# Hydrologic Conditions

**for the month of**

# November 2012

Prepared by the

## Hydrologic Data Section

### Data Collection Bureau

Southwest Florida Water Management District

December 18, 2012

http://www.watermatters.org

## ACKNOWLEDGMENTS

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

| | |
|---|---|
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## INTRODUCTION

The Hydrologic Conditions Report is generated monthly by the Hydrologic Data Section, Data Collection Bureau, of the Southwest Florida Water Management District. This report provides an end-of-month analytical summary of regional and temporal variations in the hydrologic conditions across the District's 16-county area for planning and regulatory purposes. In addition, it provides an excellent historical record for long-term local and regional hydrologic analysis.

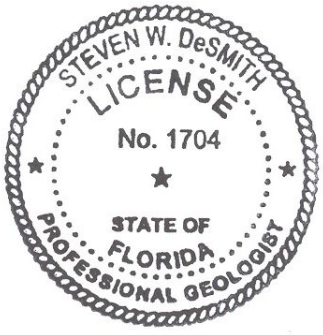
The Hydrologic Data Section is responsible for the implementation and maintenance of a network of observation and monitoring stations used to track changes in various hydrologic parameters over time. Data collected are used by the regulatory, technical, and analytical sections of the District. Data recently 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.

Steven W. DeSmith 12/14/2012

Registration #PG-1704




**Americans with Disabilities Act (ADA)**

The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs and activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act should contact the District's Human Resources Director, 2379 Broad Street, Brooksville, Florida 34604-6899; telephone (352) 796-7211, ext. 4702 or 1-800-423-1476 (FL only), ext. 4702; TDD (FL only) 1-800-231-6103; or email to **ADACoordinator@swfwmd.state.fl.us**.

## EXECUTIVE SUMMARY

### Provisional Hydrologic Conditions as of December 12, 2012

Provisional rainfall totals are provided for the period of December 1, 2012 through December 11, 2012. The northern region has received an average of 0.52 inches, while the historic mean for the northern region for the month of December is 2.55 inches. The central region has received an average of 0.55 inches, while the historic mean for the central region for December is 2.40 inches. The southern region has received an average of 1.00 inches, while the historic mean for the southern region for December is 1.95 inches. District-wide, rainfall averaged 0.70 inches, while the historic mean for the District for December is 2.28 inches.

Provisional lake level data indicate that during the first 11 days of December, regional water levels have decreased in all regions of the District. Average lake levels in the northern region decreased an average of 0.11 foot and were 1.73 feet below the base of the normal range. Lake levels in the Tampa Bay region decreased an average of 0.10 foot and were 0.85 foot above the base of the normal range. Lake levels in the Polk Uplands region decreased 0.04 foot and were 0.62 foot below the base of the normal range. The Lake Wales Ridge region posted an average decrease of 0.03 foot and was 1.43 feet below the base of the normal range.

As of December 10, 2012, provisional streamflow data indicates average streamflow decreased in all three regions of the District, compared to last month's data. Normal streamflow is flow that falls on or between the 25$^{th}$ and 75$^{th}$ percentiles. The average streamflow for the Withlacoochee River near Holder in the northern region was in the normal range at the 40$^{th}$ percentile. The average streamflow for the Hillsborough River near Zephyrhills in the central region was in the normal range at the 45$^{th}$ percentile, while flow in the Peace River at Arcadia in the southern region was below-normal at the 18$^{th}$ percentile.

Provisional groundwater data, as of December 11, 2012, indicate that levels in the intermediate and Floridan aquifers decreased in all three regions of the District, compared to last month’s data. Aquifer levels were within the normal range in all regions of the District. The normal range is levels that fall on or between the 25th and 75$^{th}$ percentiles. The groundwater level in the northern region was at the 56$^{th}$ percentile, while levels in the central and southern regions were at the 54$^{th}$ and 26$^{th}$ percentile, respectively.

## EXECUTIVE SUMMARY

### Hydrologic Conditions for November 2012

In November, average rainfall totals were significantly below-normal in all three regions of the District. The normal range for rainfall is defined by totals that fall on or between the 25th to 75th percentiles of the historical monthly accumulation for each region and where the 50th percentile represents the historical mean. The northern region received an average of 0.14 inches of rainfall, equivalent to the 3rd percentile of the historical November record. The central region received an average of 0.14 inches of rainfall, equivalent to the 6th percentile, while the southern region received an average of 0.24 inches of rainfall, equivalent to the 5th percentile of the historical November record. The District-wide rainfall average of 0.17 inches was equivalent to the 6th percentile of the historical November record.

During the 12-month period from December 1, 2011 through November 30, 2012, the average rainfall totals in the northern and central regions were classified as "normal," while the southern region was classified as “drier than normal.” The northern region received an average of 53.72 inches of rainfall, equivalent to the 50th percentile of the historical annual record. The central region received an average of 48.60 inches of rainfall, equivalent to the 36th percentile, while the southern region received an average of 45.28 inches of rainfall, equivalent to the 23rd percentile. The District-wide rainfall average of 48.87 inches was equivalent to the 34th percentile of the historical annual record.

Average lake levels in November were below the annual normal range in the Northern, Polk Uplands and Lake Wales Ridge regions of the District, while they were within the annual 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 0.33 foot and were 1.62 feet below the base of the annual normal range. Lake levels in the Tampa Bay region decreased an average of 0.28 foot and were 0.95 foot above the base of the annual normal range. Lake levels in the Polk Uplands region decreased 0.24 foot and were 0.58 foot below the base of the annual normal range. Average lake levels in the Lake Wales Ridge region decreased 0.22 foot and ended the month 1.40 feet below the base of the annual normal range.

Total streamflow in regional index streams was within the normal range in all three regions of the District, in November. Normal streamflow is defined as the flow that falls on or between the 25th and 75th percentiles. Streamflow measured at the Withlacoochee River near Holder station in the northern region was in the 69th percentile. Streamflow in the Hillsborough River near Zephyrhills station in the central region was in the 59th percentile, while total streamflow measured at the Peace River at Arcadia station in the southern region was in the 48th percentile during November.

In November, groundwater data showed that levels in the intermediate and Floridan aquifers were in the normal range in all three regions of the District. The normal range is defined as the level that falls on or between the 25th and 75th percentiles. The groundwater level in the northern region was in the 60th percentile, while levels in the central and southern regions were in the 59th and 34th percentiles, respectively.

## REGIONAL OVERVIEW OF HYDROLOGIC CONDITIONS

# NOVEMBER 2012

### Northern Region

In November, the northern region received an average of 0.14 inches of rainfall, equivalent to the 3rd percentile of the historical November readings, which is considered "very dry." Average lake levels decreased in the northern region and ended the month an average of 1.62 feet below the base of the annual normal range. Total streamflow measured in the Withlacoochee River near Holder station decreased and was in the 69th percentile. Regional groundwater levels indicated average surficial aquifer water levels decreased and were in the 50th percentile; while levels in the intermediate and Floridan aquifer decreased and were in the 60th percentile.

### Central Region

In November, the central region received an average of 0.14 inches of rainfall, equivalent to the 6th percentile of historical November readings, which is considered "very dry." Average lake levels decreased in the Tampa Bay region, ending the month 0.95 foot above the base of the normal range, while levels decreased in the Polk Uplands region, ending the month 0.58 feet below the base of the annual range. Total streamflow measured at the Hillsborough River near Zephyrhills station decreased and was in the 59th percentile. Regional groundwater levels indicated average surficial aquifer water levels decreased and were in the 61st percentile; while levels in the intermediate and Floridan aquifer decreased and were in the 59th percentile.

### Southern Region

In November, the southern region received an average of 0.24 inches of rainfall, equivalent to the 5th percentile of historical November readings, which is considered "very dry." Average lake levels decreased in the Lake Wales Ridge region and ended the month 1.40 feet below the base of the annual normal range. Total streamflow measured at the Peace River at Arcadia station decreased and was in the 48th percentile. Regional groundwater levels indicated average surficial aquifer water levels decreased and were in the 55th percentile; while levels in the intermediate and Floridan aquifer decreased and were in the 34th 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$^{th}$ 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$^{th}$ (P10), the 25$^{th}$ (P25), the 75$^{th}$ (P75) and the 90$^{th}$ (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 November, rainfall totals were significantly 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$^{th}$ to 75$^{th}$ percentiles of the historical monthly average for each region and where the 50$^{th}$ percentile represents the historical mean. The northern region received an average of 0.14 inches of rainfall, equivalent to the 3$^{rd}$ percentile of the historical November record. The central region received an average of 0.14 inches, equivalent to the 6$^{th}$ percentile; while the southern region received an average of 0.24 inches, equivalent to the 5$^{th}$ percentile. District-wide, rainfall averaged 0.17 inches, which is equivalent to the 6$^{th}$ percentile of the historical November record.

During the 12-month period from December 1, 2011 through November 30, 2012, the average rainfall totals in the northern and central regions were classified as “normal,” while the southern region was classified as “drier than normal.” The northern region received an average of 53.72 inches of rainfall, equivalent to the 50$^{th}$ percentile of the historical record. The central region received an average of 48.60 inches of rainfall, equivalent to the 36$^{th}$ percentile. The southern region received an average of 45.28 inches of rainfall, equivalent to the 23$^{rd}$ percentile. The District-wide rainfall average was 48.87 inches, which is equivalent to the 34$^{th}$ percentile of the historical annual record.

## Tampa Monthly Climate Summary for November 2012

According to the National Weather Service, the monthly average temperature (°F) for Tampa was 66.3 degrees, which was 2.8 degrees below normal. The highest temperature recorded during the month was 83 degrees, while the lowest temperature recorded during the month was 46 degrees.

## Temperature and Precipitation Outlook

The Climate Prediction Center's (CPC) three-month weather forecast, as of November 15, 2012, indicates equal chances for above-normal, normal or below-normal rainfall for all three regions of the District from December through February. The temperature forecast for this same time-period indicates below-normal temperatures in all three regions of the District. [Note: Due to the publication date of this report on December 18, 2012, the CPC's December 20, 2012 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 NOVEMBER 2012 RAINFALL TO HISTORICAL RAINFALL AVERAGES

### Regional Summary:

| *Region* | *NOV 2012 Average Rainfall* | *Historical Average for NOV* | *Departure from Historical Average* | *Calendar Year 2012 Cumulative Rainfall JAN-NOV* | *Calendar Year Historical Cumulative Rainfall JAN-NOV* | *Departure from Historical Cumulative NOV 2012* | *Cumulative 12-month Rainfall DEC 2011-NOV 2012* | *Historical 12-month Cumulative Rainfall* | *Departure from Historical 12-month Cumulative* |
|---|---|---|---|---|---|---|---|---|---|
| Northern Counties | 0.14 | 1.91 | -1.77 | 53.50 | 50.93 | 2.57 | 53.72 | 53.49 | 0.23 |
| Central Counties | 0.14 | 1.81 | -1.67 | 48.26 | 49.90 | -1.64 | 48.60 | 52.29 | -3.69 |
| Southern Counties | 0.24 | 1.77 | -1.53 | 45.07 | 50.38 | -5.31 | 45.28 | 52.31 | -7.03 |
| District All Counties | 0.17 | 1.82 | -1.65 | 48.61 | 50.35 | -1.74 | 48.87 | 52.63 | -3.76 |

### Regional Counties Summary:

| *NORTHERN COUNTIES* | *NOV 2012 Average Rainfall* | *Historical Average for NOV* | *Departure from Historical Average* | *Calendar Year 2012 Cumulative Rainfall JAN-NOV* | *Calendar Year Historical Cumulative Rainfall JAN-NOV* | *Departure from Historical Cumulative NOV 2012* | *Cumulative 12-month Rainfall DEC 2011-NOV 2012* | *Historical 12-month Cumulative Rainfall* | *Departure from Historical 12-month Cumulative* |
|---|---|---|---|---|---|---|---|---|---|
| Levy County | 0.10 | 2.06 | -1.96 | 50.44 | 50.80 | -0.36 | 50.89 | 53.73 | -2.84 |
| Marion County | 0.07 | 2.02 | -1.95 | 54.47 | 51.49 | 2.98 | 54.77 | 54.20 | 0.57 |
| Citrus County | 0.12 | 1.87 | -1.75 | 54.22 | 51.36 | 2.86 | 54.39 | 53.98 | 0.41 |
| Sumter County | 0.14 | 1.85 | -1.71 | 51.74 | 49.51 | 2.23 | 51.85 | 51.98 | -0.13 |
| Hernando County | 0.29 | 1.91 | -1.62 | 57.21 | 52.42 | 4.79 | 57.35 | 54.96 | 2.39 |
| *CENTRAL COUNTIES* | | | | | | | | | |
| Pasco County | 0.22 | 1.89 | -1.67 | 54.43 | 51.50 | 2.93 | 54.65 | 53.94 | 0.71 |
| Pinellas County | 0.19 | 1.85 | -1.66 | 46.24 | 49.17 | -2.93 | 46.52 | 51.61 | -5.09 |
| Hillsborough County | 0.14 | 1.77 | -1.63 | 49.27 | 50.23 | -0.96 | 49.61 | 52.49 | -2.88 |
| Polk County | 0.09 | 1.75 | -1.66 | 45.02 | 49.87 | -4.85 | 45.43 | 51.97 | -6.54 |
| *SOUTHERN COUNTIES* | | | | | | | | | |
| Manatee County | 0.30 | 1.84 | -1.54 | 46.22 | 51.43 | -5.21 | 46.46 | 53.47 | -7.01 |
| Hardee County | 0.31 | 1.68 | -1.37 | 41.91 | 50.28 | -8.37 | 42.06 | 52.13 | -10.07 |
| Highlands County | 0.23 | 1.71 | -1.48 | 47.37 | 50.22 | -2.85 | 47.65 | 51.85 | -4.20 |
| Sarasota County | 0.26 | 1.84 | -1.58 | 44.05 | 50.58 | -6.53 | 44.24 | 52.58 | -8.34 |
| DeSoto County | 0.15 | 1.71 | -1.56 | 45.86 | 49.98 | -4.12 | 46.07 | 51.77 | -5.70 |
| Charlotte County | 0.12 | 1.69 | -1.57 | 45.79 | 50.45 | -4.66 | 46.01 | 52.26 | -6.25 |

## NOVEMBER 2012 RAINFALL CHARACTERIZATION

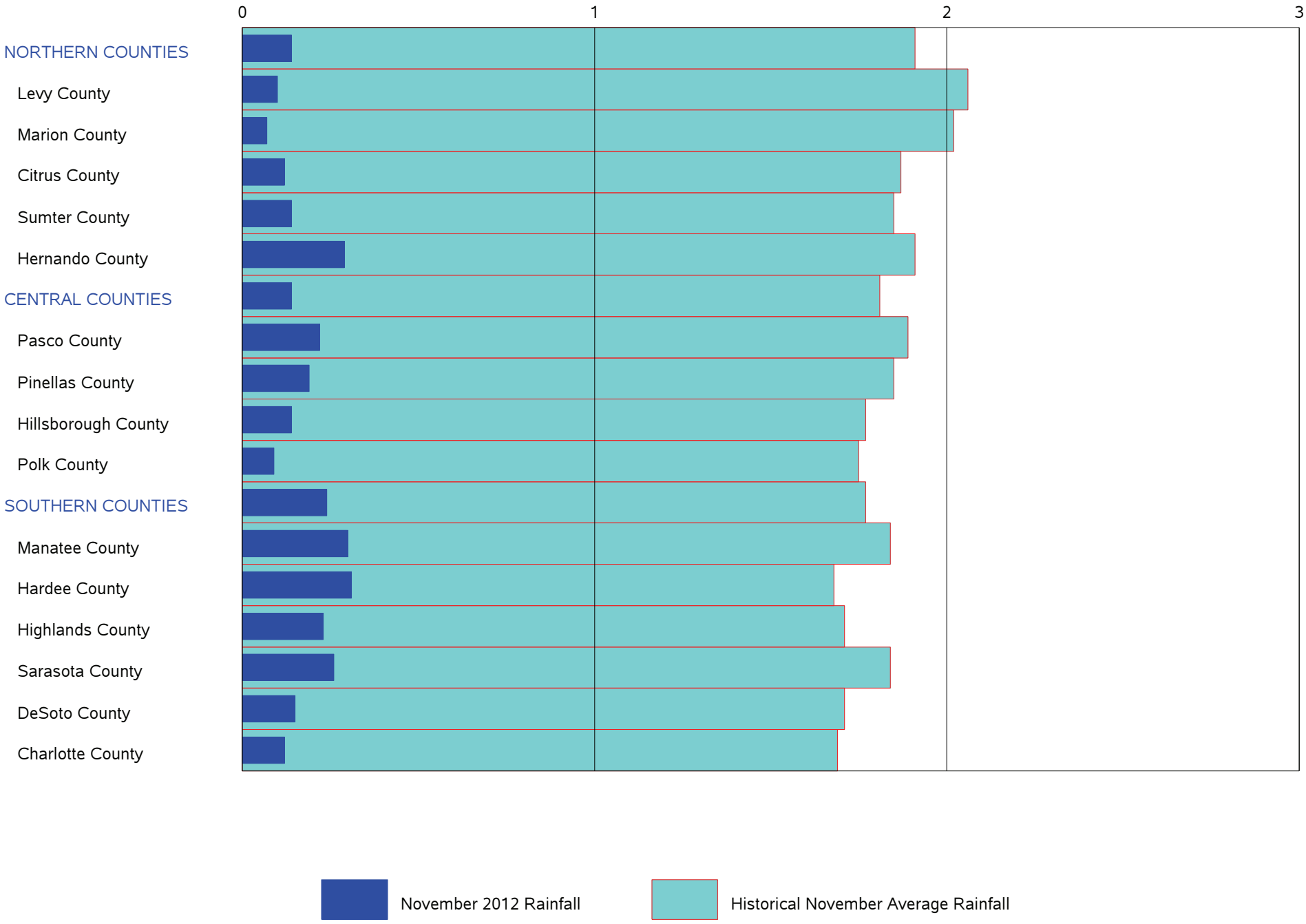
### Regional Characterization:

| *Region* | *NOV 2012 Average Rainfall* | *Historical NOV Percentile* | *NOV Rainfall Characterization* | *Cumulative 12-month Rainfall DEC 2011-NOV 2012* | *Historical 12-month Cumulative Percentile* | *12-month Cumulative Rainfall Characterization* |
|---|---|---|---|---|---|---|
| Northern Counties | 0.14 | 3 | Very dry | 53.72 | 50 | Normal |
| Central Counties | 0.14 | 6 | Very dry | 48.60 | 36 | Normal |
| Southern Counties | 0.24 | 5 | Very dry | 45.28 | 23 | Drier than normal |
| District Counties | 0.17 | 6 | Very dry | 48.87 | 34 | Normal |

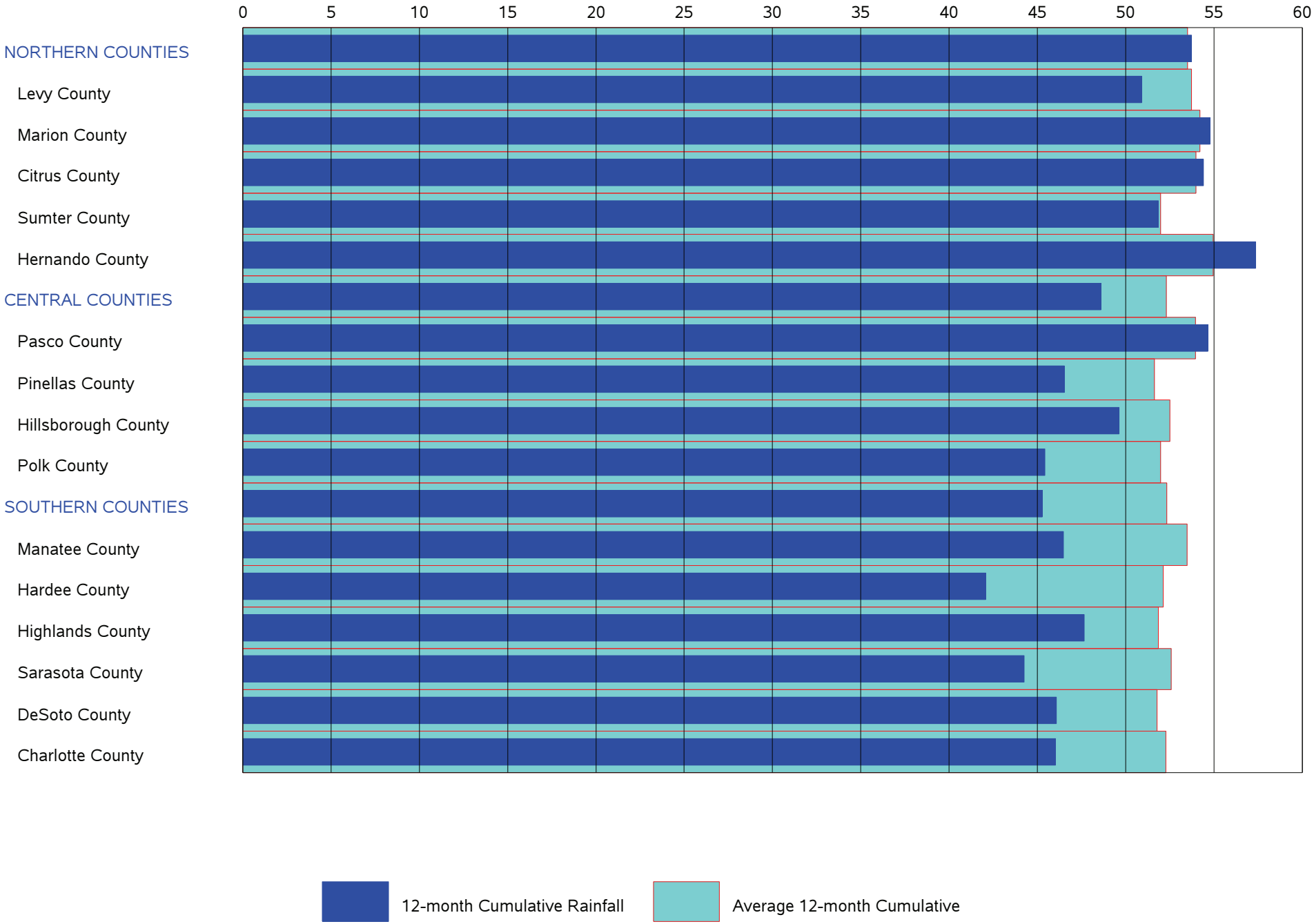
### Regional Counties Characterization:

| *NORTHERN COUNTIES* | *NOV 2012 Average Rainfall* | *Historical NOV Percentile* | *NOV Rainfall Characterization* | *Cumulative 12-month Rainfall DEC 2011-NOV 2012* | *Historical 12-month Cumulative Percentile* | *12-month Cumulative Rainfall Characterization* |
|---|---|---|---|---|---|---|
| Levy County | 0.10 | 1 | Very dry | 50.89 | 41 | Normal |
| Marion County | 0.07 | 1 | Very dry | 54.77 | 54 | Normal |
| Citrus County | 0.12 | 5 | Very dry | 54.39 | 52 | Normal |
| Sumter County | 0.14 | 5 | Very dry | 51.85 | 47 | Normal |
| Hernando County | 0.29 | 12 | Drier than normal | 57.35 | 63 | Normal |
| *CENTRAL COUNTIES* | | | | | | |
| Pasco County | 0.22 | 7 | Very dry | 54.65 | 55 | Normal |
| Pinellas County | 0.19 | 11 | Drier than normal | 46.52 | 33 | Normal |
| Hillsborough County | 0.14 | 6 | Very dry | 49.61 | 40 | Normal |
| Polk County | 0.09 | 3 | Very dry | 45.43 | 24 | Drier than normal |
| *SOUTHERN COUNTIES* | | | | | | |
| Manatee County | 0.30 | 8 | Very dry | 46.46 | 26 | Normal |
| Hardee County | 0.31 | 15 | Drier than normal | 42.06 | 14 | Drier than normal |
| Highlands County | 0.23 | 6 | Very dry | 47.65 | 32 | Normal |
| Sarasota County | 0.26 | 10 | Drier than normal | 44.24 | 21 | Drier than normal |
| DeSoto County | 0.15 | 5 | Very dry | 46.07 | 31 | Normal |
| Charlotte County | 0.12 | 3 | Very dry | 46.01 | 29 | Normal |

## NOVEMBER 2012 RAINFALL HISTORIC AVERAGE VS HISTORICAL NOVEMBER AVERAGE (INCHES)

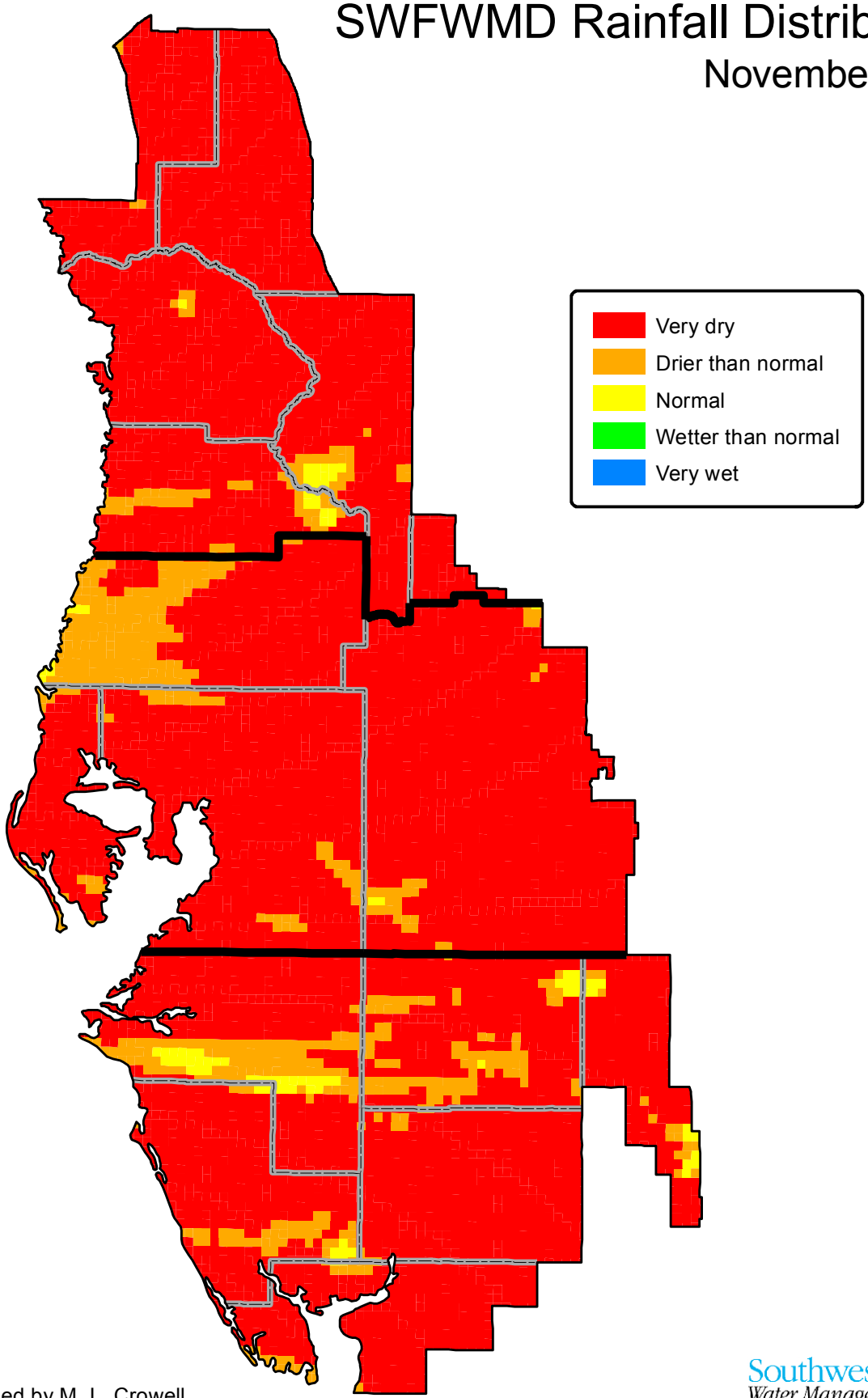


## NOVEMBER 2012 12-MONTH CUMULATIVE RAINFALL VS AVERAGE ANNUAL CUMULATIVE (INCHES)



# SWFWMD Rainfall Distribution

## November 2012

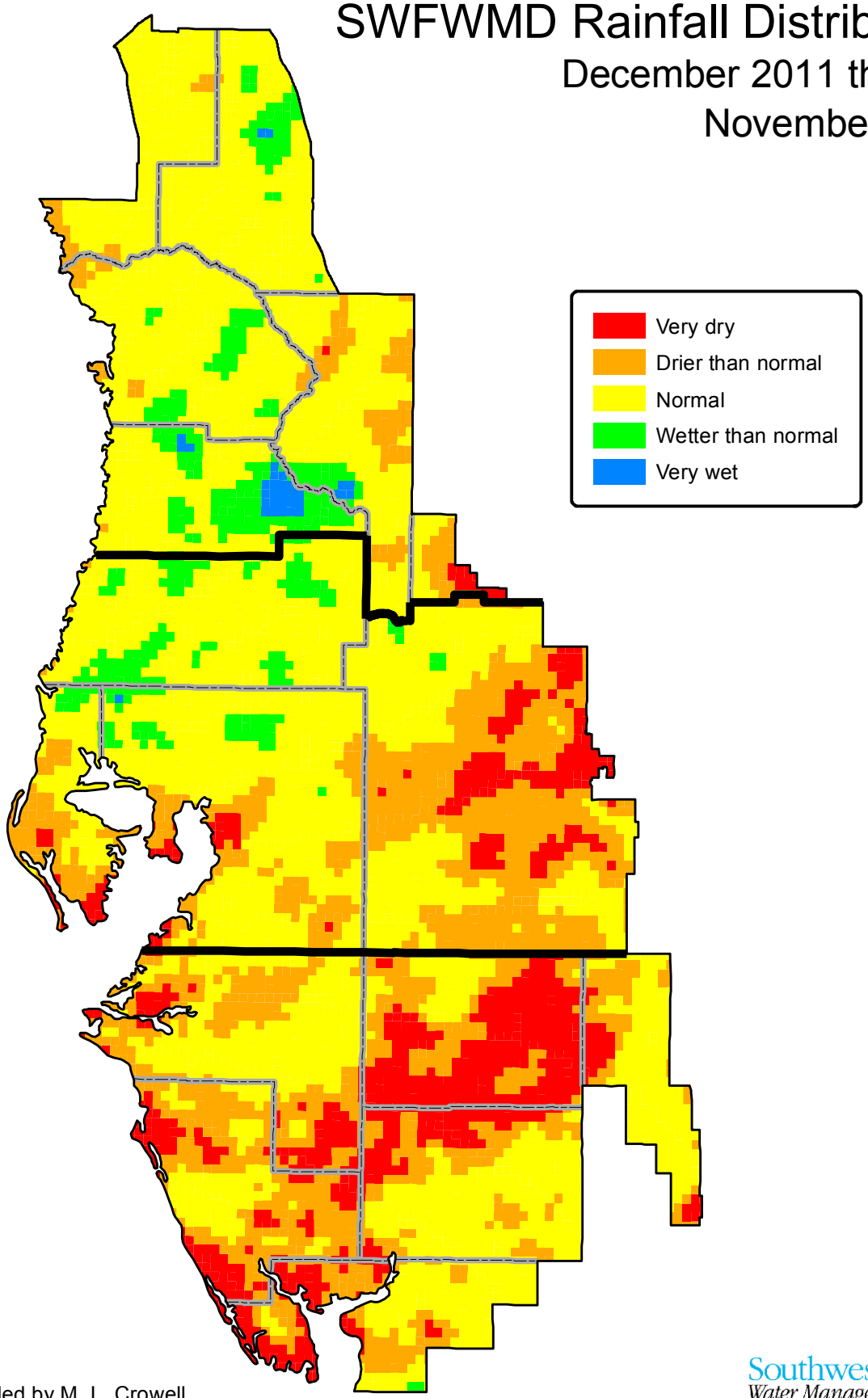



Compiled by M. L. Crowell
Data source: Vieux, Inc.

Southwest Florida Water Management District

# SWFWMD Rainfall Distribution

## December 2011 through November 2012




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

Southwest Florida Water Management District

## SURFACE WATER

### Lakes

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

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

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

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

In November, 72 of the 76 lakes monitored for this report recorded water level decreases, two reported increases, while data was missing for two lakes, compared to last month. Water levels decreased in the Northern, Tampa Bay, Polk Uplands and Lake Wales Ridge regions of the District by 0.33, 0.28, 0.24 and 0.22 foot, respectively. District-wide, average water levels decreased by 0.28 foot, compared to last month.

In November, 38 of the 76 lakes monitored for this report recorded water level decreases, 36 reported increases, while data was missing for two lakes, compared to November 2011. In the Northern, Tampa Bay and Lake Wales Ridge regions, average lake levels were higher by 2.27 feet, 0.04 foot and 0.44 foot, respectively, compared to last year's levels. In the Polk Uplands region, average lake levels were 0.11 foot lower than last year's levels. District-wide, average lake levels were higher by 0.49 foot.

Water levels in 44 of the 76 lakes were above the base of the annual normal range, 30 lakes had levels below the base of the annual normal range, while data was missing for two lakes. Average lake levels in the Northern, Polk Uplands, and Lake Wales Ridge regions were 1.62 feet, 0.58 foot and 1.40 feet, respectively, below the base of the annual normal range. The Tampa Bay region was 0.95 feet above the base of the normal range. District-wide, average lake levels were 0.19 foot below the base of the annual normal range. Water levels in 59 of the 76 lakes were above the drought-year levels.

## SUMMARY OF LAKE ELEVATIONS OF REGIONAL LAKES (feet)

### NORTHERN LAKES

| Lake Name | County | Beginning of Record | OCT 2012 | NOV 2012 | NOV 2011 | Change from OCT 2012 | Change from NOV 2011 | Diff from MELM | (MELM) Drought Year Low | (MLM) Normal Year Low | (MF) Normal Year High | Period of Record Low | Record Low Date | Period of Record High | Record High Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Big Fish Lake | Pasco | 1980 | 70.59 | 70.64 | 70.05 | 0.05 | 0.59 | -1.11 | 71.75 | 73.05 | 76.05 | 65.45 | JUN 1997 | 77.40 | SEP 2004 |
| Crews Lake | Pasco | 1981 | 51.55 | 51.04 | 48.56 | -0.51 | 2.48 | 1.04 | 50.00 | 52.00 | 55.00 | 42.63 | APR 2001 | 55.40 | SEP 1982 |
| Hancock Lake | Pasco | 1978 | 101.08 | 100.92 | 95.73 | -0.16 | 5.19 | -1.08 | 102.00 | 104.00 | 106.50 | 90.00 | MAR 2009 | 108.90 | MAR 1998 |
| Hunters Lake | Hernando | 1967 | 17.78 | 17.48 | 14.72 | -0.30 | 2.76 | 1.48 | 16.00 | 17.50 | 20.50 | 11.70 | JUN 2001 | 20.50 | MAR 1970 |
| Lake Iola | Pasco | 1984 | 133.94 | 133.66 | 131.10 | -0.28 | 2.56 | -8.84 | 142.50 | 145.00 | 147.50 | 128.96 | MAY 2012 | 148.70 | JAN 1989 |
| Lake Lindsey | Hernando | 1982 | 62.80 | 62.46 | 61.30 | -0.34 | 1.16 | -2.04 | 64.50 | 66.00 | 69.00 | 59.27 | MAY 2012 | 69.36 | MAR 1998 |
| Little Lake (Consu | Citrus | 1985 | 40.74 | 40.24 | 35.24 | -0.50 | 5.00 | 2.99 | 37.25 | 39.00 | 41.50 | 31.10 | MAY 2001 | 42.84 | SEP 2004 |
| Lake Miona | Sumter | 1985 | 50.04 | 49.78 | 49.34 | -0.26 | 0.44 | -1.22 | 51.00 | 53.00 | 55.00 | 47.88 | MAY 2002 | 55.18 | APR 1998 |
| Moon Lake | Pasco | 1990 | 39.69 | 39.34 | 37.34 | -0.35 | 2.00 | 3.84 | 35.50 | 37.50 | 40.50 | 32.98 | APR 2009 | 41.26 | SEP 2004 |
| Lake Panasoffkee | Sumter | 1984 | 38.99 | 38.43 | 38.03 | -0.56 | 0.40 | -0.07 | 38.50 | 39.50 | 42.50 | 36.92 | JUN 2007 | 43.04 | OCT 2004 |
| Lake Pasadena | Pasco | 1984 | 87.28 | 87.04 | 85.70 | -0.24 | 1.34 | -2.96 | 90.00 | 91.50 | 94.50 | 81.56 | MAY 2001 | 94.86 | OCT 2004 |
| Spring Lake | Hernando | 1965 | 180.76 | 180.52 | 177.92 | -0.24 | 2.60 | 2.27 | 178.25 | 181.25 | 184.25 | 174.75 | APR 2009 | 183.57 | OCT 1984 |
| Floral City Pool | Citrus | 1981 | 41.35 | 40.89 | 39.19 | -0.46 | 1.70 | 2.64 | 38.25 | 40.25 | 42.50 | 30.35 | JUN 2001 | 42.66 | SEP 2004 |
| Inverness Pool | Citrus | 1985 | 39.88 | 39.48 | 36.96 | -0.40 | 2.52 | 3.23 | 36.25 | 38.25 | 40.50 | 31.46 | MAY 2001 | 40.89 | OCT 2004 |
| Hernando Pool | Citrus | 1985 | 38.72 | 38.38 | 35.14 | -0.34 | 3.24 | 3.63 | 34.75 | 36.75 | 39.00 | 31.09 | JUL 2001 | 73.54 | NOV 2012 |

### TAMPA BAY LAKES

| Lake Name | County | Beginning of Record | OCT 2012 | NOV 2012 | NOV 2011 | Change from OCT 2012 | Change from NOV 2011 | Diff from MELM | (MELM) Drought Year Low | (MLM) Normal Year Low | (MF) Normal Year High | Period of Record Low | Record Low Date | Period of Record High | Record High Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Alice | Hillsborough | 1981 | 41.01 | 40.68 | 40.92 | -0.33 | -0.24 | 3.18 | 37.50 | 40.25 | 42.25 | 33.24 | MAY 2002 | 42.42 | SEP 2004 |
| Lake Ann-Parker | Pasco | 1983 | 47.29 | 47.07 | 47.40 | -0.22 | -0.33 | 2.07 | 45.00 | 45.75 | 48.75 | 43.28 | JUN 2001 | 48.95 | JUL 2012 |
| Bay Lake | Hillsborough | 1982 | 45.36 | 45.11 | 45.57 | -0.25 | -0.46 | 2.61 | 42.50 | 44.00 | 46.75 | 41.86 | APR 1985 | 46.46 | DEC 1997 |
| Lake Brant | Hillsborough | 1981 | 57.78 | 57.48 | 57.74 | -0.30 | -0.26 | 2.98 | 54.50 | 56.50 | 58.75 | 51.65 | JUN 1994 | 59.12 | JUL 2012 |
| Brooker Lake | Hillsborough | 1977 | 62.65 | 62.45 | 62.51 | -0.20 | -0.06 | 3.45 | 59.00 | 61.00 | 64.25 | 56.49 | MAY 2002 | 64.08 | DEC 1997 |
| Calm Lake | Hillsborough | 1982 | 49.99 | 49.70 | 50.04 | -0.29 | -0.34 | 4.70 | 45.00 | 47.50 | 50.50 | 41.88 | JUN 2002 | 50.73 | SEP 2004 |
| Camp Lake | Pasco | 1983 | 63.13 | 62.74 | 62.90 | -0.39 | -0.16 | 3.74 | 59.00 | 61.75 | 64.00 | 50.82 | MAY 2002 | 64.00 | SEP 1987 |
| Carlton Lake | Hillsborough | 1976 | 92.21 | 91.79 | 89.65 | -0.42 | 2.14 | 3.79 | 88.00 | 90.50 | 93.50 | 86.82 | MAY 2001 | 94.60 | FEB 1998 |
| Lake Carroll | Hillsborough | 1985 | 36.60 | 36.31 | 36.54 | -0.29 | -0.23 | 3.81 | 32.50 | 34.50 | 37.00 | 30.87 | MAY 2002 | 38.06 | DEC 1997 |
| Church Lake | Hillsborough | 1983 | 35.56 | 35.38 | 35.58 | -0.18 | -0.20 | 3.88 | 31.50 | 34.00 | 36.25 | 27.94 | MAY 2002 | 36.90 | JUL 1987 |
| Lake Cooper | Hillsborough | 1980 | 60.44 | 60.16 | 60.31 | -0.28 | -0.15 | 3.16 | 57.00 | 59.75 | 61.75 | 55.60 | JUN 2001 | 61.84 | FEB 1998 |
| Crescent Lake | Hillsborough | 1981 | 42.00 | 41.80 | 42.00 | -0.20 | -0.20 | 3.30 | 38.50 | 40.00 | 42.50 | 35.34 | JUN 2001 | 42.48 | SEP 2009 |
| Deer Lake | Hillsborough | 1977 | 66.38 | 66.00 | 65.88 | -0.38 | 0.12 | 3.50 | 62.50 | 64.50 | 67.25 | 60.72 | MAY 2002 | 67.42 | DEC 1997 |
| Egypt Lake | Hillsborough | 1978 | 36.40 | 36.09 | 36.52 | -0.31 | -0.43 | 3.59 | 32.50 | 35.00 | 37.50 | 33.06 | MAY 2000 | 38.15 | SEP 1985 |
| Gornto Lake | Hillsborough | 1979 | 36.10 | 35.97 | 35.00 | -0.13 | 0.97 | 1.97 | 34.00 | 36.00 | 38.50 | 29.86 | MAR 1979 | 39.48 | FEB 1998 |
| Lake Harvey | Hillsborough | 1984 | 60.94 | 60.63 | 61.00 | -0.31 | -0.37 | 2.63 | 58.00 | 60.25 | 62.50 | 53.94 | MAY 2002 | 63.90 | DEC 1997 |
| Lake Hiawatha | Hillsborough | 1981 | 49.82 | 49.52 | 49.48 | -0.30 | 0.04 | 4.52 | 45.00 | 48.00 | 50.50 | 46.14 | JUN 2000 | 51.12 | APR 2010 |
| Horse Lake | Hillsborough | 1930 | 47.01 | 46.58 | 46.81 | -0.43 | -0.23 | 4.58 | 42.00 | 44.00 | 46.50 | 36.33 | JUN 2002 | 50.00 | AUG 1959 |
| Lake Keene | Hillsborough | 1981 | 62.36 | 62.25 | 62.49 | -0.11 | -0.24 | 3.25 | 59.00 | 60.50 | 63.00 | 56.12 | JUN 2002 | 63.27 | SEP 1985 |
| Keystone Lake | Hillsborough | 1984 | 41.78 | 41.55 | 41.72 | -0.23 | -0.17 | 2.55 | 39.00 | 39.75 | 42.00 | 37.84 | JUN 2000 | 43.26 | SEP 1988 |
| King Lake | Pasco | 1978 | 102.54 | 102.22 | 99.43 | -0.32 | 2.79 | 2.22 | 100.00 | 102.50 | 105.25 | 94.20 | APR 2009 | 104.88 | SEP 1983 |
| Lake Leclare | Hillsborough | 1977 | 51.18 | 50.90 | 51.21 | -0.28 | -0.31 | 3.90 | 47.00 | 49.50 | 52.00 | 44.95 | JUN 2001 | 52.59 | JUL 2012 |
| Lake Linda | Pasco | 1983 | 65.76 | 65.36 | 65.55 | -0.40 | -0.19 | 3.36 | 62.00 | 64.00 | 66.75 | 60.07 | MAY 2001 | 66.87 | AUG 2003 |
| Little Lake | Hillsborough | 1979 | 45.40 | 45.24 | 45.44 | -0.16 | -0.20 | 3.24 | 42.00 | 43.50 | 46.50 | 38.06 | JUN 1994 | 46.46 | AUG 2011 |
| Long Pond | Hillsborough | 1978 | 45.79 | 45.45 | 45.68 | -0.34 | -0.23 | 3.45 | 42.00 | 44.00 | 46.50 | 36.33 | MAY 1979 | 48.27 | SEP 1998 |
| Mud (Walden) Lake | Hillsborough | 1978 | 112.82 | 112.80 | 112.77 | -0.02 | 0.03 | 2.30 | 110.50 | 112.50 | 115.00 | 111.68 | MAY 2012 | 114.42 | MAR 1978 |
| Lake Padgett | Pasco | 1980 | 69.64 | 69.16 | 69.11 | -0.48 | 0.05 | 1.66 | 67.50 | 69.00 | 71.25 | 66.27 | JUN 2001 | 71.84 | SEP 1985 |
| Platt Lake | Hillsborough | 1981 | 49.30 | 48.97 | 49.40 | -0.33 | -0.43 | 2.97 | 46.00 | 47.75 | 50.50 | 42.53 | JUN 2001 | 51.36 | SEP 1998 |
| Rainbow Lake | Hillsborough | 1981 | 39.54 | 39.18 | 39.39 | -0.36 | -0.21 | 4.18 | 35.00 | 37.50 | 40.50 | 29.82 | JUN 2002 | 40.74 | AUG 2003 |
| Lake Stemper | Hillsborough | 1983 | 60.85 | 60.77 | 60.89 | -0.08 | -0.12 | 2.77 | 58.00 | 59.50 | 62.00 | 53.36 | JUN 2001 | 61.68 | SEP 2004 |
| Lake Thomas | Hillsborough | 1981 | 62.77 | 62.40 | 62.75 | -0.37 | -0.35 | 3.15 | 59.25 | 61.25 | 63.50 | 56.48 | JUN 2002 | 63.58 | MAR 1987 |
| Turkey Ford Lake | Hillsborough | 1989 | 50.85 | 50.50 | 50.90 | -0.35 | -0.40 | 0.50 | 50.00 | 51.50 | 54.00 | 48.50 | JUN 2000 | 54.80 | JUN 2012 |
| Lake Wimauma | Hillsborough | 1985 | 78.49 | 78.20 | 76.40 | -0.29 | 1.80 | -2.80 | 81.00 | 83.00 | 86.75 | 70.12 | MAY 2001 | 84.38 | MAR 1998 |

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

***Compiled by Ken Romie***

## SUMMARY OF LAKE ELEVATIONS OF REGIONAL LAKES (feet)

**POLK UPLANDS LAKES**

| Lake Name | County | Beginning of Record | OCT 2012 | NOV 2012 | NOV 2011 | Change from OCT 2012 | Change from NOV 2011 | Diff from MELM | (MELM) Drought Year Low | (MLM) Normal Year Low | (MF) Normal Year High | Period of Record Low | Record Low Date | Period of Record High | Record High Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Alfred | Polk | 1990 | 125.50 | 125.32 | 126.05 | -0.18 | -0.73 | -0.93 | 126.25 | 128.25 | 130.75 | 124.42 | APR 2009 | 132.76 | MAR 1998 |
| Lake Ariana | Polk | 1984 | 135.14 | 134.90 | 134.72 | -0.24 | 0.18 | 2.40 | 132.50 | 134.50 | 137.00 | 131.80 | APR 2009 | 136.77 | MAR 2003 |
| Lake Arietta | Polk | 1984 | 140.25 | 140.00 | 139.45 | -0.25 | 0.55 | 2.00 | 138.00 | 141.00 | 144.00 | 137.32 | JUN 2009 | 143.80 | OCT 2004 |
| Blue Lake South | Polk | 1986 | 111.34 | 111.00 | 112.12 | -0.34 | -1.12 | -1.50 | 112.50 | 114.00 | 117.00 | 103.38 | FEB 1991 | 119.19 | DEC 2005 |
| Lake Bonny | Polk | 1954 | 130.16 | 129.70 | 130.18 | -0.46 | -0.48 | 3.70 | 126.00 | 128.00 | 130.50 | 122.34 | MAY 2009 | 133.08 | SEP 2004 |
| Lake Buffum | Polk | 1982 | 127.98 | 128.08 | 127.79 | 0.10 | 0.29 | 1.33 | 126.75 | 129.25 | 132.25 | 123.90 | JUN 1991 | 133.00 | JUN 2005 |
| Clearwater Lake | Polk | 1979 | 143.09 | 142.80 | 141.66 | -0.29 | 1.14 | 3.80 | 139.00 | 141.00 | 143.50 | 137.93 | MAY 2001 | 146.06 | AUG 1984 |
| Lake Conine | Polk | 1989 | 126.45 | 126.18 | 126.50 | -0.27 | -0.32 | 1.68 | 124.50 | 126.50 | 128.75 | 123.83 | NOV 2009 | 129.95 | SEP 2004 |
| Eagle Lake | Polk | 1965 | 125.20 | 124.99 | 125.50 | -0.21 | -0.51 | -1.51 | 126.50 | 128.50 | 130.75 | 120.87 | MAY 1967 | 131.50 | SEP 1996 |
| Lake Fannie | Polk | 1981 | 121.92 | 121.70 | 121.46 | -0.22 | 0.24 | 1.70 | 120.00 | 123.50 | 125.75 | 119.39 | JUN 2002 | 127.51 | SEP 2004 |
| Lake Garfield | Polk | 1982 | 104.40 | 103.92 | 104.55 | -0.48 | -0.63 | 3.92 | 100.00 | 101.00 | 104.75 | 97.38 | JUN 2001 | 105.70 | FEB 1998 |
| Lake Hamilton | Polk | 1981 | 119.61 | 119.40 | 119.57 | -0.21 | -0.17 | 2.15 | 117.25 | 119.00 | 121.50 | 116.61 | JUN 2001 | 123.96 | OCT 2004 |
| Lake Helene | Polk | 1979 | 139.32 | 139.10 | 138.33 | -0.22 | 0.77 | 0.10 | 139.00 | 141.00 | 144.00 | 134.52 | JUN 2008 | 146.42 | MAR 1998 |
| Lake Howard | Polk | 1987 | 130.00 | 129.72 | 130.23 | -0.28 | -0.51 | 2.72 | 127.00 | 129.50 | 132.00 | 127.69 | MAY 2001 | 133.08 | SEP 2004 |
| Lake Juliana | Polk | 1984 | 130.42 | 130.18 | 129.78 | -0.24 | 0.40 | 2.68 | 127.50 | 130.00 | 132.50 | 127.40 | NOV 2009 | 134.10 | MAR 1998 |
| Lake Mcleod | Polk | 1983 | 124.40 | 124.24 | 124.86 | -0.16 | -0.62 | -3.76 | 128.00 | 129.50 | 132.00 | 120.76 | JUL 1985 | 131.98 | SEP 1998 |
| Lake Otis | Polk | 1989 | 125.00 | 124.78 | 124.90 | -0.22 | -0.12 | 1.78 | 123.00 | 125.00 | 128.00 | 120.28 | JUN 2001 | 128.50 | SEP 2004 |
| Lake Ruby | Polk | 1983 | 124.50 | 124.25 | 124.54 | -0.25 | -0.29 | 3.25 | 121.00 | 123.00 | 125.25 | 120.78 | JUN 2001 | 125.98 | SEP 2004 |
| Lake Gibson | Polk | 1984 | 142.81 | 142.64 | 142.88 | -0.17 | -0.24 | 1.14 | 141.50 | 141.50 | 143.50 | 140.21 | MAY 2009 | 145.40 | SEP 1988 |

**LK WALES RIDGE LAKES**

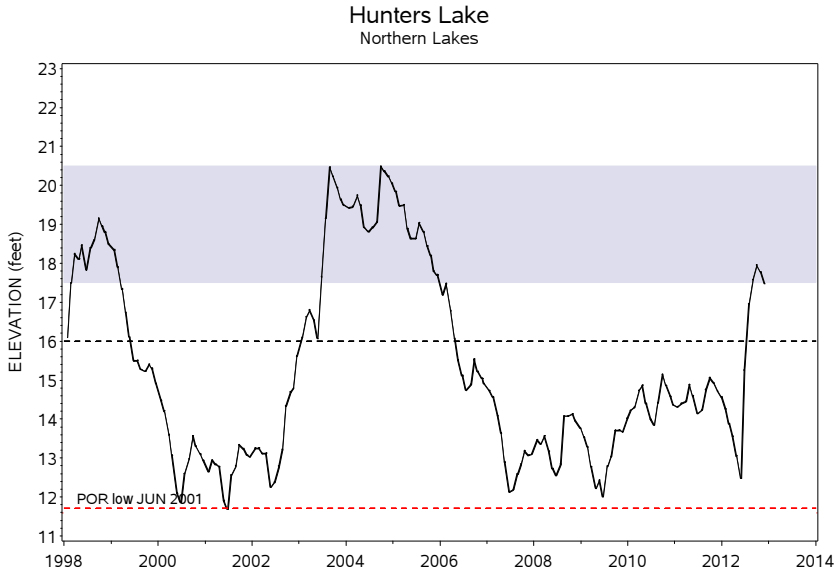
| Lake Name | County | Beginning of Record | OCT 2012 | NOV 2012 | NOV 2011 | Change from OCT 2012 | Change from NOV 2011 | Diff from MELM | (MELM) Drought Year Low | (MLM) Normal Year Low | (MF) Normal Year High | Period of Record Low | Record Low Date | Period of Record High | Record High Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lake Annie | Polk | 1983 | 110.98 | M | 111.62 | M | M | M | 114.00 | 116.00 | 119.00 | 108.36 | JUN 1990 | 117.56 | OCT 2005 |
| Lake Clay | Highlands | 1983 | 78.17 | 78.03 | 76.72 | -0.14 | 1.31 | 3.03 | 75.00 | 76.00 | 78.75 | 74.34 | MAY 2001 | 78.45 | SEP 2012 |
| Crooked Lake | Polk | 1982 | 115.88 | 115.48 | 115.45 | -0.40 | 0.03 | -1.52 | 117.00 | 118.50 | 122.00 | 106.28 | APR 1991 | 123.44 | AUG 2005 |
| Lake Jackson | Highlands | 1984 | 99.72 | 99.51 | 99.00 | -0.21 | 0.51 | 1.51 | 98.00 | 100.00 | 103.00 | 96.37 | JUN 2008 | 103.16 | MAR 1998 |
| Lake Letta | Highlands | 1981 | 95.56 | 95.40 | 95.08 | -0.16 | 0.32 | 0.40 | 95.00 | 97.00 | 100.00 | 90.27 | JUN 2008 | 100.00 | MAR 1998 |
| Lake Lotela | Highlands | 1989 | 103.27 | 103.04 | 103.65 | -0.23 | -0.61 | -0.96 | 104.00 | 105.00 | 108.50 | 97.00 | JUN 2008 | 108.92 | MAR 1998 |
| Lake Placid | Highlands | 1984 | 91.11 | 90.90 | 89.45 | -0.21 | 1.45 | 0.90 | 90.00 | 91.50 | 94.50 | 88.08 | JUN 2008 | 94.24 | SEP 2003 |
| Starr Lake | Polk | 1983 | M | M | M | M | M | M | 108.00 | 110.00 | 113.00 | 96.33 | JUN 2001 | 109.80 | DEC 2005 |
| Trout Lake | Highlands | 1981 | 94.05 | 93.84 | 93.80 | -0.21 | 0.04 | -1.16 | 95.00 | 98.00 | 101.00 | 87.15 | MAY 2001 | 98.90 | MAR 1998 |

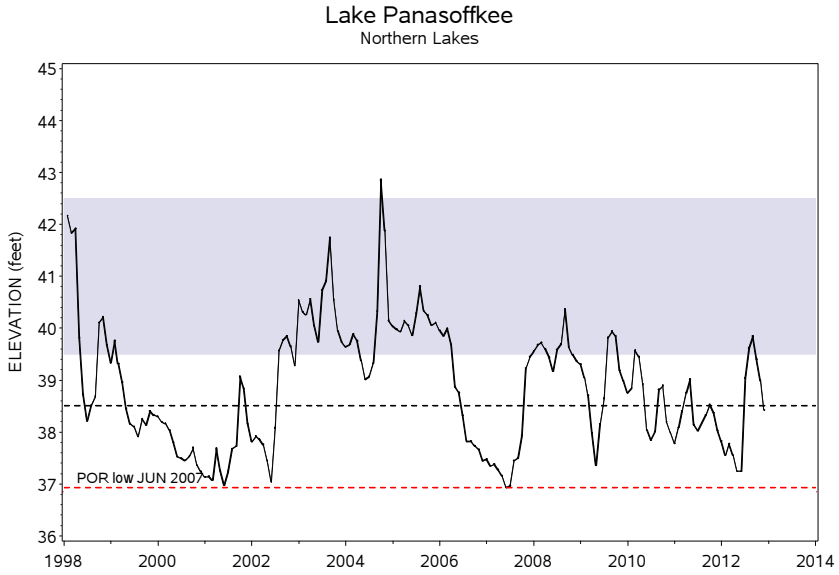
**NOTE: M='no data' or 'not determined'**

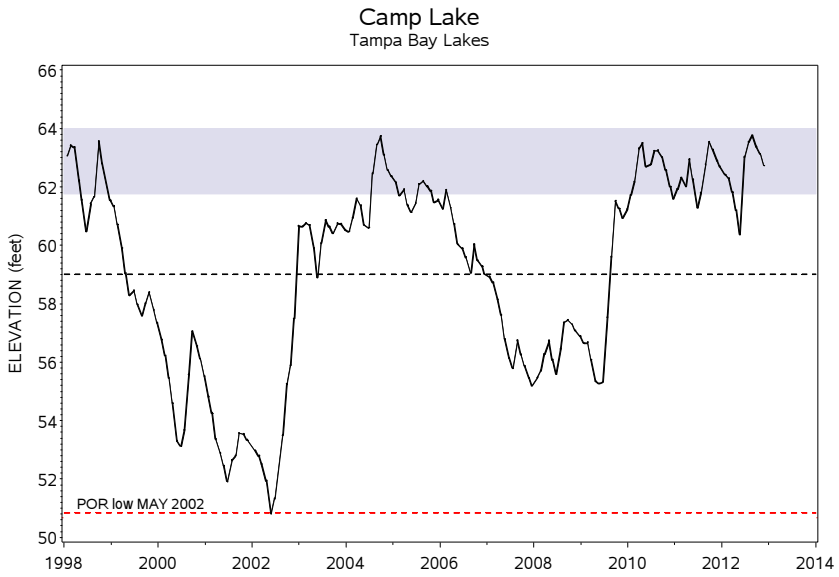
***Compiled by Ken Romie***

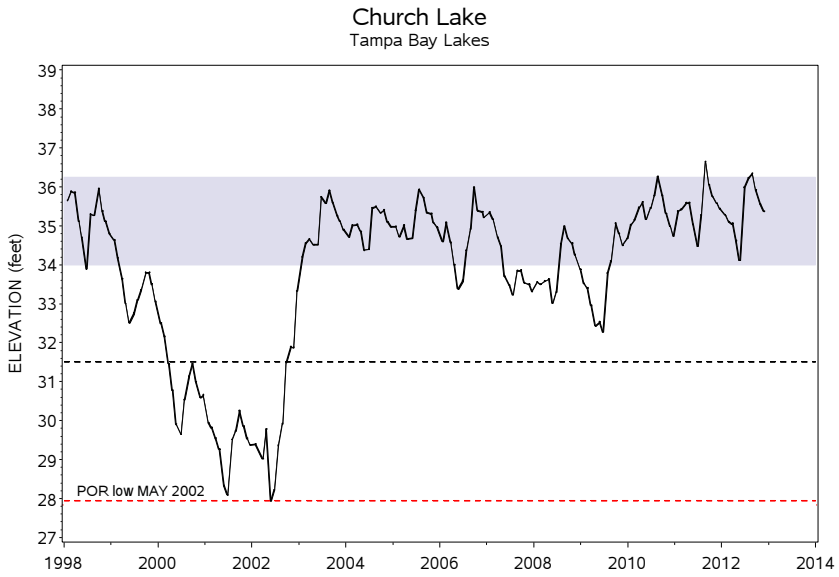
# HYDROGRAPHS OF REGIONAL LAKES

**15-yr Period of Record**



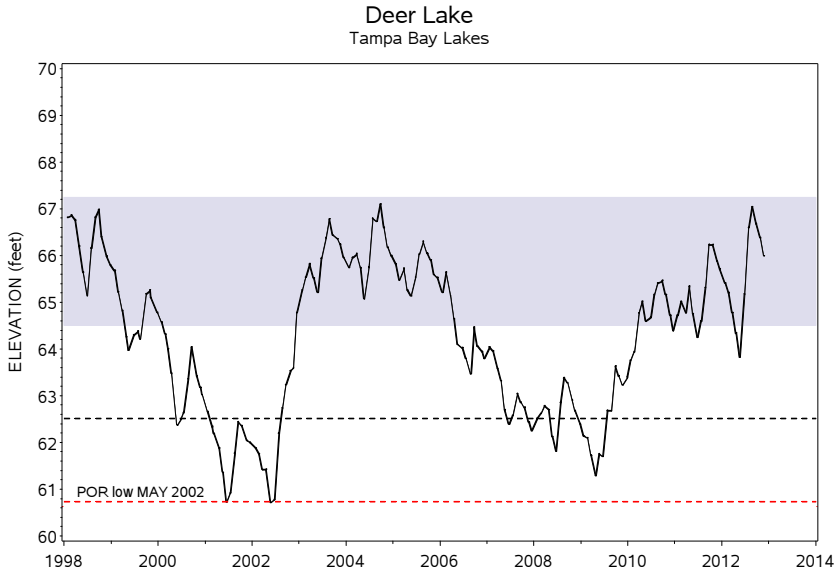



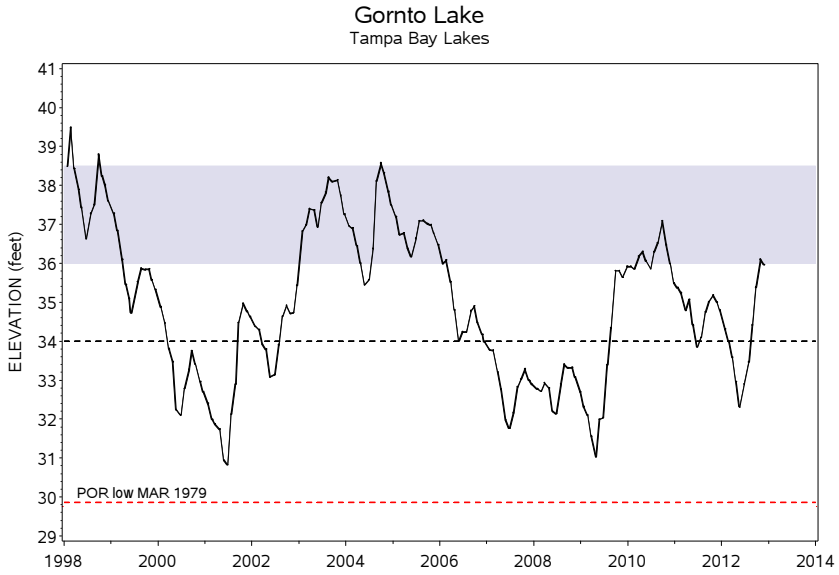

**Monthly Mean Elevation** **Drought Year Low** **Normal Range**

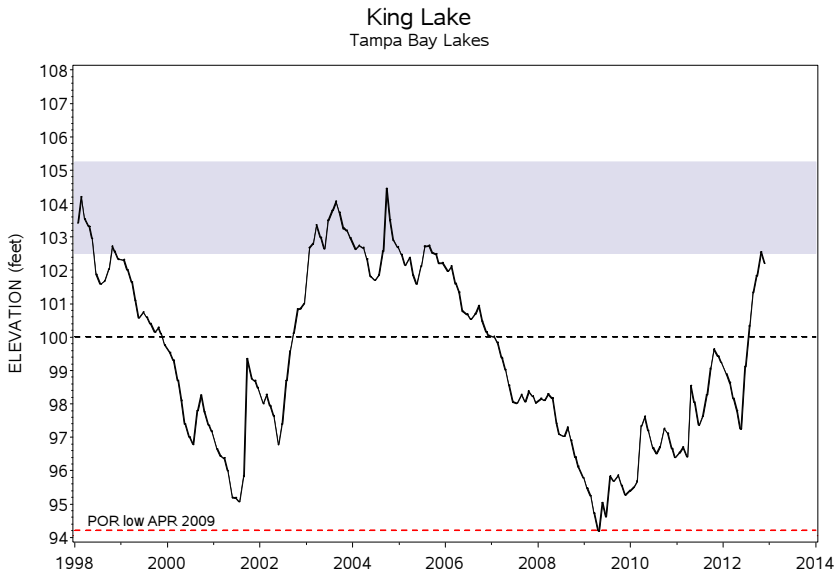
***Compiled by Ken Romie***

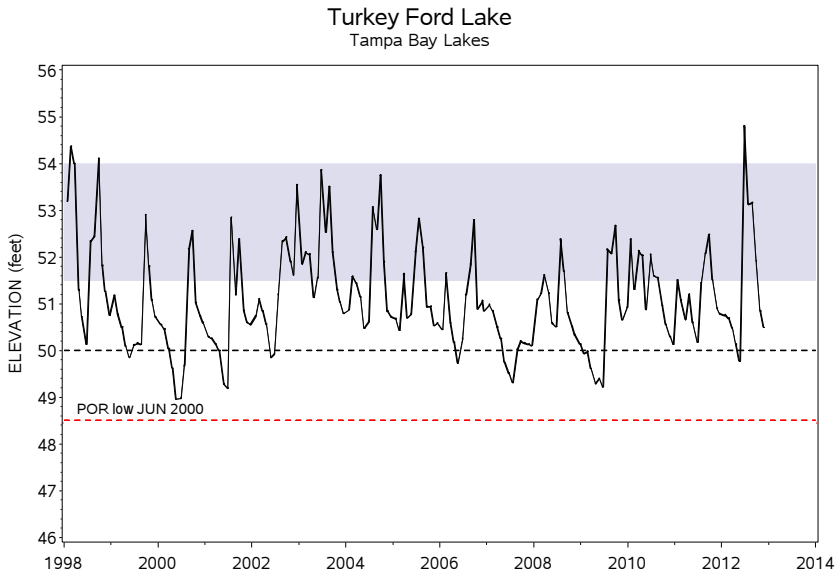
# HYDROGRAPHS OF REGIONAL LAKES

## 15-yr Period of Record



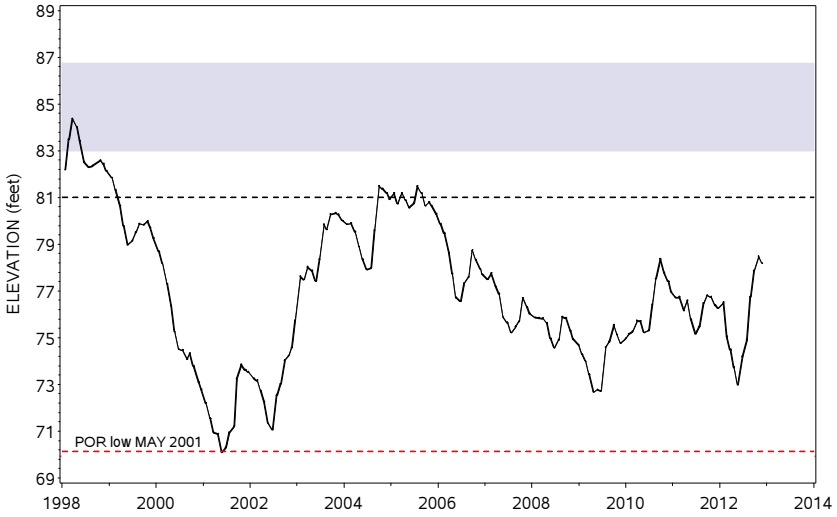

Monthly Mean Elevation — Drought Year Low — Normal Range

***Compiled by Ken Romie***

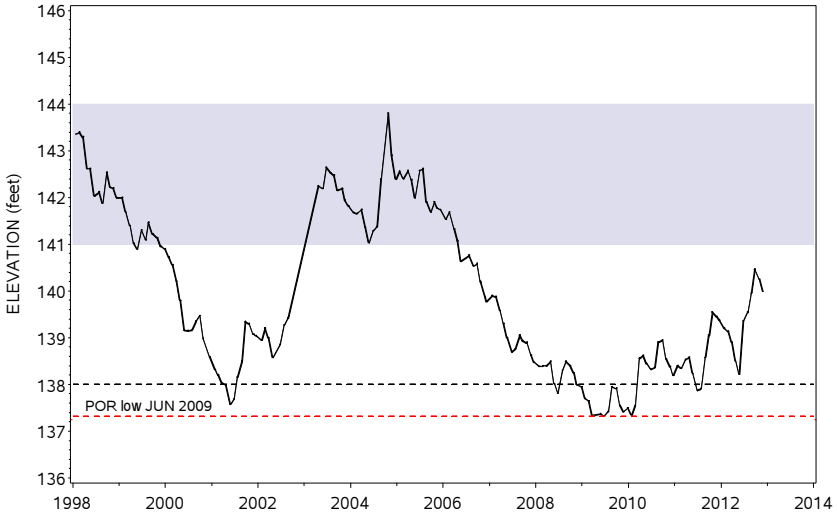
# HYDROGRAPHS OF REGIONAL LAKES

## 15-yr Period of Record

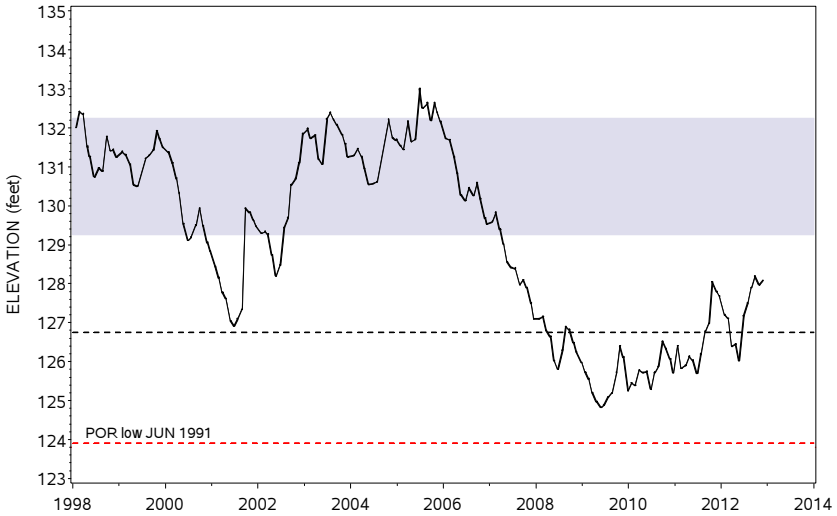
### Lake Wimauma
Tampa Bay Lakes



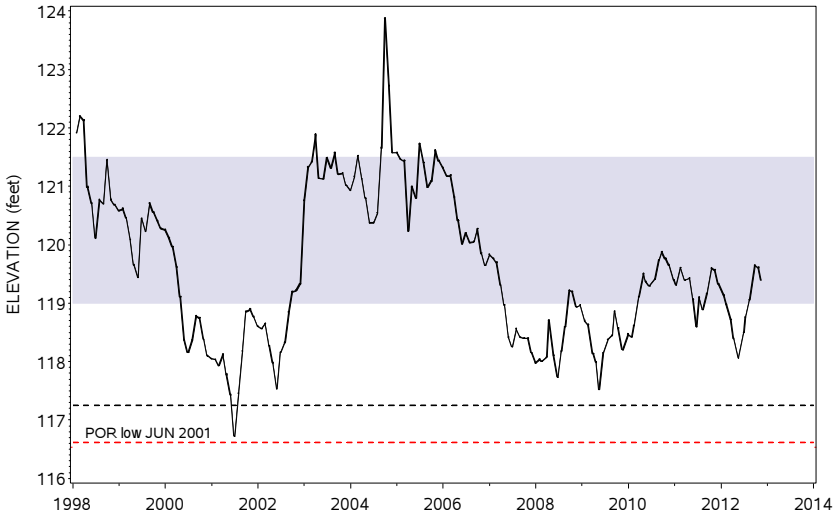

### Lake Arietta
Polk Uplands Lakes




### Lake Buffum
Polk Uplands Lakes




### Lake Hamilton
Polk Uplands Lakes



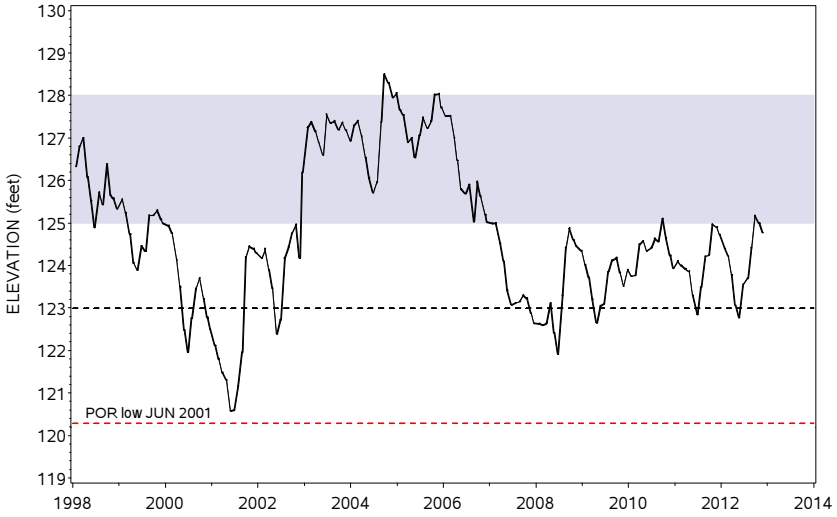

**Monthly Mean Elevation** — **Drought Year Low** — **Normal Range**

***Compiled by Ken Romie***

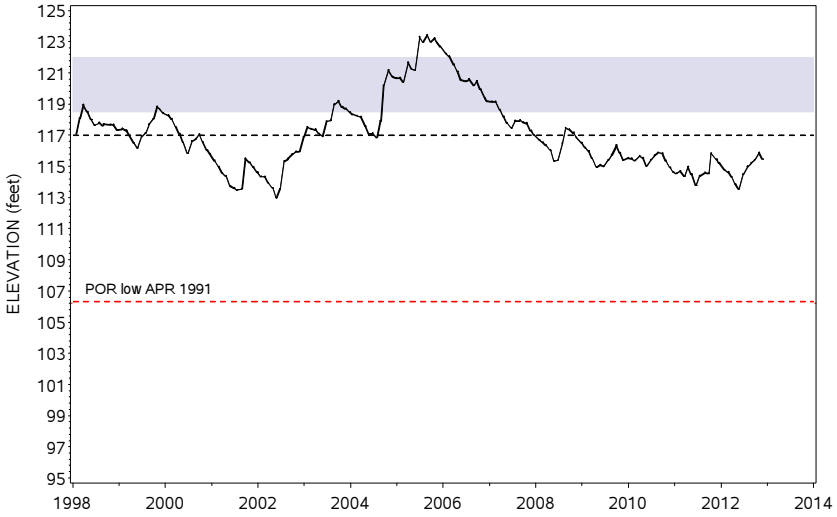
# HYDROGRAPHS OF REGIONAL LAKES

## 15-yr Period of Record

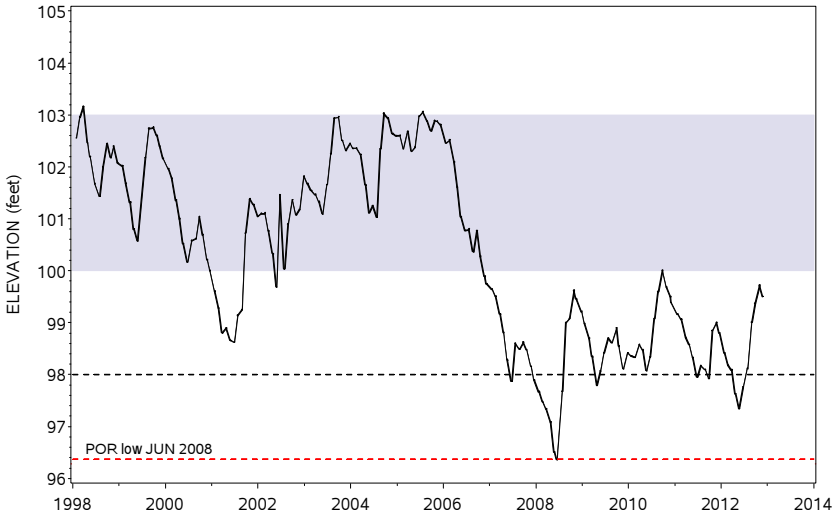
### Lake Otis
Polk Uplands Lakes



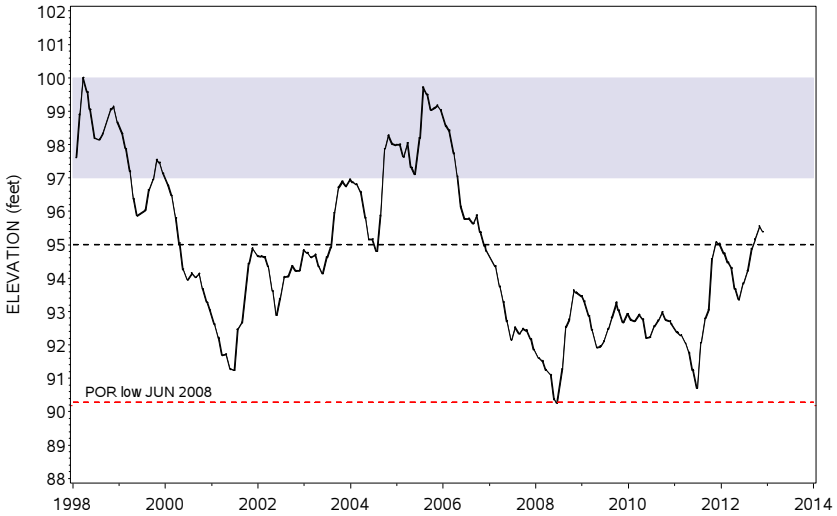

### Crooked Lake
Lake Wales Ridge Lakes




### Lake Jackson
Lake Wales Ridge Lakes




### Lake Letta
Lake Wales Ridge Lakes




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

***Compiled by Ken Romie***

## 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$^{th}$ and 75$^{th}$ percentiles of the period-of-record monthly means.

In November, all 12 stations monitored for this report had decreased streamflow, compared to last month. Total streamflow decreased in the northern, central and southern regions of the District by 313.8 cfs (202.7 mgd), 1080.9 cfs (698.3 mgd) and 2105.0 cfs (1359.8 mgd), respectively. District-wide, total streamflow decreased an average of 3919.2 cfs (2531.8 mgd).

Seven of the twelve monitoring stations recorded higher streamflow in November 2012 than in November 2011. Streamflow was higher in the northern, central and southern regions by 805.5 cfs (520.4 mgd), 35.9 cfs (23.2 mgd) and 22.1 cfs (14.3 mgd), respectively. District-wide, total streamflow was higher, on average, by 985.6 cfs (636.7 mgd), than the November 2011 average.

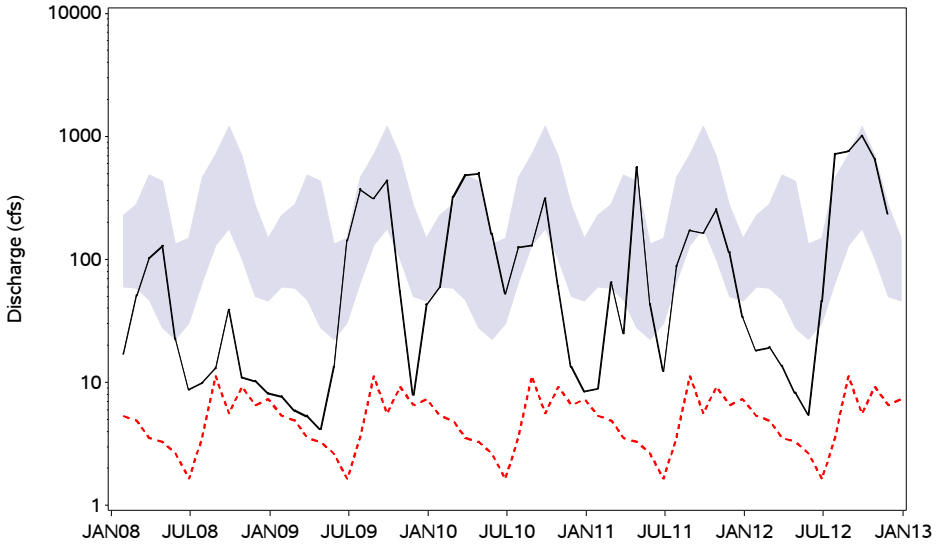
Compared to historical November discharge values, Withlacoochee River streamflow, measured at the Trilby station and the Holder station averaged in the 68$^{th}$ and 69$^{th}$ percentiles, respectively. Streamflow measured at the stations on the Anclote, Pithlachascotee and Hillsborough Rivers averaged in the 61$^{st}$, 49$^{th}$ and 59$^{th}$ percentiles of respective historical November readings. Streamflow measured at the Alafia River, Little Manatee River and Peace River at Bartow stations averaged in the 67$^{th}$, 56$^{th}$ and 36$^{th}$ percentiles of respective historical November readings. Additionally, streamflow measured at the Josephine Creek, Manatee River, Myakka River and Peace River at Arcadia stations averaged in the 58$^{th}$, 51$^{st}$, 59$^{th}$ and 48$^{th}$ percentiles of respective historical November readings.

## SUMMARY OF STREAM DISCHARGE FROM MAJOR STREAMS (CFS), NOVEMBER 2012

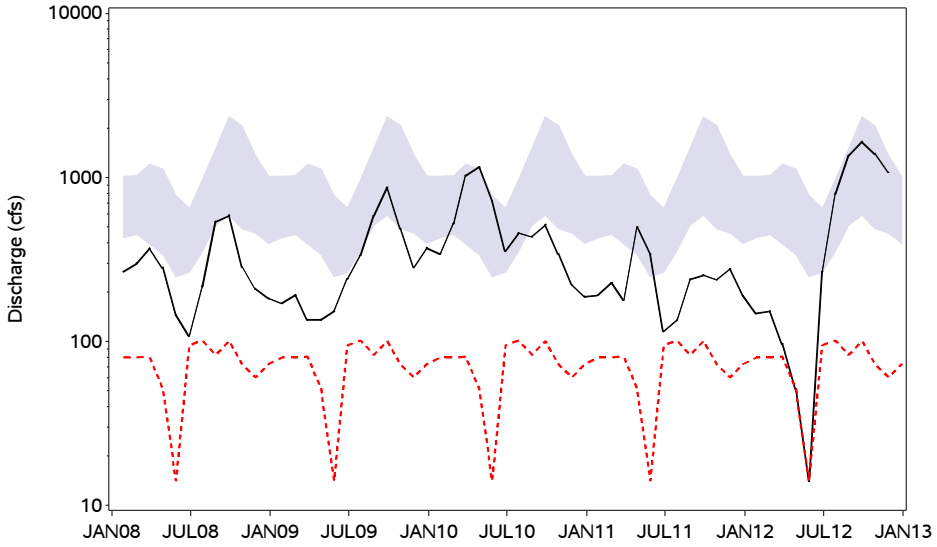
| *NORTHERN COUNTIES* | *Beginning Year of Record* | *Mean Discharge NOV 2012* | *Mean Discharge OCT 2012* | *Mean Discharge NOV 2011* | *Change from OCT 2012* | *Change from NOV 2011* | *NOV 2012 Percentile Rank* | *Period of Record Low* | *Record Low Date* | *Period of Record High* | *Record High Date* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Withlacoochee R at Trilby | 1928 | 236.0 | 655.5 | 113.9 | -419.5 | 122.1 | 68% | 0.1 | JUN2000 | 8840 | JUN1934 |
| Withlacoochee R near Holder | 1928 | 1081.7 | 1395.5 | 276.2 | -313.8 | 805.5 | 69% | 0.0 | MAY2012 | 8660 | APR1960 |
| *CENTRAL COUNTIES* | | | | | | | | | | | |
| Anclote River near Elfers | 1946 | 12.7 | 118.0 | 17.9 | -105.3 | -5.2 | 61% | 0.8 | MAY1962 | 3740 | JUN2012 |
| Pithlachascottee R near New Port Richey | 1963 | 3.9 | 27.3 | 6.7 | -23.4 | -2.8 | 49% | 0.0 | MAR2012 | 1420 | SEP1988 |
| Hillsborough R near Zephyrhills | 1939 | 116.3 | 368.0 | 99.5 | -251.7 | 16.8 | 59% | 27.0 | MAY2001 | 12300 | MAR1960 |
| Alafia River at Lithia | 1932 | 187.8 | 538.8 | 143.4 | -351.0 | 44.4 | 67% | 4.1 | JUN2000 | 40800 | SEP1933 |
| Little Manatee R near Wimauma | 1939 | 59.3 | 229.6 | 46.7 | -170.3 | 12.6 | 56% | 0.9 | DEC1976 | 11100 | SEP1960 |
| Peace River at Bartow | 1939 | 49.5 | 228.7 | 79.4 | -179.2 | -29.9 | 36% | 0.0 | MAY2009 | 4100 | SEP1947 |
| *SOUTHERN COUNTIES* | | | | | | | | | | | |
| Josephine Cr near DeSoto City | 1946 | 47.7 | 210.7 | 26.4 | -163.0 | 21.3 | 58% | 0.5 | MAY1956 | 1680 | SEP1948 |
| Manatee River near Myakka Head | 1966 | 14.7 | 77.6 | 15.3 | -62.9 | -0.6 | 51% | 0.1 | MAY1975 | 6440 | JUN2003 |
| Myakka River near Sarasota | 1936 | 87.0 | 303.4 | 54.6 | -216.4 | 32.4 | 59% | 0.0 | JUN2012 | 10800 | JUN2003 |
| Peace River at Arcadia | 1931 | 370.8 | 2033.5 | 401.8 | -1662.7 | -31.0 | 48% | 5.6 | MAY2000 | 34700 | SEP1933 |

# HYDROGRAPHS OF MAJOR STREAMS
## JANUARY 2008 TO NOVEMBER 2012

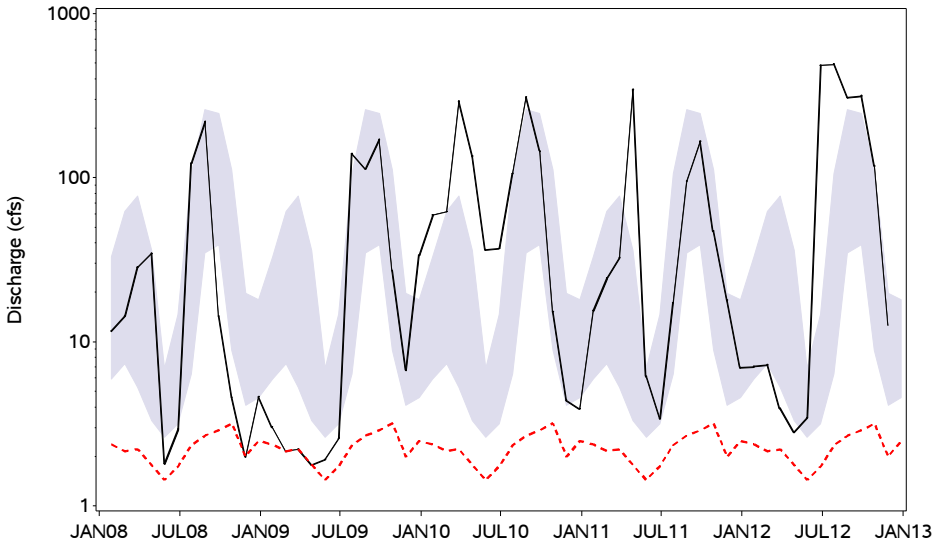
Withlacoochee R at Trilby
Northern Counties



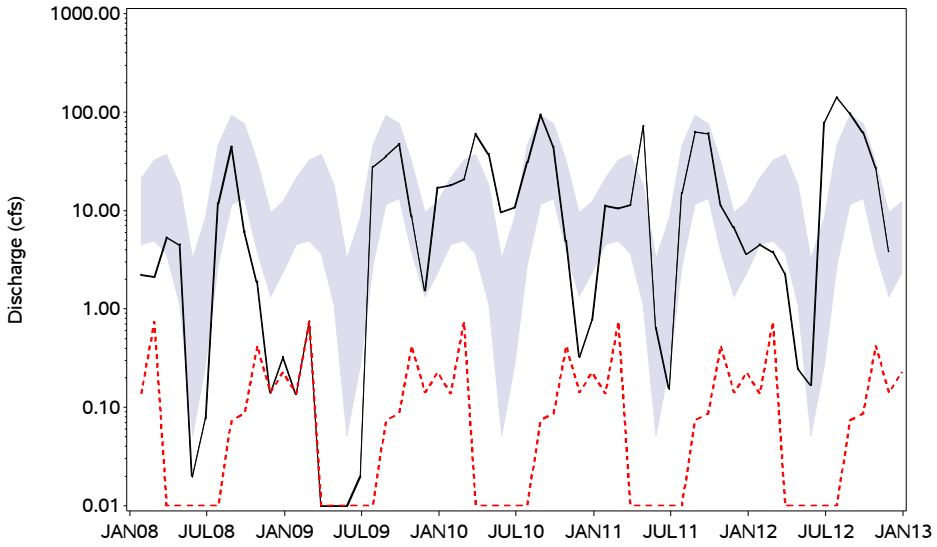

Withlacoochee R near Holder
Northern Counties




Anclote River near Elfers
Central Counties

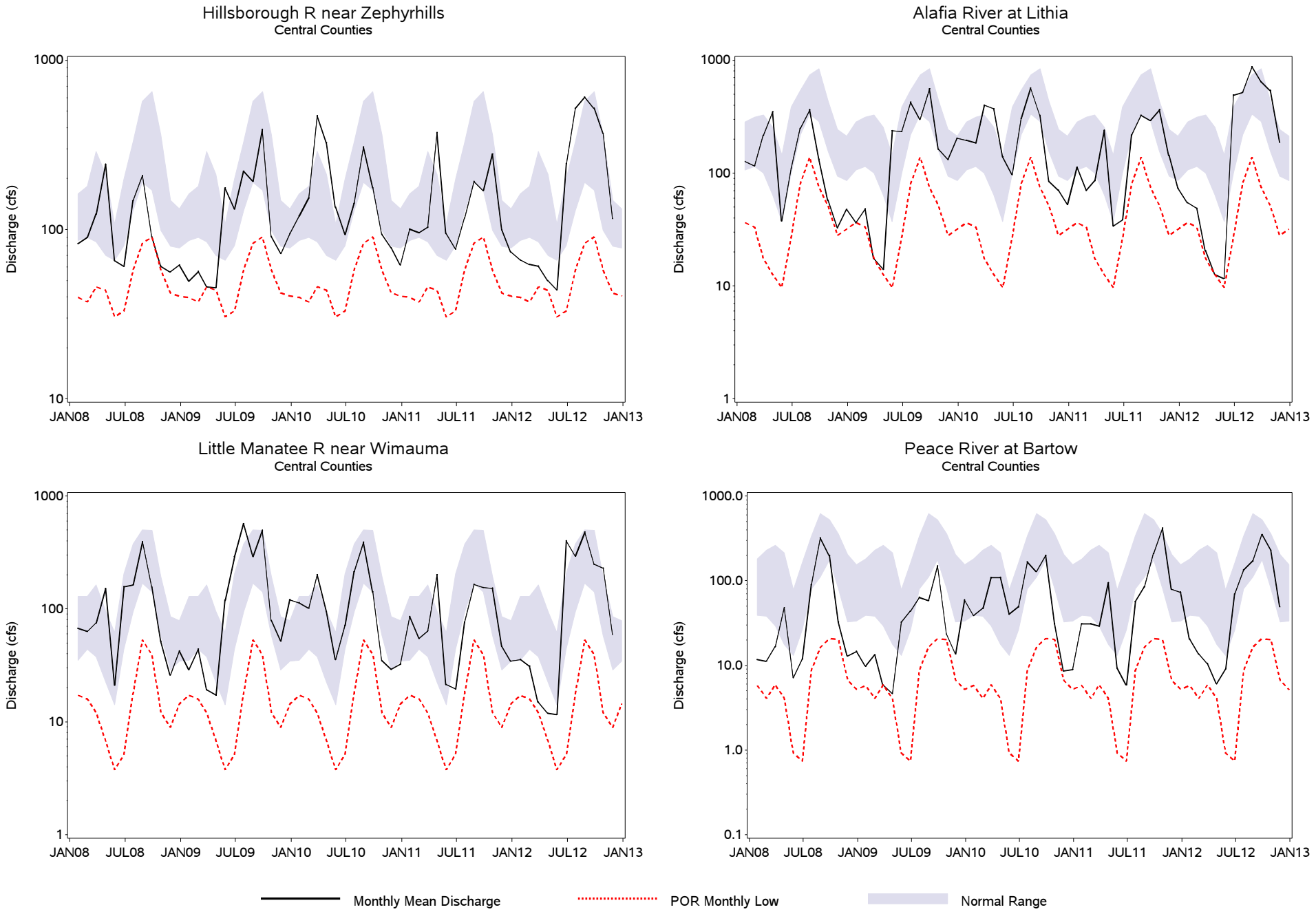



Pithlachascottee R near New Port Richey
Central Counties

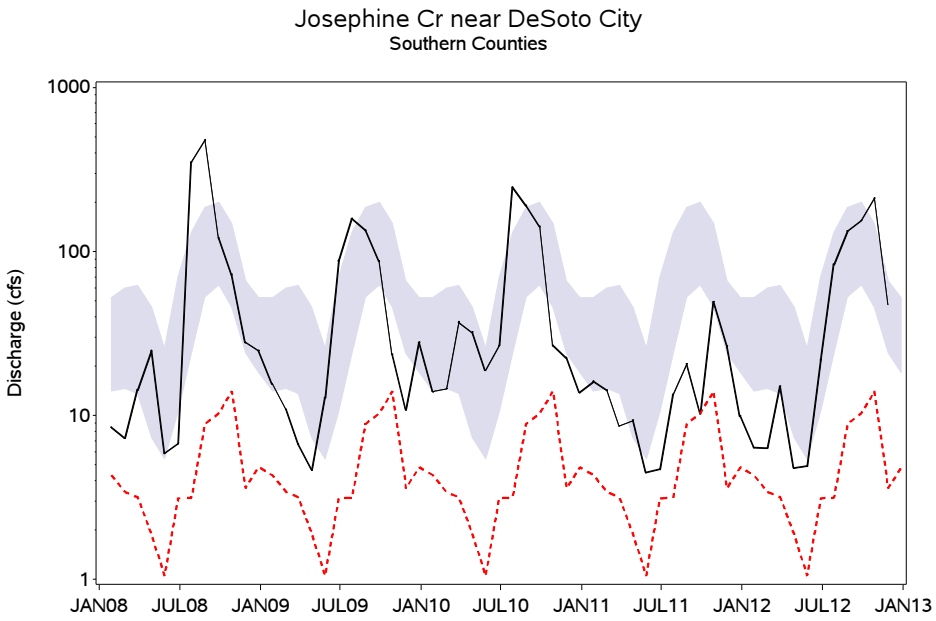


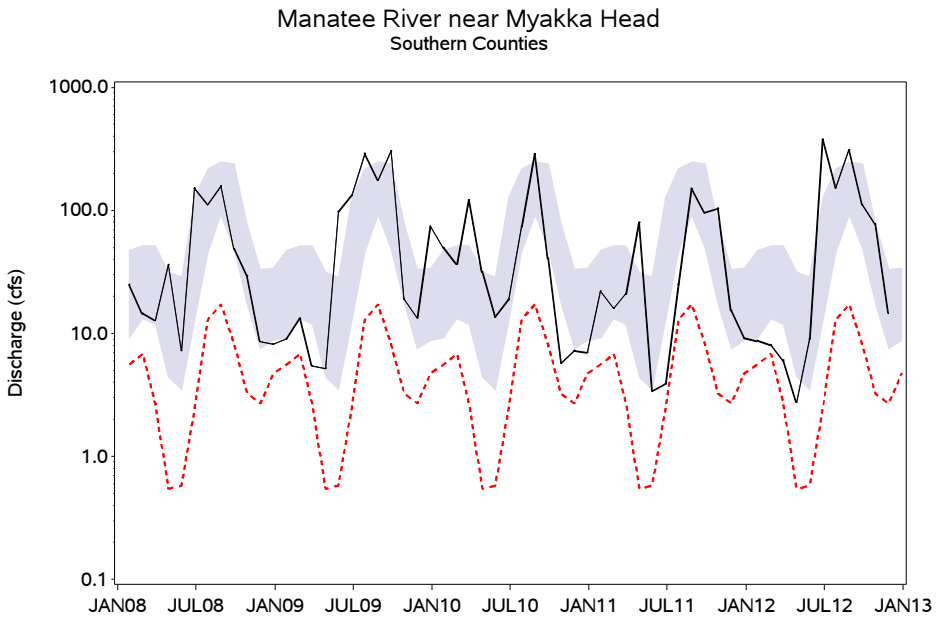

Monthly Mean Discharge  POR Monthly Low  Normal Range

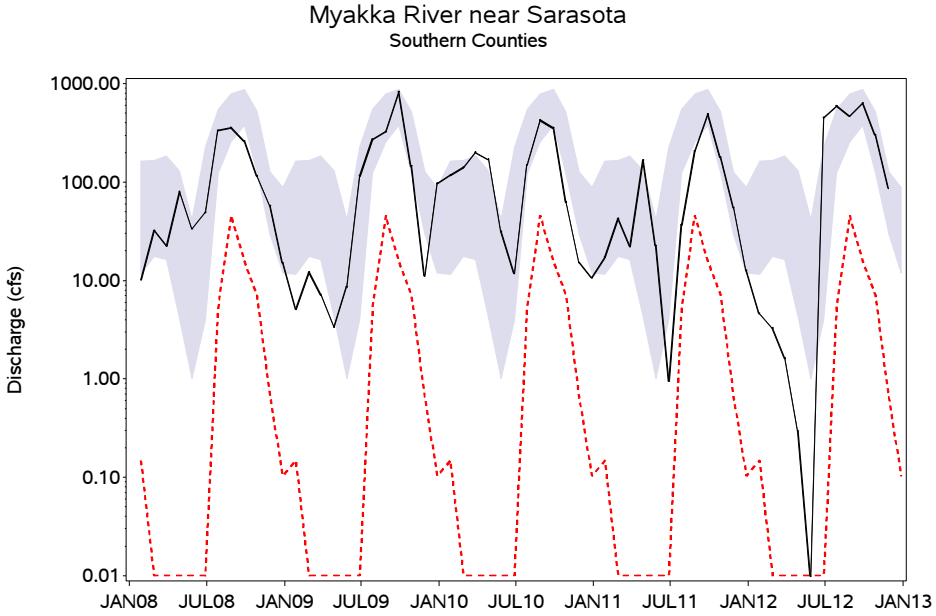
# HYDROGRAPHS OF MAJOR STREAMS
## JANUARY 2008 TO NOVEMBER 2012

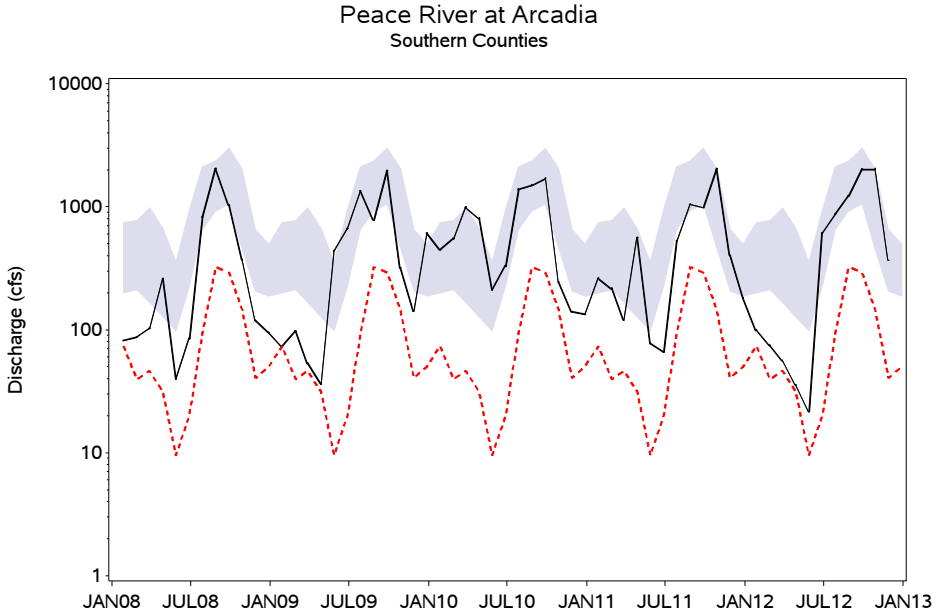


# HYDROGRAPHS OF MAJOR STREAMS
## JANUARY 2008 TO NOVEMBER 2012




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 ($50^{th}$ 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 WMIS when they become available.

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

In November, five of the seven stations reported decreased springflow, compared to the previous month. Total springflow decreased in the northern region of the District by 50.2 cfs (32.4 mgd), while it increased in the central region by 7.4 cfs (4.8 mgd). District-wide, springflow decreased by 42.8 cfs (27.6 mgd).

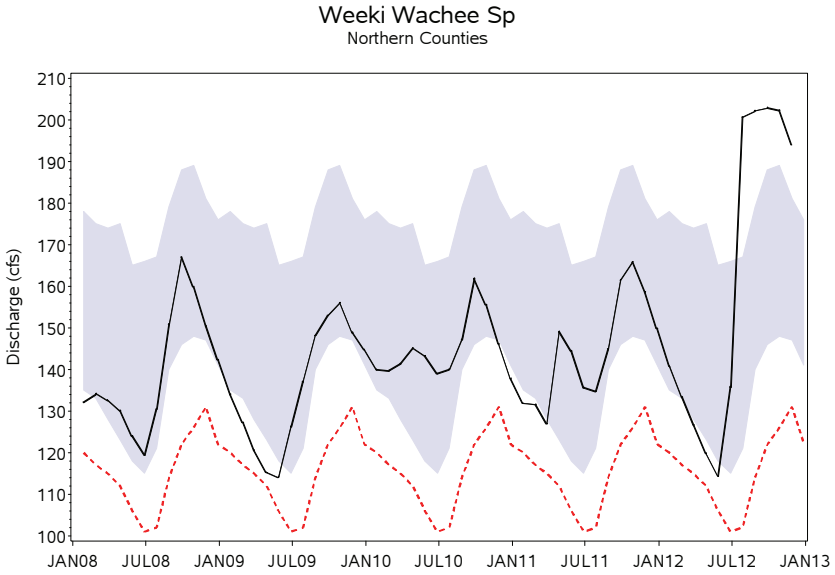
Total springflow recorded at five of the seven stations was higher in November 2012 than November 2011. Total springflow for the northern and central regions were higher by 305.3 cfs (197.3 mgd) and 13.6 cfs (8.8 mgd), respectively. District-wide, springflow was higher by 318.9 cfs (206.1 mgd), compared to November 2011 rates.

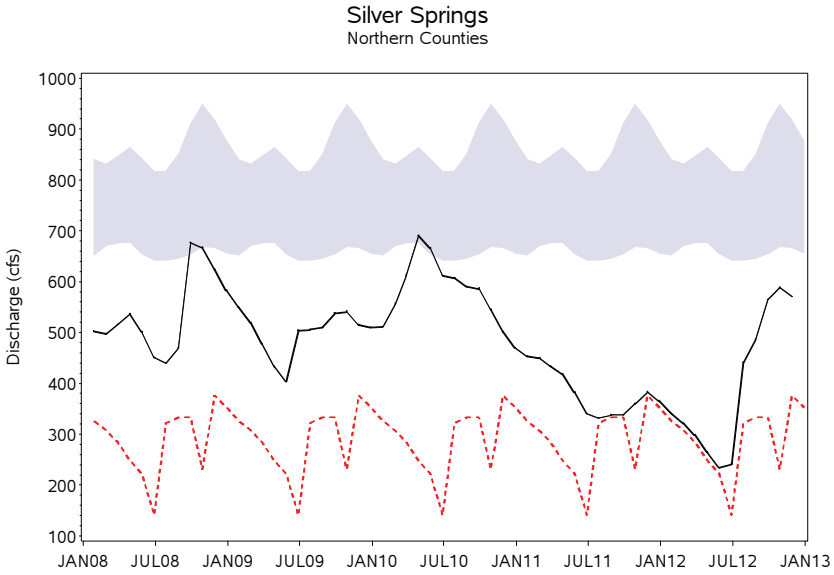
Compared to historical period-of-record values for November, total springflow measured in Rainbow, Silver and Weeki Wachee Springs, in the northern region, was in the $8^{th}$, $9^{th}$ and $82^{nd}$ percentiles of respective historical readings. Springflow measured in Crystal, Sulphur, Buckhorn and Lithia Springs in the central region was in the $90^{th}$, $15^{th}$, $36^{th}$ and $79^{th}$ percentiles, respectively, of historical November readings.

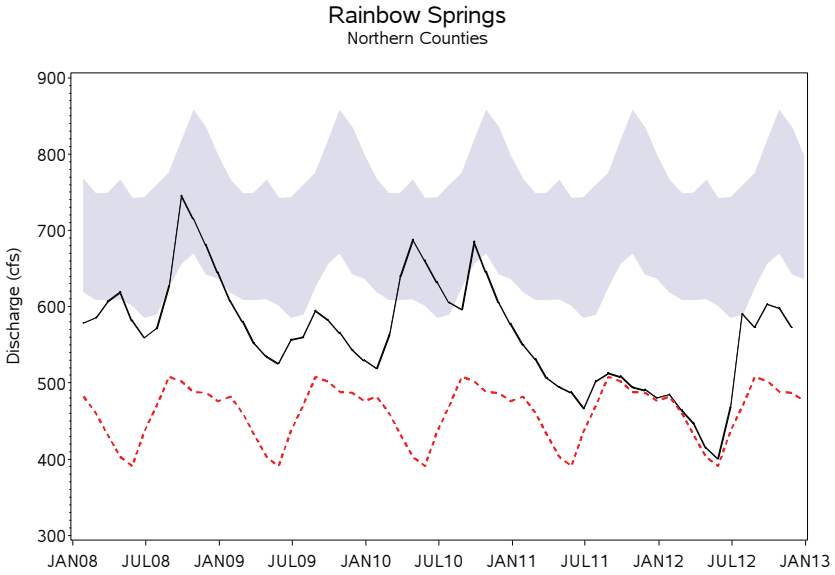
## SUMMARY OF SPRINGS DISCHARGE FROM MAJOR SPRINGS (CFS), NOVEMBER 2012

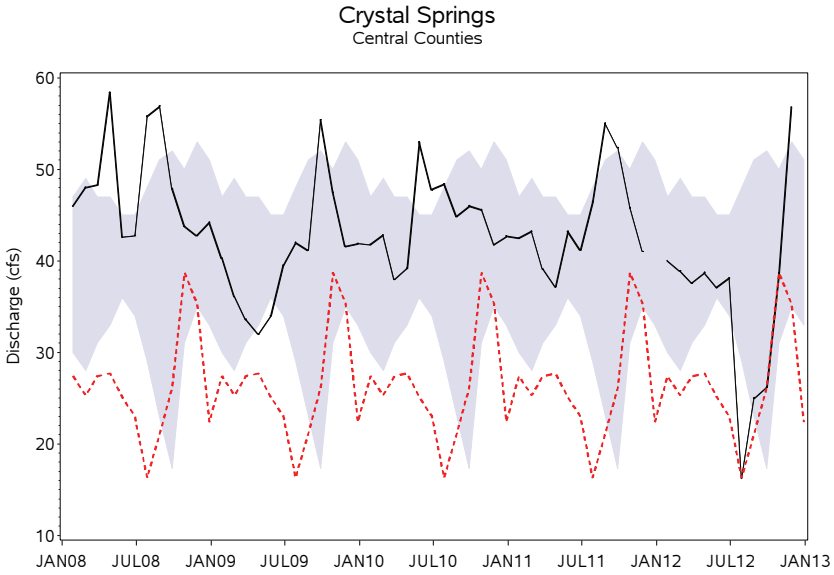
| *NORTHERN COUNTIES* | *NOV 2012 Discharge* | *OCT 2012 Discharge* | *NOV 2011 Discharge* | *Change From OCT 2012* | *Change From NOV 2011* | *NOV 2012 Percentile Rank* | *Period of Record Low* | *Record Low Date* | *Period of Record High* | *Record High Date* |
|---|---|---|---|---|---|---|---|---|---|---|
| Rainbow Springs | 573.6 | 598.2 | 491.1 | -24.6 | 82.5 | 8% | 391.0 | MAY2012 | 1060.0 | SEP1988 |
| Silver Springs | 571.1 | 588.5 | 383.8 | -17.4 | 187.3 | 9% | 141.0 | JUN2012 | 1290.0 | OCT1960 |
| Weeki Wachee Springs | 194.1 | 202.3 | 158.6 | -8.2 | 35.5 | 82% | 101.0 | JUN1994 | 257.0 | OCT2004 |
| *CENTRAL COUNTIES* | | | | | | | | | | |
| Crystal Springs | 56.8 | 38.7 | 41.1 | 18.1 | 15.7 | 90% | 16.3 | JUL2012 | 86.3 | AUG1995 |
| Sulphur Springs | 23.1 | 32.1 | 27.6 | -9.0 | -4.5 | 15% | 0.0 | JUN1994 | 145.0 | MAR1960 |
| Buckhorn Springs | 11.3 | 13.0 | 11.6 | -1.7 | -0.3 | 36% | 2.2 | MAY2006 | 32.7 | AUG2004 |
| Lithia Springs | 56.3 | 52.7 | 53.6 | 3.6 | 2.7 | 79% | 9.1 | MAY2000 | 91.5 | NOV2004 |

# HYDROGRAPHS OF REGIONAL SPRINGS
## JANUARY 2008 TO NOVEMBER 2012



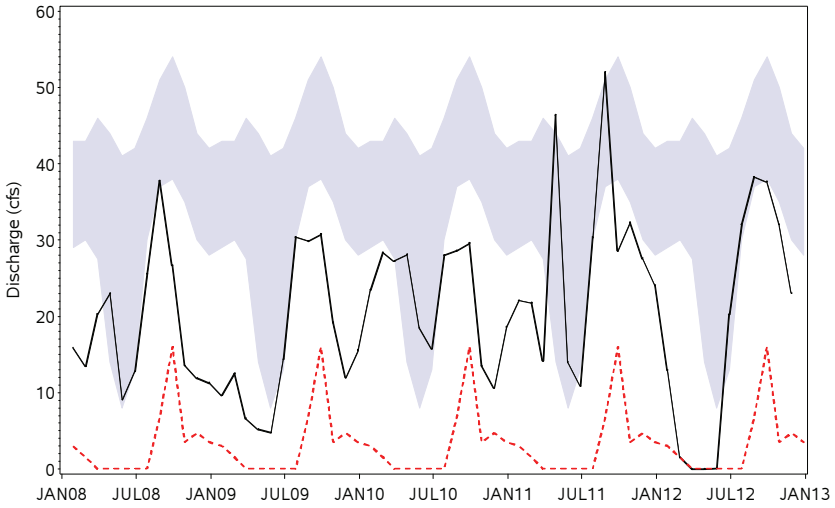



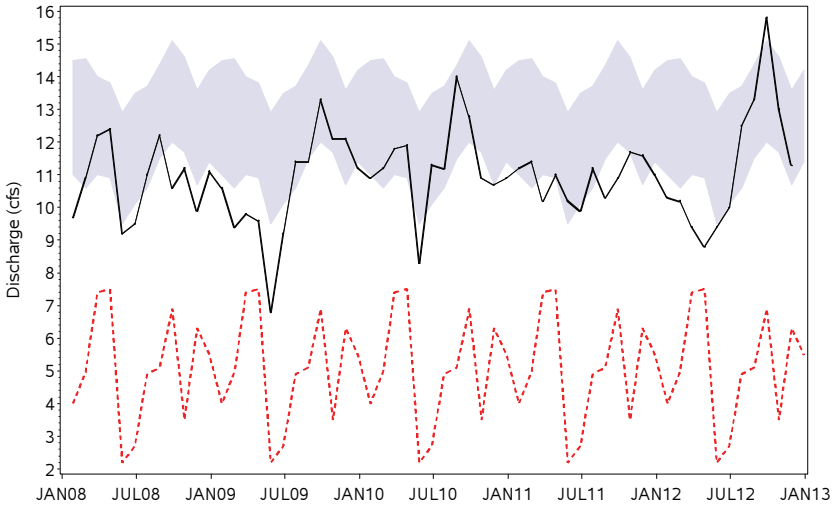



# HYDROGRAPHS OF REGIONAL SPRINGS
## JANUARY 2008 TO NOVEMBER 2012

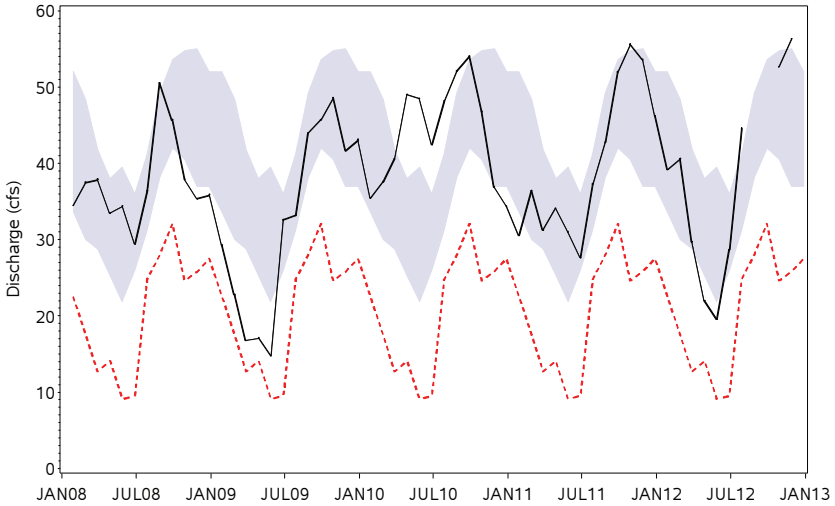
Sulphur Springs
Central Counties




Buckhorn Spring
Central Counties




Lithia Springs
Central Counties




Monthly Discharge  POR Monthly Low  Normal Range

## 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 $25^{th}$ and $75^{th}$ percentiles ("low normal" and "high normal," respectively) were calculated for each week of the year using the period-of-record data. The $25^{th}$ and $75^{th}$ 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 November, all 12 surficial aquifer wells recorded water level decreases, compared to last month. Regionally, average surficial aquifer water levels decreased in the northern, central and southern regions of the District by 0.68, 0.87 and 1.00 foot, respectively. District-wide, average surficial aquifer water levels decreased by 0.87 foot.

In November, average water levels in seven of the 12 surficial aquifer wells were higher than November 2011 levels. Average surficial aquifer water levels were higher in the northern region by 1.49 feet, while they were lower in the central and southern regions by 0.16 and 0.07 foot, respectively. District-wide, average water levels in surficial wells were 0.14 foot higher than November 2011 levels.

For November, water levels were above the low normal level in ten of the 12 surficial wells. Average surficial aquifer water levels in the northern, central and southern regions were 1.33 feet, 1.45 feet and 0.55 foot, respectively, above the low normal level. District-wide, the average water level in surficial wells was 1.20 feet above the low normal level.

## SUMMARY OF SURFICIAL AQUIFER LEVELS IN REPRESENTATIVE WELLS, NOVEMBER 2012

| *NORTHERN COUNTIES* | *NOV 2012 Elev* | *OCT 2012 Elev* | *NOV 2011 Elev* | *Change From OCT 2012* | *Change From NOV 2011* | *NOV Historical Low Normal* | *NOV Historical High Normal* | *Departure From Low Normal* | *Period of Record Low* | *Record Low Date* | *Period of Record High* | *Record High Date* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Green Swamp | 89.85 | 90.75 | 89.18 | -0.90 | 0.67 | 89.41 | 91.37 | 0.44 | 82.95 | MAY2000 | 93.07 | SEP1985 |
| Lecanto 2 | 9.78 | 10.24 | 7.46 | -0.46 | 2.32 | 7.55 | 10.00 | 2.23 | 5.76 | MAY2001 | 13.92 | SEP1974 |
| *CENTRAL COUNTIES* | | | | | | | | | | | | |
| Loughman | 90.96 | 91.57 | 92.24 | -0.61 | -1.27 | 91.15 | 92.59 | -0.19 | 88.19 | AUG2000 | 95.79 | SEP2004 |
| Lutz-Lake Fern | 57.07 | 57.97 | 57.34 | -0.90 | -0.27 | 56.23 | 57.15 | 0.84 | 52.64 | NOV2009 | 61.10 | SEP1986 |
| ROMP 50 Shallow | 41.58 | 42.06 | 41.64 | -0.48 | -0.05 | 41.22 | 41.67 | 0.36 | 38.01 | OCT2010 | 44.05 | SEP2001 |
| SR 33 & Combee Road | 132.80 | 133.85 | 132.78 | -1.05 | 0.02 | 132.79 | 134.10 | 0.01 | 129.16 | FEB2001 | 136.97 | OCT1995 |
| SR 577 Shallow | 125.58 | 127.04 | 125.13 | -1.46 | 0.45 | 120.69 | 123.87 | 4.89 | 110.18 | FEB1991 | 129.08 | OCT2012 |
| Tarpon Road Shallow | 12.48 | 13.58 | 11.85 | -1.10 | 0.63 | 10.94 | 12.38 | 1.54 | 9.31 | JUN1978 | 16.93 | SEP1971 |
| USGS P-48 | 101.19 | 101.68 | 101.81 | -0.49 | -0.62 | 98.51 | 100.95 | 2.68 | 96.07 | JUN2001 | 104.79 | SEP2004 |
| *SOUTHERN COUNTIES* | | | | | | | | | | | | |
| Edgeville 4 Shallow | 66.47 | 67.34 | 66.32 | -0.87 | 0.15 | 66.81 | 67.99 | -0.34 | 63.85 | MAY1975 | 69.93 | SEP1971 |
| ROMP 26 Shallow | 69.33 | 70.57 | 69.32 | -1.24 | 0.01 | 68.61 | 70.53 | 0.72 | 64.32 | JUN1999 | 75.11 | JUN1982 |
| SR 74 | 16.09 | 16.99 | 16.46 | -0.90 | -0.37 | 14.83 | 15.83 | 1.26 | 12.66 | MAY2000 | 18.33 | AUG2012 |

## Intermediate and Floridan Aquifers

In November, 49 of the 51 intermediate and Floridan aquifer wells monitored for this report recorded water level decreases, compared to last month. Regionally, average water levels decreased in the northern, central, and southern regions by 0.69 foot, 1.46 feet and 3.39 feet, respectively. District-wide, the average water level in the intermediate and Floridan aquifer decreased by 1.97 feet.

During November, water levels in 30 of the 51 intermediate and Floridan aquifer wells were higher than those measured in November 2011. Regionally, the mean water level in the northern and central regions was 3.02 feet and 0.82 foot, respectively, above November 2011 levels, while in the southern region it was 0.23 foot below last year's level. District-wide, average water levels in intermediate and Floridan aquifer wells were 1.03 feet higher than November 2011 levels.

For November, 41 of the 51 intermediate and Floridan aquifer wells had levels above the low normal level, compared to historical monthly levels. The average water levels in the northern, central and southern regions were 1.61 feet, 3.88 feet and 0.57 foot, respectively, above the low normal level. District-wide, the average water level in intermediate and Floridan aquifer wells was 2.02 feet above the low normal level.

## SUMMARY OF INTERMEDIATE AND FLORIDAN AQUIFER LEVELS IN REPRESENTATIVE WELLS, NOVEMBER 2012

### Regional Summary:

| *Region* | *NOV 2012 Mean Elevation* | *NOV 2012 Relation to POR Median* | *NOV 2012 Relation to 25th Percentile* | *NOV 2012 Mean Percentile Rank* | *OCT 2012 Mean Percentile Rank* | *NOV 2011 Mean Percentile Rank* |
|---|---|---|---|---|---|---|
| Northern Counties | 38.99 | 0.70 | 2.12 | 60% | 66% | 20% |
| Central Counties | 57.12 | 0.79 | 3.40 | 59% | 71% | 52% |
| Southern Counties | 30.42 | -1.80 | 1.11 | 34% | 52% | 36% |

### Regional Wells Summary:

| *NORTHERN COUNTIES* | *NOV 2012 Elev* | *OCT 2012 Elev* | *NOV 2011 Elev* | *Change From OCT 2012* | *Change From NOV 2011* | *NOV Historical Low Normal* | *NOV Historical High Normal* | *Departure From Low Normal* | *NOV 2012 Percentile Rank* | *Period of Record Low* | *Record Low Date* | *Period of Record High* | *Record High Date* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CE 14 Dunnellon Deep | 39.32 | 40.29 | 34.71 | -0.97 | 4.61 | 39.25 | 43.67 | 0.07 | 26% | 31.94 | MAY2012 | 60.24 | MAR1966 |
| Chassahowitzka 1 Deep | 7.42 | 7.70 | 6.12 | -0.28 | 1.30 | 6.40 | 7.42 | 1.02 | 76% | 4.68 | JUN2001 | 9.75 | SEP2004 |
| Inverness Dot Fldn | 30.98 | 31.38 | 25.66 | -0.40 | 5.32 | 28.80 | 32.29 | 2.18 | 58% | 21.63 | JUN2001 | 37.80 | OCT1982 |
| Mascotte Deep | 100.19 | 101.42 | 98.34 | -1.23 | 1.85 | 99.11 | 100.55 | 0.25 | 60% | 93.61 | JUN2000 | 102.66 | SEP1988 |
| ROMP 103 Suwannee/Ocala | 44.66 | 45.81 | 38.16 | -1.15 | 6.50 | 39.07 | 44.25 | 5.59 | 80% | 33.75 | MAY2009 | 51.03 | OCT2004 |
| ROMP 107 Ocala/Avon Park | 14.71 | 15.42 | 11.35 | -0.71 | 3.36 | 11.96 | 15.10 | 2.75 | 73% | 8.05 | AUG2007 | 19.78 | NOV1982 |
| ROMP 134 Ocala/Avon Park | 43.73 | 43.62 | 40.40 | 0.11 | 3.33 | 45.12 | 50.74 | -1.39 | 20% | 37.80 | JUN2012 | 57.35 | APR1998 |
| ROMP 89 Ocala | 91.03 | 92.07 | 91.45 | -1.04 | -0.42 | 89.19 | 91.68 | 1.84 | 58% | 82.41 | JUN2000 | 94.93 | DEC1997 |
| ROMP 97 Avon Park | 19.52 | 20.29 | 15.96 | -0.77 | 3.56 | 16.70 | 21.84 | 2.82 | 56% | 11.84 | MAY2009 | 26.24 | SEP2004 |
| ROMP Tr 124 Avon Park | 3.30 | 3.44 | 2.50 | -0.14 | 0.80 | 2.39 | 3.08 | 0.91 | 86% | 0.77 | SEP2004 | 6.11 | AUG1985 |
| ROMP Tr 21-2 Ocala/Avon Pk | 2.36 | 2.25 | 1.94 | 0.11 | 0.42 | 1.49 | 2.04 | 0.87 | 91% | -0.06 | DEC1990 | 4.56 | NOV1987 |
| Sumter 13 JC 59 Up Fldn | 41.69 | 43.00 | 38.73 | -1.31 | 2.96 | 40.28 | 42.89 | 1.41 | 47% | 36.52 | MAY2012 | 47.01 | JUN2003 |
| Webster City Fldn | 82.94 | 84.08 | 77.40 | -1.14 | 5.54 | 80.36 | 85.14 | 2.58 | 56% | 74.16 | MAY2012 | 88.77 | SEP2005 |
| Weeki Wachee Deep | 17.68 | 18.41 | 14.59 | -0.73 | 3.09 | 16.07 | 20.47 | 1.61 | 49% | 10.67 | MAY2009 | 23.91 | AUG1984 |

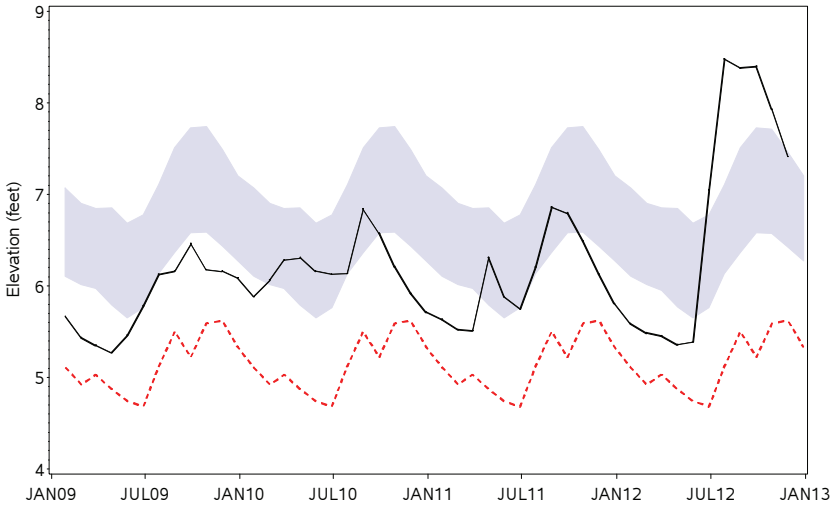
**Regional Wells Summary (continued):**

| *CENTRAL COUNTIES* | *NOV 2012 Elev* | *OCT 2012 Elev* | *NOV 2011 Elev* | *Change From OCT 2012* | *Change From NOV 2011* | *NOV Historical Low Normal* | *NOV Historical High Normal* | *Departure From Low Normal* | *NOV 2012 Percentile Rank* | *Period of Record Low* | *Record Low Date* | *Period of Record High* | *Record High Date* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bexley 2 Fldn | 61.71 | 62.41 | 61.83 | -0.70 | -0.12 | 60.16 | 61.80 | 1.55 | 72% | 56.08 | JUN2000 | 64.07 | SEP1988 |
| Hills State Pk Parking Deep | 39.56 | 41.10 | 39.14 | -1.54 | 0.42 | 37.47 | 39.46 | 2.09 | 78% | 35.35 | JUN2000 | 47.42 | DEC1997 |
| Lk Alfred Deep nr Lake Alfre | 126.63 | 127.54 | 127.42 | -0.91 | -0.79 | 126.37 | 128.52 | 0.26 | 32% | 119.99 | APR1993 | 131.62 | OCT1960 |
| Lykes Pasco Fldn | 68.65 | 70.22 | 66.38 | -1.57 | 2.27 | 63.76 | 68.39 | 4.89 | 76% | 56.94 | JUN2000 | 75.78 | OCT2004 |
| Masaryktown Deep | 35.98 | 36.36 | 26.99 | -0.38 | 8.99 | 31.31 | 42.05 | 4.67 | 52% | 21.49 | MAY2009 | 50.32 | SEP1984 |
| Moon Lake Deep | 30.83 | 31.44 | 30.10 | -0.61 | 0.73 | 29.77 | 31.14 | 1.06 | 67% | 20.21 | AUG1990 | 38.78 | DEC1997 |
| Pasco Well 13 nr Drexel Fldn | 72.13 | 73.02 | 71.85 | -0.89 | 0.28 | 72.03 | 73.65 | 0.10 | 29% | 64.22 | SEP1977 | 77.14 | JUL1960 |
| Pinellas 665 Fldn | 8.52 | 8.87 | 8.63 | -0.35 | -0.11 | 9.26 | 11.56 | -0.74 | 8% | 6.70 | MAY2006 | 14.79 | SEP1959 |
| ROMP 45 Avon Park | 71.09 | 75.44 | 73.39 | -4.35 | -2.30 | 58.05 | 71.38 | 13.04 | 74% | 31.75 | MAY1981 | 84.42 | OCT2004 |
| ROMP 50 Avon Park | 5.52 | 6.98 | 4.37 | -1.46 | 1.15 | 3.38 | 7.60 | 2.14 | 55% | -32.77 | FEB2004 | 14.95 | AUG1982 |
| ROMP 59 Swnn/AvPk | 72.28 | 76.45 | 72.96 | -4.17 | -0.68 | 58.49 | 71.83 | 13.79 | 78% | 33.33 | MAY1981 | 85.92 | OCT2004 |
| ROMP 66 Tampa | 19.69 | 21.38 | 19.23 | -1.69 | 0.46 | 16.34 | 18.73 | 3.35 | 87% | 12.04 | JUN1977 | 24.51 | DEC1997 |
| ROMP 87 Avon Park | 102.22 | 103.49 | 102.62 | -1.27 | -0.40 | 101.10 | 103.09 | 1.12 | 54% | 94.88 | JUN2000 | 106.30 | FEB1998 |
| ROMP 93 Swnn/AvPk | 71.79 | 72.74 | 69.87 | -0.95 | 1.92 | 66.84 | 73.11 | 4.95 | 60% | 59.02 | JUN2001 | 76.60 | SEP1982 |
| SR 52 Deep W nr Fivay Jct | 52.73 | 53.44 | 52.58 | -0.71 | 0.15 | 51.80 | 52.92 | 0.93 | 65% | 48.08 | JUN2000 | 57.98 | AUG2010 |
| SR 577 Deep | 91.88 | 94.58 | 88.68 | -2.70 | 3.20 | 85.79 | 92.49 | 6.09 | 69% | 72.76 | JUN2000 | 98.51 | MAR1998 |
| Sanlon Ranch Fldn | 95.77 | 97.14 | 96.36 | -1.37 | -0.59 | 85.16 | 94.89 | 10.61 | 78% | 66.38 | MAY1975 | 105.27 | OCT2004 |
| Tarpon Rd Deep | 9.87 | 10.59 | 9.68 | -0.72 | 0.19 | 9.92 | 10.86 | -0.05 | 24% | 6.95 | MAY2007 | 13.06 | SEP1971 |

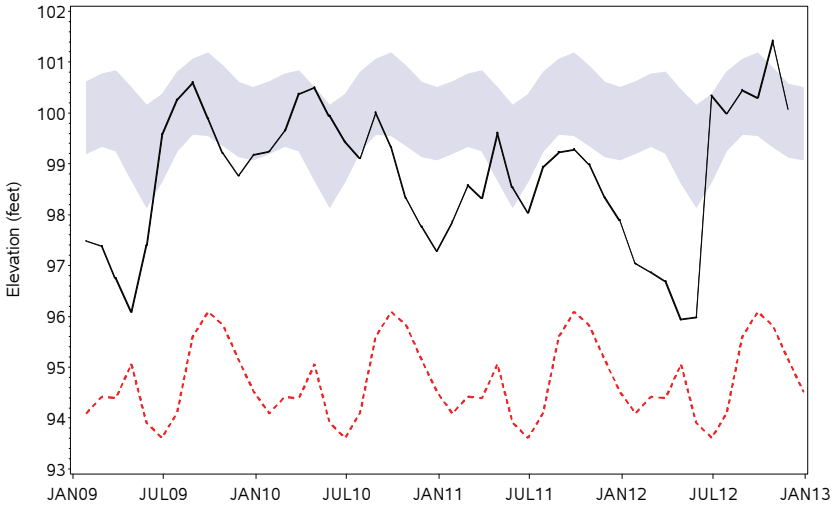
| *SOUTHERN COUNTIES* | *NOV 2012 Elev* | *OCT 2012 Elev* | *NOV 2011 Elev* | *Change From OCT 2012* | *Change From NOV 2011* | *NOV Historical Low Normal* | *NOV Historical High Normal* | *Departure From Low Normal* | *NOV 2012 Percentile Rank* | *Period of Record Low* | *Record Low Date* | *Period of Record High* | *Record High Date* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Big Slough Deep | 33.10 | 34.51 | 33.22 | -1.41 | -0.12 | 32.55 | 33.83 | 0.55 | 47% | 26.82 | MAY2006 | 36.59 | JAN1983 |
| Edgeville 3 Deep | 25.44 | 30.72 | 25.93 | -5.28 | -0.49 | 26.37 | 34.68 | -0.93 | 21% | 1.13 | MAY2000 | 46.40 | OCT1965 |
| Englewood 14 Deep | 5.11 | 5.97 | 5.47 | -0.86 | -0.36 | 3.81 | 6.10 | 1.30 | 57% | -0.97 | FEB2001 | 11.37 | SEP1974 |
| Florida Cities Test 1 | 1.52 | 4.21 | 3.18 | -2.69 | -1.66 | 8.75 | 18.15 | -7.23 | 2% | -18.63 | MAY1976 | 26.07 | MAR1978 |
| Kibler Deep | 4.18 | 10.99 | 4.78 | -6.81 | -0.60 | 5.54 | 15.91 | -1.36 | 19% | -29.95 | MAY2000 | 29.30 | AUG1978 |
| Manasota 14 Deep | 18.46 | 19.12 | 17.89 | -0.66 | 0.57 | 19.47 | 21.33 | -1.01 | 7% | 14.88 | JUL2004 | 22.70 | NOV1971 |
| Marshall Deep | 41.88 | 47.63 | 43.34 | -5.75 | -1.46 | 40.11 | 48.09 | 1.77 | 36% | 8.96 | JUN2000 | 55.24 | MAR1964 |
| ROMP 16 Ocala | 46.74 | 49.36 | 47.66 | -2.62 | -0.92 | 45.84 | 48.86 | 0.90 | 41% | 28.94 | JAN2001 | 51.21 | SEP1995 |
| ROMP 26 Swnn/AvPk | 43.58 | 48.16 | 44.89 | -4.58 | -1.31 | 41.86 | 47.31 | 1.72 | 42% | 19.47 | MAY2000 | 53.18 | OCT1979 |
| ROMP 28X Swnn/AvPk | 70.07 | 71.13 | 68.94 | -1.06 | 1.13 | 67.57 | 70.63 | 2.50 | 69% | 57.24 | JAN2010 | 74.68 | OCT1995 |
| ROMP 30 Swnn/AvPk | 47.50 | 53.36 | 48.65 | -5.86 | -1.15 | 41.47 | 52.07 | 6.03 | 56% | -0.20 | JUN2000 | 60.52 | MAR1998 |
| ROMP 31 Swnn/AvPk | 43.10 | 49.55 | 42.91 | -6.45 | 0.19 | 37.37 | 47.42 | 5.73 | 57% | -8.20 | JUN2000 | 57.92 | MAR1998 |
| ROMP 32 L Ocala/Avon Park | 26.25 | 32.50 | 23.15 | -6.25 | 3.10 | 22.24 | 33.06 | 4.01 | 44% | -17.54 | JUN2000 | 51.65 | OCT1987 |
| ROMP 43XX Avon Park | 88.04 | 89.45 | 89.13 | -1.41 | -1.09 | 85.73 | 90.11 | 2.31 | 50% | 70.93 | JAN2010 | 94.60 | MAR1998 |
| ROMP Tr 5-1 Suwannee | 15.89 | 20.75 | 18.90 | -4.86 | -3.01 | 18.80 | 20.59 | -2.91 | 1% | 13.26 | JUN2000 | 23.00 | SEP1983 |
| ROMP Tr 7-1 Tampa | 17.56 | 19.10 | 17.73 | -1.54 | -0.17 | 17.14 | 19.06 | 0.42 | 37% | 10.08 | JUN2000 | 23.82 | SEP1995 |
| Sarasota 11th St Deep | 6.32 | 6.59 | 7.26 | -0.27 | -0.94 | 8.09 | 11.59 | -1.77 | 3% | -0.46 | APR2012 | 19.31 | SEP1979 |
| Sarasota 9 Deep | 20.55 | 21.35 | 17.47 | -0.80 | 3.08 | 20.42 | 30.79 | 0.13 | 26% | 0.31 | JUN2000 | 38.76 | MAR1931 |
| Verna Test 0-1 | 12.47 | 17.73 | 11.69 | -5.26 | 0.78 | 13.77 | 21.86 | -1.30 | 17% | -18.05 | MAY2000 | 33.32 | JAN1984 |

# HYDROGRAPHS OF REPRESENTATIVE INTERMEDIATE AND FLORIDAN AQUIFER WELLS
## JANUARY 2009 TO NOVEMBER 2012

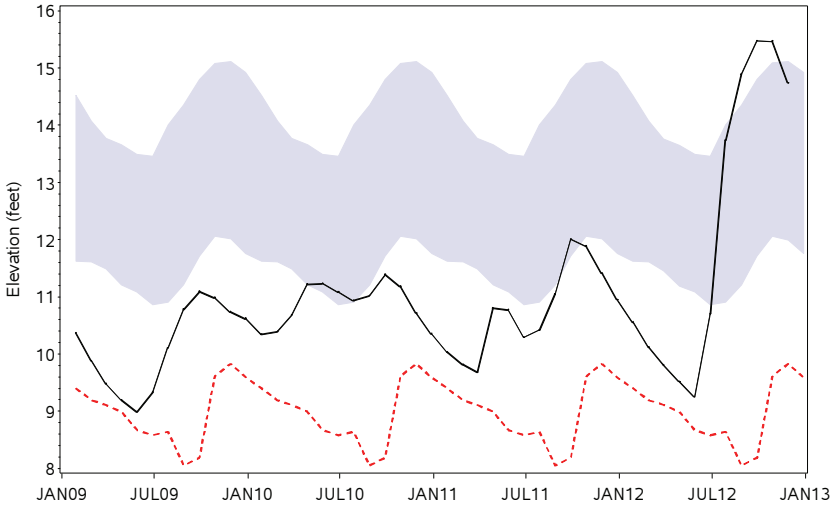
Chassahowitzka 1 Deep
Northern Counties



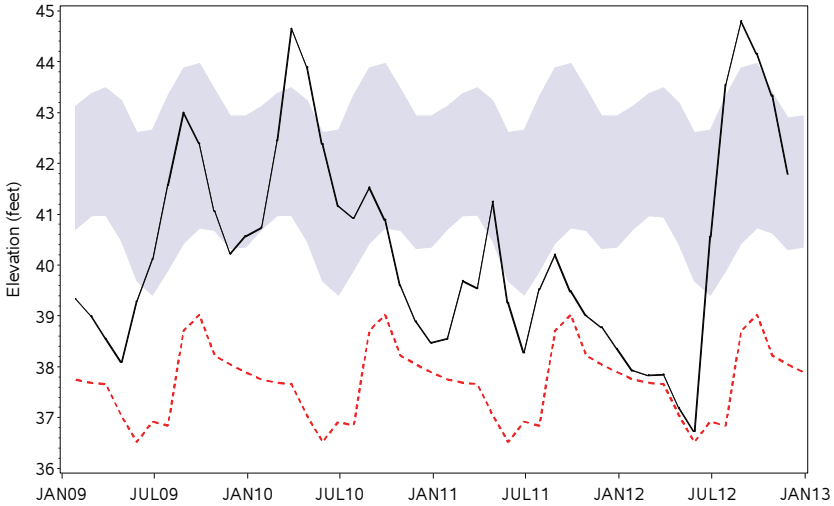

Mascotte Deep
Northern Counties




ROMP 107 Ocala/Avon Park
Northern Counties

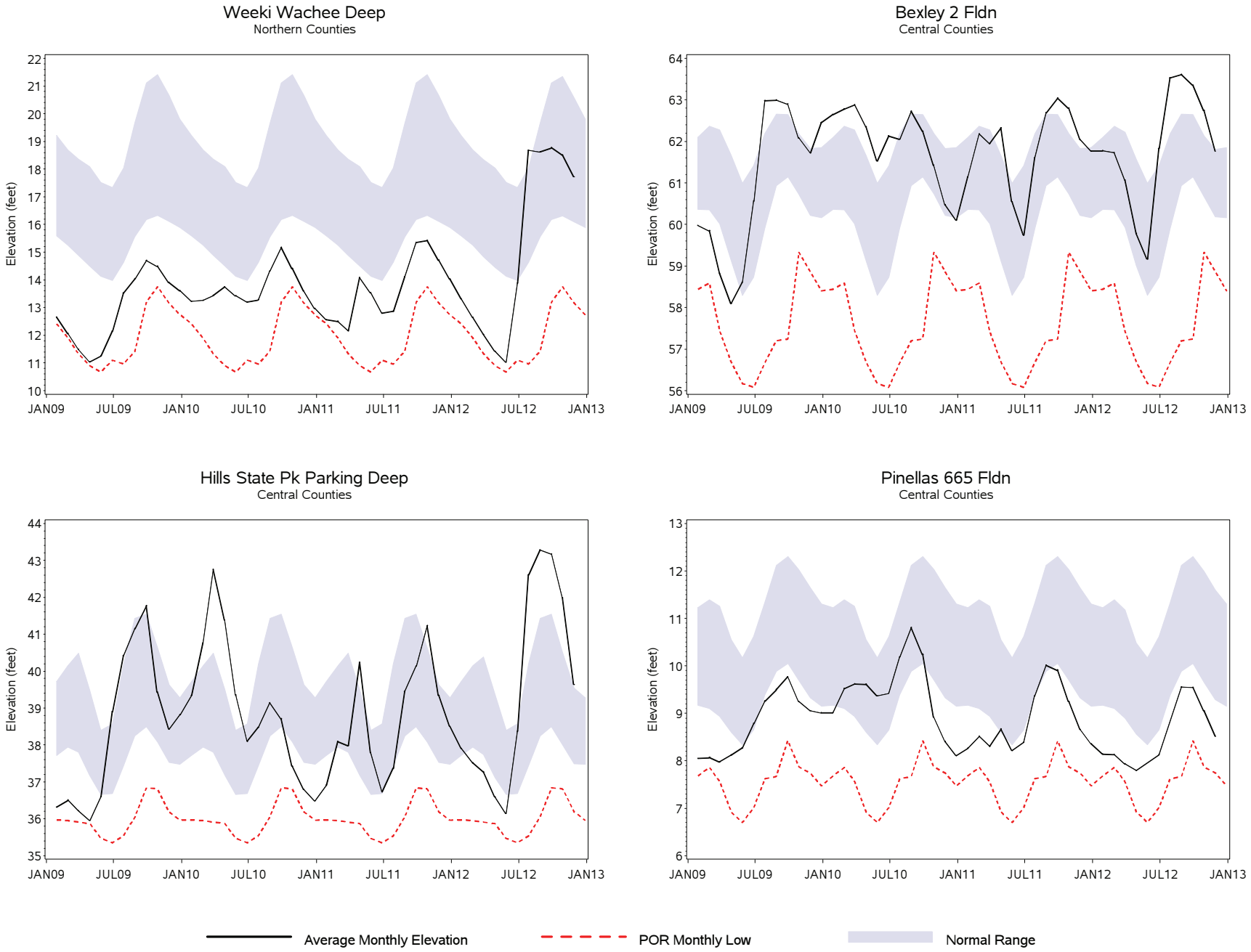



Sumter 13 JC 59 Up Fldn
Northern Counties



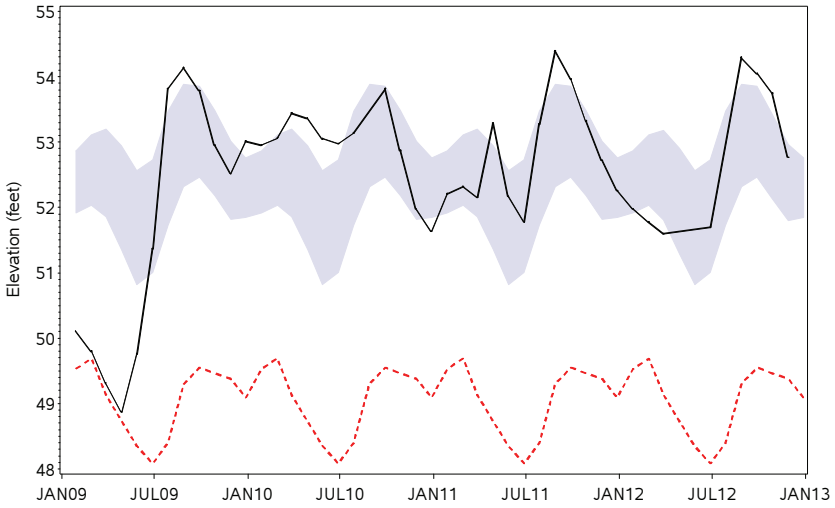

Average Monthly Elevation  POR Monthly Low  Normal Range

# HYDROGRAPHS OF REPRESENTATIVE INTERMEDIATE AND FLORIDAN AQUIFER WELLS
## JANUARY 2009 TO NOVEMBER 2012

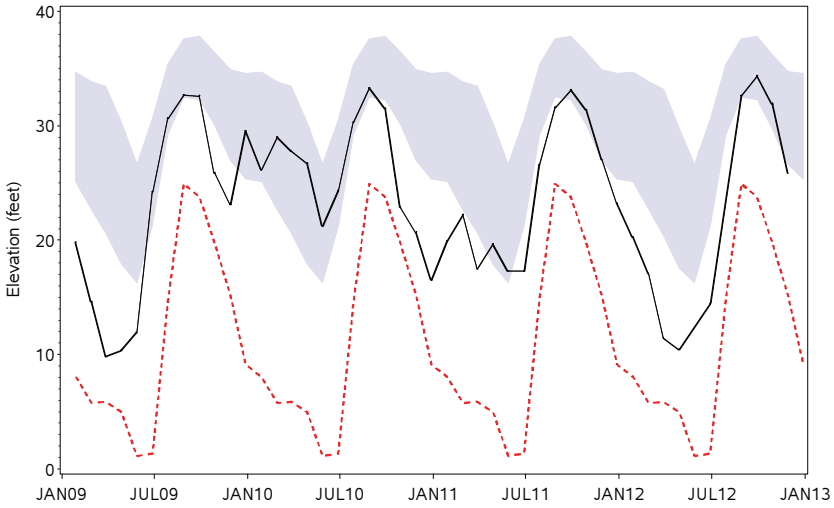


# HYDROGRAPHS OF REPRESENTATIVE INTERMEDIATE AND FLORIDAN AQUIFER WELLS
## JANUARY 2009 TO NOVEMBER 2012

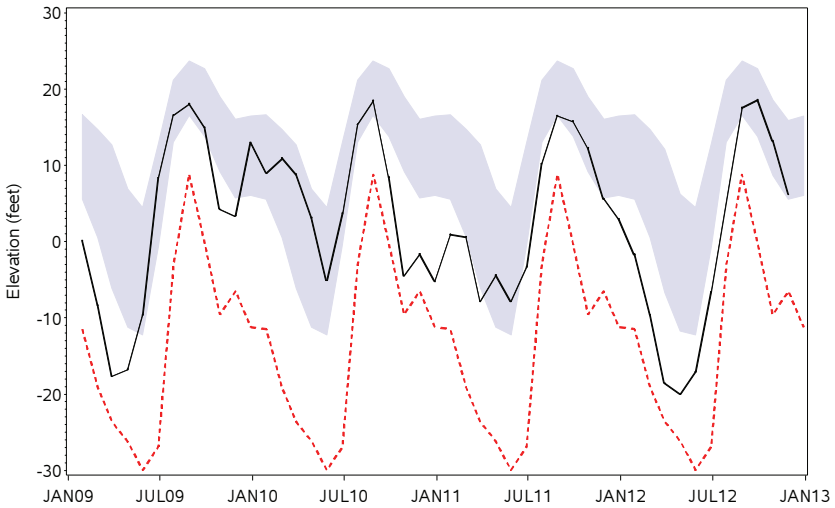
SR 52 Deep W nr Fivay Jct
Central Counties



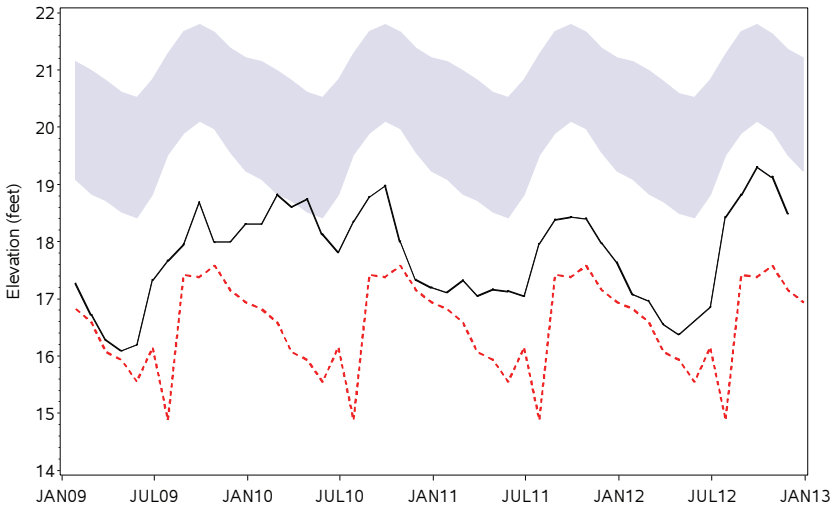

Edgeville 3 Deep
Southern Counties




Kibler Deep
Southern Counties

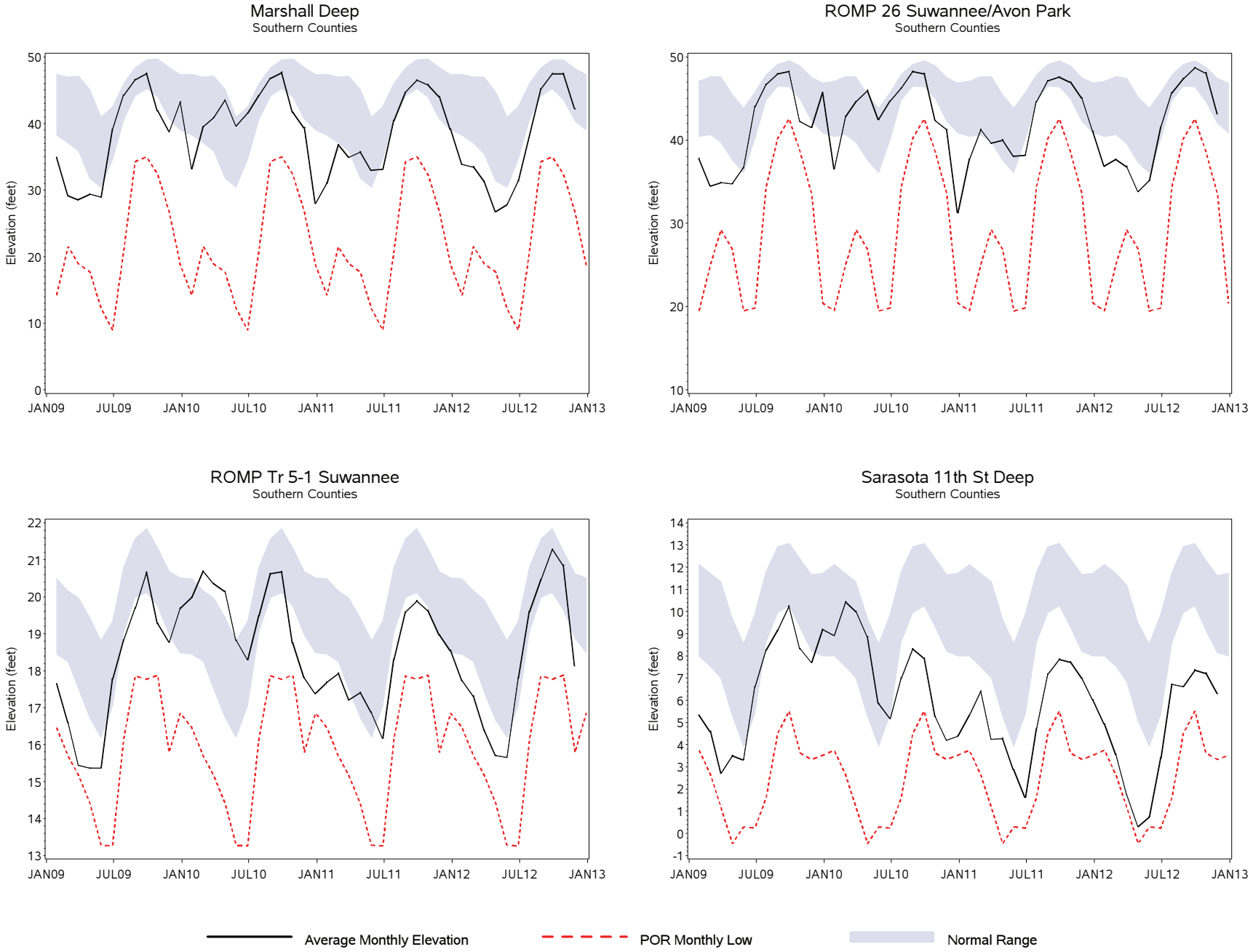



Manasota 14 Deep
Southern Counties

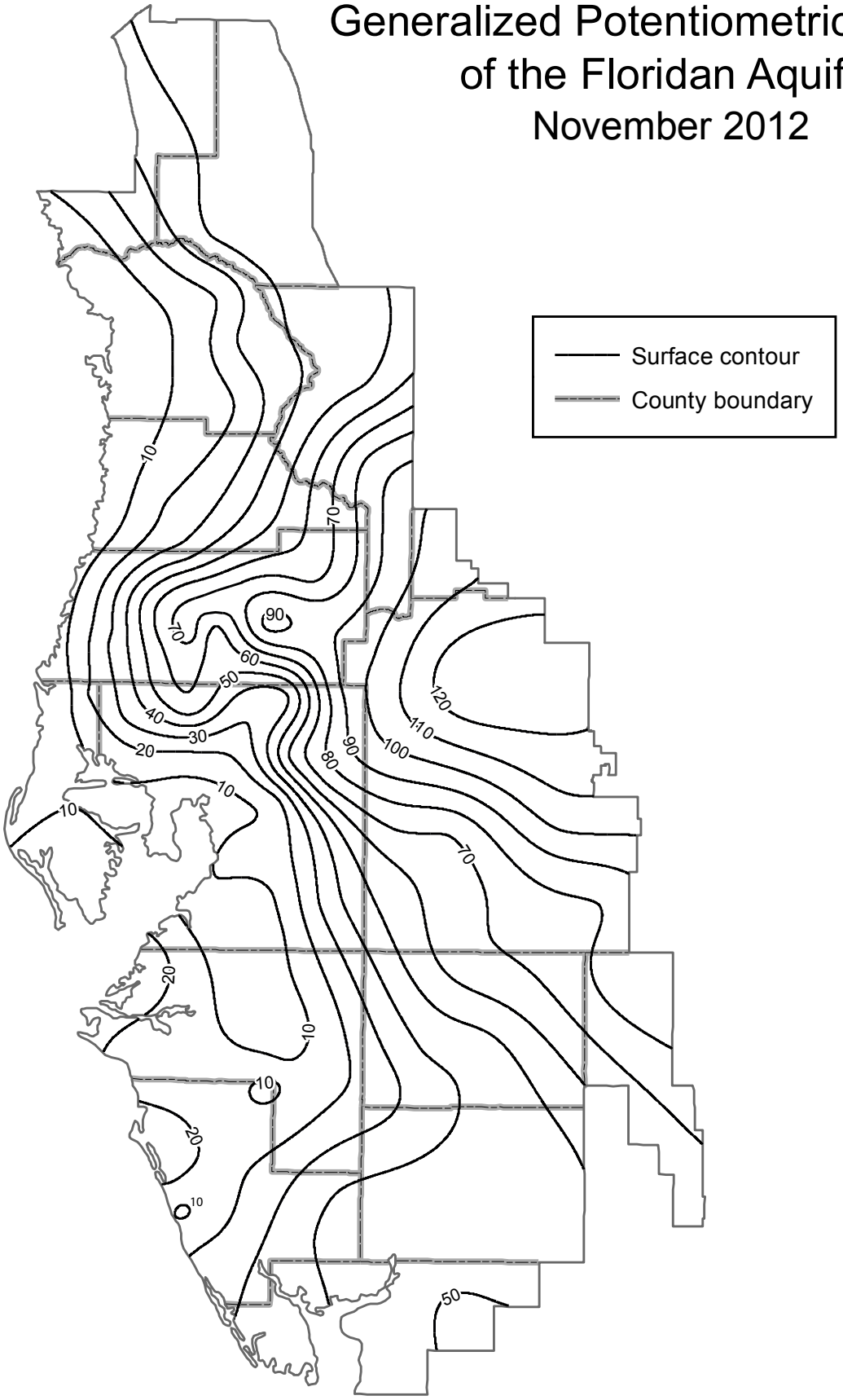



Average Monthly Elevation  POR Monthly Low  Normal Range

# HYDROGRAPHS OF REPRESENTATIVE INTERMEDIATE AND FLORIDAN AQUIFER WELLS
## JANUARY 2009 TO NOVEMBER 2012

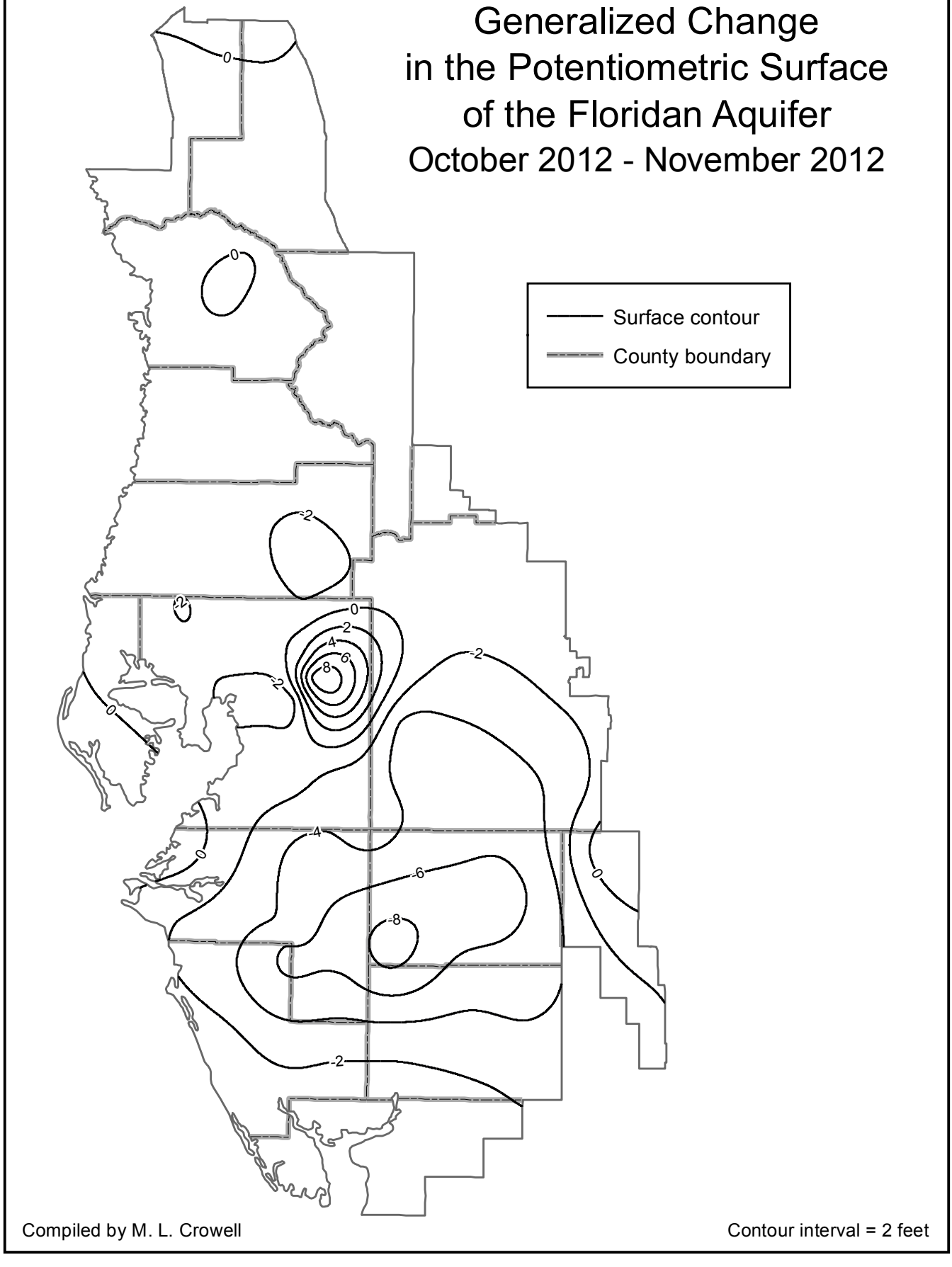


# Generalized Potentiometric Surface of the Floridan Aquifer
## November 2012

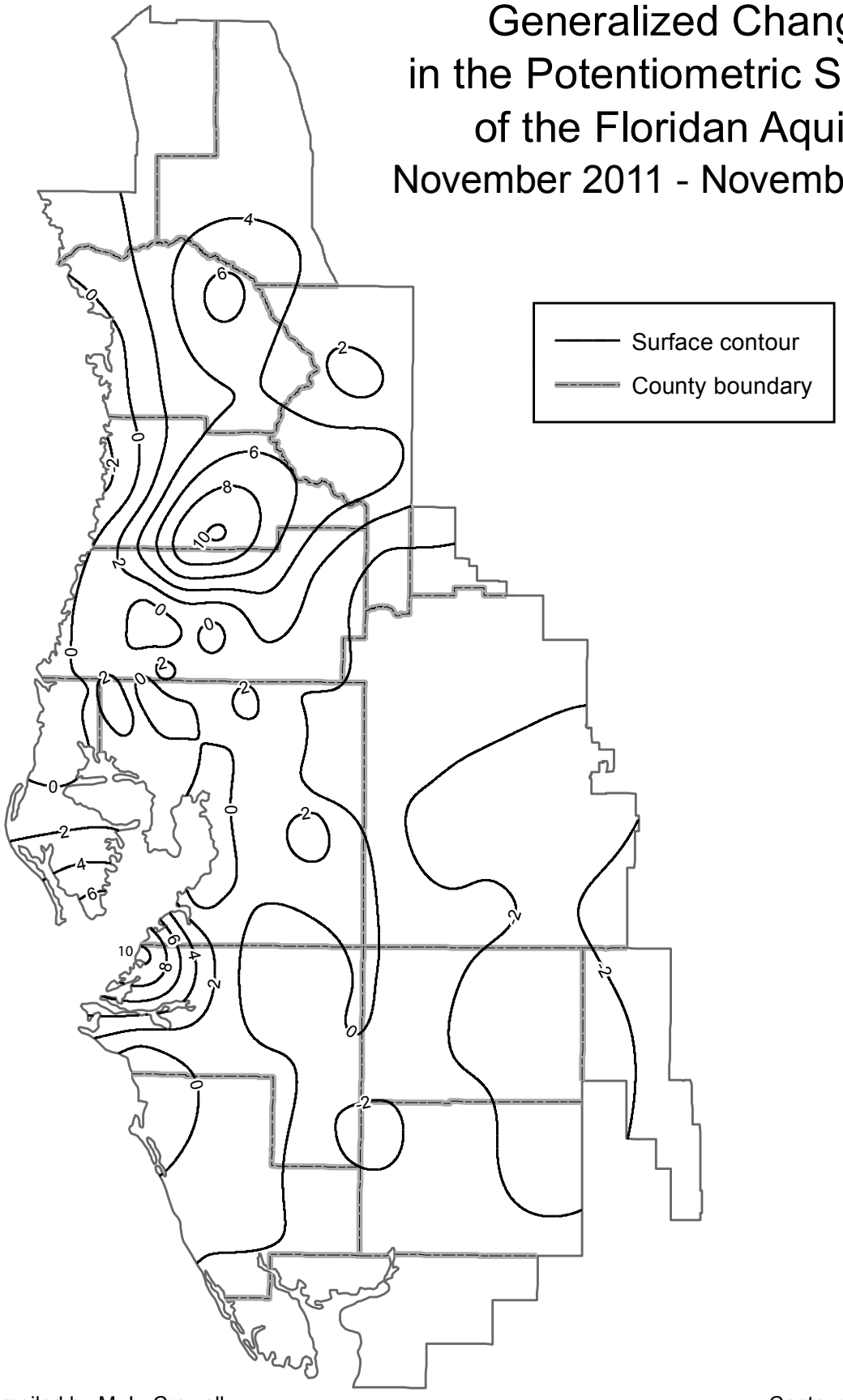



Compiled by M. L. Crowell

Contour interval = 10 feet


Generalized Change
in the Potentiometric Surface
of the Floridan Aquifer
October 2012 - November 2012
Surface contour
County boundary
0
0
-2
-2
0
-2
-4
-6
-8
-2
-2
0
-4
0
-6
0
-8
-2
Compiled by M. L. Crowell
Contour interval = 2 feet

# Generalized Change in the Potentiometric Surface of the Floridan Aquifer
## November 2011 - November 2012




Compiled by M. L. Crowell

Contour interval = 2 feet

## 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 November, average water levels decreased in eleven of the twelve intermediate and Floridan wells and all nine surficial wells. Average water levels measured in the intermediate and Floridan wells decreased 1.35 feet, while levels measured in surficial wells decreased 0.94 foot.

In November, average water levels in eleven of the 12 intermediate and Floridan wells and five of the nine surficial wells were above last year's levels. Water levels measured in the intermediate and Floridan wells averaged 1.64 feet above last year's levels, while surficial water levels averaged 0.56 foot above November 2011 levels.

For November, average water levels in all 12 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 8.86 feet above the low normal level, while levels in the surficial wells averaged 5.62 feet above the low normal level.

## SUMMARY OF GROUNDWATER LEVELS IN REPRESENTATIVE WELLFIELD WELLS, NOVEMBER 2012

| *INT/FLORIDAN WELLS* | *NOV 2012 Elev* | *OCT 2012 Elev* | *NOV 2011 Elev* | *Change From OCT 2012* | *Change From NOV 2011* | *NOV Historical Low Normal* | *NOV 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 | 30.86 | 32.12 | 27.78 | -1.27 | 3.08 | 22.83 | 26.34 | 8.03 | 10.94 | MAY2000 | 33.84 | AUG2012 |
| Cross Bar WRW | 49.30 | 49.61 | 42.59 | -0.31 | 6.71 | 40.88 | 53.98 | 8.42 | 33.88 | DEC1993 | 61.65 | AUG1984 |
| Cypress Crk TMR-1 Deep | 64.17 | 65.15 | 63.43 | -0.98 | 0.74 | 51.96 | 60.56 | 12.21 | 36.93 | FEB2001 | 70.87 | JUN1976 |
| Cypress Crk TMR-3 Deep | 62.04 | 62.31 | 60.87 | -0.27 | 1.17 | 51.11 | 57.38 | 10.93 | 34.22 | FEB2001 | 68.74 | JUL1976 |
| Eldridge-Wilde 11 Deep | 22.50 | 22.46 | 19.97 | 0.04 | 2.53 | 11.45 | 17.27 | 11.05 | 0.31 | SEP1990 | 25.54 | SEP2010 |
| Eldridge-Wilde 2S | 21.10 | 22.04 | 20.85 | -0.93 | 0.25 | 10.61 | 17.26 | 10.49 | -1.16 | JUN2000 | 24.38 | SEP2004 |
| Morris Bridge 3A Deep | 32.04 | 32.23 | 30.36 | -0.19 | 1.68 | 27.73 | 32.33 | 4.31 | 17.91 | MAY2009 | 36.99 | DEC1997 |
| Section 21 Hills 13 Deep | 44.96 | 47.72 | 45.97 | -2.76 | -1.01 | 35.28 | 44.88 | 9.68 | 21.88 | JUN2002 | 52.08 | JUL1944 |
| South Pasco 42 | 55.46 | 56.92 | 53.97 | -1.46 | 1.49 | 42.09 | 47.38 | 13.37 | 27.98 | MAY2002 | 58.40 | AUG2012 |
| South Pasco SR 54 Deep | 56.54 | 57.87 | 54.97 | -1.33 | 1.57 | 45.97 | 53.94 | 10.57 | 33.49 | MAY2002 | 59.26 | AUG2012 |
| Starkey Regional | 35.37 | 36.34 | 34.89 | -0.97 | 0.48 | 31.53 | 33.93 | 3.84 | 24.97 | JUN2000 | 37.72 | JUL2012 |
| Verna 08 | 9.35 | 15.09 | 8.36 | -5.74 | 0.99 | 5.87 | 14.27 | 3.48 | -24.32 | MAY1989 | 26.68 | FEB1998 |
| *SURFICIAL WELLS* | | | | | | | | | | | | |
| Cosme-Odessa IC-6 | 37.06 | 37.78 | 37.61 | -0.72 | -0.55 | 35.97 | 37.57 | 1.09 | 31.91 | JUL1973 | 42.72 | SEP1988 |
| Cross Bar SERW | 65.74 | 66.51 | 61.41 | -0.77 | 4.34 | 59.15 | 68.06 | 6.59 | 53.09 | JUL1994 | 72.53 | JUL1984 |
| Cypress Crk TMR-1 Shallow | 64.61 | 65.82 | 63.90 | -1.21 | 0.71 | 54.32 | 61.63 | 10.29 | 40.07 | JUN2001 | 69.53 | JUL1976 |
| Cypress Crk TMR-3 Shallow | 59.54 | 61.94 | 58.63 | -2.40 | 0.91 | 54.15 | 59.31 | 5.39 | 53.55 | MAY1997 | 64.80 | JUN2003 |
| Eldridge-Wilde 11 Shallow | 26.42 | 27.42 | 26.81 | -1.00 | -0.39 | 17.98 | 22.44 | 8.44 | 10.28 | MAY1991 | 29.34 | SEP2004 |
| Morris Bridge 3A Shallow | 33.66 | 34.58 | 33.82 | -0.92 | -0.16 | 31.12 | 33.81 | 2.54 | 24.02 | MAY2009 | 39.20 | DEC1997 |
| Section 21 Hills 13 Shallow | 51.57 | 52.06 | 52.02 | -0.49 | -0.45 | 40.70 | 47.77 | 10.87 | 31.27 | SEP1989 | 53.82 | AUG2012 |
| South Pasco SR 54 Shallow | 58.87 | 59.10 | 58.77 | -0.23 | 0.10 | 56.84 | 58.53 | 2.03 | 54.43 | OCT1980 | 60.49 | SEP1998 |
| Starkey 707 | 30.58 | 31.28 | 30.07 | -0.70 | 0.51 | 27.24 | 29.90 | 3.34 | 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.

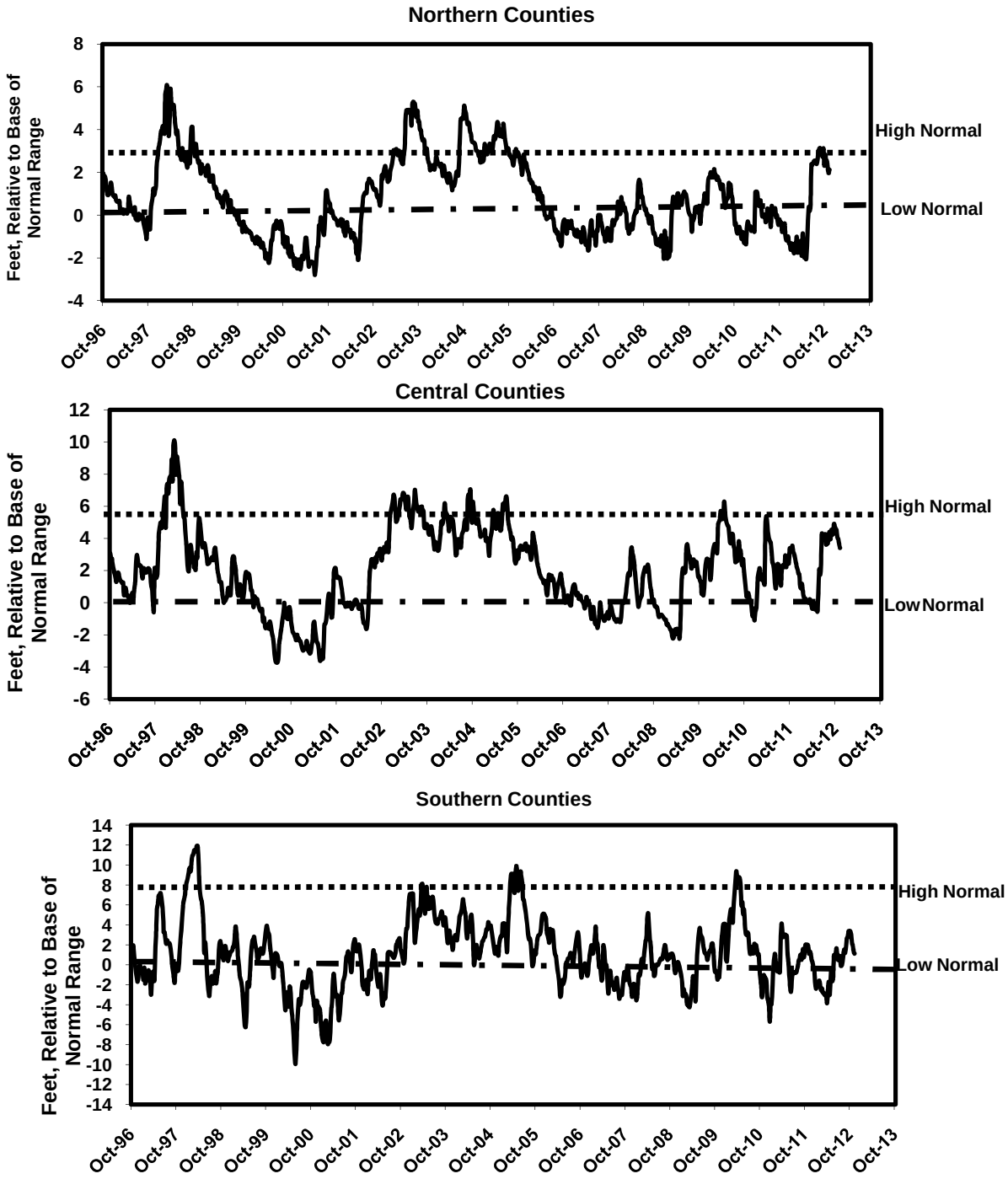
To determine the ARI value for a geographic area, each well is compared to its respective low-normal value weekly, and the difference is calculated. The weekly differences are used to determine the regional ARI value and the resulting ARI value represents how far water levels in the aquifer have to rise 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 25th Percentile)**

| Report Date | Northern Counties | Central Counties | Southern Counties |
|---|---|---|---|
| 11/05/2012 | 2.53 | 4.06 | 2.22 |
| 11/13/2012 | 2.21 | 3.96 | 1.87 |
| 11/19/2012 | 1.96 | 3.65 | 1.29 |
| 11/26/2012 | 2.12 | 3.40 | 1.11 |

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

**AQUIFER RESOURCE INDEX***
**November 2012**




*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 last weekly water-level value of the month is indicated in this report. The values reported are provisional and subject to revision.

In November, six of the seven reservoirs monitored for this report recorded water-level decreases, compared to last month. The Evers, Hillsborough River, Lake Manatee, Bill Young, Peace River No. 1 and Shell Creek reservoirs posted average water level decreases of 0.40 foot, 0.02 foot, 0.30 foot, 6.97 feet, 0.20 foot and 0.27 foot, respectively. The Peace River No. 2 reservoir reported a water level increase of 0.70 foot.

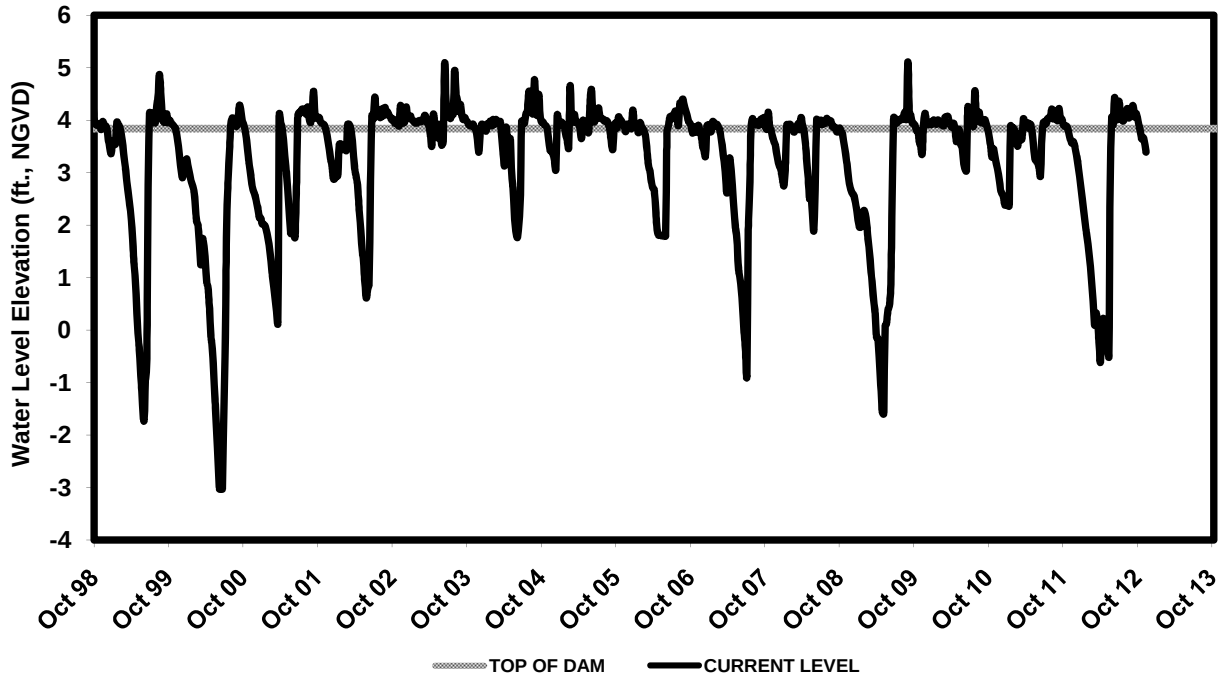
## SUMMARY OF WATER LEVELS IN WATER SUPPLY RESERVOIRS (ELEVATION IN FEET, NGVD)

| RESERVOIR | 2012 October | 2012 November | 2011 November | Change from Prior Month | Change from Prior Year |
|---|---|---|---|---|---|
| **Evers** | | | | | |
| **City of Bradenton** | **3.79** | **3.39** | **3.56** | **-0.40** | **-0.17** |
| Hillsborough | | | | | |
| **City of Tampa** | **22.58** | **22.56** | **22.54** | **-0.02** | **0.02** |
| Lake Manatee | | | | | |
| **Manatee County** | **40.08** | **39.78** | **39.74** | **-0.30** | **0.04** |
| C.W. Bill Young Regional | | | | | |
| **Tampa Bay Water** | **92.84** | **85.87** | **125.27** | **-6.97** | **-39.40** |
| Peace River | | | | | |
| **PRMRWSA Reservoir #1** | **25.0** | **24.8** | **25** | **-0.20** | **-0.20** |
| **PRMRWSA Reservoir #2** | **62.0** | **62.7** | **63.0** | **0.70** | **-0.30** |
| Shell Creek | | | | | |
| **City of Punta Gorda** | **5.4** | **5.13** | **5.14** | **-0.27** | **-0.01** |

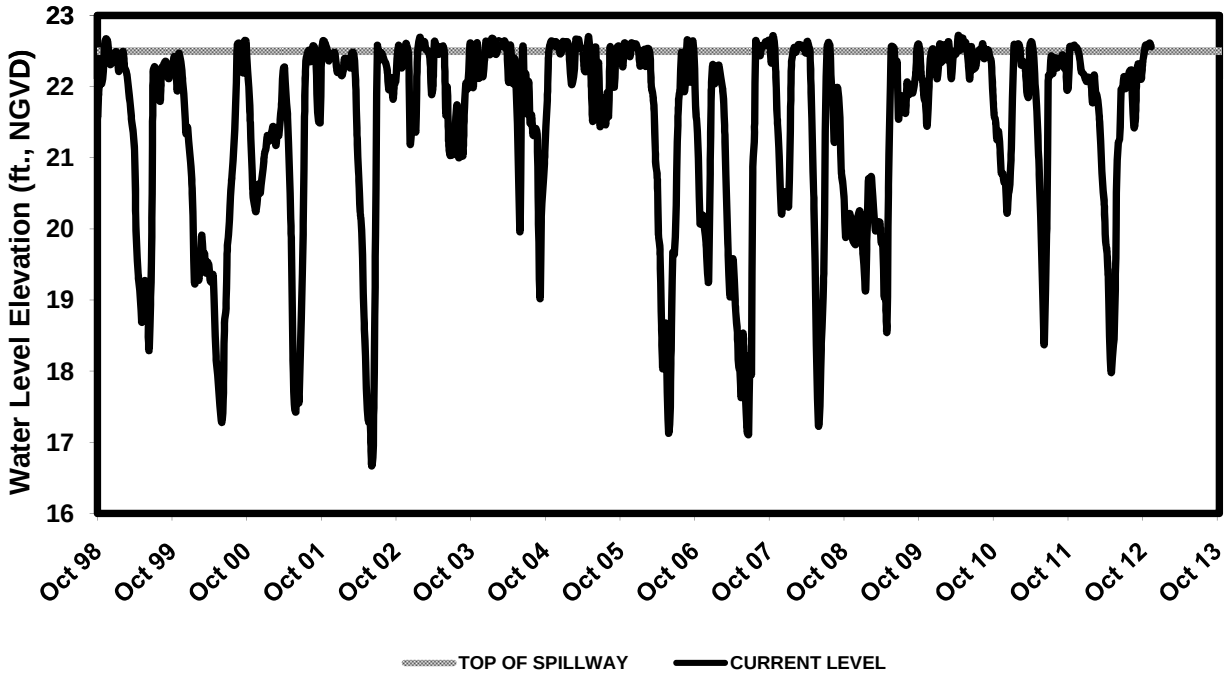
**NGVD - National Geodetic Vertical Datum**
**Reported data are provisional and subject to revision.**

Compiled by Pam Green

## EVERS RESERVOIR
## City of Bradenton

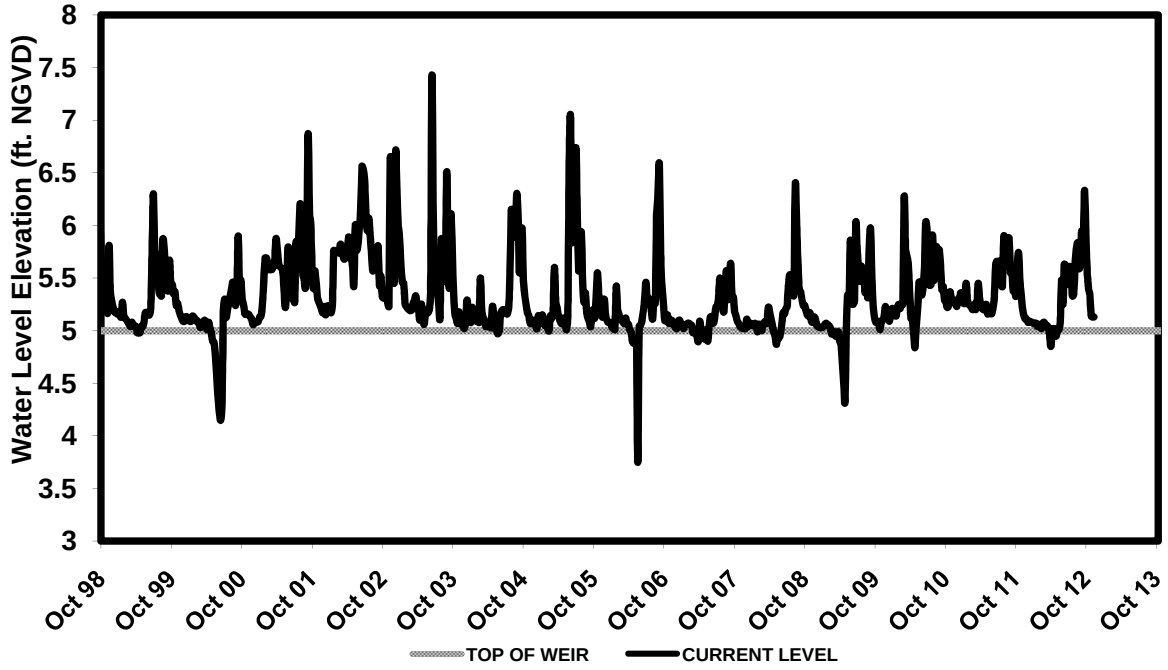



## HILLSBOROUGH RESERVOIR
## City of Tampa

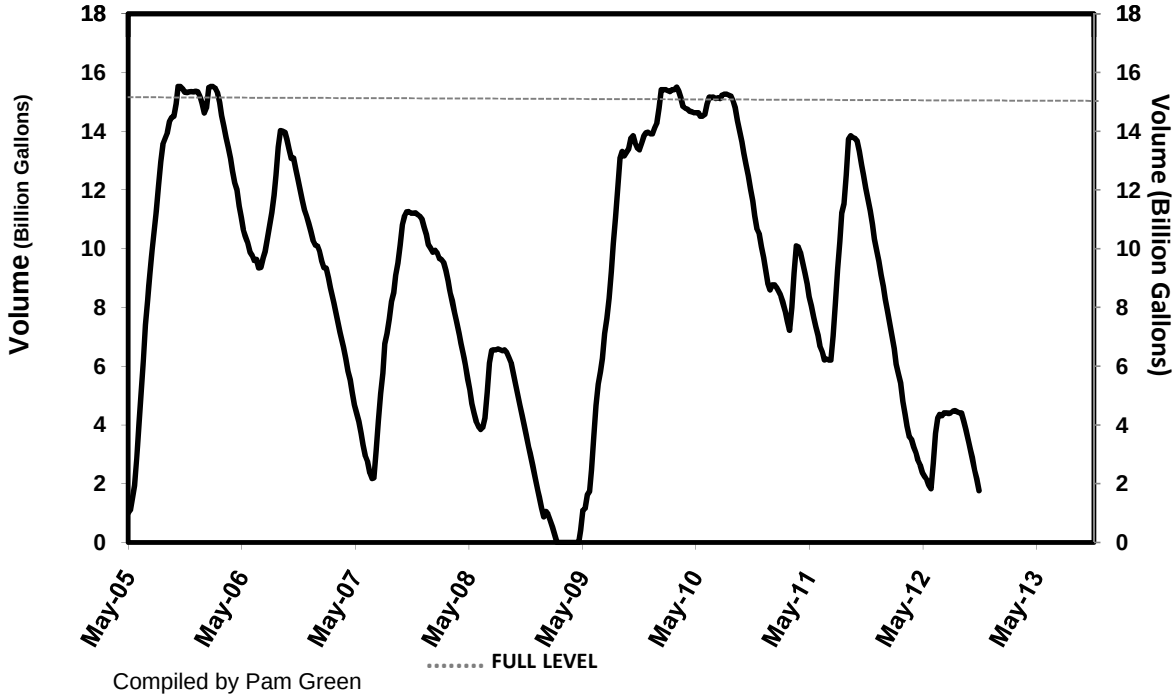



Compiled by Pam Green

## SHELL CREEK RESERVOIR
## City of Punta Gorda

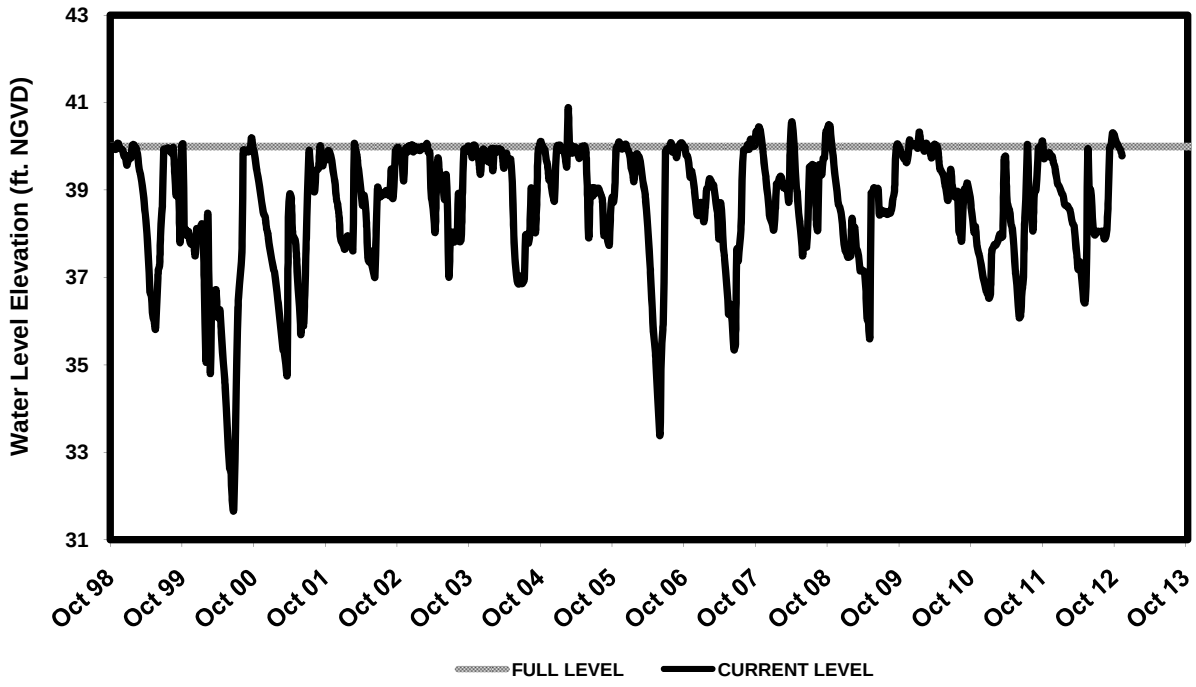



## C.W. BILL YOUNG REGIONAL RESERVOIR
## Tampa Bay Water

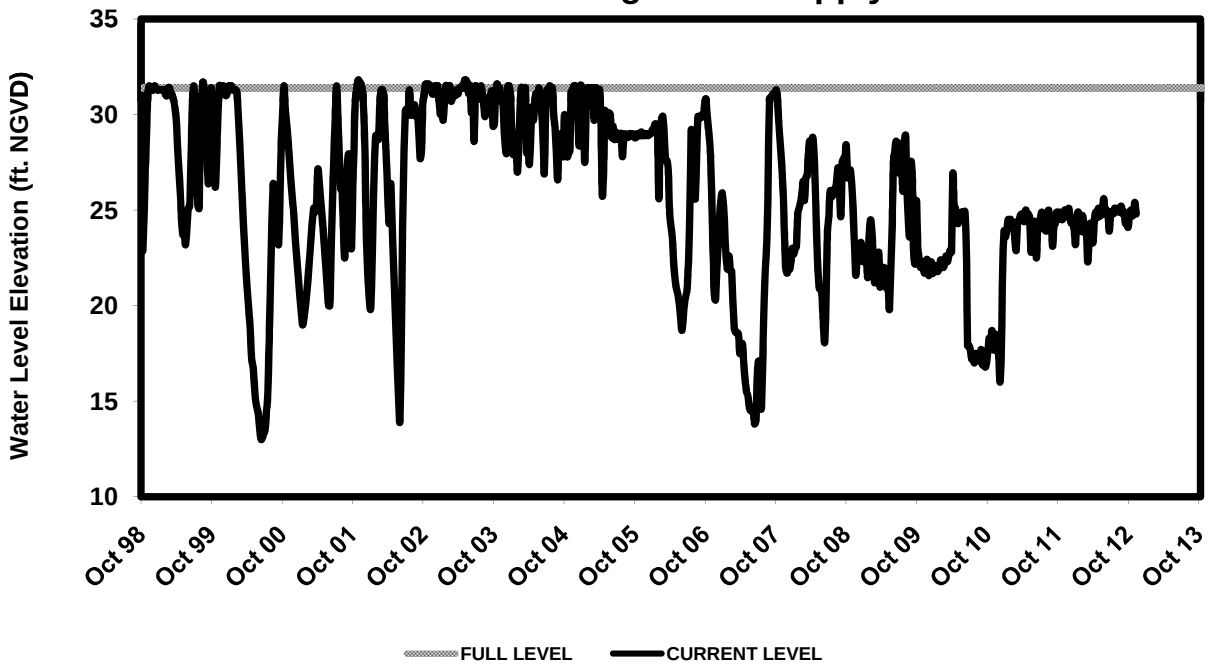



Compiled by Pam Green

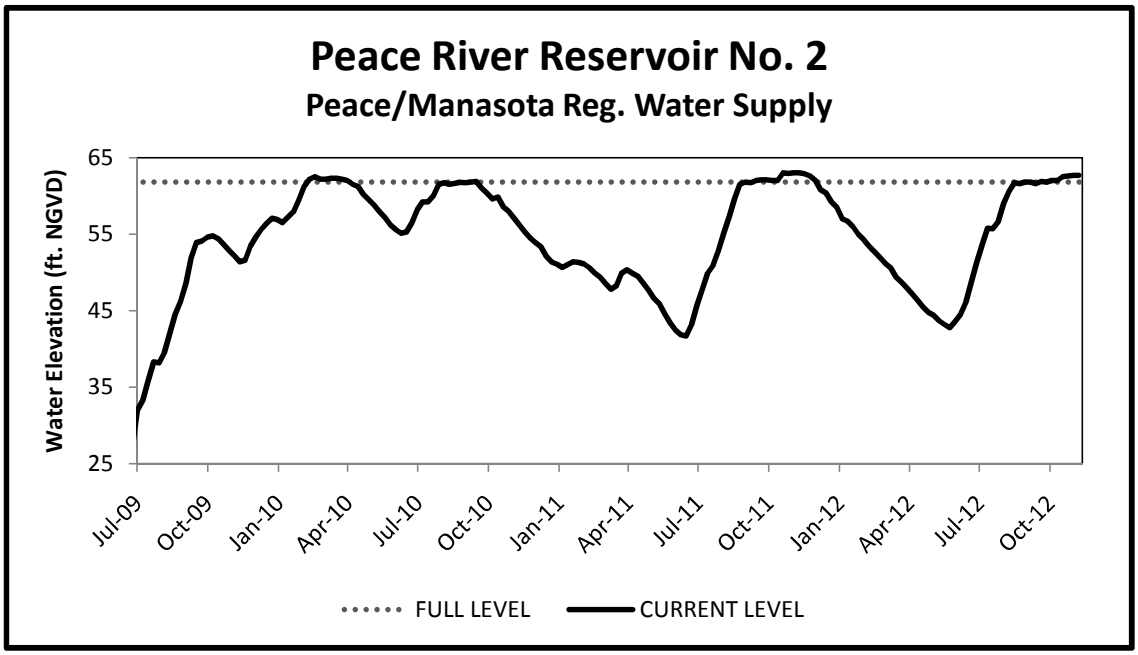
## LAKE MANATEE RESERVOIR
## Manatee County




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




Compiled by Pam Green




Compiled by Pam Green

# APPENDICES

Rainfall percentiles by interval and region, inches.

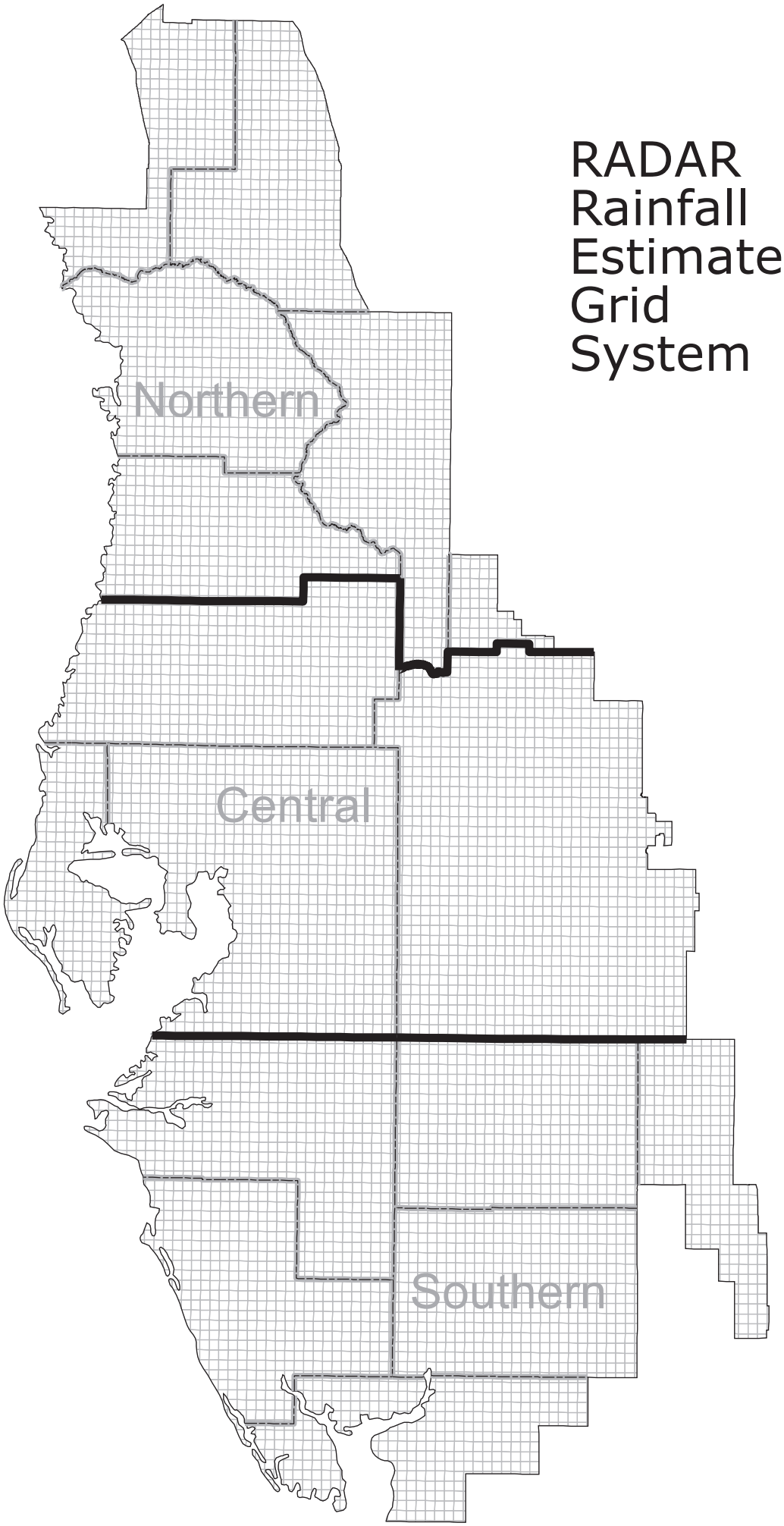
| Rainfall Interval | Region | 10TH Percentile (P10) | 25th Percentile (P25) | 50th Percentile (P50) | 75th Percentile (P75) | 90th Percentile (P90) |
|---|---|---|---|---|---|---|
| Annual total | *Northern* | 43.19 | 48.35 | 54.01 | 58.86 | 63.46 |
| Annual total | *Central* | 41.45 | 46.10 | 52.16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

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

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

Rainfall characterization ranges

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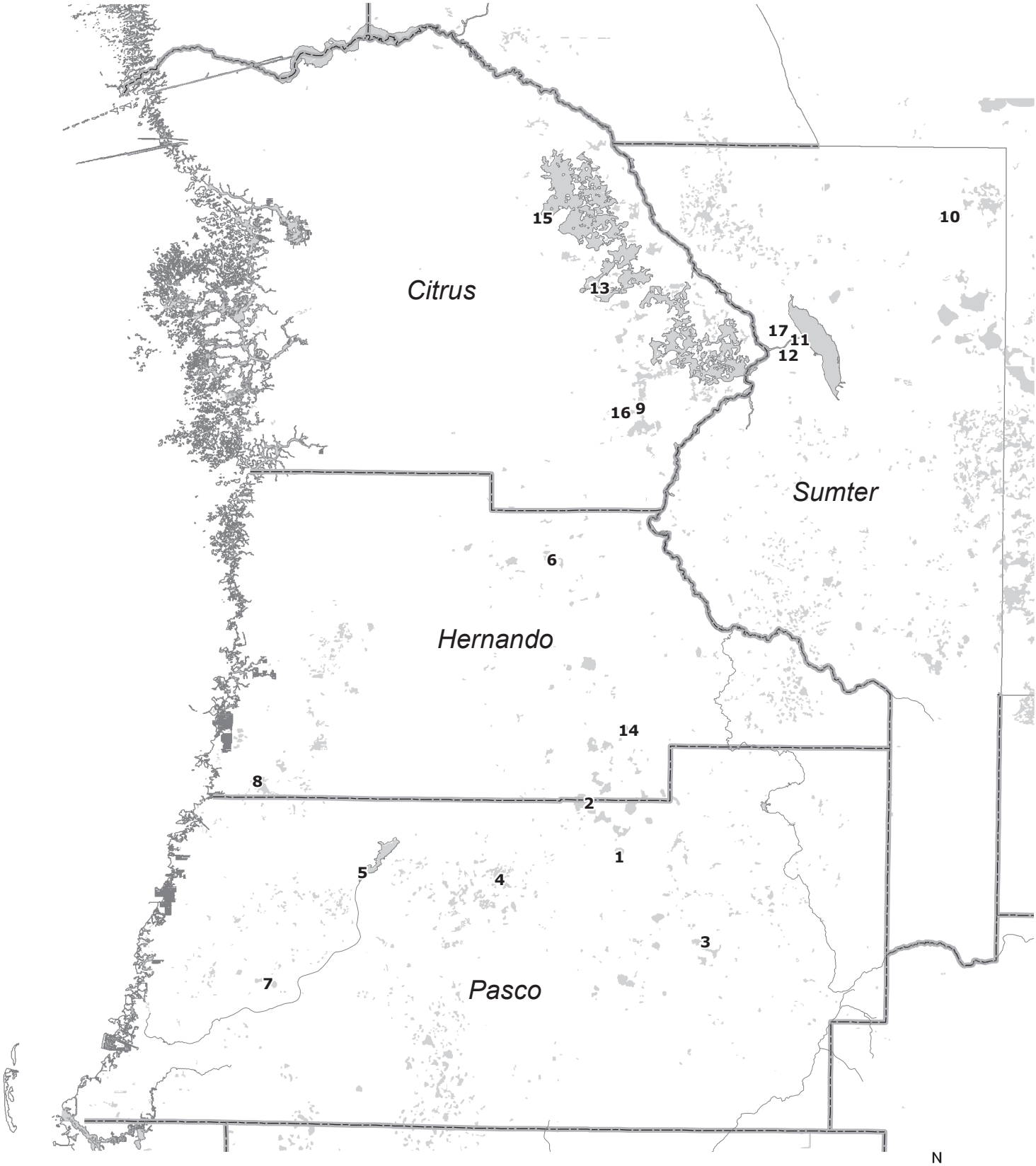
# Selected Lake Monitoring Stations
## Northern Region

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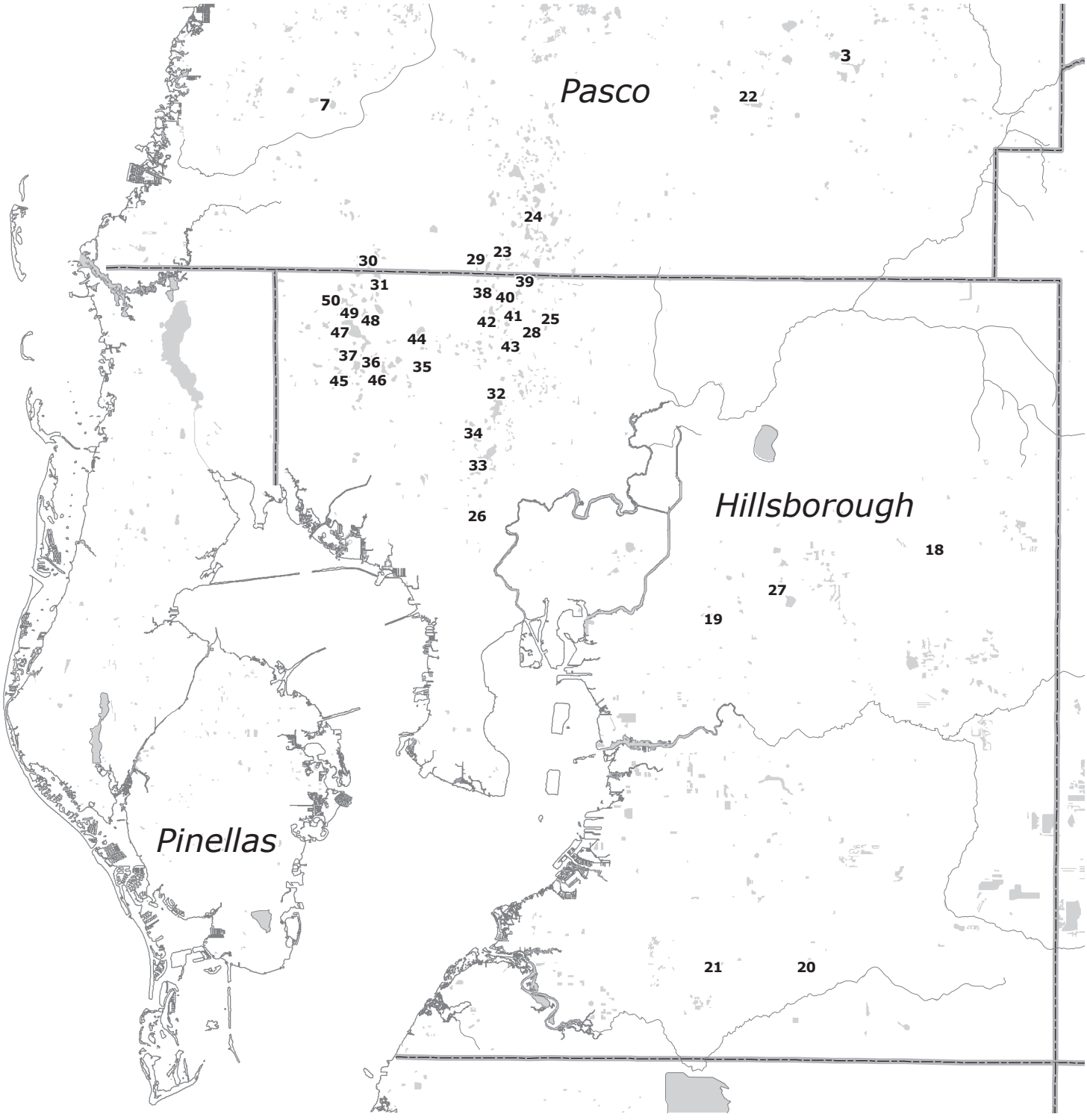
# Selected Lake Monitoring Stations
## Tampa Bay Region

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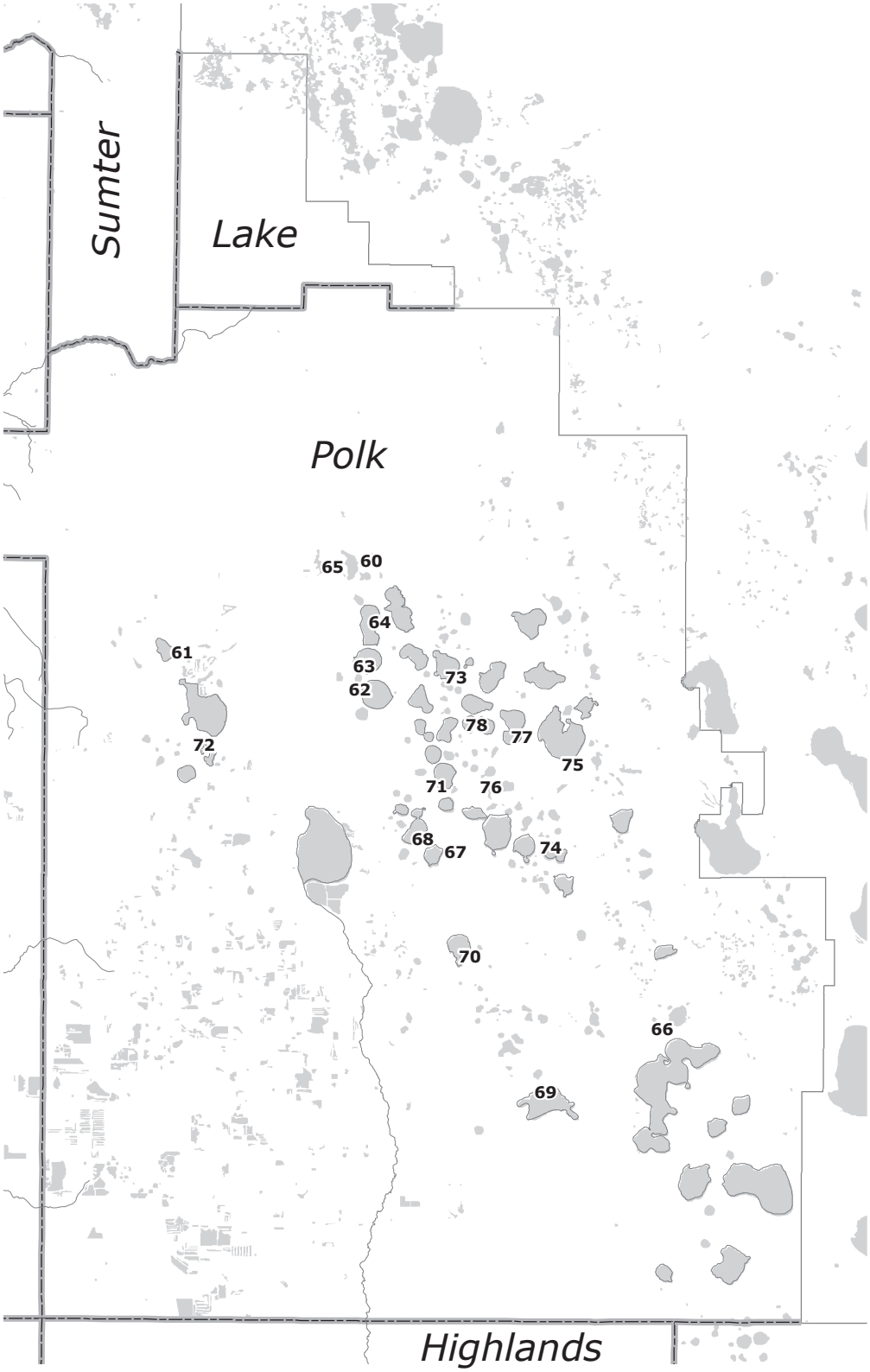
# Selected Lake Monitoring Stations
## Polk Uplands Region

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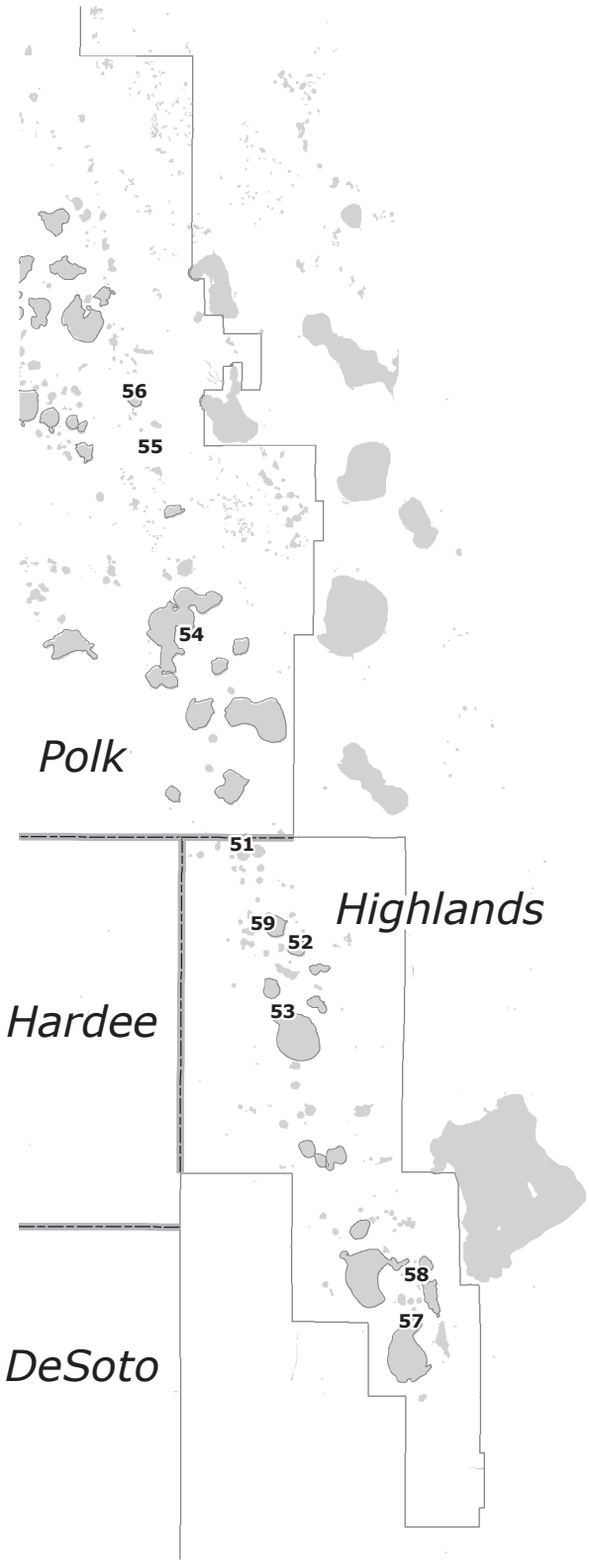
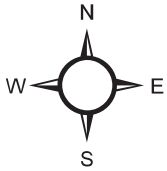
# Selected Lake Monitoring Stations
## Lake Wales Ridge Region




03/2009

# Selected Lake Monitoring Stations

## Northern Region

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

## Tampa Bay Region

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

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

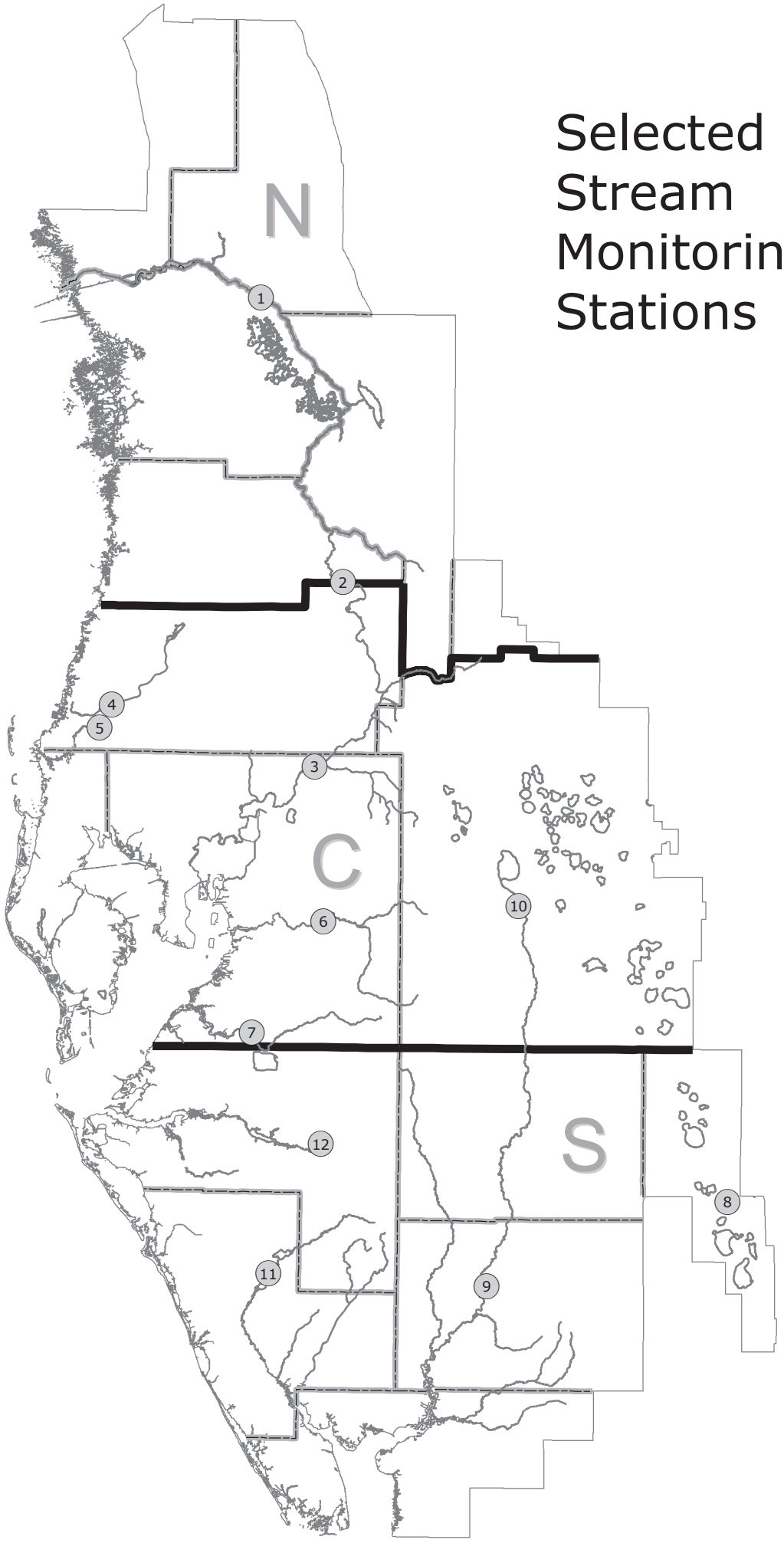
# Selected Lake Monitoring Stations

## Lake Wales Ridge Region

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

## Polk Uplands Region

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


Selected
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## Selected Stream Monitoring Stations

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

# STREAM MONITORING STATIONS

**WITHLACOOCHEE RIVER (Northern Region)**

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

**Holder Station**

| | |
|---|---|
| County: | Marion |
| Period-of-record: | 1928 |
| Location: | 38 miles upstream from mouth |
| 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: | 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: | 2.11 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)**

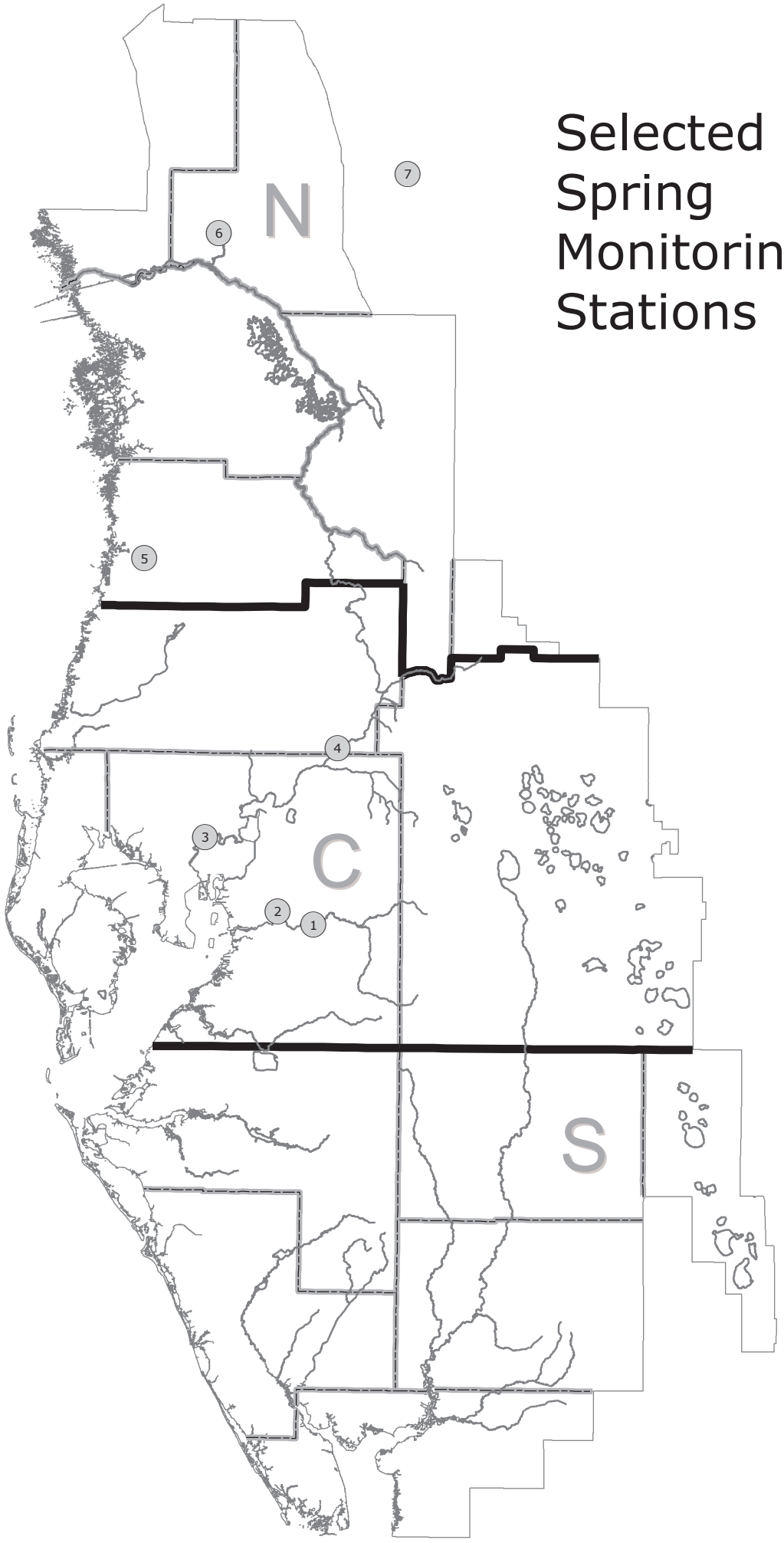
| | |
|---|---|
| Total length: | 120 miles |
| Headwaters: | Green Swamp in northern Polk County through Lake Hancock, Winter Haven chain of lakes, and Lake Hamilton. |
| Tributaries: | Peace Creek Canal, Saddle Creek, Charlie Creek, Prairie Creek, Horse Creek, Joshua Creek and Shell Creek. Elevation: 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 |

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## Selected Spring Monitoring Stations

| Map ID | Site Name |
|---|---|
| 1 | Lithia Main Spring |
| 2 | Buckhorn Main Spring |
| 3 | Sulphur Springs at Sulphur Springs |
| 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 |
| Magnitude: | 1st |
| Discharge measurement location: | 5 mi downstream from head of springs |
| Discharge contributes to: | Rainbow River, Withlacoochee River |
| Public Access: | Yes |
| Period-of-record: | 1965 |
| Gage: | Non-recording gage |
| 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: | 1st |
| Discharge measurement location: | 4 to 5 mi downstream from head of springs |
| Discharge contributes to: | Silver Springs River, Ocklawaha River, St. Johns River |
| Public Access: | Yes |
| Period-of-record: | 1932 |
| Gage: | Water-stage recorder |
| 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 |
| Magnitude: | 1st |
| Discharge measurement location: | 1 mi downstream from head of springs |
| Discharge contributes to: | Weeki Wachee River |
| Public Access: | Yes |
| Period-of-record: | 1993 |
| Gage: | Water-stage |
| 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: | 2nd |
| Discharge measurement location: | Difference between discharge measurements of Hillsborough River made upstream from and downstream from Crystal Springs |
| Discharge contributes to: | Hillsborough River |
| Public Access: | No |
| Period-of-record: | 1923 |
| Gage: | Non-recording gage |
| Maximum daily mean: | 147 cfs in 07/1941 |
| Minimum daily mean: | 22 cfs in 08/1986 |

**SULPHUR SPRINGS (Central Region)**

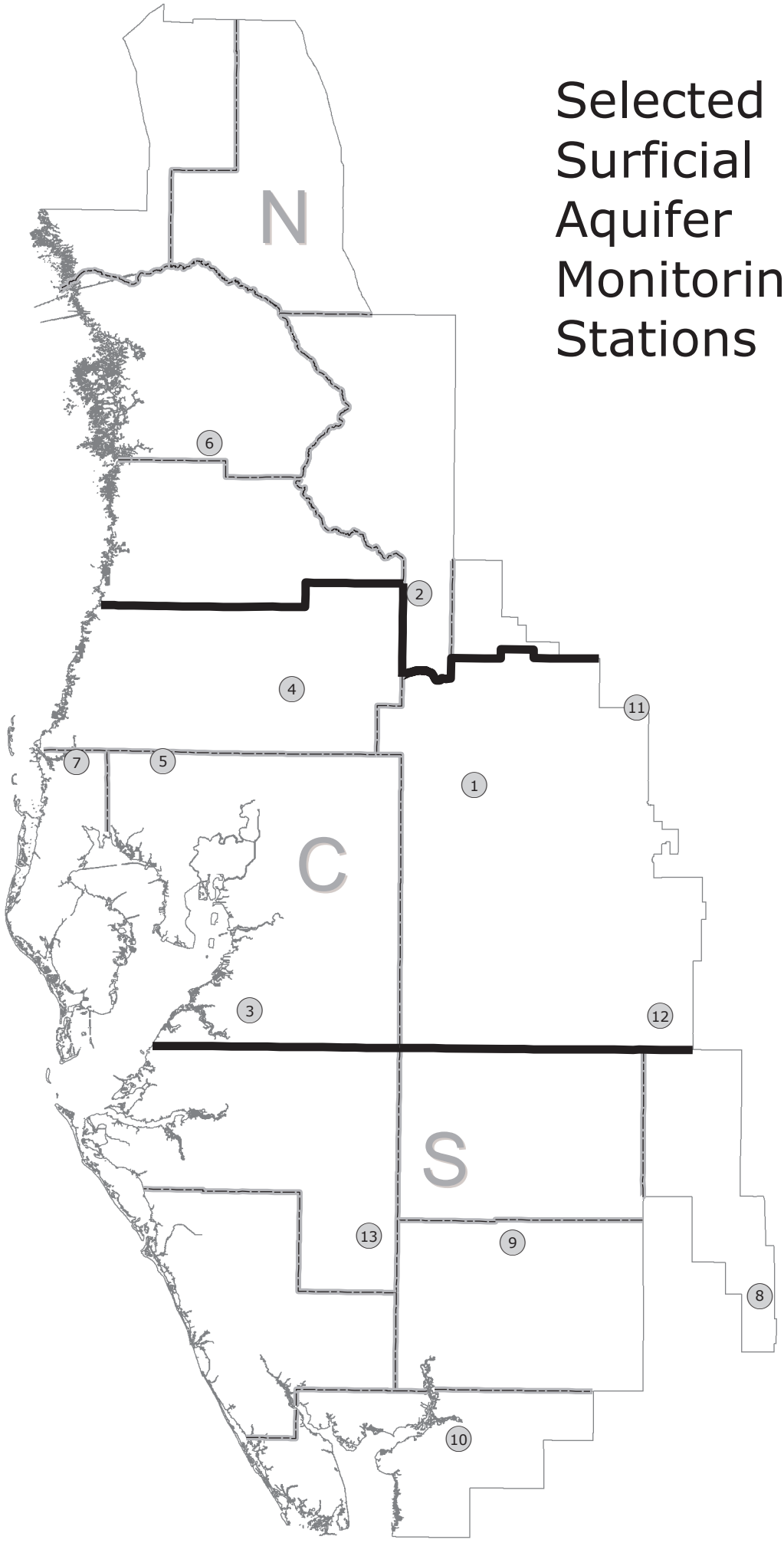
| | |
|---|---|
| County: | Hillsborough |
| Basin: | Hillsborough River |
| Magnitude: | 2nd |
| Discharge measurement location: | 300 ft downstream from gage |
| Discharge contributes to: | Hillsborough River |
| Public Access: | Yes |
| Period-of-record: | 1956 |
| Gage: | Water-stage recorder |
| 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: | 2nd |
| Discharge measurement location: | Difference between discharge measurements of Buckhorn Creek made 25 ft upstream from and 100 ft downstream from Buckhorn Springs |
| Discharge contributes to: | Buckhorn Creek, Alafia River |
| Public Access: | No |
| Period-of-record: | 1987 |
| Gage: | Water-stage recorder |
| 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: | 2nd |
| Discharge measurement location: | 50 feet downstream from main pool |
| Discharge contributes to: | Alafia River |
| Public Access: | Yes |
| Period-of-record: | 1934 |
| Gage: | Water-stage recorder |
| Maximum daily mean: | 83.4 cfs in 10/1967 |
| Minimum daily mean: | 6.3 cfs in 02/1989 |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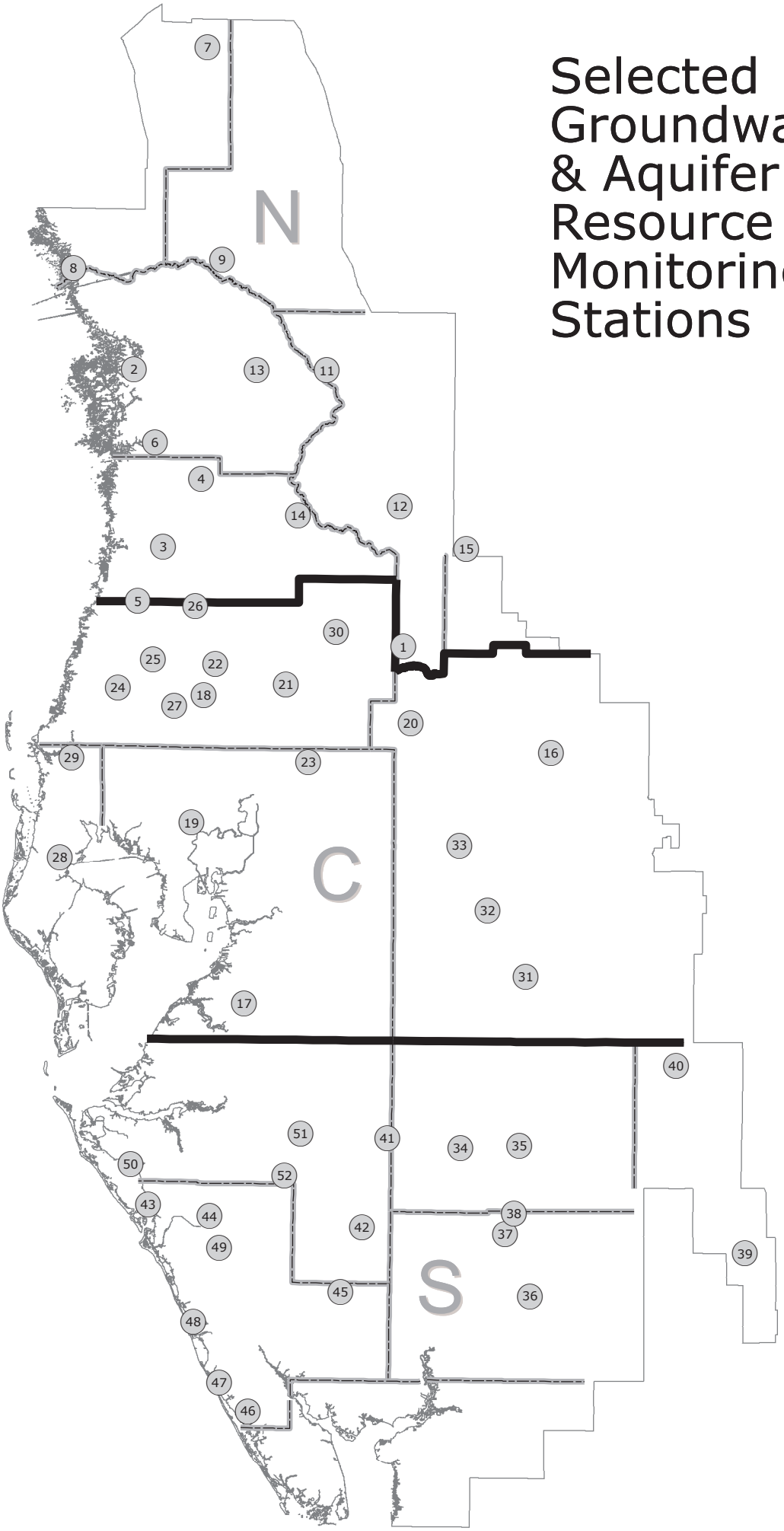
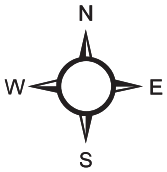
## Selected Surficial Aquifer Monitoring Stations

| Map ID | Site Name |
|---|---|
| 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

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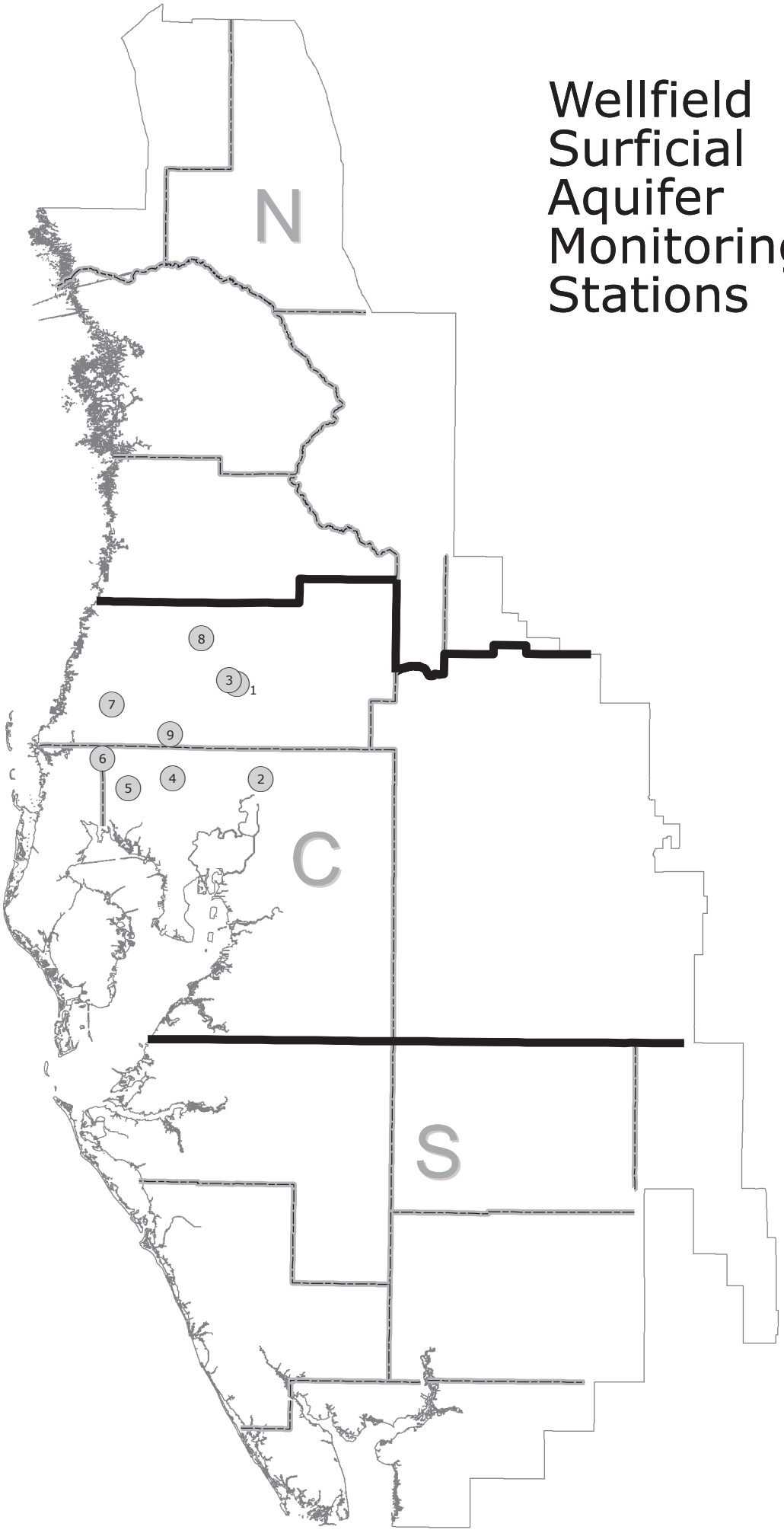
# Selected Groundwater & Aquifer Resource Monitoring Stations

| Map ID | Site Name |
|---|---|
| 1 | ROMP 89 Ocala |
| 2 | ROMP TR 21-2 Ocala/Avon Park |
| 3 | Weeki Wachee Deep |
| 4 | ROMP 107 Ocala/Avon Park |
| 5 | ROMP 97 Avon Park |
| 6 | Chassahowitzka 1 Deep |
| 7 | ROMP 134 Ocala/Avon Park |
| 8 | ROMP TR 124 Avon Park |
| 9 | CE 14 Dunnellon Deep |
| 10 | Verna Test 0-1 |
| 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 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 Parking Lot Deep |
| 24 | Moon Lake Deep |
| 25 | State Road 52 Deep West near 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 Park |
| 40 | ROMP 43XX Avon Park |
| 41 | ROMP 32 Lower Ocala/Avon Park |
| 42 | Edgeville 3 Deep |
| 43 | Sarasota 11th Street Deep |
| 44 | Sarasota 9 Deep |
| 45 | Big Slough Deep |
| 46 | Englewood 14 Deep |
| 47 | Manasota 14 Deep |
| 48 | ROMP TR 5-1 Suwannee |
| 49 | Florida Cities Test 1 |
| 50 | ROMP TR 7-1 Tampa |
| 51 | Kibler Deep |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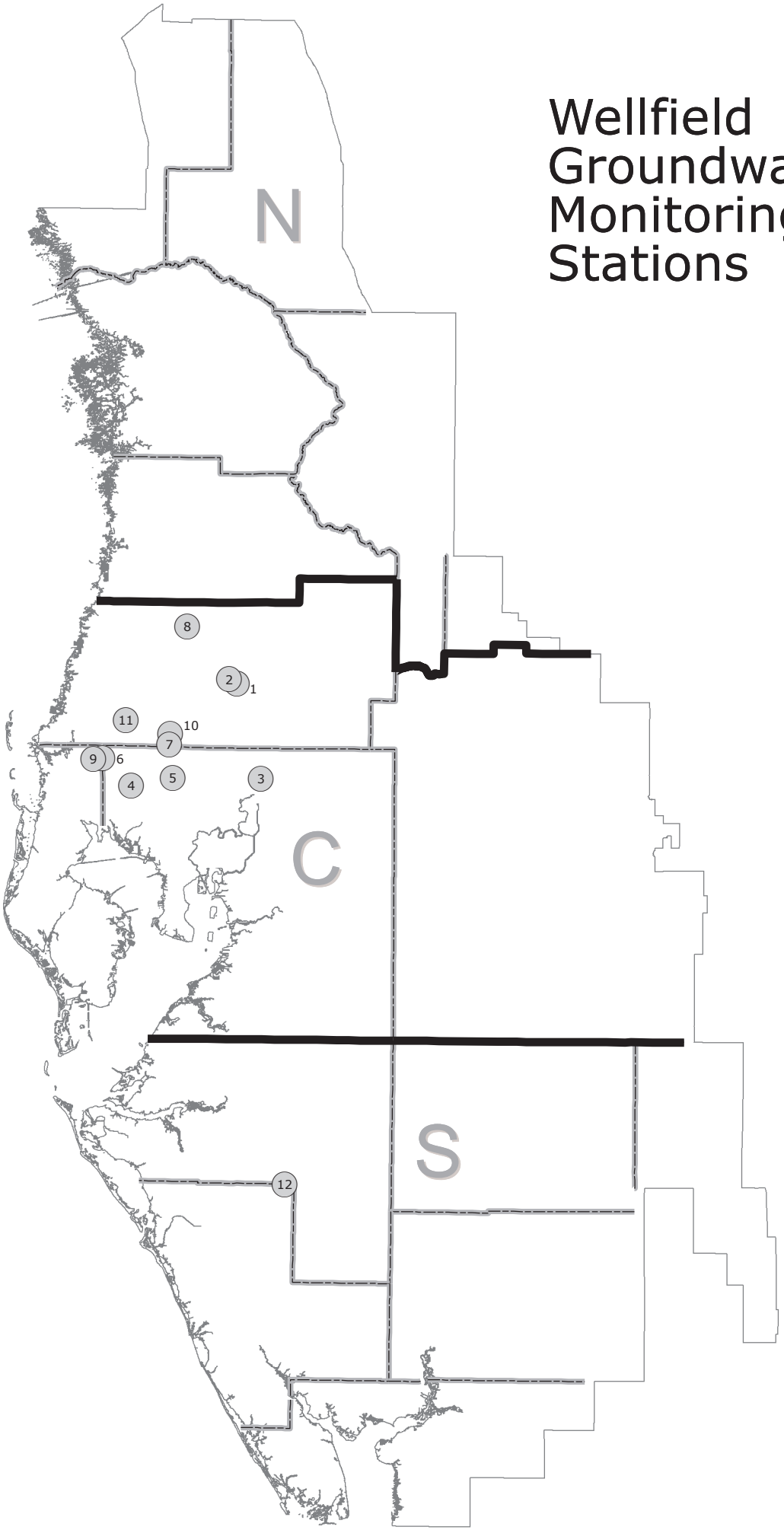
# Wellfield Groundwater Monitoring Stations

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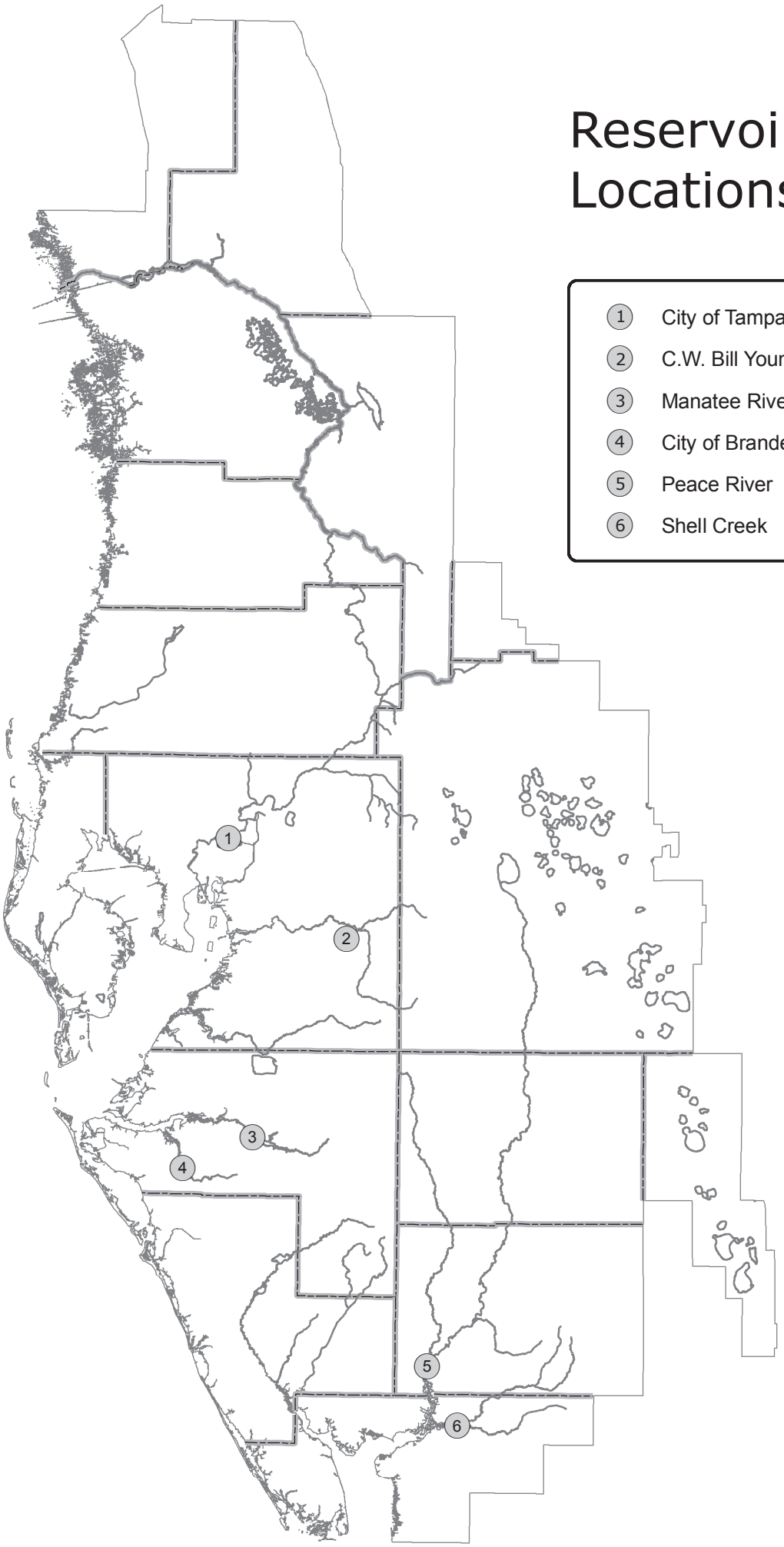
## Wellfield Groundwater Monitoring Stations

| Map ID | Site Name |
|---|---|
| 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 |

# Reservoir Locations




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

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