DBHYDRO Browser User's Guide

August 2020 (revised)

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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".

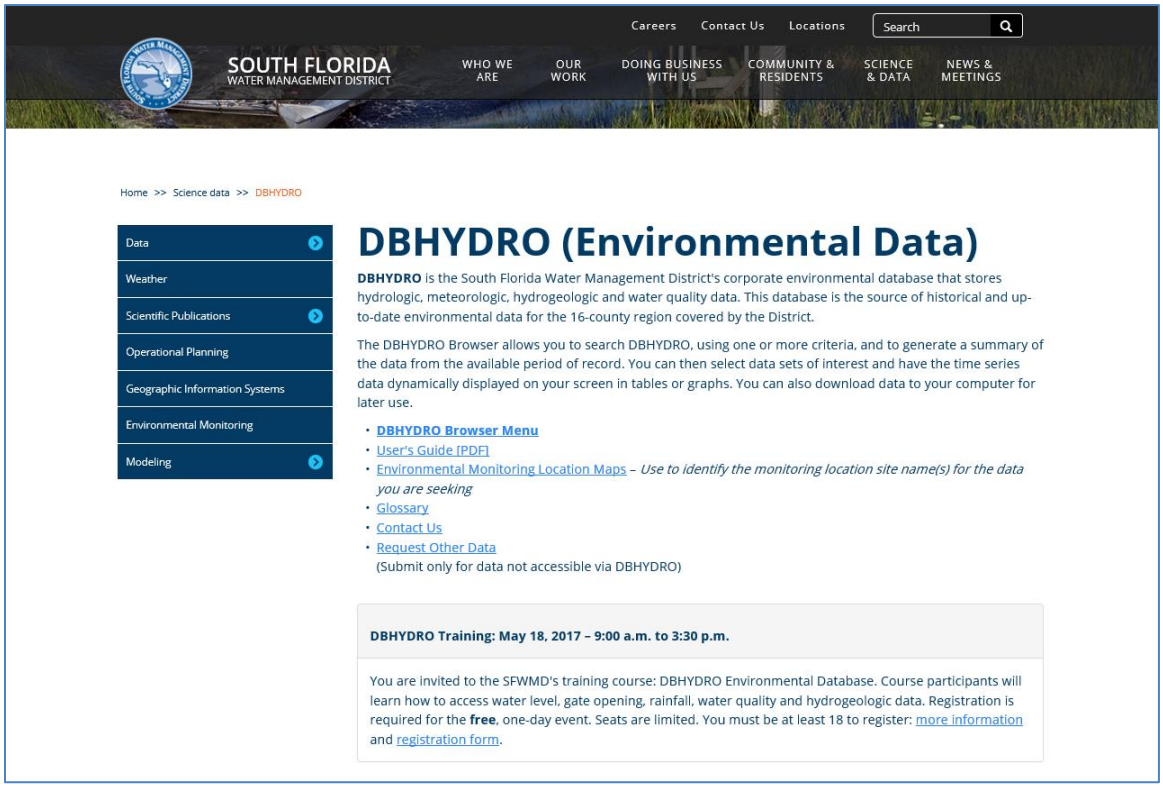
DBHYDRO Browser

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.

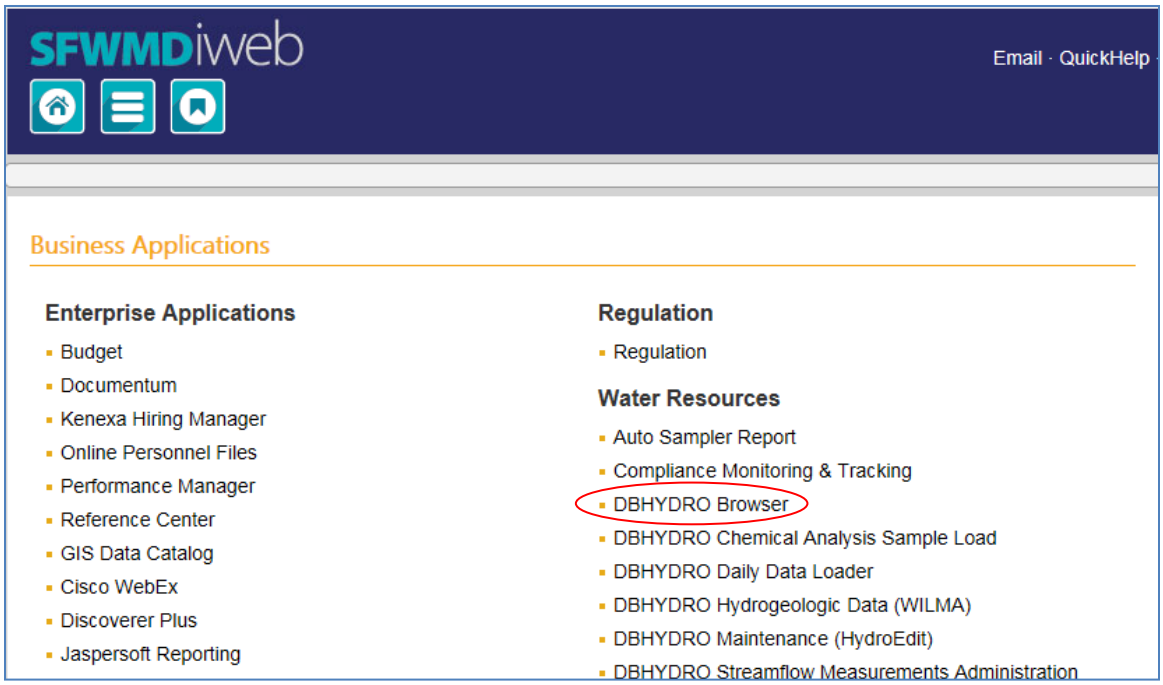
[1] The SFWMD provides copies of data stewarded by other agencies as an enhanced service to its users. The authoritative source of data stewarded by other agencies is the system of record as determined by that particular agency.

Getting Started

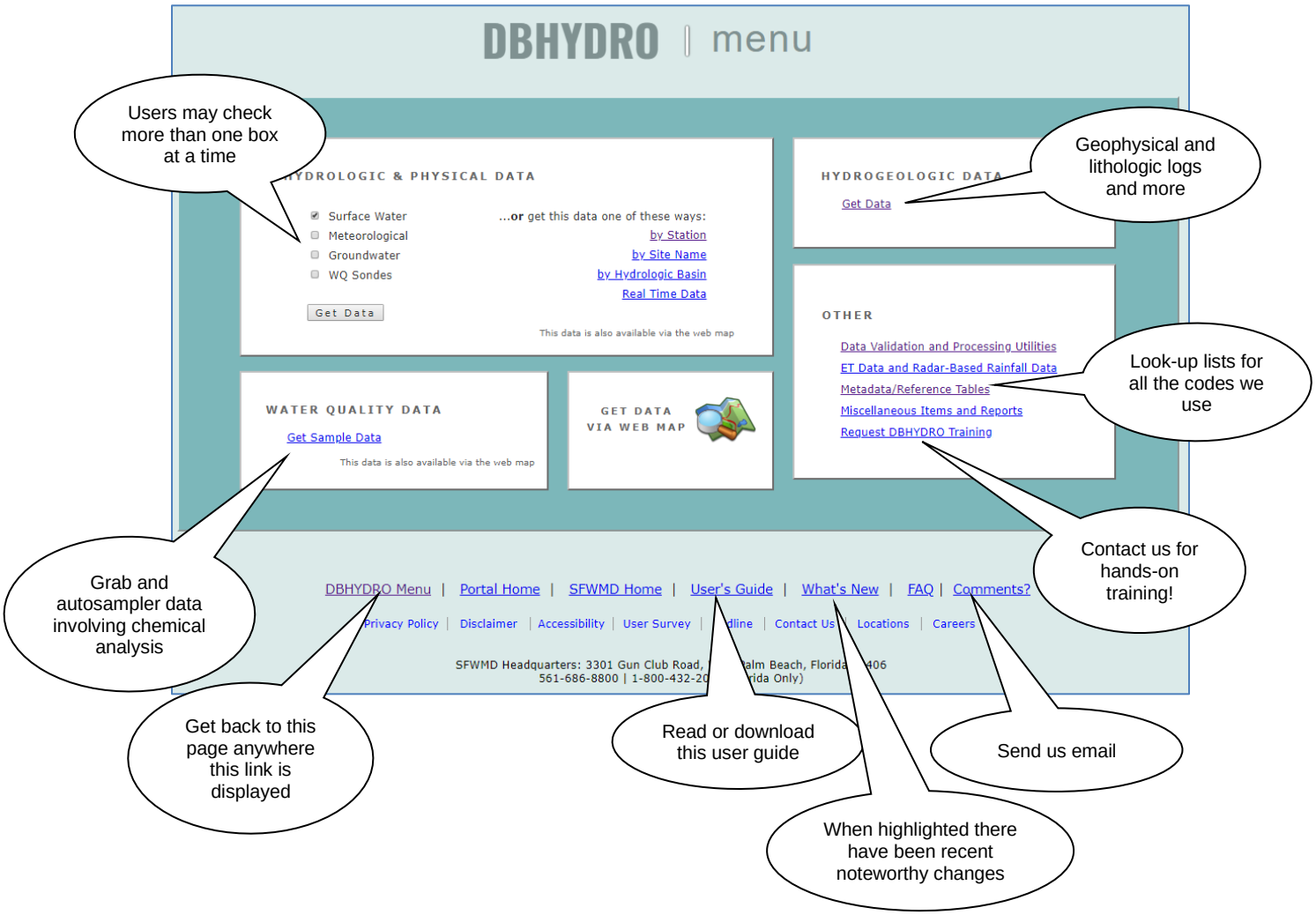
Internet access for DBHYDRO is provided at http://www.sfwmd.gov/dbhydro.



District employees or any user authenticated on the SFWMD computer network may also start the DBHYDRO Browser by first selecting "Tools and Resources" on the District's internal portal, then select "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").



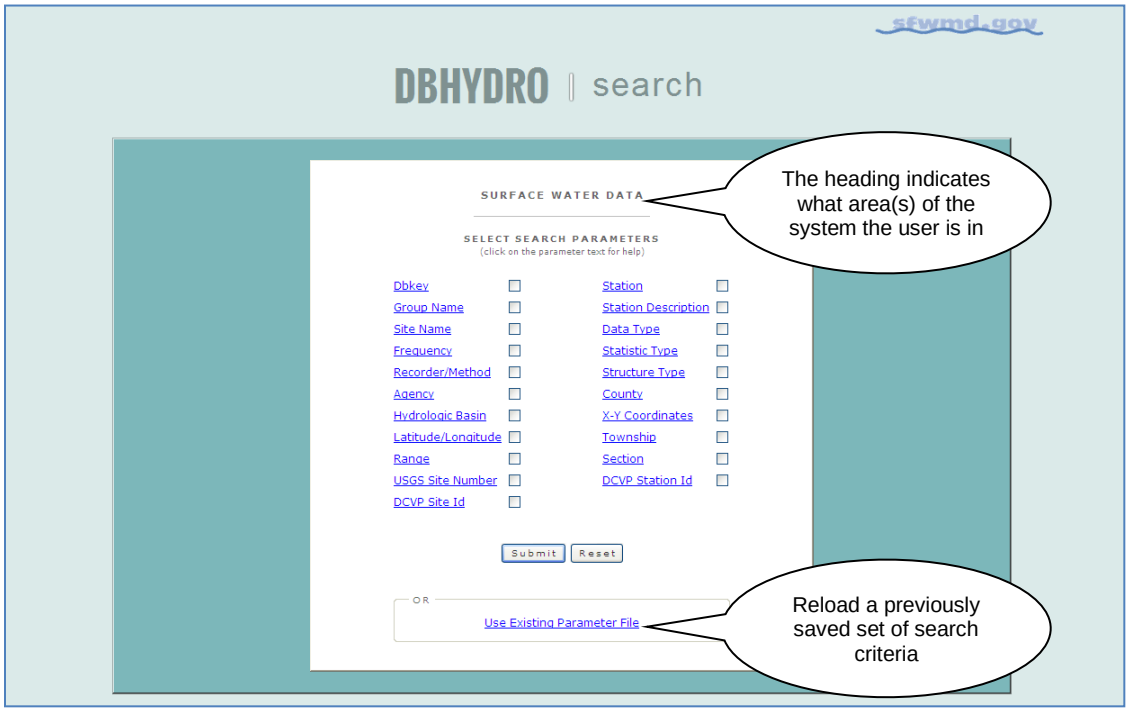
2.0 MENU-BASED DATA ACCESS

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.

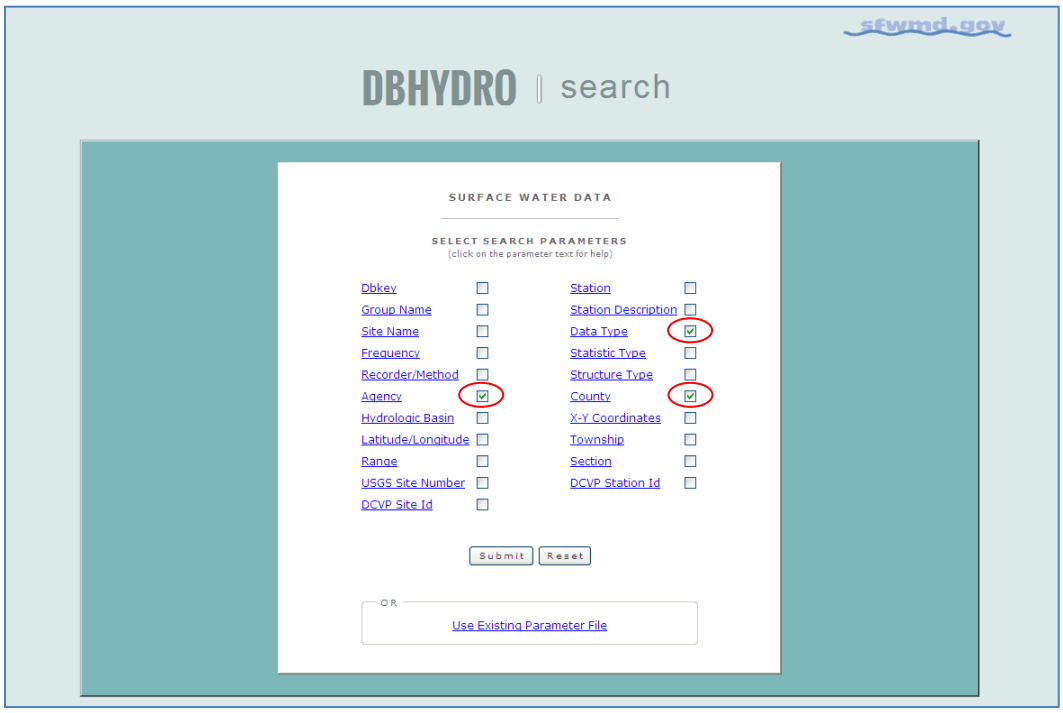
For example, checking the "Surface Water" checkbox and then clicking on the "Get Data" button leads to the following page:



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:

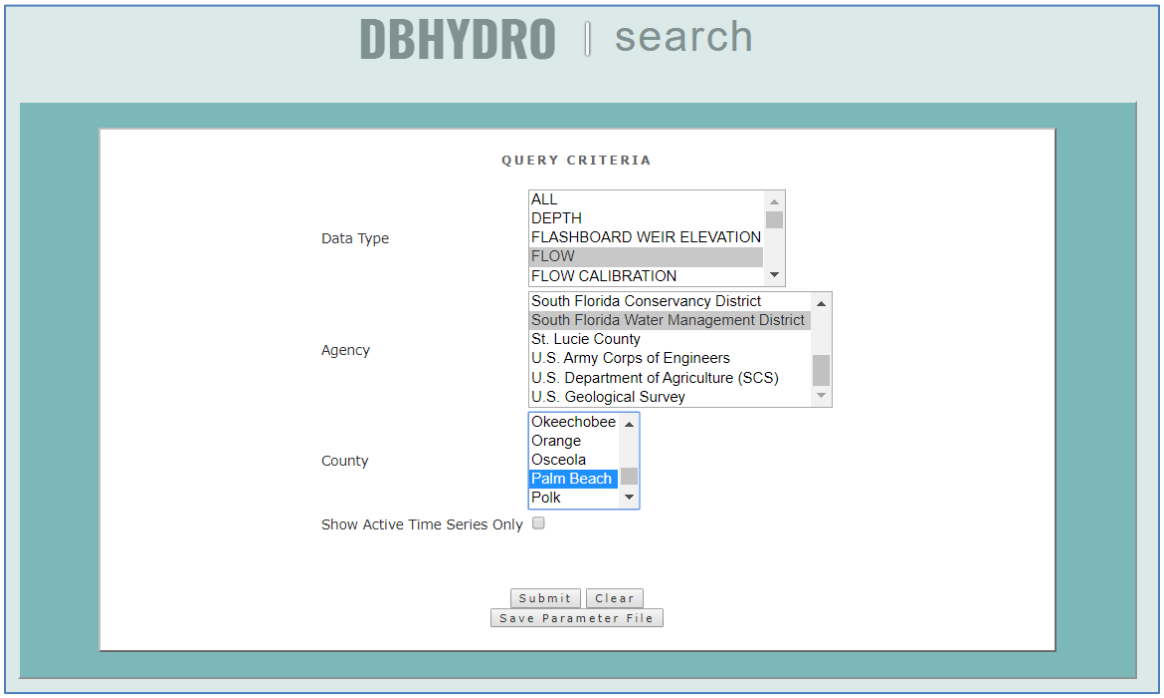


Clicking on the "Submit" button provides the presented information:

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:



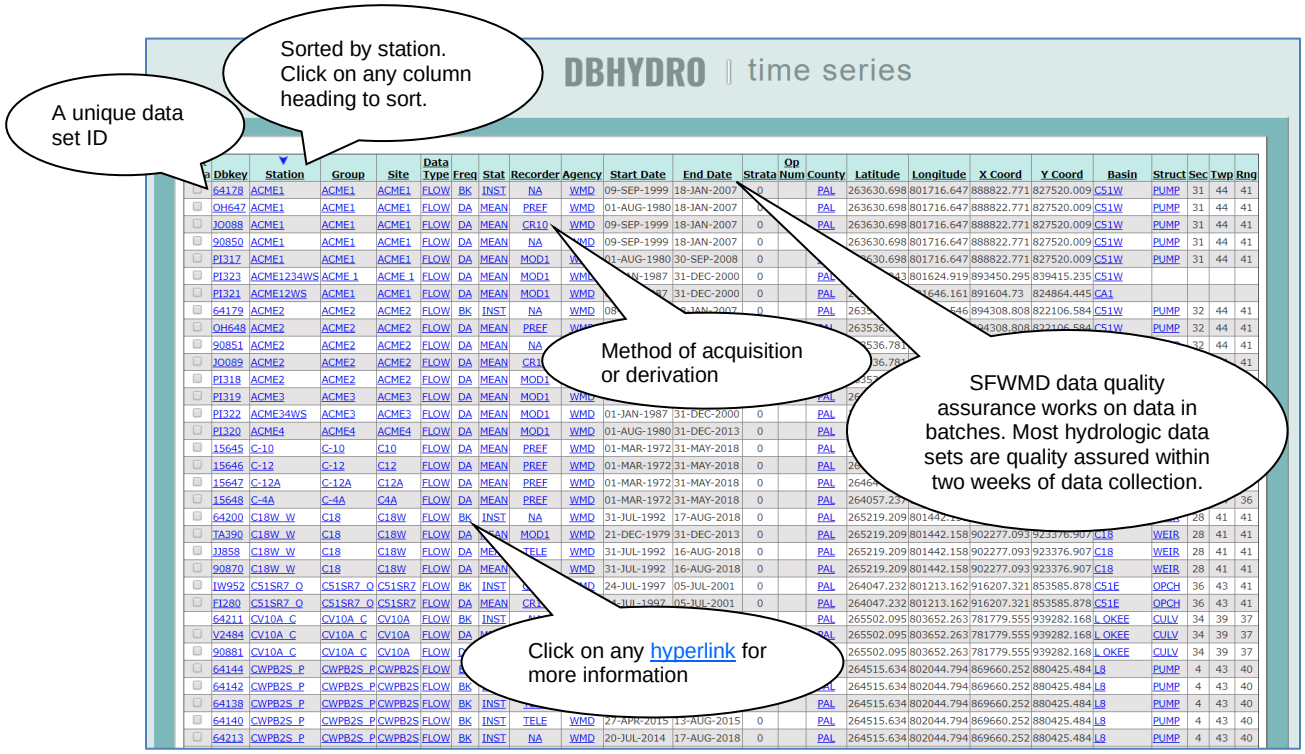
In the above example, SFWMD surface water flows in Palm Beach County are selected. At this point, the parameter file may be saved, allowing the selected criteria to be stored in a file on the user's individual computer or server, such that the criteria may be recalled for future access. This feature 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.

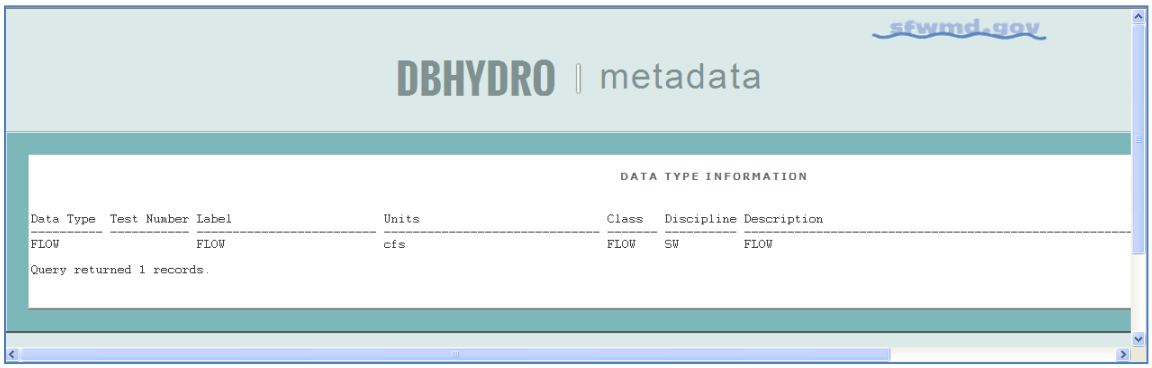
Frequent users may bypass the next screen to more directly retrieve needed data. This is useful if the user knows that the query will return only a few data sets interactively or wants to submit a batch request. To use the bypass feature, select the radio button marked "Get All Data". In the example 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:



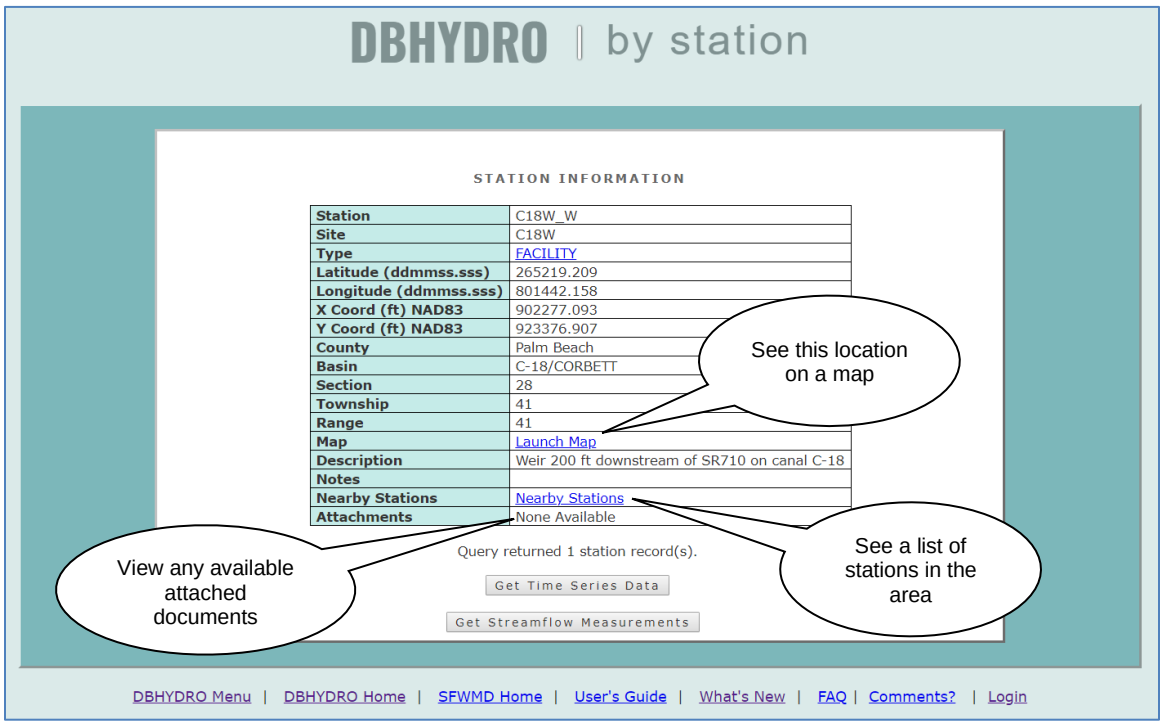
The user can also click on the heading of any column in order to sort the list by that particular column. The "Station" column is used by default as indicated by the arrow ▼ above the column heading. Each of the underlined fields is hyperlinked to additional information that explains its meaning.

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:



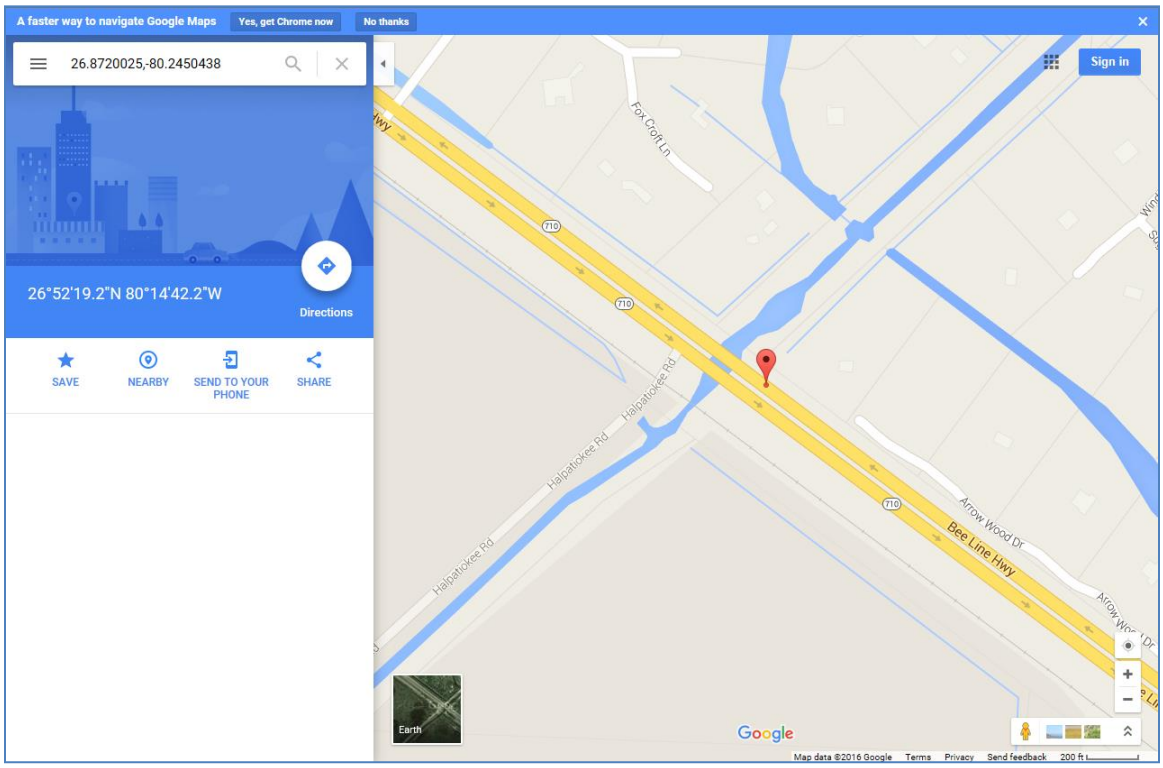
DBHYDRO Browser similarly links to additional information for all the other hyperlinked time series attributes.

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. If direct field measurements of discharge data are available a "Get Streamflow Measurements" button will 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

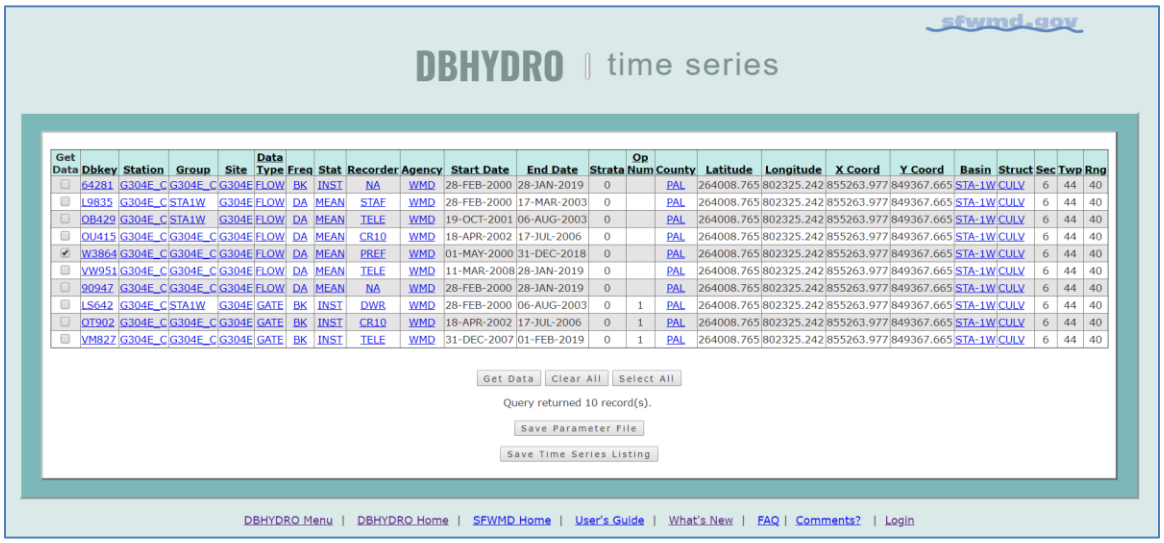
Get Data	Station	Site	Type	Latitude ddmmss.sss)	Longitude (ddmmss.sss)	X Coord (ft)	Y Coord (ft)	Distance (miles)	County	Basin	Sec	Twp	Rng	Show Map	Description
	C18W_W	C18W	FACILITY	265219.209	801442.158	902277.093	923376.907	0.00	Palm Beach	C-18/CORBETT	28	41	41	Map	Weir 200 ft downstream of SR710 on canal C-18
	C18W_R	C18W	LAND	265219.209	801442.158	902277.093	923376.907	0.00	Palm Beach	C-18/CORBETT	28	41	41	Map	CANAL C18 WEIR BELOW BEELINE HIGHWAY, RAINFALL
	C18	C18	CANAL	265219.758	801443.945	902114.843	923431.276	0.03	Palm Beach	C-18/CORBETT	28	41	41	Map	CANAL C18 WEST AT SR710 NR JUPITER,FL
	C18SR710	C18	CANAL	265219.757	801443.946	902114.843	923431.276	0.03	Palm Beach	C-18/CORBETT	28	41	41	Map	AT THE POINT WHERE C-18 PASSES UNDER SR710
	C18W_H	C18W	CANAL	265221.804	801442.384	902256.879	923640.674	0.05	Palm Beach	C-18/CORBETT	28	41	41	Map	CANAL C18 WEIR BELOW BEELINE HIGHWAY, HEADWATER
	C18W_T	C18W	CANAL	265222.798	801441.029	902378.984	923741.743	0.07	Palm Beach	C-18/CORBETT	28	41	41	Map	CANAL C18 WEIR BELOW BEELINE HIGHWAY, TAILWATER
	MFET09-PZ1	MFET09	WELL	265113.43	801607.027	894631.8	916691.5	1.92	Palm Beach	C-18/CORBETT	5	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB7-GW1	MFEB7	WELL	265028.654	801437.464	902770.6	912217.7	2.12	Palm Beach	C-18/CORBETT	4	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB7-GW2	MFEB7	WELL	265028.551	801437.469	902770.2	912207.3	2.12	Palm Beach	C-18/CORBETT	4	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB7-GW3	MFEB7	WELL	265028.45	801437.478	902769.4	912197.1	2.13	Palm Beach	C-18/CORBETT	4	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB6-GW2	MFEB6	WELL	265206.41	801649.738	890733	922019.1	2.20	Palm Beach	C-18/CORBETT	31	41	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB6-GW3	MFEB6	WELL	265206.481	801649.803	890727.1	922026.3	2.20	Palm Beach	C-18/CORBETT	31	41	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB6-GW1	MFEB6	WELL	265206.417	801649.86	890722	922019.8	2.20	Palm Beach	C-18/CORBETT	31	41	41	Map	MECCA FLOW EQUALIZATION BASIN
	PB-1525	PB1525	WELL	265259.073	801233.561	913897.278	927473.167	2.33	Palm Beach	C-18/CORBETT	24	41	41	Map	PB1525, GROUNDWATER MONITORING SITE (HOWDI:265256080
	MFEB1-GW2	MFEB1	WELL	265113.656	801640.556	891594.9	916696.9	2.38	Palm Beach	C-18/CORBETT	5	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB1-GW3	MFEB1	WELL	265113.646	801640.686	891583.1	916695.8	2.39	Palm Beach	C-18/CORBETT	5	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFEB1-GW1	MFEB1	WELL	265113.624	801640.913	891562.6	916693.5	2.39	Palm Beach	C-18/CORBETT	5	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFET03-PZ1	MFET03	WELL	265034.361	801607.749	894589.1	912746	2.49	Palm Beach	C-18/CORBETT	5	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFET02-PZ1	MFET02	WELL	265034.288	801608.463	894524.5	912738.3	2.50	Palm Beach	C-18/CORBETT	5	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	MFET01-PZ1	MFET01	WELL	265034.471	801611.212	894275.4	912755.3	2.52	Palm Beach	C-18/CORBETT	5	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	PB-1553	PB-1553	WELL	265444.204	801519.159	898840.357	937998.302	2.85	Palm Beach	JUPITER FARMS	16	41	41	Map	PB -1553
	PB-1524	PB-1524	WELL	265444.204	801519.159	898840.357	937998.302	2.85	Palm Beach	JUPITER FARMS	16	41	41	Map	PB -1524
	PB-1552	PB-1552	WELL	265444.21	801519.17	898839.514	937998.735	2.85	Palm Beach	JUPITER FARMS	16	41	41	Map	PB -1552
	MFET10-PZ1	MFET10	WELL	265011.893	801609.165	894473.9	910476.5	2.86	Palm Beach	C-18/CORBETT	8	42	41	Map	MECCA FLOW EQUALIZATION BASIN
	PBPOC_OW	PB_POC	WELL	265418.463	801627.861	892636	935362.768	2.92	Palm Beach	C-18/CORBETT	18	41	40	Map	PALM BEACH PARK OF COMMERCE
	PBPOC_PW	PB_POC	WELL	265418.463	801627.861	892636	935362.768	2.92	Palm Beach	C-18/CORBETT	18	41	41	Map	PUMPING WELL FOR PALM BEACH PARK OF COMMERCE APT (1981
	PB-1550	USGS-14	WELL	265125.21	801726.17	887440.456	918848.630	2.93	Palm Beach	C-18/CORBETT	6	42	41	Map	USGS WELL #14 SFWMD ID #000-22

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.

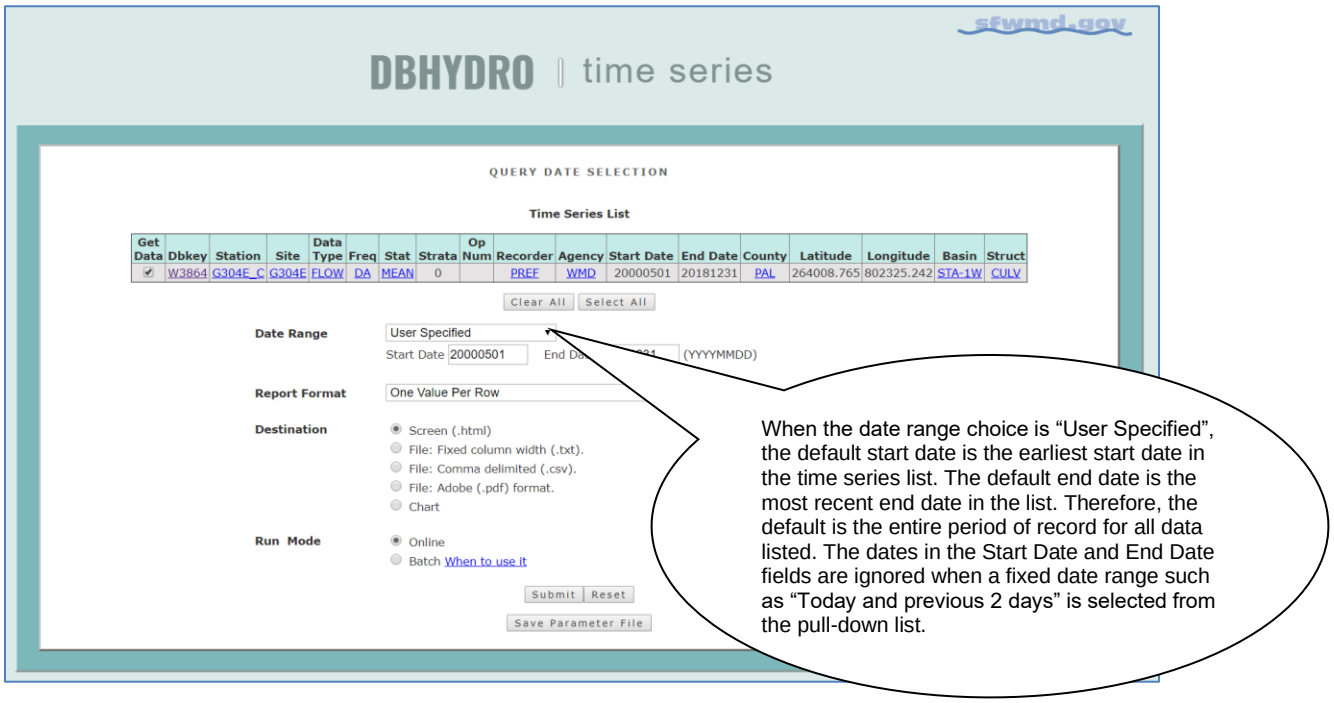
Up to 100 rows of metadata will be displayed on each page. Data from different pages must be retrieved separately. Alternatively, the user can refine the query so that fewer metadata rows are displayed to fit on one page. In this case, scroll down and click on the "Get Data" button that is displayed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



Get Data	Dbkey	Station	Group	Site	Data Type	Freq	Stat	Recorder	Agency	Start Date	End Date	Strata	Op Num	County	Latitude	Longitude	X Coord	Y Coord	Basin	Struct	Sec	Twp	Rng
☐	64281	G304E_C	G304E_C	G304E	FLOW	BK	INST	NA	WMD	28-FEB-2000	28-JAN-2019	0		PAL	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6	44	40
☐	L9835	G304E_C	STA1W	G304E	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	44	40
☐	OB429	G304E_C	STA1W	G304E	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	44	40
☐	OU415	G304E_C	G304E_C	G304E	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	44	40
☑	W3864	G304E_C	G304E_C	G304E	FLOW	DA	MEAN	PREF	WMD	01-MAY-2000	31-DEC-2018	0		PAL	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6	44	40
☐	VW951	G304E_C	G304E_C	G304E	FLOW	DA	MEAN	TELE	WMD	11-MAR-2008	28-JAN-2019	0		PAL	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6	44	40
☐	90947	G304E_C	G304E_C	G304E	FLOW	DA	MEAN	NA	WMD	28-FEB-2000	28-JAN-2019	0		PAL	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6	44	40
☐	LS642	G304E_C	STA1W	G304E	GATE	BK	INST	DWR	WMD	28-FEB-2000	06-AUG-2003	0	1	PAL	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6	44	40
☐	OT902	G304E_C	G304E_C	G304E	GATE	BK	INST	CR10	WMD	18-APR-2002	17-JUL-2006	0	1	PAL	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6	44	40
☐	VM827	G304E_C	G304E_C	G304E	GATE	BK	INST	TELE	WMD	31-DEC-2007	01-FEB-2019	0	1	PAL	264008.765	802325.242	855263.977	849367.665	STA-1W	CULV	6	44	40

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.

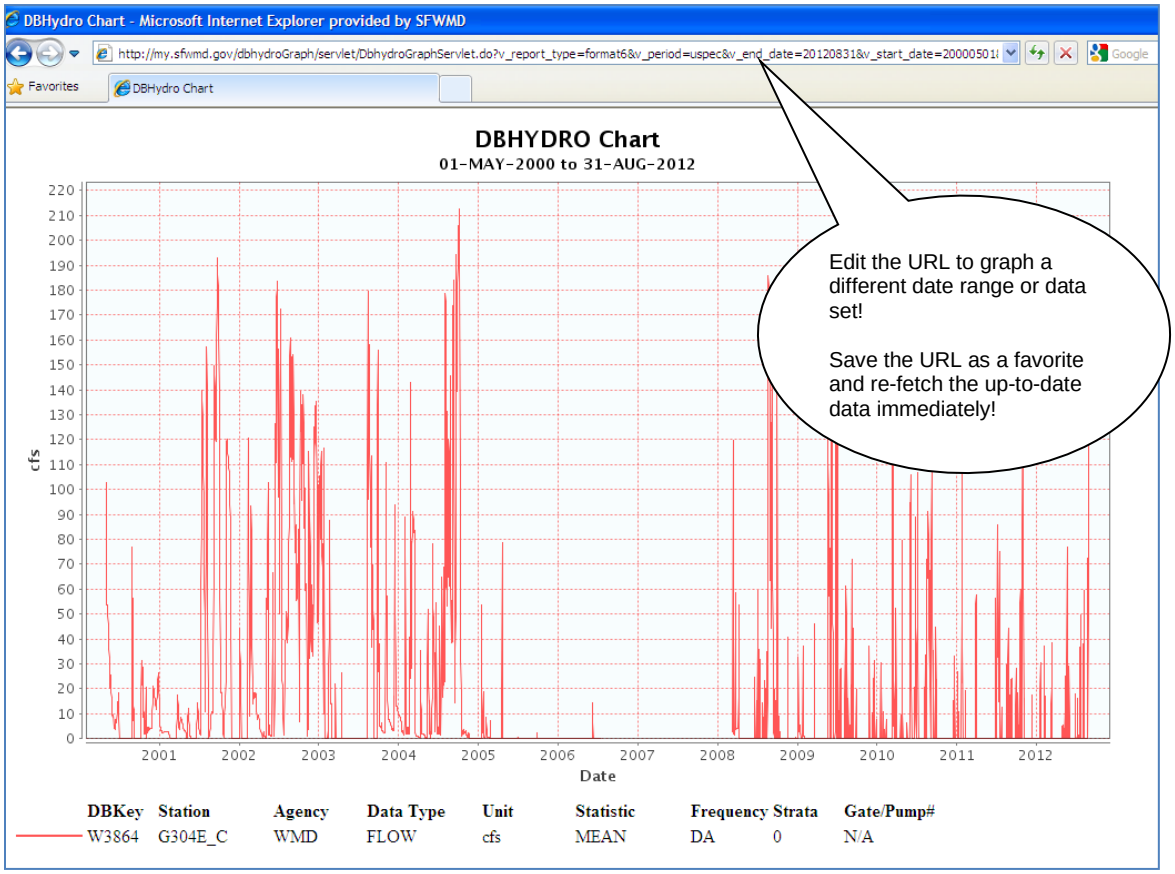
Once the "Get Data" button is pressed, the date range selection and format selection screen is now displayed:



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

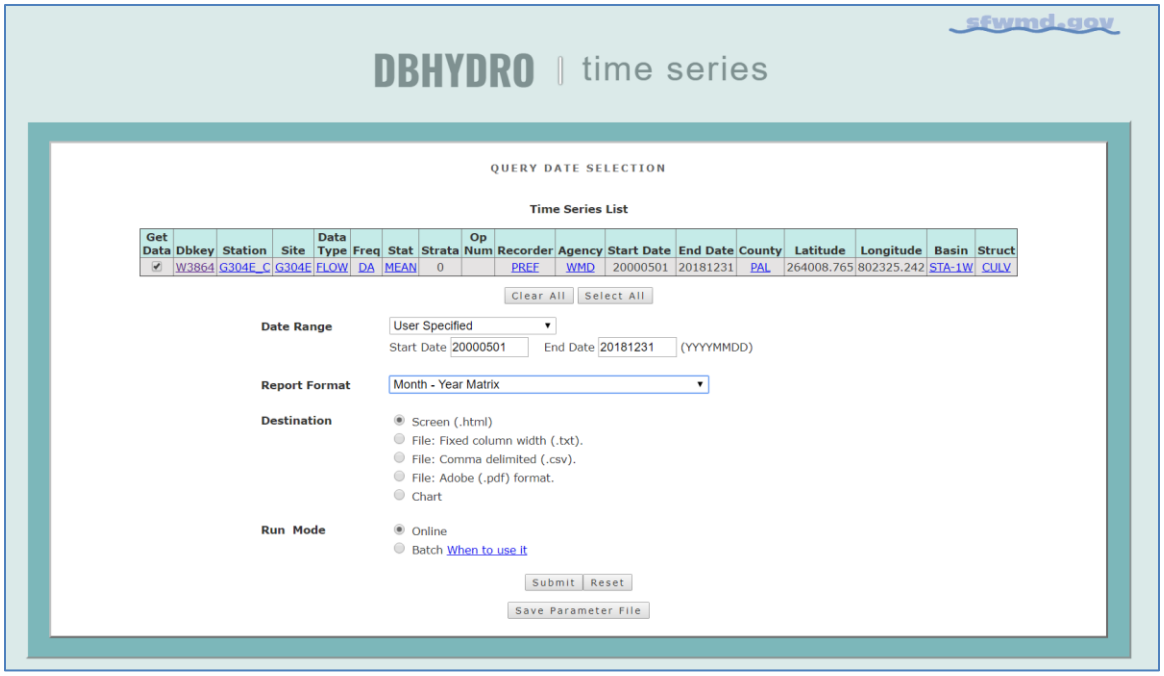
Clicking on the "Chart" button under "Destination" results in the following type of graph:



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.



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.

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

YEAR: 2000

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	.74	16.82
3	M	M	M	M	95.54	8.81	.00	.00	10.26	.00	.33	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	4.99	.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	10.48	4.26	16.84
22	M	M	M	M	23.59	13.93				9.27	4.26	18.57
23	M	M	M	M	25.76	14.71				7.44	4.26	20.30
24	M	M	M	M	22.82	13.14				.50	4.26	22.03
25	M	M	M	M	19.96	11.41				.88	4.26	23.76
26	M	M	M	M	18.28	12.64				.12	4.26	25.49
27	M	M	M	M	16.56	18.52				.08	4.72	26.38
28	M	M	M	M	14.82	17.20				.63	6.69	24.10
29	M	M	M	M	13.08	16.33				2.05	8.98	21.51
30	M		M	M	11.23	7.65				5.27	11.47	18.92
31	M		M		9.29					20.67		16.32
MAX	M	M	M	M	102.85	18.52		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	.33	11.82
SUM	M	M	M	M	1218.86	268.06	.00	235.89	58.93	321.84	133.82	555.69

The codes that may appear adjacent to the values are listed here

DATA TAG LEGEND

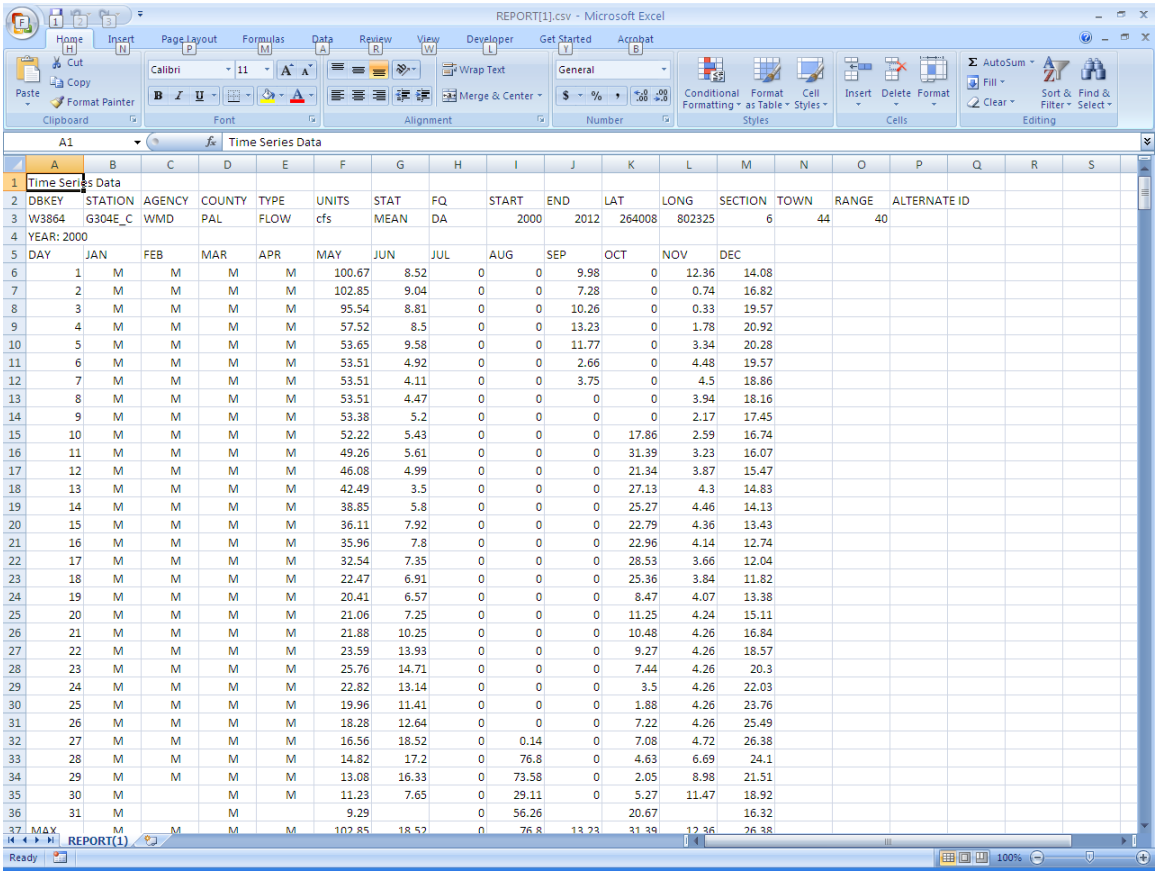
! - "Normal" Limits Exceeded
< - Less Than
> - Greater Than
? - Questionable (Do Not Use)
A - Accumulated (rainfall)
E - Estimated
I - Inserted (estimated) During Data Processing
J - Estimated (water quality)
L - Line-Average
M - Missing

DATA TAG LEGEND

N - Not Yet Available
P - Partial Record or USGS Provisional Data
R - Rainfall was observed (for evaporation data)
S - Original Had More Than 5 Significant Digits
T - Trace Of Precipitation
U - Uncertified by SFMWD (continuous data series)
V - Verified
X - Included In Next Amount Marked 'A'
Y - Provisional Use For Regional Scale Modeling
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.

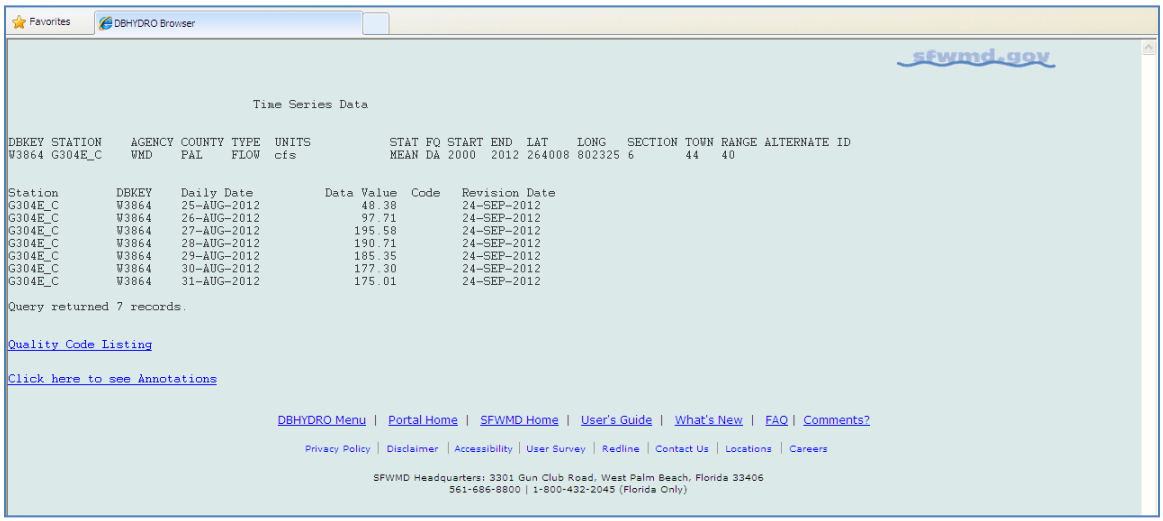
The file can also be saved in comma separated value (.csv) format and opened in a program such as Notepad++ or a spreadsheet program (e.g., Microsoft Excel):



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
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	10.26	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	11.23	7.65	0	29.11	0	5.27	11.47	18.92						
36	31	M		M		9.29		0	56.26		20.67		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	WMD	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

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.

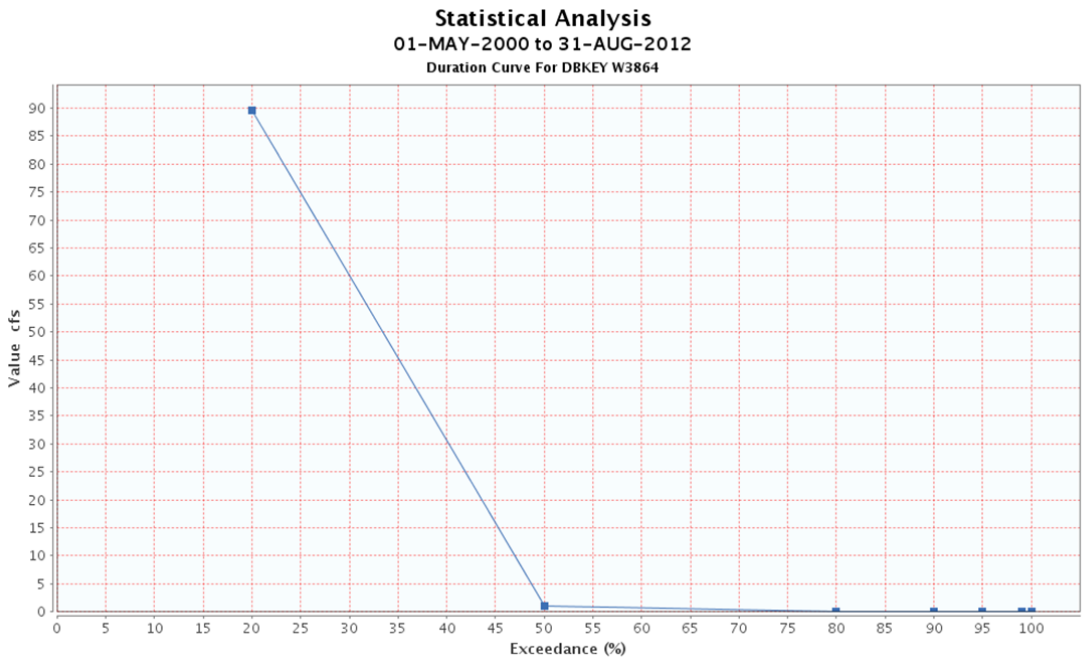
SHEF .E Format (not shown) provides data in Standard Hydrologic Exchange (SHEF) .E Format. SHEF has been developed jointly by the National Weather Service and U.S. Army Corps of Engineers, and is a documented set of rules for coding of data in a form for both visual and computer recognition.

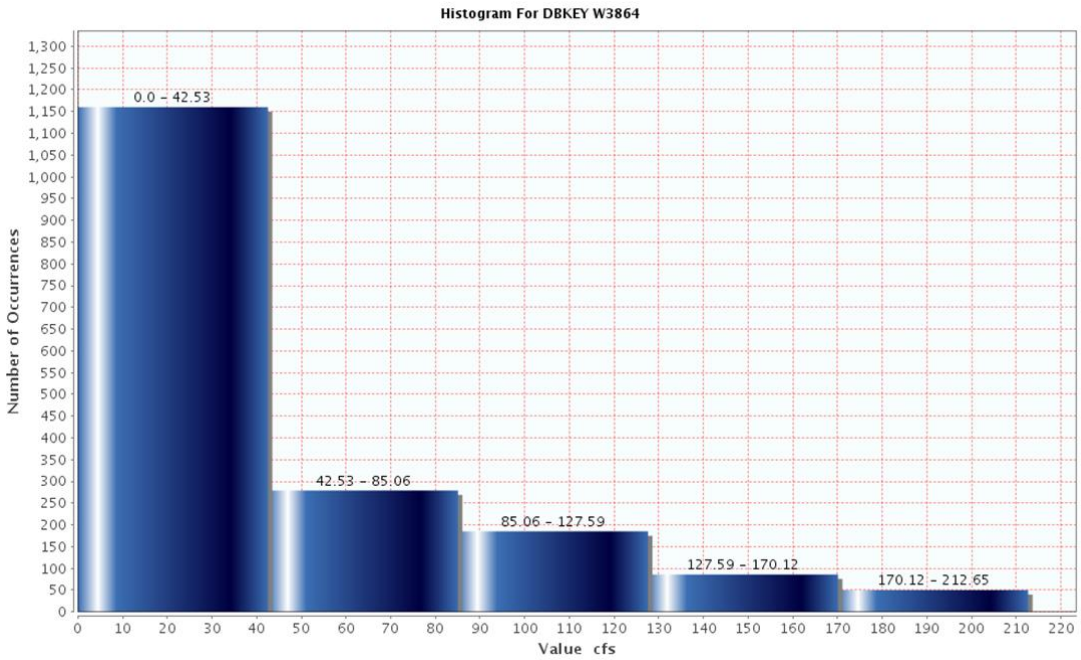
South Florida Water Management District flow data is considered positive when flowing from the headwater station to tailwater station. Headwater and tailwater stations typically are named with _H and _T suffixes respectively. The Google Earth interface shows relative locations of headwater and tailwater 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.

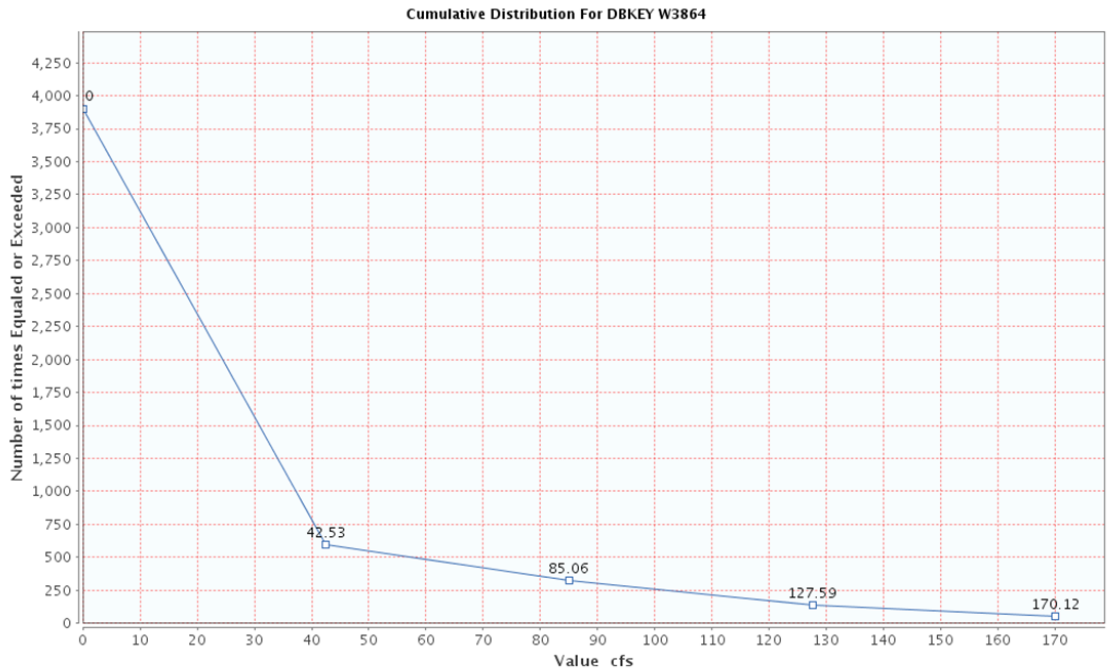
The user can also run special statistical summary reports as follows:

- 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:

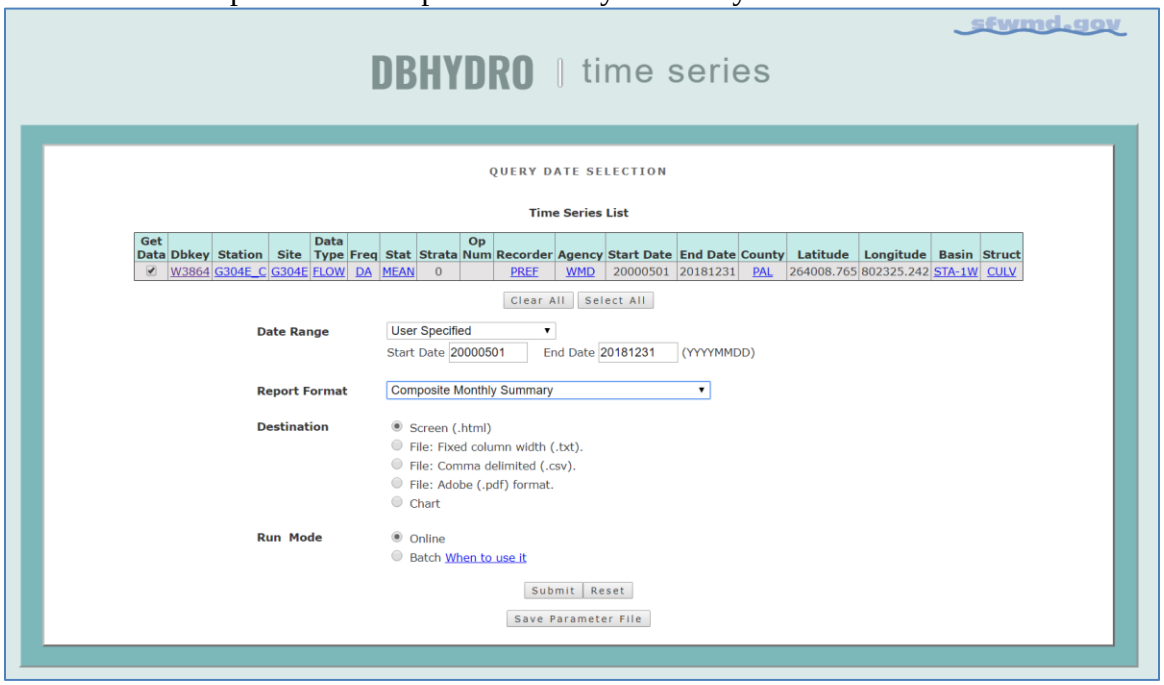






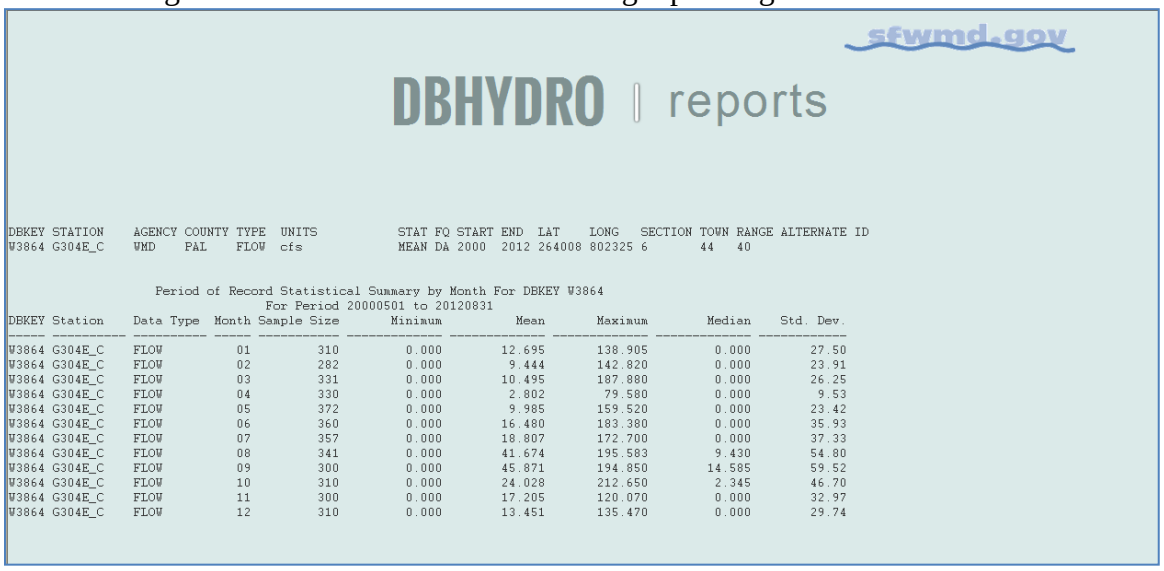
DBKey	Station	Agency	Data Type	Unit	Statistic	Frequency	Strata	Gate/Pump#
W3864	G304E_C	WMD	FLOW	cfs	MEAN	DA	0	N/A

Below is an example of the Composite Monthly Summary:



Get Data	Dbkey	Station	Site	Data Type	Freq	Stat	Strata	Op Num	Recorder	Agency	Start Date	End Date	County	Latitude	Longitude	Basin	Struct
☑	W3864	G304E_C	G304E	FLOW	DA	MEAN	0		PREF	WMD	20000501	20181231	PAL	264008.765	802325.242	STA-1W	CULV

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




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


                    Period of Record Statistical Summary by Month For DBKEY W3864
                                 For Period 20000501 to 20120831
DBKEY 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.

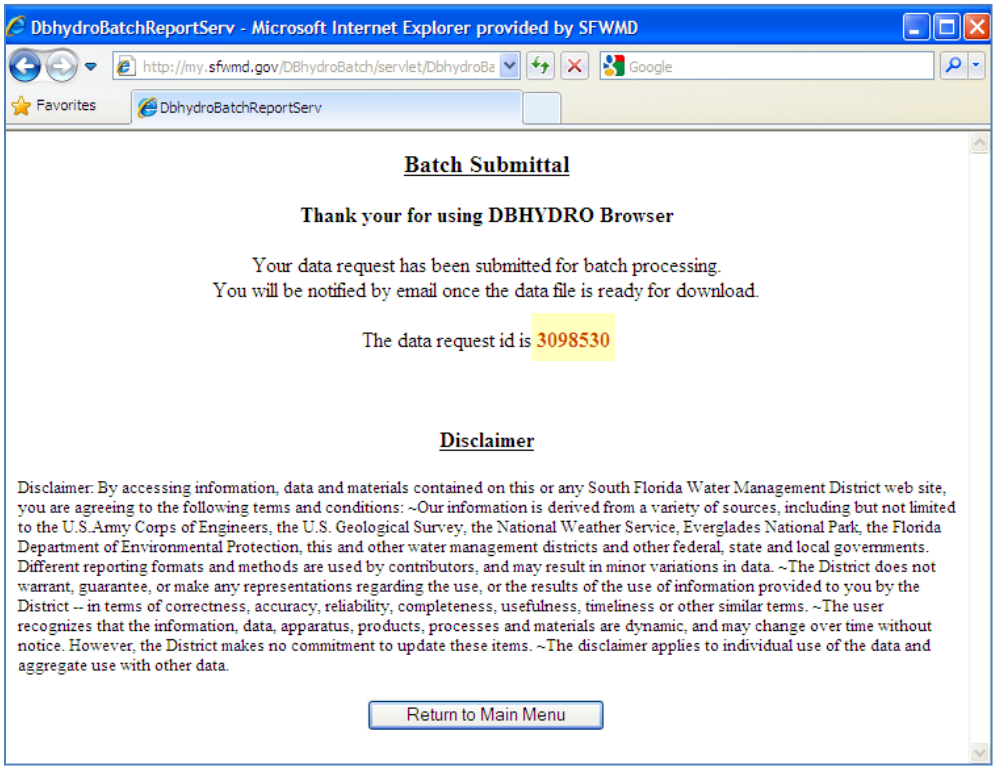
The user is encouraged to examine all the available formats and outputs to satisfy specific reporting needs.

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.

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:

```
From: datamgmt
Sent: Thursday, March 28, 2013 9:56 AM
To: Doe, John
Subject: DBHYDRO batch request 3098530

Your data request 3098530 is processed and ready for download.
Your search criteria for this request was:
Enter value for request_id: 3098530

start_date      : 20070101
end_date        : 20080930
dbkey           : 00319
station         : s5a%
category        : SW
Please click on hyper link below to get your file.
http://my.sfwmd.gov/dbhydro_files/dbhydro_3098530.zip
```

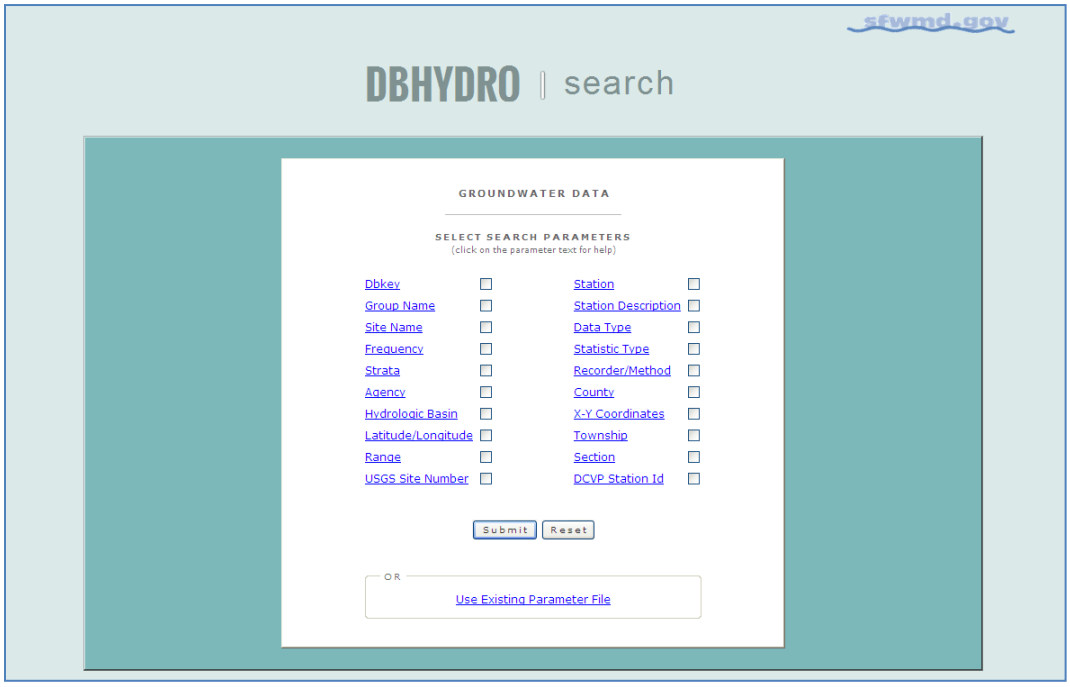
The email will contain a hyperlink that will allow the user to download the file via FTP when the data request is complete. If the user's email is not received within 60 minutes, then District staff should contact the SFWMD IT Help Desk at 561-682-6080. Non-

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

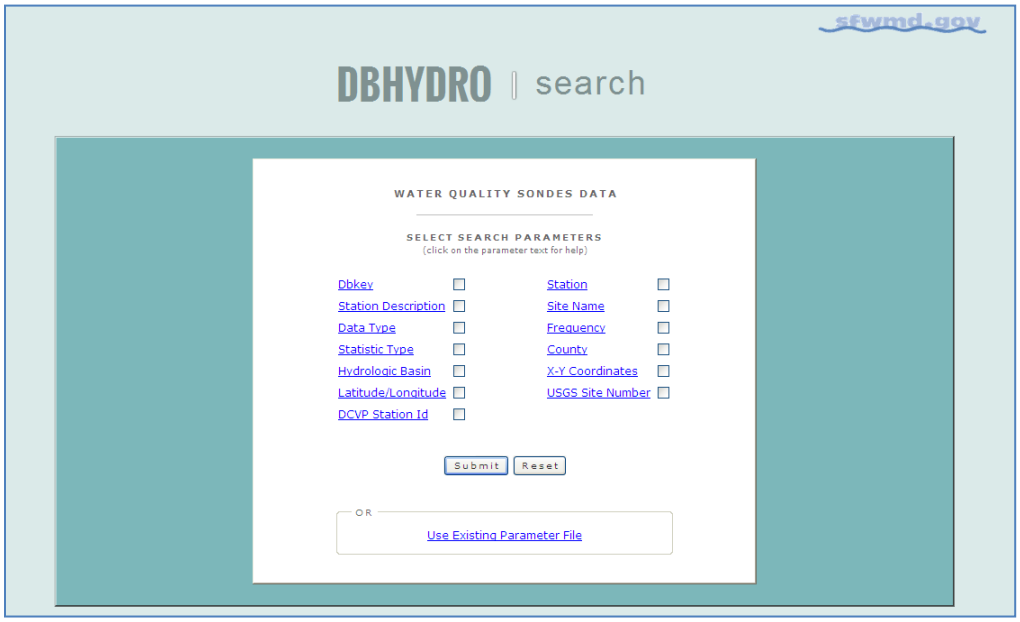
Checking "Groundwater" from the main menu leads to the following screen:



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

WQ Sondes (Continuous) Data

A sonde is a cluster of sensors which measure parameters including, but not limited to, conductivity, temperature, and pressure. The reason to measure conductivity is that it can be used to determine the salinity. Checking the "WQ Sondes" check box from the main menu takes the user to the following page:

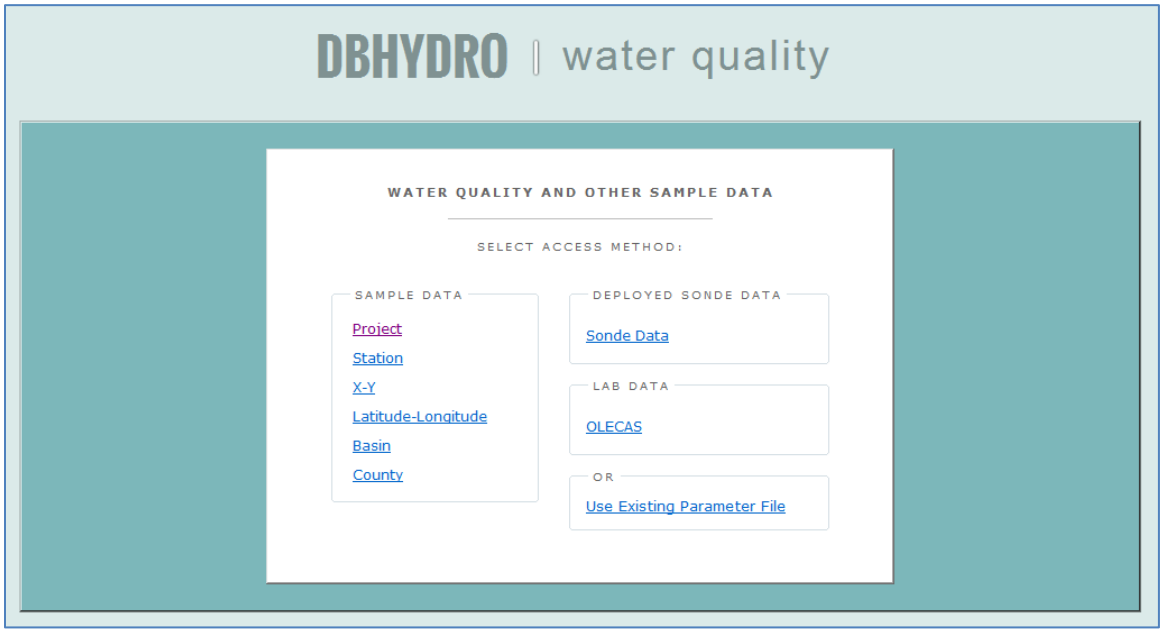


Data from continuously deployed water quality probes (sondes) are accessed here. These data are also accessible from the "Water Quality Data" menu → "Deployed Sonde Data", or the user can query by station or site name.

Water Quality Sample Data

These data are from field and/or laboratory analyses of water samples, biological tissue, sediments, or other environmental samples. Field parameters such as pH and water temperature may be collected and stored with the sample. Data are approved, quality-assured data that may be published.

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

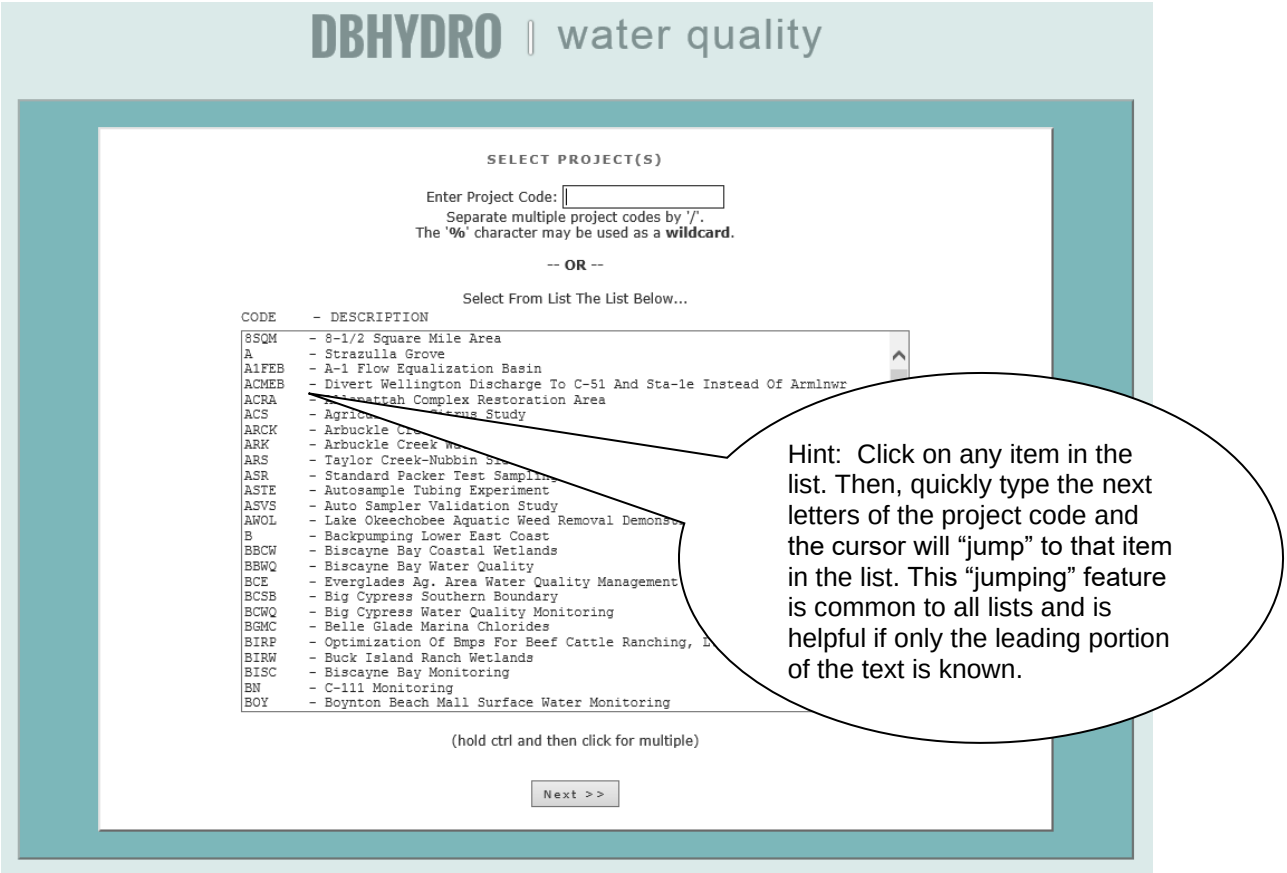


Most water quality queries have similar characteristics, so the interface for water quality has been designed to facilitate the most frequently encountered queries.

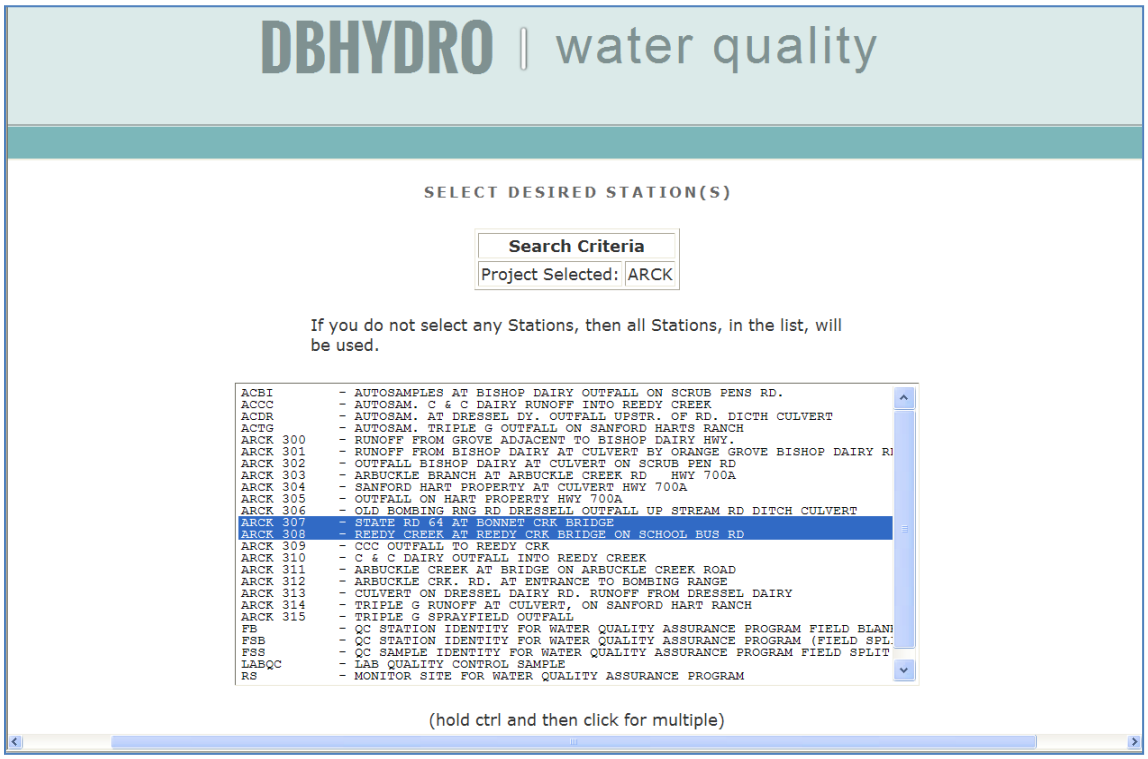
A "Deployed Sonde" option is available for access to continuously measured water quality parameters such as pH, and water temperature (sondes), providing a user interface similar to that of Hydrologic and Physical Data.

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.

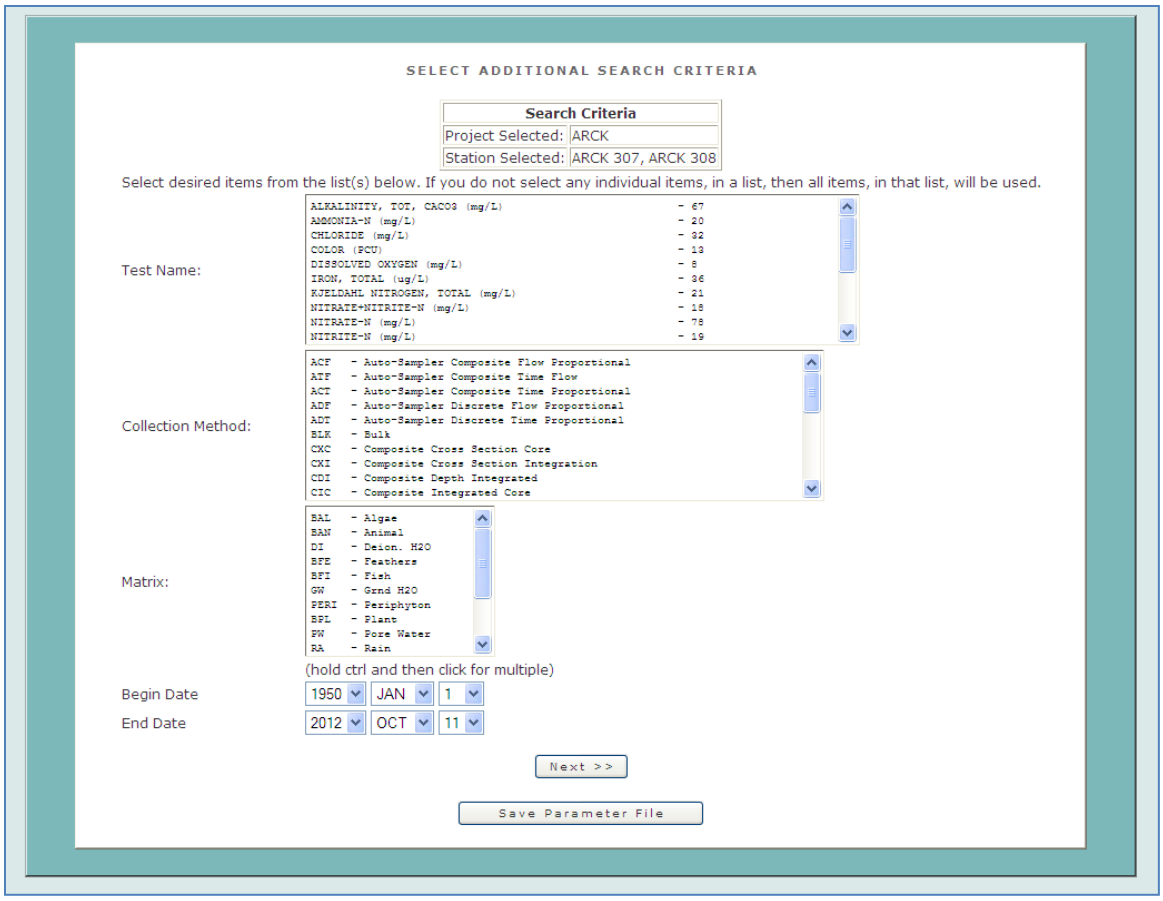
A typical project-based query is described below. Clicking on "Project" from the water quality menu leads to this screen in which the user can type in a project code, **OR** select one or more project codes from the list of values and then click on the "Next" button.



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.

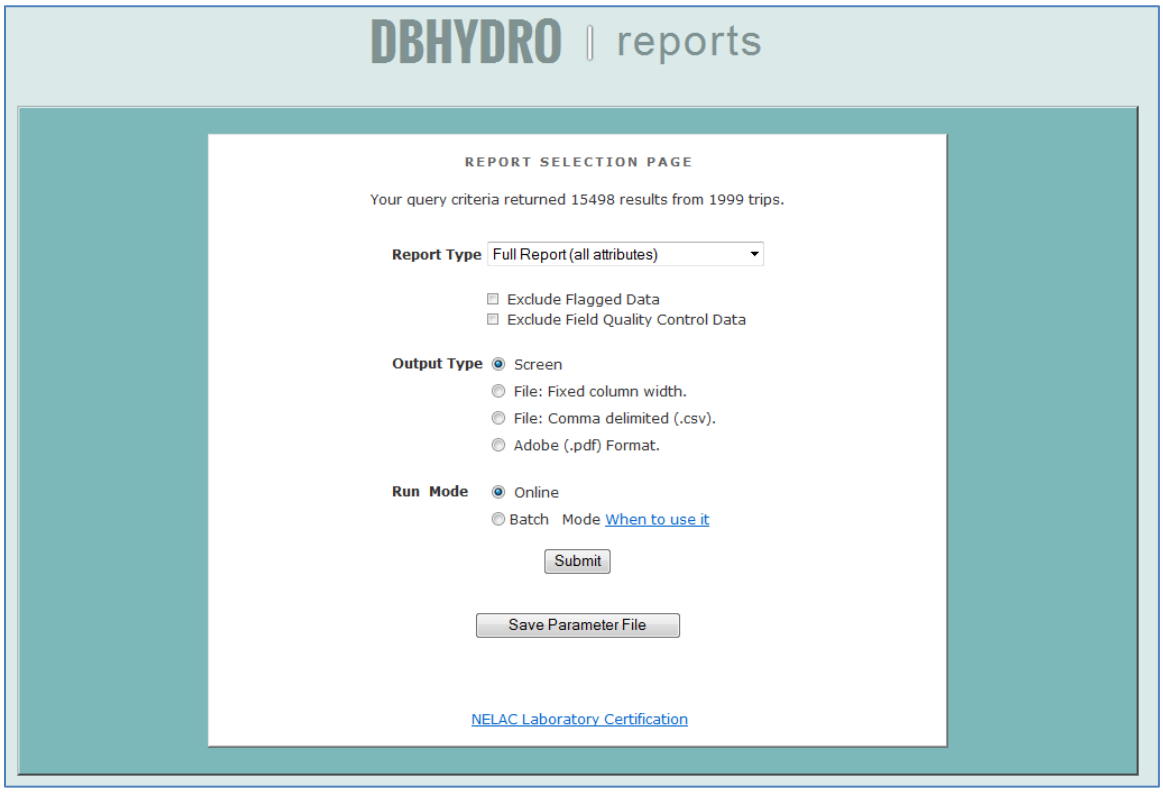


Data can be filtered by test name (and associated test number), collection method, and matrix. The user will need to provide a date range for the query. [Note that the begin date of 1950 serves as a placeholder to ensure the entire period of record will be retrieved by default.] The user then clicks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



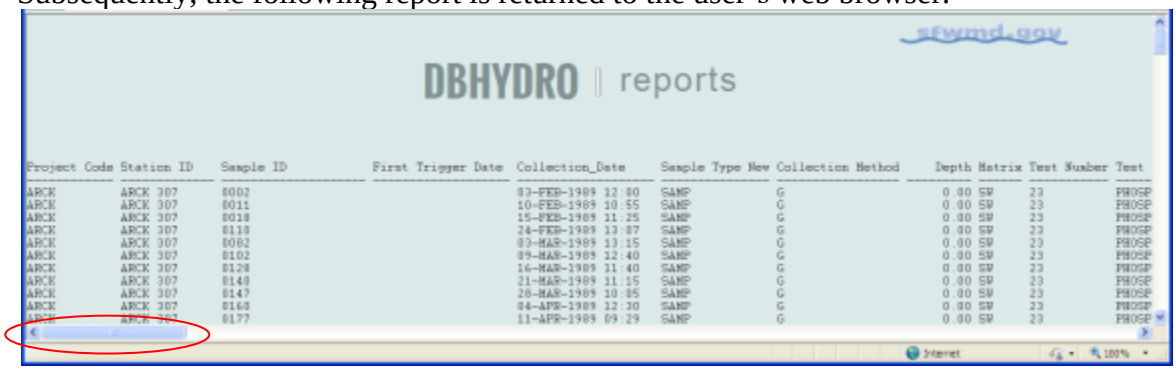
For the selected project and/or stations the test names, collection methods, and matrices available in the list of values are those available in the database. If a test name, collection method, or matrix does not appear in the list it means that there is no data meeting that criteria. This feature minimizes the likelihood of users querying the database and ending up with an empty output file.

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



Note: "Full Report" includes both sample-level and result-level comments. By default all data is made available. 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:



Project Code	Station ID	Sample ID	First Trigger Date	Collection_Date	Sample Type	Rev	Collection Method	Depth	Matrix	Test Number	Test
ARCK	ARCK 307	8002		03-FEB-1989 12:00	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8011		10-FEB-1989 10:55	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8018		15-FEB-1989 11:25	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8110		24-FEB-1989 13:07	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8082		03-MAR-1989 13:15	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8102		09-MAR-1989 12:40	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8128		16-MAR-1989 11:40	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8140		21-MAR-1989 11:15	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8147		28-MAR-1989 10:05	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8160		04-APR-1989 12:30	SAMP		G	0.00	SW	23	PHOSP
ARCK	ARCK 307	8177		11-APR-1989 09:29	SAMP		G	0.00	SW	23	PHOSP

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 14:40	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		26-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 11:40	SAMP		G	0.00	SW	23	

Other 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).

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

The Station Summary Report, for network-authenticated users, provides period of record statistics based on a number of assumptions and criteria. These assumptions and criteria are as follows:

1) Flagged data and field quality control (QC) data are filtered out always. Flag must be null. Sample_type_new must be 'SAMP'.
2) The report only considers results for samples collected on or after January 1, 1991; the implementation of Data Validation in Florida Administrative Code 62-160.
3) The report applies a conservative philosophy to the statistical summaries. The approach is conservative, that is to possibly bias the resulting statistical quantity toward a greater (larger) value by having no statistical treatment of values below detection. In a sample population if we have two results say: 0.5 being below detect and 0.1 not below detect, the MIN will be reported as <0.5 here not 0.1 because <0.5 could be less than 0.1 also. This is what we mean by being conservative. Some analysts like to use one half of the MDL when a value is below detection. In this report here the MDL itself is used. SFWMD stores values below detection as -1*MDL (a rather unique practice but it is the present state). The remark code U also tells us the result was below detect. In some rare cases there is no U in the remark code and the value is less than the MDL. Test numbers 65, 256, 258, 319, and 978 can have legitimate values below zero so they are treated as exceptions.
Logic for MIN of a sample population:
Excluding the test numbers 65, 256, 258, 319, and 978, if the sign of the value of minimum magnitude is negative it means the minimum value is below detection, therefore prefix it with '<' sign. Use the absolute value of the least negative (closest to zero) result. For test numbers 65, 256, 258, 319, and 978 simply use the minimum.
Logic for MAX of the sample population:
Excluding the test numbers 65, 256, 258, 319, and 978, if the sign of the value with maximum absolute value is negative it means the maximum value is below detection, therefore prefix it with '<' sign. Use the absolute value of the least negative (closest to zero) result. For test numbers 65 and 319 simply use the minimum.
Logic for AVG (MEAN):
Excluding the test numbers 65, 256, 258, 319, and 978, if the sign of the minimum value in the sample population is negative or the remark code has a 'U' it means the resulting summary is affected, therefore prefix it with '<' sign. Use the AVG of the absolute values. For test numbers 65, 256, 258, 319, and 978 simply use the AVG.
Logic for STDDEV:
Do not give extra consideration to BDL data. Without further knowledge of the distribution one cannot imply the standard deviation. Standard deviation uses only the value.
Logic for MEDIAN:
Excluding the test numbers 65, 256, 258, 319, and 978. Use median of absolute values. The floor and ceiling records are defined as the record(s) in the middle of the ordered sample population. The floor record and ceiling record may have to be interpolated between and this is taken care of by the MEDIAN function. If either the floor or ceiling record, or both, is BDL the median value should have a '<' (less than sign) prefixed. For test numbers 65, 256, 258, 319, and 978 simply use the median.
NBDL
Keep track of the number of values below detection by counting values < 0 or containing U in the remark code except for test numbers 65, 256, 258, 319, and 978.

MDL STATEMENT
Identify a change in MDLs by comparing the min mdl to the max mdl. If not equal it means mdls varied thru time or one or more reported mdls was null. If min and max MDL are equal then mdls were the same for all results. If MDLs changed thru time it implies our methods changed and typically methods get more precise thru time. Users are directed to retrieve the actual results to see the details of how MDLs changed thru time.

MDLs_USED
Lists the various MDL's used in the sample population (including null when the MDL cannot be determined).

Hydrogeologic Data

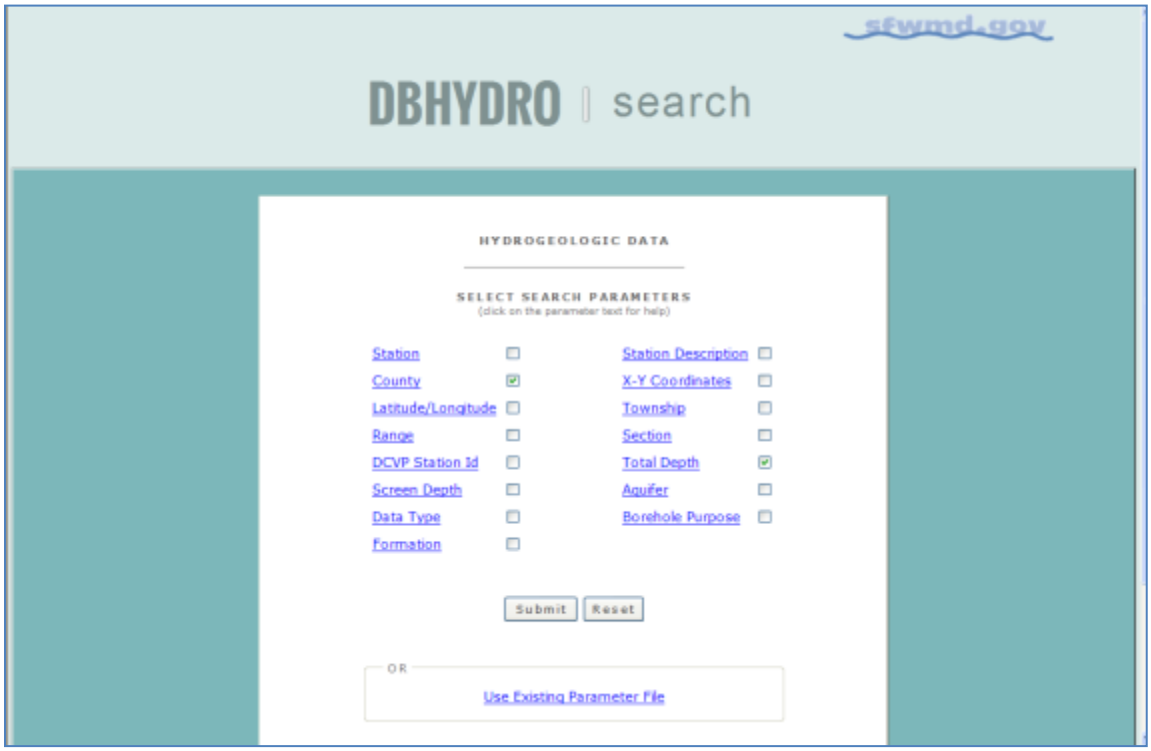
Clicking on the "Get Data" button from the Hydrogeologic Data main menu takes the user to the following page:

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.

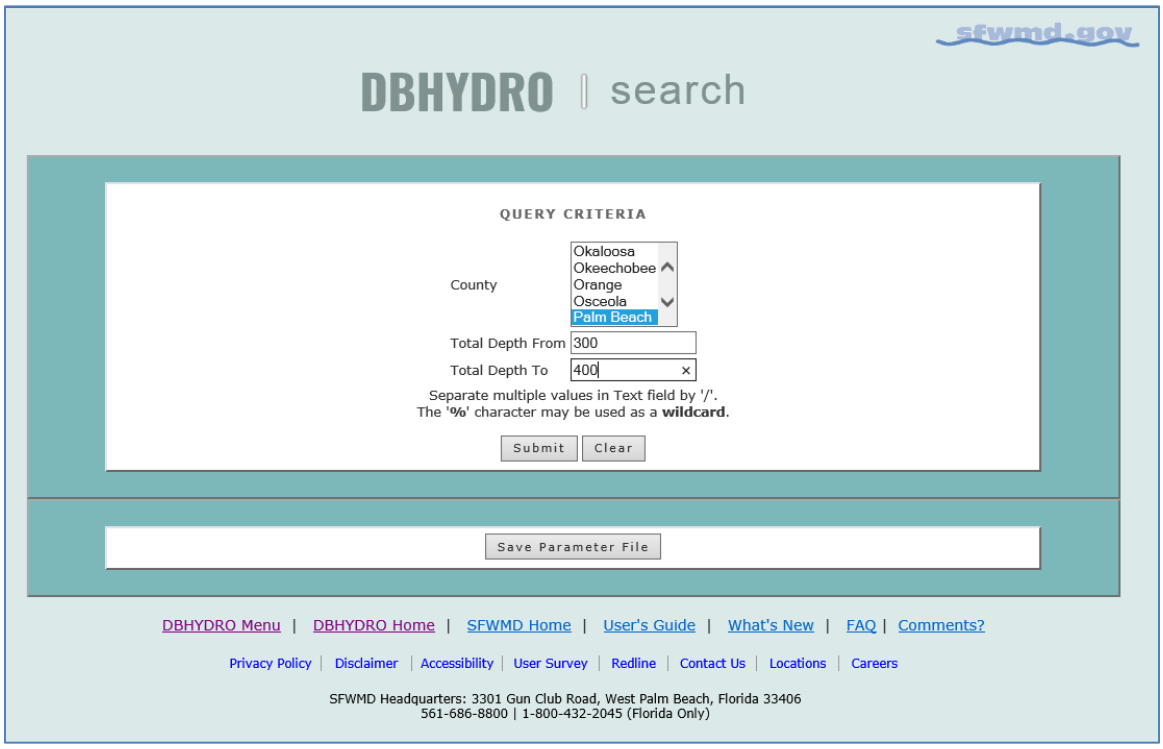
Once the user has chosen the search criteria, the browser directs the user to a page that displays that criteria and allows the user to submit or save the user's parameters to a file.

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.

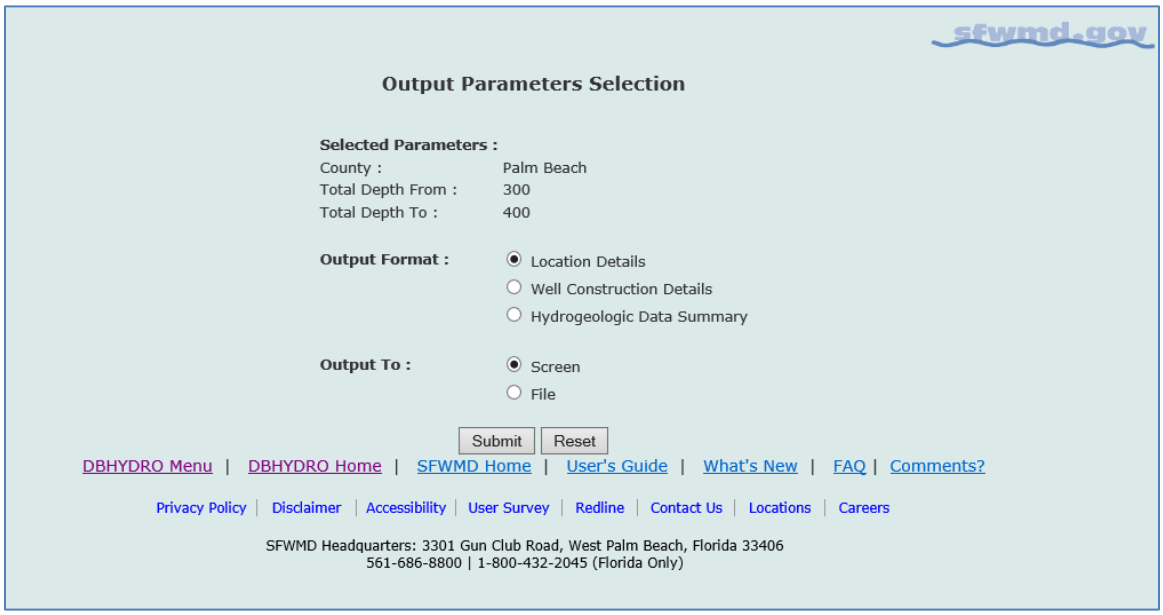


The next screen allows the user to select the specific county or counties and specify the range of total depth.



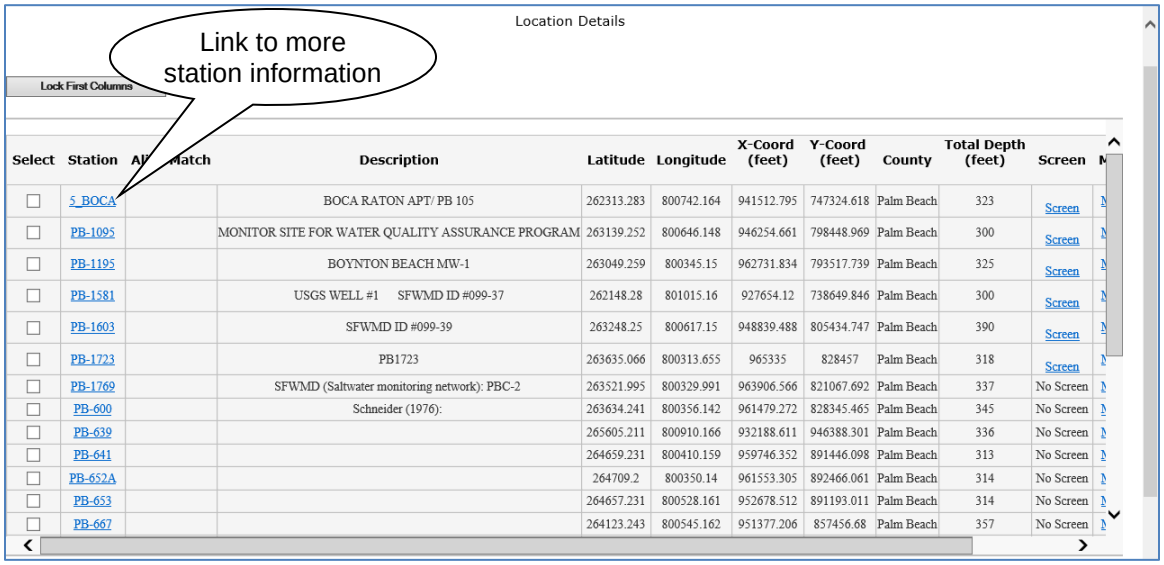
Then, the user clicks on the "Submit" button to proceed to the Output Parameters Selection screen.

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



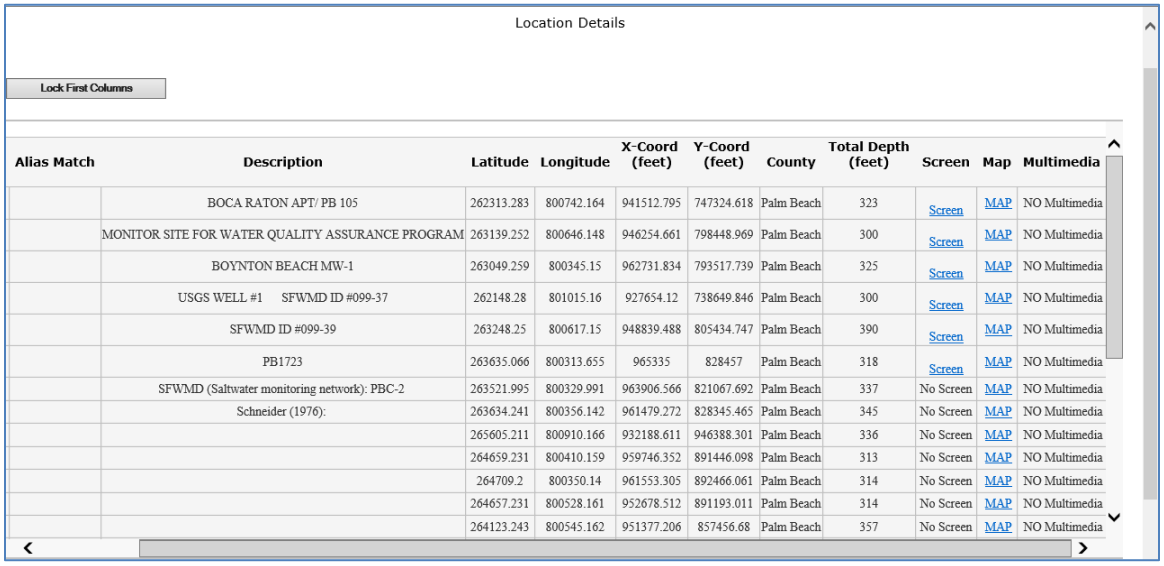
In this example, the Location Details report is chosen.

The report for "Output Format" "Location Details" (shown below) returns a table with names, locations, and hyperlinks for construction and multimedia data when available.



Select	Station	Alias Match	Description	Latitude	Longitude	X-Coord (feet)	Y-Coord (feet)	County	Total Depth (feet)	Screen	M
☐	5_BOCA		BOCA RATON APT/ PB 105	262313.283	800742.164	941512.795	747324.618	Palm Beach	323	Screen	N
☐	PB-1095		MONITOR SITE FOR WATER QUALITY ASSURANCE PROGRAM	263139.252	800646.148	946254.661	798448.969	Palm Beach	300	Screen	N
☐	PB-1195		BOYNTON BEACH MW-1	263049.259	800345.15	962731.834	793517.739	Palm Beach	325	Screen	N
☐	PB-1581		USGS WELL #1 SFWMD ID #099-37	262148.28	801015.16	927654.12	738649.846	Palm Beach	300	Screen	N
☐	PB-1603		SFWMD ID #099-39	263248.25	800617.15	948839.488	805434.747	Palm Beach	390	Screen	N
☐	PB-1723		PB1723	263635.066	800313.655	965335	828457	Palm Beach	318	Screen	N
☐	PB-1769		SFWMD (Saltwater monitoring network): PBC-2	263521.995	800329.991	963906.566	821067.692	Palm Beach	337	No Screen	N
☐	PB-600		Schneider (1976):	263634.241	800356.142	961479.272	828345.465	Palm Beach	345	No Screen	N
☐	PB-639			265605.211	800910.166	932188.611	946388.301	Palm Beach	336	No Screen	N
☐	PB-641			264659.231	800410.159	959746.352	891446.098	Palm Beach	313	No Screen	N
☐	PB-652A			264709.2	800350.14	961553.305	892466.061	Palm Beach	314	No Screen	N
☐	PB-653			264657.231	800528.161	952678.512	891193.011	Palm Beach	314	No Screen	N
☐	PB-667			264123.243	800545.162	951377.206	857456.68	Palm Beach	357	No Screen	N

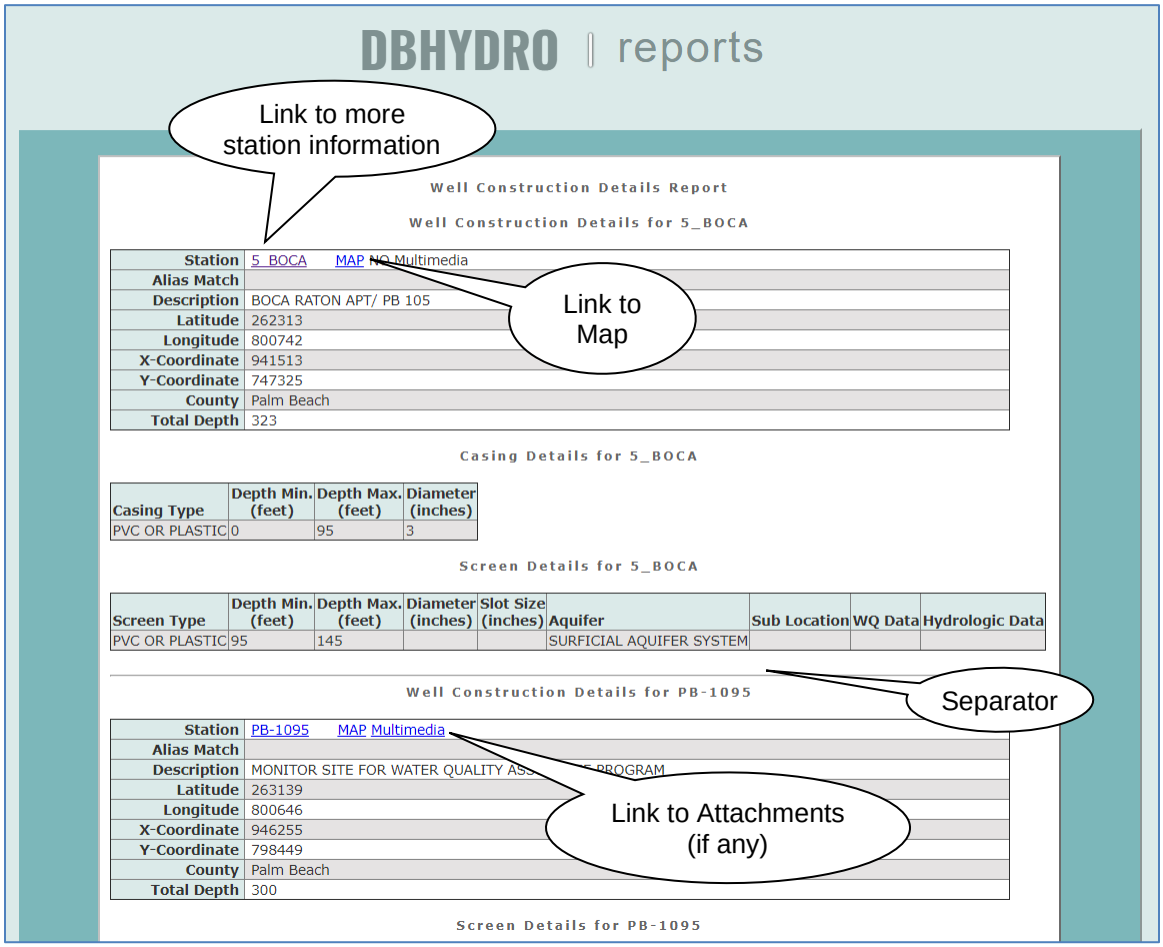
The Location Details report is wide and users may have to scroll to the right to view links to screen, and multimedia information. There is also a link to an associated map. Multimedia may include any kind of document (.pdf, .doc, .xls, etc…) including scanned field notes, driller reports and logs, photographs, ftp links, and links to other web sites.



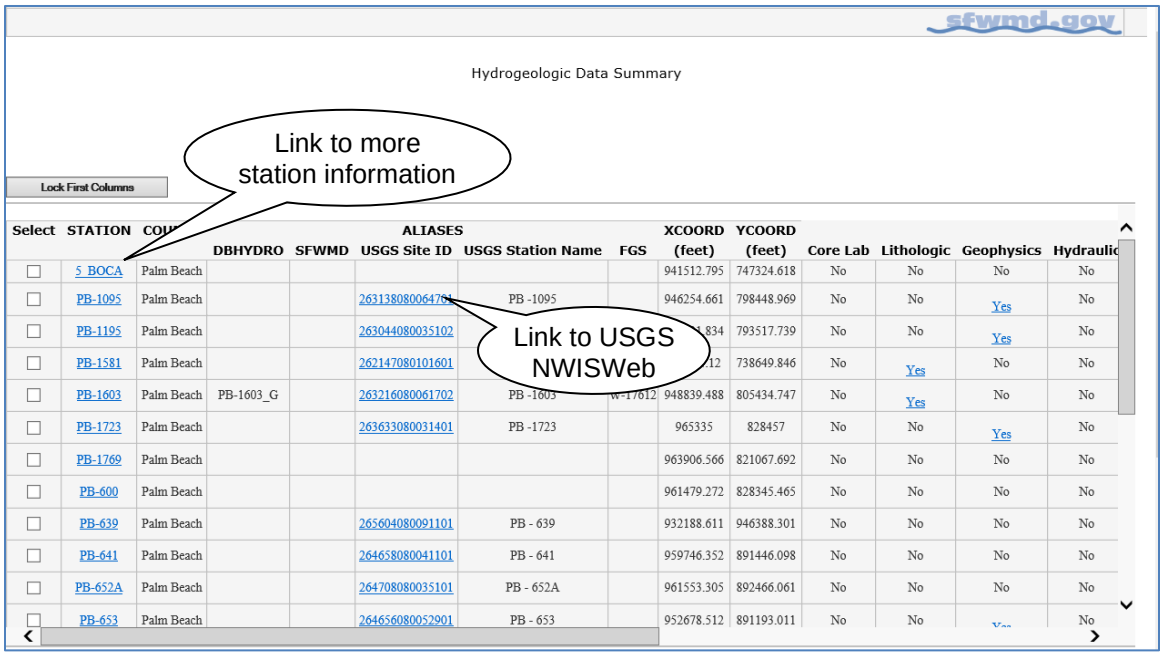
Alias Match	Description	Latitude	Longitude	X-Coord (feet)	Y-Coord (feet)	County	Total Depth (feet)	Screen	Map	Multimedia
	BOCA RATON APT/ PB 105	262313.283	800742.164	941512.795	747324.618	Palm Beach	323	Screen	MAP	NO Multimedia
	MONITOR SITE FOR WATER QUALITY ASSURANCE PROGRAM	263139.252	800646.148	946254.661	798448.969	Palm Beach	300	Screen	MAP	NO Multimedia
	BOYNTON BEACH MW-1	263049.259	800345.15	962731.834	793517.739	Palm Beach	325	Screen	MAP	NO Multimedia
	USGS WELL #1 SFWMD ID #099-37	262148.28	801015.16	927654.12	738649.846	Palm Beach	300	Screen	MAP	NO Multimedia
	SFWMD ID #099-39	263248.25	800617.15	948839.488	805434.747	Palm Beach	390	Screen	MAP	NO Multimedia
	PB1723	263635.066	800313.655	965335	828457	Palm Beach	318	Screen	MAP	NO Multimedia
	SFWMD (Saltwater monitoring network): PBC-2	263521.995	800329.991	963906.566	821067.692	Palm Beach	337	No Screen	MAP	NO Multimedia
	Schneider (1976):	263634.241	800356.142	961479.272	828345.465	Palm Beach	345	No Screen	MAP	NO Multimedia
		265605.211	800910.166	932188.611	946388.301	Palm Beach	336	No Screen	MAP	NO Multimedia
		264659.231	800410.159	959746.352	891446.098	Palm Beach	313	No Screen	MAP	NO Multimedia
		264709.2	800350.14	961553.305	892466.061	Palm Beach	314	No Screen	MAP	NO Multimedia
		264657.231	800528.161	952678.512	891193.011	Palm Beach	314	No Screen	MAP	NO Multimedia
		264123.243	800545.162	951377.206	857456.68	Palm Beach	357	No Screen	MAP	NO Multimedia

The "Well Construction Details" 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 "Well Construction Details" and the "Location Details" options have links to multimedia data when available.

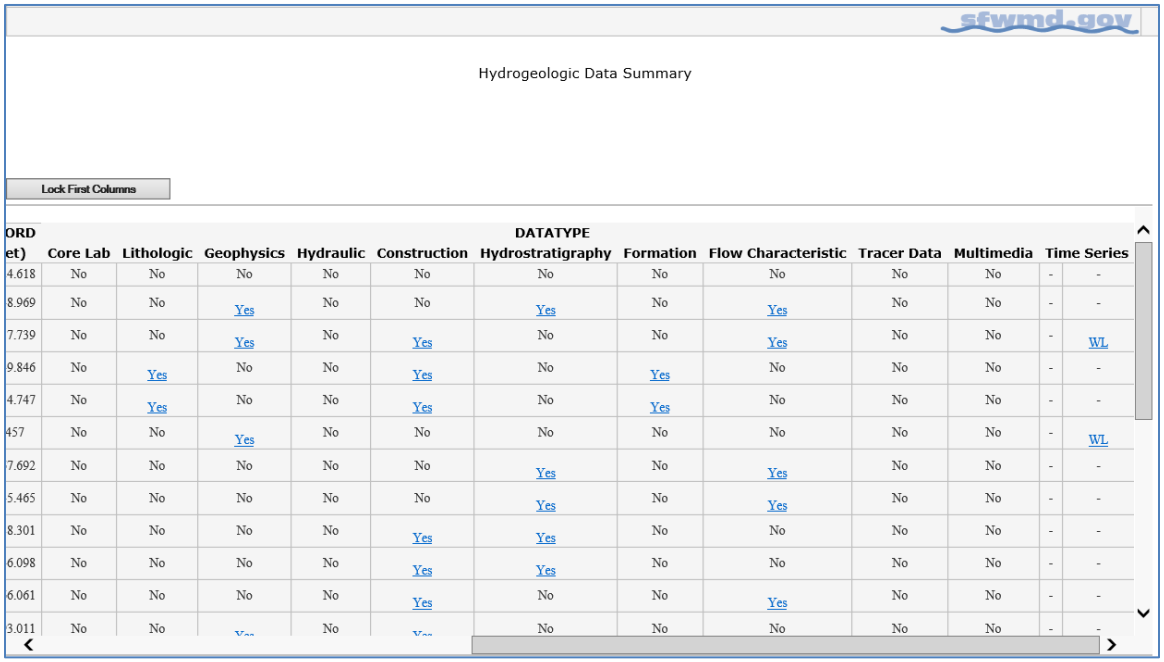


The Hydrogeologic Data Summary Report (below) shows all the different types of data available for each well appearing in the query. The Hydrogeologic Data Summary Report format provides highlighted links to the different data types offered in the hydrogeologic section of DBHYDRO.



Select	STATION	COU	ALIASES DBHYDRO	SFWMD	USGS Site ID	USGS Station Name	FGS	XCOORD (feet)	YCOORD (feet)	Core Lab	Lithologic	Geophysics	Hydraulic
☐	5 BOCA	Palm Beach						941512.795	747324.618	No	No	No	No
☐	PB-1095	Palm Beach			263138080064701	PB -1095		946254.661	798448.969	No	No	Yes	No
☐	PB-1195	Palm Beach			263044080035102			.834	793517.739	No	No	Yes	No
☐	PB-1581	Palm Beach			262147080101601			12	738649.846	No	Yes	No	No
☐	PB-1603	Palm Beach	PB-1603_G		263216080061702	PB -1603	w-17612	948839.488	805434.747	No	Yes	No	No
☐	PB-1723	Palm Beach			263633080031401	PB -1723		965335	828457	No	No	Yes	No
☐	PB-1769	Palm Beach						963906.566	821067.692	No	No	No	No
☐	PB-600	Palm Beach						961479.272	828345.465	No	No	No	No
☐	PB-639	Palm Beach			265604080091101	PB - 639		932188.611	946388.301	No	No	No	No
☐	PB-641	Palm Beach			264658080041101	PB - 641		959746.352	891446.098	No	No	No	No
☐	PB-652A	Palm Beach			264708080035101	PB - 652A		961553.305	892466.061	No	No	No	No
☐	PB-653	Palm Beach			264656080052901	PB - 653		952678.512	891193.011	No	No	Yes	No

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.



ORD et)	Core Lab	Lithologic	Geophysics	Hydraulic	Construction	DATATYPE Hydrostratigraphy	Formation	Flow Characteristic	Tracer Data	Multimedia	Time Series	
4.618	No	No	No	No	No	No	No	No	No	No	-	-
8.969	No	No	Yes	No	No	Yes	No	Yes	No	No	-	-
7.739	No	No	Yes	No	Yes	No	No	Yes	No	No	-	WL
9.846	No	Yes	No	No	Yes	No	Yes	No	No	No	-	-
4.747	No	Yes	No	No	Yes	No	Yes	No	No	No	-	-
457	No	No	Yes	No	No	No	No	No	No	No	-	WL
7.692	No	No	No	No	No	Yes	No	Yes	No	No	-	-
5.465	No	No	No	No	No	Yes	No	Yes	No	No	-	-
8.301	No	No	No	No	Yes	Yes	No	No	No	No	-	-
6.098	No	No	No	No	Yes	Yes	No	No	No	No	-	-
6.061	No	No	No	No	Yes	No	No	Yes	No	No	-	-
3.011	No	No	Yes	No	Yes	No	No	No	No	No	-	-

If lithologic details are available, clicking on the "Yes" link under Lithologic data type produces a detailed lithologic description as shown below (e.g., Station W-12425). This information can be saved to a text file (save as .txt) through the web browser file menu.

DBHYDRO | reports

Lithologic Detailed Interval Report For W-12425

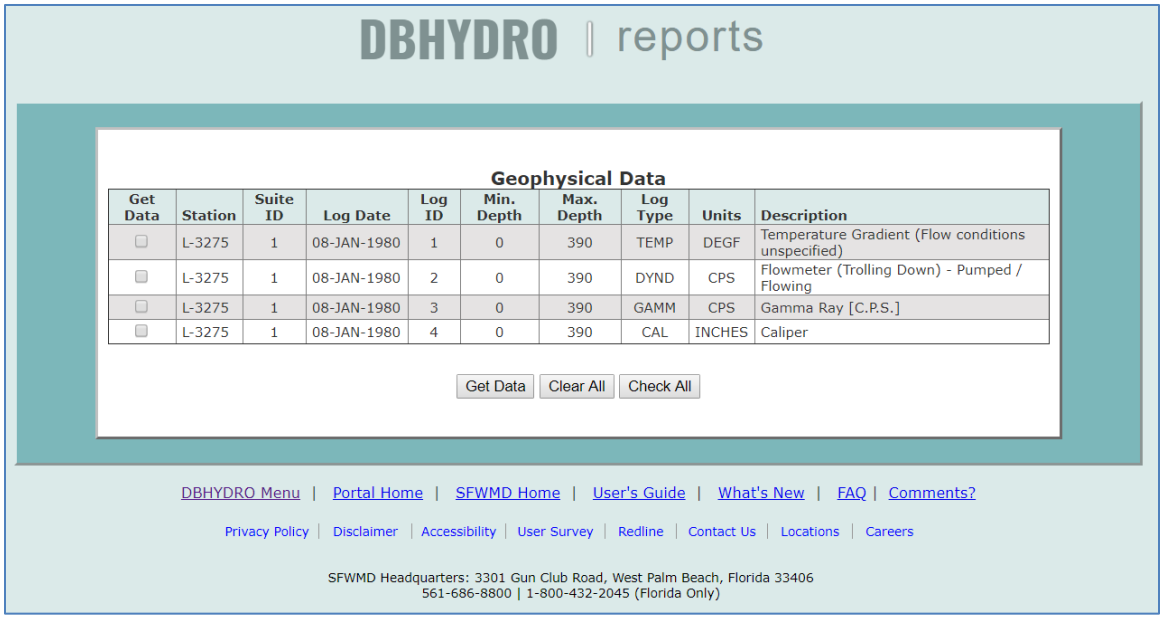
Station	X-Coord (feet)	Y-Coord (feet)
W-12425	956543	820434

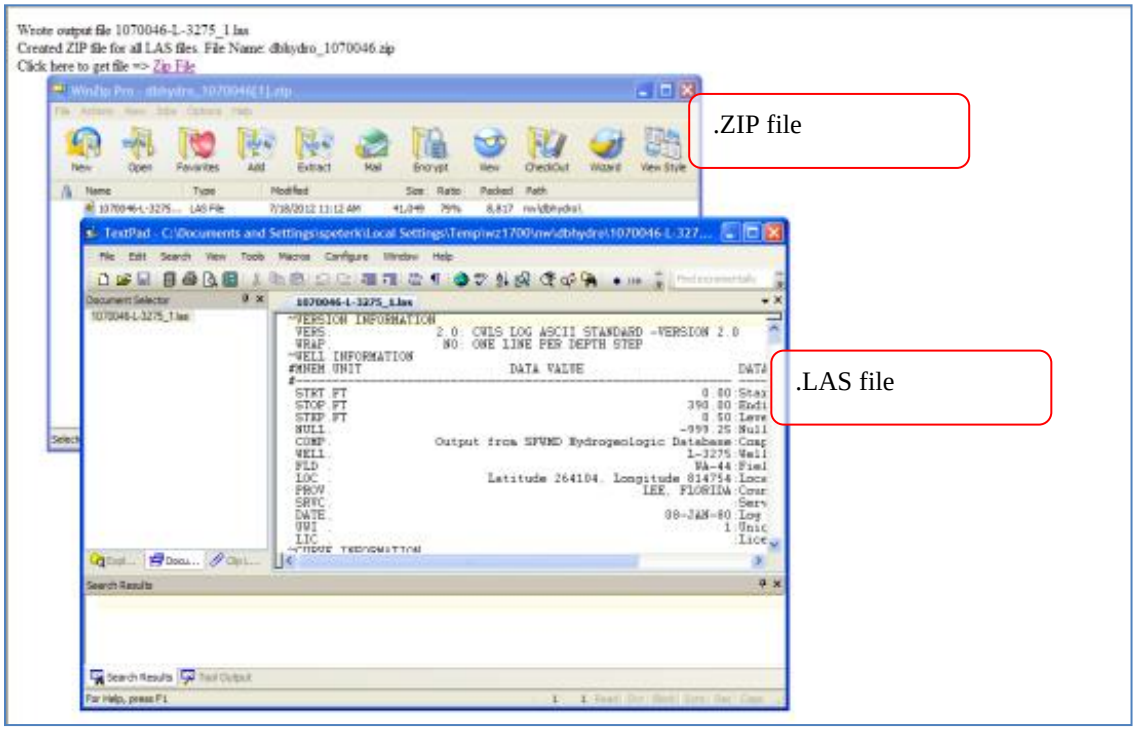
Min. Depth (feet)	Max. Depth (feet)	Primary Rock	% Primary Rock	Primary Color	Induration	% Porosity	Comments
0	20	SAND (QUARTZ)		DARK YELLOWISH ORANGE	UNCONSOLIDATED		
20	30	SAND (QUARTZ)		DARK YELLOWISH ORANGE	UNCONSOLIDATED		
30	45	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		SAMPLE INCLUDES A TRACE AMOUNT OF PHOSPHATE.
45	60	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		SAMPLE INCLUDES A TRACE AMOUNT OF PHOSPHATE.
60	80	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		SAMPLE INCLUDES A TRACE AMOUNT OF PHOSPHATE.
80	90	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		SAMPLE INCLUDES A TRACE AMOUNT OF PHOSPHATE.
90	110	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		SAMPLE INCLUDES A FEW WHOLE MOLLUSK SHELLS.
110	125	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		
125	130	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		
130	135	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		SAMPLE INCLUDES A TRACE AMOUNT OF PHOSPHATE AND POORLY CONSOLIDATED SAND AND SILT CHUNKS.
135	140	SAND (QUARTZ)		YELLOWISH GRAY	UNCONSOLIDATED		SAMPLE INCLUDES A TRACE AMOUNT OF PHOSPHATE AND POORLY CONSOLIDATED SAND AND SILT CHUNKS.

Clicking on the Hydrogeologic Data 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) 2.0 format. LAS is a standard file format, created by the Canadian Well Logging Society (www.cwls.org), 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.


DBHYDRO | reports
Geophysical Data
Get Data | Station | Suite ID | Log Date | Log ID | Min. Depth | Max. Depth | Log Type | Units | Description
L-3275 | 1 | 08-JAN-1980 | 1 | 0 | 390 | TEMP | DEGF | Temperature Gradient (Flow conditions unspecified)
L-3275 | 1 | 08-JAN-1980 | 2 | 0 | 390 | DYND | CPS | Flowmeter (Trolling Down) - Pumped / Flowing
L-3275 | 1 | 08-JAN-1980 | 3 | 0 | 390 | GAMM | CPS | Gamma Ray [C.P.S.]
L-3275 | 1 | 08-JAN-1980 | 4 | 0 | 390 | CAL | INCHES | Caliper
Get Data
Clear All
Check All
DBHYDRO Menu | Portal Home | SFWMD Home | User's Guide | What's New | FAQ | Comments?
Privacy Policy | Disclaimer | Accessibility | User Survey | Redline | Contact Us | Locations | Careers
SFWMD Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800 | 1-800-432-2045 (Florida Only)


Wrote output file 1070046-L-3275_1.las
Created ZIP file for all LAS files. File Name: dbhydro_1070046.zip
Click here to get file => Zip File
.ZIP file
.LAS file

Clicking on the Hydrogeologic Data 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.

DBHYDRO | reports

Hydraulic Details Report For JONATHAN DICKINSON STATE PARK -M1281

Site	Pumped Well	X-Coord(ft)	Y-Coord (ft)
JONATHAN DICKINSON STATE PARK -M1281	M-1281	927986	979684

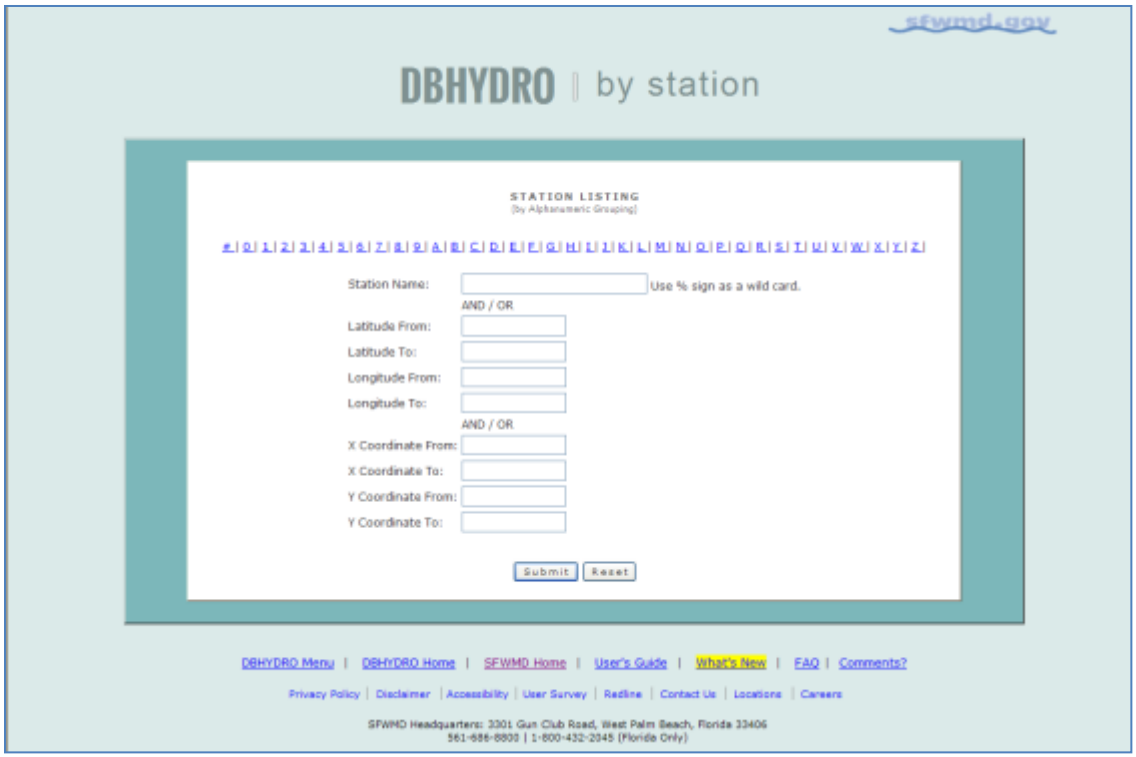
Start Test Date:	26-SEP-1989 1220	**Aquifer:**	SURFICIAL AQUIFER SYSTEM
Test Type:	APT	**Transmissivity (ft2/day):**	3617.89
Discharge Rate (gal/min):	160	**Horizontal K (ft/day):**	
Hours Pumped:	71.5	**Vertical K (ft/day):**	
Tested Interval Min. (ft BLS):	30	**Storativity:**	.00047
Tested Interval Max. (ft BLS):	120	**Leakance (1/day):**	
No. Monitored Wells:	2	**Specific Capacity (gpm/ft):**	

Source	Reference	Citation Id
SOUTH FLORIDA WMD	ADAMS, KARIN M., MARCH 1990, HYDROGEOLOGIC INVESTIGATION JONATHON DICKINSON STATE PARK, SFWMD, DEPARTMENT OF RESEARCH AND EVALUATION, HYDROGEOLOGY DIVISION	
Comments:		

Station	X Coord (ft)	Y Coord (ft)	Analysis Method	Distance from Production Well (ft)	Max. Drawdown (ft)	Transmissivity (ft**2/day)	Storativity	Leakance
1D_JDSP	945461	973063	NEUMAN-WITHERSPOON	75		3604.95	.00052	
2D_JDSP	945386	973063	NEUMAN-WITHERSPOON	157		2817.51	.00047	

Access by Station Name

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



On this screen the user can enter the name of the station the user wishes 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 (feet) NAD83East Zone coordinate system).

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

sfwmd.gov

DBHYDRO | by station

STATION INFORMATION

Get Data	Station	Site	Type	Latitude ddmmss.sss)	Longitude (ddmmss.sss)	X Coord (ft)	Y Coord (ft)	County	Basin	Sec	Twp	Rng	Show Map	Description
	T		WETLAND	261916.283	802129.175	866423.511	722953.53	Broward	CONSERVATION AREA 2A	28	47	40	Map	6.4 K. SOUTH OF S10C IN WCA-2A
	T1-1		WETLAND	252451.332	803523.638	791525.994	393016.114	Miami-Dade	TAYLOR SLOUGH	1	58	37	Map	PERIPHYTON/WQ MONITORING
	T1-10S		CANAL	251324.435	802637.211	840079.889	323846.17	Miami-Dade	FLORIDA KEYS				Map	T1 TRANSECT LITTLE BLACKWATER SOUND
	T1-1N		CANAL	251745.424	802637.209	839970.898	350193.744	Miami-Dade	US1	17	59	39	Map	T1 TRANSECT JUST NORTH OF C-111, SOUTH OF T1-2N
	T1-1S	S197	CANAL	251704.426	802637.209	839988.035	346054.825	Miami-Dade	US1	20	59	39	Map	T1 TRANSECT JUST SOUTH OF END BOUNDARY
	T1-2		WETLAND	252456.851	803536.898	790308.526	393569.646	Miami-Dade	TAYLOR SLOUGH	2	58	37	Map	PERIPHYTON/WQ MONITORING
	T1-2N		CANAL	251835.422	802637.209	839949.99	355241.216	Miami-Dade	US1	9	59	39	Map	T1 TRANSECT SOUTH OF T1-3N
	T1-2S		CANAL	251636.427	802637.21	839999.735	343228.249	Miami-Dade	C-111 COASTAL	20	59	39	Map	T1 TRANSECT SOUTH OF T1-1S
	T1-3		WETLAND	252455.052	803546.138	789461.892	393385.372	Miami-Dade	TAYLOR SLOUGH	2	58	37	Map	PERIPHYTON/WQ MONITORING
	T1-3N		CANAL	251924.42	802637.208	839929.489	360187.748	Miami-Dade	US1	4	59	39	Map	T1 TRANSECT SOUTH OF T1-4N
	T1-3S		CANAL	251608.428	802637.21	840011.43	340401.676	Miami-Dade	C-111 COASTAL	29	59	39	Map	T1 TRANSECT SOUTH OF T1-2S
	T1-4N		CANAL	252017.418	802637.208	839907.303	365538.088	Miami-Dade	US1	33	58	39	Map	T1 TRANSECT SOUTH OF T1-5N
	T1-4S		CANAL	251543.429	802637.21	840021.87	337877.953	Miami-Dade	C-111 COASTAL	29	59	39	Map	T1 TRANSECT SOUTH OF T1-3S
	T1-5N		CANAL	252106.416	802637.207	839886.78	370484.638	Miami-Dade	US1	28	58	39	Map	T1 TRANSECT BETWEEN C-109 AND US1, NORTH OF C-111
	T1-5S		CANAL	251516.43	802637.21	840033.142	335152.334	Miami-Dade	C-111 COASTAL	32	59	39	Map	T1 TRANSECT ESTUARY NORTH OF LONG SOUND
	T1-6S		CANAL	251448.431	802637.21	840044.831	332325.78	Miami-Dade	C-111 COASTAL	32	59	39	Map	T1 TRANSECT ESTUARY NORTH OF LONG SOUND BUT SOUTH OF T1-5S
	T1-7S		CANAL	251420.432	802637.211	840056.52	329499.24	Miami-Dade	FLORIDA KEYS				Map	T1 TRANSECT NORTHEAST LONG SOUND
	T1-9S		CANAL	251352.433	802637.211	840068.206	326672.704	Miami-Dade	FLORIDA KEYS				Map	T1 TRANSECT SOUTHEAST LONG SOUND
	T12		FACILITY	264103	802230	860246.814	854866.425	Palm Beach	S-5A	32	43	40	Map	SECOND TANK IN FROM WEST IN PROJECT MDOS
	T18		FACILITY	264103	802230	860246.814	854866.425	Palm Beach	S-5A	32	43	40	Map	EIGTH TANK IN FROM WEST IN PROJECT MDOS
	T19		FACILITY	264103	802230	860246.814	854866.425	Palm Beach	S-5A	32	43	40	Map	NINTH TANK IN FROM WEST IN PROJECT MDOS
	T1W01		WELL	265624.4	801020.021	925855.497	948286.106	Palm Beach	LOXAHATCHEE WILD AND SCENIC	5	41	42	Map	LOXAHATCHEE RIVER BASIN STUDY BY UF 2008
	T2-1		WETLAND	252409.273	803601.619	788056.369	388759.644	Miami-Dade	TAYLOR SLOUGH	11	58	37	Map	PERIPHYTON/WQ MONITORING
	T2-10S		CANAL	251256.437	802905.215	826499.469	320965.583	Miami-Dade	FLORIDA KEYS				Map	T2 TRANSECT SOUTHWEST LONG SOUND
	T2-11S		CANAL	251228.438	802905.215	826510.273	318139.068	Miami-Dade	FLORIDA KEYS				Map	T2 TRANSECT NORTHEAST FLORIDA BAY
	T2-1N		CANAL	251704.427	802905.213	826403.637	346000.667	Miami-Dade	C-111 COASTAL	24	59	38	Map	T2 TRANSECT BETWEEN C-111 AND END BOUNDARY
	T2-1S		CANAL	251704.427	802905.213	826403.637	346000.667	Miami-Dade	C-111 COASTAL	24	59	38	Map	T2 TRANSECT JUST SOUTH OF END BOUNDARY
	T2-2		WETLAND	252415.993	803606.059	787647.22	389436.811	Miami-Dade	TAYLOR SLOUGH	2	58	37	Map	PERIPHYTON/WQ MONITORING
	T2-2N		CANAL	251835.423	802905.212	826368.413	355187.025	Miami-Dade	C-111 SOUTH	12	59	38	Map	T2 TRANSECT JUST NORTH OF C-111

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:

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:

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Site Information

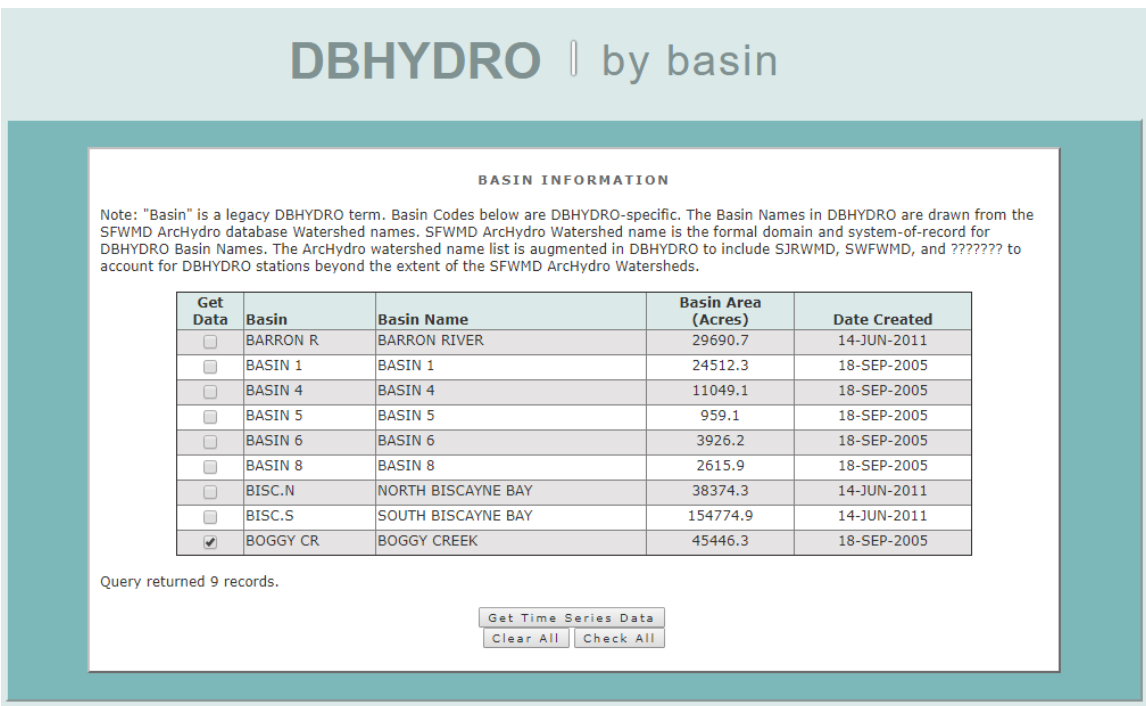
Get Data	Site Name	Site Type	Site Group	Site Priority	Contact Authority	Site Status	Site Status Date	Rec Status	Description
☐	T3			2		A	16-OCT-2001	A	
☐	T5			2		A	16-OCT-2001	A	
☐	TAFT			2	WAYNE HERMANN	A	18-FEB-1992	A	TAFT PROPERTY NEAR ORLANDO
☐	TAFT DWI			2		A	01-JAN-1900	A	CANAL INFLOW TO TAFT DRAINWELL
☐	TALISMAN			1		A	01-JAN-1900	A	TALISMAN SUGAR - US SUGAR
☐	TALYC.EO			2		A	01-JAN-1900	A	SCS STRUCTURE ON EAST OTTER CREEK TRIBUTARY TO TAYLOR CRE
☐	TALYC.N2			2		A	01-JAN-1900	A	SCS STRUCTURE ON N.W. TAYLOR CREEK DOWNSTREAM FROM BRID
☐	TAM.S333			2		A	01-JAN-1900	A	TAMIAMI CANAL ABOVE S-333 NR MIAMI,FL
☐	TAMBR1			1		A	01-FEB-1991	A	
☐	TAMBR2			1		A	01-FEB-1991	A	
☐	TAMBR3			1		A	01-FEB-1991	A	
☐	TAMBR4			1		A	01-FEB-1991	A	
☐	TAMBR5			1		A	17-APR-1991	A	
☐	TAMBR6			1		A	18-JUL-1991	A	
☐	TAMBR90			1		A	30-OCT-2000	A	
☐	TAMI		XXXX	3		D	18-FEB-1992	A	
☐	TAMI AIR			1		A	01-JAN-1900	A	TAMIAMI AIRPORT
☐	TAMI DBL			1		A	01-JAN-1900	A	TAMIAMI CANAL AT DADE-BROWARD LEVEE
☐	TAMI.115			2		A	01-JAN-1900	A	TAMIAMI CANAL @ BRIDGE 115
☐	TAMI.40M			2		A	01-JAN-1900	A	TAMIAMI CANAL OUTLETS, 40-MILE BEND TO MONROE, F
☐	TAMI.77			2		A	01-JAN-1900	A	TAMIAMI CANAL AT BRIDGE 77, NR. CARNESTOWN, FLOR
☐	TAMI.83			2		A	01-JAN-1900	A	TAMIAMI CANAL OUTLETS AT BRIDGE 83
☐	TAMI.96			2		A	01-JAN-1900	A	TAMIAMI CANAL @ BRIDGE 96
☐	TAMIA		XXXX	3		D	18-FEB-1992	A	
☐	TAMIAMI			2		A	01-JAN-1900	A	TAMIAMI CANAL OUTLETS, MONROE TO CARNESTOWN, FLA
☐	TAMIBR37	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 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:



Get Data	Basin	Basin Name	Basin Area (Acres)	Date Created
☐	BARRON R	BARRON RIVER	29690.7	14-JUN-2011
☐	BASIN 1	BASIN 1	24512.3	18-SEP-2005
☐	BASIN 4	BASIN 4	11049.1	18-SEP-2005
☐	BASIN 5	BASIN 5	959.1	18-SEP-2005
☐	BASIN 6	BASIN 6	3926.2	18-SEP-2005
☐	BASIN 8	BASIN 8	2615.9	18-SEP-2005
☐	BISC.N	NORTH BISCAYNE BAY	38374.3	14-JUN-2011
☐	BISC.S	SOUTH BISCAYNE BAY	154774.9	14-JUN-2011
☑	BOGGY CR	BOGGY CREEK	45446.3	18-SEP-2005

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

sfwmd.gov

DBHYDRO | time series

Get Data	Dbkey	Station	Group	Site	Data Type	Freq	Stat	Recorder	Agency	Start Date	End Date	Strata	Op Num	County	Latitude	Longitude	X Coord	Y Coord	Basin	Struct	Sec	Twp	Rng
	PT351	086628-1	086628	086628	RAIN	DA	SUM	NA	NOAA	01-FEB-1974	28-JUN-1996	0		ORA	282700	811900	554408.83	1496444.61	BOGGY CR		33	23	30
	PT352	086628-2	086628	086628	RAIN	DA	SUM	NA	NOAA	01-JUL-1996	28-DEC-2001	0		ORA	282602	811930	551715.153	1490593.988	BOGGY CR		4	24	30
	PT482	086633-1	086633	086633	RAIN	DA	SUM	NA	NOAA	18-FEB-1950	28-DEC-1958	0		ORA	283300	812100	543803.396	1532833.203	BOGGY CR		30	22	30
	PT354	086638-1	086638	086638	RAIN	DA	SUM	NA	NOAA	01-JUL-1948	28-JAN-1974	0		ORA	283300	812000	549154.059	1532817.953	BOGGY CR		29	22	30
	10759	82511802	82511802	82511802	WELL	RI	RAND	????	USGS	16-MAY-1980	23-SEP-1981	400		ORA	282509.015	811857.234	554626.396	1485235.14	BOGGY CR		9	24	30
	10760	82512101	82512101	82512101	WELL	RI	RAND	????	USGS	12-MAY-1980	12-MAY-1980	467		ORA	282522.015	812141.236	539986.919	1486589.263	BOGGY CR		1	24	29
	10798	82512203	82512203	82512203	CLD	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	455		ORA	282535.015	812205.237	537848.063	1487908.662	BOGGY CR		1	24	29
	10801	82512203	82512203	82512203	H2OT	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	455		ORA	282535.015	812205.237	537848.063	1487908.662	BOGGY CR		1	24	29
	10800	82512203	82512203	82512203	PH	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	455		ORA	282535.015	812205.237	537848.063	1487908.662	BOGGY CR		1	24	29
	10799	82512203	82512203	82512203	SCOND	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	455		ORA	282535.015	812205.237	537848.063	1487908.662	BOGGY CR		1	24	29
	09487	82512203	82512203	82512203	WELL	RI	RAND	????	USGS	11-SEP-1980	09-SEP-1987	455		ORA	282535.015	812205.237	537848.063	1487908.662	BOGGY CR		1	24	29
	10868	82911801	82911801	82911801	WELL	RI	RAND	????	USGS	14-MAY-1980	25-SEP-1981	422		ORA	282956.005	811817.232	558271.474	1514210.722	BOGGY CR		10	23	30
	09513	83011901	83011901	83011901	WELL	RI	RAND	????	USGS	22-MAY-1987	09-SEP-1987	427		ORA	283018.004	811951.234	549890.711	1516454.81	BOGGY CR		8	23	30
	10420	830120	830120	830120	CLD	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283047.003	812003.234	548828.274	1519386.592	BOGGY CR		5	23	30
	10423	830120	830120	830120	H2OT	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283047.003	812003.234	548828.274	1519386.592	BOGGY CR		5	23	30
	10422	830120	830120	830120	PH	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283047.003	812003.234	548828.274	1519386.592	BOGGY CR		5	23	30
	10421	830120	830120	830120	SCOND	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283047.003	812003.234	548828.274	1519386.592	BOGGY CR		5	23	30
	10878	831119	831119	831119	CLD	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283104.003	811954.234	549635.923	1521101.253	BOGGY CR		5	23	30
	10881	831119	831119	831119	H2OT	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283104.003	811954.234	549635.923	1521101.253	BOGGY CR		5	23	30
	10880	831119	831119	831119	PH	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283104.003	811954.234	549635.923	1521101.253	BOGGY CR		5	23	30
	10879	831119	831119	831119	SCOND	RI	RAND	????	USGS	24-APR-1986	24-APR-1986	0		ORA	283104.003	811954.234	549635.923	1521101.253	BOGGY CR		5	23	30
	10889	83112001	83112001	83112001	WELL	RI	RAND	????	USGS	14-MAY-1980	25-SEP-1981	464		ORA	283148.001	812035.234	545991.183	1525555.278	BOGGY CR		32	22	23
	09569	83112107	83112107	83112107	CLD	RI	RAND	????	USGS	10-JUN-1987	10-JUN-1987	-142		ORA	283148.002	812146.236	539658.239	1525573.939	BOGGY CR		36	22	29
	09516	83112203	83112203	83112203	WELL	RI	RAND	????	USGS	13-MAY-1987	09-SEP-1987	483		ORA	283106.003	812221.237	536523.176	1521341.774	BOGGY CR		36	22	29
	10890	83112204	83112204	83112204	CLD	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	-166		ORA	283155.001	812206.236	537876.484	1526286.342	BOGGY CR		36	22	29
	10893	83112204	83112204	83112204	H2OT	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	-166		ORA	283155.001	812206.236	537876.484	1526286.342	BOGGY CR		36	22	29
	10892	83112204	83112204	83112204	PH	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	-166		ORA	283155.001	812206.236	537876.484	1526286.342	BOGGY CR		36	22	29
	10891	83112204	83112204	83112204	SCOND	RI	RAND	????	USGS	07-MAY-1984	07-MAY-1984	-166		ORA	283155.001	812206.236	537876.484	1526286.342	BOGGY CR		36	22	29
	09570	83112229	83112229	83112229	CLD	RI	RAND	????	USGS	25-APR-1986	06-JUL-1987	-122		ORA	283123.003	812249.237	534030.847	1523066.517	BOGGY CR		2	23	29
	11108	83112229	83112229	83112229	PH	RI	RAND	????	USGS			-122		ORA	283123.003	812249.237	534030.847	1523066.517	BOGGY CR		2	23	29
	11107	83112229	83112229	83112229	SCOND	RI	RAND	????	USGS			-122		ORA	283123.003	812249.237	534030.847	1523066.517	BOGGY CR		2	23	29
	09519	83112319	83112319	83112319	WELL	RI	RAND	????	USGS	13-MAY-1987	09-SEP-1987	1232		ORA	283136.002	812320.238	531269.833	1524388.317	BOGGY CR		34	22	29
	09560	83212121	83212121	83212121	CLD	RI	RAND	????	USGS	11-JUN-1987	11-JUN-1987	-121		ORA	283224	812114.235	542523.27	1529201.184	BOGGY CR		30	22	30

Real Time Data

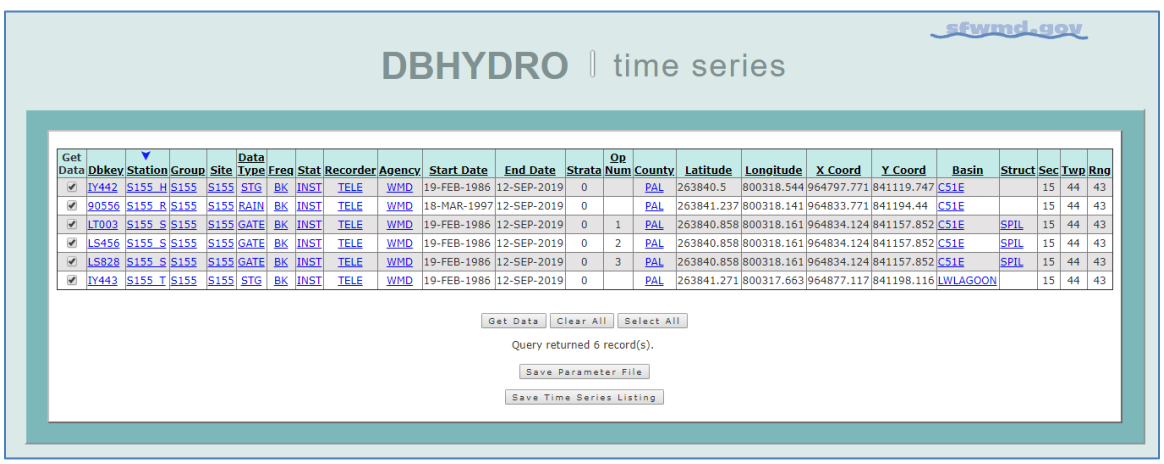
Click on the "Real Time Data" link from the main menu. This option is presently only available for users whose login credentials have been authenticated on the SFWMD computer network. If the user is a SFWMD employee and the Real Time Data option does not appear, click on the "Login" hyperlink on the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

[SFWMD real time data can also be accessed from www.sfwmd.gov → Science & Data → Real-Time Data. Real-time weather data can also be accessed from Science & Data → Weather]

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.

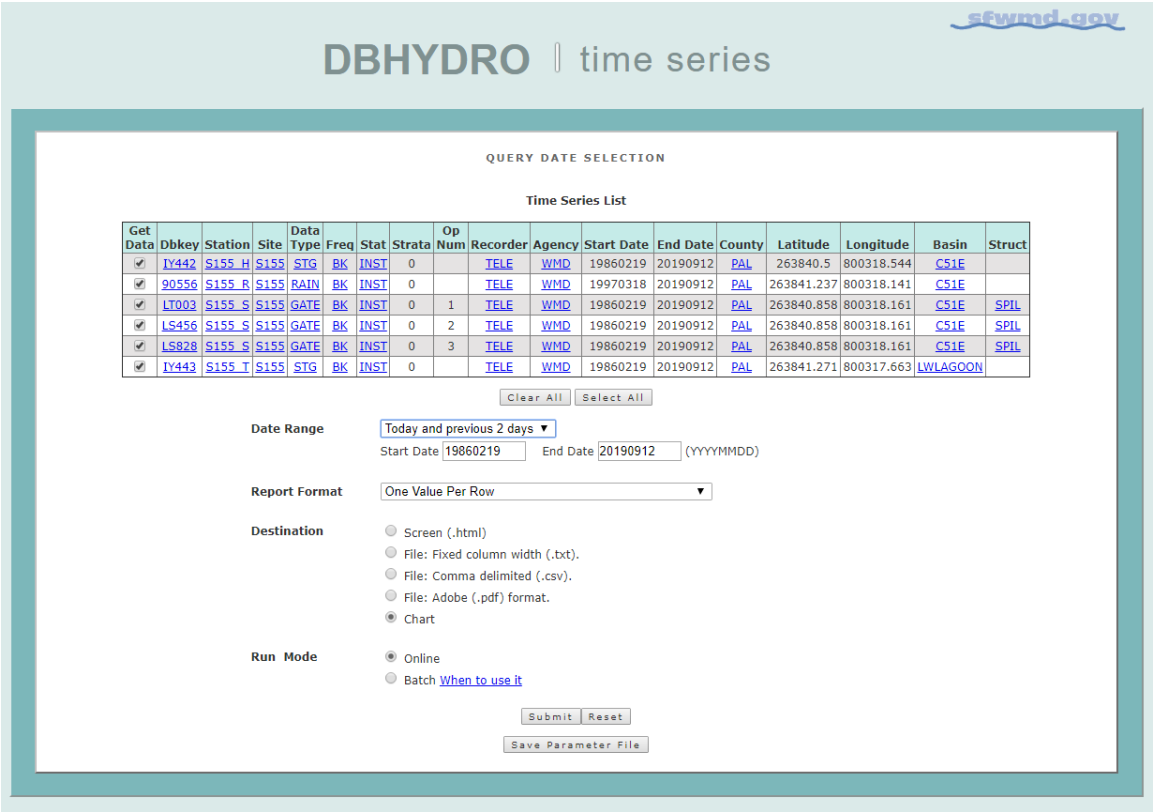
The user then clicks on site S155 from the list of values and clicks on the "Submit" button.

Subsequently, the user checks off the time series of interest (or uses the Select All button to get them all) and clicks on the "Get Data" button.



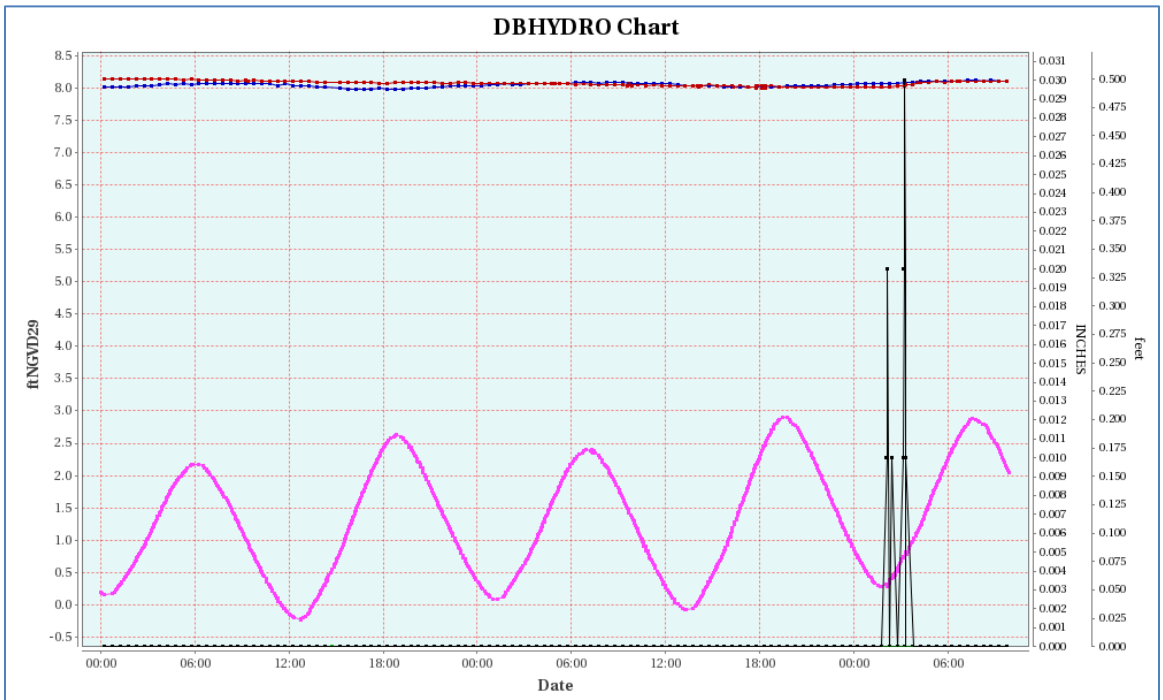
Get Data	Dbkey	Station	Group	Site	Data Type	Freq	Stat	Recorder	Agency	Start Date	End Date	Strata	Op Num	County	Latitude	Longitude	X Coord	Y Coord	Basin	Struct	Sec	Twp	Rng
☑	IY442	S155_H	S155	S155	STG	BK	INST	TELE	WMD	19-FEB-1986	12-SEP-2019	0		PAL	263840.5	800318.544	964797.771	841119.747	C51E		15	44	43
☑	90556	S155_R	S155	S155	RAIN	BK	INST	TELE	WMD	18-MAR-1997	12-SEP-2019	0		PAL	263841.237	800318.141	964833.771	841194.44	C51E		15	44	43
☑	LT003	S155_S	S155	S155	GATE	BK	INST	TELE	WMD	19-FEB-1986	12-SEP-2019	0	1	PAL	263840.858	800318.161	964834.124	841157.852	C51E	SPIL	15	44	43
☑	LS456	S155_S	S155	S155	GATE	BK	INST	TELE	WMD	19-FEB-1986	12-SEP-2019	0	2	PAL	263840.858	800318.161	964834.124	841157.852	C51E	SPIL	15	44	43
☑	LS828	S155_S	S155	S155	GATE	BK	INST	TELE	WMD	19-FEB-1986	12-SEP-2019	0	3	PAL	263840.858	800318.161	964834.124	841157.852	C51E	SPIL	15	44	43
☑	IY443	S155_T	S155	S155	STG	BK	INST	TELE	WMD	19-FEB-1986	12-SEP-2019	0		PAL	263841.271	800317.663	964877.117	841198.116	LWLAGOON		15	44	43

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.



Get Data	Dbkey	Station	Site	Data Type	Freq	Stat	Strata	Op Num	Recorder	Agency	Start Date	End Date	County	Latitude	Longitude	Basin	Struct
✓	IY442	S155_H	S155	STG	BK	INST	0		TELE	WMD	19860219	20190912	PAL	263840.5	800318.544	C51E	
✓	90556	S155_R	S155	RAIN	BK	INST	0		TELE	WMD	19970318	20190912	PAL	263841.237	800318.141	C51E	
✓	LT003	S155_S	S155	GATE	BK	INST	0	1	TELE	WMD	19860219	20190912	PAL	263840.858	800318.161	C51E	SPIL
✓	LS456	S155_S	S155	GATE	BK	INST	0	2	TELE	WMD	19860219	20190912	PAL	263840.858	800318.161	C51E	SPIL
✓	LS828	S155_S	S155	GATE	BK	INST	0	3	TELE	WMD	19860219	20190912	PAL	263840.858	800318.161	C51E	SPIL
✓	IY443	S155_T	S155	STG	BK	INST	0		TELE	WMD	19860219	20190912	PAL	263841.271	800317.663	LWLAGOON	

A hydrograph with current data is generated and displayed:



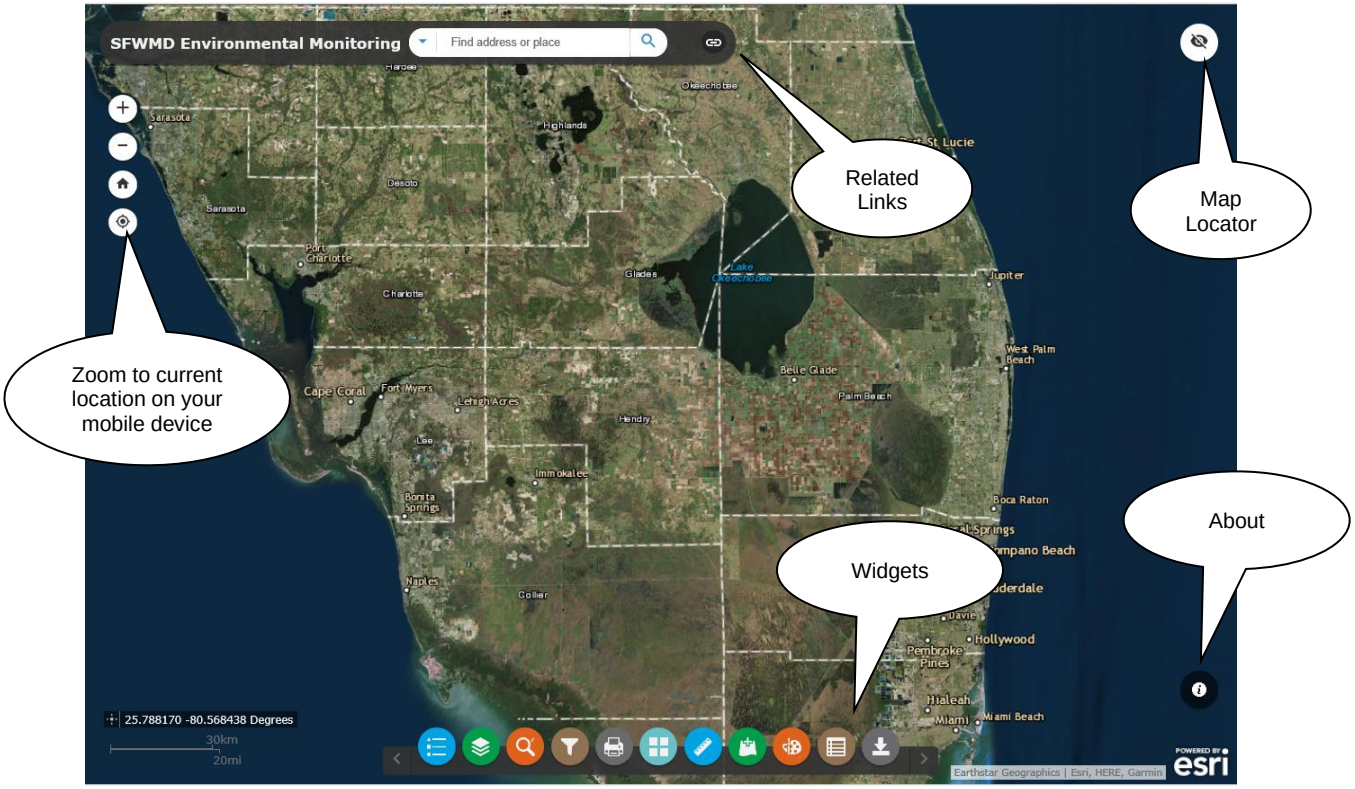
Provisional data, if present, are indicated by square symbol.

DBKey	Station	Agency	Data Type	Unit	Statistic	Frequency	Strata	Gate/Pump#
IY442	S155_H	WMD	STG	ft NGVD29	INST	BK	0	N/A
90556	S155_R	WMD	RAIN	INCHES	INST	BK	0	N/A
LT003	S155_S	WMD	GATE	feet	INST	BK	0	1
LS456	S155_S	WMD	GATE	feet	INST	BK	0	2
LS828	S155_S	WMD	GATE	feet	INST	BK	0	3
IY443	S155_T	WMD	STG	ft NGVD29	INST	BK	0	N/A

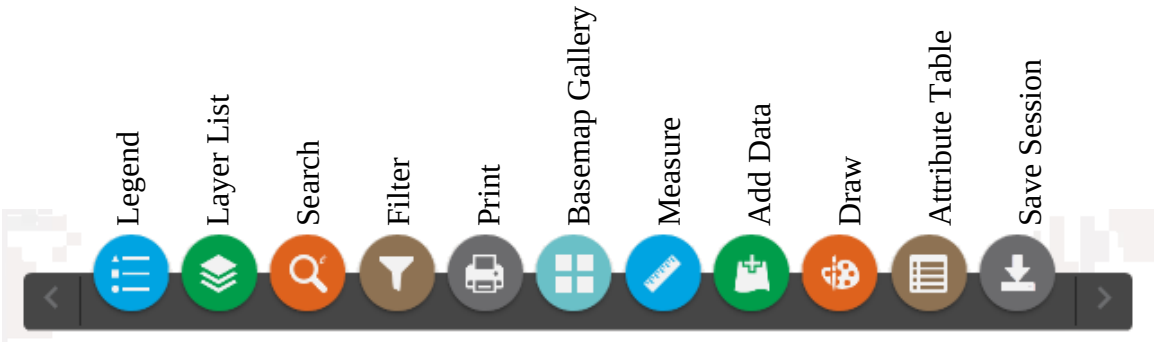
This graph shows stage (water levels) and gate openings for the current day and previous two days. The tabular view of this data (One Value Per Row) indicates dates after which each time series is provisional. Provisional data have not yet undergone standard and accepted review procedures.

Web Map Access

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

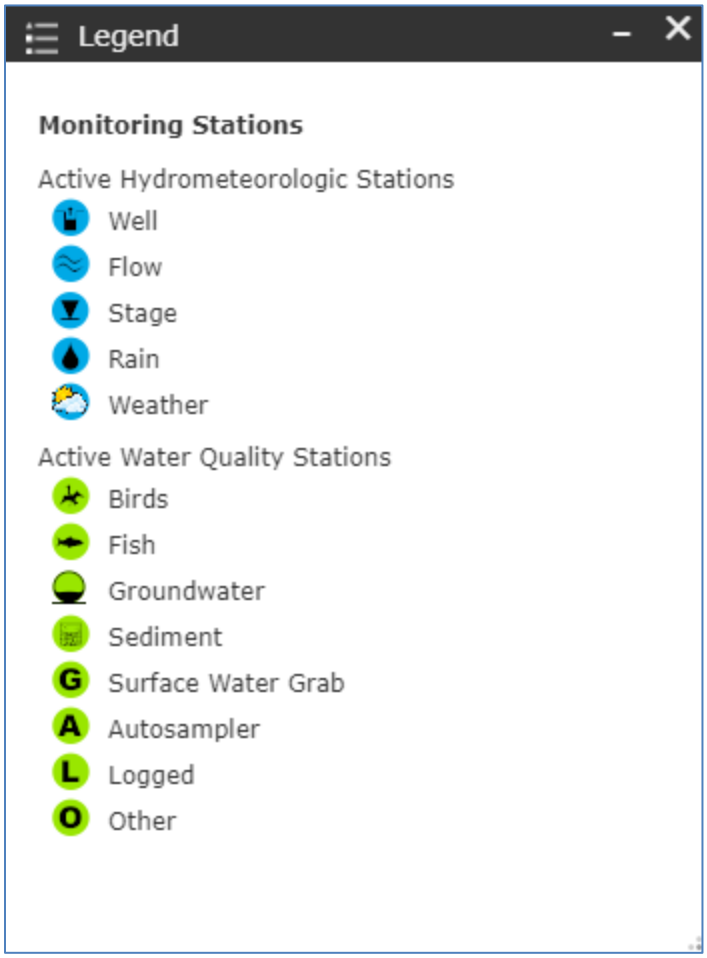


At the bottom of the map are the "widgets" to perform specific functions:

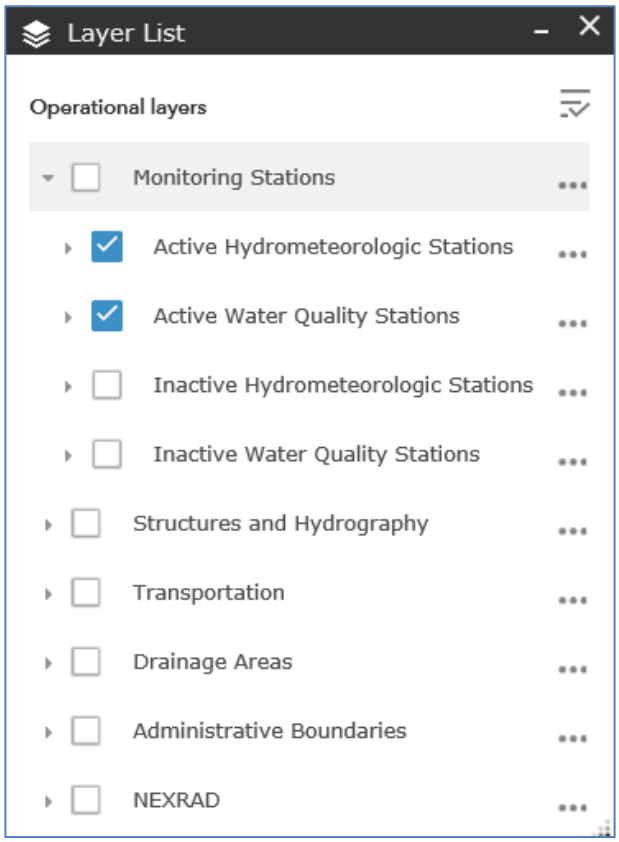


Legend Widget

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.



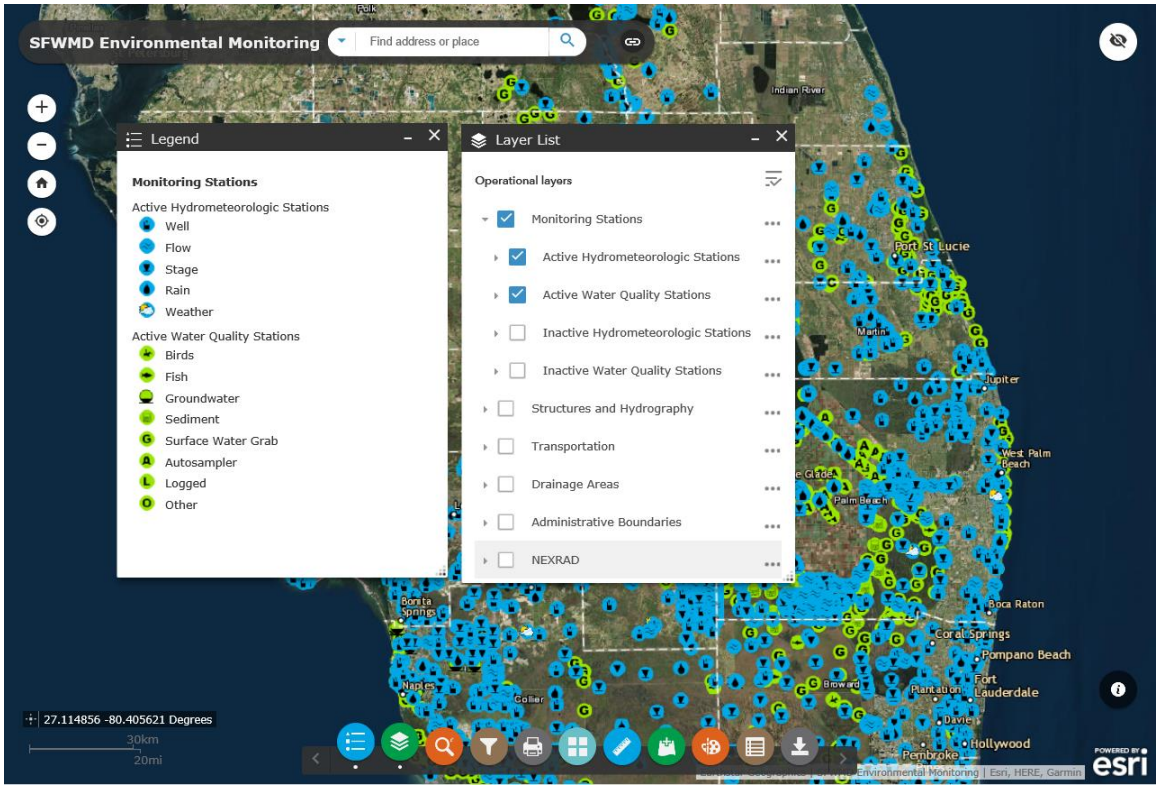
The Layer List Widget



The Layer 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 visible at all map scales.

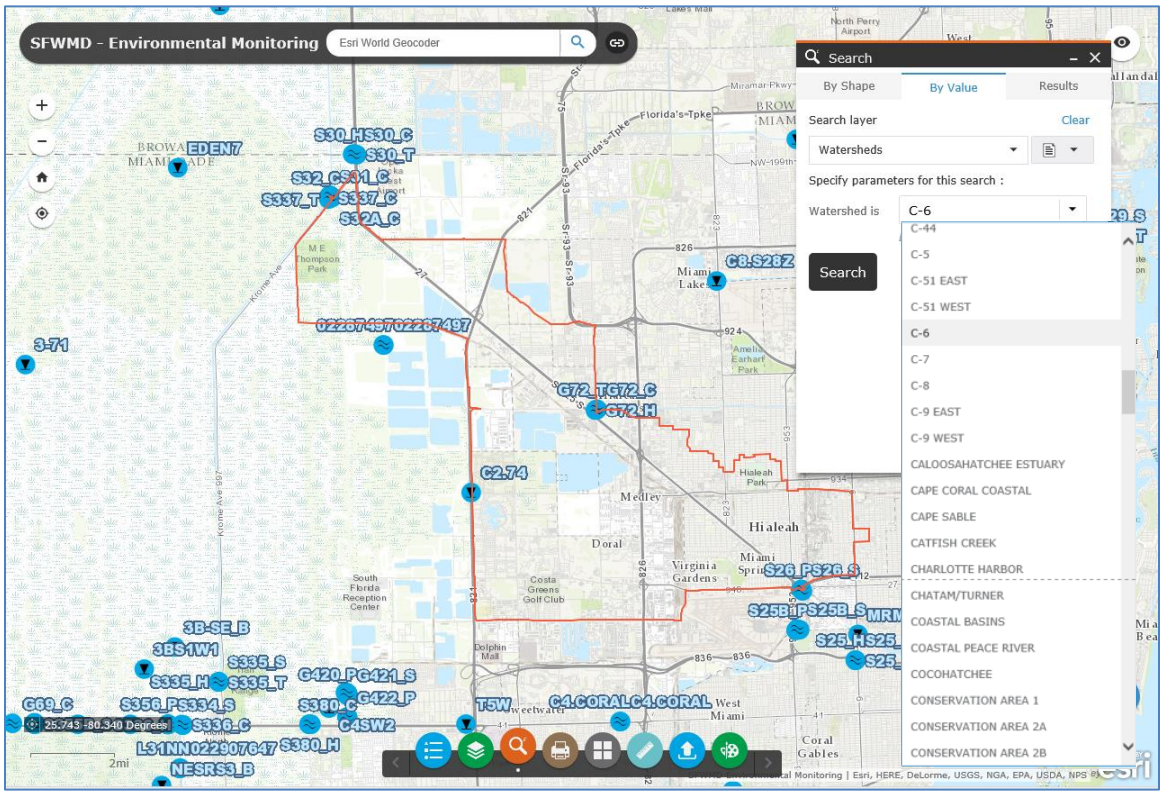
From the image below we see how the Legend List only shows the symbols for the map layers visible.

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.


SFWMD Environmental Monitoring
Find address or place
Legend
Monitoring Stations
Active Hydrometeorologic Stations
Well
Flow
Stage
Rain
Weather
Active Water Quality Stations
Birds
Fish
Groundwater
Sediment
Surface Water Grab
Autosampler
Logged
Other
Layer List
Operational layers
Monitoring Stations
Active Hydrometeorologic Stations
Active Water Quality Stations
Inactive Hydrometeorologic Stations
Inactive Water Quality Stations
Structures and Hydrography
Transportation
Drainage Areas
Administrative Boundaries
NEXRAD
Indian River
Fort St Lucie
Martin
Jupiter
West Palm Beach
Palm Beach
Boca Raton
Coral Springs
Pompano Beach
Fort Lauderdale
Plantation
Davie
Hollywood
Pembroke
Broward
Collier
Naples
Bonita Springs
27.114856 -80.405621 Degrees
30km
20mi
Environmental Monitoring | Esri, HERE, Garmin
esri

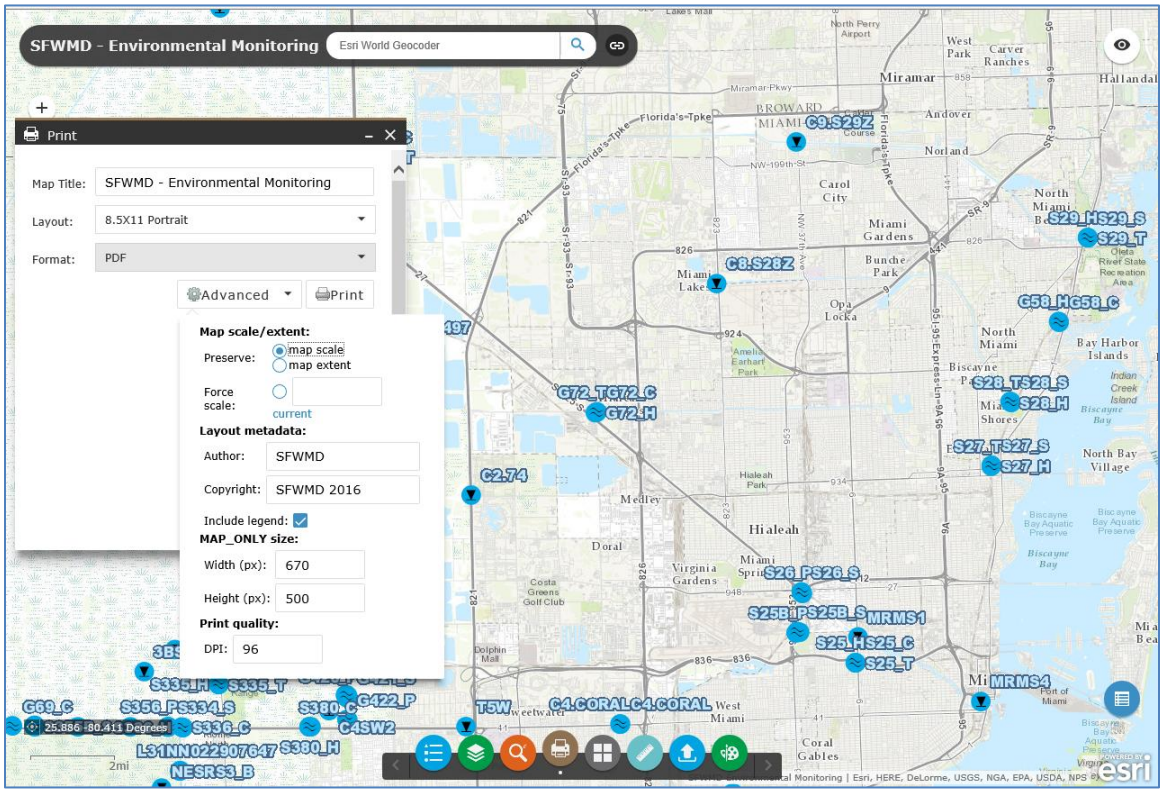
Search Widget

The Search widget allows the user to find a station or site based on its name, a structure by name, a NEXRAD cell by Feature Id, a waterbody by name, a watershed by name, a canal by name (or alias) or a county by name. In the example below the choice of the C-6 watershed zooms the map to the watershed, highlights its boundary, and shows all the features turned on and revealed at that scale.



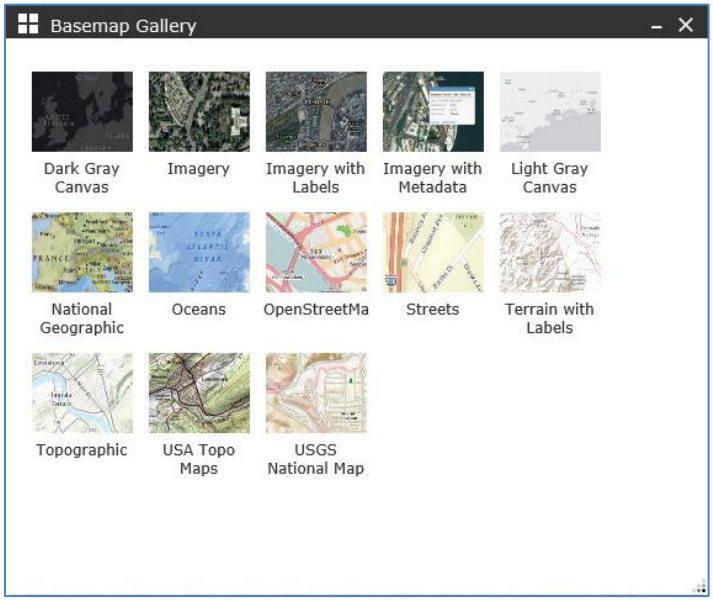
Print Widget

The Print widget provides the capability to save a quality map in a number of formats including PDF and JPG and then print it. Map title, author, and copyright are configurable as are image resolution, size, and extent. Layouts such as portrait or landscape and paper size can be selected from several choices.



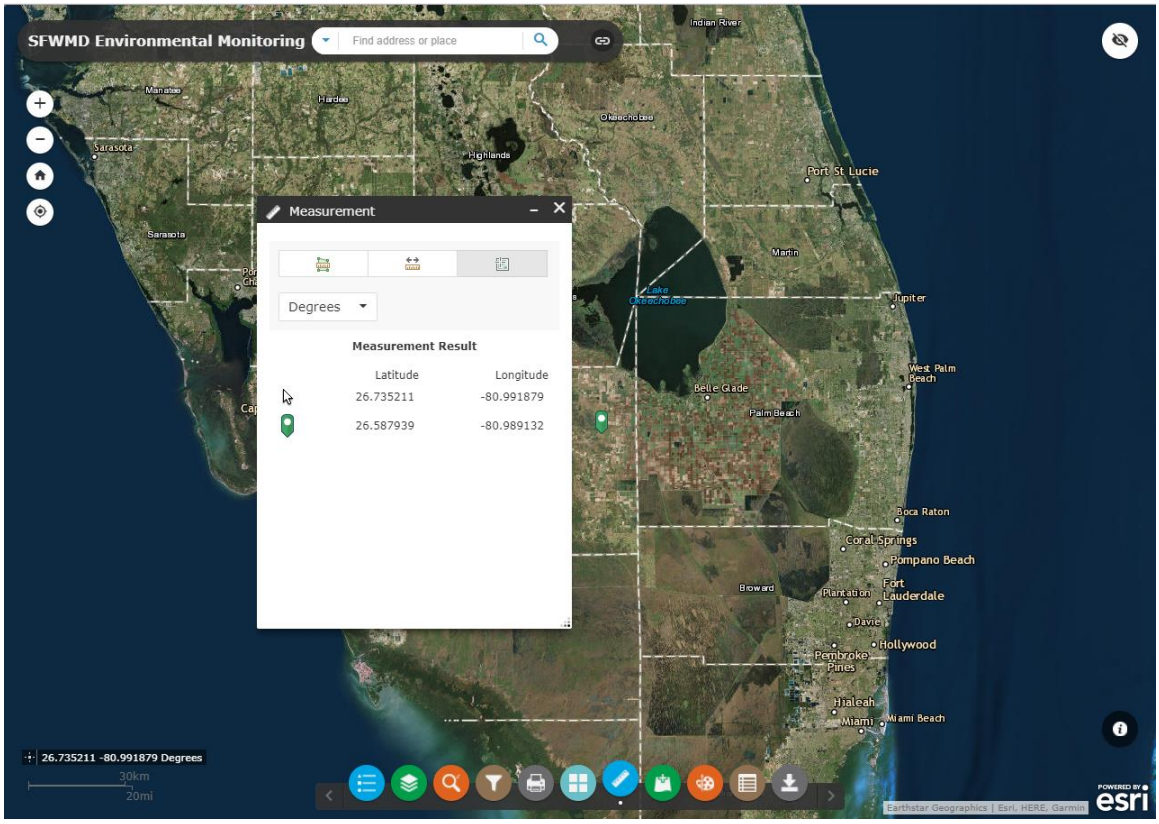
Basemap Gallery Widget

The Basemap Gallery widget allows the user to choose from 13 basemaps including imagery. The default basemap is Imagery. Some users find topographic useful. It is easy to switch among basemaps with the basemap widget.



Measure Widget

The Measure widget allows the user to capture point location information and measure both linear distances and areas in a variety of measurement units.



Add Data Widget

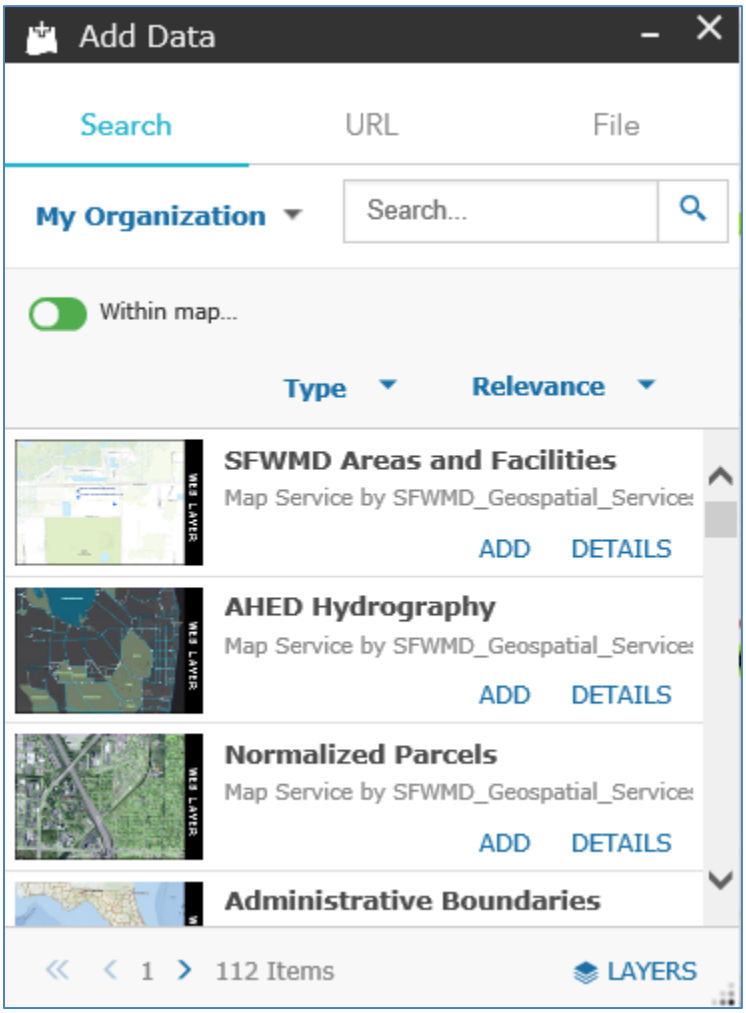
The Add Data widget provides the ability to add:

- ArcGIS Online content,
- ArcGIS Server Web Service, services,
- or your own data files to the map.

You can drop or browse for one the following file types:

- a Shapefile (.zip, ZIP archive containing all shapefile files),
- a CSV File (.csv, with address or latitude, longitude and comma, semi-colon or tab delimited),
- a GPX File (.gpx, GPS Exchange Format), or
- a GeoJSON File (.geo.json or .geojson).

A maximum of 1000 features is allowed.

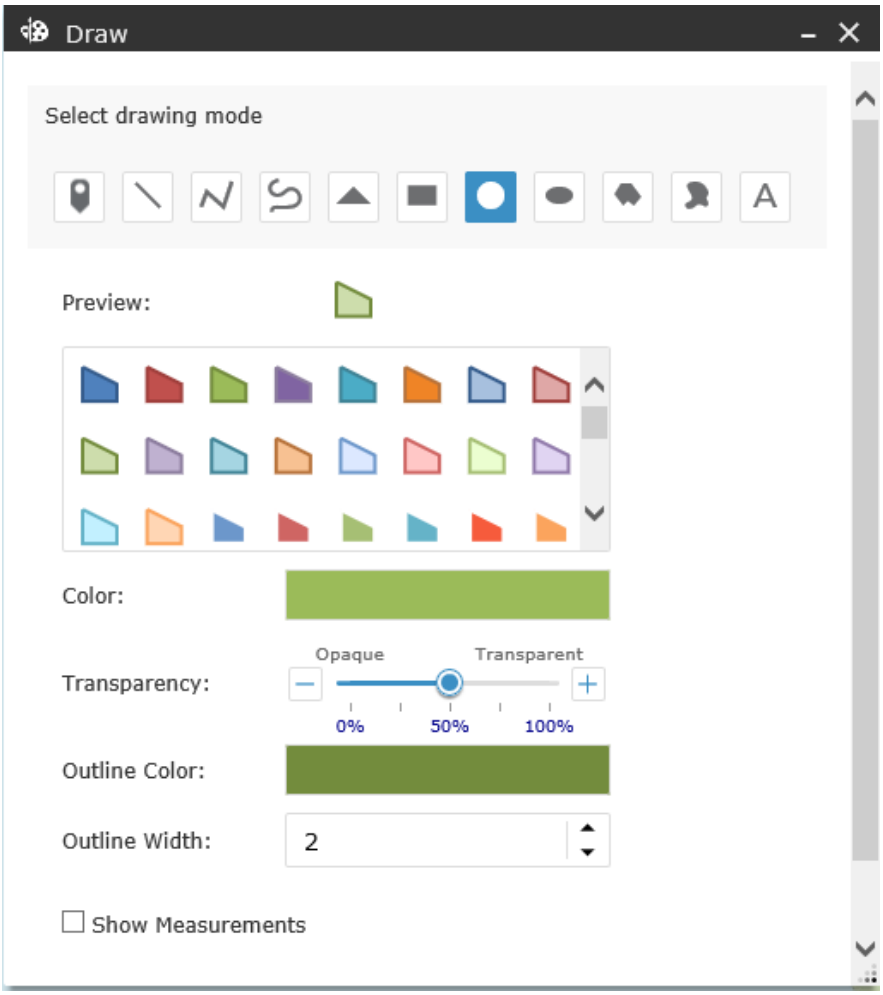


Draw Widget

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.

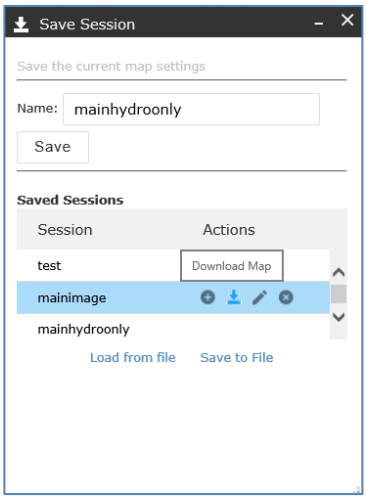


Save Session Widget

The Save Session widget allows you to save your map. Open the widget and type the name you wish to give the session then click Save. The current map settings are saved. You may save multiple sessions.

You have the option to Save all sessions to your computer. Click Save to File and browse to your desired location.

If you want to open a file click on Load from file and browse to that location.



To edit the session name click on the pencil icon.

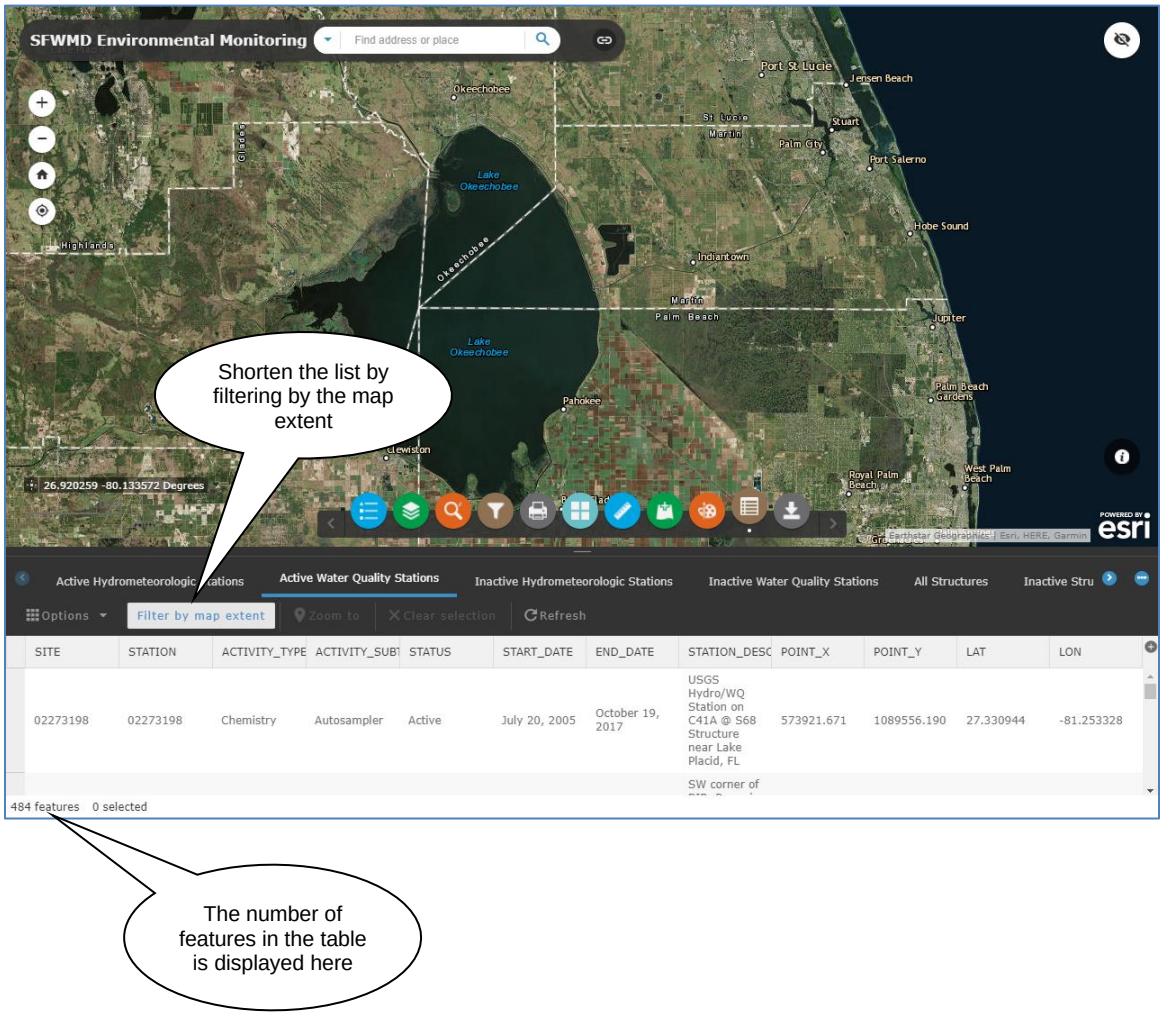
To delete the session from the list click on the Delete icon.

To save individual map files click on the desired session within the list of saved sessions and click on Download Map.

To bring a particular saved map into view click on the desired session within the list of saved sessions and click on Load Map.

To recall a previously saved session, select Load from file. Browse to your location. Locate the .zip file. Unzip the file using a program such as WinZip or 7-Zip. Locate the file within the .zip named session.json. Extract session.json to the current directory. This file contains your saved map. Select the file. Open the file. The file was added to your map. Click OK.

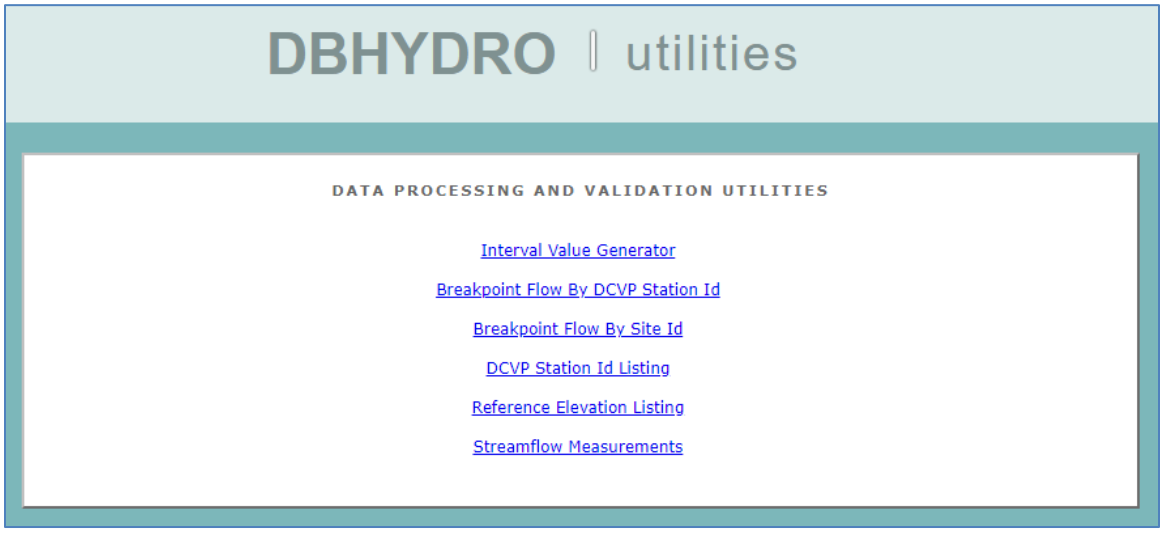
Attribute Table Widget



Data Processing and Validation Utilities

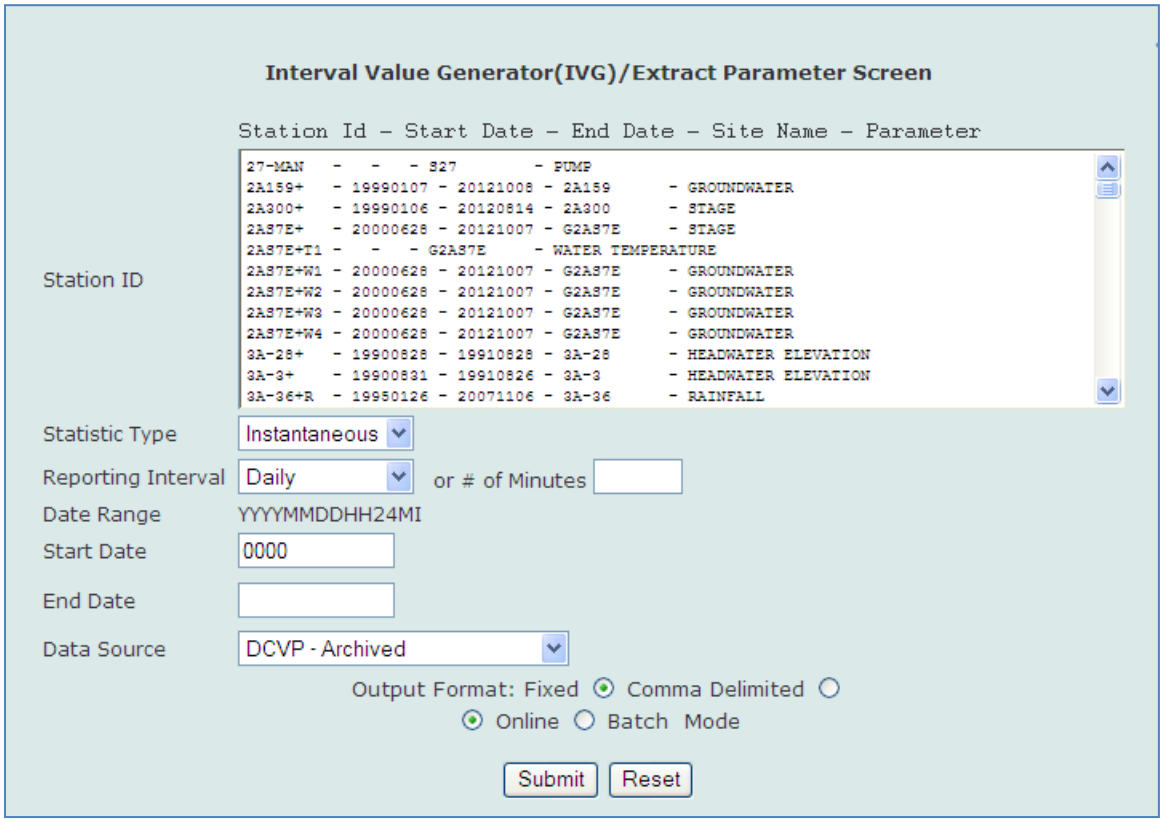
This option is available on the SFWMD intranet only.

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

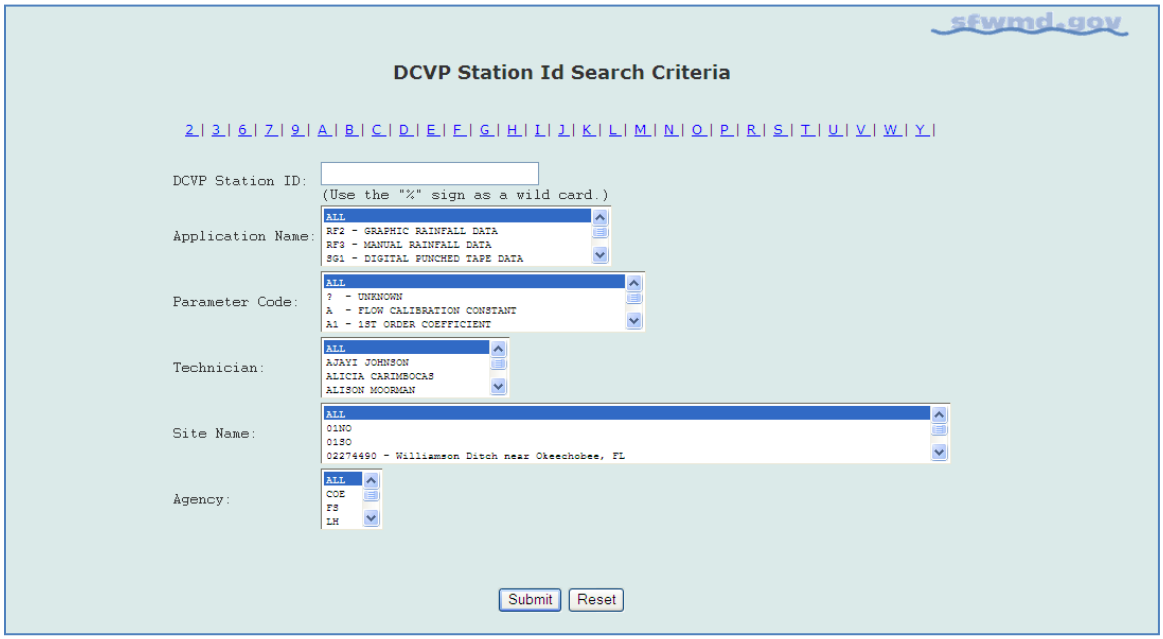
Clicking on the "Interval Value Generator" link brings the user to the following screen:



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 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 dataare received.

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

DCVP Station Id Reference Information

Get Data	DCVP Station Id	Site Name	Application Name	Parameter Code	Operation Code	Operation Number	Archive Start Date	Archive End Date	Datum & RPOR	Technician	Altern. Tech.	Recorder Class	Priority	Processed	Collected	Current Status	Station Status Date	Project Code	Min Value	Max Value	Min Rate	Max Rate	Convers Facto
	T3@H	T3	SG3	ST			09-JUL-1993	31-DEC-1994	Info			MANUAL SCADA	2	N	N	D	12-FEB-2014						0
	T5+STG	T5	SG3	ST			21-JUL-1992	05-JUL-2006	Info	ajaufma		LOGGERNET	2	N	N	D	03-MAR-1992		0	15	0	0	0
	T5-STG	T5	SG4	ST			27-JUL-2006	03-DEC-2013	Info	ajaufma		MOSCAD	1	N	N	D	12-DEC-2013		0	18	0	0	
	T5W-	T5W	SG4	ST			30-OCT-2013	05-AUG-2018	Info	mbarbara		MOSCAD	2	Y	Y	A	27-OCT-2013						
	TAFT+GW	TAFT	SG3	GW			09-JUL-2004	08-JUL-2006	Info			LOGGERNET	1	N	N	D	01-JUL-2004		90	99	0	0	0
	TAFT+R	TAFT	SG3	R	7		09-JUL-2004	08-JUL-2006	Info			LOGGERNET	1	N	N	D	01-JUL-2004		0	5			0
	TAFT+RR	TAFT	SG3	R			01-OCT-2007	01-SEP-2011	Info	jheron		NRG	1	N	Y	A	01-JUL-2004		0	5	0	0	
	TAM-BR37	TAMIBR37	SG1	ST			29-FEB-1984	09-MAR-1995	Info	tbrown		DIGITAL	2	N	N	D	13-JAN-1995	8041	-.25	7.7	0	0	0
	TAM-BR52	TAMIBR52	SG2	ST			16-MAY-1984	09-MAR-1995	Info	tbrown		GRAPHIC	2	N	N	D	19-JAN-1995	8041	.2	3	0	0	0
	TAM-BR55	TAMIBR55	SG2	ST			16-MAY-1984	09-MAR-1995	Info	tbrown		GRAPHIC	2	N	N	D	19-JAN-1995	8041	.05	3	0	0	0
	TAM-INDI	TAMINR37	SG1	ST			20-JUN-1981	02-MAY-1983	Info	rpinak		DIGITAL	2	N	N	D	01-JAN-1901	8041	-.1	7	0	0	0
	TAM-TOMA	TAMTOM	SG1	ST			20-JUN-1981	19-AUG-1999	Info	jzamora		DIGITAL	2	N	N	D	19-AUG-1999	8041	-1.8	6	0	0	0
	TAMBR37+	TAMIBR37	SG3	ST			13-JAN-1995	08-APR-2004	Info	tbrown		SS CR10	2	N	N	D	13-JAN-1995		-.25	7.7	0	0	
	TAMBR40+	TMBR40	SG4	ST			08-JAN-2004	01-SEP-2017	Info	tbrown		LOGGERNET	1	Y	Y	A	01-OCT-2003						
	TAMBR45+	TMBR45	SG4	ST			08-JAN-2004	14-AUG-2018	Info	tbrown		LOGGERNET	1	Y	Y	A	01-OCT-2003						
	TAMBR52+	TAMIBR52	SG3	ST			19-JAN-1995	08-APR-2004	Info	tbrown		SS CR10	2	N	N	D	19-JAN-1995		-1.59	6.27	0	0	0
	TAMBR55+	TAMIBR55	SG3	ST			19-JAN-1995	08-APR-2004	Info	tbrown		SS CR10	2	N	N	D	19-JAN-1995		-2.58	5.23	0	0	
	TAMBR66+	TMBR66	SG4	ST			08-JAN-2004	07-NOV-2016	Info	tbrown		LOGGERNET	1	N	N	I	17-NOV-2016						
	TAMBR71+	TMBR71	SG4	ST			08-JAN-2004	14-AUG-2018	Info	tbrown		LOGGERNET	1	Y	Y	A	01-OCT-2003		-.3	10	-.3	-.3	
	TAMI.WW	WWIND.41	SG1	ST			02-JUL-1986	12-DEC-1994	Info	rpinak		DIGITAL	2	N	N	D	12-DEC-1994	8041	1	6.5	0	0	0
	TAMTOM+	TAMTOM	SG4	ST			19-AUG-1999	16-AUG-2018	Info	jebeatty	jzamora	LOGGERNET	1	Y	Y	A	19-AUG-1999		.3	7.2	0	0	
	TB1+GW1	TB1	SG4	GW	W	1	01-JUL-2003	07-AUG-2018	Info	mbarbara		LOGGERNET	1	Y	Y	A	08-APR-2012		10	200	0	0	
	TB1+GW2	TB1	SG4	GW	W	2	01-JUL-2003	07-AUG-2018	Info	mbarbara		LOGGERNET	1	Y	Y	A	08-APR-2012		10	200	0	0	
	TB2+GW1	TB2	SG4	GW	W	1	26-AUG-2003	07-AUG-2018	Info	mbarbara		LOGGERNET	1	Y	Y	A	11-AUG-2003		10	200	0	0	
	TB2+GW2	TB2	SG4	GW	W	2	26-AUG-2003	07-AUG-2018	Info	mbarbara		LOGGERNET	1	Y	Y	A	11-AUG-2003		10	200	0	0	
	TB3+	TB3	SG4	ST			26-AUG-2003	07-AUG-2018	Info	mbarbara		LOGGERNET	1	Y	Y	A	26-JUL-2003		190	200	0	0	
	TB3+GW1	TB3	SG4	GW	W	1	26-AUG-2003	07-AUG-2018	Info	mbarbara		LOGGERNET	1	Y	Y	A	26-JUL-2003		190	200	0	0	
	TB3+GW2	TB3	SG4	GW	W	2	26-AUG-2003	07-AUG-2018	Info	mbarbara		LOGGERNET	1	Y	Y	A	26-JUL-2003		190	200	0	0	
	TCEO+	TCEO	SG3	ST			09-DEC-1988	30-APR-1990	Info	abokor		SS EZL	2	N	N	D	01-JAN-1901	SL53	55	59.7	0	0	0
	TCEO+C	TCEO	SG3	C			09-DEC-1988	09-JAN-1990	Info	abokor		SS EZL	2	N	N	D	01-JAN-1901	SL53	5	500			0
	TCEYDC+	TCEYDC	SG4	ST			11-DEC-2008	29-FEB-2012	Info	mcolev		LOGGERNET	1	N	N	D	24-JAN-2013		14.7	30.4	0	0	
	TCLB+	TCLB	SG3	ST			14-JUN-1989	30-APR-1990	Info	abokor		SS EZL	2	N	N	D	01-JAN-1901	SL53	32	36.5	0	0	0
	TCLB+V	TCLB	SG3	V			14-JUN-1989	30-APR-1990	Info	abokor		SS EZL	2	N	N	D	01-JAN-1901	SL53	-.5	4			0

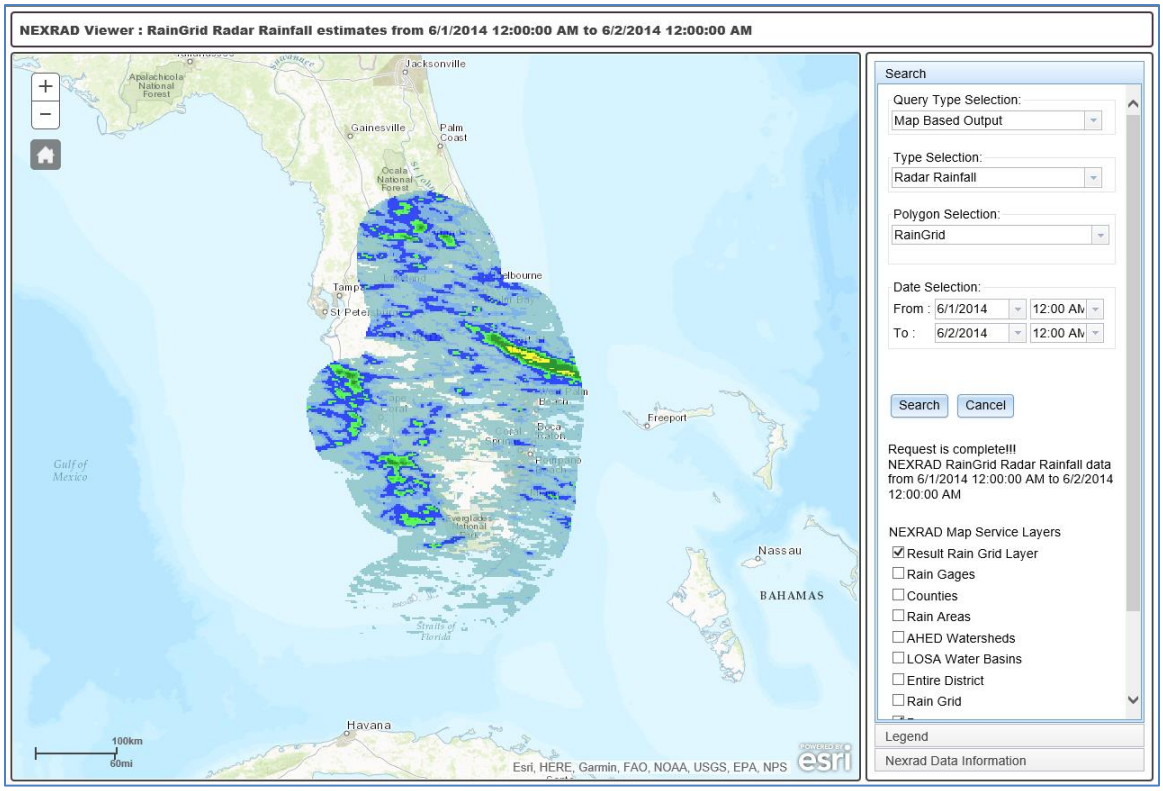
There is an extensive list of DCVP Station Id attributes, several of which are hyperlinked to other related tables to provide additional information about the particular time series. For example, the user can find out the name of the person responsible for the validation of a particular SFWMD data set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

Streamflow Measurements

Direct field measurements of streamflow conducted by SFWMD staff are accessible via the Streamflow Measurements link. Streamflow measurements are used to create water control structure rating curves to develop more accurate estimates of water control structure discharges.

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 NEXRAD radar data is available at:
https://www.ncdc.noaa.gov/data-access/radar-data/nexrad

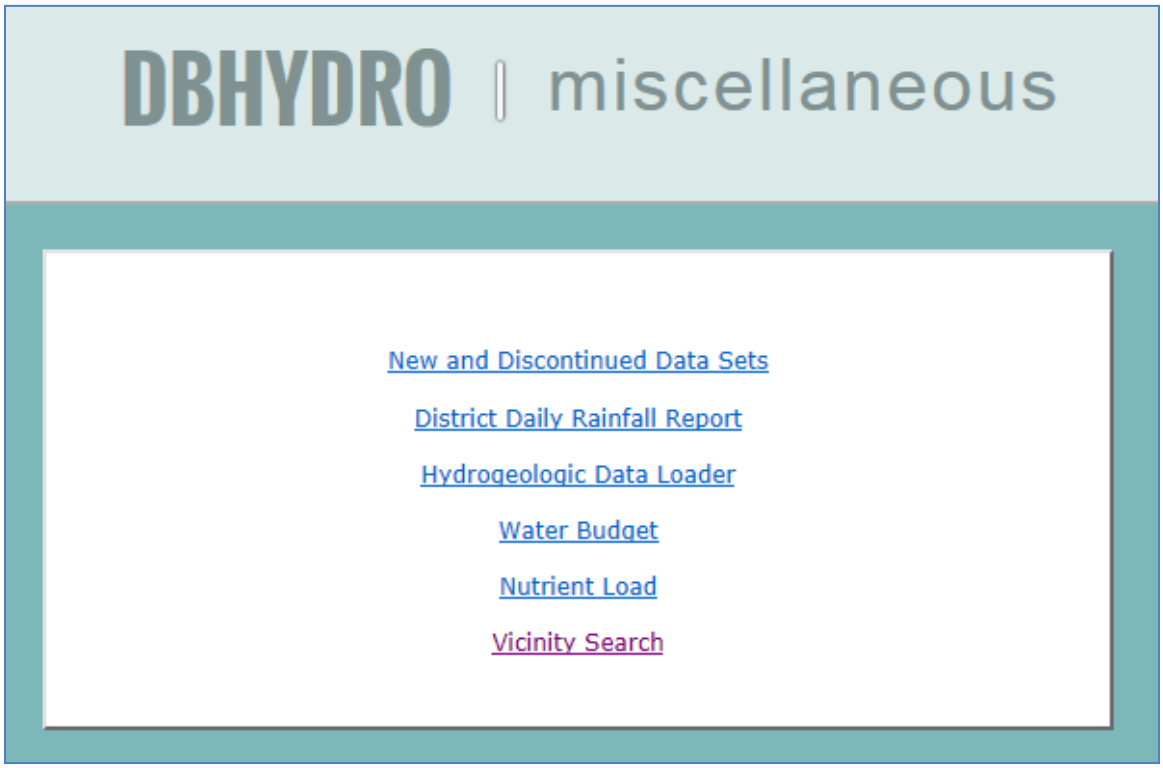
Metadata/Reference Tables

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:

sfwmd.gov

Data Sets Created in previous 14 days for Surface Water

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	E D
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		

Query returned 12 records.

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

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:

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	06-JUL-2012	DBACHAN	P	06-JUL-2012

Query returned 1 records.

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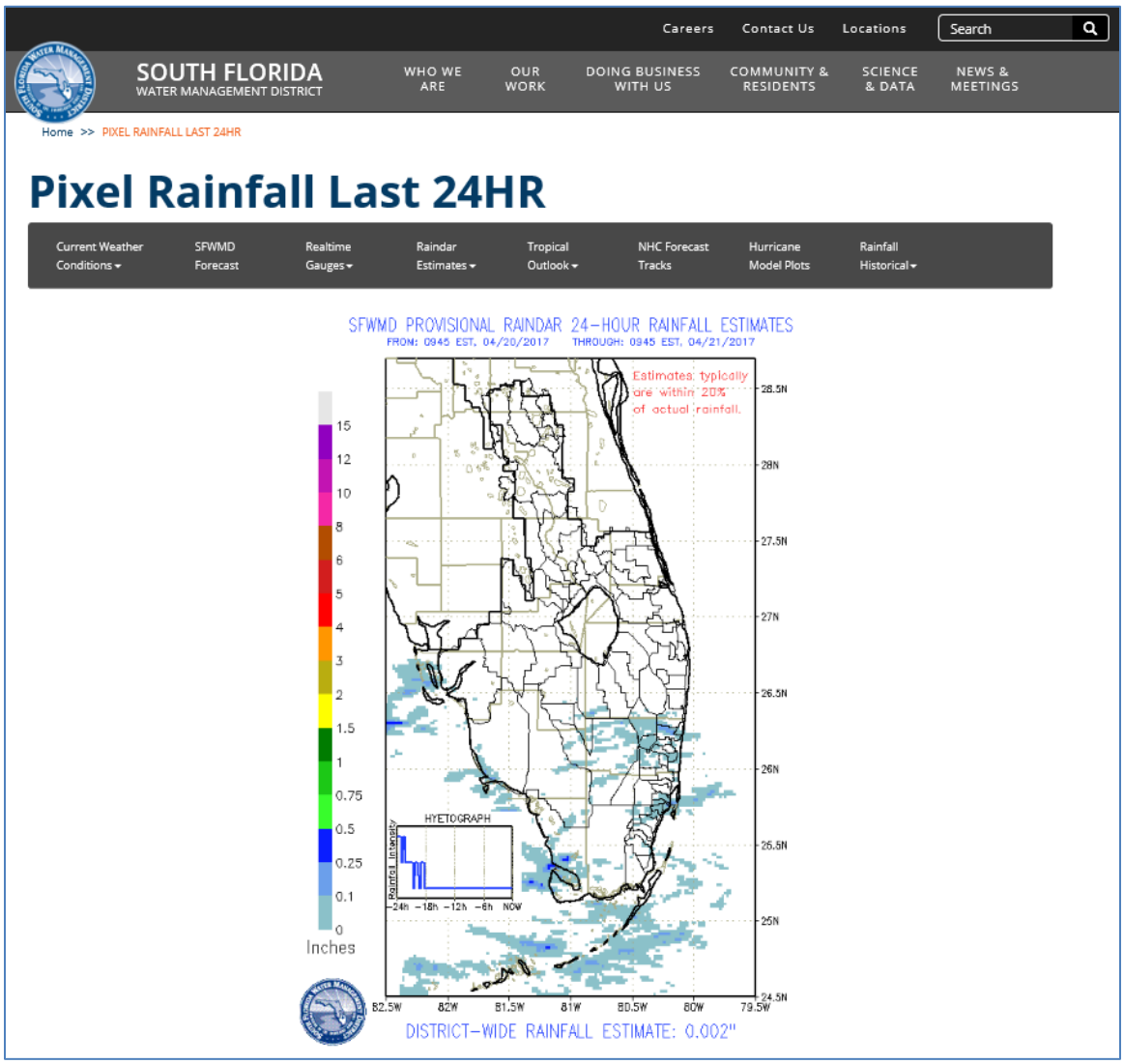
District Daily Rainfall Report

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.



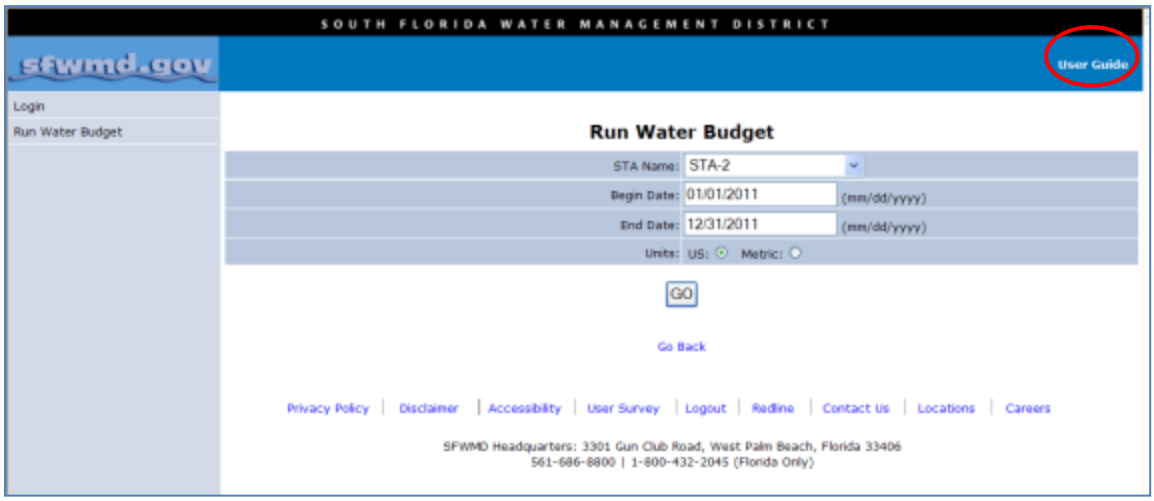
Hydrogeologic Data Loader

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.

Water Budget

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

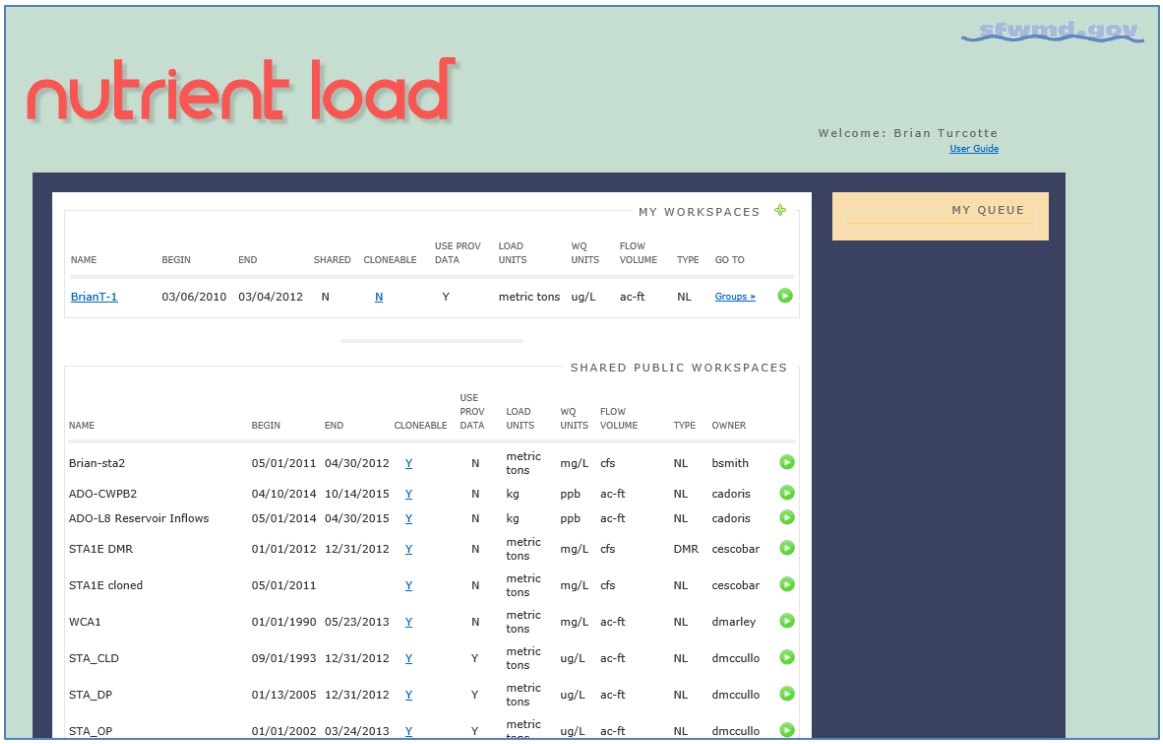
The primary purpose of this program is to provide comprehensive water budget information for Everglades Stormwater Treatment Areas (STAs). However, the program can be used to develop a water budget for any water body, where daily data are available from DBHYDRO. The program is capable of performing calibration 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.



Nutrient Load Computation Application

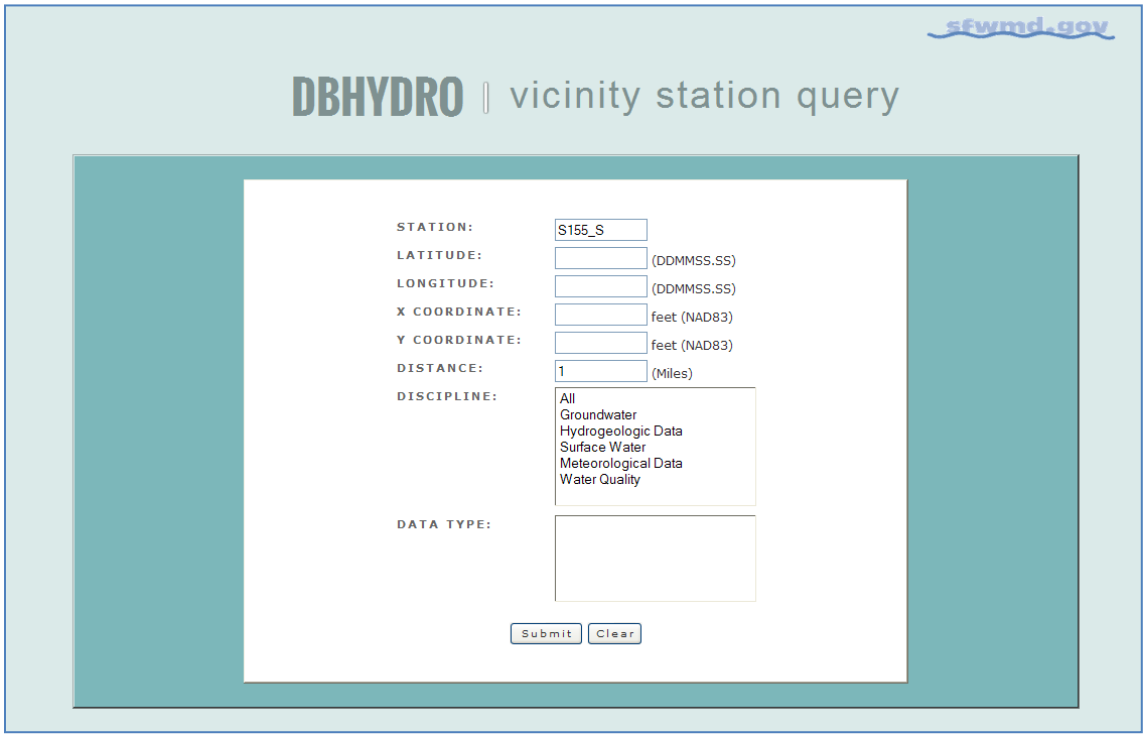
The "Nutrient Load" function from the "Miscellaneous Items and Reports" menu is available to SFWMD staff on the intranet only.

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.

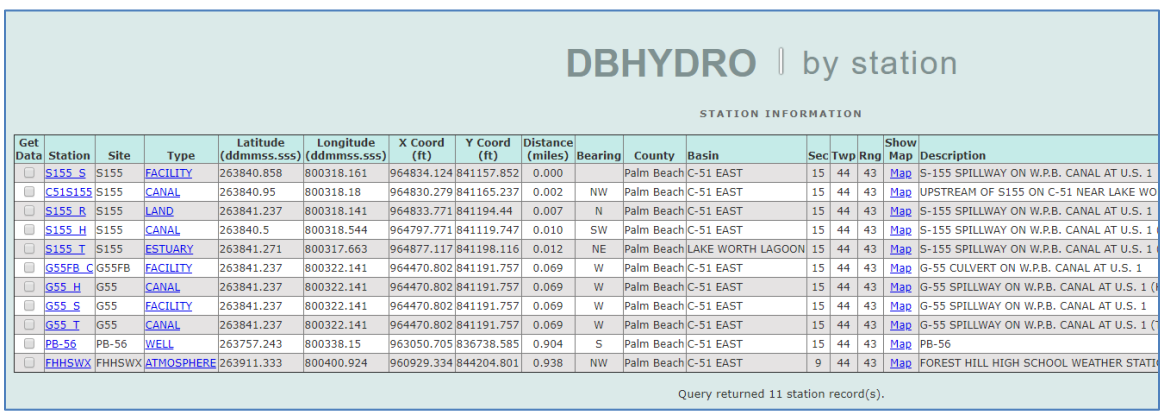


Nearby Station Look-up

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 within a discipline.



After clicking on the "Submit" button, a list of stations within the previously specified distance of one mile is displayed.



DBHYDRO | by station

STATION INFORMATION

Get Data	Station	Site	Type	Latitude (ddmmss.sss)	Longitude (ddmmss.sss)	X Coord (ft)	Y Coord (ft)	Distance (miles)	Bearing	County	Basin	Sec	Twp	Rng	Show Map	Description
	S155_S	S155	FACILITY	263840.858	800318.161	964834.124	841157.852	0.000		Palm Beach	C-51 EAST	15	44	43	Map	S-155 SPILLWAY ON W.P.B. CANAL AT U.S. 1
	C51S155	S155	CANAL	263840.95	800318.18	964830.279	841165.237	0.002	NW	Palm Beach	C-51 EAST	15	44	43	Map	UPSTREAM OF S155 ON C-51 NEAR LAKE WO
	S155_R	S155	LAND	263841.237	800318.141	964833.771	841194.44	0.007	N	Palm Beach	C-51 EAST	15	44	43	Map	S-155 SPILLWAY ON W.P.B. CANAL AT U.S. 1
	S155_H	S155	CANAL	263840.5	800318.544	964797.771	841119.747	0.010	SW	Palm Beach	C-51 EAST	15	44	43	Map	S-155 SPILLWAY ON W.P.B. CANAL AT U.S. 1
	S155_T	S155	ESTUARY	263841.271	800317.663	964877.117	841198.116	0.012	NE	Palm Beach	LAKE WORTH LAGOON	15	44	43	Map	S-155 SPILLWAY ON W.P.B. CANAL AT U.S. 1
	G55FB_C	G55FB	FACILITY	263841.237	800322.141	964470.802	841191.757	0.069	W	Palm Beach	C-51 EAST	15	44	43	Map	G-55 CULVERT ON W.P.B. CANAL AT U.S. 1
	G55_H	G55	CANAL	263841.237	800322.141	964470.802	841191.757	0.069	W	Palm Beach	C-51 EAST	15	44	43	Map	G-55 SPILLWAY ON W.P.B. CANAL AT U.S. 1
	G55_S	G55	FACILITY	263841.237	800322.141	964470.802	841191.757	0.069	W	Palm Beach	C-51 EAST	15	44	43	Map	G-55 SPILLWAY ON W.P.B. CANAL AT U.S. 1
	G55_T	G55	CANAL	263841.237	800322.141	964470.802	841191.757	0.069	W	Palm Beach	C-51 EAST	15	44	43	Map	G-55 SPILLWAY ON W.P.B. CANAL AT U.S. 1
	PB-56	PB-56	WELL	263757.243	800338.15	963050.705	836738.585	0.904	S	Palm Beach	C-51 EAST	15	44	43	Map	PB-56
	FHHSWX	FHHSWX	ATMOSPHERE	263911.333	800400.924	960929.334	844204.801	0.938	NW	Palm Beach	C-51 EAST	9	44	43	Map	FOREST HILL HIGH SCHOOL WEATHER STATI

Query returned 11 station record(s).

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: While the development team will take considerable effort to maintain the integrity of existing URLs, queries for specific data within DBHYDRO may not function in the future if the software or database is substantially changed. If these URLs change, this documentation will be updated.

There are four kinds of DBHYDRO URLs:

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

<u>Water Quality Results URLs</u>

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.	*may contain references to project_code, station_id, sample_id, test_number, and date_collected.*
v_target_code	controls the destination of the output.	screen *(output as HTML to your browser)* file_csv *(a comma separated variable format that is Excel-ready)* pdf *(portable document format)*

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 *(cross-tab wide – also better than ctr_1_true when using a single test number but still not as complete as the full report)*
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
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

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
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
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

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

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 *(one row per value)* format7 *(one row per day - valid for daily values only)*
v_period	allows for a date range from today backward in time or indicates user-defined explicit start and end dates	year *(avoid instantaneous dbkeys, use dbkeys of frequency 'DA')* month *(the past 30 days from today)* 1week *(the past 7 days from today)* 3day *(the past 3 days from today)* today *(for instantaneous,, typically provisional, data series)* uspec *(user requires both v_start_date and v_end_date)*
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	controls the destination of the output	screen (default) file_csv pdf
v_run_mode		onLine (required)
v_js_flag		Y (required)
v_dbkey	the id(s) for the time series	*one or more dbkeys separated by '/' (forward slash)*

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 *(required variable but ignored….go figure!!)*
v_period	allows for a date range from today backward in time or indicates user-defined explicit start and end dates	year *(avoid instantaneous dbkeys, use dbkeys of frequency 'DA')* month *(the past 30 days)* 1week *(the past 7 days)* 2week *(the past 14 days)* 3day *(the past 3 days)* today *(best for instantaneous data series)* uspec *(user is required to specify v_start_date and v_end_date)*
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 Data Summaries

Hydrogeologic data 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 *correspond to the three format choices provided in the web browser application.* list *is Location Details,* headerdetail *is Well Construction Details, and* summary *is Hydrogeologic Data Summary*
v_station	station name	*One or more stations separated by the forward slash "/". No wildcards are allowed here.*

Examples:

http://my.sfwmd.gov/dbhydroplsql/show_wilma_info.report_process?v_output_format=summary&v_os_code=win&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 Solution Center", 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 send email to datarequests@sfwmd.gov) to reserve a seat in a class.

Data Requests and Inquiries

To report questionable data to request data send email to datarequests@sfwmd.gov

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". Codes are listed in the metadata/reference tables listings pages.

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

SAMPLE ID
Identifies a discrete sample within a project.

FIRST TRIGGER DATE
Populated for autosampler data. Date and time the first sample was triggered to be collected by the autosampler.

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

SAMPLE TYPE NEW
Code that describes the type of sample collected. Samples may either be an environmental sample (regular sample of type "SAMP") or a type of field quality control sample that is collected as a part of a quality assurance program. Codes are listed in the metadata/reference tables listings pages.

COLLECTION METHOD
The method by which the sample was collected. For example, 'G' means **g**rab sample. Codes are listed in the metadata/reference tables 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. Depth units depends on the matrix (e.g., meters for SW and feet for GW are defaults) and applies to both the sampling depth and the Total Depth (Total Depth as a test is reported as SDU, See Depth Units).

MATRIX
A code that represents the type of material being sampled. Codes are listed in the metadata/reference tables listings pages.

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 Environment Protection Agency (EPA) legacy 5-character string that uniquely identifies a water quality test.

METHOD
The field or laboratory method by which the sample was analyzed.

MEASURE DATE
The date and time the laboratory analysis was conducted.

VALUE
Numeric field which contains the analysis result for a specific test.

SIGFIG VALUE
The test result shown to no more significant figures than instrumentation actually provides.

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:

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

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 particular 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

The smallest concentration of an analyte of interest that can be quantitatively reported with a specific degree of confidence. The practical quantitation limit IS verified for each matrix, technology and analyte. The validity OF the practical quantitation limit is verified by analysis of a quality control sample containing the analytes of concern. For any component for which spiking solutions or quality control samples are not available, the practical quantitation limit is 12 times the standard deviation that is derived from the procedure used to determine the method detection limit, or can be assumed TO be four times the method detection limit.

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. Qualifier codes are listed in the metadata/reference tables listings pages.

FLAG
Indicates questionable data. eg. "EOV" Extreme Outlier Value based on historical statistics. Flag is <null> unless there is a "fatal" qualifier in the remark code. In such a case the flag is equal to the remark code or contains the value "yes".

RECEIVE DATE
The date the sample was received at the SFWMD laboratory from the field.

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. "L345-670"

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 post laboratory data validation occurred. Codes are listed in the metadata/reference tables listings pages.

VALIDATOR
The organization responsible for the post-laboratory validation of the data.

SAMPLING PURPOSE
Code that describes the reason the sample was collected. 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. Codes are listed in the metadata/reference tables listings pages.

TDEPTH
The total depth of the water column at the location of the sample. This column is a legacy of an older process. Currently total depth is recorded in the table as test (test_number = 99)

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

FILTRATION DATE
The date the sample was filtered, if applicable, and known.

SAMPLE TYPE
Two-digit number for legacy applications. Information embedded here is contained explicitly in other columns. Indicates sample type e.g. 01=RAIN, 02=WELL. Rendered obsolete by sample_type_new column.

QCTYPE
A legacy code indicating sample is a QC sample otherwise null. e.g. EB = Equipment Blank. Rendered obsolete by sample_type_new column.

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.

NDEC
The number of digits to the right of the decimal place to be displayed in reports. NDEC is used by sigfig_value.

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] × $^{9}/_{5}$) + 32
[°Celsius] = ([°Fahrenheit] − 32) × $^{5}/_{9}$

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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