ArcMap - Plotting XY Coordinates as Points in a Map Layer

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Adding New X/Y Data to a Map Project from a Table

If you will be using geographic coordinates from an already existing table, make sure that the X value and Y value for your coordinates are listed in separate columns. If you have latitude and longitude coordinates, you can label them LAT and LONG in your table. It is a good idea to first import a table to a Personal Geodatabase for your Map Project, but this is not necessary. The table will import properly if it is saved as an .xls, or .dbf file.

1. Add the Table with X/Y Coordinate Data to your map. Once the Table is added to you Map Project, right click on its title.
2. From the pop up menu, choose Display XY Data. The Display XY Data dialog box will appear.
3. Choose the fields from your table that you want to populate with X and Y data. LATITUDE coordinates should be mapped to the Y value, while LONGITUDE coordinates should be mapped to the X value. Click OK.
4. This will add your coordinate points to the Map Project as an Event Layer.
5. To preserve the layer, rename it and save it as a new layer file.
6. Add it to your Personal Geodatabase and then add the new Map Layer to your Map Project.

Adding New X/Y Data to a Map Layer

If you want to create new XY coordinate points in a Map Project, you will need to first create a new Shapefile (a kind of Map Layer) in ArcCatalog. It is best to create this new Shapefile as part of a Personal Geodatabase for your Map Project.

Create a New Point Shapefile Map Layer

1. Open **ArcCatalog**
2. Navigate to your **Geodatabase**. Right click on the title of your **Personal Geodatabase**, and chooose **New** --> **Feature Class**.
3. Name the new **Shapefile**.
4. Provide a shortned version of the name in the **Alias** field
5. In the **Type** drop down list, choose **Point Features**. Click **Next**.
6. In the **New Feature Class** dialog box, you will next set the **Coordinate System** for the new **Shapefile**. To make sure that the **Shapefile** you are creating has the same **Coordinate System** as the other **Map Layers** in your **Map Project**, you can import the **Coordinate System** of another **Ma p Layer** from your **Project**.
7. In the **New Feature Class** dialog box, click the **Import** button. If the **Look In:** area of the dialog box does not display the **Personal Geodatabase** for your **Map Project,** navigate to your **Map Project's Personal Geodatabase**.
8. Highlight one of the **Map Layers** in the **Personal Geodatabase**. Click **Add**. The name of the **Coordinate System** will now display in the **Name** area of the **New Feature Class** dialog box.
9. Click **Next**. Make sure the box is checked next to **Accept Default Resolution**. Click **Next**.
10. Click **Finish**.

The new **Shapefile** should display in your **Personal Geodatabase**.

Add or Delete Digitized Points to the New Shapefile Layer

Add/Digitize New Points to a Shapefile Layer

1. Add the new Shapefile to your Map Project.
2. In the Edit Toolbar, use the pull down menu and choose Start Editing.
3. Make sure that your Target is the new Shapefile, and not another Map Layer.
4. Make sure that the Task is set to Create New Feature
5. Click the Sketch tool. It looks like a pencil.
6. Add points to the layer by clicking on the desired location with the Sketch tool.
7. When you are finished adding points to the Map Layer, go to the Editor toolbar, click on the Edit pull down menu, and choose Stop Editing. If you are asked whether or not you want to save your edits, click Yes.
8. Right click on your Points Map Layer and choose Open Attribute Table. The only information displayed in the table is an ID number for the point and the designated shape of each featuer (in this case, they are all points). If you want to see the XY Coordinate information, you will need to display it.

Remove Digitized Points from a Shapefile Layer

1. In the Edit Toolbar, use the pull down menu and choose Start Editing.

2. Make sure that your Target is the new Shapefile, and not another Map Layer.
3. Make sure that the Task is set to Create New Feature
4. Choose the Edit Tool - it looks like a black arrow
5. Using the Edit Tool, click on the Point that you want to delete. It will be highlighted in cyan.
6. Right click on the highlighted Point. Choose Delete from the pop up menu.
7. Go to the Edit drop down menu and choose Save Edits to continue editing, or choose Stop Editing to end the editing session.

Display Digitized Coordinates for XY Points in an Existing Shapefile Map Layer

1. Open the Attribute Table for the Digitized Points
2. Click on the Options button and choose Add Field.
3. Name the Field Y - this will be where you input your LATITUDE coordinates.
4. In the Type pull down menu, choose Double.
5. Click OK.
6. Repeat steps 2. - 5. to create an X Field.
7. Right click on the title of the X Field, and choose Calculate Geometry. Click Yes.
8. In the Calculate Geometry dialog box, choose the X Coordinate of Point in the Property area.
9. Make sure that the proper Coordinate System for your Map Project is displayed in the Coordinate System Field.
10. Make sure that the proper unit of measurement for your Coordinate System is displayed in Units pull down menu. Some Coordinate Systems use Feet and some use Meters - check the parameters of your Coordinate System before proceeding if you are not sure.
11. Click OK.
12. Repeat steps 7. - 11. for the Y Field, making sure that the Property area displays Y Coordinate of Point.