

Name: _____

Date: _____

Let's Look Inside the Earth

Choose a north-south or east-west slice of earth with high seismicity. See reference map below.

- 1) Get your coordinates at maps.google.com by navigating to the desired location around the earth.
- 2) Zoom in so that the scale marker reads about 50 km.
- 3) Right-click and select "What's Here?" Coordinates will appear either in or below the search box. Be sure to choose a thin slice vertically (north-south) or horizontally (east-west).

Site Name:

Slice: East-West or North-South

North Max Latitude:

Max West Longitude:

Min East longitude:

South Min Latitude:

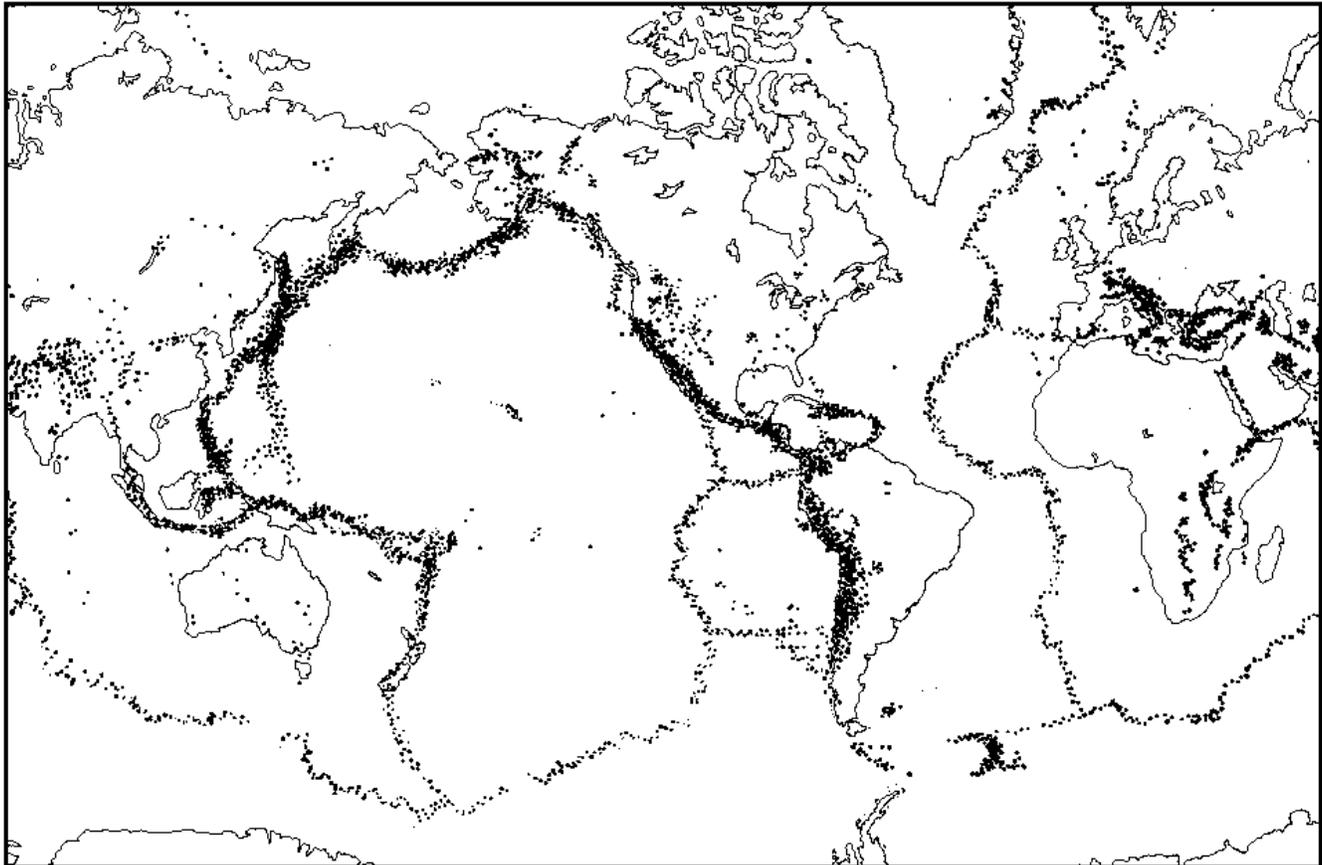


Image courtesy of geophysics.ou.edu

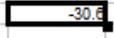
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Download data:

1. Go to <http://earthquake.usgs.gov/earthquakes/search/>
2. Set date and time spans (choose at least 5 years).
3. Set minimum magnitude to 2.
4. Enter Geographic region. Type = Rectangle. Enter your chosen coordinates.
5. Set Format to CSV (comma separated values).
6. Click Search and the data will be downloaded to your download folder (**Important:** Have your students add .csv to the filename).

Build the data in a spreadsheet:

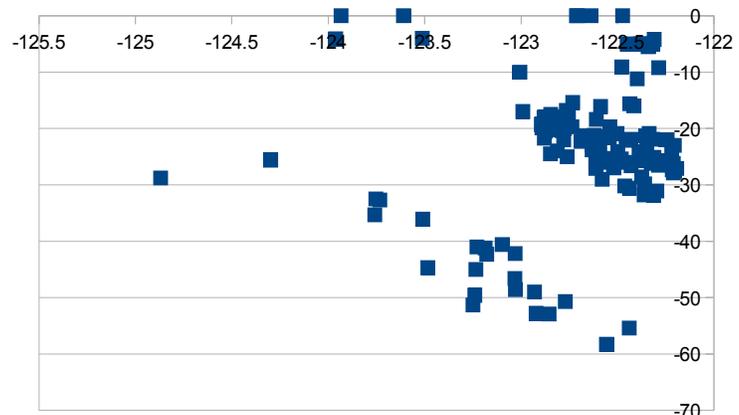
1. Open the downloaded CSV file in Google Sheets, Excel or another spreadsheet tool.
2. In order for your graph to display the depth data properly, the depth value must be negative, or the plot will be upside down. Make a new depth column. Right-click on the E column to the right of the depth column. Choose Insert column. The new column will now be E. In the first row of that column enter: Depth.
In row 2 of the new depth column, enter this equation: $= (D2 * -1)$ and press Enter.
3. Click on the new cell.  Double click on the black node to the bottom left of the highlighted cell, or drag the square node down to the bottom of the dataset, so the equation fills the entire column.

Graph the data as a scatter plot:

1. Select the columns of data you wish to graph. One column will be the new Depth column. If E is that column, click E. Then hold CTRL and select the B or C column. If you want to graph an east-west slice, then you'll choose the longitude column. If you want to graph a north-south slice, then you'll choose the latitude column.
2. In Excel, click Chart on the Insert menu to start the Chart Wizard. Use the Chart Wizard to create a scatter plot without lines. The horizontal x-axis should be the latitude or longitude data. The vertical y-axis will be the negative depth data.

Print your graph:

1. Click the chart that you want to print.
2. Click Print.



Compare your final result here: <http://www.interactive-earth.com/earthquakes/>