

## Downloading SCDHEC Ambient Surface Water Quality Monitoring Data from STORET

The first step in the process is to know which monitoring sites you wish to get data for. If you don't know, the best way to determine the sites of interest is to use the interactive map on the Surface Water Monitoring Program webpage:

<http://www.scdhec.gov/environment/water/surface.htm>

The second link under **Ambient Surface Water Monitoring** is [Ambient Surface Water Monitoring Map](#), which is a Google Earth-based interactive map. First, zoom into the area of interest and then click the box for the layer(s) of interest:

BASE – Current active fixed Base sites, sampled bi-monthly

INAC – Historically sampled sites that are currently inactive

RANDOM XXXX – Probability-based monitoring sites for year XXXX, sampled monthly for that year

Click on the symbol for the site you are interested in and the station number and description will be displayed. Write down the station number, or highlight it and copy and paste into another application, Notepad, Word, Excel, etc. for use in building the STORET/WQX data request.

### USEPA STORET/WQX Data Warehouse

The USEPA STORET/WQX Data Warehouse database contains SCDHEC data from 1999 to present. Go to:

[http://www.epa.gov/storet/dw\\_home.html](http://www.epa.gov/storet/dw_home.html)

On the left side of the page is photo of cascading water at the top of which are the words [DOWNLOAD DATA](#). You must click on the actual words themselves, not just somewhere within the photo, to advance.

### STORET Central Warehouse

#### Result Data Report

There are many choices and options boxes on this page, most of which can be skipped or ignored; most should just be left at the default selection of **Select All** or **All**. The following instructions cover the most useful choices.

Generally scroll down to the **Organization, Station & Project** section and click on **Select and Search Organization and Station (Option 3)**.

For Ambient Surface Water Quality Data scroll through **ORGANIZATION NAME** and click on 21SC60WQ\_WQX.

Under **Search Type**, the **Search by Station ID** button should be selected.

In the **Search String** box, type the beginning characters for the first station(s) of interest then click the **Search Stations** button. This will bring up a scrollable list of all stations beginning with the characters in the search string.

Scroll through the list and highlight the station you want. The basic Windows selection functions apply:

- The first choice can be a block of consecutive stations, highlight the first in the series then go to the last in the series and press Shift + click on the last in the series to highlight the entire block.
- Additional stations can be added individually to the selection using Ctrl + click on each additional individual station.

Click the **Select** button.

To add more stations to your selection enter a new search string in the **Search String** box and repeat the process. If you don't enter any stations it will automatically default to selecting **ALL** station for the specified ORGANIZATION NAME.

Under **Date, Administrative Filters** you can specify date range(s) to restrict the results returned. If you leave the default as is it will include the entire period of record in STORET/WQX.

**Characteristic**, this can be a useful option, or it can mess things up.

**The easiest and best way to ensure you get what you are looking for is to just leave this alone and leave it blank. This will get all of the results for all parameters sampled for the station(s) and date range(s) that you specified.** Then you can sort out what you want and don't want from the downloaded data at the end.

Or, you can limit the results downloaded by specifying only the parameter(s) of interest, and there are a couple of different ways to do this depending on what is selected in the **Search By** box. Be aware that there are still some characteristic name mapping issues, so it may not always get you what you think you're getting.

If you select **STORET PARM CODE** from the pull-down list, you can then enter the old 5-digit STORET parameter code for the desired parameters and click on the **Search** button. Click on

the parameter in the search results and click **Select**. Because of some characteristic name mapping issues, it may not always get you what you think you're getting.

If that doesn't bring up the desired choice you can change the **Search By** to **CHARACTERISTIC NAME** and type in the name of a particular constituent, or the beginning few letters, in the **Characteristic Search** box and **Select** from the resulting list. Again, because of characteristic name mapping issues, this may not always get you what you think you are getting.

Ignore everything else and go all the way to the bottom of the page. In the **Data Download Report** box, to get the raw data results click on the **Result Download** button. If you click on the **Station Download** button you will only get the location information about the stations that you select.

This will take you to the **STORET Central Warehouse** page. At the very top of the page is displayed the **Number of Results Returned: #**. This is how many records will be in your downloaded file.

In the middle of the page is the **Select Data Elements for Report(s)** box. The default list under the **Select Data Elements for Report(s)** is not the optimal list of meaningful fields, so go to the bottom of the page and click on the **Clear All** button. Go back to the **Select Data Elements for Report(s)** list and click on the fields indicated in the separate attachment "DHEC Select Data Elements for Report 9-11-13.pdf".

Go back to the top of the page and fill out the **Batch Processing** box. Select **State/US Government** from the **Please select the appropriate user profile** list. Fill in your e-mail address and make up a three-letter prefix. Click the **Immediate** button. Read the fine print under the 2 Notes. Big requests will take overnight and may be too big for Excel to handle.

You will receive two e-mails from STORET, the first will be "**STORET data request submitted (PROCESSING). Request\_ID: #####**" just letting know it is in the queue. That will eventually be followed by "**STORET data request submitted (COMPLETED). Request\_ID: #####**" with a link to a zip file for you to download.

The zip file will contain two text files, one Metadata.txt file that contains information about each station that was downloaded, as if you had done the **STORET Station Descriptions** choice way back at the beginning, and a RegResults.txt file that contains the actual data results.

Extract both of the files and then right click on the RegResults.txt file and select the Open With choice and pick Excel. If you haven't ever used this method to open a text file you will be offered the opportunity to Choose Program and you will need to navigate to the Excel program on your computer.

Note: There is no EPA approved method to directly measure total nitrogen, so it is calculated as the sum of "Kjeldahl nitrogen" and "Inorganic nitrogen (nitrate and nitrite)". Total Nitrogen

shows up under the Characteristic Name "Nitrogen", Sample Fraction "Total", Value Type "Calculated". Where one of the two parameters is "Present Below Quantification Limit" then you will find the worst-case number under the Detection/Threshold Limit column, which represents the sum of the result for the parameter quantified plus the Detection/Threshold Limit for the "Present Below Quantification Limit" parameter, which represents the highest value it could have been. In the case where both parameters are "Present Below Quantification Limit" then "Nitrogen" "Total" is the sum of the two Detection/Threshold Limits.