User Guide
Environmental Data Portal (EDP)

- **What Information Does the Environmental Data Portal Contain?**

  - The EDP contains scientific (hydrologic and water-quality) data collected by the District. The points you see on the map are individual monitoring stations at which the data are collected. These stations may monitor groundwater or surface-water levels, flow and/or water quality, rainfall totals, or other meteorological parameters. *Chrome* is the preferred browser to use for the best EDP experience.
  - Generally, *time-series data* refers to hydrologic or continuous water-quality data; *water quality* refers to discrete measurements.
  - Internal users (District staff) of the EDP will have access to data collected by cooperating or contracted entities; external users will need to contact these agencies directly for access to their data.

- **How Do I Find the Monitoring Stations in an Area?**

  - Use the map interface to navigate around the District. The "**+**" (zoom in) and "**-**" (zoom out) icons are located at the upper left of the map. *Double-click* zooms in by a factor of two (shift-double-click zooms out likewise). *Left-click and drag* allows you to pan around the map. To zoom in to a very specific area, hold down the shift key, and *click-drag* a box over the area you want to see in detail. Use the F5 key to reset the map view to the original scale.
  - Click the 'stacked layers' button at the upper right of the map to see different basemap options.
  - Search for stations by name by entering all or part of a station name in the search box at the upper right of the map and hitting the <Enter> key.
  - Search for stations by Station ID (SID) by entering a SID in the search box at the upper right of the map and hitting the <Enter> key. Please note that the results will include any stations that have the SID number sequence as a station attribute, such as digits in latitude or longitude, section-township-range number, or other numeric trait.
  - Use one or more of the filtering options on the left of the screen to find only the stations meeting your search criteria.
  - The RESOURCE TYPE is a very general station characteristic; if you want to narrow down your selection to a more specific type of feature, use the STATION TYPE filter. Press the CLEAR FILTER button at the top of the filtering section to start a new search.

- **How Do I Find Out What Data Are Available for a Selected Station?**

    - Once you find the station(s) you want, you may click on the station's symbol to see available data. A new screen will appear listing some basic station information and the option to view the hydrologic or water-quality parameters available for that station.

- **How Do I View a Graph of the Data for a Station?**

    For Hydrologic and Continuous Water-Quality Time-Series Data …

    - Once you have identified the station(s) you want, click the selection box to the left of each parameter you want to see in greater detail; click the GRAPH button to visualize the data values. You may adjust the date range using the controls on the graph screen.
    - You may also view data for multiple stations in ONE graph; select the time-series you want to view by clicking the box(es) next to the time-series names and click GRAPH. Each trace will display in a different color on the graph (with a legend at the bottom).

    For Discrete Water-Quality Data …

    - Once you have identified the stations you want, click the WATER QUALITY data-type toggle button in the upper-left corner of the screen. Then click on the discrete water-quality parameter name and the graph will automatically open.
    - You may also view data for multiple parameters in ONE graph; select the Multiple Parameters option and then you can select up to 5 parameters to graph by clicking the boxes next to the parameter name and clicking graph. The option to view data for multiple water-quality stations on one graph is not available through the EDP at this time but you may use one of the advanced apps to complete this task (use the **+ Advanced Search** tab at the top of the EDP map window to access these options).

- **How Do I Export Data or Station Information?**

    - For hydrologic data, once you have selected the time series and date range of interest, click on the download icon in the upper right of the graph. For water-quality data, you will need to switch to a tabular view of the data and use the EXPORT button in the middle of the screen to download the data.
    - There are several formats available for data and station information output. These include CSV, HTML, JSON, plain text, and WaterML2.0.

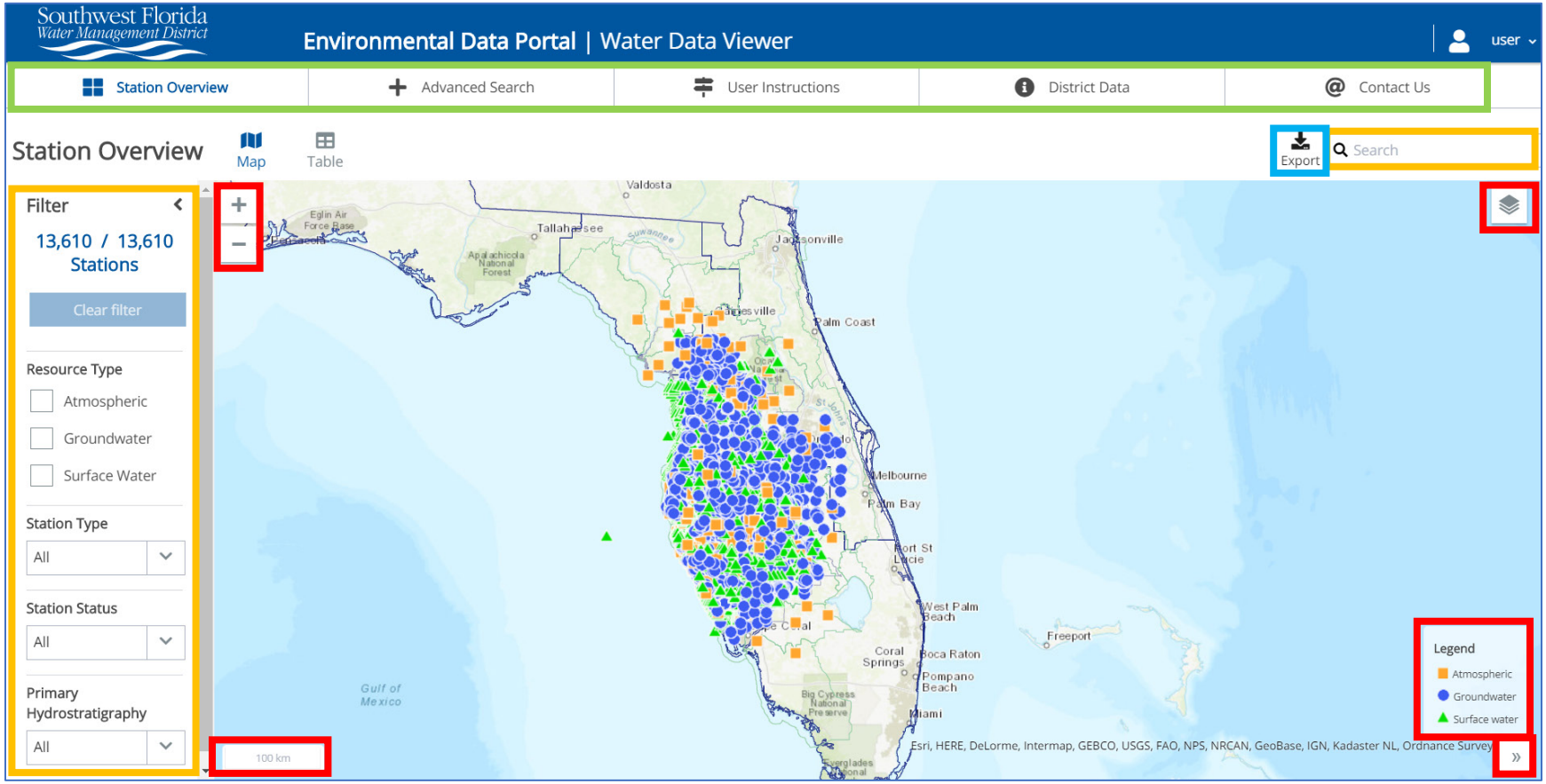
- **WHAT IF I NEED MORE INFORMATION ABOUT STATIONS THAN IS AVAILABLE FROM THE PORTAL?**

    - You may encounter cases where you do not find all the information you want about a station or hit a limitation on the amount of data that you may download from the EDP. If you need more station information than is available directly from the EDP, click the **+ ADVANCED SEARCH** tab at the top of the EDP screen. You will be taken to a new page with several options for custom metadata and data retrievals. You will also want to use the advanced search options when you are looking for stations at which a specific type of data is collected.

    - If you need additional assistance with the EDP, please contact us at Data.Maps@watermatters.org, or by using the @ CONTACT US link at the upper right of the EDP window.

STATION OVERVIEW WINDOW – DETAILS

Refer to the matching-color outlines on the graphic when reading about the related functionality in the sections below.



TOP TABS:

STATION OVERVIEW: This is the main landing tab when you open the EDP. By default, the MAP view will be active. A view is active when the applicable icon is highlighted in blue. Simply click on a monitoring point on the map to view information about it, including the

station ID, station type, latitude/longitude, a close-up view of the station location, and other available characteristics. This information will appear in a new window.

If you click the TABLE button, you will see all data collection stations listed by name; clicking on a table header will sort the station list by that characteristic. Double-click a station record in the table to see details about it (a new window will open, same as if you had clicked on the monitoring point). If you select a station from the table (checkbox to left of station name), you may view available time-series (hydrologic or continuous water quality) data for that station by clicking the TIME SERIES icon. This icon will only appear when you are viewing the station table.

You can return to any of the other views by clicking the appropriate icon.

ADVANCED SEARCH: If you find that you need more information about a station or need to download more data than are available from the EDP, the advanced search tab will take you to a page of more options for getting all of the information you need.

USER INSTRUCTIONS: This tab opens the current document.

DISTRICT DATA: Click this link to view a comprehensive inventory of the hydrologic data the District collects and provides to our users.

CONTACT US: If you need help with the EDP or understanding the data, click this link to send us an e-mail.

FILTERING OPTIONS:

The filtering options on the left side of the window enable you to refine the set of data collection stations to only those meeting certain criteria. You may, for example, filter on the RESOURCE TYPE, the most general characteristic of a station:

ATMOSPHERIC	Rainfall and weather stations, with precipitation and other meteorological data.
GROUNDWATER	Monitoring wells and spring vents, with water levels and water-quality data.
SURFACE WATER	Lakes, rivers, wetlands, and other surface-water features, with water levels, water quality, flow.

The STATION TYPE selections are dependent on the resource type selected above. For example, if you select GROUNDWATER as the resource type, you will not see LAKE or WETLAND as a STATION TYPE option. You may select a station type without having selected a resource type first, however.

The STATION STATUS filter lets you search for stations based on their current data-collection status:

ACTIVE	Data are currently being collected by the District or other agency.
CLOSED	Data collection has been permanently discontinued.
INACTIVE	No current data collection; historical data available.
PLANNED	No current data available but station has been configured for data collection in the future.
UNDER CONSTRUCTION	Data collection pending; construction/data-collection equipment installation in progress.
UNKNOWN	Station may have active data collection conducted by non-District entity; no information available.

The PRIMARY HYDROSTRATIGRAPHY (hydrogeology) filter option lets you select groundwater monitors by aquifer/system. This option functions only for groundwater stations. If you select, for example, ATMOSPHERIC as the resource type, you will not see any choices available for hydrostratigraphy. You may need to use the scroll bar to see this filter option, depending on the resolution of your display.

MEASURING PROGRAM NAME/NUMBER allows you to select stations from an alphabetized drop-down list of District projects. This is particularly useful for water-quality data investigations as these stations are all associated with one or more measuring programs.

STATION PARAMETER NAME provides a way to narrow down your station list to only those stations where a selected parameter is collected. This is the most focused filtering option. Note, however, that selecting a single parameter, such as turbidity, will return

all stations with turbidity data, but there may be other parameters collected at that station as well.

The SEARCH box at the upper right of the map window is another tool that can be used for filtering stations.

Enter a partial station name or ID and hit Enter to narrow your station selection.

To clear all filters, press the blue CLEAR FILTER button at the top of the filtering menu.

MAP NAVIGATION CONTROLS:

The plus- and minus-sign buttons at top-left enable you to zoom in and out of the map display. The scale bar at the lower left of the map window will change accordingly.

At the top right of the map window is the LAYER icon. Click it to see your options for basemap and boundary layers, station locations, and station labels. You can also turn the LEGEND (lower right) on and off from here.

This icon beneath the legend toggles the MAP SOURCE information on and off.

DOWNLOADING STATION INFORMATION:

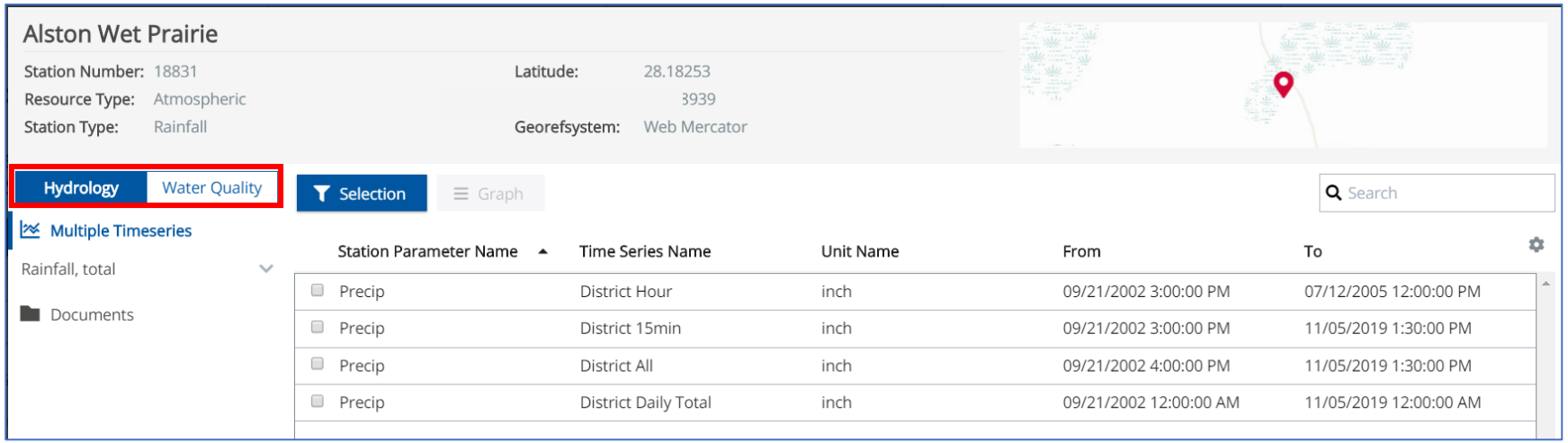
Once you have selected the stations you are interested in using the filters and mapping tools, you may download a list of these locations with some basic information (additional metadata are available via the ADVANCED SEARCH tab). Click the EXPORT icon next to the SEARCH box to download a list of your currently selected stations.

Note that you can somewhat customize what station information you would like to see in the download file. To do this, select your stations, click the TABLE icon and, all the way over on the right side of the table, click the '…' icon. You will see numerous station attributes that may be selected for display in the table. All selected attributes will also appear in the exported station file. You may download the station list from the TABLE view as well as from the MAP view. The stations in the table export file will be sorted in station-name (alphabetical) order, no matter how the table is sorted in the display.

VIEWING AND DOWNLOADING STATION DATA - DETAILS

Once you have your stations of interest selected, you may want to view and/or download any associated hydrologic or water-quality data that may be available for them.

Double-click a station record in the TABLE view to see what is available. Or, click a data collection station symbol in the MAP view to get the same results. Note the data-type toggle in red. Below this toggle, the available time-series or discrete values for that data type are shown (here, rainfall):



Internal users will see all options for data-collection resolution; **external** users will see only DAILY or lower (i.e. monthly, bi-weekly). If you are an external user and need high-resolution data, please CONTACT US using the link at the upper right of the EDP window.

FOR TIME-SERIES DATA …

To view an available time-series, check the box next to it and then click the GRAPH icon. 

You will see several options for setting the date range:

"Infinity" (entire period of record) is shown by default.

Set start and end dates using the calendar controls.

The clock icon lets you choose from a variety of date options.

To download the data for the time period shown on the graph, click the icon at left, above. Select the output format you would like from the drop-down list.

To view data values alongside the graph, click the icon in the center, above.

The hydrologic time series data are categorized by collecting organization and data resolution. The time series names are reflective of this information. Below are a few descriptions of time series names to help you understand the data organization:

TIME SERIES NAME	TIME SERIES DESCRIPTION
District Hour NAVD 88	Contains hourly data collected by the District.
District Manual NAVD 88	Contains manual data collected by the District.
District All NAVD 88	Contains all data collected by the District regardless of the resolution.
District Daily Maximum NAVD 88	Contains daily maximum values derived from 'District All NAVD 88.'

All NAVD 88	The station has data sources in addition to the District. This time series contains all data regardless of the collecting organization.
All Daily Maximum NAVD 88	The station has data sources in addition to the District. This time series contains daily maximum values derived from 'All NAVD 88.'
Consultant Manual NAVD 88	Contains manual data collected by a consultant.

FOR DISCRETE DATA …

To view an available water-quality parameter, click on the parameter name and the graph will automatically appear. Click on the TABLE tab and then click the EXPORT button; the available data will automatically download to a CSV file.

STATIONS WITH MULTIPLE TIME-SERIES OR WATER-QUALITY PARAMETERS – DETAILS

If you have one or more stations selected and, in the TABLE view, you see this option on the left of the station window,

you may click the parameter type (such as WATER ELEVATION) to see the parameters listed in a drop-down format. By default, the HYDROLOGY parameters are shown when the window first appears.

Click the WATER QUALITY icon next to HYDROLOGY (outlined in red, above) to view the water-quality parameters available for that station. Clicking on a parameter name will display the data on the graph or in the table, depending on which display option is selected. Information about the quality of the available water-quality data can be found in the RESULT QUALIFIER field. Note that these qualifiers only provide an explanation of quality for water-quality parameters.

CODE		DESCRIPTION
A		Value reported is the arithmetic mean (average) of two or more determinations.
B		Results based upon colony counts outside acceptable range.
D		Test results are reported on samples without distillation.
I		The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit. The practical quantitation limit is 4 times the detection limit.
J		Estimated value; value not accurate.
J	**1**	Surrogate recovery limits have been exceeded.

J	**2**	No known quality control criteria exist for the component.
J	**3**	The reported value failed to meet the established quality control criteria for either precision or accuracy.
J	**4**	The sample matrix interfered with the ability to make any accurate determination.
J	**5**	The data is questionable because of improper lab or field protocols.
J	**6**	The total measurement for a component is exceeded by a similar component. The error limits for each measurement overlap.
N		The test is not NELAC-certified by this laboratory.
N	**1**	Certification not requested/required by client.
N	**2**	Certification not available through NELAC.
N	**3**	An EPA Region IV variance is on file for the use of this method.
O		Sampled, but analysis lost or not performed.
Q		Sample held beyond holding time.
T		Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U		Indicates that the compound was analyzed for but not detected (method detection limit).
V		Analyte was detected in both the sample and associated method blank.
Y		The laboratory analysis was from an unpreserved or improperly preserved sample.
Z		Too many colonies were present (TNTC). A coverage factor of 2 is used to calculate the expanded uncertainty.

CREATING NEW DATA COLLECTION STATIONS – INTERNAL USERS ONLY

If you are a project manager and need to create one or more new data collection stations for your project, you will use the new STATION ID REQUEST tool. You may access this tool from the **+ ADVANCED SEARCH** tab at the top of the main EDP window.

The STATION ID / DATA COLLECTION REQUEST application functions very similarly to the WMIS application. You will need to provide some basic location and naming information so that your station is uniquely identified. You also have the option to add more metadata values at the same time; some field values are required and you will be prompted for that information when creating a new station.

It is always a good idea to include part of a general geographic area (i.e., Green Swamp) in the station name, along with information specific to just your station; in other words, names like “My Station 1” or “Rainfall 5” are not ideal as they do not provide any unique information about a station, where it may be located, and what its purpose may be. A station name like “Myakka River WQ X-5” provides a lot more information, even if only you know exactly what the station name means.

To avoid duplicating station names, you will want to view an alphabetical list of names (table view) in the EDP prior to setting up your new station(s). If there is an existing station that will work for your data management, please use that station ID (SID). Existing station numbers are not reserved for use by any group or project; if the location, type of station, and station characteristics work for you, you may use that number as well.

You may request a new station ID or request a new ID with monitoring at the same time. You will receive an e-mail with your new station information in it once you submit the request. If you request monitoring (data collection) by the Data Collection Bureau, you will also receive an e-mail with a link to the Data Collection Request workflow monitoring application that you will need to complete to issue your data-collection request. If you need to add data collection to an existing station, you can do this directly through the workflow application using an existing station ID (see previous paragraph about using existing station IDs).

EDP "ADVANCED SEARCH" APPLICATIONS

In addition to the new Station Request system, several other applications were developed to provide enhanced options for metadata and data retrieval. These apps are accessed by **internal users** using the **+ ADVANCED SEARCH** tab at the top of the main portal window. **External users** may find most of these applications available for their use on the Environmental Data Portal Internet page under "Advanced Search Options."

1. Advanced Metadata Retrieval: Allows the user to request values for virtually every station attribute in the WISKI database and view/download the periods-of-record for stations and available parameters.

2. Time-Series Data Retrieval: Provides an interface via which users may request hydrologic and continuous water-quality data for up to 20 stations. Additionally, also lets user to download aggregates (mean, max, min) for different intervals (decadal, annual, daily, hourly).

3. Water-Quality Data Retrieval: Provides an interface via which users may request discrete water quality data from any number of stations or parameters.

4. URL Builder: For users that want to embed links to the WISKI database within their own scripts (R, Python, SAS, etc.), the URL Builder will generate a link based on information the user enters on the screen. The URL may then be copied and pasted into a script or used directly in the address bar of your browser window to display the results of the query (you can bookmark the page to easily rerun the query at any time).

5. RADAR Rainfall/USGS GOES ET Estimates: Provides an interface via which users can download RADAR rainfall or GOES ET estimates by entering a pixel ID, station ID (SID), or location (latitude/longitude). (Application is internal only at this time but data may be requested by using the CONTACT US link.)