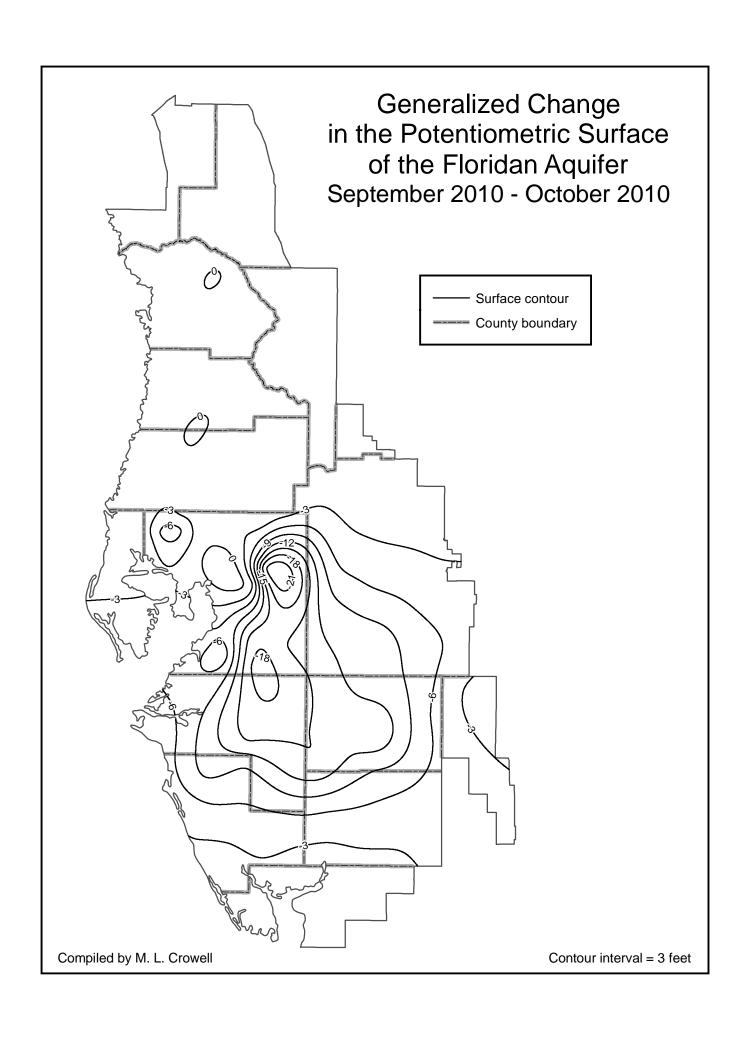


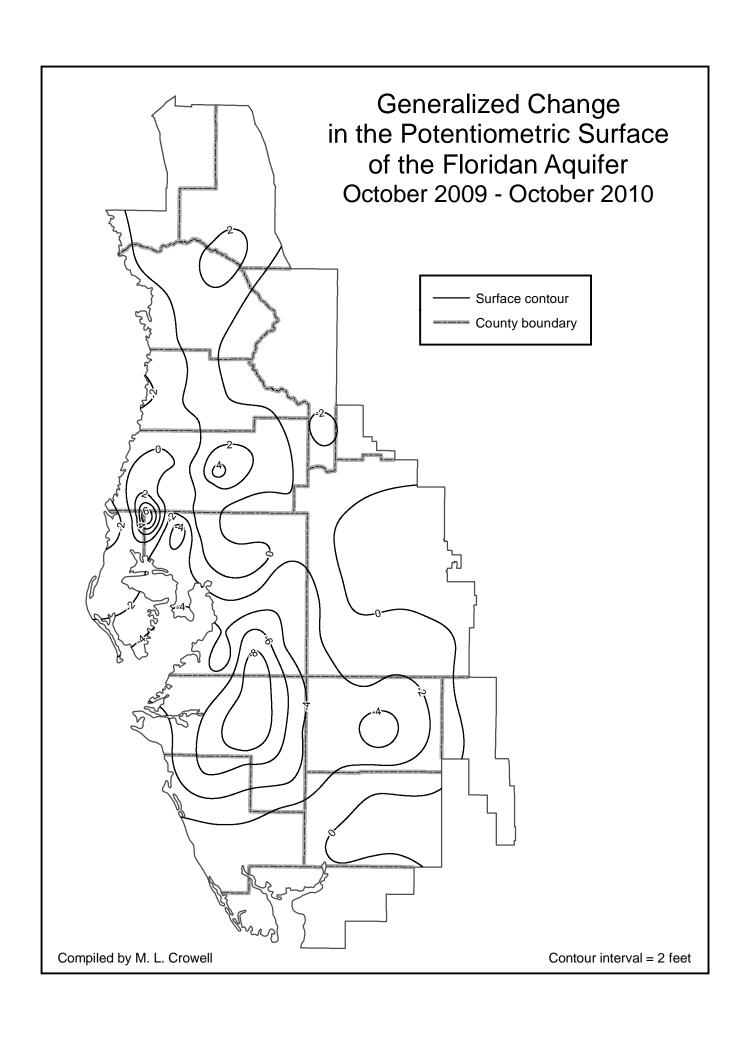












### **Public Supply Wellfields**

Water levels are measured in 21 monitor wells (9 surficial, 12 intermediate and Floridan aquifer wells) located at nine public supply wellfields in the District. Thirteen of the 21 monitor wells have water levels measured monthly, two biweekly, and six weekly. Monthly data are tabulated to compare recent water levels to historical means.

During October, average water levels decreased in seven of the twelve intermediate and Floridan wells and seven of the nine surficial wells. Average water levels measured in the intermediate and Floridan wells decreased 1.07 feet, while levels measured in surficial wells decreased 0.58 foot.

In October, average water levels in six of the twelve intermediate and Floridan wells and seven of the nine surficial wells were above those measured in October 2009. Water levels measured in the intermediate and Floridan wells averaged 0.57 foot above last year's levels, while surficial water levels averaged 2.11 feet above October 2009 levels.

At the end of October, average water levels in nine of the twelve intermediate and Floridan wells and all nine surficial wells were above the low normal level, compared to historical monthly levels. Water levels measured in the intermediate and Floridan wells averaged 5.91 feet above the base of the normal range, while levels in the surficial wells averaged 4.05 feet above the base of the normal range.

## SUMMARY OF GROUNDWATER LEVELS IN REPRESENTATIVE WELLFIELD WELLS, OCTOBER 2010

INT/FLORIDAN WELLS	OCT 2010 Elev	SEP 2010 Elev	OCT 2009 Elev	Change From SEP 2010	Change From OCT 2009	OCT Historical Low Normal	OCT Historical High Normal	Departure From Low Normal	Period of Record Low	Record Low Date	Period of Record High	Record High Date
Cosme-Odessa Cosme No. 3	29.15	30.88	27.18	-1.73	1.97	23.27	26.95	5.88	10.94	MAY2000	88.88	OCT1986
Cross Bar WRW	40.76	40.72	41.73	0.05	-0.96	41.72	55.08	-0.96	33.88	DEC1993	61.65	AUG1984
Cypress Crk TMR-1 Deep	60.05	59.64	57.17	0.42	2.88	53.79	60.78	6.26	36.93	FEB2001	70.87	JUN1976
Cypress Crk TMR-3 Deep	57.53	59.19	55.75	-1.65	1.79	52.24	57.15	5.29	34.22	FEB2001	68.74	JUL1976
Eldridge-Wilde 11 Deep	24.39	25.54	16.95	-1.15	7.44	11.72	16.98	12.67	0.31	SEP1990	25.54	SEP2010
Eldridge-Wilde 2S	22.94	22.67	20.01	0.28	2.94	8.97	17.11	13.97	-1.16	JUN2000	25.24	OCT1982
Morris Bridge 3A Deep	29.19	32.65	30.46	-3.47	-1.27	29.19	32.74	-0.00	17.91	MAY2009	36.99	DEC1997
Section 21 Hills 13 Deep	44.34	45.67	45.45	-1.33	-1.11	36.11	44.96	8.23	21.88	JUN2002	52.08	JUL1944
South Pasco 42	55.03	50.34	55.26	4.69	-0.24	42.30	48.21	12.73	27.98	MAY2002	56.79	SEP2003
South Pasco SR 54 Deep	56.07	52.82	56.41	3.25	-0.34	46.23	54.04	9.84	33.49	MAY2002	57.94	SEP2003
Starkey Regional	35.54	36.46	34.84	-0.92	0.70	31.88	34.49	3.66	24.97	JUN2000	37.55	SEP2004
Verna 08	2.17	13.45	9.13	-11.28	-6.96	8.84	21.94	-6.67	-24.32	MAY1989	43.27	APR1964
SURFICIAL WELLS												
Cosme-Odessa IC-6	37.13	38.94	37.64	-1.81	-0.51	36.80	38.31	0.33	31.91	JUL1973	42.72	SEP1988
Cross Bar SERW	60.36	61.04	59.12	-0.68	1.24	59.21	68.79	1.15	53.09	JUL1994	72.53	JUL1984
Cypress Crk TMR-1 Shallow	60.86	59.70	57.22	1.16	3.64	55.21	62.06	5.65	40.07	JUN2001	69.53	JUL1976
Cypress Crk TMR-3 Shallow	57.05	56.88	53.75	0.17	3.30	53.76	60.21	3.29	53.55	MAY1997	64.80	JUN2003
Eldridge-Wilde 11 Shallow	26.92	27.27	23.42	-0.35	3.50	17.35	22.92	9.57	10.77	JUN1994	29.34	SEP2004
Morris Bridge 3A Shallow	33.63	35.35	31.37	-1.72	2.25	32.37	34.42	1.26	24.02	MAY2009	39.20	DEC1997
Section 21 Hills 13 Shallow	51.14	52.08	47.22	-0.94	3.92	41.11	49.64	10.03	33.81	MAY2001	53.78	SEP1979
South Pasco SR 54 Shallow	58.88	59.18	58.93	-0.30	-0.05	57.37	58.83	1.51	54.43	OCT1980	60.49	SEP1998
Starkey 707	31.16	31.90	29.42	-0.74	1.74	27.45	30.42	3.71	22.70	JUN2000	33.85	MAR1998

### **Aquifer Resource Index**

The Aquifer Resource Index (ARI) was created to provide information to the media, residents, local governments and other interested parties about current ground-water conditions and how they compare to historical records. The underlying purpose of this index is to provide the public with a gauge of ground-water levels in their area, so they can develop an understanding of the severity and cycles of drought and recovery.

The ARI is derived by comparing current ground-water levels with historical levels for 51 intermediate and Floridan aquifer (deep) monitor wells located throughout the three geographic areas of the District. Monitor wells with an adequate and reliable period-of-record to calculate weekly percentiles were selected for the network.

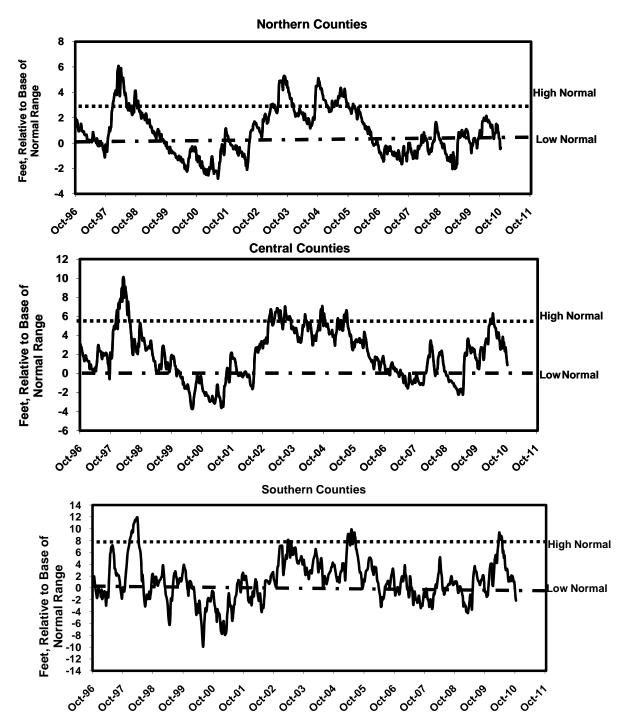
To determine the ARI value for a geographic area, each well is compared to its respective low-normal value weekly, and the difference is calculated. The weekly differences are used to determine the regional ARI value and the resulting ARI value represents how far water levels in the aquifer have to rise or fall to reach their respective low-normal value. The normal range for the northern region is approximately zero to three feet, zero to five-and-one-half feet for the central region and zero to eight feet for the southern region.

# Weekly Aquifer Resource Index Level, In Feet (Relative to Bottom of the Normal Range or 25<sup>th</sup> Percentile)

Report Date	Northern Counties	Central Counties	Southern Counties
10/04/2010	0.35	2.71	1.06
10/12/2010	0.33	1.91	- 0.25
10/18/2010	- 0.45	1.39	- 1.39
10/25/2010	- 0.37	0.88	- 2.16

Note: A negative value indicates the regional average is below the "Low-Normal" level

## AQUIFER RESOURCE INDEX\* October 2010



<sup>\*</sup>Average Groundwater Level Relative to Low Normal Compiled By Pam Green

## 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.

### **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 weekly data are then reduced to a monthly average. The values reported are provisional and subject to revision.

In October, six of the seven reservoirs monitored for this report recorded average water-level decreases, compared to last month. The Evers, Hillsborough River, Lake Manatee, Bill Young, Peace River No. 2 and Shell Creek reservoirs posted average water level decreases of 0.50 foot, 0.89 foot, 0.83 foot, 4.69 feet, 2.20 feet and 0.17 foot, respectively. The Peace River No. 1 reservoir posted an average water-level increase of 0.70 foot.

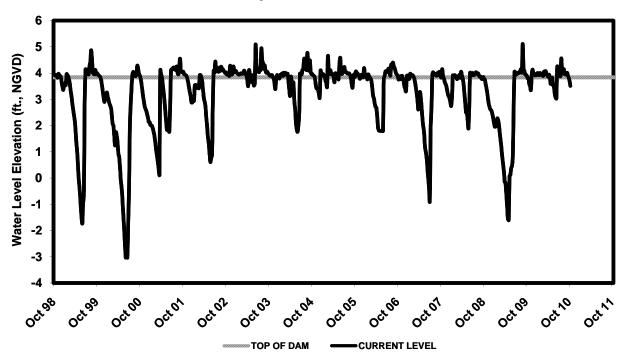
## SUMMARY OF WATER LEVELS IN WATER SUPPLY RESERVOIRS (ELEVATION IN FEET, NGVD)

				Change	Change
	2010	2010	2009	from Prior	from Prior
RESERVOIR	September	October	October	Month	Year
Evers					
City of Bradenton	4.01	3.51	3.8	-0.50	-0.29
Hillsborough					
City of Tampa	22.41	21.52	22.15	-0.89	-0.63
Lake Manatee					
Manatee County	39.16	38.33	39.87	-0.83	-1.54
C.W. Bill Young Regional					
Tampa Bay Water	135.29	130.60	129.79	-4.69	0.81
Peace River					
PRMRWSA Reservoir #1	17.6	18.3	22.5	0.70	-4.20
PRMRWSA Reservoir #2	61.8	59.6	54.8	-2.20	4.80
Shell Creek					
City of Punta Gorda	5.39	5.22	5.09	-0.17	0.13

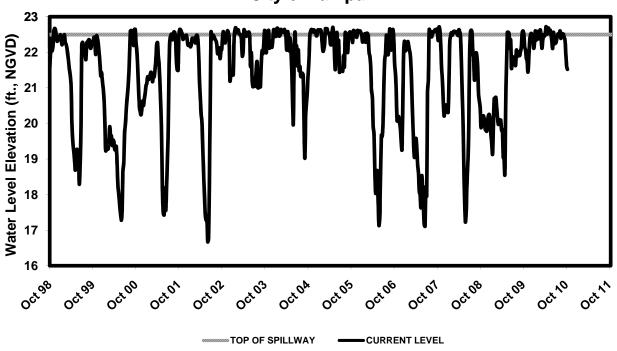
NGVD - National Geodetic Vertical Datum Reported data are provisional and subject to revision.

Compiled by Pam Green

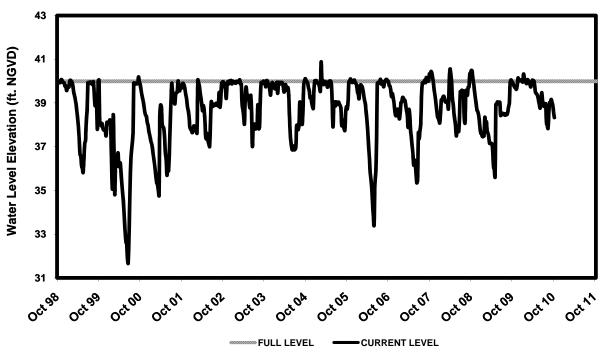
# **EVERS RESERVOIR City of Bradenton**



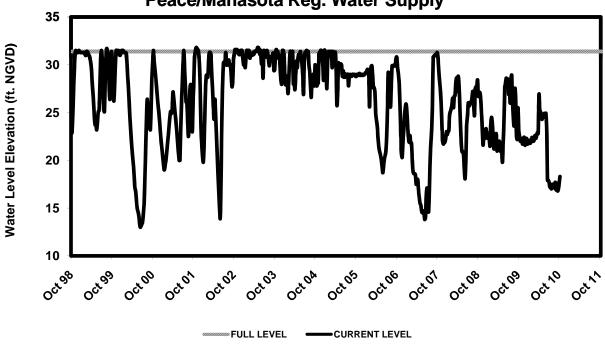
# HILLSBOROUGH RESERVOIR City of Tampa

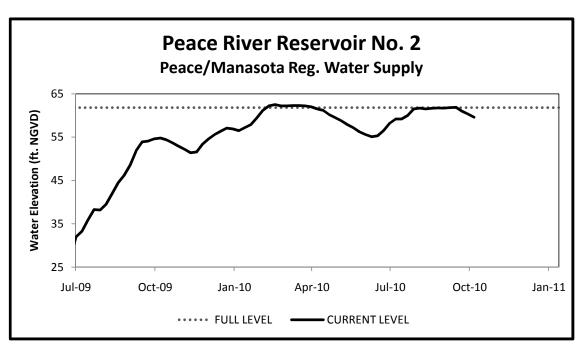


# LAKE MANATEE RESERVOIR Manatee County



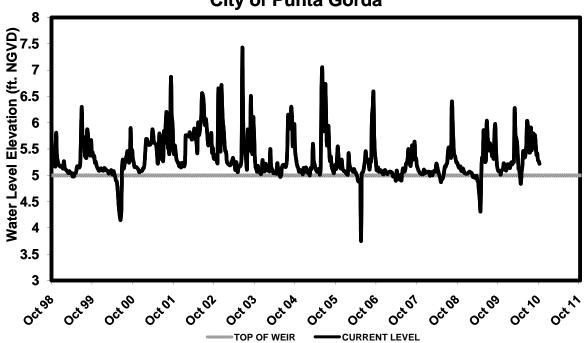
## PEACE RIVER RESERVOIR No. 1 Peace/Manasota Reg. Water Supply



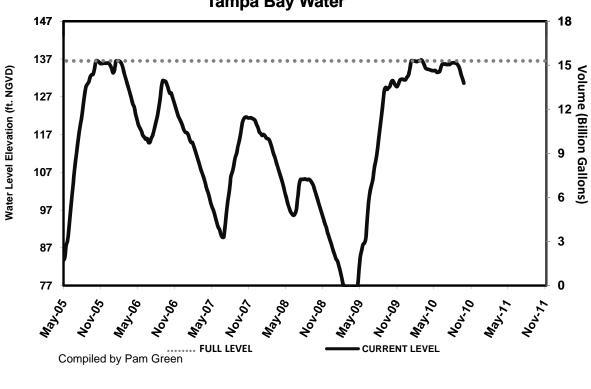


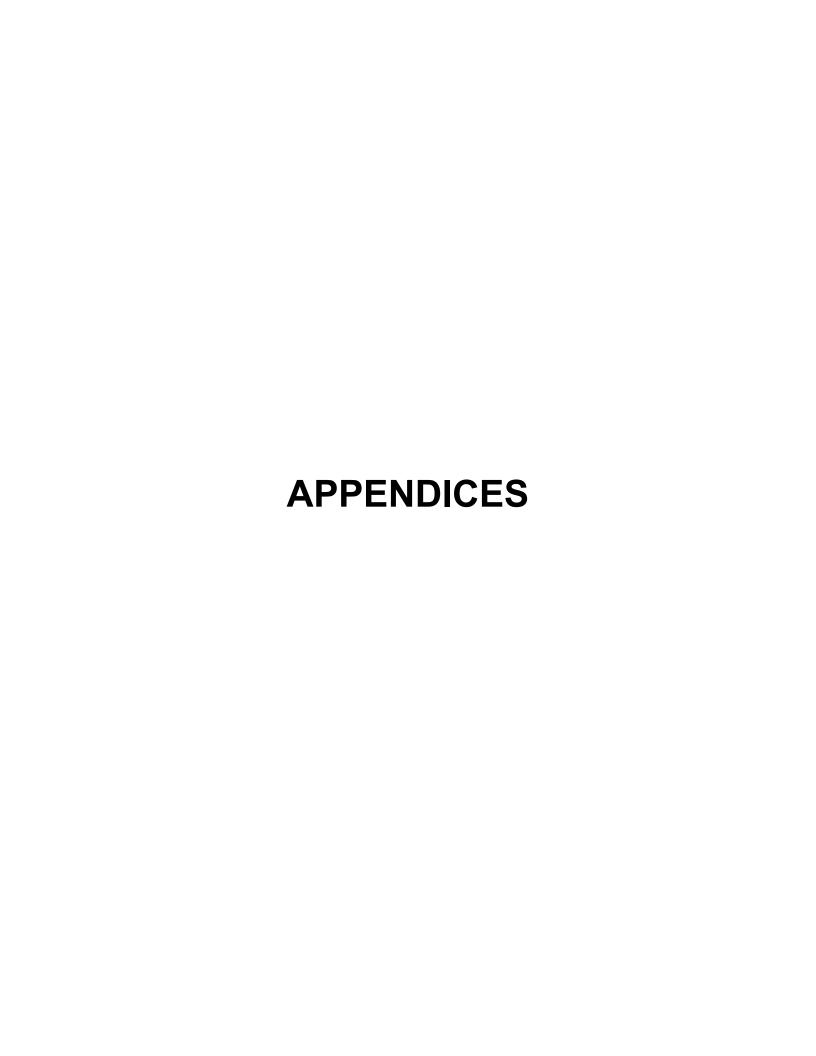
Compiled by Pam Green

# SHELL CREEK RESERVOIR City of Punta Gorda



# C.W. BILL YOUNG REGIONAL RESERVOIR Tampa Bay Water





Rainfall percentiles by interval and region, inches.

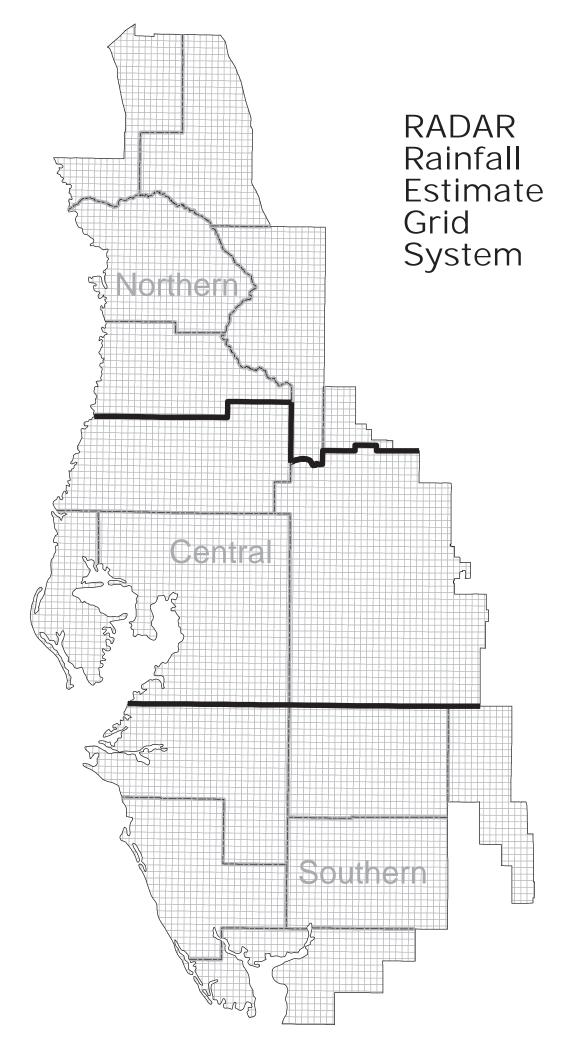
Rainfall percentile	es by interval and			Al-	Al-	1 46
		10 <sup>TH</sup>	25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	90 <sup>th</sup>
Rainfall Interval	Region	Percentile (P10)	Percentile (P25)	Percentile (P50)	Percentile (P75)	Percentile (P90)
Annual total	Northern	43.19	48.35	54.01	58.86	63.46
Annual total	Central	41.45	46.10	52.16	57.28	63.82
Annual total	Southern	42.05	46.25	52.10 52.19	57.82	63.43
Annual total	District	43.12	46.23 47.22	52.19 52.99	57.62 57.46	62.83
Dry season total	Northern	15.27	18.42	23.79	28.72	32.10
Dry season total	Central Southern	13.32	16.48	21.59	26.86	30.83
Dry season total		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
	District	5.60				
July total			6.83	8.19	9.57	10.58
August total	Northern	5.44 5.52	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	10 <sup>TH</sup> Percentile (P10)	25 <sup>th</sup> Percentile (P25)	50 <sup>th</sup> Percentile (P50)	75 <sup>th</sup> Percentile (P75)	90 <sup>th</sup> 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

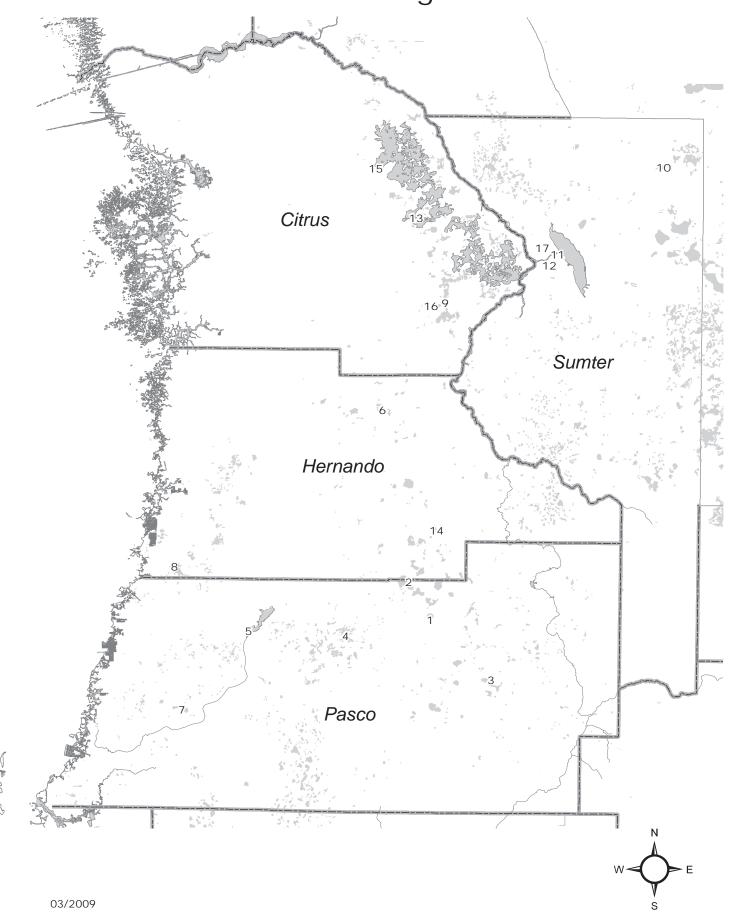
## Rainfall characterization ranges

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 P25 rainfall	80 to 90 percent of normal
Normal	P25 to P75 rainfall	90 to 110 percent of normal
Wetter than normal	P75 to P90 rainfall	110 to 120 percent of normal
Very Wet	Greater than the P90 rainfall	Greater than 120 percent of normal

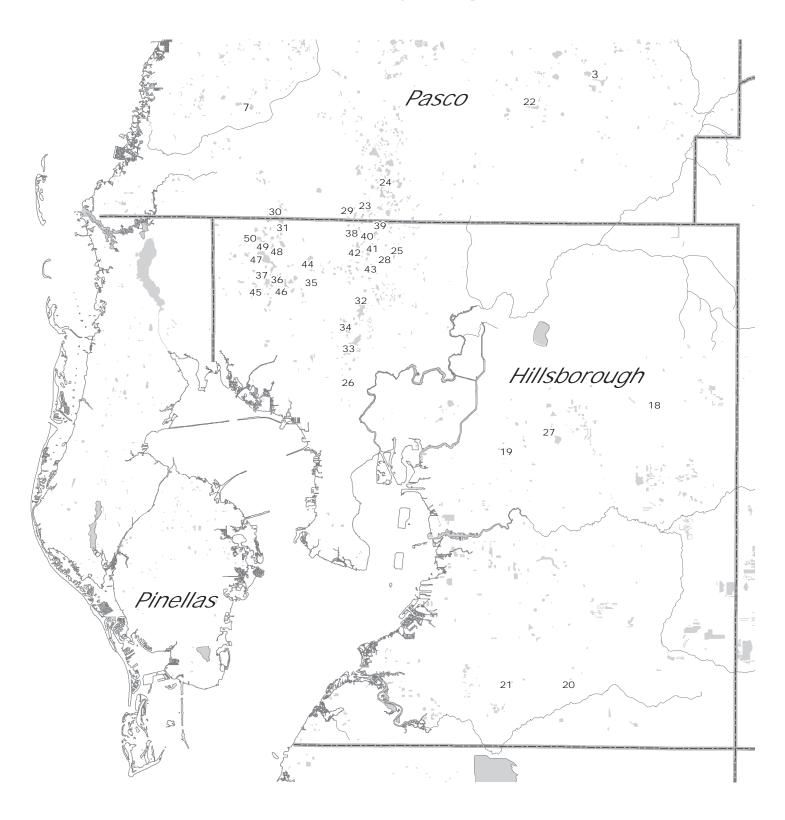




# Selected Lake Monitoring Stations Northern Region

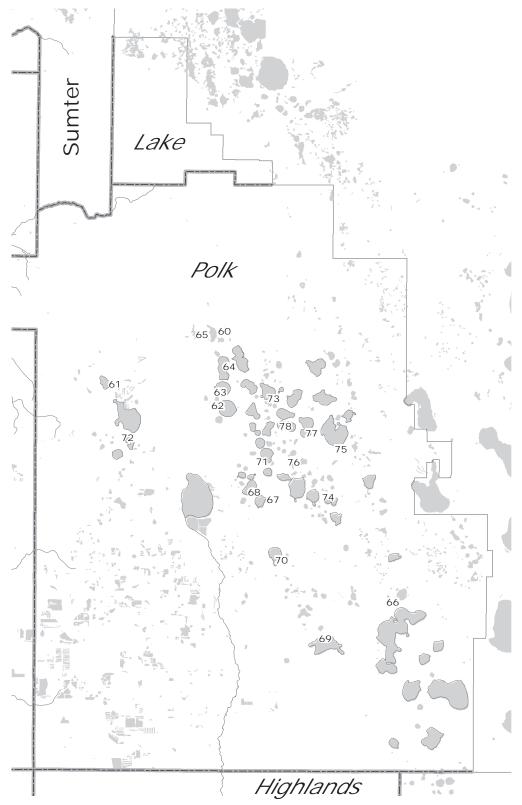


# Selected Lake Monitoring Stations Tampa Bay Region



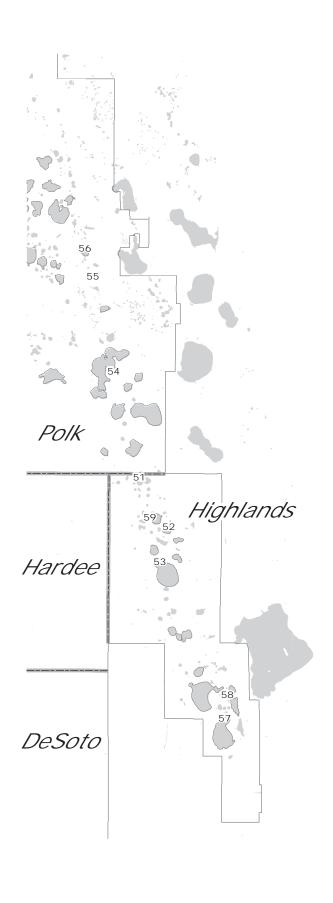


# Selected Lake Monitoring Stations Polk Uplands Region





# Selected Lake Monitoring Stations Lake Wales Ridge Region





## Selected Lake Monitoring Stations

## **Northern Region**

Site Name
Lake Iola
Hancock Lake
Lake Pasadena
Big Fish Lake
Crews Lake
Lake Lindsey
Moon Lake
Hunters Lake
Tsala Apopka at Floral City
Lake Miona
Pana Vista Outlet River
Outlet River at Panacoochee
Tsala Apopka at Inverness
Spring Lake
Tsala Apopka at Hernando
Little Lake (Consuella)
Lake Panasoffkee

## Tampa Bay Region

Map ID  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36	Site Name  Mud (Walden) Lake Gornto Lake Carlton Lake Lake Wimauma King Lake near San Antonio Lake Linda Lake Padgett Keene Lake Egypt Lake Long Pond Lake Stemper Camp Lake Lake Ann (Parker) Lake Hiawatha Platt Lake Lake Carroll Bay Lake Lake LeClare Little Lake	Map ID 40 41 42 43 44 45 46 47 48 49 50	Site Name Lake Brooker Cooper Lake Lake Thomas Brant Lake Turkey Ford Lake Church Lake Horse Lake Lake Alice Lake Calm Keystone Lake Crescent Lake
	Lake LeClare		

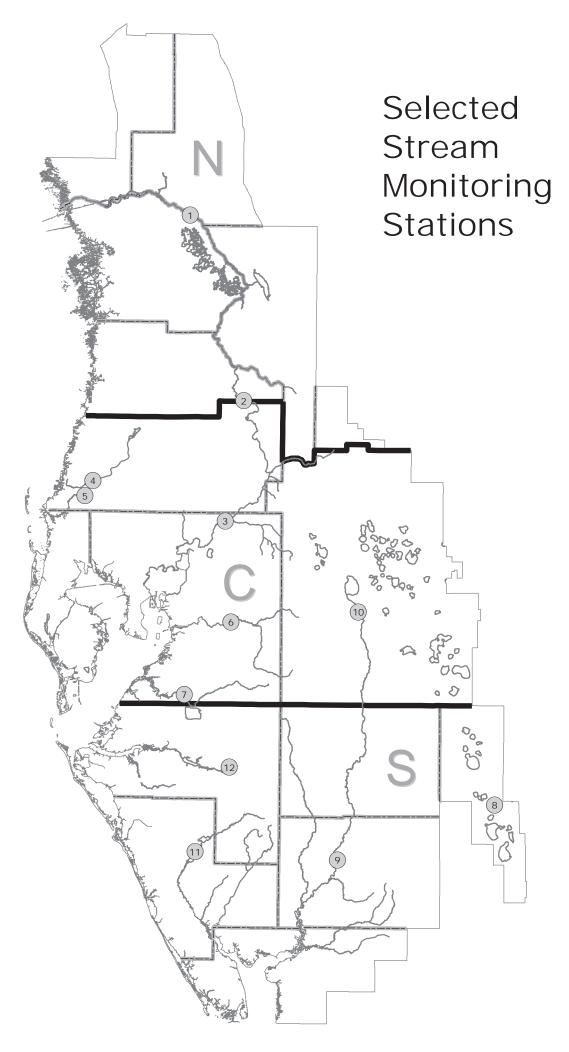
## Selected Lake Monitoring Stations

## **Lake Wales Ridge Region**

<u>Map ID</u>	<u>Site Name</u>
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**

<u>Map ID</u>	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

<u>Map ID</u>	<u>Site Name</u>
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

Avg daily discharge: 1036.3 cfs Runoff per year: 10.36 inches

Max of monthly avg discharge: 7096.3 cfs in 04/1960 Min of monthly avg discharge: 111.8 cfs in 07/1992 Drainage area: 1825 square miles

### Trilby Station

County: Hernando Period-of-record: 1928

Location: 93 miles upstream from mouth

Avg daily discharge: 336.3 cfs Runoff per year: 6.73 inches

Max of monthly avg discharge: 4254.7 cfs in 09/1933
Min of monthly avg discharge: 6.1 cfs in 07/1992
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: South Branch and Hollin Creek Gulf of Mexico, Pasco County

Average fall: 2.4 feet/mile Drainage area: 113 square miles

#### Elfers Station

County: Pasco Period-of-record: 1946

Location: 16 miles upstream from mouth

Avg daily discharge: 65.1 cfs
Runoff per year: 12.20 inches

Max of monthly avg discharge: 633.8 cfs in 09/1988
Min of monthly avg discharge: 1.4 cfs in 05/1981
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 Average fall: 1.4 feet/mile Drainage area: 690 square miles

#### Zephyrhills Station

County: Hillsborough

Period-of-record: 1939

Location: 40 miles upstream from mouth

Avg daily discharge: 244.2 cfs Runoff per year: 15.05 inches

Max of monthly avg discharge: 2284.5 cfs in 12/1997
Min of monthly avg discharge: 47.1 cfs in 05/1994
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

Average fall: 2.9 feet/mile

Drainage area: 191 square miles

### New Port Richey Station:

County: Pasco Period-of-record: 1963

Location: 10.5 miles upstream from mouth

Avg daily discharge: 27.9 cfs Runoff per year: 27.11 inches

Max of monthly avg discharge: 329.4 cfs in 09/1988

Min of monthly avg discharge: 0.0 cfs

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

Average fall: 1.5 feet/mile

Drainage area: 420 square miles

#### **Lithia Station:**

County: Hillsborough

Period-of-record: 1932

Location: 16 miles upstream from mouth

Avg daily discharge: 339.7 cfs Runoff per year: 13.59 inches

Max of monthly avg discharge: 4185.4 cfs in 09/1933 Min of monthly avg discharge: 13.0 cfs in 05/1945 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

Average fall: 3.4 feet/mile

Drainage area: 225 square miles

### Wimauma Station:

County: Hillsborough

Period-of-record: 1939

Location: 15 miles upstream from mouth

Avg daily discharge: 171.4 cfs Runoff per year: 15.68 inches

Max of monthly avg discharge: 1443.7 cfs in 07/1945 Min of monthly avg discharge: 3.8 cfs in 05/45

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

Average fall: 3.5 feet/mile
Drainage area: 143 square miles

### **DeSoto City Station:**

County: Highlands Period-of-record: 1946

Location: 4.9 miles upstream of mouth

Avg daily discharge: 74.2 cfs Runoff per year: 8.90 inches

Max of monthly avg discharge: 769.9 cfs in 09/1960 Min of monthly avg discharge: 1.1 cfs in 05/56 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
Average fall: 2.9 feet/mile
Drainage area: 330 square miles

#### Myakka Head Station:

County: Manatee Period-of-record: 1966

Location: 36 miles upstream from mouth

Avg daily discharge: 69.6 cfs Runoff per year: 14.62 inches

Max of monthly avg discharge: 529.7 cfs in 09/1994 Min of monthly avg discharge: 0.5 cfs in 04/75 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 Average fall: 1.9 feet/mile Drainage area: 540 square miles

#### Sarasota Station:

County: Sarasota Period-of-record: 1936

Location: 36 miles upstream from mouth

Avg daily discharge: 250.5 cfs Runoff per year: 15.03 inches

Max of monthly avg discharge: 2467.2 cfs in 09/1947 Min of monthly avg discharge: 0.0 cfs numerous times

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 Average fall: 1 feet/mile

Drainage area: 2300 square miles

#### **Arcadia Station (Southern Region):**

County: Desoto Period-of-record: 1931

Location: 36 miles upstream from mouth

Avg daily discharge: 1078.9 cfs Runoff per year: 10.79 inches

Max of monthly avg discharge: 9876.0 cfs in 09/1933

Min of monthly avg discharge: 51.6 cfs 05/85
Drainage area: 1367 square miles

#### **Bartow Station (Central Region):**

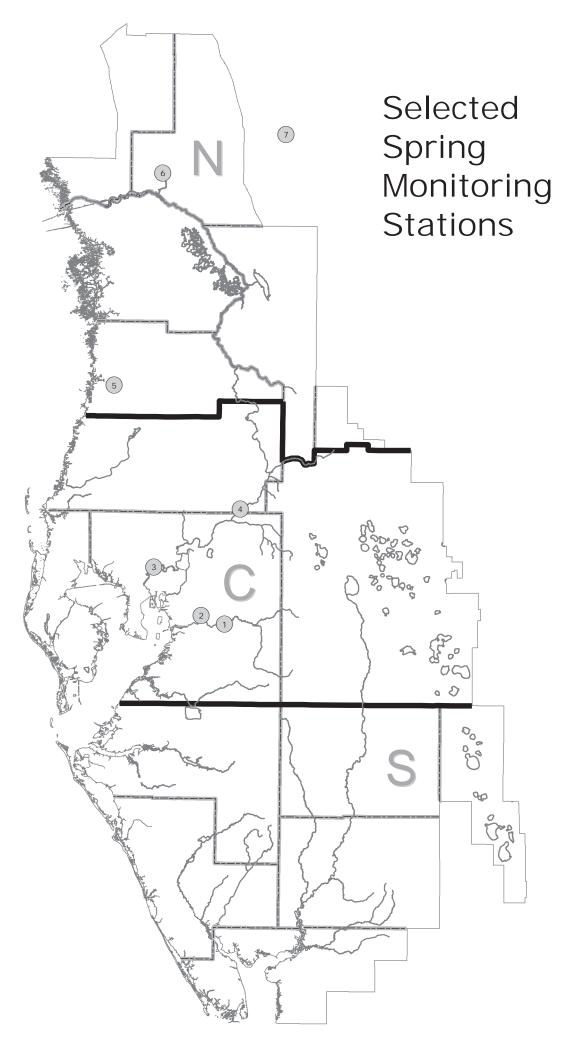
County: Polk Period-of-record: 1939

Location: 105 miles upstream from mouth

Avg daily discharge: 224.1 cfs Runoff per year: 6.72 inches

Max of monthly avg discharge: 2261.5 cfs in 09/1960

Min of monthly avg discharge: 6.4 cfs 05/90 Drainage area: 390 square miles





# Selected Spring Monitoring Stations

<u>Map ID</u>	<u>Site Name</u>
1	Lithia Main Spring
2	Buckhorn Main Spring
3	Sulphur Springs at Sulphur Springs
4	Crystal Springs near Zephyrhills
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

1<sup>st</sup> Magnitude:

Discharge measurement location: 5 mi downstream from head of springs Discharge contributes to: Rainbow River, Withlacoochee River

Public Access: Yes Period-of-record: 1965

Non-recording gage Gage: Maximum daily mean: 1061 cfs in 09/1988 Minimum daily mean: 489 cfs in 06/2000

#### **SILVER SPRINGS (Northern Region)**

County: Marion

Basin: Ocklawaha River

Magnitude:

4 to 5 mi downstream from head of springs Discharge measurement location: Discharge contributes to:

Silver Springs River, Ocklawaha River,

St. Johns River

Public Access: Yes Period-of-record: 1932

Gage: Water-stage recorder Maximum daily mean: 1290 cfs in 10/1960 Minimum daily mean: 432 cfs in 07/2000

#### **WEEKI WACHEE SPRINGS (Northern Region)**

County: Hernando Basin: Coastal Rivers

1<sup>st</sup> Magnitude:

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

Maximum daily mean: 229 cfs in 03/1998 Minimum daily mean: 101 cfs in 06/1994

#### **CRYSTAL SPRINGS (Central Region)**

County: Pasco

Basin: Hillsborough River

Magnitude:

Difference between discharge measurements Discharge measurement location:

> of Hillsborough River made upstream from and downstream from Crystal Springs

Hillsborough River Discharge contributes to:

Public Access: Nο 1923 Period-of-record:

Gage: Non-recording gage Maximum daily mean: 147 cfs in 07/1941 Minimum daily mean: 22 cfs in 08/1986

#### **SULPHUR SPRINGS (Central Region)**

County: Hillsborough Basin: Hillsborough River

Magnitude: 2<sup>nd</sup>

Discharge measurement location: 300 ft downstream from gage

Discharge contributes to: Hillsborough River

Public Access: Yes Period-of-record: 1956

Gage: Water-stage recorder Maximum daily mean: 145 cfs in 03/1960

Minimum daily mean: 0 cfs for various days throughout the

period-of-record

#### **BUCKHORN SPRINGS (Central Region)**

County: Hillsborough Basin: Alafia River

Magnitude: 2<sup>nd</sup>

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
Maximum daily mean: 21.9 cfs in 02/1989
Minimum daily mean: 2.7 cfs in 06/1987

#### LITHIA SPRINGS: (Central Region)

County: Hillsborough Basin: Alafia River

Magnitude: 2<sup>nd</sup>

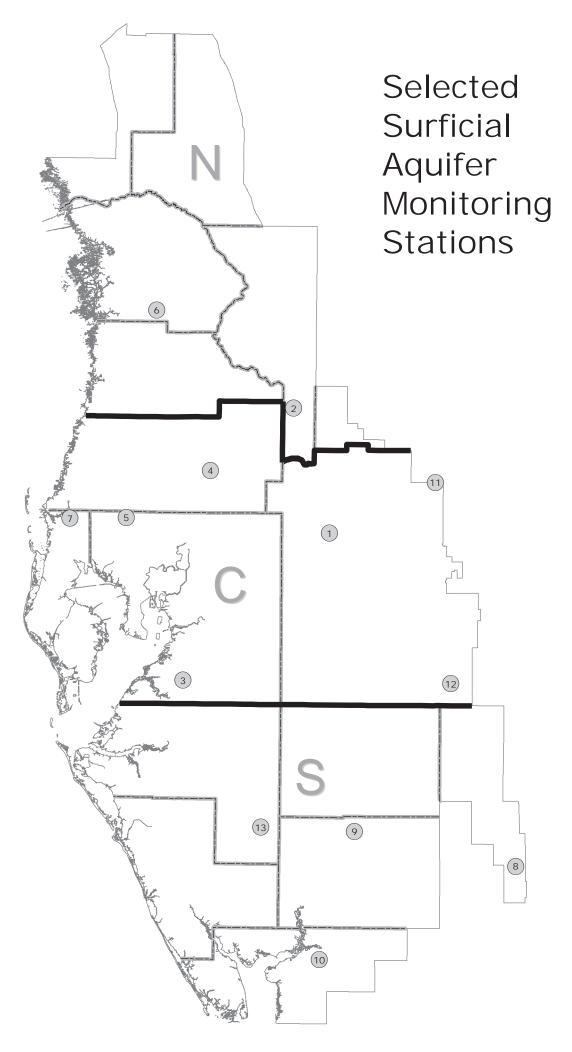
Discharge measurement location: 50 feet downstream from main pool

Discharge contributes to:

Alafia River

Public Access: Yes Period-of-record: 1934

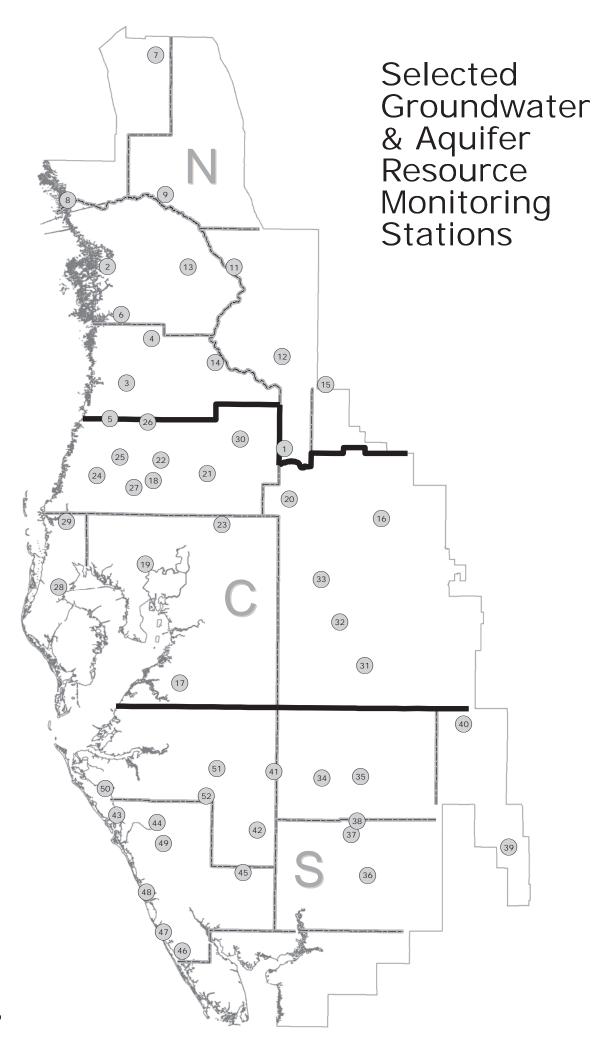
Gage: Water-stage recorder
Maximum daily mean: 83.4 cfs in 10/1967
Minimum daily mean: 6.3 cfs in 02/1989





# Selected Surficial Aquifer Monitoring Stations

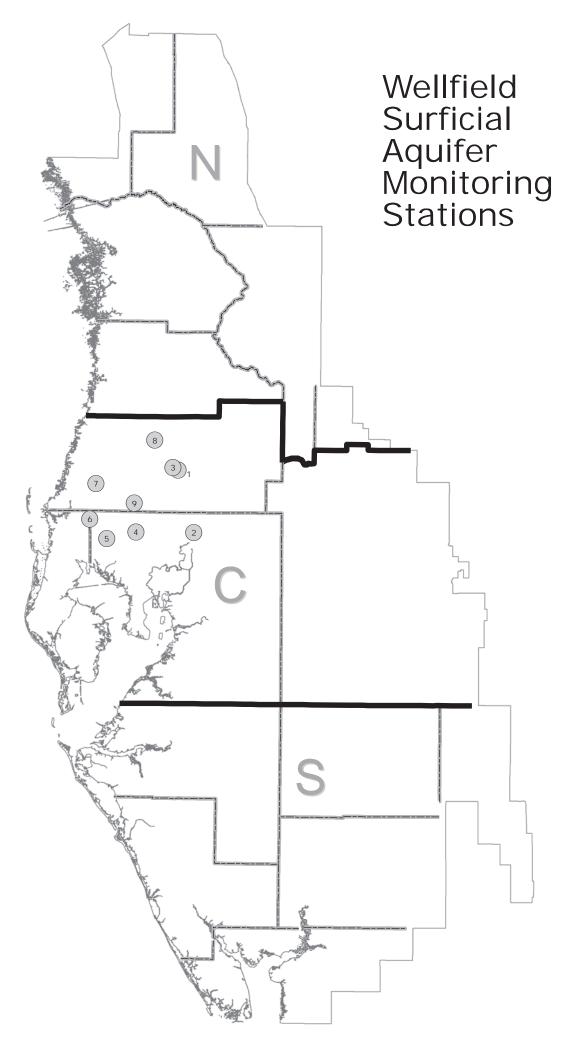
<u>Map ID</u>	<u>Site Name</u>
1	State Road 33/Combee Road Shallow
2	Green Swamp L12B Shallow
3	ROMP 50 Surficial
4	State Road 577 Shallow
5	Lutz-Lake Fern Shallow
6	Lecanto 2 Shallow
7	Tarpon Road Shallow
8	Bairs Den Surficial
9	ROMP 26 Surficial
10	State Road 74 (77-Foot) Shallow
11	Loughman Shallow
12	USGS P-48 Shallow
13	Edgeville 4 Shallow



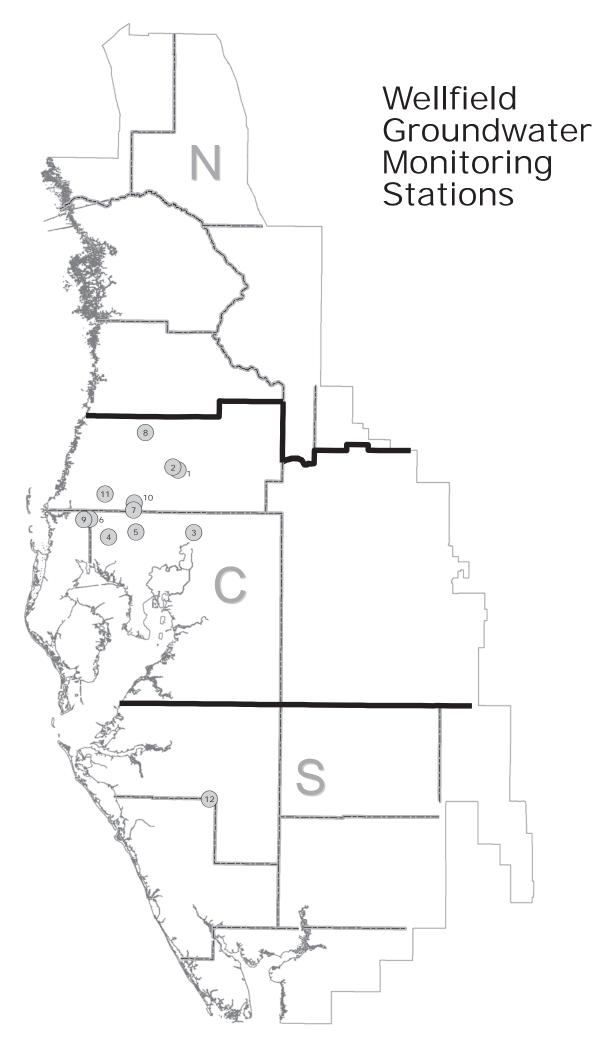


# Selected Groundwater & Aquifer Resource Monitoring Stations

Map ID	<u>Site Name</u>	Map ID	Site Name
1	ROMP 89 Ocala	43	Sarasota 11 <sup>th</sup> Street Deep
2	ROMP TR 21-2 Ocala/Avon Park	44	Sarasota 9 Deep
3	Weeki Wachee Deep	45	Big Slough Deep
4	ROMP 107 Ocala/Avon Park	46	Englewood 14 Deep
5	ROMP 97 Avon Park	47	Manasota 14 Deep
6	Chassahowitzka 1 Deep	48	ROMP TR 5-1 Suwannee
7	ROMP 134 Ocala/Avon Park	49	Florida Cities Test 1
8	ROMP TR 124 Avon Park	50	ROMP TR 7-1 Tampa
9	CE 14 Dunnellon Deep	51	Kibler Deep
10	Verna Test 0-1		1112101 2006
11	Sumter 13 JC 59 Upper Floridan		
12	Webster City Floridan		
13	Inverness DOT Floridan		
14	ROMP 103 Suwannee/Ocala		
15	Mascotte Deep		
16	Lake Alfred Deep near Lake		
10	Alfred		
17	ROMP 50 Avon Park		
18	Pasco 13 Floridan near Drexel		
19	ROMP 66 Tampa		
20	ROMP 87 Avon Park		
21	State Road 577 Deep		
22	ROMP 93 Suwannee/Avon Park		
23	Hillsborough River State Park		
25	Parking Lot Deep		
24	Moon Lake Deep		
25	State Road 52 Deep West near		
20	Fivay Junction		
26	Masaryktown Deep		
27	Bexley 2 Floridan		
28	Pinellas 665 Floridan		
29	Tarpon Road Deep		
30	Lykes Pasco Floridan		
31	ROMP 45 Avon Park		
32	ROMP 59 Suwannee/Avon Park		
33	Sanlon Ranch Floridan		
34	ROMP 31 Suwannee/Avon Park		
35	ROMP 30 Suwannee/Avon Park		
36	ROMP 16 Ocala		
37	ROMP 26 Suwannee/Avon Park		
38	Marshall Deep		
39	ROMP 28X Suwannee/Avon		
0,	Park		
40	ROMP 43XX Avon Park		
41	ROMP 32 Lower Ocala/Avon		
	Park		
42	Edgeville 3 Deep		
· <b>-</b>			









### Wellfield Groundwater Monitoring Stations

<u>Map ID</u>	<u>Site Name</u>
1	Cypress Creek TMR-1 Deep
2	Cypress Creek TMR-3 Deep
3	Morris Bridge 3A Floridan
4	Cosme 3 Floridan
5	St. Pete Hillsboro 13 Deep
6	Eldridge-Wilde 11 Floridan
7	St. Pete 42 Deep
8	Cross Bar WRW Floridan
9	Eldridge-Wilde 2S Deep
10	State Road 54 Deep
11	Starkey Regional Floridan
12	Verna 08 Deep

### Wellfield Surficial Aquifer Monitoring Stations

Map ID	Site Name
1	Cypress Creek TMR-1 Shallow
2	Morris Bridge 3A Surficial
3	Cypress Creek TMR-3 Shallow
4	St. Pete Hillsboro 13 Shallow
5	St. Pete IC-6 Shallow
6	Eldridge-Wilde 11 Surficial
7	Starkey 707 Shallow
8	Cross Bar SERW Shallow
9	State Road 54 Shallow

