

An Overview of SWFWMD's Available Monitoring Data and Maps

Springs Coast Management Committee

Sandie Will, P.G.

Data Collection Bureau Chief May 22, 2024





Presentation Agenda

- Brief overview of the:
 - District
 - Data Collection Bureau
 - Quality checks and data governance processes
 - Available data types
 - Websites used for data and map downloads
 - Contact information





Water

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT



Areas of Responsibility



OUR MISSION

- Protect WaterResources
- Minimize Flood Risks
- Ensure the Public's
 Water Needs Are Met





Data Collection Bureau Overview

- Highly technical staff
- Responsible for:
 - Collecting data
 - Analyzing data
 - Storing data
 - Reporting data







Internal Checks & Balances

- QA/QC checks
- Audits/peer reviews
 - Laboratory
 - Field staff
 - Lithologic data
- Data Governance
- Water Resources Data Collection Assessment Process





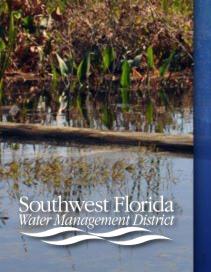
Data Collection Bureau Overview

Administration

Geohydrologic Data Hydrologic Data

Water Quality
Monitoring

Mapping & GIS





Data Collection Bureau Overview

Administration Sandie Will, P.G.

Geohydrologic Data – Ted Gates, P.G. Hydrologic Data – Tamera McBride, P.G. Water Quality
Monitoring –
Catherine Wolden

Mapping & GIS – Corey Denninger

Coring
Well Construction
Aquifer Testing

Water Levels
Rainfall
Evapotranspiration

Field Parameters

Laboratory

Analyses

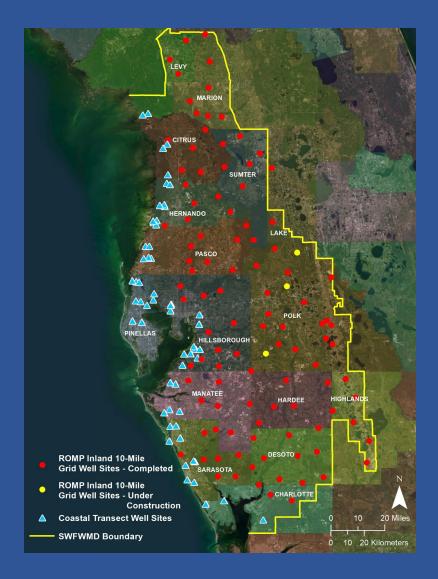
GIS Layers/Maps
Aerial Imagery
Land Surveying







District Monitor Well Networks

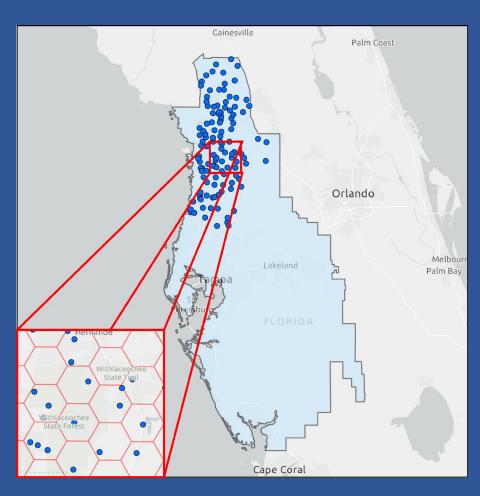


Well Names Include:

- Coastal Transect = TR
- Regional Observation
 Monitor-well Program =
 ROMP



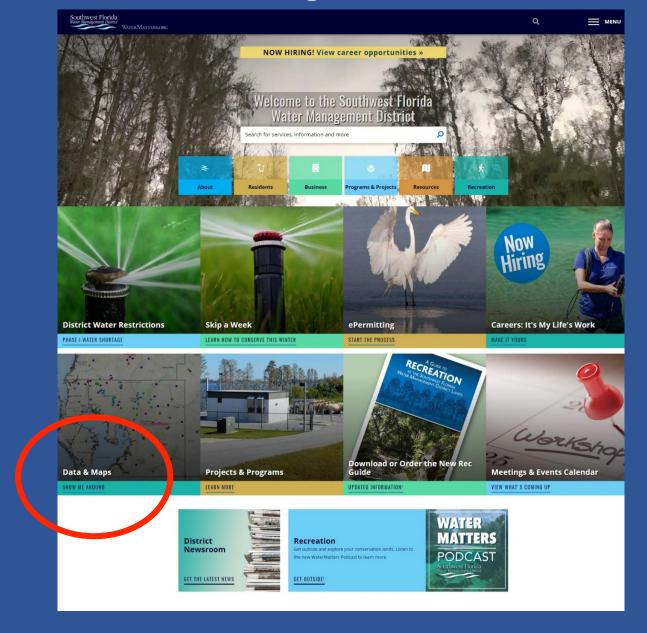
District Monitor Well Networks

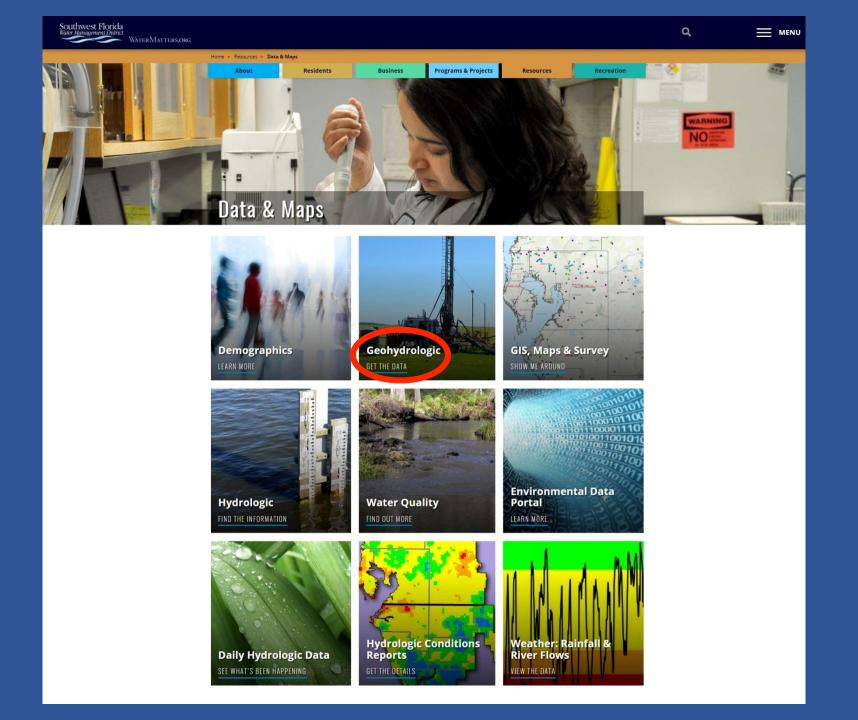


- Upper Floridan Aquifer Nutrient Monitoring Network (UFANMN)
- Network was statistically designed based on a grid system
- Names in database vary
- Includes District and residential wells
- Approximately 15 years of data



SWFWMD's Main Page: watermatters.org







Home » Resources » Data & Maps » Geohydrologic Data

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consequential, or other damages, including loss of profit, arising out of the use or inability to use these data even if the District has been advised of the possibility of such damages.



The District issues reports after monitor well construction and aquifer testing. The reports are accessible from 1974 to present. New reports are added as they become available.



Recent Reports

- Well Construction at the Lake Aurora Well Site in Polk County, Florida
- Well Construction at the Trout Lake Well Site in Polk County, Florida
- Hydrogeology, Water Quality, and Well Construction at the ROMP 38 Parrish Well Site in Manatee County, Florida
- Well Construction and Water Quality at the ROMP TR 19-3A Heather Well Site in Hernando County, Florida

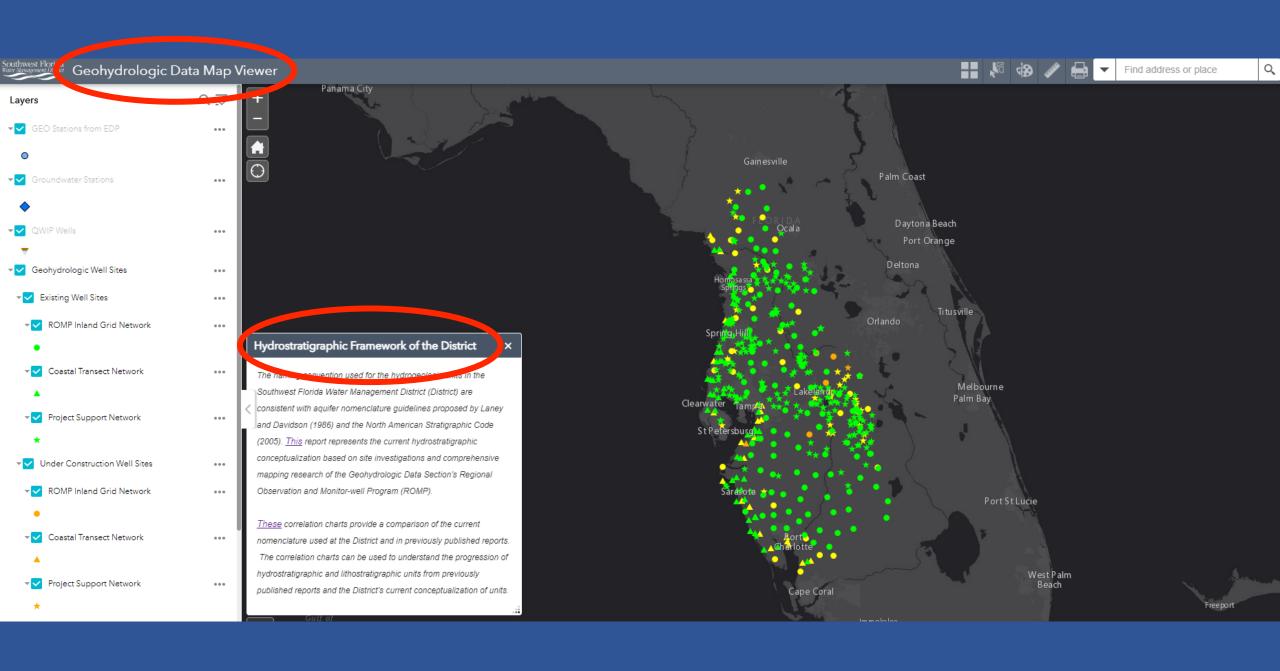


Geohydrologic Data Interactive Map »

View an interactive map of all Geohydrologic Data well sites, links to associated well site reports, lithologic core descriptions, geophysical logs, lithostratigraphic units, hydrostratigraphic units, and aquifer test characteristics for select well sites.

Stratigraphic Correlation Charts »

The naming convention used for the hydrogeologic units in the Southwest Florida Water Management District (District) are consistent with aquifer nomenclature guidelines proposed by Laney and Davidson (1986) and the North American Stratigraphic Code (2005). These correlation charts provide a comparison of the current nomenclature used at the District and in previously published reports. The correlation charts can be used to understand the progression of hydrostratigraphic and





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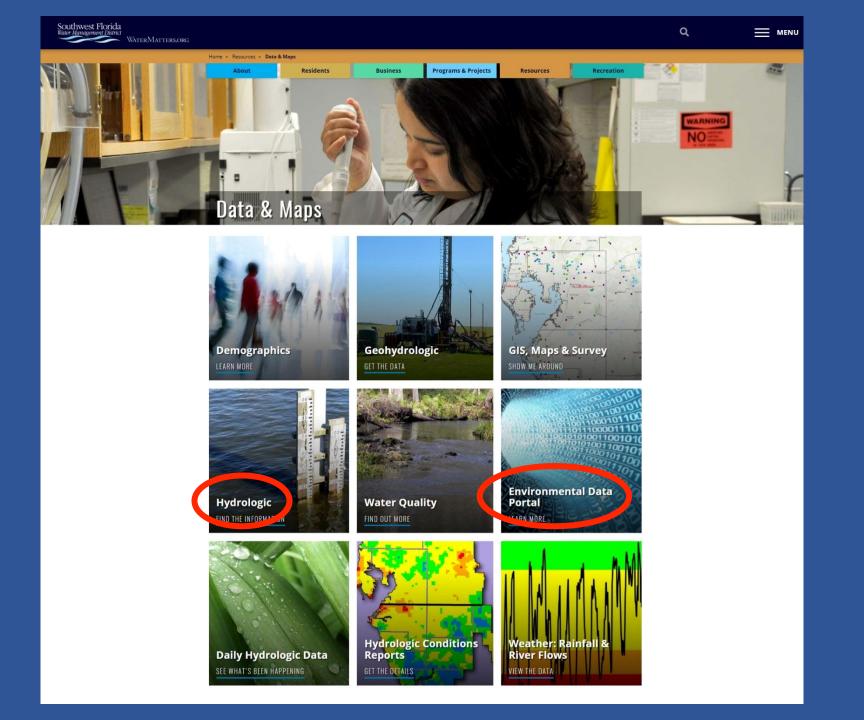
GIS Layers/Maps
Aerial Imagery
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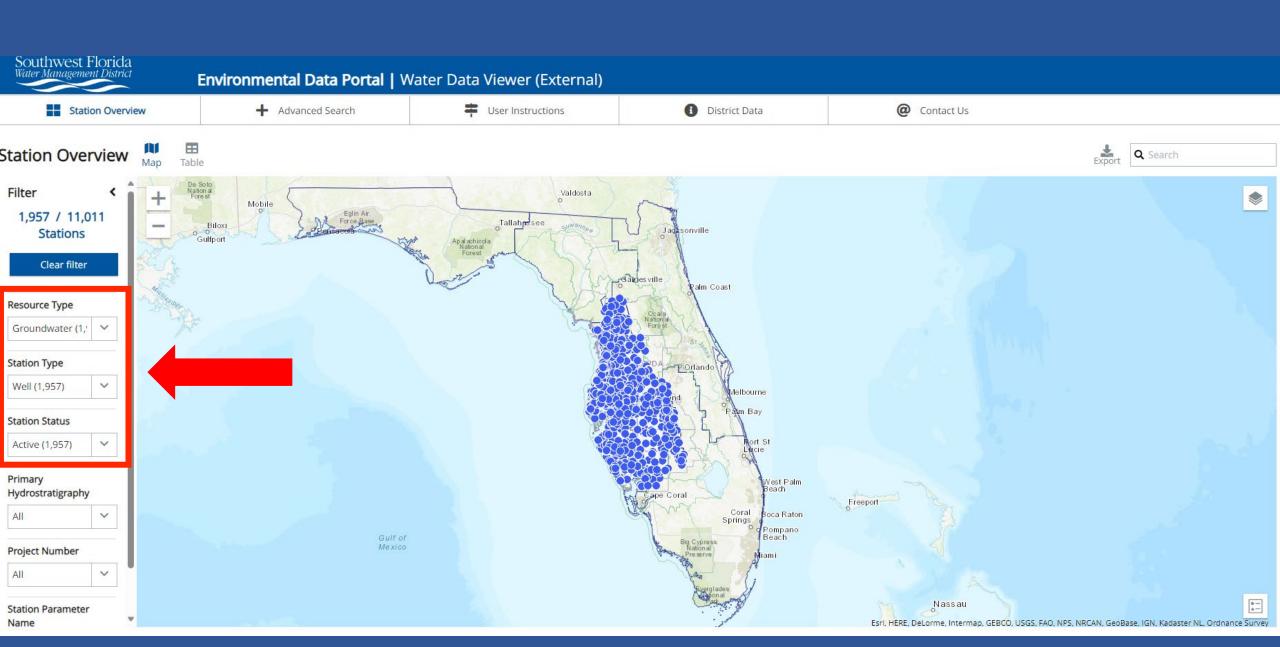


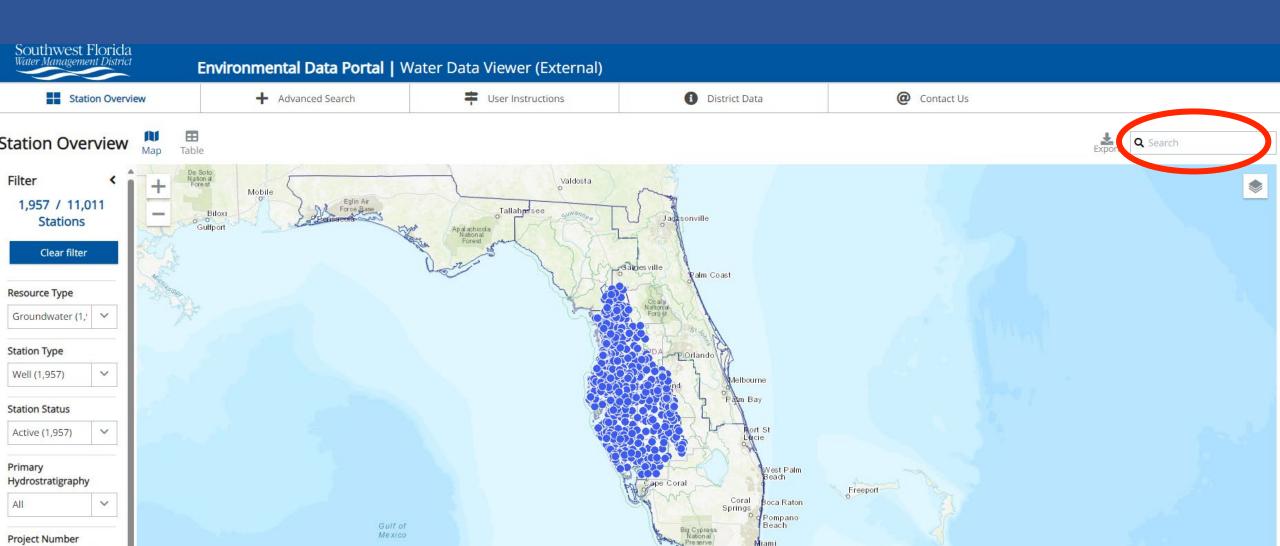










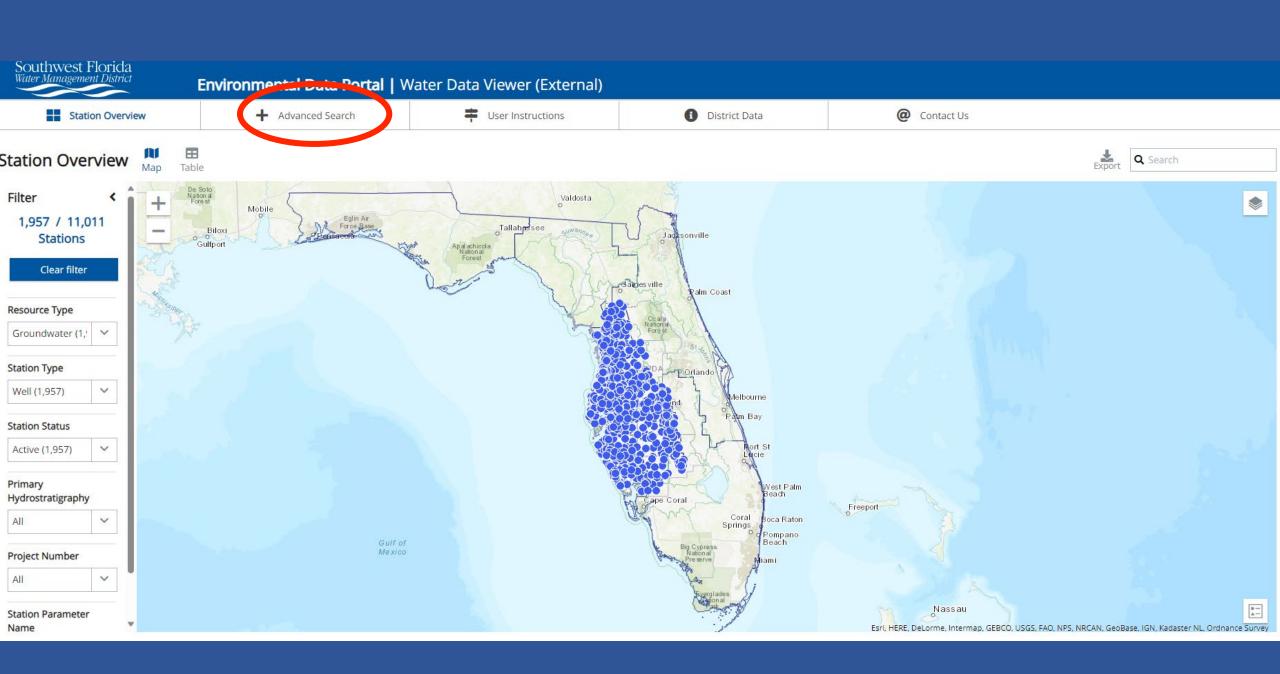


Station Parameter

Name

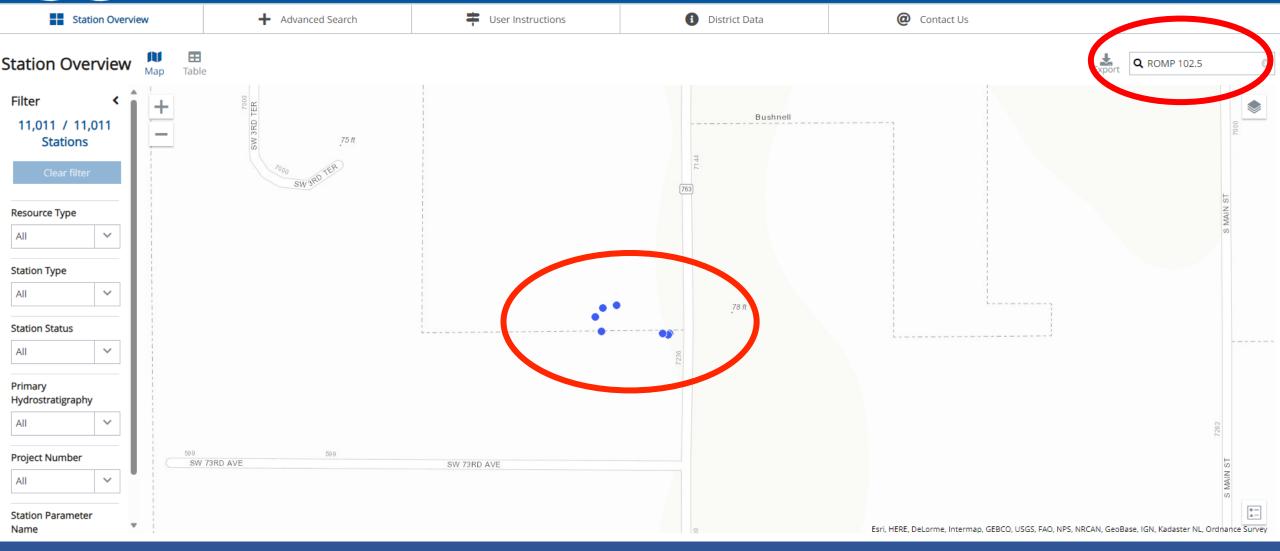
Nassau

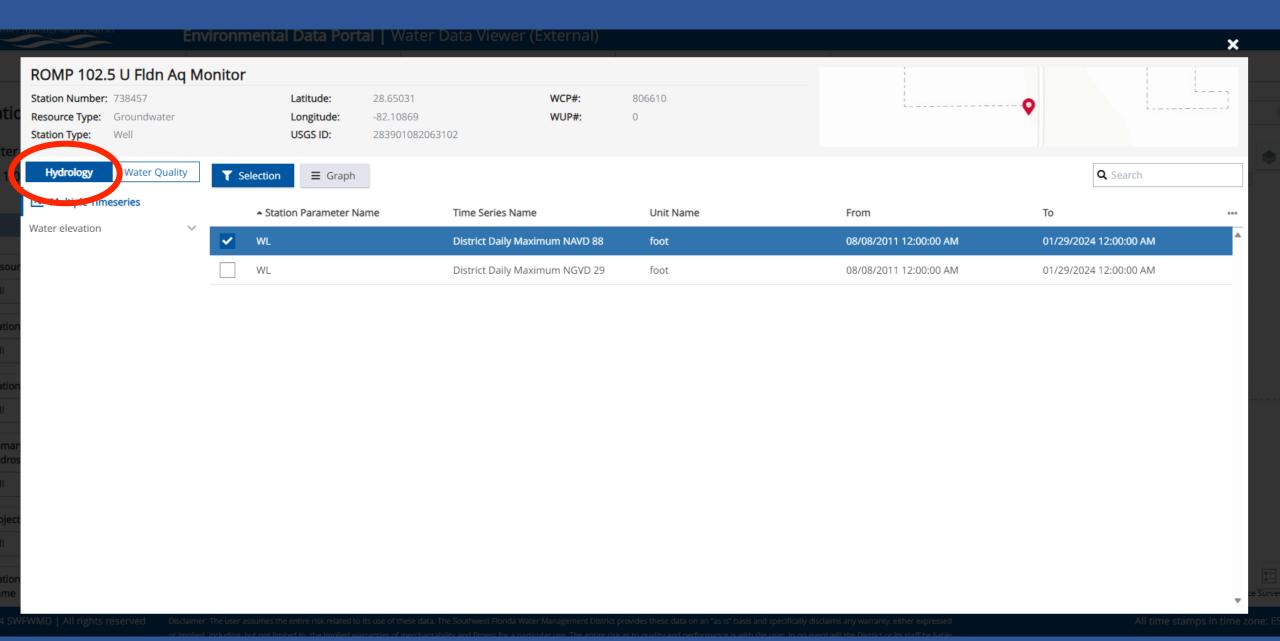
Esri, HERE, DeLorme, Intermap, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey

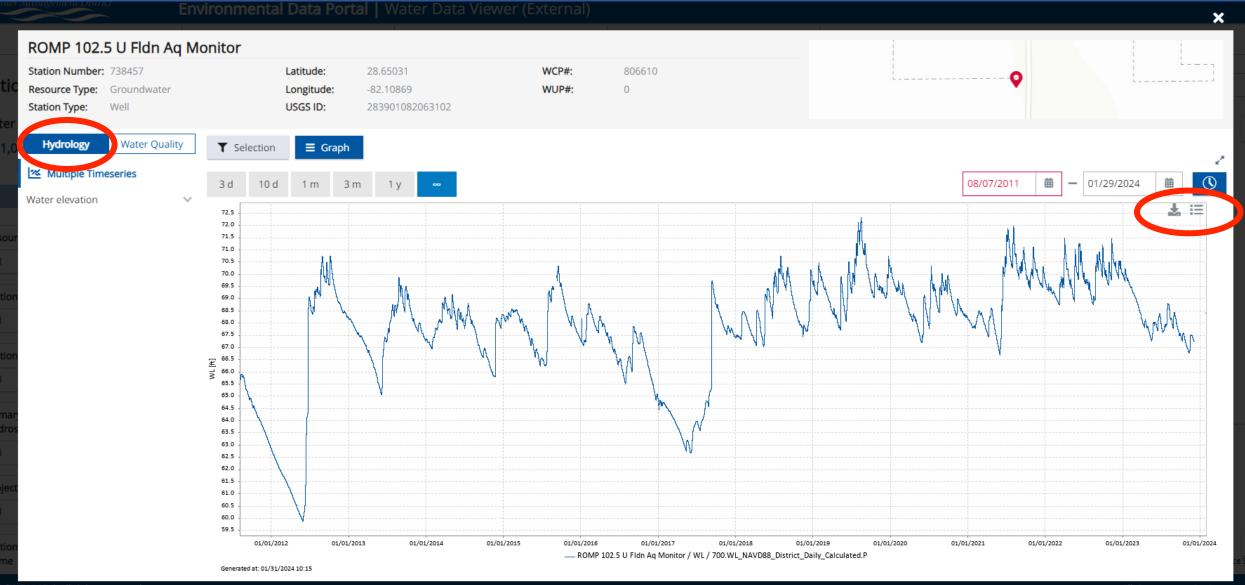


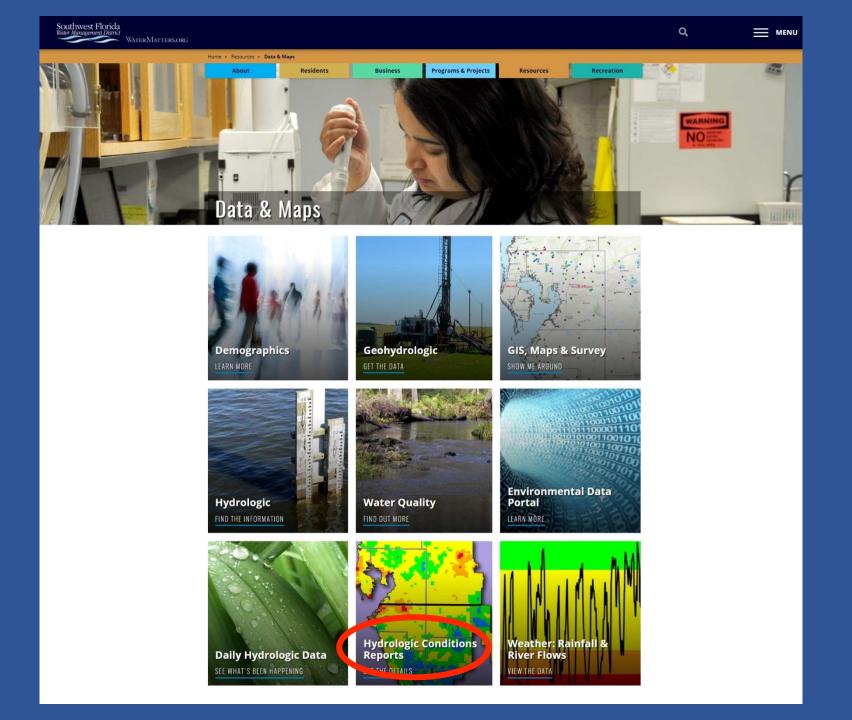


Environmental Data Portal | Water Data Viewer (External)









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Hydrologic Conditions Reports

The Hydrologic Conditions Report provides an excellent historical record for long-term local and regional hydrologic analysis.

The Hydrologic Conditions Report is generated monthly and provides an analytical summary of regional and temporal variations in the hydrologic conditions for planning and regulatory purposes. In addition, it provides an excellent historical record for long-term local and regional hydrologic analysis.

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.

Reports

- December 2023 Hydrologic Conditions Report
- November 2023 Hydrologic Conditions Report
- October 2023 Hydrologic Conditions Report
- ☑ September 2023 Hydrologic Conditions Report

Weather & Hydrology »

Weather: Rainfall and River Flow »

Hydrologic Conditions Reports

Hydrologic Data »

Disclaimer: The user assumes the entire risk related to its use of these data. The Southwest Florida Water Management District provides these data on an "as is" basis and specifically disclaims any warranty, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The entire risk as to quality and performance is with the user. In no event will the District or its staff be liable for any direct, indirect, incidental, special, consequential, or other damages, including



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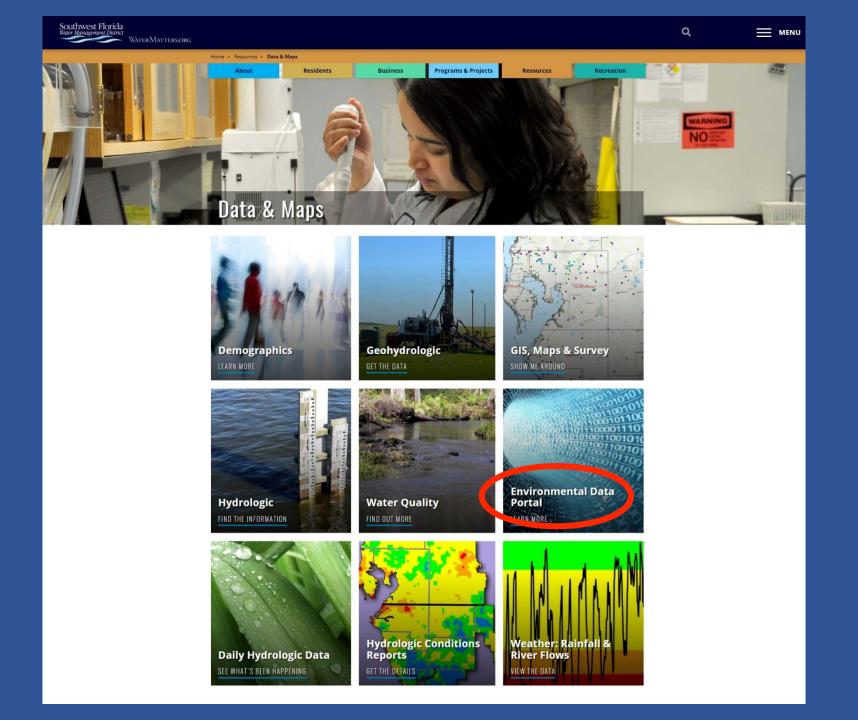
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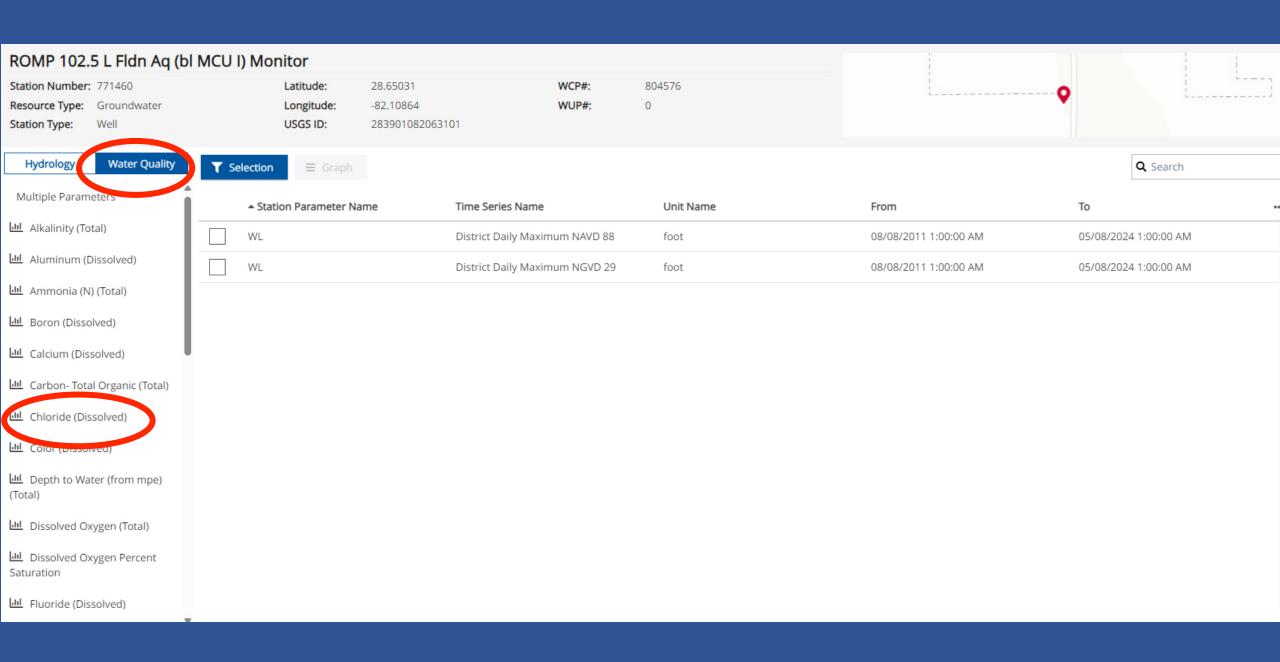


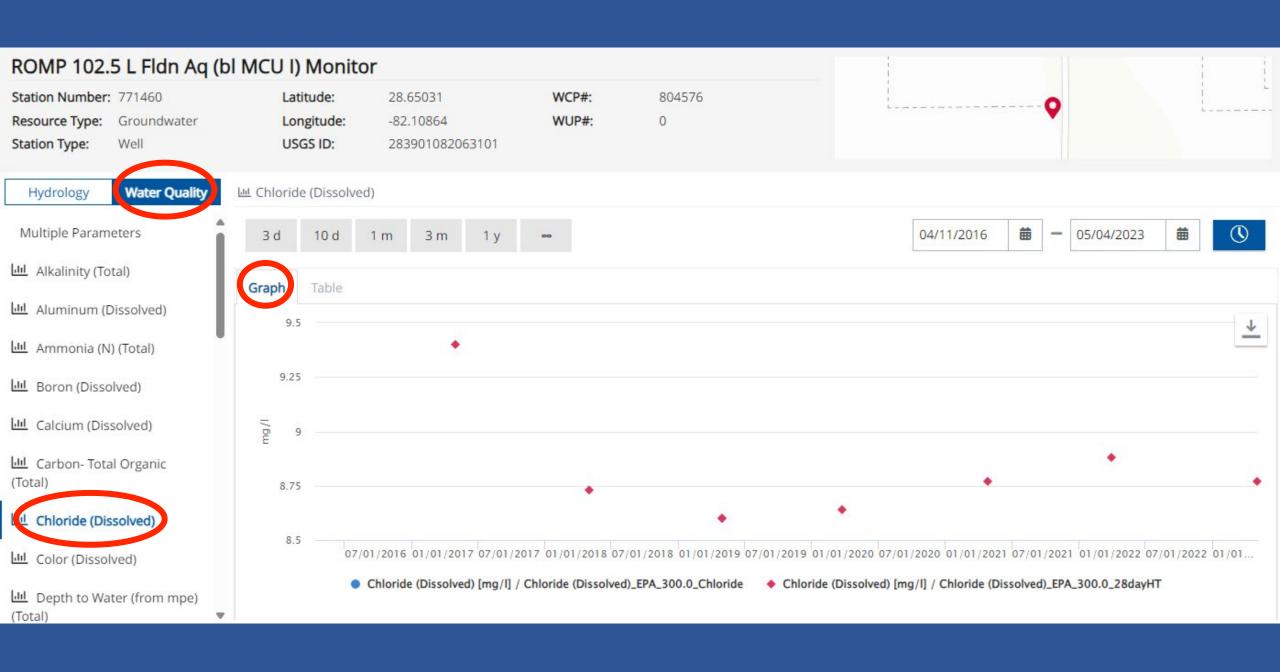


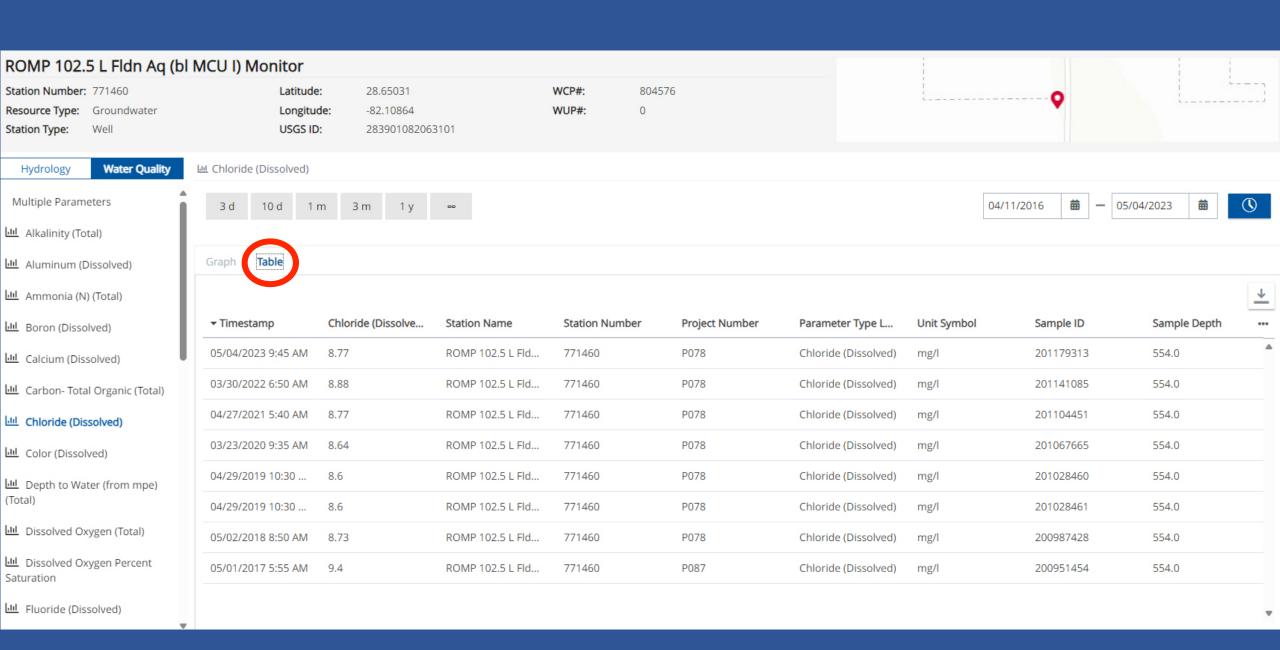


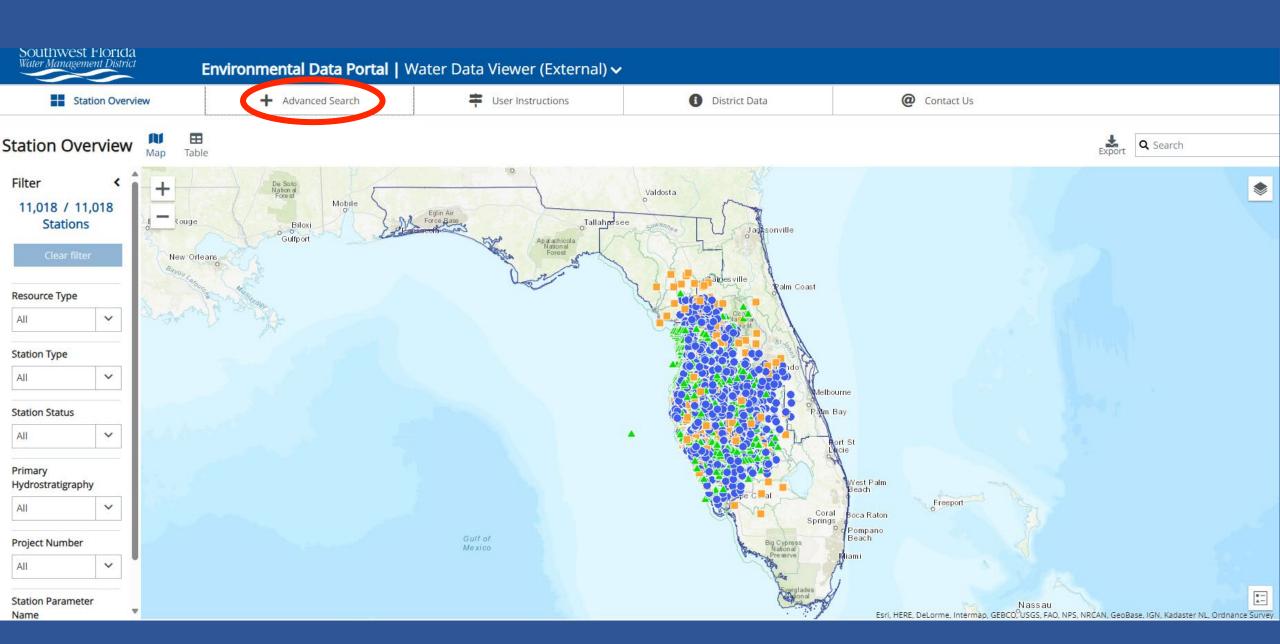












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About Programs & Projects Resources Recreation

Advanced Metadata Retrieval

All station metadata for one or more stations in one file.

Time-Series Data Retrieval

Preview/download data for multiple station and time-series parameters.

Water-Quality Data Retrieval

Preview/download discrete water-quality samples for multiple stations.

URL Generator

Choose options to generate custom URLs to use in scripts or browsers.

Geohydrologic Data Viewer

Access ROMP reports, discrete water-level and water-quality data links to EDP, hydrostratigraphy and lithostratigraphy, FGS logs, geophysical logs, and aquifer test results.

Please review the **Frequently Asked Questions** for more information. Assistance is always available from Data Collection Bureau staff by <u>using the e-mail link</u> in the **Contact Information** box to the right.

New & Improved Map Viewers

The District has launched the new *Groundwater Quality Status and Trends Viewer*. With close to 500 stations belonging to five different groundwater quality projects, the viewer conveys 10 years of data allowing users to see the most current trends in groundwater. The viewer continuously updates with data available in the Environmental Data Portal (EDP). **Visit the Groundwater Quality Status and Trends Viewer** »

Water Level and Rainfall map viewers are available in the Interactive Map Gallery »

for any direct, indirect, incidental, special, consequential, or other damages, including loss of profit, arising out of the use or inability to use these data even if the District has been advised of the possibility of such damages.

Southwest Florida Water Management District Groundwater Quality Viewer

Groundwater Quality Status and Trends

municipal groundwater withdrawals. The network is also designed to monitor up-coning of sulfate rich waters in coastal areas and limited inland areas.

Water Use Permitting Groundwater Quality Monitoring Network

The Water Use Permitting Groundwater Quality Monitoring Network (WUPNET), located in the Southern Water Use Caution Area (SWUCA), was developed to upgrade the quality of data obtained from permitted irrigation and public supply wells. This network provides a continuous, reliable data collection effort which will assist with water resource management decisions.

Inland Floridan Aquifer System Monitoring Network

The Inland Floridan Aquifer System Monitoring Network (IFASMN) involves the collection and analysis of groundwater samples within the boundaries of the Central Florida Water Initiative (CFWI). These counties include all of Sumter, Hardee and Desoto Counties, as well as parts of Marion, Polk, Lake and Highlands Counties.

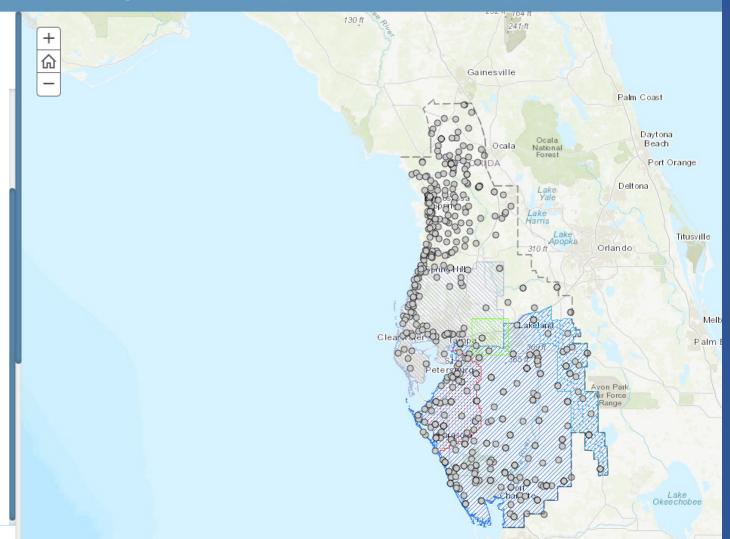
Springs Water Quality Network

Increasing nitrate levels in both inland and coastal-area springs within the District are of great concern because these springs contribute large quantities of water to local spring runs and rivers that drain into the Gulf of Mexico. Increased nitrate levels have the potential to affect aquatic ecosystems by stimulating the growth of nuisance aquatic vegetation. In addition, increasing nitrates in springs are indicative of increasing nitrate levels in the groundwater of inland areas where the spring water originates. The primary goal of the Springs Water Quality Network is to track nitrate concentrations with the long-term goal of establishing a nitrate management plan in the spring recharge.

Upper Floridan Aquifer Nutrient Monitoring Network

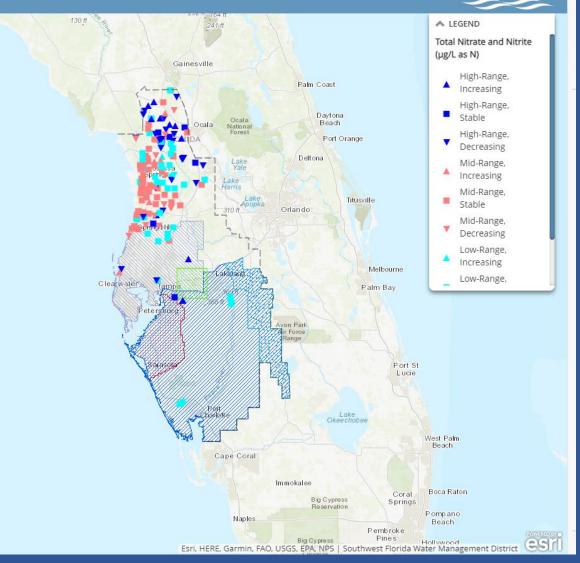
The Opp. Theidan Aquifor Nutriont Modified Retwork (UFANMN) are used to track regional trends of nitrates in the Upper Floridan Aquifer system, within the highly vulnerable areas of the Coastal Springs recharge basins.

If you wish to view detailed data for a station, please click <u>here</u>. Otherwise, if you have any questions please <u>contact us!</u>



Southwest Florida Water Management District Groundwater Quality Viewer Dissolved Magnesium 命 _ Dissolved Potassium **Dissolved Sodium** Dissolved Sulfate **Total Nitrate and Nitrite** Nitrite and nitrate are inorganic forms of nitrogen that can appear in groundwater as the result of leaching of fertilizers and other nitrogenous compounds through the soil. Colors on the map indicate status : low (0th - 25th percentile) : medium (25th - 75th percentile) : high (75th - 100th percentile) Note that these values are low, medium, or high relative to each other, not to a specific water quality Symbols on the map indicate trends over the past 10 years ▲: increasing ▼: decreasing : stable (no detectable change)

: not enough data to evaluate a trend





Laboratory Data

- Laboratory Parameters
 - Nutrients (Nitrates, Phosphates)
 - Trace metals (Aluminum, Iron)

• Major ions (Calcium, Chlorides, Sulfates)

• Physical Properties (Color, Turbidity)

Chlorophyll

- Field Parameters
 - pH
 - Specific conductance
 - Temperature
 - Dissolved oxygen
 - Turbidity





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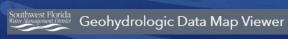
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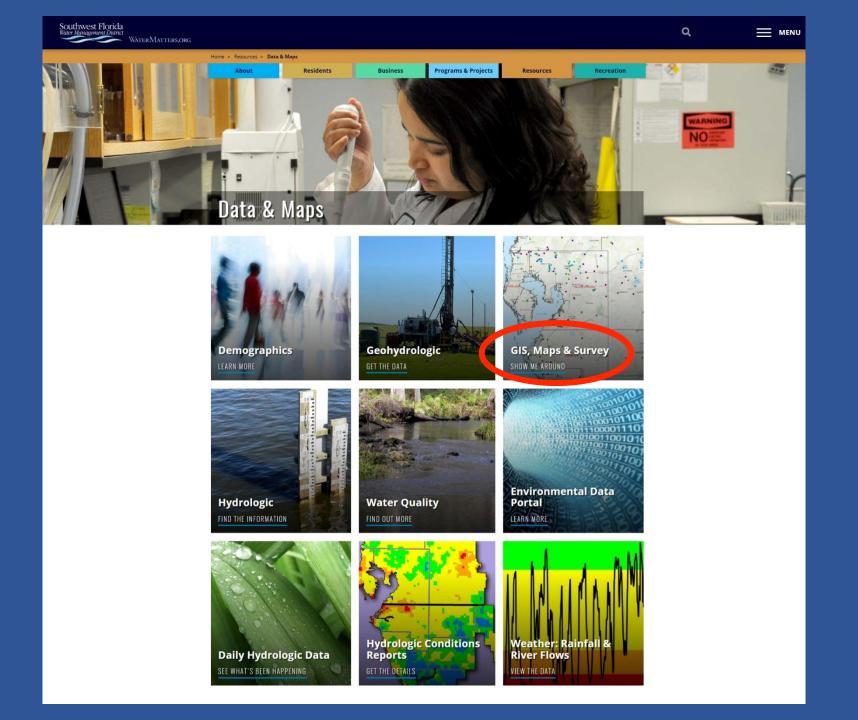
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GIS, Maps & Survey

Interactive Map Gallery

The District's new map gallery contains dynamic, interactive maps created by a strict staff. This gallery contains general purpose and District-specific maps. **VIEW MAP GALLERY** »

Aerial Photography

The District provides an extensive collection of digital aerial photos (DOQQ: Digital Orthophoto Quarter Quadrangle) available through the Florida Images Inventory. **VIEW IMAGERY »**

District Maps and District Service Office Locations

Our service office addresses and District maps pertaining to watersheds, planning regions and water restrictions, plus links to Google location maps. **VIEW MAPS** »

GIS Data

The GIS Open Data portal allows consumers to interact with data through charts, tables, and maps. The information can be of value to many governmental agencies, private businesses and the public. Use of these data require a general understanding of GIS. The data can be downloaded into spreadsheet format, KML, or shapefile. The Open Data site works best with either Firefox or Chrome and is available from 6 a.m. to 10 p.m. **GO TO OPEN DATA PORTAL** »

Survey Benchmarks

Data & Maps Sections

- Demographics »
- · Geohydrologic »
- GIS, Maps & Survey
- Hydrologic »
- Water Quality »

Contact Us

If you have questions about District data or maps, email Data.Maps@WaterMatters.org.

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Interactive Map Gallery

Hover over one of the interactive maps below for a detailed description, instructions and access to the application.



















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Summary of Available Data Types

- Geohydrologic Data Map Viewer
 - Hydrogeologic
- Environmental Data Portal
 - Hydrologic
 - Water quality



- Maps & Survey Elevations
 - Data & Maps webpage



Watermatters.org/data & maps

