Combining and Graphing Tree Ring and Precipitation Data

Reminder: The tree ring data was collected from a tree that fell in September of 2014. The first data point collected corresponds to 2014. It is important to match tree ring data with the precipitation data for a given year.

1. Open the **NOAA precipitation data** Excel file.
2. Open the **Tree Ring data** Excel file from the American chestnut cross section analysis.

Tree Ring Data:

3. Highlight column B (tree ring measurements).
4. Click on **Edit --- Copy** on the main menu bar.

Adding Tree Ring Data to the Precipitation Data file:

5. Select cell 1C in the Precipitation Data file and type in **Growth in cm**. You may have to extend the width of the cell.
6. Click on cell 2C and click **Edit --- Paste** on the main menu bar.
7. You should have three columns displayed:
    a. Year
    b. Precipitation in Inches
    c. Growth in cm
8. You only need precipitation data matching the life of the tree. Delete any cells with unnecessary data beyond the life of the tree.
    a. Highlight unneeded data, click **Edit – Clear --- Contents** on the main menu bar.

Graphing the Data:

9. Highlight the data in columns A, B and C with the headers.
10. Click **Insert --- Chart**. Select **Line --- 2D Line** from the tool bar.
11. A graph with one Y-axis will appear. Since the data includes 2 different units of measure (inches and cm) you need to create a second Y-axis.
12. On the graph click the data line that represents the tree ring data.
13. Click **Format --- Data Series --- Axis**. Choose **Secondary Axis** button.
14. Two Y-axis will be displayed showing by units of measure.
15. You are now ready to analyze the relationship between precipitation and tree ring data from the American chestnut cross section.