

Downloading Data from the STORET warehouse:

AN Exercise

Part 1: Downloading the Data

1. Click on the **Obtaining Water Quality Data** link.
2. To enter the modernized STORET Warehouse, click the **Browse or Download Modernized STORET data** button on the bottom of the screen.
3. Start with a search for water chemistry data in a specific geographic area by browsing for data in Alamance County, NC: Click the **Regular Results by Geographic Location** link.
4. On the Regular Results by Geographic Location page, select **“North Carolina”** from the State Name drop down list and click the **Look Up** button next to the County Name box.
5. Select **“Alamance”** and click the **Select** button.
6. Scroll down the page and change the dates to January 1st 2004 to December 31st 2004.
7. Scroll further down the page and select **“Water”** under activity medium since we’re only interested in water samples.
8. The next area is where you can restrict your query to look for specific measurements. We’re interested in Nitrogen and ammonia data, so type in the first few letters **“nitr”** on the **“Characteristic Search”** box and click **search**. In the

- pop up window, scroll until you find “**Nitrogen, ammonia (NH₃) as NH₃**”
- Highlight the row in the list and click **select**.
9. The box titles “**Characteristic Name**” should now include Nitrogen, ammonia.
 10. Scroll down the page to view the actual Data Elements that will download. A few have been pre-selected for you, but we want to add a few more to download.
 11. Click the check boxes next to “**Org ID**” and “**Station Name**”. Now we’re ready to download the data so click the **continue** button at the bottom of the page.
 12. Note the size of your download file and click on the web link “**Download your file now...**”. If the file was too large to download quickly, you have the option of creating a compressed “zip” file by clicking **Compress data file now** button...we won’t do that now.
 13. The STORET Warehouse generates a delimited text files and displays it as a web page. Choose “**Save as**” from your web browser and save the files as you wish. Make sure to save the file somewhere where you can find it easily. We’re finished with the web browser at this point.

Part 2: Analyze the Data

1. Open Microsoft Excel
2. Choose File -> Open and browse for the text file you just downloaded from the STORET Warehouse. Make sure to change the type of files you’re looking for to “**text files**”. Open the file you saved.

3. Excel recognizes that this file is no MS Excel format, and provides a wizard interface so you can define the format for Excel. On the “**Step 1**” window, select the “**Delimited**” radio button under “**Original Data Type**” And click next.
4. on the “**step 2**” window, uncheck the **Tab** check box and check the **Other** check box under **Delimiters** and insert a tilde (~) in the open field then click the **Next** button.
5. On the **Step 3** window, accept the data into format defaults and click the **finish** button.
6. Allow MS Excel to import the data into the current open worksheet.
7. Excel can't immediately recognize the proper column width, so we must help Excel do additional formatting. Select the whole worksheet. Clicking the grey cell in the upper-left corner of the worksheet can do this.
8. From the main toolbar choose Format → Column → AutoFit Selection.
9. Browse the Data by examining the column names and rows of data
10. Now we're going to use MS Excel to draw a graph of some of the data. First we need to sort out and filter the data to group the measured parameters together. Select the whole spreadsheet again.
11. From the main toolbar choose Data → Sort.
12. Using the Sort Options, Sort by Activity Start (ascending) and Click **OK**. In the STORET, the Activity start is the date of the monitoring activity.
13. You should now see all the Nitrogen, Ammonia measurements grouped together and in chronological order.

14. On your worksheet, select all the ammonia values under the **Result Value as Text** column.
15. From the main toolbar choose insert → Chart or click the chart wizard button.
Select Line under **Chart Type** and click next.
16. Notice that the values appear along the Y- Axis. Now we want to add the dates along the X-axis. Select the **Series** tab and click the button at the end of the blank text field next to category (X) axis labels.
17. On your worksheet, highlight all the corresponding Activity Start values under the Activity Start Column.
18. Return to the Chart Wizard and click next. Enter in the following to describe the graph:
 - a. Chart Title: Nitrogen, ammonia (NH₃) as NH₃
 - b. X – Axis: Date
 - c. Y- Axis: mg/L
19. Click the next button and then click the finish button!