

DBHYDRO Browser User's Guide

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sfwmd.gov

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1.0 INTRODUCTION

DBHYDRO Overview

DBHYDRO is the South Florida Water Management District's (District or SFWMD) hydrologic, water quality, and hydrogeologic data storage and retrieval system. This system is the source of historical and up-to-date data for the region covered by the District. The District participates in a cooperative data exchange program with other agencies, such as the U.S. Geological Survey, Everglades National Park, U.S. Army Corps of Engineers, Lake Worth Drainage District, and U.S. Department of Agriculture.¹ DBHYDRO allows users to access over 190,000 station-years of data, collected at over 17,000 stations in and around the District's area of responsibility. DBHYDRO contains hydrologic, water quality, and hydrogeologic data, and stores additional information about the location and context of where and how data are collected. Descriptions are available for most locations, giving the user information on hydrologic basin, latitude, longitude, state plane coordinates, county, section, township, range, and station notes.

One of the more powerful aspects of DBHYDRO is that data can be retrieved in various ways. For example, it is not necessary to know a specific identification number (ID) of a particular station; the database can be scanned to locate all stations that meet certain criteria, such as a given basin, county, or coordinate window. The DBHYDRO database is an important reference for hydrologic, hydrogeologic, and water quality reports and investigations in central and south Florida. The application that allows users to specify search criteria and retrieve data from DBHYDRO is called "DBHYDRO Browser".

DBHYDRO Browser

The DBHYDRO Browser is a web-based application that allows users to browse the SFWMD's corporate environmental database, DBHYDRO, using one or more criteria to generate a summary listing of time series. The user can then select one or more time series of interest and have the time series data dynamically displayed in tables or graphs. In addition to using text-based filters, users may also access station data via a web map. Currently, DBHYDRO Browser is tested and supported on Internet Explorer 11.

¹ The SFWMD provides copies of data stewarded by other agencies as an enhanced service to its users. The authoritative source of data stewarded by other agencies is the system of record as determined by that particular agency.

Getting Started

Internet access for DBHYDRO is provided at <http://www.sfwmd.gov/dbhydro>.

The screenshot displays the South Florida Water Management District website. At the top, there is a navigation bar with links for Home, About Us, Managing & Protecting Water, Protecting & Restoring Ecosystems, News, and Library & Multimedia. Below this is a secondary navigation bar with links for Residents & Visitors, Businesses, Scientists & Engineers, Educators & Students, Topics, and Regions, along with a search bar. The main content area is titled "DBHYDRO (Environmental Data)" and features a sidebar with "RELATED LINKS" including "DBHYDRO Browser Menu", "User's Guide [PDF]", "Glossary", "Contact Us", and "Request Other Data". The main content area contains a "NEW: DBHYDRO Training Offered, July 31, 2014 8:30 a.m. to 3:30 p.m. – Register Below" announcement, followed by an invitation to a training course and a description of the DBHYDRO database. The footer includes a navigation bar with links for Home, About Us, Residents & Visitors, Businesses, Scientists & Engineers, Educators & Students, News, and Library & Multimedia, along with a search bar and contact information for SFWMD Headquarters.

District employees or any user authenticated on the SFWMD computer network may also start the DBHYDRO Browser by first clicking on the “Menu” icon on the District’s internal portal, find “Tools and Resources”, click on “Business Applications”, find “Water Resources”, and click on “DBHYDRO Browser” (as shown below).



The DBHYDRO main menu is shown below. Some options are unavailable to users not authenticated on the District network (i.e., "internal use only").

The image shows a screenshot of the DBHYDRO menu page with several callout boxes providing additional information:

- HYDROLOGIC & PHYSICAL DATA:** Includes checkboxes for Surface Water, Meteorological, Groundwater, and WQ Sondes. A "Get Data" button is present. Callout: "Users may check more than one box at a time".
- HYDROGEOLOGIC DATA:** Includes a "Get Data" link. Callout: "Geophysical and lithologic logs".
- WATER QUALITY DATA:** Includes a "Get Sample Data" link. Callout: "Grab and autosampler data involving chemical analysis".
- GET DATA VIA WEB MAP:** Includes a "Get Data" link and a note "(Legacy KMZ interface here...)". Callout: "Get back to this page anywhere this link is displayed".
- OTHER:** Includes links for "Data Validation and Processing Utilities", "ET Data and Radar-Based Rainfall Data", "Metadata/Reference Tables", "Miscellaneous Items and Reports", and "Request DBHYDRO Training". Callout: "Look-up lists for all the codes we use".
- Navigation Links:** Includes "DBHYDRO Menu", "Portal Home", "SFWMD Home", "User's Guide", "What's New" (highlighted), "FAQ", and "Comments?". Callout: "When highlighted there have been recent noteworthy changes".
- Footer Links:** Includes "Privacy Policy", "Disclaimer", "Accessibility", "User Survey", "Home", "Contact Us", "Locations", and "Careers". Callout: "Contact us for hands-on training!".
- Contact Information:** Includes "SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33409" and phone numbers "561-686-8800 | 1-800-432-2044 (Florida Only)". Callout: "Send us email".

2.0 MENU-BASED DATA ACCESS

Hydrologic and Physical Data

Each hydrologic and physical data set is identified in DBHYDRO with a unique time series identifier, known as a dbkey. No two data sets will ever share the same dbkey. For example, a set of instantaneous readings and the mean daily values derived from such readings have two different dbkeys. DBHYDRO uses the term breakpoint data synonymously with instantaneous data. Our cooperative program partner, the USGS, uses the term unit values data.

Multiple data categories may be selected simultaneously; for simplicity, each category is presented separately in this guide.

For example, checking the “Surface Water” checkbox and then clicking on the “Get Data” button leads to the following page:

The heading indicates what area(s) of the system the user is in

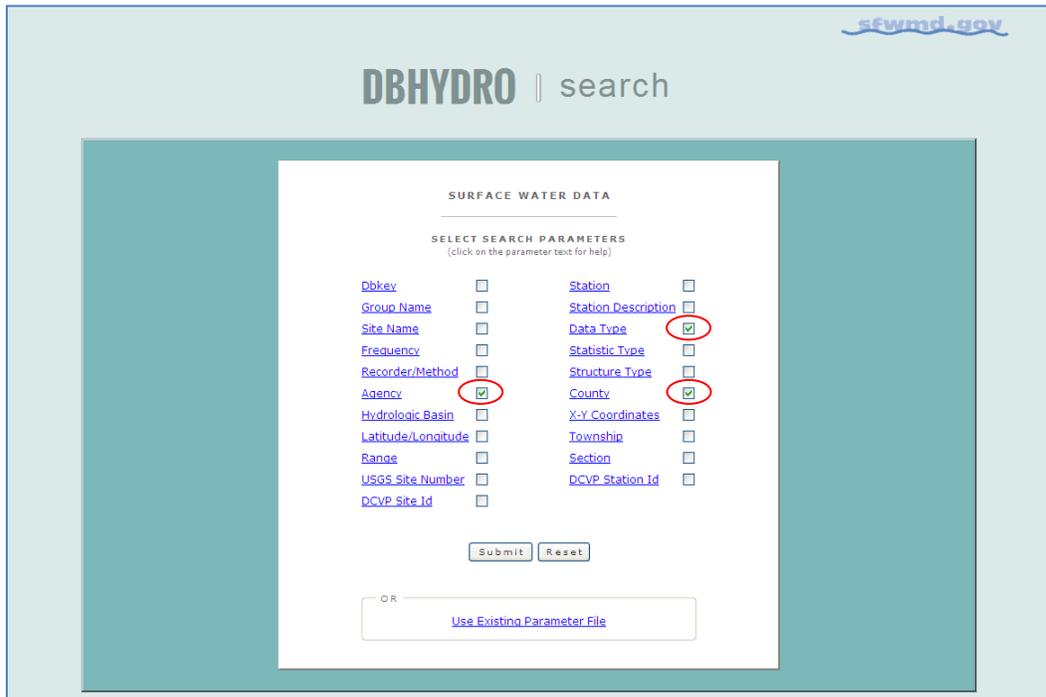
Reload a previously saved set of search criteria

This screen allows the user to select the filters the user wants to use to query the surface water data. Each search parameter (filter) is hyperlinked to a description of that parameter. For example, clicking on the word "[AGENCY](#)" leads to the following help text:



Closing this window returns the user to the “Surface Water Data/Select Search Parameter” menu.

In the following example, the “Agency”, “Data Type”, and “County” parameters have been selected by checking their associated check boxes:



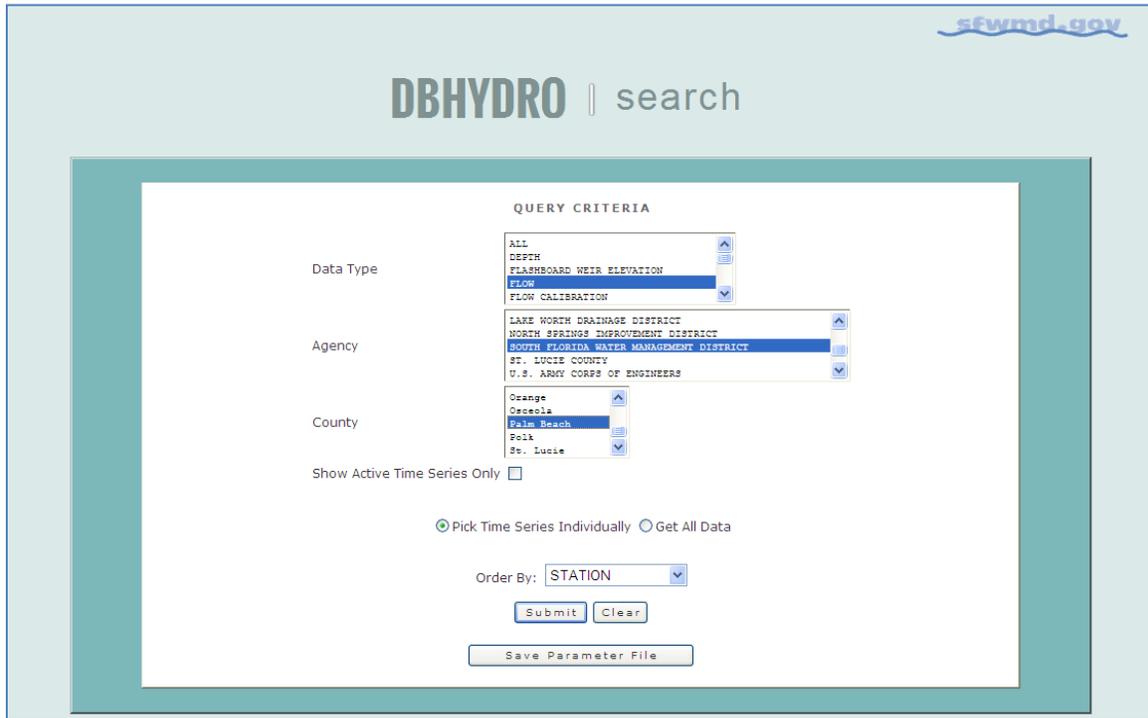
Clicking on the "Submit" button provides the presented information:

The screenshot shows the DBHYDRO search interface. At the top right is the logo for sfwmd.gov. The main heading is "DBHYDRO | search". Below this is a "QUERY CRITERIA" section with three dropdown menus: "Data Type" (options: ALL, DEPTH, FLASHBOARD WEIR ELEVATION, FLOW, FLOW CALIBRATION), "Agency" (options: ALL, AROME IMPROVEMENT DISTRICT, CITY OF WEST PALM BEACH, DEPARTMENT OF ENVIRONMENTAL REGULATION, EVERGLADES NATIONAL PARK), and "County" (options: ALL, Brevard, Broward, Charlotte, Collier). There is a checkbox for "Show Active Time Series Only" which is unchecked. Below the filters are two radio buttons: "Pick Time Series Individually" (selected) and "Get All Data". An "Order By:" dropdown menu is set to "STATION". At the bottom are three buttons: "Submit", "Clear", and "Save Parameter File".

In this view, only Data Type, Agency, and County (as requested) and those parameters specific to surface water data are able to be queried. This filtering feature prevents the list of query criteria from getting unnecessarily large and generally keeps the presented information on one page.

Each list of values allows one or more query criteria to be selected using the “CTRL” or “SHIFT” keys in conjunction with the left mouse button.

The criteria fields are filled in by the selection on the lists of values:



The screenshot shows the DBHYDRO search interface. At the top right is the logo for sfwmd.gov. The main heading is "DBHYDRO | search". Below this is a "QUERY CRITERIA" form. The form includes the following fields and options:

- Data Type:** A dropdown menu with options: ALL, DEPTH, FLASHBOARD WEIR ELEVATION, FLOW (selected), and FLOW CALIBRATION.
- Agency:** A dropdown menu with options: LAKE WORTH DRAINAGE DISTRICT, NORTH SPRINGS IMPROVEMENT DISTRICT, SOUTH FLORIDA WATER MANAGEMENT DISTRICT (selected), ST. LUCIE COUNTY, and U.S. ARMY CORPS OF ENGINEERS.
- County:** A dropdown menu with options: Orange, Osceola, Palm Beach (selected), Polk, and St. Lucie.
- Show Active Time Series Only:** An unchecked checkbox.
- Radio buttons:** "Pick Time Series Individually" (selected) and "Get All Data".
- Order By:** A dropdown menu set to "STATION".
- Buttons:** "Submit", "Clear", and "Save Parameter File".

In the above example, SFWMD surface water flows in Palm Beach County are selected. At this point, the parameter file may be saved, allowing the selected criteria to be stored in a file on the user's individual computer or server, such that the criteria may be recalled for future access. This feature is helpful for frequently run queries to minimize keystrokes and mouse events required to obtain data. [Note: The web services URL feature may better suit the needs of users that have frequently repeated database queries.] More information is provided in *Section 3.0, URL-Based Data Access*.

By checking the box "Show Active Time Series Only", the user can filter out older data sets if the user is only interested in more recent or active data sets. In the example above, both active and inactive time series are requested because the checkbox is left unchecked.

The user may order (sort) the subsequent output by any of the available output columns. By default, the output will be in "Station" order.

Frequent users may bypass the next screen to more directly retrieve needed data. This is useful if the user knows that the query will return only a few data sets interactively or wants to submit a batch request. To use the bypass feature, select the radio button marked "Get All Data". In the example provided, the time series list is not bypassed because specific data sets need to be selected. More information on batch requests is provided in *Section 2.0, Menu-Based Data Access*.

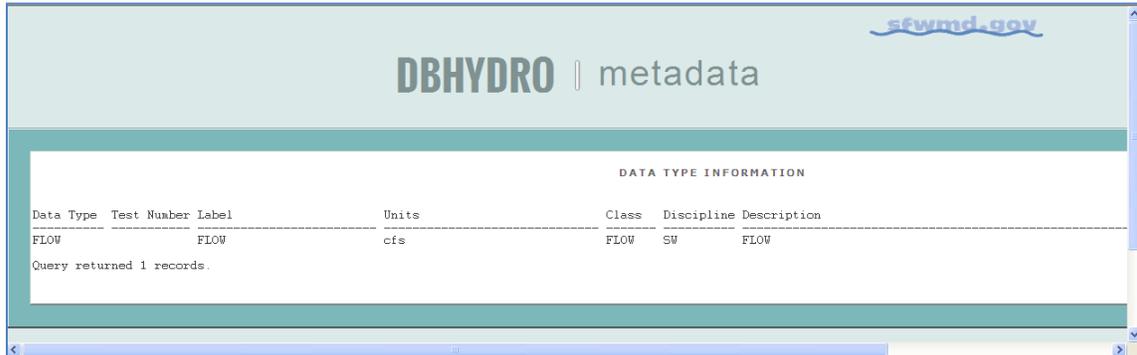
Clicking on the "Submit" button results in the following "Metadata" list:

The screenshot shows a web browser window displaying the 'DBHYDRO | time series' page. The page header includes the 'sfwmd.gov' logo. The main content is a table with the following columns: Get Data, Dbkey, Station, Group, Data Type, Freq, Stat, Recorder, Agency, Start Date, End Date, Strata, County, Op Num, Latitude, Longitude, X COORD, Y COORD, Basin, and Struct. The 'Station' column has a dropdown arrow above it. Several cells in the 'Recorder' and 'Agency' columns contain underlined blue text, which are hyperlinks. Callouts provide the following information:

- Sorted by station. Click on any column heading to sort.** (points to the 'Station' column header)
- A unique data set ID** (points to the 'Dbkey' column)
- Method of acquisition or derivation** (points to the 'Recorder' column)
- SFWMD data quality assurance works on data in batches. Most hydrologic data sets are quality assured within two weeks of data collection.** (points to the 'Agency' column)
- Click on any [hyperlink](#) for more information** (points to a hyperlink in the 'Recorder' column)

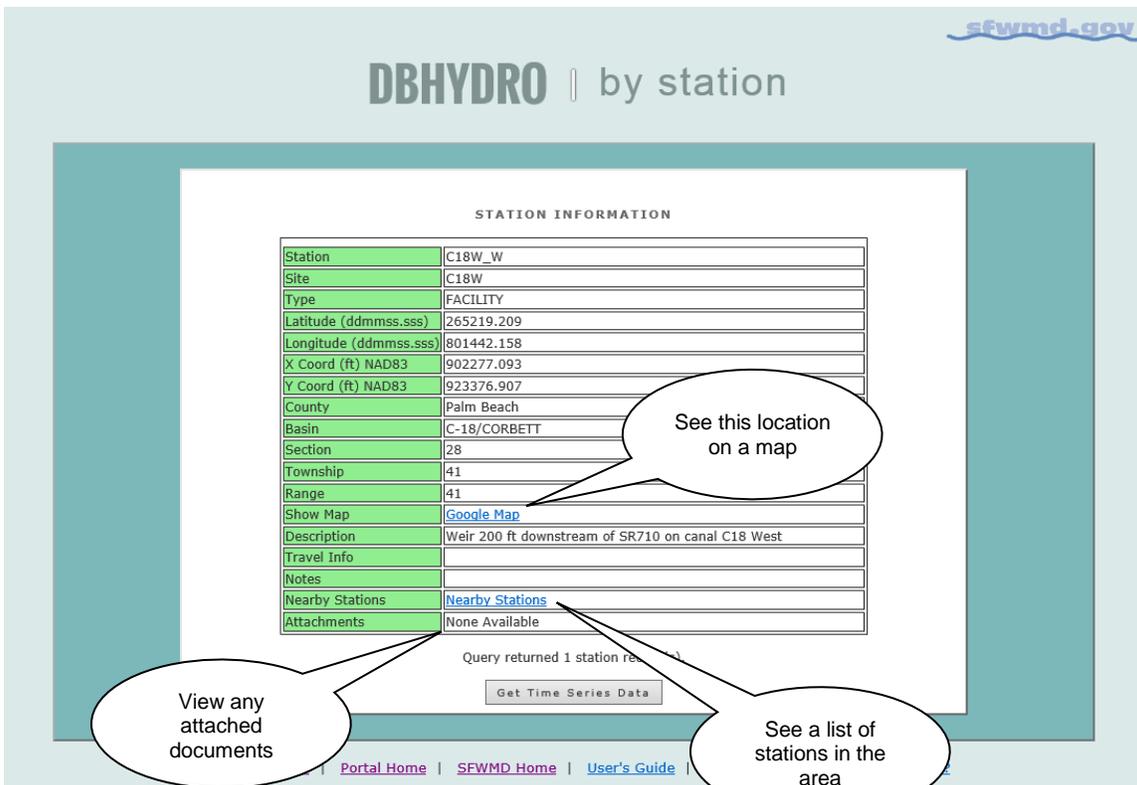
The user can also click on the heading of any column in order to sort the list by that particular column. The "Station" column is used by default as indicated by the arrow ▼ above the column heading. Each of the underlined fields is hyperlinked to additional information that explains its meaning.

For example, clicking on the word "[FLOW](#)" in the data type column leads to the following screen, which further details flow data including its units of measure:



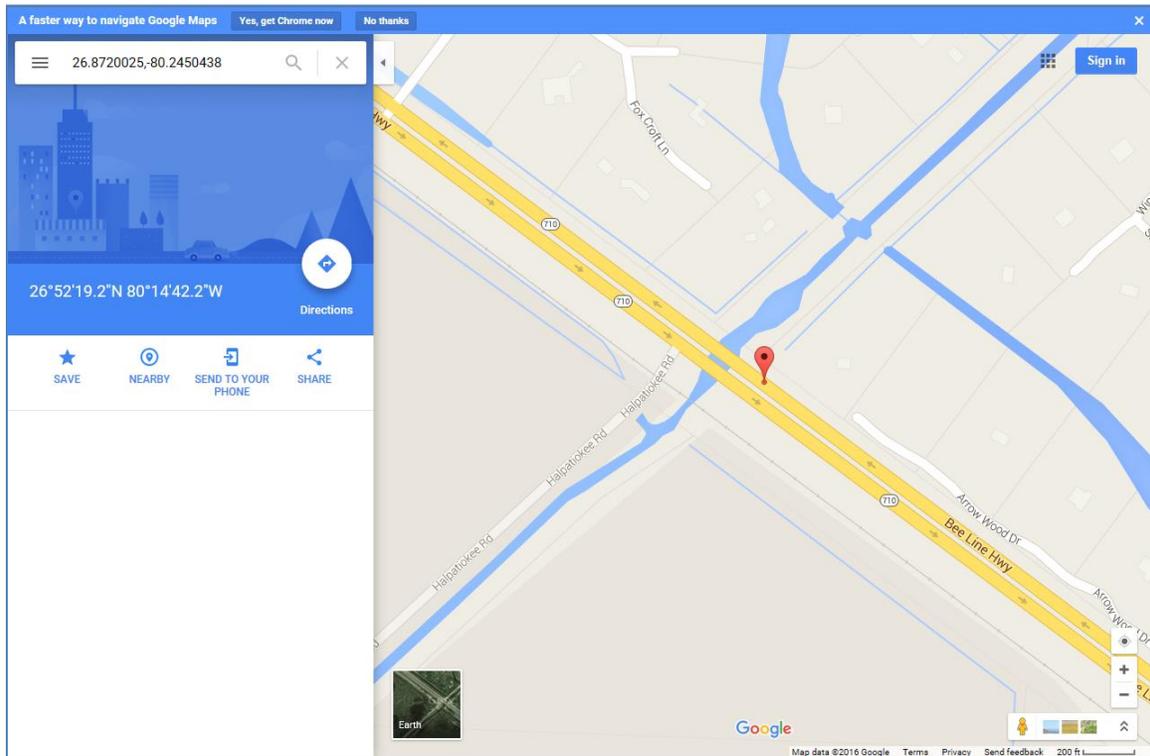
DBHYDRO Browser similarly links to additional information for all the other hyperlinked time series attributes.

The “Station” field hyperlink in the previous time series list leads to a screen displaying the station information. For example, clicking on station "C18W_W" leads to this screen:



Then, the user can display a map with this station marked, generate a list of nearby stations, or “Get Time Series Data”. If water quality data is available at the selected station, then a “Get Sample Data” button will be available. If a groundwater well is located at the selected station, then a “Well Info” link will also be available.

Using the C18W_W station example, selecting the "Google Maps" feature provides a map similar to the following:



This feature takes advantage of publicly available map server technology to learn more about the area near the station of interest. The map can be drawn at different scales (zoom in/out) and printed. General directions to the station can also be generated. [Note that the SFWMD does not endorse the use of any particular commercial map server engine or its advertisers.]

Alternatively, by clicking on the “Nearby Station” link at the right end of the row, the user gets a list of other monitoring stations in the vicinity. Such a list may lead the user to other data that did not appear previously because of selected query criteria. The column “Distance (miles)” indicates how close other stations are to the selected station (i.e., C18W_W in this example).

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DBHYDRO | by station

STATION INFORMATION

Get Data	Station	Site	Latitude (ddmmss.sss)	Longitude (ddmmss.sss)	X Coord (ft)	Y Coord (ft)	Distance (miles)	County	Basin	Section	Township	Range	Show Map	De
<input type="checkbox"/>	C18W_H	C18W	265219.209	801442.158	902277.093	923376.907	0.	PAL	C18	28	41	41	Google Map	CANAL C18 WEST, HEADWATER
<input type="checkbox"/>	C18W_B	C18W	265219.209	801442.158	902277.093	923376.907	0.	PAL	C18	28	41	41	Google Map	CANAL C18 WEST, RAINFALL
<input type="checkbox"/>	C18W_T	C18W	265219.209	801442.158	902277.093	923376.907	0.	PAL	C18	28	41	41	Google Map	CANAL C18 WEST, TAILWATER
<input type="checkbox"/>	C18W_W	C18W	265219.209	801442.158	902277.093	923376.907	0.	PAL	C18	28	41	41	Google Map	Weir 200 ft downstream of SR710 on cana
<input type="checkbox"/>	C18	C18	265219.758	801443.945	902114.843	923431.276	.03	PAL	C18	28	41	41	Google Map	CANAL C18 WEST AT SR710 NR JUPITER, FL
<input type="checkbox"/>	C18SR710	C18	265219.757	801443.946	902114.843	923431.276	.03	PAL	C18	28	41	41	Google Map	AT THE POINT WHERE C-18 PASSES UNDER
<input type="checkbox"/>	PB-1525	PB1525	265259.073	801233.561	913897.278	927473.167	2.33	PAL	C18	24	41	41	Google Map	PB1525, GROUNDWATER MONITORING SIT
<input type="checkbox"/>	PB-1524	PB-1524	265444.204	801519.159	898840.357	937998.302	2.85	PAL	JUPITER	16	41	41	Google Map	PB -1524
<input type="checkbox"/>	PB-1553	PB-1553	265444.204	801519.159	898840.357	937998.302	2.85	PAL	JUPITER	16	41	41	Google Map	PB -1553
<input type="checkbox"/>	PB-1552	PB-1552	265444.21	801519.17	898839.514	937998.735	2.85	PAL	JUPITER	16	41	41	Google Map	PB -1552
<input type="checkbox"/>	PBPOC_PW	PB_POC	265418.463	801627.861	892636	935362.768	2.92	PAL	C18	18	41	41	Google Map	PUMPING WELL FOR PALM BEACH PARK OF
<input type="checkbox"/>	PBPOC_OW	PB_POC	265418.463	801627.861	892636	935362.768	2.92	PAL	C18	18	41	40	Google Map	PALM BEACH PARK OF COMMERCE
<input type="checkbox"/>	PB-1550	USGS_14	265135.21	801726.17	887449.456	918848.639	2.93	PAL	C18	6	42	41	Google Map	USGS WELL #14 SFWMD ID #099-22
<input type="checkbox"/>	PB-1551	USGS_14	265135.221	801726.178	887448.82	918849.224	2.93	PAL	C18	6	42	41	Google Map	USGS SITE 14
<input type="checkbox"/>	PB-688R_G	PB-688R	265446.204	801355.157	906443.42	938245.723	2.93	PAL	JUPITER	11	41	41	Google Map	PB-688R
<input type="checkbox"/>	PB-1109		265116.211	801730.163	887098.698	916927.696	3.12	PAL	C18	6	42	41	Google Map	MONITOR SITE FOR WATER QUALITY ASSUI
<input type="checkbox"/>	PB-0715	PB715	265115.751	801730.056	887108.586	916881.241	3.12	PAL	C18	6	42	41	Google Map	MONITOR WELL IN J.W. CORBETT AREA, NC
<input type="checkbox"/>	PB-0716		265115.211	801730.163	887099.261	916826.723	3.13	PAL	C18	36	41	40	Google Map	PB-716 [HOWDI:265114080173102]
<input type="checkbox"/>	PB-716_G	PB-716	265115.211	801730.163	887099.261	916826.723	3.13	PAL	C18	36	41	40	Google Map	PB-716 [HOWDI:265114080173102]
<input type="checkbox"/>	PB-1085		265028.214	801155.154	917380.767	912261.063	3.55	PAL	C18	1	42	41	Google Map	MONITOR WELL AT NW CORNER OF PGA BI
<input type="checkbox"/>	PB-563_G	PB-563	265028.214	801155.154	917471.351	912261.635	3.56	PAL	C18	4	2	1	Google Map	PB-563

It is important to note that station locations are determined by various methods, each with its own inherent accuracy capabilities. Therefore, some coordinates and distances displayed may only be approximate.

The user must click on the "Back" button twice in the browser to return to the "Time Series Listing" page, where one or more data sets for display can be selected.

In the example below, data is selected for "G304E_C", using the data set with recorder type "PREF" - an abbreviation for preferred. Preferred data sets undergo an additional level of quality assurance (QA) by District staff. It is recommended that "PREF" data are used if available in the user's query.

Up to 100 rows of metadata will be displayed on each page. Data from different pages must be retrieved separately. Alternatively, the user can refine the query so that fewer metadata rows are displayed to fit on one page. In this case, scroll down and click on the "Get Data" button that is displayed at the bottom of the screen.

Get Data	Dbkey	Station	Group	Data Type	Freq	Stat	Recorder	Agency	Start Date	End Date	Strata	County	On Num	Latitude	Longitude	X Coord	Y Coord	Basin	Struct	Section
<input type="checkbox"/>	64281	G304E_C	G304E_C	FLOW	BK	INST	NA	WMD	31-DEC-2014	29-JUL-2016	0	PAL		264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	L9835	G304E_C	STA1W	FLOW	DA	MEAN	STAF	WMD	28-FEB-2000	17-MAR-2003	0	PAL		264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	OB429	G304E_C	STA1W	FLOW	DA	MEAN	TELE	WMD	19-OCT-2001	06-AUG-2003	0	PAL		264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	OU415	G304E_C	G304E_C	FLOW	DA	MEAN	CR10	WMD	18-APR-2002	17-JUL-2006	0	PAL		264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input checked="" type="checkbox"/>	W3864	G304E_C	G304E_C	FLOW	DA	MEAN	PREF	WMD	01-MAY-2000	30-JUN-2016	0	PAL		264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	90947	G304E_C	G304E_C	FLOW	DA	MEAN	NA	WMD	31-DEC-2014	28-JUL-2016	0	PAL		264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	VW951	G304E_C	G304E_C	FLOW	DA	MEAN	TELE	WMD	11-MAR-2008	28-JUL-2016	0	PAL		264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	LS642	G304E_C	STA1W	GATE	BK	INST	DWR	WMD	28-FEB-2000	06-AUG-2003	0	PAL	1	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	OT902	G304E_C	G304E_C	GATE	BK	INST	CR10	WMD	18-APR-2002	17-JUL-2006	0	PAL	1	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	VM827	G304E_C	G304E_C	GATE	BK	INST	TELE	WMD	31-DEC-2007	29-JUL-2016	0	PAL	1	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6
<input type="checkbox"/>	AL651	G304E_H	G304E_H	STG	BK	INST	STAF	WMD	28-FEB-2000	17-MAR-2003	0	PAL		264008.35	802324.68	855315.178	849325.956	STA-1W		6
<input type="checkbox"/>	AL649	G304E_H	G304E_H	STG	BK	INST	CR10	WMD	18-APR-2002	17-JUL-2006	0	PAL		264008.35	802324.68	855315.178	849325.956	STA-1W		6
<input type="checkbox"/>	L9841	G304E_H	STA1W	STG	DA	MEAN	STAF	WMD	28-FEB-2000	17-MAR-2003	0	PAL		264008.35	802324.68	855315.178	849325.956	STA-1W		6
<input type="checkbox"/>	OH559	G304E_H	G304E_H	STG	DA	MEAN	CR10	WMD	18-APR-2002	17-JUL-2006	0	PAL		264008.35	802324.68	855315.178	849325.956	STA-1W		6
<input type="checkbox"/>	AL653	G304E_T	G304E_T	STG	BK	INST	STAF	WMD	28-FEB-2000	17-MAR-2003	0	PAL		264008.93	802325.73	855219.646	849384.066	STA-1W		6
<input type="checkbox"/>	AL650	G304E_T	G304E_T	STG	BK	INST	CR10	WMD	18-APR-2002	17-JUL-2006	0	PAL		264008.93	802325.73	855219.646	849384.066	STA-1W		6
<input type="checkbox"/>	L9842	G304E_T	STA1W	STG	DA	MEAN	STAF	WMD	28-FEB-2000	17-MAR-2003	0	PAL		264008.93	802325.73	855219.646	849384.066	STA-1W		6
<input type="checkbox"/>	OH560	G304E_T	G304E_T	STG	DA	MEAN	CR10	WMD	18-APR-2002	17-JUL-2006	0	PAL		264008.93	802325.73	855219.646	849384.066	STA-1W		6

It should be noted that "Clear All" and "Select All" buttons can be used to expedite the time series selection process. "Clear All" removes check marks from all the checked time series. "Select All" selects or checks all the time series data records. Notably, data sets that have no data are not selectable. A data set might not contain data because it has merely been registered in preparation of receiving data but has not yet received any data. Again, a parameter file also may be saved at this time.

Once the “Get Data” button is pressed, the date range selection and format selection screen is now displayed:

sfwmd.gov

DBHYDRO | time series

QUERY DATE SELECTION

Time Series List

Get Data	Dbkey	Station	Group	Data Type	Freq	Stat	Strata	Recorder	Agency	Start Date	End Date	County	Op Num	Latitude	Longitude	Basin	Struct
<input checked="" type="checkbox"/>	W3864	G304E_C	G304E_C	FLOW	DA	MEAN	0	PREF	WMD	20000501	20160630	PAL		264008.765	802325.242	STA-1W	CULV

Clear All Select All

Date Range: User Specified
Start Date: 20000501 End Date: 20160630 (YYYYMMDD)

Report Format: One Value Per Row

Destination:
 Screen (.html)
 File: Fixed column width (.txt).
 File: Comma delimited (.csv).
 File: Adobe (.pdf) format.
 Chart

Run Mode:
 Online
 Batch [When to use it](#)

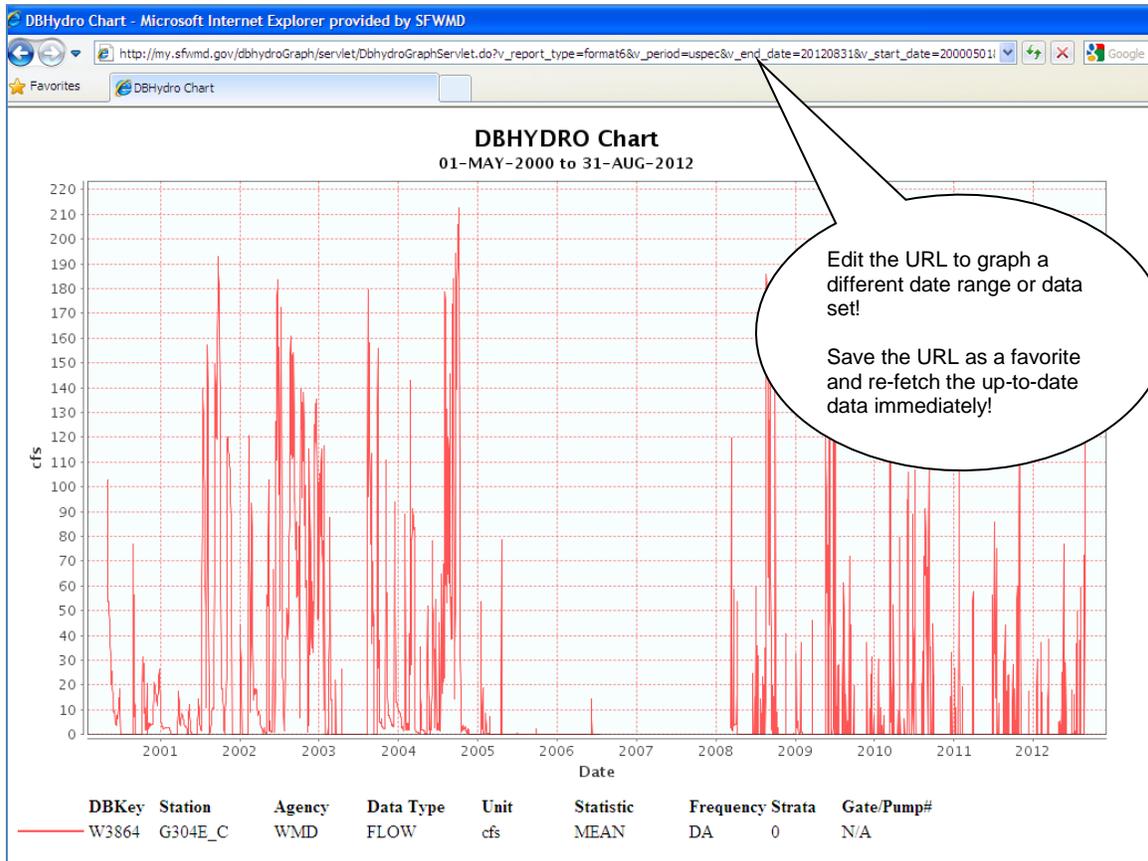
Submit Reset
Save Parameter File

When the date range choice is “User Specified”, the default start date is the earliest start date in the time series list. The default end date is the most recent end date in the list. Therefore, the default is the entire period of record for all data listed. The dates in the Start Date and End Date fields are ignored when a fixed date range such as “Today and previous 2 days” is selected from the pull-down list.

This screen allows the user to select the desired period of record for the data set and plot it on a chart. As indicated above, the “Chart” and “Online” radio buttons have been selected. There are thirteen different output report formats (names) and five different output destinations. Note: Not all combinations of Report Format and Destination are valid, but the user is informed of invalid combinations when attempted.

Charting/Graphing

Clicking on the "Chart" button under "Destination" results in the following type of graph:



This graph is generated directly from the database, ensuring that the user's results are updated with the most recent data. The graph may be printed to any available printer.

The resulting chart URL date text can be edited to regenerate a graph covering a different date range. Chart URLs may be bookmarked and reused directly from the user's web browser without navigating to the DBHYDRO menu. Subsequent iterations of a chart URL will retrieve the most recent data. Hydrographs are created for each selected time series. Individual axes are created for each data type.

Clicking on the "Back" button on the user's browser and clicking on the tabular data option allows the user to choose from several formats. The example below indicates that the user is ready to retrieve data in a "Month - Year Matrix" tabular report.

sfwmd.gov

DBHYDRO | time series

QUERY DATE SELECTION

Time Series List

Get Data	Dbkey	Station	Group	Data Type	Freq	Stat	Strata	Recorder	Agency	Start Date	End Date	County	Op Num	Latitude	Longitude	Basin	Struct
<input checked="" type="checkbox"/>	W3864	G304E_C	G304E_C	FLOW	DA	MEAN	0	PREF	WMD	20000501	20160630	PAL		264008.765	802325.242	STA-1W	CULV

Date Range User Specified
 Start Date 20000501 End Date 20160630 (YYYYMMDD)

Report Format

Destination

- Screen (.html)
- File: Fixed column width (.txt).
- File: Comma delimited (.csv).
- File: Adobe (.pdf) format.
- Chart

Run Mode

- Online
- Batch [When to use it](#)

The “Month - Year Matrix” fits one year of data to a single page in matrix format, where columns are shown in months and rows are in days. The “One Value Per Row” format is a single column output in which each value appears on its own line. The “Multiple Daily Values Per Row” format is a multi-column output in which the values for multiple time series appear on a single line corresponding to a single date.

The example below displays results in a monthly format, with one year to a page. Monthly summary statistics are at the bottom of each year.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	M	M	M	M	100.67	8.52	.00	.00	9.98	.00	12.36	14.08
2	M	M	M	M	102.85	9.04	.00	.00	7.28	.00	7.4	16.82
3	M	M	M	M	95.54	8.81	.00	.00	10.26	.00	3.3	19.57
4	M	M	M	M	57.52	8.50	.00	.00	13.23	.00	1.78	20.92
5	M	M	M	M	53.65	9.58	.00	.00	11.77	.00	3.34	20.28
6	M	M	M	M	53.51	4.92	.00	.00	2.66	.00	4.48	19.57
7	M	M	M	M	53.51	4.11	.00	.00	3.75	.00	4.50	18.86
8	M	M	M	M	53.51	4.47	.00	.00	.00	.00	3.94	18.16
9	M	M	M	M	53.38	5.20	.00	.00	.00	.00	2.17	17.45
10	M	M	M	M	52.22	5.43	.00	.00	.00	17.86	2.59	16.74
11	M	M	M	M	49.26	5.61	.00	.00	.00	31.39	3.23	16.07
12	M	M	M	M	46.08	4.93	.00	.00	.00	21.34	3.87	15.47
13	M	M	M	M	42.49	3.50	.00	.00	.00	27.13	4.30	14.83
14	M	M	M	M	38.85	5.80	.00	.00	.00	25.27	4.46	14.13
15	M	M	M	M	36.11	7.92	.00	.00	.00	22.79	4.36	13.43
16	M	M	M	M	35.96	7.80	.00	.00	.00	22.96	4.14	12.74
17	M	M	M	M	32.54	7.35	.00	.00	.00	28.53	3.66	12.04
18	M	M	M	M	22.47	6.91	.00	.00	.00	25.36	3.84	11.82
19	M	M	M	M	20.41	6.57	.00	.00	.00	8.47	4.07	13.38
20	M	M	M	M	21.06	7.25	.00	.00	.00	11.25	4.24	15.11
21	M	M	M	M	21.88	10.25	.00	.00	.00	10.48	4.26	16.84
22	M	M	M	M	23.59	13.93	.00	.00	.00	9.27	4.26	18.57
23	M	M	M	M	25.76	14.71	.00	.00	.00	7.44	4.26	20.30
24	M	M	M	M	22.82	13.14	.00	.00	.00	3.50	4.26	22.03
25	M	M	M	M	19.96	11.41	.00	.00	.00	1.88	4.26	23.76
26	M	M	M	M	18.28	12.64	.00	.00	.00	7.22	4.26	25.49
27	M	M	M	M	16.56	18.52	.00	.14	.00	7.08	4.72	26.38
28	M	M	M	M	14.82	17.20	.00	76.80	.00	4.63	6.69	24.10
29	M	M	M	M	13.08	16.33	.00	73.58	.00	2.05	8.98	21.51
30	M	M	M	M	11.23	7.65	.00	29.11	.00	5.27	11.47	18.92
31	M	M	M	M	9.29	.00	.00	56.26	.00	20.67	.00	16.32
MAX	M	M	M	M	102.85	18.52	.00	76.80	13.23	31.39	12.36	26.38
MEAN	M	M	M	M	39.32	8.94	.00	7.61	1.96	10.38	4.46	17.93
MIN	M	M	M	M	9.29	3.50	.00	.00	.00	.00	3.3	11.82
SUM	M	M	M	M	1218.86	268.06	.00	235.89	58.93	321.84	133.82	555.69

DATA TAG LEGEND	DATA TAG LEGEND
- "Normal" Limits Exceeded	N - Not Yet Available
< - Less Than	P - Partial Record or USGS Provisional Data
> - Greater Than	R - Rainfall was observed (for evaporation data)
? - Questionable (Do Not Use)	S - Original Had More Than 5 Significant Digits
A - Accumulated (rainfall)	T - Trace Of Precipitation
E - Estimated	U - Uncertified by SFWMD (continuous data series)
I - Inserted (estimated) During Data Processing	V - Verified
J - Estimated (water quality)	X - Included In Next Amount Marked 'A'
L - Line-Average	Y - Provisional Use For Regional Scale Modeling
M - Missing	Z - Not Appropriate For Regional Scale Modeling

This output can be saved explicitly as a .txt file using “File” → “Save As”, or the user may choose “Edit” → “Select All” and copy and paste the information into another application.

The file can also be saved in comma separated value (.csv) format and opened in a program such as Notepad or a spreadsheet program (e.g., Microsoft Excel):

1	Time Series Data															
2	DBKEY	STATION	AGENCY	COUNTY	TYPE	UNITS	STAT	FQ	START	END	LAT	LONG	SECTION	TOWN	RANGE	ALTERNATE ID
3	W3864	G304E_C	WMD	PAL	FLOW	cfs	MEAN	DA	2000	2012	264008	802325	6	44	40	
4	YEAR: 2000															
5	DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
6	1	M	M	M	M	100.67	8.52	0	0	9.98	0	12.36	14.08			
7	2	M	M	M	M	102.85	9.04	0	0	7.28	0	0.74	16.82			
8	3	M	M	M	M	95.54	8.81	0	0	10.25	0	0.33	19.57			
9	4	M	M	M	M	57.52	8.5	0	0	13.23	0	1.78	20.92			
10	5	M	M	M	M	53.65	9.58	0	0	11.77	0	3.34	20.28			
11	6	M	M	M	M	53.51	4.92	0	0	2.66	0	4.48	19.57			
12	7	M	M	M	M	53.51	4.11	0	0	3.75	0	4.5	18.86			
13	8	M	M	M	M	53.51	4.47	0	0	0	0	3.94	18.16			
14	9	M	M	M	M	53.38	5.2	0	0	0	0	2.17	17.45			
15	10	M	M	M	M	52.22	5.43	0	0	0	17.86	2.59	16.74			
16	11	M	M	M	M	49.26	5.61	0	0	0	31.39	3.23	16.07			
17	12	M	M	M	M	46.08	4.99	0	0	0	21.34	3.87	15.47			
18	13	M	M	M	M	42.49	3.5	0	0	0	27.13	4.3	14.83			
19	14	M	M	M	M	38.85	5.8	0	0	0	25.27	4.46	14.13			
20	15	M	M	M	M	36.11	7.92	0	0	0	22.79	4.36	13.43			
21	16	M	M	M	M	35.96	7.8	0	0	0	22.96	4.14	12.74			
22	17	M	M	M	M	32.54	7.35	0	0	0	28.53	3.66	12.04			
23	18	M	M	M	M	22.47	6.91	0	0	0	25.36	3.84	11.82			
24	19	M	M	M	M	20.41	6.57	0	0	0	8.47	4.07	13.38			
25	20	M	M	M	M	21.06	7.25	0	0	0	11.25	4.24	15.11			
26	21	M	M	M	M	21.88	10.25	0	0	0	10.48	4.26	16.84			
27	22	M	M	M	M	23.59	13.93	0	0	0	9.27	4.26	18.57			
28	23	M	M	M	M	25.76	14.71	0	0	0	7.44	4.26	20.3			
29	24	M	M	M	M	22.82	13.14	0	0	0	3.5	4.26	22.03			
30	25	M	M	M	M	19.96	11.41	0	0	0	1.88	4.26	23.76			
31	26	M	M	M	M	18.28	12.64	0	0	0	7.22	4.26	25.49			
32	27	M	M	M	M	16.56	18.52	0	0.14	0	7.08	4.72	26.38			
33	28	M	M	M	M	14.82	17.2	0	76.8	0	4.63	6.69	24.1			
34	29	M	M	M	M	13.08	16.33	0	73.58	0	2.05	8.98	21.51			
35	30	M	M	M	M	11.23	7.65	0	29.11	0	5.27	11.47	18.92			
36	31	M	M	M	M	9.29	9.29	0	56.26	0	20.67	16.32	16.32			
37	MAX	M	M	M	M	102.85	18.52	0	76.8	13.23	31.39	12.36	26.38			

When saving the file, the user's operating system (e.g., Microsoft Windows) will know that the user wants this file associated with Microsoft Excel if it is saved with a .csv extension.

An example of the “One Value Per Row” format is as follows:

Time Series Data

DBKEY	STATION	AGENCY	COUNTY	TYPE	UNITS	STAT	FQ	START	END	LAT	LONG	SECTION	TOWN	RANGE	ALTERNATE	ID
W3864	G304E_C	UMD	PAL	FLOW	cfs	MEAN	DA	2000	2012	264008	802325	6	44	40		

Station	DBKEY	Daily Date	Data Value	Code	Revision Date
G304E_C	W3864	25-AUG-2012	48.38		24-SEP-2012
G304E_C	W3864	26-AUG-2012	97.71		24-SEP-2012
G304E_C	W3864	27-AUG-2012	195.58		24-SEP-2012
G304E_C	W3864	28-AUG-2012	190.71		24-SEP-2012
G304E_C	W3864	29-AUG-2012	185.35		24-SEP-2012
G304E_C	W3864	30-AUG-2012	177.30		24-SEP-2012
G304E_C	W3864	31-AUG-2012	175.01		24-SEP-2012

Query returned 7 records.

[Quality Code Listing](#)

[Click here to see Annotations](#)

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Links to quality codes and data processing annotations made during the QA process are located at the bottom of the listing.

The “Multiple Daily Values Per Row” format (not shown) provides for multiple simultaneous time series values to be displayed on the same row (date/time stamp). Users can chart multiple time series in the browser or, with some additional manual effort, the user may graph multiple time series on the same graph in Excel.

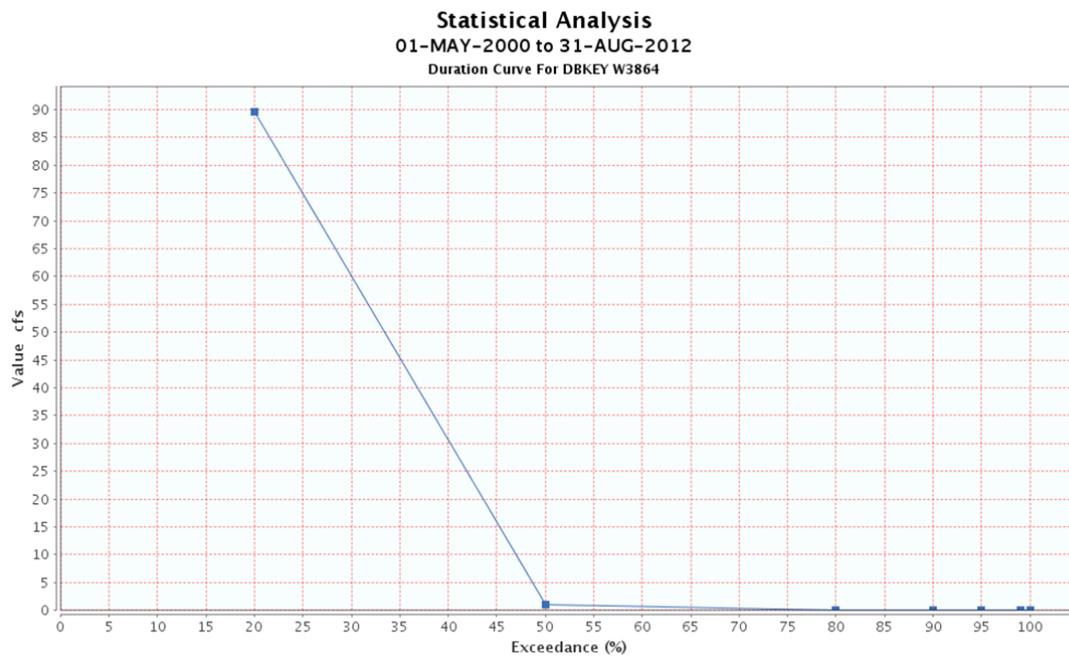
SHEF .E Format (not shown) provides data in Standard Hydrologic Exchange (SHEF) .E Format. SHEF has been developed jointly by the National Weather Service and U.S. Army Corps of Engineers, and is a documented set of rules for coding of data in a form for both visual and computer recognition.

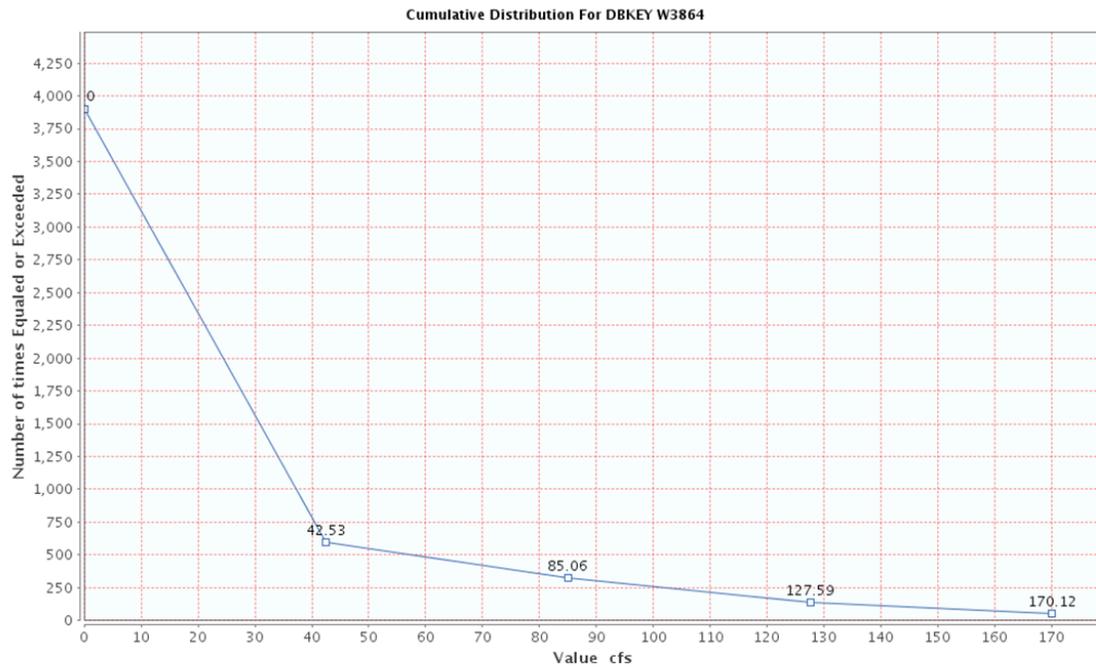
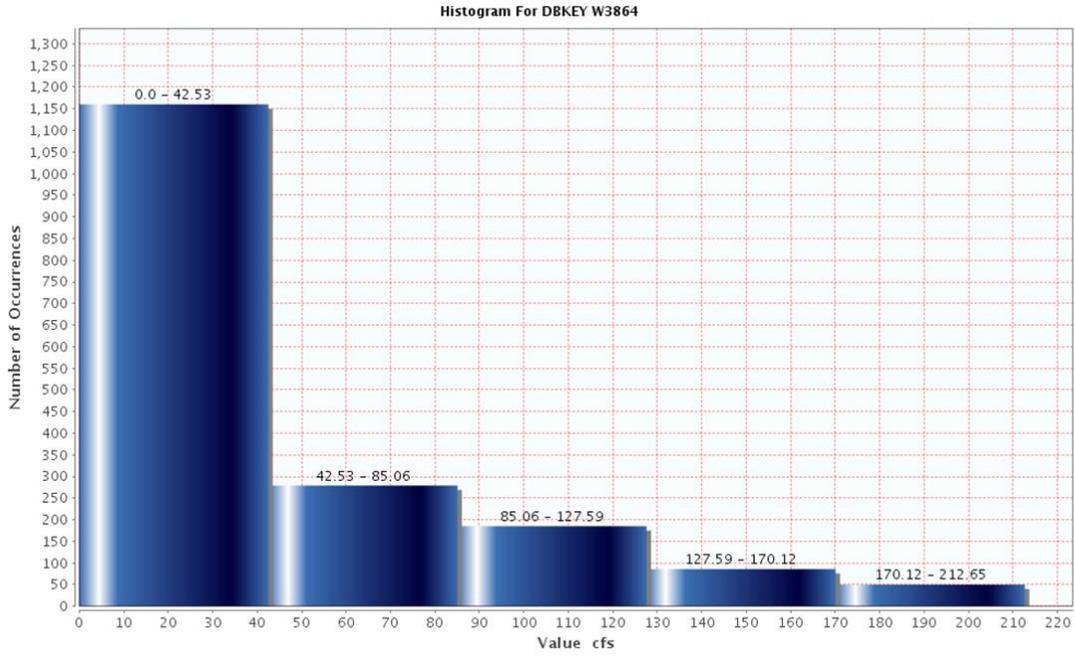
South Florida Water Management District flow data is considered positive when flowing from the headwater station to tailwater station. Headwater and tailwater stations typically are named with _H and _T suffixes respectively. The Google Earth interface shows relative locations of headwater and tailwater stations and is therefore helpful in determining the compass direction for which flow is considered positive. Positive flow direction for data from other agencies may need to be confirmed with the respective agencies. For instance, the USGS NWIS database may have more complete station descriptions than what is in DBHYDRO.

The user can also run special statistical summary reports as follows:

- Duration Curve, Histogram, and Cumulative Distribution
- Daily Norms
- Month-by-Month Summary
- Composite Monthly Summary
- Year-by-Year Summary
- Period of Record Summary
- Maximum and Minimum Values and their Dates

Charts of the duration curve, histogram, and cumulative distribution statistical analyses can also be generated by selecting the corresponding report format, as exemplified in the following graphs, respectively:





DBKey	Station	Agency	Data Type	Unit	Statistic	Frequency	Strata	Gate/Pump#
W3864	G304E_C	WMD	FLOW	cfs	MEAN	DA	0	N/A

Below is an example of the Composite Monthly Summary:

After clicking on the Submit button the following report is generated:

DEKEY Station	Data Type	Month	Sample Size	Minimum	Mean	Maximum	Median	Std. Dev.
W3864 G304E_C	FLOW	01	310	0.000	12.695	138.905	0.000	27.50
W3864 G304E_C	FLOW	02	282	0.000	9.444	142.820	0.000	23.91
W3864 G304E_C	FLOW	03	331	0.000	10.495	187.880	0.000	26.25
W3864 G304E_C	FLOW	04	330	0.000	2.802	79.580	0.000	9.53
W3864 G304E_C	FLOW	05	372	0.000	9.985	159.520	0.000	23.42
W3864 G304E_C	FLOW	06	360	0.000	16.480	183.380	0.000	35.93
W3864 G304E_C	FLOW	07	357	0.000	18.807	172.700	0.000	37.33
W3864 G304E_C	FLOW	08	341	0.000	41.674	195.583	9.430	54.80
W3864 G304E_C	FLOW	09	300	0.000	45.871	194.850	14.585	59.52
W3864 G304E_C	FLOW	10	310	0.000	24.028	212.650	2.345	46.70
W3864 G304E_C	FLOW	11	300	0.000	17.205	120.070	0.000	32.97
W3864 G304E_C	FLOW	12	310	0.000	13.451	135.470	0.000	29.74

This report can be useful to detect seasonal trends in the data.

The user is encouraged to examine all the available formats and outputs in order to customize for specific reporting needs.

Batch Mode

Checking “Batch” as the “Run Mode” on the Query Date Selection page allows the user to retrieve large data sets in an off-line manner. Any retrieval that takes longer than five minutes to run interactively will be subject to a standard time out by the system and will need to be run as a batch submittal. Most batch jobs are executed immediately.

DBHYDRO | reports

Batch Submittal

Please provide your email address in the text box below and click submit button to submit your request in batch mode. This email address will be used by the dbhydro system to notify you, once data file is ready for download. During normal operation your request should take less than 30 minutes to process. In some cases it may take several hours to process your request.

Email Address

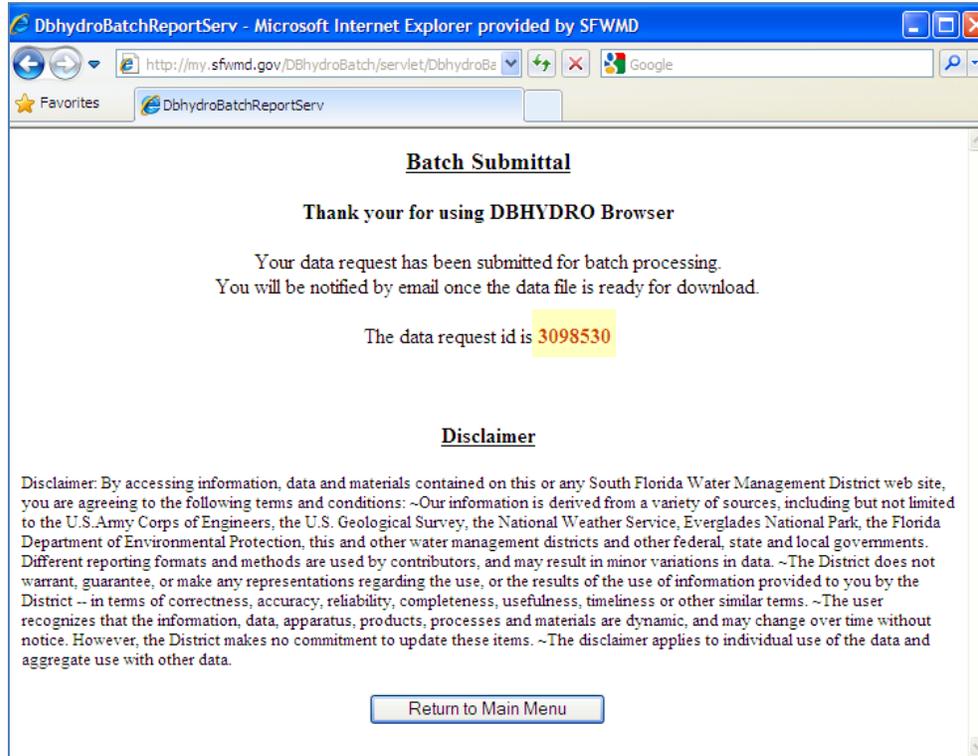
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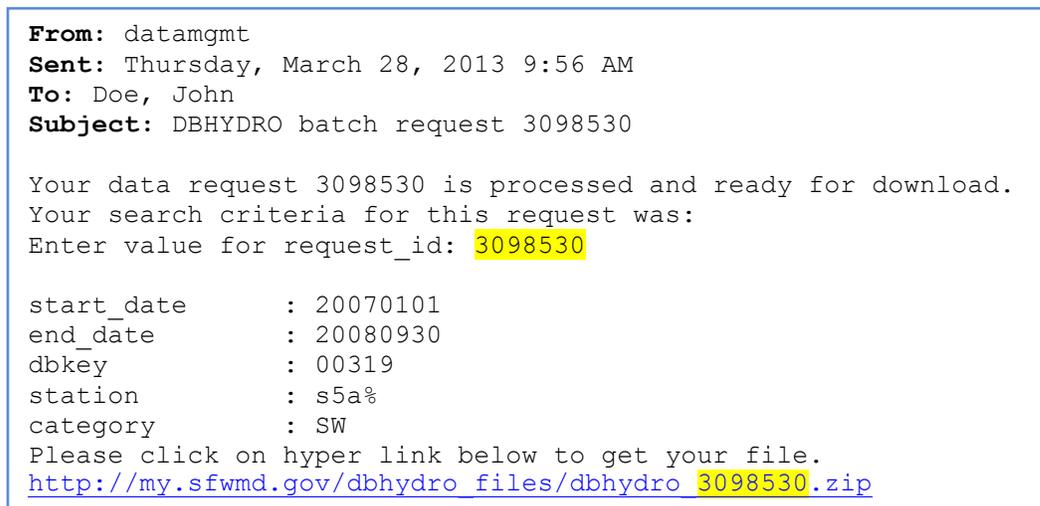
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561-686-8800 | 1-800-432-2045 (Florida Only)

As shown in the above example, batch jobs will be received by entering the user's email address and clicking the “Submit” button.

The user will receive a confirmation that the user's request was received (as exemplified below). Importantly, the user should record the data request id in the event of a problem with email notification or file download.



The user will receive an email similar to the following:



The email will contain a hyperlink that will allow the user to download the file via FTP when the data request is complete. If the user's email is not received within 60 minutes, then District staff should contact the SFWMD IT Help Desk at 561-682-6080. Non-

District users may contact DBHYDRO Technical Support staff at 561-686-8800 ext. 4594.

The user's file may have been created and be waiting for the user to download it. The user may have success downloading the file by editing the standard download URL by entering the user's data request ID immediately before the .zip:
e.g., http://my.sfwmd.gov/dbhydro_files/dbhydro_3098530.zip

Groundwater Data

Checking "Groundwater" from the main menu leads to the following screen:

The screenshot shows the DBHYDRO search interface. At the top, it says "DBHYDRO | search" and "sfwmd.gov". The main content area is titled "GROUNDWATER DATA" and "SELECT SEARCH PARAMETERS (click on the parameter text for help)". There are two columns of search parameters, each with a checkbox:

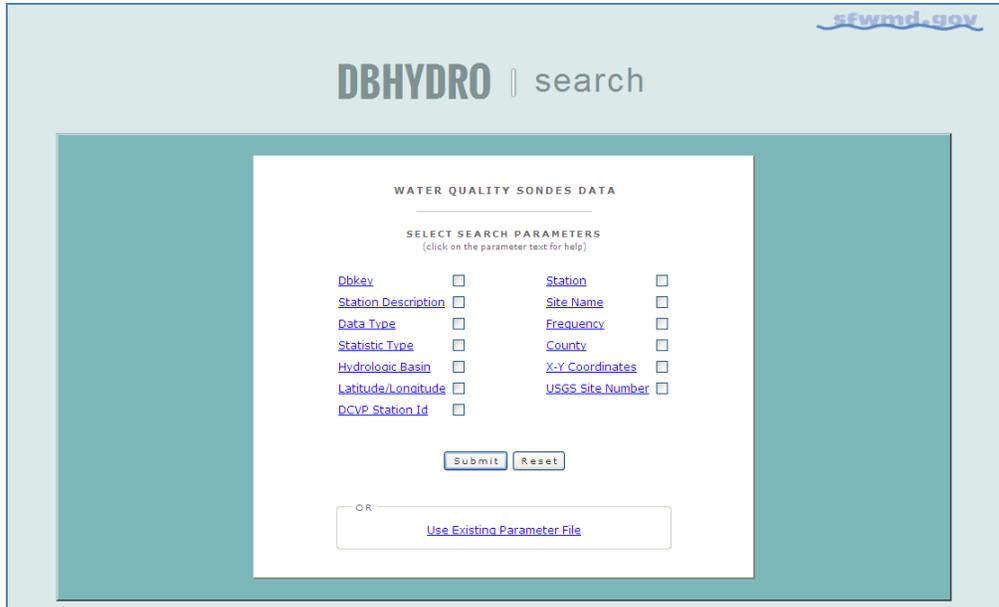
Dbkey	<input type="checkbox"/>	Station	<input type="checkbox"/>
Group Name	<input type="checkbox"/>	Station Description	<input type="checkbox"/>
Site Name	<input type="checkbox"/>	Data Type	<input type="checkbox"/>
Frequency	<input type="checkbox"/>	Statistic Type	<input type="checkbox"/>
Strata	<input type="checkbox"/>	Recorder/Method	<input type="checkbox"/>
Agency	<input type="checkbox"/>	County	<input type="checkbox"/>
Hydrologic Basin	<input type="checkbox"/>	X-Y Coordinates	<input type="checkbox"/>
Latitude/Longitude	<input type="checkbox"/>	Township	<input type="checkbox"/>
Range	<input type="checkbox"/>	Section	<input type="checkbox"/>
USGS Site Number	<input type="checkbox"/>	DCVP Station Id	<input type="checkbox"/>

Below the checkboxes are "Submit" and "Reset" buttons. Below that is an "OR" label and a text input field with a link "Use Existing Parameter File".

The search parameters for groundwater data vary only slightly from surface water data search parameters.

WQ Sondes (Continuous) Data

Checking the “WQ Sondes” check box from the main menu takes the user to the following page:



The screenshot shows a web interface for searching water quality sonde data. At the top right is the logo for sfwmd.gov. The main heading is "DBHYDRO | search". Below this is a white box titled "WATER QUALITY SONDES DATA" with the subtitle "SELECT SEARCH PARAMETERS (click on the parameter text for help)".

Dbkey	<input type="checkbox"/>	Station	<input type="checkbox"/>
Station Description	<input type="checkbox"/>	Site Name	<input type="checkbox"/>
Data Type	<input type="checkbox"/>	Frequency	<input type="checkbox"/>
Statistic Type	<input type="checkbox"/>	County	<input type="checkbox"/>
Hydrologic Basin	<input type="checkbox"/>	X-Y Coordinates	<input type="checkbox"/>
Latitude/Longitude	<input type="checkbox"/>	USGS Site Number	<input type="checkbox"/>
DCVP Station Id	<input type="checkbox"/>		

Below the checkboxes are two buttons: "Submit" and "Reset".

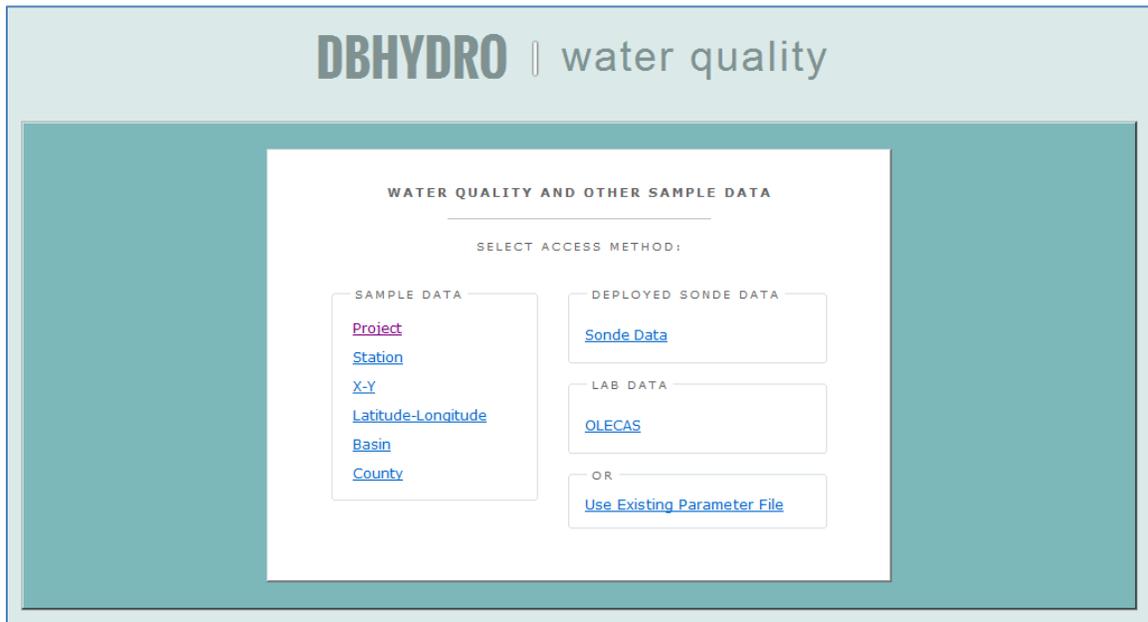
Below the buttons is a text input field with "OR" to its left and a blue link "Use Existing Parameter File" inside the field.

Data from continuously deployed water quality probes (sondes) are accessed here. These data are also accessible from the “Water Quality Data” menu → “Deployed Sonde Data”, or the user can query by station or site name.

Water Quality Sample Data

These data are from field and/or laboratory analyses of water samples, biological tissue, sediments, or other environmental samples. Data are approved, quality-assured data that may be published.

Checking "Get Sample Data" from the main menu leads to the following screen:



Most water quality queries have similar characteristics, so the interface for water quality has been designed to facilitate the most frequently encountered queries.

A “Deployed Sonde” option is available for access to continuously measured water quality parameters (sondes), providing a user interface similar to that of Hydrologic and Physical Data.

The Lab Data On-Line Environmental Chemistry Analyst System (OLECAS) is available to network-authenticated users for reports on recently analyzed data and its comparisons to historical trends. OLECAS can help detect anomalies in data that may be investigated timely for possible analytical rework before the sample holding time expires. Holding times are the length of time a sample can be stored after collection without significantly affecting the analytical results.

A typical project-based query is described below. Clicking on "Project" from the water quality menu leads to this screen in which the user can type in a project code, **OR** select one or more project codes from the list of values and then click on the "Next" button.

DBHYDRO | water quality

SELECT PROJECT(S)

Enter Project Code:

Separate multiple project codes by '/'.
The '%' character may be used as a wildcard.

-- OR --

Select From List The List Below...

CODE	DESCRIPTION
8SQM	- 8-1/2 Square Mile Area
A	- Strazulla Grove
A1FEB	- A-1 Flow Equalization Basin
ACMEB	- Divert Wellington Discharge To C-51 And Sta-1e Instead Of Armlnwr
ACRA	- Ansettah Complex Restoration Area
ACS	- Agricultural Census Study
ARCK	- Arbuckle Creek
ARK	- Arbuckle Creek
ARS	- Taylor Creek-Nubbin
ASR	- Standard Packer Test Sampling
ASTE	- Autosample Tubing Experiment
ASVS	- Auto Sampler Validation Study
AWOL	- Lake Okeechobee Aquatic Weed Removal Demonst
B	- Backpumping Lower East Coast
BBCW	- Biscayne Bay Coastal Wetlands
BBCWQ	- Biscayne Bay Water Quality
BCE	- Everglades Ag. Area Water Quality Management
BCSB	- Big Cypress Southern Boundary
BCWQ	- Big Cypress Water Quality Monitoring
BGMC	- Belle Glade Marina Chlorides
BIRP	- Optimization Of Bmps For Beef Cattle Ranching, L
BIRW	- Buck Island Ranch Wetlands
BISC	- Biscayne Bay Monitoring
BN	- C-111 Monitoring
BOY	- Boynton Beach Mall Surface Water Monitoring

(hold ctrl and then click for multiple)

Next >>

Hint: Click on any item in the list. Then, quickly type the next letters of the project code and the cursor will "jump" to that item in the list. This "jumping" feature is common to all lists and is helpful if only the leading portion of the text is known.

A list of all the stations for which data has been collected under the given project(s) is provided. Stations of interest may be selected. The user then clicks on the "Next" button.

The screenshot shows the DBHYDRO water quality interface. At the top, the title "DBHYDRO | water quality" is displayed. Below the title, the text "SELECT DESIRED STATION(S)" is centered. A "Search Criteria" box contains the text "Project Selected: ARCK". Below this, a message states: "If you do not select any Stations, then all Stations, in the list, will be used." A scrollable list of stations is shown, with "ARCK 307" selected. The list includes station codes and descriptions such as "ACBI - AUTOSAMPLES AT BISHOP DAIRY OUTFALL ON SCRUB PENS RD.", "ARCK 301 - RUNOFF FROM BISHOP DAIRY AT CULVERT BY ORANGE GROVE BISHOP DAIRY R", and "RS - MONITOR SITE FOR WATER QUALITY ASSURANCE PROGRAM". At the bottom of the list, the instruction "(hold ctrl and then click for multiple)" is displayed.

Station Code	Description
ACBI	- AUTOSAMPLES AT BISHOP DAIRY OUTFALL ON SCRUB PENS RD.
ACCC	- AUTOSAM. C & C DAIRY RUNOFF INTO REEDY CREEK
ACDR	- AUTOSAM. AT DRESSEL BY. OUTFALL UPSTR. OF RD. DITCH CULVERT
ACTS	- AUTOSAM. TRIPLE G OUTFALL ON SANFORD HARTS RANCH
ARCK 300	- RUNOFF FROM GROVE ADJACENT TO BISHOP DAIRY HWY.
ARCK 301	- RUNOFF FROM BISHOP DAIRY AT CULVERT BY ORANGE GROVE BISHOP DAIRY R
ARCK 302	- OUTFALL BISHOP DAIRY AT CULVERT ON SCRUB PEN RD
ARCK 303	- ARBUCKLE BRANCH AT ARBUCKLE CREEK RD HWY 700A
ARCK 304	- SANFORD HART PROPERTY AT CULVERT HWY 700A
ARCK 305	- OUTFALL ON HART PROPERTY HWY 700A
ARCK 306	- OLD BOMBING RNG RD DRESSELL OUTFALL UP STREAM RD DITCH CULVERT
ARCK 307	- TRIPLE G & 4th BONNET CRK BRIDGE
ARCK 308	- REEDY CREEK AT REEDY CRK BRIDGE ON SCHOOL BUS RD
ARCK 309	- CCC OUTFALL TO REEDY CRK
ARCK 310	- C & C DAIRY OUTFALL INTO REEDY CREEK
ARCK 311	- ARBUCKLE CREEK AT BRIDGE ON ARBUCKLE CREEK ROAD
ARCK 312	- ARBUCKLE CRK. RD. AT ENTRANCE TO BOMBING RANGE
ARCK 313	- CULVERT ON DRESSEL DAIRY RD. RUNOFF FROM DRESSEL DAIRY
ARCK 314	- TRIPLE G RUNOFF AT CULVERT, ON SANFORD HART RANCH
ARCK 315	- TRIPLE G SPRAYFIELD OUTFALL
FB	- QC STATION IDENTITY FOR WATER QUALITY ASSURANCE PROGRAM FIELD BLAN
FBB	- QC STATION IDENTITY FOR WATER QUALITY ASSURANCE PROGRAM (FIELD SPL
FBS	- QC SAMPLE IDENTITY FOR WATER QUALITY ASSURANCE PROGRAM FIELD SPLIT
LABQC	- LAB QUALITY CONTROL SAMPLE
RS	- MONITOR SITE FOR WATER QUALITY ASSURANCE PROGRAM

Data can be filtered by test name (and associated test number), collection method, and matrix. The user will need to provide a date range for the query. [Note that the begin date of 1950 serves as a placeholder to ensure the entire period of record will be retrieved by default.] The user then clicks on the “Next” button.

SELECT ADDITIONAL SEARCH CRITERIA

Search Criteria

Project Selected: ARCK

Station Selected: ARCK 307, ARCK 308

Select desired items from the list(s) below. If you do not select any individual items, in a list, then all items, in that list, will be used.

Test Name:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>ALKALINITY, TOT, CACCS (mg/L)</td><td style="text-align: right;">- 67</td></tr> <tr><td>AMMONIA-N (mg/L)</td><td style="text-align: right;">- 20</td></tr> <tr><td>CHLORIDE (mg/L)</td><td style="text-align: right;">- 92</td></tr> <tr><td>COLOR (FCU)</td><td style="text-align: right;">- 13</td></tr> <tr><td>DISSOLVED OXYGEN (mg/L)</td><td style="text-align: right;">- 8</td></tr> <tr><td>IRON, TOTAL (ug/L)</td><td style="text-align: right;">- 36</td></tr> <tr><td>KJELDAHL NITROGEN, TOTAL (mg/L)</td><td style="text-align: right;">- 21</td></tr> <tr><td>NITRATE-NITRITE-N (mg/L)</td><td style="text-align: right;">- 18</td></tr> <tr><td>NITRATE-N (mg/L)</td><td style="text-align: right;">- 78</td></tr> <tr><td>NITRITE-N (mg/L)</td><td style="text-align: right;">- 19</td></tr> </table>	ALKALINITY, TOT, CACCS (mg/L)	- 67	AMMONIA-N (mg/L)	- 20	CHLORIDE (mg/L)	- 92	COLOR (FCU)	- 13	DISSOLVED OXYGEN (mg/L)	- 8	IRON, TOTAL (ug/L)	- 36	KJELDAHL NITROGEN, TOTAL (mg/L)	- 21	NITRATE-NITRITE-N (mg/L)	- 18	NITRATE-N (mg/L)	- 78	NITRITE-N (mg/L)	- 19
ALKALINITY, TOT, CACCS (mg/L)	- 67																				
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NITRATE-N (mg/L)	- 78																				
NITRITE-N (mg/L)	- 19																				
Collection Method:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>ACF - Auto-Sampler Composite Flow Proportional</td></tr> <tr><td>ATF - Auto-Sampler Composite Time Flow</td></tr> <tr><td>ACT - Auto-Sampler Composite Time Proportional</td></tr> <tr><td>ADF - Auto-Sampler Discrete Flow Proportional</td></tr> <tr><td>ADT - Auto-Sampler Discrete Time Proportional</td></tr> <tr><td>BLK - Bulk</td></tr> <tr><td>CXC - Composite Cross Section Core</td></tr> <tr><td>CXI - Composite Cross Section Integration</td></tr> <tr><td>CDI - Composite Depth Integrated</td></tr> <tr><td>CIC - Composite Integrated Core</td></tr> </table>	ACF - Auto-Sampler Composite Flow Proportional	ATF - Auto-Sampler Composite Time Flow	ACT - Auto-Sampler Composite Time Proportional	ADF - Auto-Sampler Discrete Flow Proportional	ADT - Auto-Sampler Discrete Time Proportional	BLK - Bulk	CXC - Composite Cross Section Core	CXI - Composite Cross Section Integration	CDI - Composite Depth Integrated	CIC - Composite Integrated Core										
ACF - Auto-Sampler Composite Flow Proportional																					
ATF - Auto-Sampler Composite Time Flow																					
ACT - Auto-Sampler Composite Time Proportional																					
ADF - Auto-Sampler Discrete Flow Proportional																					
ADT - Auto-Sampler Discrete Time Proportional																					
BLK - Bulk																					
CXC - Composite Cross Section Core																					
CXI - Composite Cross Section Integration																					
CDI - Composite Depth Integrated																					
CIC - Composite Integrated Core																					
Matrix:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>BAL - Algae</td></tr> <tr><td>BAN - Animal</td></tr> <tr><td>DI - Deion. H2O</td></tr> <tr><td>BFE - Feathers</td></tr> <tr><td>BFI - Fish</td></tr> <tr><td>GW - Grnd H2O</td></tr> <tr><td>PERI - Periphyton</td></tr> <tr><td>PFI - Plant</td></tr> <tr><td>PW - Pond Water</td></tr> <tr><td>RA - Rain</td></tr> </table>	BAL - Algae	BAN - Animal	DI - Deion. H2O	BFE - Feathers	BFI - Fish	GW - Grnd H2O	PERI - Periphyton	PFI - Plant	PW - Pond Water	RA - Rain										
BAL - Algae																					
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PERI - Periphyton																					
PFI - Plant																					
PW - Pond Water																					
RA - Rain																					

(hold ctrl and then click for multiple)

Begin Date: 1950 JAN 1

End Date: 2012 OCT 11

Next >>

Save Parameter File

The user will then click on “Full Report (all attributes)” from the list of available reporting types:

The screenshot shows the 'REPORT SELECTION PAGE' in the DBHYDRO reports interface. At the top, it says 'Your query criteria returned 15498 results from 1999 trips.' Below this, there are three main sections: 'Report Type', 'Output Type', and 'Run Mode'. The 'Report Type' section has a dropdown menu set to 'Full Report (all attributes)' and two unchecked checkboxes: 'Exclude Flagged Data' and 'Exclude Field Quality Control Data'. The 'Output Type' section has four radio button options: 'Screen' (selected), 'File: Fixed column width.', 'File: Comma delimited (.csv).', and 'Adobe (.pdf) Format.'. The 'Run Mode' section has two radio button options: 'Online' (selected) and 'Batch Mode' with a link 'When to use it'. At the bottom of the form are two buttons: 'Submit' and 'Save Parameter File'. A link for 'NELAC Laboratory Certification' is located at the very bottom of the page.

Note: “Full Report” includes both sample-level and result-level comments. To exclude data flagged for exclusion in some mandated agency reports check the box for “Exclude Flagged Data”. To exclude field quality control data check the box “Exclude Field Quality Control Data”. Refer to the appendices for definitions of all columns displayed in the full report.

Subsequently, the following report is returned to the user's web browser:

sfwmd.gov

DBHYDRO | reports

Project Code	Station ID	Sample ID	First Trigger Date	Collection Date	Sample Type	New	Collection Method	Depth	Matrix	Test Number	Test
ARCK	ARCK 307	8002	03-FEB-1989	12:00	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8011	10-FEB-1989	10:55	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8018	15-FEB-1989	11:25	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8118	24-FEB-1989	13:07	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8062	03-MAR-1989	13:15	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8102	09-MAR-1989	12:40	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8128	16-MAR-1989	11:40	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8148	21-MAR-1989	11:15	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8147	28-MAR-1989	10:05	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8160	04-APR-1989	12:30	SAMP	G		0.00	SW	23	PROSP
ARCK	ARCK 307	8177	11-APR-1989	09:29	SAMP	G		0.00	SW	23	PROSP

Definitions for the report columns are provided in Appendix A. Codes for remarks, validation level, sampling purpose, and data investigation are available via hyperlinks at the bottom of each report.

ARCK	ARCK 308	2877	03-JUN-1997	11:48	SAMP	G		0.50	SW	23	
ARCK	ARCK 308	2888	01-JUL-1997	11:35	SAMP	G		0.00	SW	23	
ARCK	ARCK 308	2895	15-JUL-1997	10:55	SAMP	G		0.00	SW	23	
ARCK	ARCK 308	2902	29-JUL-1997	10:45	SAMP	G		0.50	SW	23	
ARCK	ARCK 308	2909	12-AUG-1997	10:35	SAMP	G		0.00	SW	23	
ARCK	ARCK 308	2920	24-AUG-1997	12:05	SAMP	G		0.00	SW	23	
ARCK	ARCK 308	2929	09-SEP-1997	11:15	SAMP	G		0.00	SW	23	
ARCK	ARCK 308	2938	23-SEP-1997	11:25	SAMP	G		0.00	SW	23	
ARCK	ARCK 308	2946	07-OCT-1997	11:48	SAMP	G		0.00	SW	23	

Query returned 232 records.

Disclaimer: "Some data qualified as not usable for certain purposes are excluded from these reports. The Full Report Flagged Results option may be u

[Qualifier/Search Code Listing](#)

[Validation Level](#)

[Sampling Purpose](#)

[Data Investigation](#)

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 SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
 561-686-8800 | 1-800-432-2045 (Florida Only)

Other basic water quality searches work in a similar manner.

Selecting a file for output, rather than displaying results on the screen, is useful for large data sets. The fixed-format file and comma-delimited file (.csv) options are useful for importing into a spreadsheet application, while the .pdf file output can be used for distributing read-only versions.

Each station visit (indicated by date collected) is considered a "trip". A single trip may involve the collection of one or more samples (sample ids). Each sample may be analyzed for one or more analytes (test names/test numbers).

Hydrogeologic Data

Clicking on the “Get Data” button from the Hydrogeologic Data main menu takes the user to the following page:

Use of aquifer as a criterion will result in exclusion of hydrogeologic information from wells that do not have monitoring. Use with care. Consider using a range of total depths instead.

While the search parameters look similar to those in the Groundwater Data menu, queries under Hydrogeologic Data direct the user to well construction specifications as well as geophysical, hydraulic, lithologic, and multimedia data.

Once the user has chosen the search criteria, the browser directs the user to a page that displays that criteria and allows the user to submit or save the user's parameters to a file.

In the example below, a query was done to select all wells in Palm Beach County with total depths between 300 and 400 feet.

The user can check “County” and “Total Depth” as the search parameters, and then click on the “Submit” button.

The screenshot shows the DBHYDRO search interface. At the top right is the logo for sfwmd.gov. The main heading is "DBHYDRO | search". Below this is a section titled "HYDROGEOLOGIC DATA" with a sub-heading "SELECT SEARCH PARAMETERS (click on the parameter text for help)". There are two columns of search parameters, each with a checkbox:

Parameter	Selected	Parameter	Selected
Station	<input type="checkbox"/>	Station Description	<input type="checkbox"/>
County	<input checked="" type="checkbox"/>	X-Y Coordinates	<input type="checkbox"/>
Latitude/Longitude	<input type="checkbox"/>	Township	<input type="checkbox"/>
Range	<input type="checkbox"/>	Section	<input type="checkbox"/>
DCVP Station Id	<input type="checkbox"/>	Total Depth	<input checked="" type="checkbox"/>
Screen Depth	<input type="checkbox"/>	Aquifer	<input type="checkbox"/>
Data Type	<input type="checkbox"/>	Borehole Purpose	<input type="checkbox"/>
Formation	<input type="checkbox"/>		

Below the checkboxes are two buttons: "Submit" and "Reset". At the bottom, there is an "OR" label and a text input field containing the text "Use Existing Parameter File".

The next screen allows the user to select the specific county or counties and specify the range of total depth.

The screenshot displays the DBHYDRO search interface. At the top right is the logo sfwmd.gov. The main heading is "DBHYDRO | search". Below this is a "QUERY CRITERIA" section. It includes a "County" dropdown menu with options: "ALL", "ALACHUA", "DADE", "DIXIE", and "ST. LUCAS". The "Total Depth From" field is set to "300" and the "Total Depth To" field is set to "400". Below these fields is a note: "Separate multiple values in Text field by '/'. The '%' character may be used as a wildcard." There are "Submit" and "Clear" buttons, and a "Save Parameter File" button at the bottom of the form area. The footer contains navigation links: [DBHYDRO Menu](#), [DBHYDRO Home](#), [SFWMD Home](#), [User's Guide](#), [What's New](#), [FAQ](#), [Comments?](#), [Privacy Policy](#), [Disclaimer](#), [Accessibility](#), [User Survey](#), [Redline](#), [Contact Us](#), [Locations](#), and [Careers](#). Contact information for SFWMD Headquarters is also provided: 3301 Gun Club Road, West Palm Beach, Florida 33406, 561-686-8800 | 1-800-432-2045 (Florida Only).

Then, the user clicks on the “Submit” button to proceed to the Output Parameters Selection screen.

This screen allows the user to select the report format and output.

The screenshot shows a web form titled "Output Parameters Selection" with the SFWMD logo in the top right corner. The form contains the following sections:

- Selected Parameters :**
 - County : Palm Beach
 - Total Depth From : 300
 - Total Depth To : 400
- Output Format :**
 - Listing Report
 - Header-Detail Report
 - Summary Report
- Output To :**
 - Screen
 - File

At the bottom of the form are two buttons: "Submit" and "Reset".

Below the form is a navigation menu with the following links: [DBHYDRO Menu](#) | [DBHYDRO Home](#) | [SFWMD Home](#) | [User's Guide](#) | [What's New](#) | [FAQ](#) | [Comments?](#) | [Login](#)

Below the navigation menu are additional links: [Privacy Policy](#) | [Disclaimer](#) | [Accessibility](#) | [User Survey](#) | [Redline](#) | [Contact Us](#) | [Locations](#) | [Careers](#)

At the very bottom, the contact information is listed: SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800 | 1-800-432-2045 (Florida Only)

In this example, a Listing Report is chosen.

The “Listing Report” for the “Output Format” option (shown below) returns a table with names, locations, and hyperlinks for construction and multimedia data when available.

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Listing Report

Lock First Columns

Select	Station	Alias Match	Description	Latitude	Longitude	X-Coord (feet)	Y-Coord (feet)	County	Total Depth (feet)	Casing	Screen	Map	Mult
<input type="checkbox"/>	5_BOCA		BOCA RATON APT/ PB 105	262313.283	800742.164	941512.795	747324.618	Palm Beach	323	Casing	Screen	MAP	NO Mu
<input type="checkbox"/>	PB-1095		MONITOR SITE FOR WATER QUALITY ASSURANCE PROGRAM	263139.252	800646.148	946254.661	798448.969	Palm Beach	300	No Casing	Screen	MAP	NO Mu
<input type="checkbox"/>	PB-1195		BOYNTON BEACH MW-1	263049.1	800346.1	962645.593	793501.054	Palm Beach	325	Casing	Screen	MAP	NO Mu
<input type="checkbox"/>	PB-1581		USGS WELL #1 SFWMD ID #099-37	262148.28	801015.16	927654.12	738649.846	Palm Beach	300	Casing	Screen	MAP	NO Mu
<input type="checkbox"/>	PB-1603		SFWMD ID #099-39	263248.25	800617.15	948839.488	805434.747	Palm Beach	390	Casing	Screen	MAP	Mult
<input type="checkbox"/>	PB-1723		PB1723	263635.066	800313.655	965335	828457	Palm Beach	318	Casing	Screen	MAP	Mult
<input type="checkbox"/>	PB-1769		SFWMD (Saltwater monitoring network): PBC-2	263521.995	800329.991	963906.566	821067.692	Palm Beach	337	No Casing	No Screen	MAP	NO Mu
<input type="checkbox"/>	PB-600		Schneider (1976):	263634.241	800356.142	961479.272	828345.465	Palm Beach	345	No Casing	No Screen	MAP	NO Mu
<input type="checkbox"/>	PB-639			265605.211	800910.166	932188.611	946388.301	Palm Beach	336	Casing	No Screen	MAP	NO Mu
<input type="checkbox"/>	PB-641			264659.231	800410.159	959746.352	891446.098	Palm Beach	313	No Casing	No Screen	MAP	NO Mu
<input type="checkbox"/>	PB-652A			264709.2	800350.14	961553.305	892466.061	Palm Beach	314	No Casing	No Screen	MAP	NO Mu
<input type="checkbox"/>	PB-653			264657.231	800528.161	952678.512	891193.011	Palm Beach	314	No Casing	No Screen	MAP	NO Mu
<input type="checkbox"/>	PB-667			264123.243	800545.162	951377.206	857456.68	Palm Beach	357	Casing	No Screen	MAP	NO Mu
<input type="checkbox"/>	PB-670			263518.257	800617.162	948732.843	820581.209	Palm Beach	325	Casing	Screen	MAP	NO Mu
<input type="checkbox"/>	PB-674			262903.271	800653.163	945725.945	782694.351	Palm Beach	302	Casing	Screen	MAP	NO Mu
<input type="checkbox"/>	PB-699		Schneider (1976):	264044.233	800926.15	931358.911	853380.444	Palm Beach	357	No Casing	No Screen	MAP	NO Mu

Query returned 25 records.

The Listing Report is wide and users may have to scroll to the right to view links to casing, screen, and multimedia information. There is also a link to an associated map. Multimedia may include any kind of documents including scanned field notes, driller reports and logs, and photographs.

DBHYDRO Browser User's Guide
South Florida Water Management District

sfwmd.gov												
Listing Report												
Look First Columns												
Station	Alias Match	Description	Latitude	Longitude	X-Coord (feet)	Y-Coord (feet)	County	Total Depth (feet)	Casing	Screen	Map	Multimedia
5_BOCA		BOCA RATON APT/ PB 105	262313.283	800742.164	941512.795	747324.618	Palm Beach	323	Casing	Screen	MAP	NO Multimedia
PB-1095		MONITOR SITE FOR WATER QUALITY ASSURANCE PROGRAM	263139.252	800646.148	946254.661	798448.969	Palm Beach	300	No Casing	Screen	MAP	NO Multimedia
PB-1195		BOYNTON BEACH MW-1	263049.1	800346.1	962645.593	793501.054	Palm Beach	325	Casing	Screen	MAP	NO Multimedia
PB-1581		USGS WELL #1 SFWMD ID #099-37	262148.28	801015.16	927654.12	738649.846	Palm Beach	300	Casing	Screen	MAP	NO Multimedia
PB-1603		SFWMD ID #099-39	263248.25	800617.15	948839.488	805434.747	Palm Beach	390	Casing	Screen	MAP	Multimedia
PB-1723		PB1723	263635.066	800313.655	965335	828457	Palm Beach	318	Casing	Screen	MAP	Multimedia
PB-1769		SFWMD (Saltwater monitoring network); PBC-2	263521.995	800329.991	963906.566	821067.692	Palm Beach	337	No Casing	No Screen	MAP	NO Multimedia
PB-600		Schneider (1976):	263634.241	800356.142	961479.272	828345.465	Palm Beach	345	No Casing	No Screen	MAP	NO Multimedia
PB-639			265605.211	800910.166	932188.611	946388.301	Palm Beach	336	Casing	No Screen	MAP	NO Multimedia
PB-641			264659.231	800410.159	959746.352	891446.098	Palm Beach	313	No Casing	No Screen	MAP	NO Multimedia
PB-652A			264709.2	800350.14	961553.305	892466.061	Palm Beach	314	No Casing	No Screen	MAP	NO Multimedia
PB-653			264657.231	800528.161	952678.512	891193.011	Palm Beach	314	No Casing	No Screen	MAP	NO Multimedia
PB-667			264123.243	800545.162	951377.206	857456.68	Palm Beach	357	Casing	No Screen	MAP	NO Multimedia
PB-670			263518.257	800617.162	948732.843	820581.209	Palm Beach	325	Casing	Screen	MAP	NO Multimedia
PB-674			262903.271	800653.163	945725.945	782694.351	Palm Beach	302	Casing	Screen	MAP	NO Multimedia
PB-699		Schneider (1976):	264044.233	800926.15	931358.911	853380.444	Palm Beach	357	No Casing	No Screen	MAP	NO Multimedia

Query returned 25 records.

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The “Header-Detail Report” for the “Output Format” option on the “Output Parameters Selection” screen, as shown previously on page 44, offers a different display format and shows casing and screen details when they are available, instead of showing links only. The screen detail section of this report includes links to monitoring data.

Both the “Header-Detail Report” and the “Listing Report” options have links to multimedia data when available. These multimedia data include photos, spreadsheets, and other documents in various formats, including, but not limited to, .jpg, .txt, .tiff, .xls, and .pdf.

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Header-Detail Report

Station	: 021-64	MAP NO Multimedia
Alias Match	:	
Description	:	
Latitude	: 260333	
Longitude	: 813925	
E Coordinate	: 440486 (feet)	
F Coordinate	: 627717 (feet)	
County	: COLLIER	
Total Depth	: 352 (feet)	

Station	: 20-571	MAP NO Multimedia
Alias Match	:	
Description	:	
Latitude	: 265249	
Longitude	: 820130	
E Coordinate	: 322015 (feet)	
F Coordinate	: 927027 (feet)	
County	: CHARLOTTE	
Total Depth	: 361 (feet)	

Station	: 20-762	MAP NO Multimedia
Alias Match	:	
Description	:	
Latitude	: 265959	
Longitude	: 814114	
E Coordinate	: 432364 (feet)	
F Coordinate	: 969791 (feet)	
County	: CHARLOTTE	
Total Depth	: 354 (feet)	

Station	: 20-780	MAP NO Multimedia
Alias Match	:	
Description	:	
Latitude	: 274858	
Longitude	: 814819	
E Coordinate	: 395841 (feet)	
F Coordinate	: 1266715 (feet)	
County	: CHARLOTTE	
Total Depth	: 317 (feet)	

Station	: 5_BOCA	MAP NO Multimedia
Alias Match	:	
Description	: BOCA RATON APT/ PG 105	
Latitude	: 262313	
Longitude	: 800742	
E Coordinate	: 941512 (feet)	
F Coordinate	: 949316 (feet)	

The Summary Report (below) shows all the different types of data available for each well appearing in the query. The Summary Report format provides highlighted links to the different data types offered in the hydrogeologic section of DBHYDRO.



Summary Report

Lock First Columns

Select	STATION	COUNTY	ALIASES				XCOORD	YCOORD	DATATYPE							
			DBHYDRO	SFWMD	USGS Site ID	USGS Station Name	FGS			Core Lab	Lithologic	Geophysics	Hydraulic	Construction	Hydrostratigraphy	Format
<input type="checkbox"/>	5_BOCA	Palm Beach			263138080064701	PB -1095		941512.795	747324.618	No	No	No	No	No	No	No
<input type="checkbox"/>	PB-1095	Palm Beach			263138080064701	PB -1095		946254.661	798448.969	No	No	Yes	No	No	Yes	No
<input type="checkbox"/>	PB-1195	Palm Beach			263044080035102	PB -1195		962645.593	793501.054	No	No	Yes	No	Yes	No	No
<input type="checkbox"/>	PB-1581	Palm Beach			262147080101601	PB -1581	W-17643	927654.12	738649.846	No	Yes	No	No	Yes	No	Yes
<input type="checkbox"/>	PB-1603	Palm Beach	PB-1603_G		263216080061702	PB -1603	W-17612	948839.488	805434.747	No	Yes	No	No	Yes	No	Yes
<input type="checkbox"/>	PB-1723	Palm Beach			263633080031401	PB -1723		965335	828457	No	No	Yes	No	No	No	No
<input type="checkbox"/>	PB-1769	Palm Beach						963906.566	821067.692	No	No	No	No	No	Yes	No
<input type="checkbox"/>	PB-600	Palm Beach						961479.272	828345.465	No	No	No	No	No	Yes	No
<input type="checkbox"/>	PB-639	Palm Beach			265604080091101	PB - 639		932188.611	946388.301	No	No	No	No	Yes	Yes	No
<input type="checkbox"/>	PB-641	Palm Beach			264658080041101	PB - 641		959746.352	891446.098	No	No	No	No	Yes	Yes	No
<input type="checkbox"/>	PB-652A	Palm Beach			264708080035101	PB - 652A		961553.305	892466.061	No	No	No	No	Yes	No	No
<input type="checkbox"/>	PB-653	Palm Beach			264656080052901	PB - 653		952678.512	891193.011	No	No	Yes	No	Yes	No	No
<input type="checkbox"/>	PB-667	Palm Beach			264122080054601	PB - 667		951377.206	857456.68	No	No	Yes	No	Yes	No	No
<input type="checkbox"/>	PB-670	Palm Beach			263517080061801	PB - 670		948732.843	820581.209	No	No	Yes	No	Yes	No	No
<input type="checkbox"/>	DR-674	Palm Beach			267007080065401	DR - 674		045775.045	797604.251	No	No	Yes	No	Yes	Yes	No

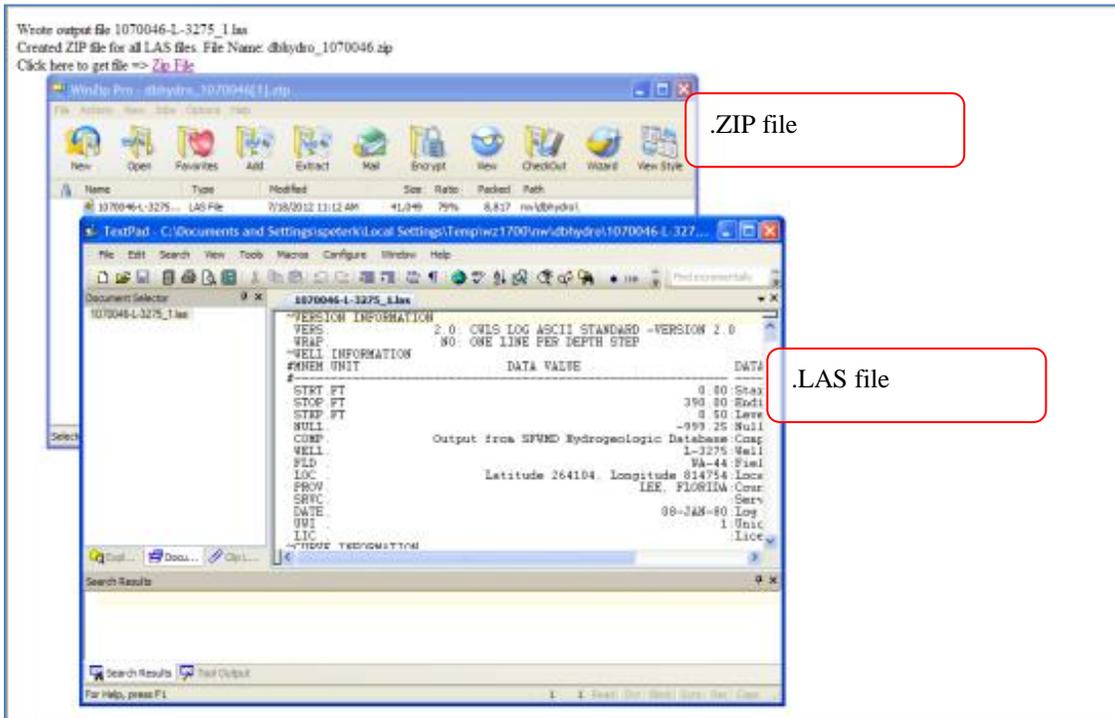
Query returned 25 records.

The link to Time Series data is visible when the user scrolls to the right (screenshot shown below). This link brings up a list of all the time series data available for this station including water quality and hydrologic data.

Clicking on the Summary Report “Yes” link under the Geophysics data type takes the user through a series of screens that allow the user to create a file in Log ASCII Standard (LAS) format. LAS is a standard file format, created by the Canadian Well Logging Society, to store wellbore log information. Well logging is used to characterize subsurface stratigraphy in a wellbore.

Common curves found in a LAS file include gamma ray logging, sonic logging, or resistivity logging.

Files are delivered in a compressed (.zip) format.



Clicking on the Summary Report “Yes” link under the Hydraulic data takes the user to a screen showing the aquifer characteristics, test details, and analytical methods employed for any aquifer performance tests associated with the well.

sfwmd.gov

DBHYDRO | reports

Hydraulic Details

```

Site : JONATHAN DICKINSON STATE PARK -M1281
Test Type : APT
Start Test Date Time : 26-SEP-1989 1220      Site Map : NO
Pumped Well : N-1281                        Discharge Rate : 168 (g/min)
Pumped Well X-Coord. : 927986 (feet)         Spec Capacity : (gpm/ft)
Pumped Well Y-Coord. : 973684 (feet)         Transmissivity : 3617.89 (ft**2/day)
Hours Pumped : 71.5                          Storativity : .08047
Tested Interval Min. : 30 (ft)              Horizontal K : (feet/day)
Tested Interval Max. : 120 (ft)             Vertical K : (feet/day)
No Monitored Wells : 2                       Leakage : (l/day)
Aquifer : SURFICIAL AQUIFER SYSTEM
Source : SOUTH FLORIDA WMD
Reference : ADAMS, MARIE H., HANCE 1998, HYDROGEOLOGIC INVESTIGATION JONATHAN DICKINSON STATE PARK, SFWMD, DEPARTMENT OF RESEARCH AND EVALUATION,
Comments :
  
```

Station	X-Coord (feet)	Y-Coord (feet)	Analysis Method	Distance from Production Well (ft)	Max. Drawdown (ft)	Transmissivity (ft**2/day)	Storativity	Leakage
1D_JDGP	945461	973063	SEUMAN	75		3604.95	.0852	
1D_JDGP	945386	973063	SEUMAN	157		2817.51	.0847	

Access by Station Name

Clicking on the "by Station" link from the DBHYDRO Browser main menu brings up the following screen:

The screenshot shows a web interface titled "DBHYDRO | by station" with the SFWMD logo in the top right corner. The main content area is titled "STATION LISTING (By Alphanumeric Grouping)" and features a horizontal navigation bar with letters A through Z. Below this, there are search criteria fields: "Station Name:" with a text input box and a note "Use % sign as a wild card.", "AND / OR" radio buttons, "Latitude From:" and "Latitude To:" input boxes, "Longitude From:" and "Longitude To:" input boxes, "AND / OR" radio buttons, "X Coordinate From:" and "X Coordinate To:" input boxes, and "Y Coordinate From:" and "Y Coordinate To:" input boxes. At the bottom of the search area are "Submit" and "Reset" buttons. The footer contains a navigation menu with links: "DBHYDRO Menu", "DBHYDRO Home", "SFWMD Home", "User's Guide", "What's New", "FAQ", and "Comments?". Below the menu are links for "Privacy Policy", "Disclaimer", "Accessibility", "User Survey", "Redline", "Contact Us", "Locations", and "Careers". The footer also includes the SFWMD Headquarters address: "3301 Gun Club Road, West Palm Beach, Florida 33406" and phone numbers "561-686-6800" and "1-800-432-2345 (Florida Only)".

On this screen the user can enter the name of the station the user wish to query. The percent sign (%) can be used as a wild card if the user is unsure of the exact station name. The user may alternatively query by entering latitude-longitude or X-Y coordinates (Note: The SFWMD uses the Florida state plane NAD83East Zone coordinate system).

In the example below, the query “T%” was entered, yielding the following results:



DBHYDRO | by station

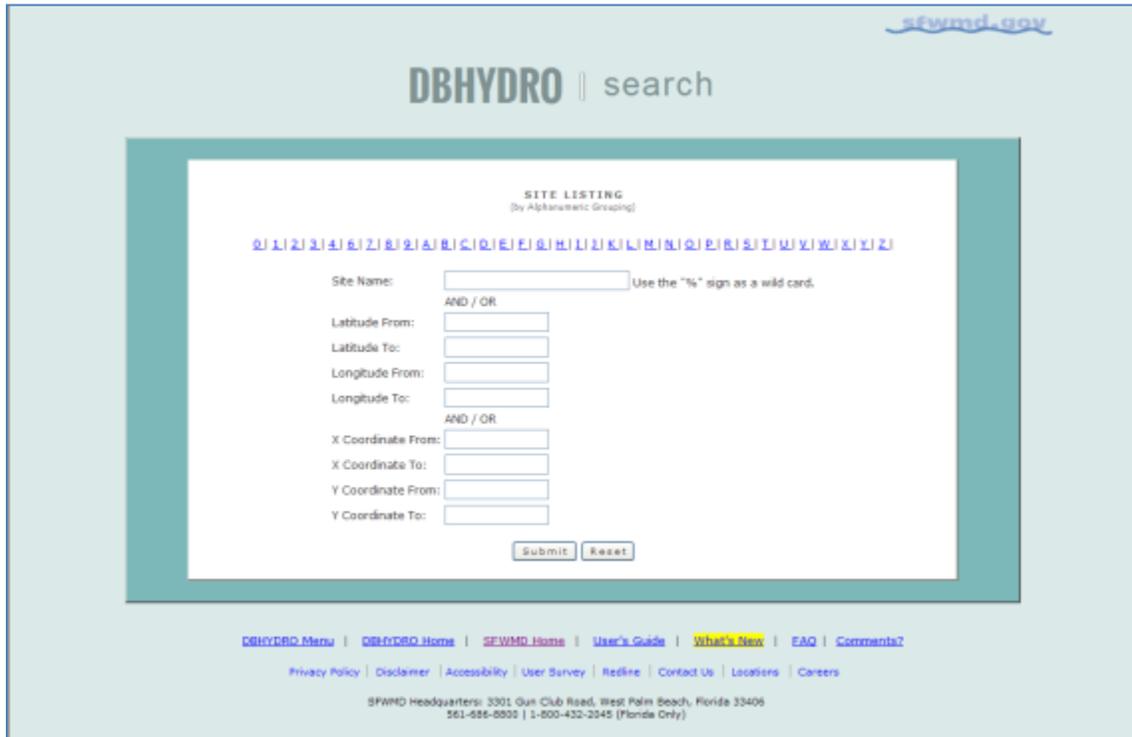
STATION INFORMATION

Get Data	Station	Site	Type	Latitude (ddmmss.sss)	Longitude (ddmmss.sss)	X Coord (ft)	Y Coord (ft)	County	Basin	Section	Township	Range	Show Map
<input type="checkbox"/>	T		WETLAND	261916.283	802129.175	866423.511	722953.53	Broward	CONSERVATION AREA 2A	28	47	40	Google Map
<input type="checkbox"/>	T1-1		WETLAND	252451.332	803523.638	791525.994	393016.114	Miami-Dade	TAYLOR SLOUGH	1	58	37	Google Map
<input type="checkbox"/>	T1-10S		CANAL	251324.435	802637.211	840079.889	323846.17	Miami-Dade	FLORIDA KEYS				Google Map
<input type="checkbox"/>	T1-1N		CANAL	251745.424	802637.209	839970.898	350193.744	Miami-Dade	US1	17	59	39	Google Map
<input type="checkbox"/>	T1-1S	S197	CANAL	251704.426	802637.209	839988.035	346054.825	Miami-Dade	US1	20	59	39	Google Map
<input type="checkbox"/>	T1-2		WETLAND	252456.851	803536.898	790308.526	393569.646	Miami-Dade	TAYLOR SLOUGH	2	58	37	Google Map
<input type="checkbox"/>	T1-2N		CANAL	251835.422	802637.209	839949.99	355241.216	Miami-Dade	US1	9	59	39	Google Map
<input type="checkbox"/>	T1-2S		CANAL	251636.427	802637.21	839999.735	343228.249	Miami-Dade	C-111 COASTAL	20	59	39	Google Map
<input type="checkbox"/>	T1-3		WETLAND	252455.052	803546.138	789461.892	393385.372	Miami-Dade	TAYLOR SLOUGH	2	58	37	Google Map
<input type="checkbox"/>	T1-3N		CANAL	251924.42	802637.208	839929.489	360187.748	Miami-Dade	US1	4	59	39	Google Map
<input type="checkbox"/>	T1-3S		CANAL	251608.428	802637.21	840011.43	340401.676	Miami-Dade	C-111 COASTAL	29	59	39	Google Map
<input type="checkbox"/>	T1-4N		CANAL	252017.418	802637.208	839907.303	365538.088	Miami-Dade	US1	33	58	39	Google Map
<input type="checkbox"/>	T1-4S		CANAL	251543.429	802637.21	840021.87	337877.953	Miami-Dade	C-111 COASTAL	29	59	39	Google Map
<input type="checkbox"/>	T1-5N		CANAL	252106.416	802637.207	839886.78	370484.638	Miami-Dade	US1	28	58	39	Google Map
<input type="checkbox"/>	T1-5S		CANAL	251516.43	802637.21	840033.142	335152.334	Miami-Dade	C-111 COASTAL	32	59	39	Google Map
<input type="checkbox"/>	T1-6S		CANAL	251448.431	802637.21	840044.831	332325.78	Miami-Dade	C-111 COASTAL	32	59	39	Google Map
<input type="checkbox"/>	T1-7S		CANAL	251420.432	802637.211	840056.52	329499.24	Miami-Dade	FLORIDA KEYS				Google Map
<input type="checkbox"/>	T1-9S		CANAL	251352.433	802637.211	840068.206	326672.704	Miami-Dade	FLORIDA KEYS				Google Map
<input type="checkbox"/>	T12		FACILITY	264103	802230	860246.814	854866.425	Palm Beach	S-5A	32	43	40	Google Map
<input type="checkbox"/>	T18		FACILITY	264103	802230	860246.814	854866.425	Palm Beach	S-5A	32	43	40	Google Map
<input type="checkbox"/>	T19		FACILITY	264103	802230	860246.814	854866.425	Palm Beach	S-5A	32	43	40	Google Map
<input type="checkbox"/>	T2-1		WETLAND	252409.273	803601.619	788056.369	388759.644	Miami-Dade	TAYLOR SLOUGH	11	58	37	Google Map
<input type="checkbox"/>	T2-10S		CANAL	251256.437	802905.215	826499.469	320965.583	Miami-Dade	FLORIDA KEYS				Google Map
<input type="checkbox"/>	T2-11S		CANAL	251228.438	802905.215	826510.273	318139.068	Miami-Dade	FLORIDA KEYS				Google Map

Each of the station names is hyperlinked to information about that station (see example shown in *Section 2.0, Menu-Based Data Access*). The user can retrieve data by station through this screen by selecting desired stations and clicking on the “Get Time Series Data” button at the bottom the page for each station of interest.

Access by Site Name

Sites represent a collection of stations. Therefore, the user can gain access to a group of related stations by querying a single site. With this relationship, the site listing will always be shorter than the station listing. Clicking on the "by Site Name" link from the DBHYDRO Browser menu brings up the following screen:



The screenshot shows the DBHYDRO search interface. At the top, it says "DBHYDRO | search" and "sfwmd.gov". The main content area is titled "SITE LISTING (By Alphabetic Grouping)" and features a navigation bar with letters A through Z. Below this, there are search fields for "Site Name", "Latitude From", "Latitude To", "Longitude From", "Longitude To", "X Coordinate From", "X Coordinate To", "Y Coordinate From", and "Y Coordinate To". A "Submit" button and a "Reset" button are located at the bottom of the search area. The footer contains navigation links for "DBHYDRO Menu", "DBHYDRO Home", "SEWMD Home", "User's Guide", "What's New", "FAQ", and "Comments?". It also includes a "Privacy Policy" link and a disclaimer. The address "SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406" and phone numbers "361-586-8800 | 1-800-432-2045 (Florida Only)" are listed at the bottom.

Like the station query screen, on the Site Listing query screen the user can enter the name of the site the user wishes to query, or the user may query by entering latitude-longitude or X-Y coordinates. The percent sign (%) can be used as a wild card if the user is unsure of the exact station name.

In example below, the query “T%” was entered, yielding the following results:

sfwmd.gov									
Site Information									
Get Data	Site Name	Site Type	Site Group	Site Priority	Contact Authority	Site Status	Site Status Date	Rec Status	Description
<input type="checkbox"/>	T3			2		A	16-OCT-2001	A	
<input type="checkbox"/>	T5			2		A	16-OCT-2001	A	
<input type="checkbox"/>	TAFT			2	WAYNE HERMANN	A	18-FEB-1992	A	TAFT PROPERTY NEAR ORLANDO
<input type="checkbox"/>	TAFT DWI			2		A	01-JAN-1900	A	CANAL INFLOW TO TAFT DRAINWELL
<input type="checkbox"/>	TALISMAN			1		A	01-JAN-1900	A	TALISMAN SUGAR - US SUGAR
<input type="checkbox"/>	TALYC.E0			2		A	01-JAN-1900	A	SCS STRUCTURE ON EAST OTTER CREEK TRIBUTARY TO TAYLOR CREEK
<input type="checkbox"/>	TALYC.N2			2		A	01-JAN-1900	A	SCS STRUCTURE ON N.W. TAYLOR CREEK DOWNSTREAM FROM BRIDGE
<input type="checkbox"/>	TAMLS333			2		A	01-JAN-1900	A	TAMIAMI CANAL ABOVE S-333 NR MIAMI, FL
<input type="checkbox"/>	TAMBR1			1		A	01-FEB-1991	A	
<input type="checkbox"/>	TAMBR2			1		A	01-FEB-1991	A	
<input type="checkbox"/>	TAMBR3			1		A	01-FEB-1991	A	
<input type="checkbox"/>	TAMBR4			1		A	01-FEB-1991	A	
<input type="checkbox"/>	TAMBR5			1		A	17-APR-1991	A	
<input type="checkbox"/>	TAMBR6			1		A	18-JUL-1991	A	
<input type="checkbox"/>	TAMBR90			1		A	30-OCT-2000	A	
<input type="checkbox"/>	TAMI		XXXX	3		D	18-FEB-1992	A	
<input type="checkbox"/>	TAMI AIR			1		A	01-JAN-1900	A	TAMIAMI AIRPORT
<input type="checkbox"/>	TAMI DBL			1		A	01-JAN-1900	A	TAMIAMI CANAL AT DADE-BROWARD LEVEE
<input type="checkbox"/>	TAMI.115			2		A	01-JAN-1900	A	TAMIAMI CANAL @ BRIDGE 115
<input type="checkbox"/>	TAMI.40M			2		A	01-JAN-1900	A	TAMIAMI CANAL OUTLETS, 40-MILE BEND TO MONROE, FL
<input type="checkbox"/>	TAMI.77			2		A	01-JAN-1900	A	TAMIAMI CANAL AT BRIDGE 77, NR. CARNESTOWN, FLOR
<input type="checkbox"/>	TAMI.83			2		A	01-JAN-1900	A	TAMIAMI CANAL OUTLETS AT BRIDGE 83
<input type="checkbox"/>	TAMI.96			2		A	01-JAN-1900	A	TAMIAMI CANAL @ BRIDGE 96
<input type="checkbox"/>	TAMIA		XXXX	3		D	18-FEB-1992	A	
<input type="checkbox"/>	TAMIAMI			2		A	01-JAN-1900	A	TAMIAMI CANAL OUTLETS, MONROE TO CARNESTOWN, FLA
<input type="checkbox"/>	TAMBR37	RU	BICY	2		D	01-JAN-1900	A	TAMIAMI CANAL AT BRIDGE 37

Like the station query, each of the site names is hyperlinked to information about that site (see example shown in *Section 2.0, Menu-Based Data Access*). The user can retrieve data by selecting desired sites and clicking on the “Get Time Series Data” button at the bottom of the page for each site of interest.

Access by Hydrologic Basin

Station data can be also accessed by clicking on the “by Hydrologic Basin” link on the DBHYDRO main menu. Basin listings are arranged by alphanumeric grouping, or a basin name can be manually entered.



In this example, the “B” basin grouping was selected, followed by selection of basin name BOGGY CR:



The time series listing is displayed below for all basin BOGGY CR data.

Get Data	Dbkey	Station	Group	Data Type	Freq	Stat	Recorder	Agency	Start Date	End Date	Strata	County	Op Num	Latitude	Longitude	X
<input type="checkbox"/>	PT351	086628-1	086628	RAIN	DA	SUM	NA	NOAA	01-FEB-1974	28-JUN-1996	0	ORA		282700	811900	554
<input type="checkbox"/>	PT352	086628-2	086628	RAIN	DA	SUM	NA	NOAA	01-JUL-1996	28-DEC-2001	0	ORA		282602	811930	551
<input type="checkbox"/>	PT482	086633-1	086633	RAIN	DA	SUM	NA	NOAA	18-FEB-1950	28-DEC-1958	0	ORA		283300	812100	543
<input type="checkbox"/>	PT354	086638-1	086638	RAIN	DA	SUM	NA	NOAA	01-JUL-1948	28-JAN-1974	0	ORA		283300	812000	549
<input type="checkbox"/>	10868	82911801	82911801	WELL	RI	RAND	7777	USGS	14-MAY-1980	25-SEP-1981	422	ORA	0	282956.005	811817.232	558
<input type="checkbox"/>	10321	BOGGY.TA	BOGGY.TA	CLD	RI	RAND	7777	USGS	10-JUN-1980	29-JUL-1982	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	10317	BOGGY.TA	BOGGY.TA	DO	RI	RAND	7777	USGS	06-FEB-1980	30-SEP-1983	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	00113	BOGGY.TA	BOGGY.TA	FLOW	DA	MEAN	NA	USGS	01-SEP-1959	03-MAY-2011	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	00111	BOGGY.TA	BOGGY.TA	GAGHT	DA	MEAN	7777	USGS	17-SEP-1959	03-MAY-2011	60.97	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	10320	BOGGY.TA	BOGGY.TA	H2O2	RI	RAND	7777	USGS	06-FEB-1980	11-AUG-1984	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	10318	BOGGY.TA	BOGGY.TA	PH	RI	RAND	7777	USGS	06-FEB-1980	30-SEP-1983	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	10316	BOGGY.TA	BOGGY.TA	SCOND	RI	RAND	7777	USGS	06-FEB-1980	30-SEP-1983	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	00112	BOGGY.TA	BOGGY.TA	STG	DA	FWM	7777	USGS	04-OCT-1978	11-AUG-1984	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	10319	BOGGY.TA	BOGGY.TA	STG	RI	RAND	7777	USGS	06-FEB-1980	11-AUG-1984	0	ORA	0	282217.022	811838.234	556
<input type="checkbox"/>	05638	BOGGY527	BOGGY527	FLOW	DA	MEAN	NA	WMD			0	ORA	0	282342.019	812231.237	535
<input type="checkbox"/>	05633	BOGGY527	BOGGY527	STG	BK	INST	7777	WMD	23-OCT-1985	13-MAR-1999	0	ORA	0	282342.019	812231.237	535
<input type="checkbox"/>	07170	BOGGY527	BOGGY527	STG	DA	MEAN	SP01	WMD	19-MAY-1987	31-MAY-1988	0	ORA	0	282342.019	812231.237	535

Real Time Data

Click on the “Real Time Data” link from the main menu. This option is presently only available for users whose login credentials have been authenticated on the SFWMD computer network. If the user is a SFWMD employee and the Real Time Data option does not appear, click on the “Login” hyperlink on the user’s page footer.

(For non-authenticated users the SFWMD real time data can be accessed from www.sfwmd.gov → Scientists and Engineers → Live Data.)

Real time stages and water control structure operations data are available. For example, to query real time data at the S-155 spillway, check “Site Name” as the user’s search parameter, and click on the “Submit” button.

The screenshot shows a web browser window displaying the DBHYDRO search interface. The page title is "DBHYDRO | search" and the URL is "sfwmd.gov". The main content area is titled "REAL TIME DATA" and contains a section for "SELECT SEARCH PARAMETERS" with the instruction "(click on the parameter text for help)". There are two columns of search parameters, each with a checkbox:

Parameter	Checked	Parameter	Checked
DRKEY	<input type="checkbox"/>	Station	<input type="checkbox"/>
Station Description	<input type="checkbox"/>	Site Name	<input checked="" type="checkbox"/>
Data Type	<input type="checkbox"/>	County	<input type="checkbox"/>
Hydrologic Basin	<input type="checkbox"/>	X-Y Coordinates	<input type="checkbox"/>
Latitude/Longitude	<input type="checkbox"/>	DCVP Station Id	<input type="checkbox"/>

Below the checkboxes are "Submit" and "Reset" buttons. Below these is an "OR" label and a text input field containing the text "Use Existing Parameter File". The footer of the page contains navigation links: "DBHYDRO Menu", "Portal Home", "SFWMD Home", "User's Guide", "What's New", "FAQ", and "Comments?".

The user then clicks on site S155 from the list of values and clicks on the “Submit” button.



Subsequently, the user checks off the time series of interest and clicks on the “Get Data” button.



There are six preset date range options. The user may also specify a custom date range. The user selects “Today and previous 2 days” from the Date Range pull down, clicks “Chart” on the “Destination” button, and clicks on the “Submit” button.

QUERY DATE SELECTION

Time Series List

Get Data	Dbkey	Station	Group	Data Type	Freq	Stat	Strata	Recorder	Agency	Start Date	End Date	County	Op Num	Latitude	Longitude	Basin	Struct
<input checked="" type="checkbox"/>	Y442	S155_H	S155	STG	BK	INST	0	TELE	WMD	19860219	20160729	PAL		263840.5	800318.544	C51E	
<input checked="" type="checkbox"/>	90556	S155_R	S155	RAIN	BK	INST	0	TELE	WMD	19970318	20160729	PAL		263841.237	800318.141	C51E	
<input checked="" type="checkbox"/>	LT003	S155_S	S155	GATE	BK	INST	0	TELE	WMD	19860219	20160729	PAL	1	263840.858	800318.161	C51E	SPIL
<input checked="" type="checkbox"/>	LS456	S155_S	S155	GATE	BK	INST	0	TELE	WMD	19860219	20160729	PAL	2	263840.858	800318.161	C51E	SPIL
<input checked="" type="checkbox"/>	LS828	S155_S	S155	GATE	BK	INST	0	TELE	WMD	19860219	20160729	PAL	3	263840.858	800318.161	C51E	SPIL
<input checked="" type="checkbox"/>	Y443	S155_T	S155	STG	BK	INST	0	TELE	WMD	19860219	20160729	PAL		263841.271	800317.663	LWLAGOON	

Date Range User Specified ▼

Start Date End Date (YYYYMMDD)

Report Format ▼

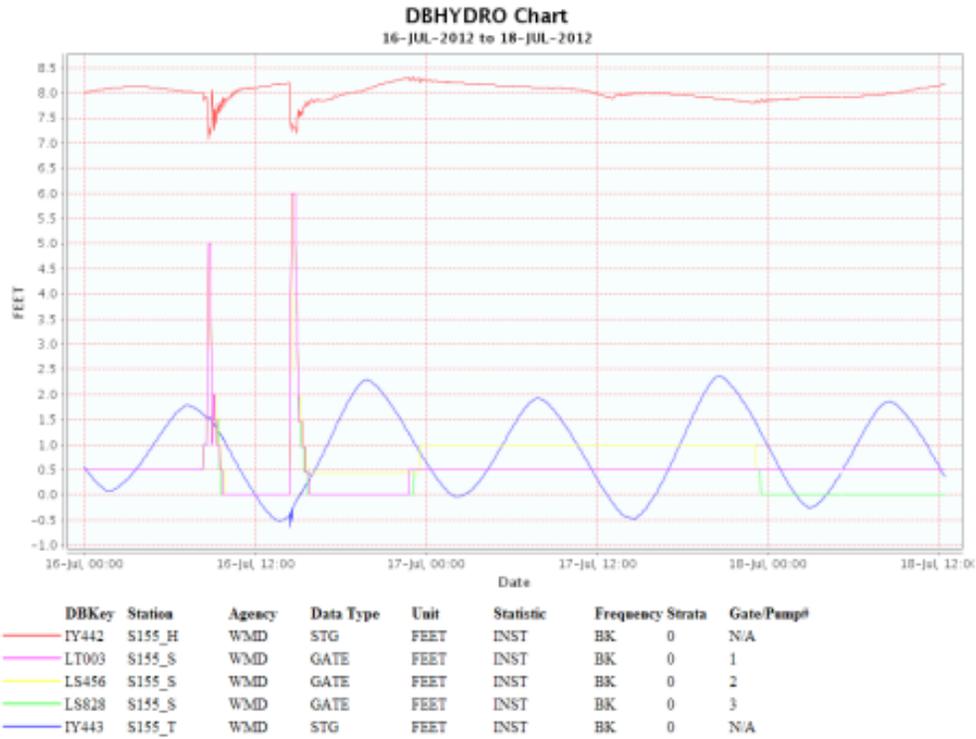
Destination

- Screen (.html)
- File: Fixed column width (.txt).
- File: Comma delimited (.csv).
- File: Adobe (.pdf) format.
- Chart

Run Mode

- Online
- Batch [When to use it](#)

A hydrograph with current data is generated and displayed:



This graph shows stage (water levels) and gate openings for the current day and previous two days. The tabular view of this data (One Value Per Row) indicates dates after which each time series is provisional. Provisional data have not yet undergone standard and accepted review procedures.

Virtual Globe Access Using KML

This interface is scheduled for retirement. Users are encouraged to become familiar with the Web Map interface.

Environmental data are geospatial by nature. Accessing such data via maps is more intuitive for many. Google Earth is one such geospatial interface.

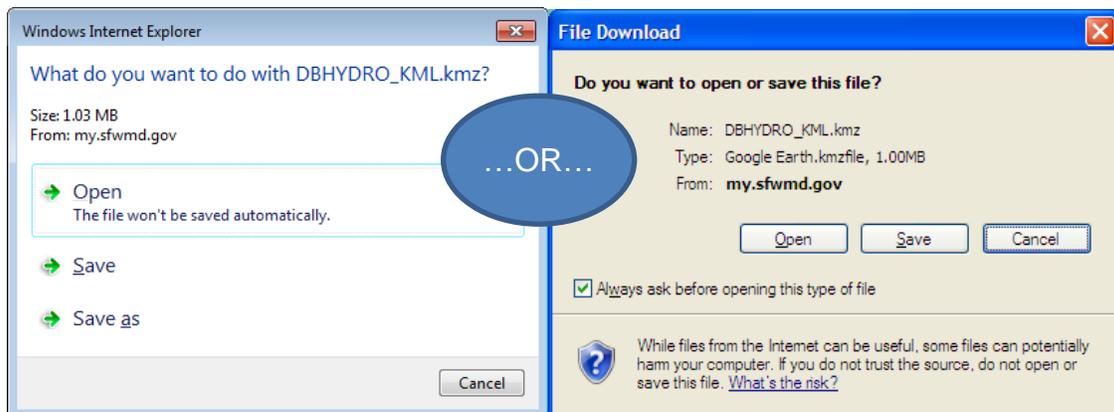
To access DBHYDRO data using Google Earth, non-District users must first download the free Google Earth software from <http://www.google.com/earth/download/ge/> (Note that this access method assumes the user has knowledge of Google Earth software).

ArcGIS Earth from Esri is another such free tool. ArcGIS Earth is downloadable from <http://www.esri.com/software/arcgis-earth>.

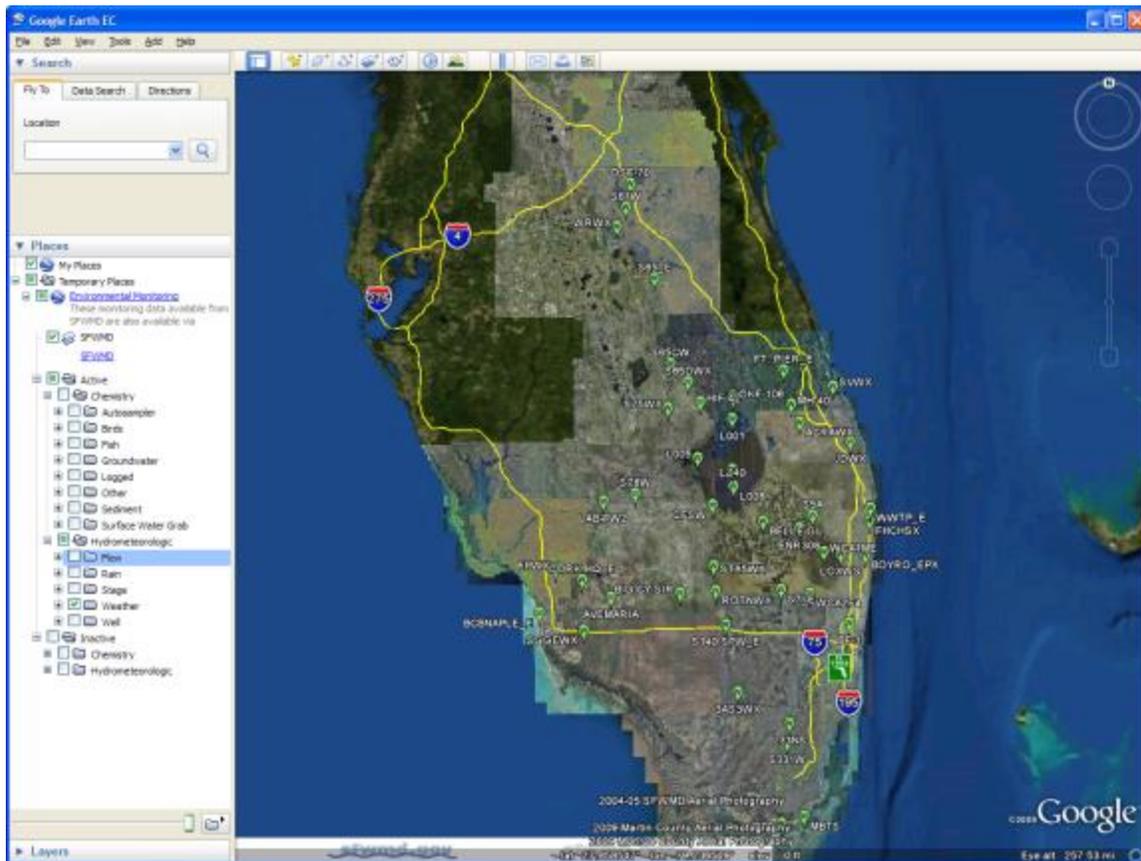
Access via Google Earth is provided on the main DBHYDRO menu (click on the legacy link below the map icon) or it can be accessed through this URL:

http://my.sfwmd.gov/KMLEXT/CUSTOMKMLS/DBHydro/DBHydroKML/DBHYDRO_KML.kmz.

Users should choose “Open” when prompted as shown below:



Opening the .kmz file will start Google Earth and present the user an initial view of the monitoring network as shown below.

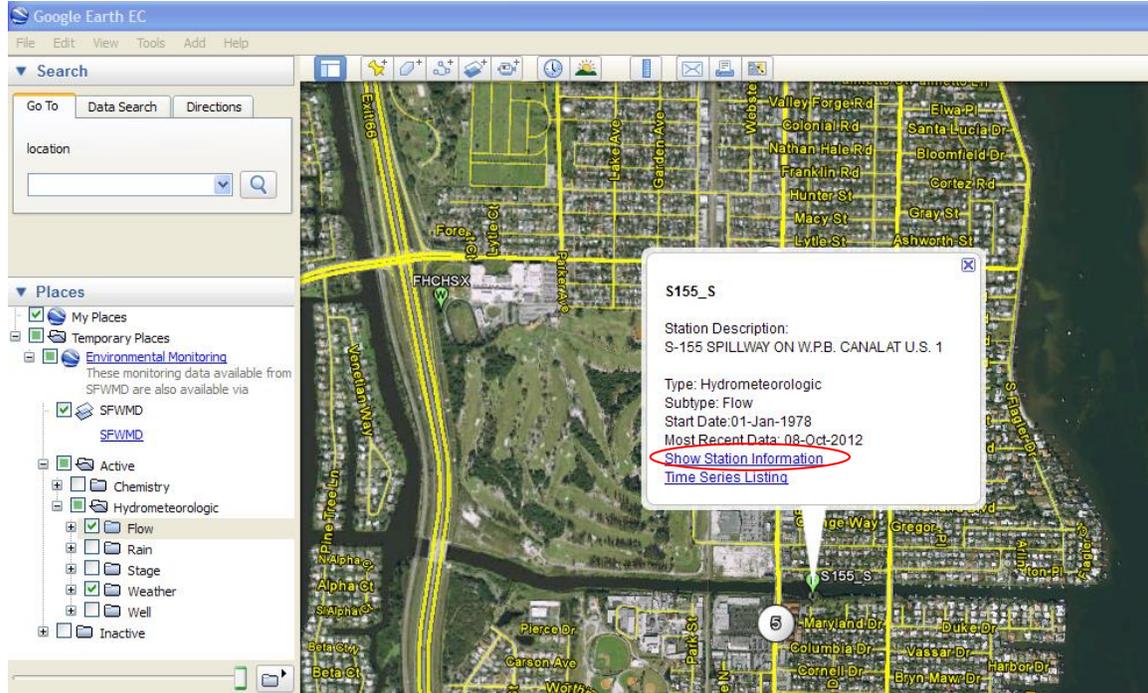


If Google Earth fails to launch, the user may save the .kmz file to the user's computer and then drag it into an open Google Earth window.

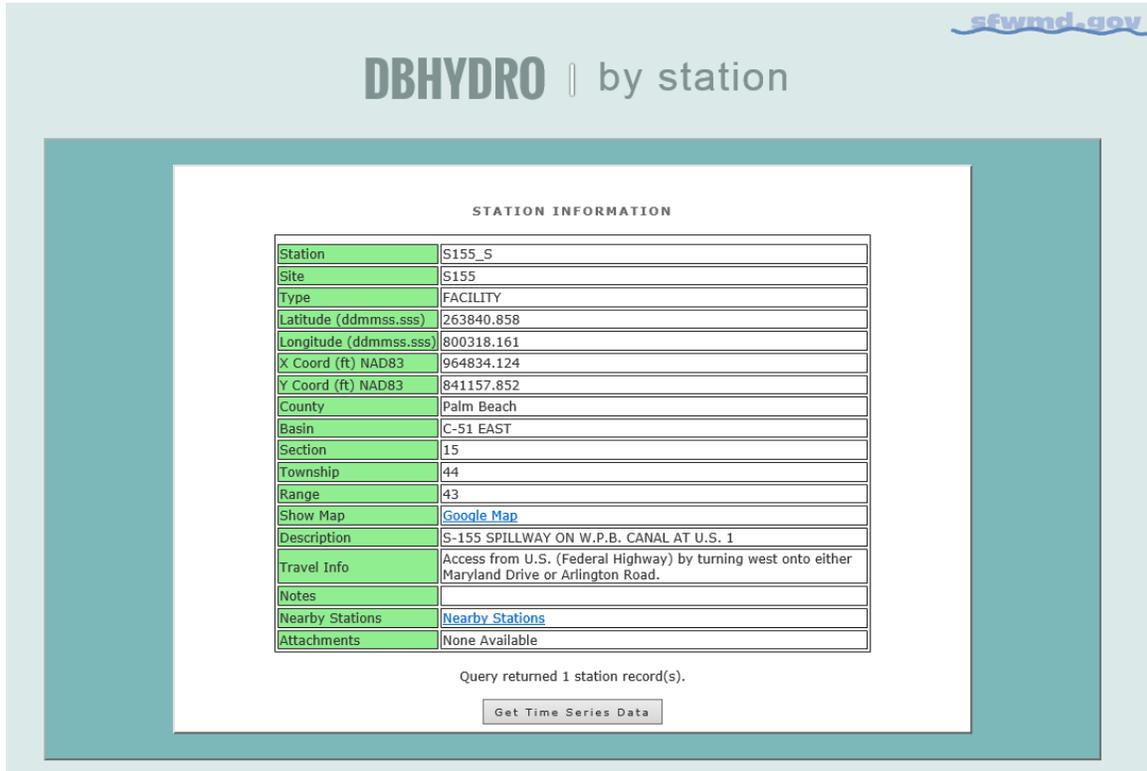
For best performance, after loading of the DBHYDRO Environmental Monitoring placemarks, the user should first zoom to a specific area of interest then turn on placemarks on the map. Turning on all the placemarks while zoomed out will result in longer page re-display times and a cluttered screen.

These placemarks are loaded into the "Temporary Places" section of Google Earth as Environmental Monitoring and, if prompted, should be discarded upon exiting Google Earth.

In the example below, the map view is zoomed into eastern Palm Beach County. The “Active Flow” placemarks are selected. The placemark identifies the database station corresponding to the S-155 spillway.



Clicking on the “Show Station Information” link leads the user to the station information screen, as discussed in *Section 2.0, Menu-Based Data Access*. The map interface is an alternative way to access to the same DBHYDRO data without navigating through the main DBHYDRO menu pages.



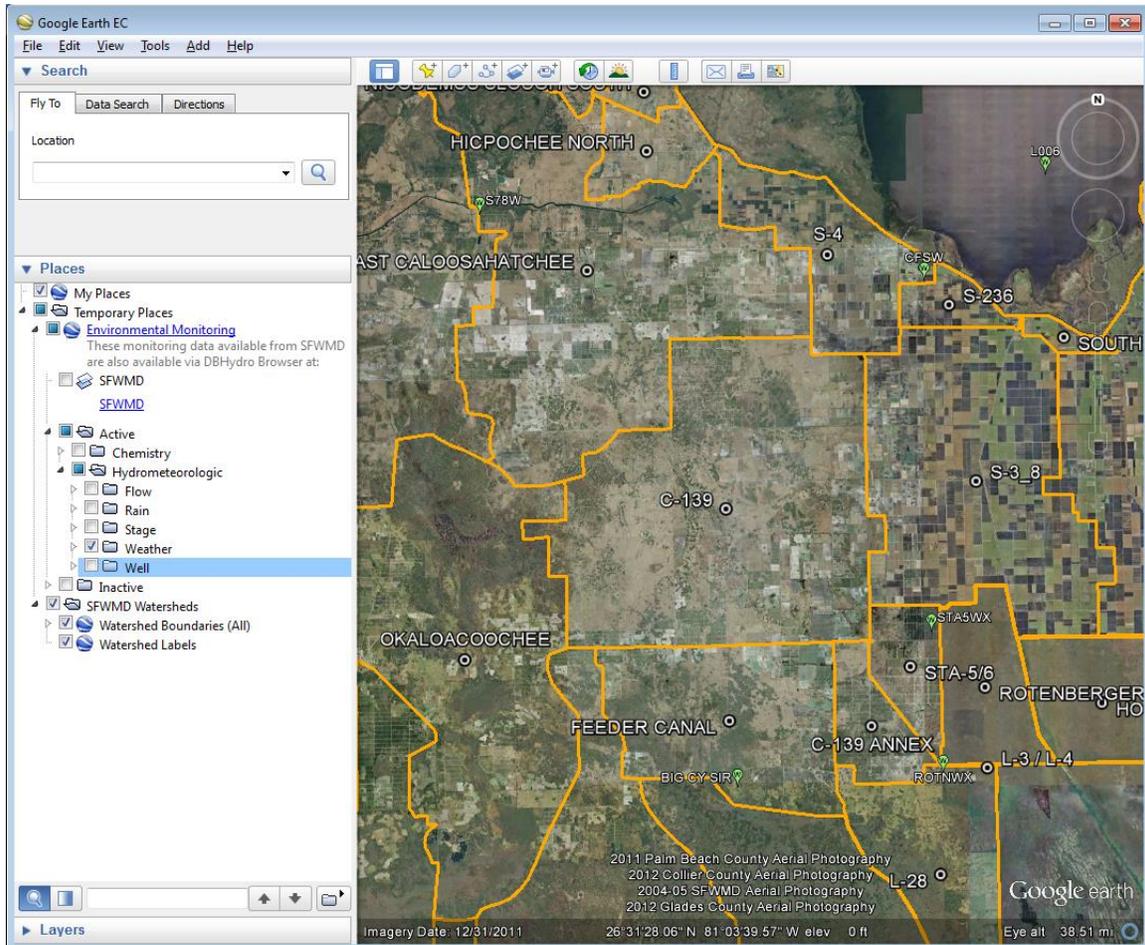
The screenshot displays the 'DBHYDRO | by station' interface. At the top right is the 'sfwmd.gov' logo. The main content area is titled 'STATION INFORMATION' and contains a table with the following data:

Field	Value
Station	S155_S
Site	S155
Type	FACILITY
Latitude (ddmmss.sss)	263840.858
Longitude (ddmmss.sss)	800318.161
X Coord (ft) NAD83	964834.124
Y Coord (ft) NAD83	841157.852
County	Palm Beach
Basin	C-51 EAST
Section	15
Township	44
Range	43
Show Map	Google Map
Description	S-155 SPILLWAY ON W.P.B. CANAL AT U.S. 1
Travel Info	Access from U.S. (Federal Highway) by turning west onto either Maryland Drive or Arlington Road.
Notes	
Nearby Stations	Nearby Stations
Attachments	None Available

Below the table, it states 'Query returned 1 station record(s).' and includes a button labeled 'Get Time Series Data'.

SFWMD watersheds may be added to a Google Earth session by clicking on this hyperlink:

<http://my.sfwmd.gov/KMLEXT/CUSTOMKMLS/DBHydro/Watersheds/SFWMDWatersheds.kmz>



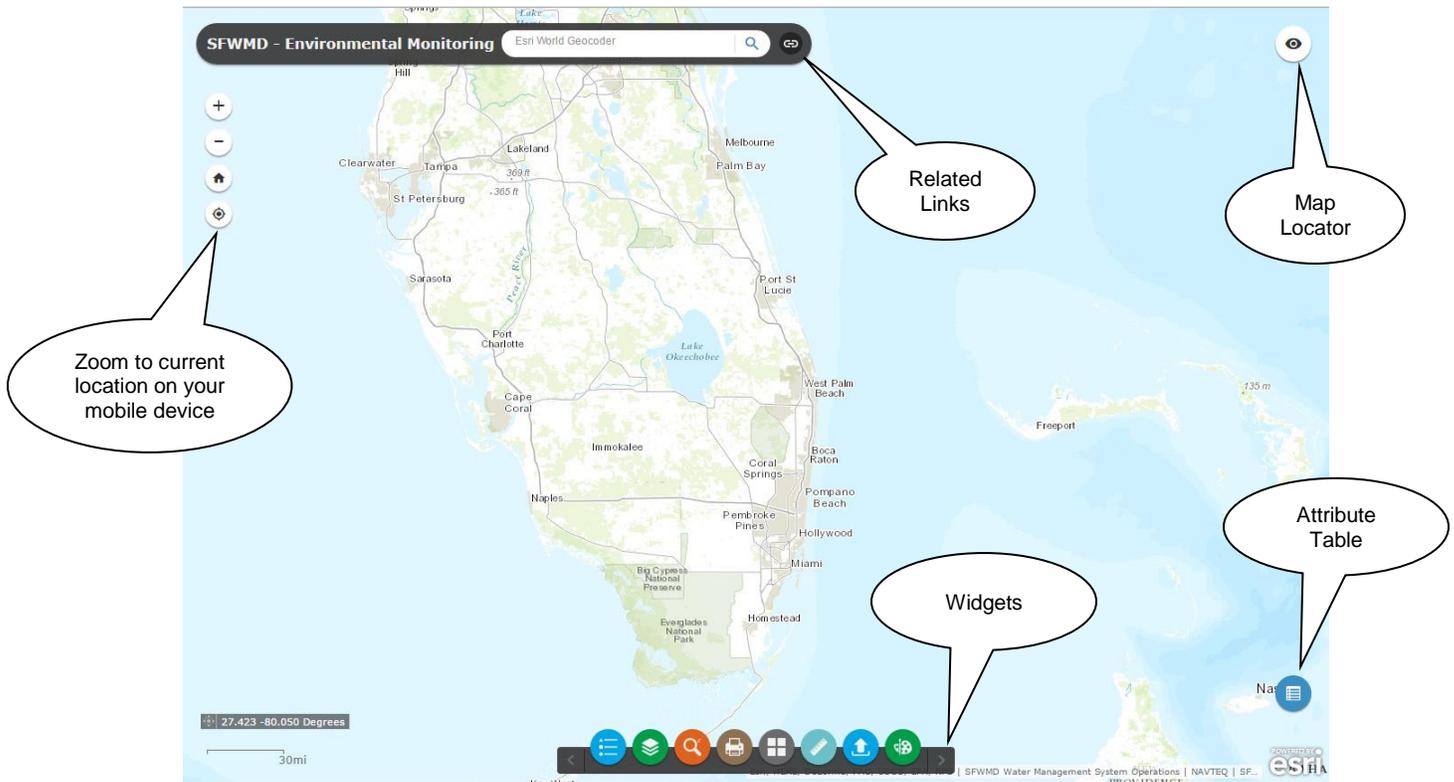
The watershed boundary places pane may be expanded to identify each watershed. By default, the watershed boundaries are turned on.

The watershed labels may be turned on and off as a distinct layer. By default, the watershed labels are turned off.

These watersheds correspond to the “basin” attribute defined for each DBHYDRO station.

Web Map Access

This option is available to all users from the main menu.

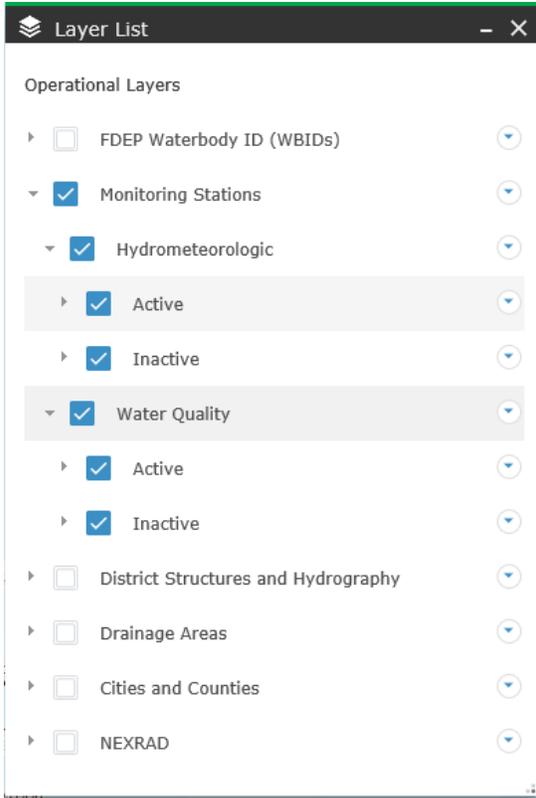


At the bottom of the map are the “widgets” to perform specific functions:



From left to right above the widget names are:
Legend, Layers List, Search, Print, Basemap Gallery, Measure, Add Shapefile, and Draw.

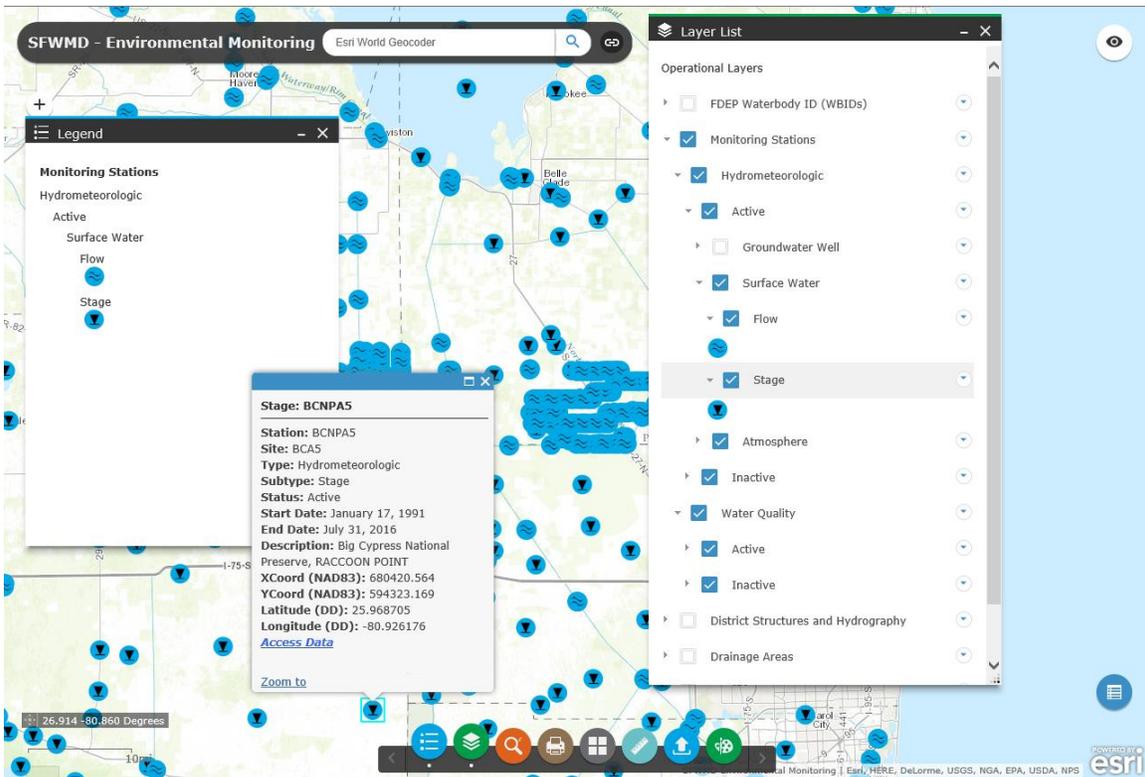
The Legend widget displays the legend for layers that are both visible and in scale. Therefore, the legend is dynamically configured based on what is viewable at the moment.

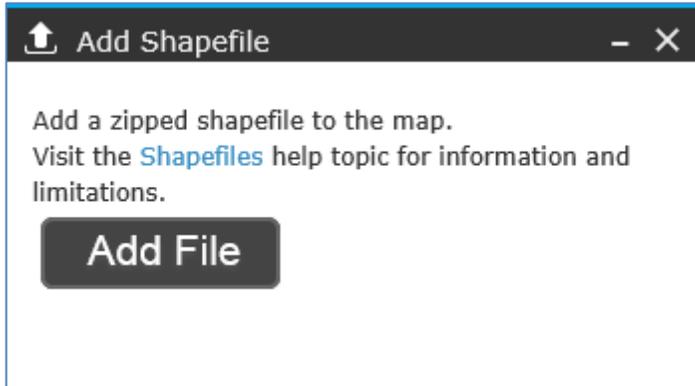


The Layers List widget controls which layers are turned on and off. All checkboxes in a layer hierarchy must be checked for that lowest level layer to be visible. Arrows pointing to the right indicate there is additional information to be displayed; either another sub-layer or the symbol for that layer. Each layer has their own visibility scale defined so all layers may not be visible at all map scales.

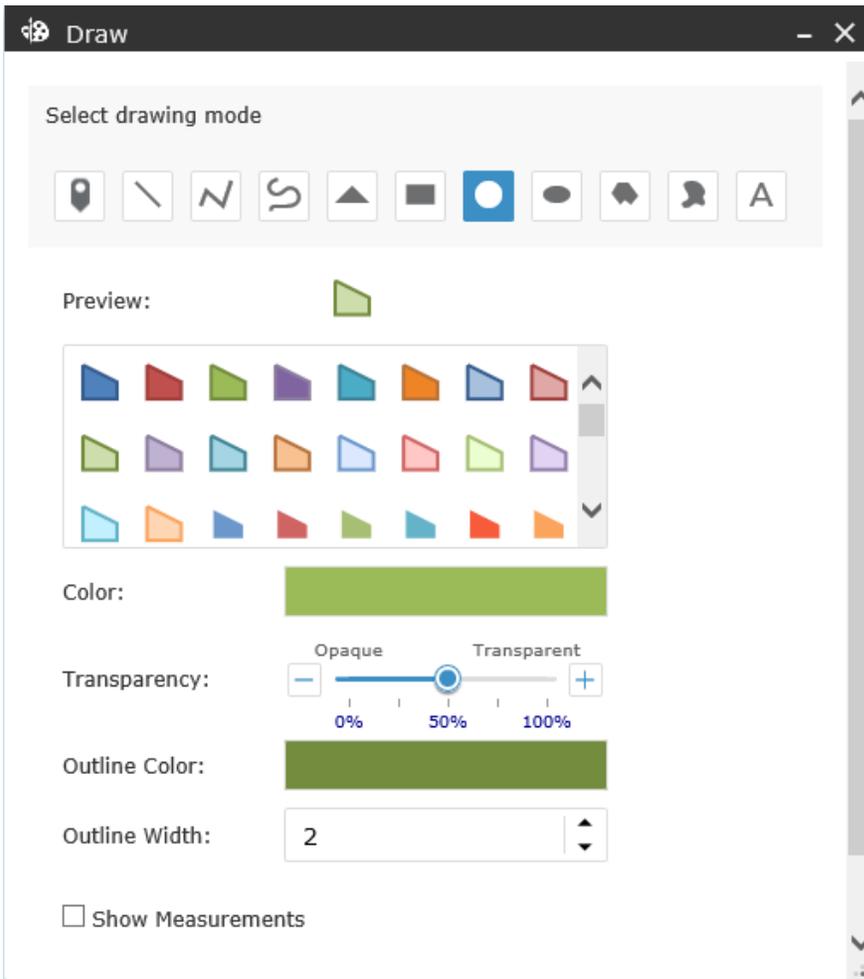
From the image below we see how the Legend List only shows the symbols for the map layers visible.

Selecting a station, by clicking on its symbol on the map, displays a pop-up with information about the station and a link to its data.





The Add Shapefile widget provides the ability to upload your own data to the map. Online help for this feature is available by following the [Shapefiles](#) hyperlink.



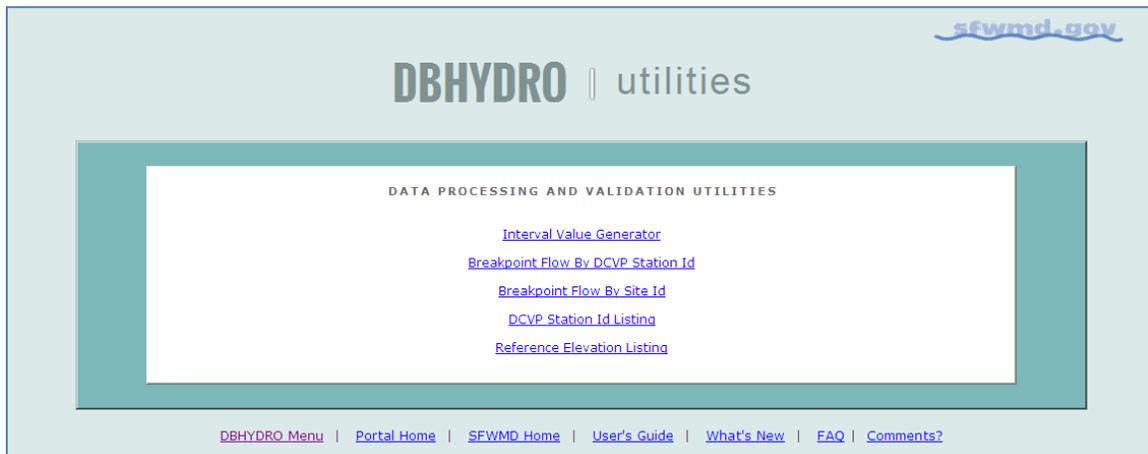
The Draw widget provides the ability to mark-up the map with points, lines, shapes, and text. Mark-ups are printed when using the Print widget.

Note: The Print widget might want to print layers that are checked but not visible at the present scale. Please turn off all layers, and their parents, explicitly that you do not want printed before using the print widget.

Data Processing and Validation Utilities

This option is available on the SFWMD intranet only.

The system in which QA/QC is performed on SFWMD instrument readings is the Data Collection/Validation Preprocessing (DCVP) system. The utilities on this menu are primarily used by District staff that performs QA/QC on instrument readings prior to data archival in DBHYDRO.



Interval Value Generator

Clicking on the “Interval Value Generator” link brings the user to the following screen:

Interval Value Generator(IVG)/Extract Parameter Screen

Station Id - Start Date - End Date - Site Name - Parameter

27-MAN	-	-	-	S27	-	FUMP
2A159+	-	19990107	-	20121008	-	2A159 - GROUNDWATER
2A300+	-	19990106	-	20120814	-	2A300 - STAGE
2A37E+	-	20000628	-	20121007	-	G2A37E - STAGE
2A37E+T1	-	-	-	G2A37E	-	WATER TEMPERATURE
2A37E+W1	-	20000628	-	20121007	-	G2A37E - GROUNDWATER
2A37E+W2	-	20000628	-	20121007	-	G2A37E - GROUNDWATER
2A37E+W3	-	20000628	-	20121007	-	G2A37E - GROUNDWATER
2A37E+W4	-	20000628	-	20121007	-	G2A37E - GROUNDWATER
3A-2B+	-	19900828	-	19910828	-	3A-2B - HEADWATER ELEVATION
3A-3+	-	19900831	-	19910826	-	3A-3 - HEADWATER ELEVATION
3A-36+R	-	19950126	-	20071106	-	3A-36 - RAINFALL

Station ID

Statistic Type:

Reporting Interval: or # of Minutes:

Date Range: YYYYMMDDHH24MI

Start Date:

End Date:

Data Source:

Output Format: Fixed Comma Delimited

Online Batch Mode

The Interval Value Generator (IVG) program allows the user to generate summarized statistical information from any individual or group of individual DCVP station_ids. Each DCVP station_id is a set of readings from a single sensor or device. The DCVP use of the term “station” is distinct from that used throughout DBHYDRO. One DBHYDRO station may contain multiple DCVP station_ids. IVG can be used to create mean daily values, maximum hourly values, minimum monthly values, etc. The user may define any date range of interest. IVG works with archived, provisional, and real time data. The output may be online or via batch jobs. Batch jobs will send an email notification when complete.

DCVP Station Id Listing

Returning to the Data Processing and Validation Utilities menu affords the user other options. The Data Collection Validation Preprocessing system station reference table may be accessed by clicking on the “DCVP Station Id Listing” link. The selection leads to this screen:

The screenshot shows a web form titled "DCVP Station Id Search Criteria" with the "sfwmd.gov" logo in the top right corner. The form contains several search criteria fields, each with a dropdown menu:

- DCVP Station ID:** A text input field with a placeholder "(Use the \"%\" sign as a wild card.)".
- Application Name:** A dropdown menu with options: ALL, RF2 - GRAPHIC RAINFALL DATA, RF3 - MANUAL RAINFALL DATA, and SG1 - DIGITAL PUNCHED TAPE DATA.
- Parameter Code:** A dropdown menu with options: ALL, ? - UNKNOWN, A - FLOW CALIBRATION CONSTANT, and A1 - 1ST ORDER COEFFICIENT.
- Technician:** A dropdown menu with options: ALL, AYAHI JOHNSON, ALICIA CARIMBOCAS, and ALISON MOORGAN.
- Site Name:** A dropdown menu with options: ALL, 01NO, 01SO, and 02274490 - Williamson Ditch near Okeechobee, FL.
- Agency:** A dropdown menu with options: ALL, CDE, FS, and LM.

At the bottom of the form are two buttons: "Submit" and "Reset".

The user may select all Station Ids (time series) starting with a given character or query by Station Id name (using the % as a wild card), application name (the processing method), parameter code, technician assigned to the station, site name, or agency from whom the data are received.

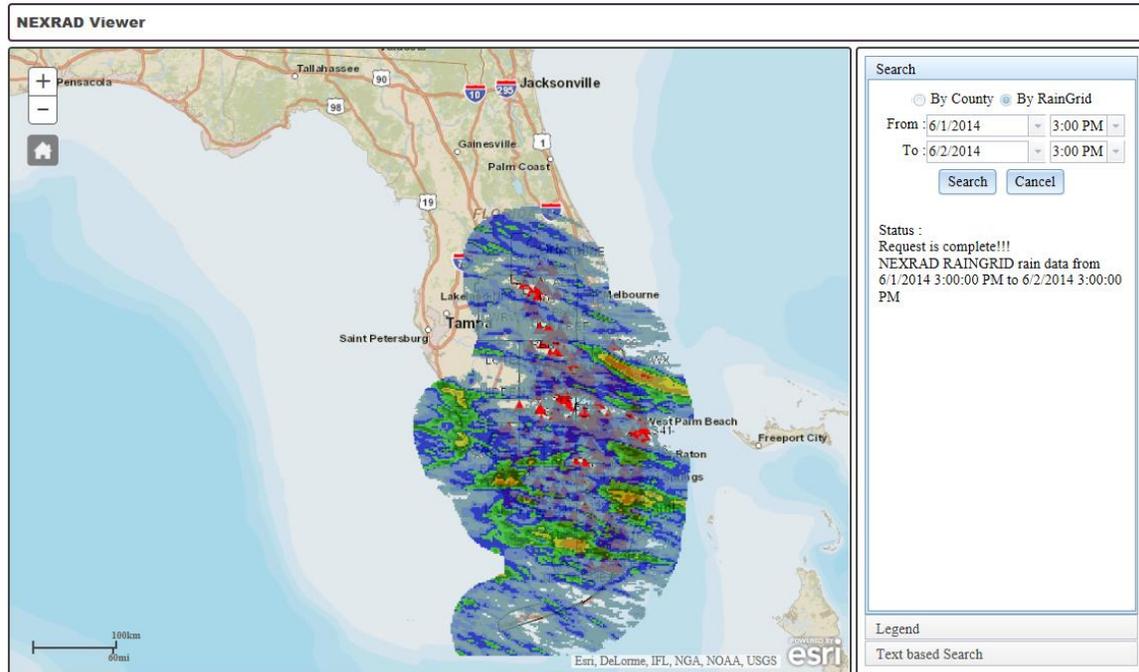
In the example below, entering the letter “T%” generates a list of all DCVP Station Ids beginning with the letter “T”:

Get Data	DCVP Station Id	Site Name	Application Name	Parameter Code	Operation Code	Operation Number	Start Date	End Date	Datum & RPOR	Technician	Altern. Tech.	Recorder Class	Priority	Processed	Collected	Project Code	Station Status
<input type="checkbox"/>	T3@H	T3	SG3	H			09-JUL-1993	31-DEC-1994	Info			DWR	2	N	Y		01-JAN-15
<input type="checkbox"/>	T5+STG	T5	SG3	ST			21-JUL-1992	05-JUL-2006	Info	lijurado		LOGGNET	2	N	N		03-MAR-1
<input type="checkbox"/>	T5-STG	T5	SG4	ST			27-JUL-2006	09-OCT-2012	Info	lijurado		MOSCAD	1	Y	Y		25-JUN-20
<input type="checkbox"/>	TAFT+GW	TAFT	SG3	GW			09-JUL-2004	08-JUL-2006	Info	awalsh		LOGGNET	1	N	N		01-JUL-20
<input type="checkbox"/>	TAFT+R	TAFT	SG3	R	Z		09-JUL-2004	08-JUL-2006	Info	awalsh		LOGGNET	1	N	N		01-JUL-20
<input type="checkbox"/>	TAFT+RR	TAFT	SG3	R			01-OCT-2007	01-SEP-2011	Info			NRG	1	N	Y		01-JUL-20
<input type="checkbox"/>	TAM-BR37	TAMIBR37	SG1	ST			29-FEB-1984	09-MAR-1995	Info	tbrown		DIGITAL	2	N	N	8041	13-JAN-15
<input type="checkbox"/>	TAM-BR52	TAMIBR52	SG2	ST			16-MAY-1984	09-MAR-1995	Info	tbrown		GRAPHIC	2	N	N	8041	19-JAN-15
<input type="checkbox"/>	TAM-BR55	TAMIBR55	SG2	ST			16-MAY-1984	09-MAR-1995	Info	tbrown		GRAPHIC	2	N	N	8041	19-JAN-15
<input type="checkbox"/>	TAM-INDI	TAMINR37	SG1	ST			20-JUN-1981	02-MAY-1983	Info			DIGITAL	2	N	N	8041	01-JAN-15
<input type="checkbox"/>	TAM-TOMA	TAMTOM	SG1	ST			20-JUN-1981	19-AUG-1999	Info	izamora		DIGITAL	2	N	N	8041	19-AUG-1
<input type="checkbox"/>	TAMBR37+	TAMIBR37	SG3	ST			13-JAN-1995	08-APR-2004	Info	tbrown		SS CR10	2	N	N		13-JAN-15
<input type="checkbox"/>	TAMBR40+	TAMBR40	SG4	ST			08-JAN-2004	03-OCT-2012	Info	tbrown		LOGGNET	1	Y	Y		01-OCT-2
<input type="checkbox"/>	TAMBR45+	TAMBR45	SG4	ST			08-JAN-2004	03-OCT-2012	Info	tbrown		LOGGNET	1	Y	Y		01-OCT-2
<input type="checkbox"/>	TAMBR52+	TAMIBR52	SG3	ST			19-JAN-1995	08-APR-2004	Info	tbrown		SS CR10	2	N	N		19-JAN-15
<input type="checkbox"/>	TAMBR55+	TAMIBR55	SG3	ST			19-JAN-1995	08-APR-2004	Info	tbrown		SS CR10	2	N	N		19-JAN-15
<input type="checkbox"/>	TAMBR66+	TAMBR66	SG4	ST			08-JAN-2004	03-OCT-2012	Info	tbrown		LOGGNET	1	Y	Y		01-OCT-2
<input type="checkbox"/>	TAMBR71+	TAMBR71	SG4	ST			08-JAN-2004	03-OCT-2012	Info	tbrown		LOGGNET	1	Y	Y		01-OCT-2
<input type="checkbox"/>	TAMI.WW	WWIND_41	SG1	ST			02-JUL-1986	12-DEC-1994	Info			DIGITAL	2	N	N	8041	12-DEC-1
<input type="checkbox"/>	TAMTOM+	TAMTOM	SG4	ST			19-AUG-1999	08-OCT-2012	Info	ibobsein	izamora	LOGGNET	1	Y	Y		19-AUG-1
<input type="checkbox"/>	TB1+GW1	TB1	SG4	GW	W	1	01-JUL-2003	26-SEP-2012	Info	abokor		LOGGNET	1	Y	Y		09-APR-20
<input type="checkbox"/>	TB1+GW2	TB1	SG4	GW	W	2	01-JUL-2003	26-SEP-2012	Info	abokor		LOGGNET	1	Y	Y		09-APR-20

There is an extensive list of DCVP Station Id attributes, several of which are hyperlinked to other related tables to provide additional information about the particular time series. For example, the user can find out the name of the person responsible for the validation of a particular SFWMD data set if there are any questions about the data.

ET Data and Radar-Based Rainfall Data

ET and radar-based rainfall data are available at <http://www.sfwmd.gov/nexrad2>.



NEXRAD or Nexrad (Next-Generation Radar) is a network of high-resolution, S-band Doppler weather radars operated by the National Weather Service, an agency of the National Oceanic and Atmospheric Administration within the United States Department of Commerce. Its technical name is WSR-88D (Weather Surveillance Radar, 1988, Doppler). NEXRAD detects precipitation and atmospheric movement or wind. It returns data which when processed can be displayed in a mosaic map, which shows patterns of precipitation and its movement (<http://en.wikipedia.org/wiki/NEXRAD>, accessed April 5, 2013).

At the District, radar rainfall originates with National Weather Service data and is further gage-adjusted using measured rainfall amounts from the agency's rain gage monitoring network. As such, this radar rainfall is also called gage-adjusted radar-rainfall (GARR). The application, also known as NEXRAD or NEXRAIN, has its own User's Guide, which may be accessed from the bottom of the main screen (as shown above) to access the gage-adjusted radar-rainfall. Both map-based and text-based retrievals are available. Map-based retrievals result in thematic maps of rainfall amounts defined by the geographic layer of choice. Text-based retrievals result in data files that may be viewed or imported into other applications.

Further information about Doppler radar is available at http://www.srh.noaa.gov/jetstream/doppler/doppler_intro.htm.

Metadata/Reference Tables

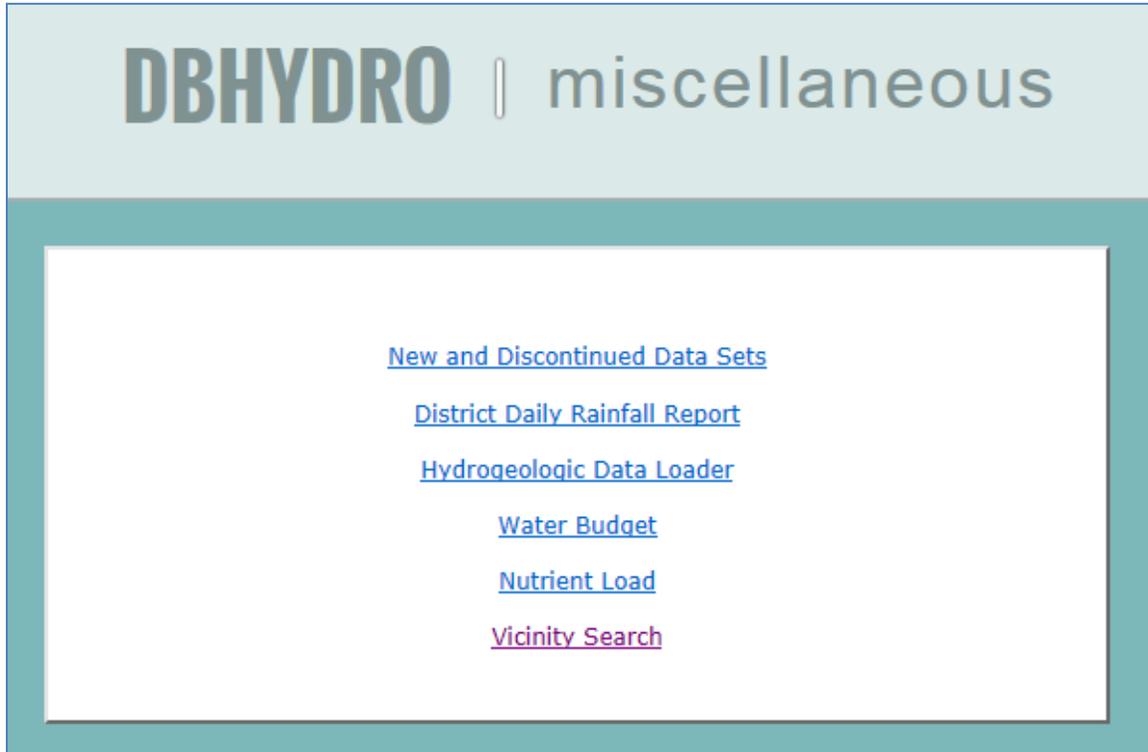
Metadata includes descriptive information about the context, quality, and condition, or characteristics of the data. In the case of DBHYDRO, each of the attributes of a time series or a measurement is such metadata. The domains from which these attributes are drawn are accessible by clicking on the Metadata/Reference Tables option from the main DBHYDRO menu. Upon selection, the following DBHYDRO Metadata screen appears:



Clicking on any one of the items displays an up-to-date list of valid values for that particular attribute.

Miscellaneous Items and Reports

The menu items, some limited to SFWMD internal use only, offer other web resources that also may be helpful to users.



New and Discontinued Data Sets

New data sets are continually added to the database. Monitoring may also be discontinued or changed from one method to another. This feature provides information on such additions or changes to the database.

Clicking on the “New and Discontinued Data Sets” link results in the screen below:

Users may choose from various report types, disciplines, and date ranges of interest. The following screen displays the results of a query of newly created data sets in the surface water discipline:

Dbkey	Station	Group	Data Type	Freq	Stat	Strata	Recorder	Agency	Gate No	Registered By	Registered Date	User OSID	Status	Status Date	Date Created	Start Date	End Date
83745	G436_P	G436_P	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	05-JUL-2012	DBACHAN	P	05-JUL-2012	05-JUL-2012		
83747	G438A_C	G438A_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	06-JUL-2012	DBACHAN	P	06-JUL-2012	06-JUL-2012		
83748	G438B_C	G438B_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	06-JUL-2012	DBACHAN	P	06-JUL-2012	06-JUL-2012		
83749	G438C_C	G438C_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	09-JUL-2012	DBACHAN	P	09-JUL-2012	09-JUL-2012		
83750	G438D_C	G438D_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	11-JUL-2012	DBACHAN	P	11-JUL-2012	11-JUL-2012		
83757	G438E_C	G438E_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	11-JUL-2012	DBACHAN	P	11-JUL-2012	11-JUL-2012		
83758	G438F_C	G438F_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	13-JUL-2012	DBACHAN	P	13-JUL-2012	13-JUL-2012		
83759	G438G_C	G438G_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	13-JUL-2012	DBACHAN	P	13-JUL-2012	13-JUL-2012		
83760	G438H_C	G438H_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	13-JUL-2012	DBACHAN	P	13-JUL-2012	13-JUL-2012		
83761	G438I_C	G438I_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	13-JUL-2012	DBACHAN	P	13-JUL-2012	13-JUL-2012		
83762	G438J_C	G438J_C	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	13-JUL-2012	DBACHAN	P	13-JUL-2012	13-JUL-2012		
83746	G445_P	G445_P	FLOW	DA	MEAN	0	TELE	WMD		DBACHAN	06-JUL-2012	DBACHAN	P	06-JUL-2012	06-JUL-2012		

By clicking on “Other Data Sets at Station” link on the last column at the right side of this data query screen, the user can view what other time series are or have been measured at the station of interest.

All the "headers" for each of the time series at the selected station are displayed:

sfwmd.gov

Data Sets at Station G445_P

Dbkey	Station	Group	Data Type	Freq	Stat	Strata	Recorder	Agency	Gate No	Registered By	Registered Date	User OSID	Status	Status Date
83746	G445_P	G445_P	FLOW DA	MEAN	0	TELE	WMD	DBACHAN		DBACHAN	06-JUL-2012	DBACHAN	P	06-JUL-2012

Query returned 1 records.

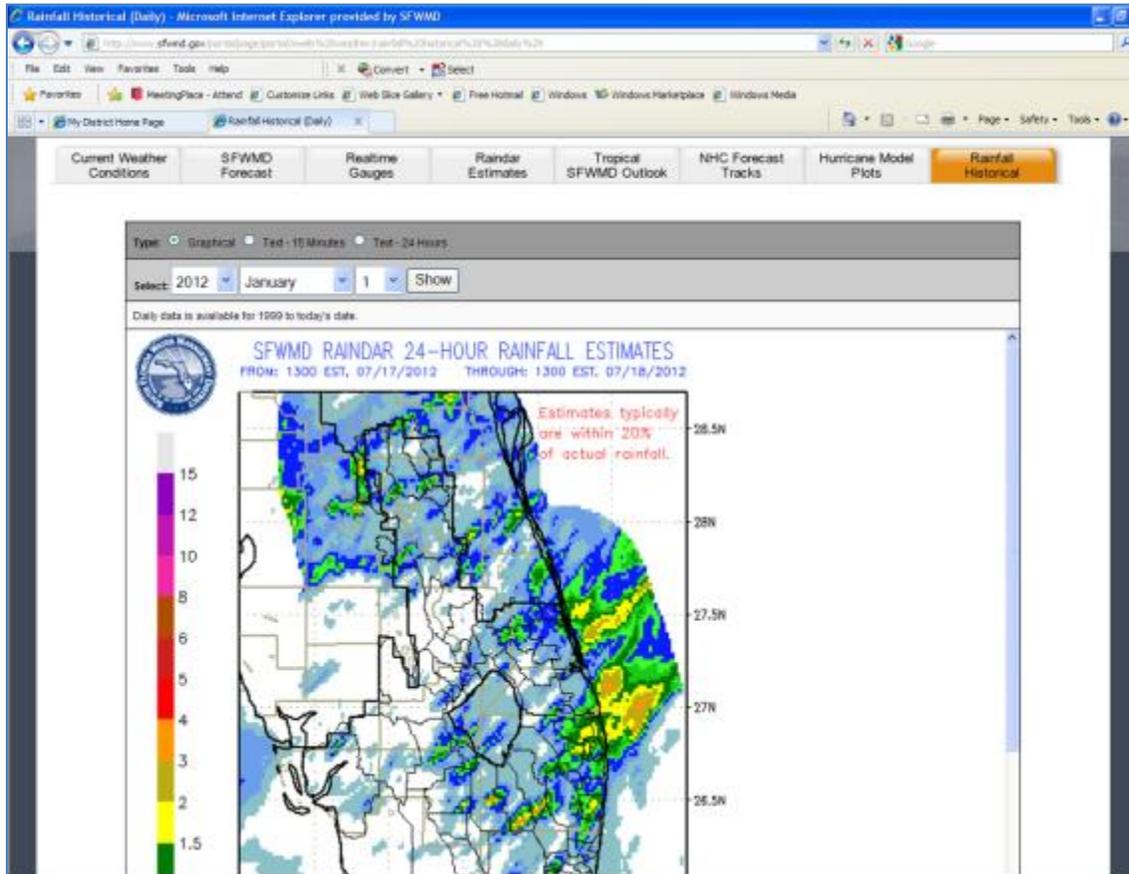
[DBHYDRO Menu](#) | [Portal Home](#) | [SFWMD Home](#) | [User's Guide](#) | [What's New](#) | [FAQ](#) | [Comments?](#)

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SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800 | 1-800-432-2045 (Florida Only)

District Daily Rainfall Report

Several tabbed interfaces to District-wide rainfall data and other web-based climate resources from the “District Daily Rainfall Report” link from the “Miscellaneous Items and Reports” menu are available via this page.



Hydrogeologic Data Loader

The “Hydrogeologic Data Loader” link under the “Miscellaneous Items and Reports” menu is a specialized interface for SFWMD data stewards or other authorized personnel to perform bulk transfers of hydrogeologic data into DBHYDRO.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

sfwmd.gov

Hydrogeologic Data Loader

"The difference between what the most and the least learned people know is inexpressibly trivial in relation to that which is unknown."
Albert Einstein

Hydrogeologic Data Loader Login

Please Login :

Userid:

Password:

[Forgot Password ?](#)

[Getting Started](#)

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SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800 | 1-800-432-2045 (Florida Only)

Water Budget

The “Water Budget” function from the “Miscellaneous Items and Reports” menu is available on the SFWMD intranet only.

The primary purpose of this program is to provide comprehensive water budget information for Everglades Stormwater Treatment Areas (STAs). However, the program can be used to develop a water budget for any water body, where daily data are available from DBHYDRO. The program is capable of performing calibration of water budgets for STAs and also for each cell within an STA. The water budget application has its own User's Guide, which is accessible from the water budget application menu.

The screenshot shows the 'Run Water Budget' web application interface. At the top, there is a header for 'SOUTH FLORIDA WATER MANAGEMENT DISTRICT' and a logo for 'sfwmd.gov'. A 'User Guide' link is circled in red in the top right corner. The main content area is titled 'Run Water Budget' and contains a form with the following fields: 'STA Name' (dropdown menu showing 'STA-2'), 'Begin Date' (text input '01/01/2011' with a '(mm/dd/yyyy)' label), 'End Date' (text input '12/31/2011' with a '(mm/dd/yyyy)' label), and 'Units' (radio buttons for 'US' and 'Metric'). Below the form is a 'GO' button and a 'Go Back' link. At the bottom, there is a footer with links for 'Privacy Policy', 'Disclaimer', 'Accessibility', 'User Survey', 'Logout', 'Redline', 'Contact Us', 'Locations', and 'Careers'. The footer also includes the address: 'SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406' and the phone number: '561-686-8800 | 1-800-432-2045 (Florida Only)'.

Nutrient Load Computation Application

The “Nutrient Load” function from the “Miscellaneous Items and Reports” menu is available to SFWMD staff on the intranet only.

Key features of the nutrient load application include the ability to calculate loads based on flow time series and water quality concentration time series pairings. The outputs of these calculations are not presently stored in DBHYDRO. The nutrient load application has its own User’s Guide, accessible from the application’s menu.

The screenshot shows the 'nutrient load' application interface. At the top right, there is a logo for 'sfwmd.gov' and a user greeting: 'Welcome: Brian Turcotte' with a link to 'User Guide'. The main content area is divided into two sections: 'MY WORKSPACES' and 'SHARED PUBLIC WORKSPACES'. Each section contains a table of workspace details.

MY WORKSPACES										
NAME	BEGIN	END	SHARED	CLONEABLE	USE PROV DATA	LOAD UNITS	WQ UNITS	FLOW VOLUME	TYPE	GO TO
Briant-1	03/06/2010	03/04/2012	N	N	Y	metric tons	ug/L	ac-ft	NL	Groups

SHARED PUBLIC WORKSPACES										
NAME	BEGIN	END	CLONEABLE	USE PROV DATA	LOAD UNITS	WQ UNITS	FLOW VOLUME	TYPE	OWNER	
Brian-sta2	05/01/2011	04/30/2012	Y	N	metric tons	mg/L	cfs	NL	bsmith	➔
ADO-CWPB2	04/10/2014	10/14/2015	Y	N	kg	ppb	ac-ft	NL	cadoris	➔
ADO-L8 Reservoir Inflows	05/01/2014	04/30/2015	Y	N	kg	ppb	ac-ft	NL	cadoris	➔
STA1E DMR	01/01/2012	12/31/2012	Y	N	metric tons	mg/L	cfs	DMR	cescobar	➔
STA1E cloned	05/01/2011		Y	N	metric tons	mg/L	cfs	NL	cescobar	➔
WCA1	01/01/1990	05/23/2013	Y	N	metric tons	mg/L	ac-ft	NL	dmarley	➔
STA_CLD	09/01/1993	12/31/2012	Y	Y	metric tons	ug/L	ac-ft	NL	dmccullo	➔
STA_DP	01/13/2005	12/31/2012	Y	Y	metric tons	ug/L	ac-ft	NL	dmccullo	➔
STA_OP	01/01/2002	03/24/2013	Y	Y	metric tons	ug/L	ac-ft	NL	dmccullo	➔

Nearby Station Look-up

By clicking on the “Vicinity Search” link from the “Miscellaneous Items and Reports” menu, the user can find out which stations are near a given station or coordinate. A variable distance in miles may be entered. The output list may be further filtered by discipline and even further by data type.

sfwmd.gov

DBHYDRO | vicinity station query

STATION:

LATITUDE: (DDMMSS.SS)

LONGITUDE: (DDMMSS.SS)

X COORDINATE: feet (NAD83)

Y COORDINATE: feet (NAD83)

DISTANCE: (Miles)

DISCIPLINE:
 Groundwater
 Hydrogeologic Data
 Surface Water
 Meteorological Data
 Water Quality

DATA TYPE:

After clicking on the “Submit” button, a list of stations within the previously specified distance is displayed.

sfwmd.gov

DBHYDRO | by station

STATION INFORMATION

Get Data	Station	Site	Latitude	Longitude	X Coord	Y Coord	Distance in miles	County	Basin	Section	Township	Range	Show Map	Structure Info	Description
<input type="checkbox"/>	S155_R	S155	263841.237	800318.141	964833.771	841194.44	0.	PAL	C51E	15	44	43	Google Map	Info	S-155 SPILLWAY ON W.P.B. CANAL AT U
<input type="checkbox"/>	S155_S	S155	263841.237	800318.141	964833.771	841194.44	0.	PAL	C51E	15	44	43	Google Map	Info	S-155 SPILLWAY ON W.P.B. CANAL AT U
<input type="checkbox"/>	S155_T	S155	263841.271	800317.663	964877.117	841198.116	.01	PAL	LWLAGOON	15	44	43	Google Map	Info	S-155 SPILLWAY ON W.P.B. CANAL AT U
<input type="checkbox"/>	S155_H	S155	263840.5	800318.544	964797.771	841119.747	.02	PAL	C51E	15	44	43	Google Map	Info	S-155 SPILLWAY ON W.P.B. CANAL AT U
<input type="checkbox"/>	C51S155	S155	263841.541	800317.194	964919.477	841225.771	.02	PAL	LWLAGOON	15	44	43	Google Map	Info	UPSTREAM OF S155 ON C-51 NEAR LAK
<input type="checkbox"/>	G55_S	G55	263841.237	800322.141	964470.802	841191.757	.07	PAL	C51E	15	44	43	Google Map	Info	G-55 SPILLWAY (ONLY) ON W.P.B. CANA
<input type="checkbox"/>	G55_H	G55	263841.237	800322.141	964470.802	841191.757	.07	PAL	C51E	15	44	43	Google Map	Info	G-55 SPILLWAY (ONLY) ON W.P.B. CANAL
<input type="checkbox"/>	G55FB_C	G55FB	263841.237	800322.141	964470.802	841191.757	.07	PAL	C51E	15	44	43	Google Map	Info	G-55 CULVERT (ONLY) ON W.P.B. CANAL
<input type="checkbox"/>	G55_T	G55	263841.237	800322.141	964470.802	841191.757	.07	PAL	C51E	15	44	43	Google Map	Info	G-55 SPILLWAY (ONLY) ON W.P.B. CANAL
<input type="checkbox"/>	PB-56_G	PB-56	263757.243	800338.15	963050.705	836738.585	.91	PAL	C51E	15	44	43	Google Map	Info	PB-56
<input type="checkbox"/>	FHHSWX	FHHSWX	263911.333	800400.924	960929.334	844204.801	.93	PAL	C51E	9	44	43	Google Map	Info	FOREST HILL HIGH SCHOOL WEATHER & ENVIRONMENTAL ACADEMY, CO-OP W/

Query returned 11 records.

3.0 URL-BASED DATA ACCESS

Web Services

If a user frequently accesses a specific DBHYDRO page, the URL can be saved as a browser bookmark or in any document or other web page as a hyperlink. By embedding these hyperlinks in bookmarks or applications, the user can avoid having to navigate through the DBHYDRO menu or Google Earth.

Users have the ability to create their DBHYDRO URLs by knowing the URL syntax.

Note of caution: A valid URL cannot contain a space. What may appear as spaces (“ ”) in these URL examples are actually underscores (“_”).

Extra note of caution: These URLs may change in the future. In such case, this documentation will be updated.

There are four kinds of DBHYDRO URLs:

- water quality results
- hydrologic instantaneous and daily values
- hydrographs
- hydrogeologic summaries

Water Quality Results URLs

Water quality data access is controlled by:

- 1) A base URL

Report	Base URL
full	http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?
cross-tab	http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_process?

and

- 2) a series of URL variables with their corresponding values

URL variable	Definition	Valid Values
v_where_clause	a text string defining which data are to be retrieved and follows the syntax described in the examples below.	<i>may contain references to project_code, station_id, sample_id, test_number, and date_collected.</i>
v_target_code	controls the destination of the output.	screen (<i>output as HTML to your browser</i>) file_csv (<i>a comma separated variable format that is Excel-ready</i>) pdf (<i>portable document format</i>)

URL variable	Definition	Valid Values
v_report	used only with the cross-tab base URL and defines which type of cross-tab report to generate	ctr_1_true (cross-tab one line per sample) ctr_w (<i>cross-tab wide – also better than ctr_1_true when using a single test number but still not as complete as the full report</i>)
v_exc_qc	This will exclude Field QCs; if not included in the URL, or set to N, the report will contain Field QC results. Optional.	N (default) Y
v_exc_flagged	This will exclude Flagged data; if not included in the URL, or set to N, the report will contain flagged data. Optional.	N (default) Y

Examples

Querying by Project Code

The full report for water quality data that have not been flagged can be generated for any project_code (ACMEB in the example below) with the following URL:

http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+project_code='ACMEB'&v_target_code=screen

The plus signs are interpreted as spaces because spaces are not allowed in a URL.

Note: The + signs, representing spaces, may alternatively be encoded as %20 to be properly interpreted by the web server.

Querying by Station

The report for water quality data that have not been flagged can be generated for any station (ORF-62 in the example below) with the following URL:

http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+station_id='ORF-62'&v_target_code=screen

Querying for Multiple Stations

The report for water quality data that have not been flagged is generated for multiple stations with the following URL:

[http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+station_id+in+\('ACRA1','ACRA2'\)&v_target_code=screen](http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+station_id+in+('ACRA1','ACRA2')&v_target_code=screen)

The station list is enclosed by parentheses with each station in single quotes and separated by commas.

Querying by Test Number

Here is an URL for querying chemistry results for project ACRA and test numbers 7 and 25 (water temperature and total phosphorus):

[http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+project_code='ACRA'+and+test_number+in+\(7,25\)&v_target_code=screen](http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+project_code='ACRA'+and+test_number+in+(7,25)&v_target_code=screen)

Querying by Date Range

The user can restrict date ranges. If the user wants to get data only after a certain date, add after “v_where_clause=where”, the following string:

+date_collected+>+'01-JAN-2010'+and+

as follows:

[http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+date_collected+>+'01-JAN-2010'+and+station_id+in+\('ORF-62','ACRA1'\)&v_target_code=screen](http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+date_collected+>+'01-JAN-2010'+and+station_id+in+('ORF-62','ACRA1')&v_target_code=screen)

The user may also use:

+date_collected+<+'01-JAN-2011'+and+

to get data only before a certain date.

Querying by Sample_id

Here is an URL for querying chemistry results having sample_id beginning with P35578:

http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+sample_id+like+'P35578%25'&v_target_code=screen

This query may take a minute or more.

Querying Using Wild cards

To display the data for all stations beginning with the characters ACRAWEL:

[http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+station_id+like+\('ACRAWEL%25'\)&v_target_code=screen](http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+station_id+like+('ACRAWEL%25')&v_target_code=screen)

Note: The % wild card character is encoded as %25 so it may be properly interpreted by the web server.

Saving Results to a .csv File

To write the results directly to a .csv file use a target_code of file_csv as shown here:

[http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+date_collected+>+'01-JAN-2010'+and+station_id+in+\('ORF-62','ACRA1'\)&v_target_code=file_csv](http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_full?v_where_clause=where+date_collected+>+'01-JAN-2010'+and+station_id+in+('ORF-62','ACRA1')&v_target_code=file_csv)

Cross-tab reports exclude qualifiers. **Users do so at their own peril.**

The crosstab reports have a base URL than the full report and an additional variable v_report. The crosstab report syntax is:

[http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_process?v_report=ctr_1_true&v_where_clause=where+test_number=25+and+date_collected+%3e+'01-JAN-2014'+and+station_id+in+\('LOX3'\)&v_target_code=screen](http://my.sfwmd.gov/dbhydroplsql/water_quality_data.report_process?v_report=ctr_1_true&v_where_clause=where+test_number=25+and+date_collected+%3e+'01-JAN-2014'+and+station_id+in+('LOX3')&v_target_code=screen)

Note: The v_where_clause variable for water quality results has additional capabilities not documented here. If you find the capabilities described here insufficient please contact the District.

Hydrologic Instantaneous and Daily Values URLs

Hydrologic instantaneous and daily values data access is controlled by:

- 1) A base URL,
http://my.sfwmd.gov/dbhydroplsql/web_io.report_process? and
- 2) a series of URL variables with their corresponding values

URL variable	Definition	valid value(s)
v_report_type	defines the layout of the report	format6 (<i>one row per value</i>) format7 (<i>one row per day - valid for daily values only</i>)
v_period	allows for a date range from today backward in time or indicates user-defined explicit start and end dates	year (<i>avoid instantaneous dbkeys, use dbkeys of frequency 'DA'</i>) month (<i>the past 30 days from today</i>) 1week (<i>the past 7 days from today</i>) 3day (<i>the past 3 days from today</i>) today (<i>for instantaneous,, typically provisional, data series</i>) uspec (<i>user required to specify both v_start_date and v_end_date</i>)
v_start_date	required when v_period=uspec	yyyymmdd (e.g. 20110415) – <i>only valid when v_period=uspec</i>
v_end_date	required when v_period=uspec	yyyymmdd (e.g. 20110516) – <i>only valid when v_period=uspec</i>
v_target_code	controls the destination of the output	screen file_csv pdf
v_run_mode		onLine (required)
v_js_flag		Y (required)
v_dbkey	the id(s) for the time series	<i>one or more dbkeys separated by '/' (forward slash)</i>

Example

A daily values tabular report is generated for any dbkey (in this example, the dbkey is 15631) and date range with the following URL:

http://my.sfwmd.gov/dbhydroplsql/web_io.report_process?v_period=uspec&v_start_date=20090101&v_end_date=20110430&v_report_type=format6&v_target_code=screen&v_run_mode=onLine&v_js_flag=Y&v_dbkey=15631

Each input variable name, except for the first one, is preceded by the ampersand character and followed by the equals sign ('=').

Hydrographs URLs

Hydrographs generation is controlled by:

- 1) A base URL,
<http://my.sfwmd.gov/dbhydroGraph/servlet/DbhydroGraphServlet.do?> and
- 2) a series of URL variables with their corresponding values

URL variable	Definition	valid value(s)
v_report_type	defines the layout of the report	format6 (<i>required variable but ignored....go figure!!</i>)
v_period	allows for a date range from today backward in time or indicates user-defined explicit start and end dates	year (<i>avoid instantaneous dbkeys, use dbkeys of frequency 'DA'</i>) month (<i>the past 30 days</i>) 1week (<i>the past 7 days</i>) 3day (<i>the past 3 days</i>) today (<i>best for instantaneous data series</i>) uspec (<i>user is required to specify v_start_date and v_end_date</i>)
v_start_date	required when v_period=uspec	yyyymmdd (e.g. 20110415) – only valid when v_period=uspec
v_end_date	required when v_period=uspec	yyyymmdd (e.g. 20110516) – only valid when v_period=uspec
v_target_code	not applicable because 'screen' is the only option	
v_dbkey	the id(s) for the time series	one or more dbkeys separated by '/' (forward slash)

Examples

A hydrograph of the past 7 days of instantaneous near real-time values from the four gages contributing to the Lake Okeechobee daily average is generated as follows:

http://my.sfwmd.gov/dbhydroGraph/servlet/DbhydroGraphServlet.do?v_report_type=format6&v_period=1week&v_dbkey=IX846/IX865/IX875/IY030

Other options for the period for instantaneous data include '3day' and 'today'. Increasing the number of dbkeys and the duration will increase the time it takes to generate the graph. Multiple dbkeys are separated by the forward slash (/) character.

To generate a hydrograph of the past year of daily stage values from four water level gages on Lake Okeechobee, enter the following URL in the browser:

http://my.sfwmd.gov/dbhydroGraph/servlet/DbhydroGraphServlet.do?v_report_type=format6&v_period=year&v_dbkey=16022/12509/12519/16265

Each input variable name, except for the first one, is preceded by the ampersand character and followed by the equals sign ('=').

An error may be encountered if there are no data available for the specified period.

Note: If a  icon appears where the graph should be, refreshing  the user's page may solve the problem. The F5 function key also refreshes the screen in Internet Explorer.

To ensure the user will retrieve the most up-to-date data, be sure to clear the user's web browser cache prior to executing the same URL a second time within the same browser session. In Internet Explorer this is accomplished by accessing 'Tools' from the Internet Explorer menu.

Hydrogeologic Summaries

Hydrogeologic summary pages are controlled by:

A base URL,

- 1) http://my.sfwmd.gov/dbhydroplsql/show_wilma_info.report_process?
and
- 2) a series of URL variables with their corresponding values

URL variable	Definition	valid value(s)
v_output_format	defines the layout of the report	list headerdetail summary <i>corresponding to the three format choices provided in the web browser application</i>
v_station	station name	<i>One or more stations separated by the forward slash "/". No wildcards are allowed here.</i>

Examples:

http://my.sfwmd.gov/dbhydroplsql/show_wilma_info.report_process?v_output_format=summary&v_station=LYTAL-TW

4.0 CONTACT INFORMATION

Application Enhancements

The District's Enterprise Scientific Data Manager, Brian Turcotte (561-682-6579; bturcott@sfwmd.gov), is the primary point of contact to discuss or suggest areas for improvement. SFWMD employees may also call the IT Help Desk, send an email to the "IT Help Desk", or log their own Remedy Help Desk requests or software bug reports.

Training

The SFWMD offers *Introduction to DBHYDRO* training. District employees interested in this course should contact their training coordinator to register and sign up for course number 50015360. Non-District individuals should contact Sharon Peterkin (561-686-8800 x4594; speterk@sfwmd.gov) to reserve a seat in a class.

Data Requests and Inquiries

The District's Staff Environmental Scientist, Sharon Peterkin (561-686-8800 x4594, speterk@sfwmd.gov), is the primary point of contact to assist users in data acquisition, to report questionable data, or to route data inquiries to the appropriate data steward.

5.0 APPENDICES

Appendix A - Water Quality Report Column Descriptions

PROJECT CODE

A short identifier given to a collection of samples from a group of related stations. The code identifies project-specific samples. The code is typically derived from the project description. e.g. "ENRP" is the project code for samples collected in the "Everglades Nutrient Removal Project".

STATION ID

Identifies the sampling station name for the water quality data sample collection activity.

SAMPLE ID

Identifies a discrete sample within a project. Usually sequential numbers 00001 - 99999.

FIRST TRIGGER DATE

Populated for autosampler data

COLLECTION DATE

Date and time the sample was collected by the field person.

SAMPLE TYPE NEW

Keeps track of the kind of sample and is considered more technically correct than the sample type numeric code.

COLLECTION METHOD

The method by which the sample was collected. For example, 'G' means grab sample. Codes are listed in the metadata listings pages.

DEPTH

The depth below the water surface at which the sample was taken.

DEPTH_UNITS

The units of measure of the depth value.

MATRIX

The substance in which the analyte was present.

TEST_NUMBER

Numeric code used to identify individual tests within the laboratory. e.g. 25 = TPO4 "Total Phosphorus".

TEST NAME

A description of the test performed.

STORET CODE

The Environmental Protection Agency five character legacy code for the corresponding result.

METHOD

The method by which the sample was analyzed.

MEASURE DATE

The date the laboratory analysis was conducted.

VALUE

Numeric field which contains the result analyzed for a specific test.

UNCERTAINTY

The reporting of estimated analytical measurement uncertainty values for all analytes was implemented at the SFWMD Chemistry Laboratory in July 2012. The values entered into DBHYDRO for the District's laboratory reflect only analytical uncertainty (i.e., without the contributions from field activities). The uncertainty has a probabilistic basis and reflects incomplete knowledge of the quantity. All measurements are subject to uncertainty and a measured value is only complete if it is accompanied by a statement of the associated uncertainty.

The uncertainty value in DBHYDRO has been estimated using the nested hierarchical methodology by Ingersoll (2001) in combination with a mathematical model found in the Eurachem/CITAC (2000) guide on uncertainty. This QC-based nested approach uses the statistical QC data attributed to laboratory measurement activities and does not include uncertainty attributed to field sampling activities. The estimated uncertainty is calculated using the following equation:

$$u(x) = \sqrt{s_0^2 + (s_1^2 x^2)}$$

in which:

$u(x)$ is the combined standard uncertainty in the result x .

s_0 is a constant contribution to the overall uncertainty derived from the procedure to determine the MDL.

s_1 is a proportionality constant derived from nested hierarchical methodology by Ingersoll.

Many factors contribute towards deviation from the true value of the measurement including:

- Imperfections in the measuring instrument
- Imperfections in the measurement method
- Operator effects

MDL

Method Detection Limit. Is peculiar to each laboratory and is calculated based on statistical analysis of the results of repeated analyses of the same standard. "The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte. The MDL for an analytical procedure may vary as function of sample type. The procedure requires a complete, specific, and well defined analytical method. It is essential that all sample processing steps of the analytical method be included in the determination of the method detection limit."--- CFR Part 136 Appendix B (revised July 1998)

PQL

Practical Quantitation Level. One may estimate the quantitation limits as 4 to 10 times the method detection limit if the matrix is ground water or low-concentration soil, and 500 times the method detection limit for VOC*s in water-miscible liquid waste. In setting a quantification level, the agency must consider the achievability of the value by competent commercial laboratories.

RDL

This value is the Reportable Detection Limit and is the lowest value the analyst has confidence reporting.

UNITS

Contains the units in which a test value is reported by the laboratory (SFWMD or contractor) e.g. micro g/L. Ideally, all units for a given test should be reported the same. When a lab gives us different units for a test it should trigger a review of the value so we make sure the data set is consistent with respect to units.

REMARK_CODE

Comprised of zero, one, or more data qualifiers as applied by the lab or project manager. The list of data qualifiers and their meaning, except for PMR and PMF, are approved by Florida DEP. Qualifiers are important factors that any data user should be aware of, and neglecting them is perilous and fails to recognize that they are the single most important tool for data validation. No one should ever use data without reviewing all of the qualifiers (and associated sample qualifier comments) very closely.

FLAG

Indicates data are excluded from certain analyses based on interagency agreement. The user's criteria may be different. This column is for internal use only. The user should review the REMARK CODE and COMMENTS fields on every result. See REMARK_CODE description above.

LIMS_NUMBER

Unique string generated by the laboratory at sample log in. Used to identify a discrete sample and all results for a sample. e.g. "1345-670"

SOURCE

Identifies the source laboratory of the sample data. e.g. "USGS" indicates data came from the United States Geological Survey.'

OWNER

Typically the organization which paid for the analysis.

VALIDATION LEVEL

The degree to which validation occurred. Codes are listed in the metadata listings.

VALIDATOR

The organization responsible for the validation of result.

SAMPLING PURPOSE

The purpose of the sample provides context for potential re-use of the data for other purposes.

DATA INVESTIGATION

Indicates whether the data have been subject to additional investigation subsequent to validation. Presence of the indicator helps prevent unnecessary re-investigations of data. Results of investigations are kept on file for future inquiries.

TDEPTH

The total depth of the water column at the location of the sample.

DCS

DCS is depth to consolidated substrate. Values are in meters.

SAMPLE TYPE

Two digit number for legacy applications. Information embedded here is contained explicitly in other report columns.

QCTYPE

Indicates sample is a QC sample otherwise null. e.g. EB = Equipment Blank.

DISCHARGE

A code representing a visual observation of flow at the time of sample collection (required only when grab samples are collected). The observation is made from where the sampling personnel stand to collect the sample. There is no requirement to use any

procedure to help in the determination of flow such as using sand or a dye to determine flow.

Valid codes are:

- 0** Undefined, no observation, no sample is collected or EB, FCEB and FB sample types (The code for discharge is recorded as a "0" for coastal sample collection, autosampler collection, rain sample collection, or if no observation is made).
- 1** Flow
- 2** No Flow
- 3** Reverse Flow

UP DWN STREAM

Indicates where a sample was collected with respect to a control structure. If downstream and flowing then higher turbidity may be expected. Codes are 0 = Undefined, 1 = Upstream, 2 = Downstream.

WEATHER CODE

The code for weather is recorded for grab sample collections only and must represent a visual observation of the ambient weather at the time of sample collection. Valid codes are:

- 0** Autosampler collection, rain sample collection, QC samples (EB, FCEB, and FB) or no observation is made
- 1** Clear Skies
- 2** Slight Overcast
- 3** Medium Overcast
- 4** Very Overcast
- 5** Drizzle (*Note:* measures must be taken to protect sample from contamination and *must be documented*)
- 6** Rain (*Note:* measures must be taken to protect sample from contamination and *must be documented*)

PROGRAM TYPE

Distinguishes routine monitoring data from experimental data.

Appendix B - Unit Conversions

Length

1 meter = 3.281 feet

Area

1 acre = 43,560 square feet

Volume

1 cfs-day = 86,400 cubic feet

1 cubic foot = 7.481 gallons

1 acre-foot = 43,560 cubic feet

1 acre-foot = 325,900 gallons

Temperature

[°Fahrenheit] = [°Celsius] $\times \frac{9}{5}$ + 32

[°Celsius] = ([°Fahrenheit] - 32) $\times \frac{5}{9}$

Appendix C - Unit Abbreviations/Symbols

Symbol	Unit of Measurement
mg/L	milligrams per liter
ug/L	micrograms per liter
ng/L	nanograms per liter
g/cc	grams per cubic centimeter
uS/cm	microsiemens per centimeter
ug/kg	micrograms per kilogram
mm	millimeters
ft	feet
ft NAVD88	feet North American Vertical Datum 1988
ft NGVD29	feet National Geodetic Vertical Datum 1929
cfs	cubic feet per second

Appendix D - Acronyms Used in Metadata

The acronyms, or abbreviations, below may appear in database text fields including, but not limited to, station descriptions, project descriptions, sample comments, and result comments.

Acronym	Description
A/S or AS	Autosampler
ACF	Autosampler Composite Flow
ACODES	Analysis Code
ACS	American Chemical Society
ACT	Autosampler Composite Time
ADT	Autosampler Discrete Time
ASEB	Autosampler Equipment Blank
ATF	Autosampler Composite Time Flow
AFW	Analyte Free Water
BWF/M	Bi-Weekly Flow or at Least Monthly Collection
BWRF	Bi-Weekly Recorded Flow
CCV	Continuing Calibration Verification
CH/DH	Clean Hands / Dirty Hands
COC	Chain of Custody
COND	Specific Conductance
CR10	Campbell Remote Scientific Data Logger
DBHYDRO	SFWMD's Water Quality and Hydrological Database
DCS	Depth to Consolidated Substrate
DEP	Department of Environmental Protection
DI	De-Ionized
DO	Dissolved Oxygen
DQOs	Data Quality Objectives
DS	Discharge or flow code
DVS	Data Validation Section
EB	Equipment Blank
EFA	Everglades Forever Act
EMRP	Environmental Monitoring Review Process
EMRT	Environmental Monitoring Review Team
EVPA	Everglades Protection Area
F	Filter (preservation code)
FAC	Florida Administrative Code
FAV	Floating Aquatic Vegetation
FB	Field Blank
FCEB	Field Cleaned Equipment Blank
FD	Field Duplicate
FDEP	Florida Department of Environmental Protection
FOC	Field Operations Center
FPM	Field Project Manager
FSQM	Field Sampling Quality Manual
FST	First Sample Trigger

Acronym	Description
ft	feet (measurement)
FTR	Field Test Report
GPS	Global Positioning System
H2SO4	Sulfuric Acid
HCL	Hydrochloric Acid
HFDM	Horizon Field Data Manager
HNO3	Nitric Acid
HW	Headwater (water level or stage upstream of a structure)
IC	Initial Calibration
ICV	Initial Calibration Verification
ID	Identification
KCl	Potassium Chloride
LDO	Luminescent Dissolved Oxygen
LIMS	Laboratory Information Management System
LST	Last Sample Trigger
m	meter (measurement)
Maint	Maintenance (abbreviation)
MOSCAD RTU	Motorola SCADA Remote Terminal Unit
MDL	Method Detection Limit
NA	Nitric Acid (preservation code)
NIST	National Institute of Standards and Technology
NOB	No Sample Bottle
PAR	Photosynthetically Active Radiation
PSR	Pre-login Summary Report
PVC	Polyvinyl Chloride
QA	Quality Assurance
QC	Quality Control
QAO	Quality Assurance Officer
RPD	Relative Percent Difference
RS	Replicate Sample
RSD	Relative Standard Deviation
RTU	Remote Terminal Unit
SA	Sulfuric Acid (preservation code)
SAV	Submerged Aquatic Vegetation
SCADA	Supervisory Control and Data Acquisition
SDD	Secchi Disk Depth
SFWMD	South Florida Water Management District
SSID	Standard Set Identification Number
SOB	Secchi On Bottom
SOP	Standard Operating Procedure
SPR	Sample Problem Report
SS	Split Sample
STA	Stormwater Treatment Area
STS	Science Technician Supervisor
TD	Total Depth

Acronym	Description
TOC	Technical Oversight Committee
TW	Tailwater (water level or stage downstream of a structure)
UD	Reference-to-structure designation code (Upstream/Downstream/Undefined)
USB	Universal Serial Bus
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WQB	Water Quality Bureau
WCA	Water Conservation Area
WQM	Water Quality Monitoring



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