

Combining and Graphing Tree Ring and Precipitation Data

Reminder: The tree ring data was collected from a tree that fell in February 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 Cross Section Analysis activity.

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.