# How to Display Coordinates as Points in ArcMap

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# **Preparing the Data Table**

- 1. Make sure the latitude and longitude values are in separate columns in a table. Excel (.xlsx) format works well with ArcMap.
- ArcMap accepts a variety of coordinate formats. See this web page for more information on supported formats: <u>http://resources.arcgis.com/en/help/main/10.1/index.html#/Supported\_notation\_formats/001</u> <u>700000186000000/</u>
- The Latitude and Longitude values need to be a number. If your values are stored as text, convert them to numbers. See the Microsoft Excel help: <u>http://office.microsoft.com/en-us/excel-help/convert-numbers-stored-as-text-to-numbers-HP001216761.aspx</u>
- 4. Save the Excel file as an Excel workbook (.xlsx) and close the file.

### Adding XY Data to ArcMap

- 1. Open ArcMap.
- 2. Click the Add Data button ( 💁 ) and navigate the location where your file is stored. If you

cannot see your folder, click the Connect to folder button (<sup>14)</sup>). Once you have found your table, click Add to select the table and sheet. Your data table will now appear in the Table on Contents on the left-hand side.

3. Right click on the data table and select Display XY data...



4. Choose your x and y values. Y is typically latitude and X is typically longitude.

| A table contai<br>map as a laye | ining X and Y coordinate data can<br>r | be added to the |
|---------------------------------|--|-----------------|
| Choose a tabl                   | le from the map or browse for ano      | ther table:     |
| Custom                          | E                                      |                 |
| Specify the                     | fields for the X. Y and Z coordinat    | es:             |
| opeary are                      |  |                 |
| X Field:                        | Longitude                              | •               |
| X Field:<br>Y Field:            | Longitude<br>Latitude                  | ••••<br>•       |

- 5. Click Edit to define a coordinate system. You need to do this so that your points show up in the correct area of them map.
- Select WGS 1984 unless you know your data were collected in a different coordinate system. Expand Geographic Coordinate Systems and World and then scroll down and click on WGS 1984. Click OK twice to plot your points on the map.

| oordinate System                          |               |   |
|---|---------------|---|
| Type here to search                       | - 🧟 🔊   🕼 - 🧚 |   |
| ITRF 2000                                 |               |   |
| ITRF 2005                                 |               |   |
| ITRF 2008                                 |               |   |
| SWC 9Z-2                                  |               |   |
| WGS 1966                                  |               |   |
| WGS 1972                                  |               |   |
| WGS 1972 TBE                              |               | - |
| () WGS 1984                               |               | Ξ |
| 🗄 🚞 Projected Coordinate Systems          |               | - |
| urrent coordinate system:                 |               |   |
| GCS_WGS_1984                              |               | * |
| Authority: Custom                         |               |   |
| Angular Unit: Degree (0.0174532925199433) |               |   |
| Prime Meridian: Greenwich (0.0)           |               |   |
| Datum: D_WGS_1984                         |               |   |
| Semimaior Axis: 6378137.0                 |               |   |
| Semiminor Axis: 6356752.314245179         |               |   |
| Inverse Flattening: 298.257223563         |               | - |
|   |               |   |
|   |               |   |
|   |               |   |
|   |               |   |

Your points will now be added as a layer in the Table of Contents and on your map.



7. To save the data layer, right click and select Data > Export Data.



8. Click the browse folder () to select a location and name for your new file. Make sure the file type is set as Shapefile. Click Save and then OK.

| .ook in: 🛛 😭   | C:\Users\r                          | urack\Documents 🔹 🛧 🏠 🏹 i 🏥 🕶 😂 🚺 🏹  |
|--|-------------------------------------|--|
| ArcGIS<br>ArcGIS Expl<br>Assessmen<br>Downloads<br>GIS<br>GIS DataBa<br>DLA and C<br>Library Sun<br>Maps | orer<br>t<br>se<br>irc Stuff<br>vey | My Meetings Personal Evaluations School Snagit Catalog Travel Updater5 To Updater5 The murackvacation.xlsx |
| Name: restaura   |                                     | nts.shp Save   |
| Save as type:  | Changel                             | -  |

9. When prompted, add the new layer to the map. Right click on the old layer and select Remove.

# Troubleshooting

### ArcMap has an error when I try to add my table to the map.

- Your table may be open. Close it and try again.
- Make sure the table is saved in .xlsx format.

### I can't see my latitude and longitude columns when I select Add XY Data...

• Your columns are probably saved as text, rather than number. See the section above on <u>Preparing the Data Table</u>.

#### My points don't show up in the correct locations.

- You may have switched latitude and longitude values. Run Add XY Data again and use the other columns.
- You might not have defined a projection. See #5 and #6 in the section above called <u>Adding XY</u> <u>Data</u>.

### ArcMap freezes when I try to create the XY file or try to export the file.

- Do you have a large number of rows (100+) or columns (100,000+) in your data table? This can cause ArcMap to run very slowly or freeze. Working in a geodatabase should solve this problem. Geodatabases are places where you can store different types of data and they tend to be more stable.
- Right click on the geodatabase and import your data table. Once the table has been converted, add the table from the geodatabase to your map.
- Add XY data/export the file again and save the shapefile in the geodatabase. If your file is large, it still may take some time to export, but ArcMap should not freeze.