


### Adding X, Y Coordinates to a Table

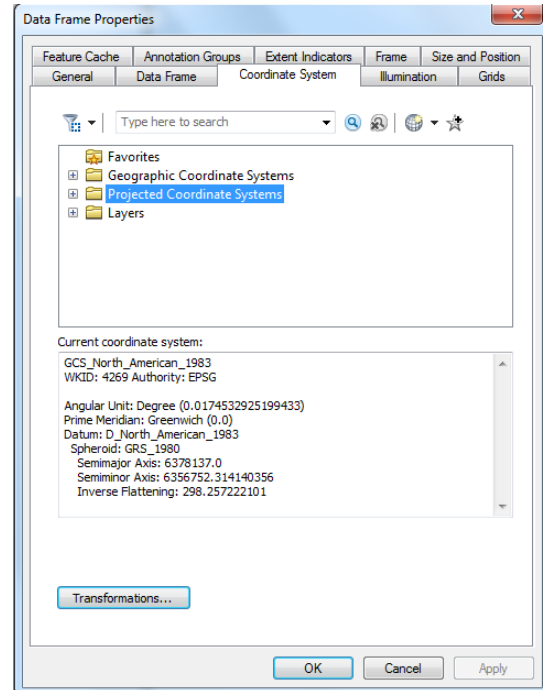
This procedure outlines the steps to add X,Y coordinates to a table for a point data file in ArcMap. The example used in this procedure is a set of points created from a table of latitude and longitude values. This file can be downloaded from [www.brocku.ca/maplibrary/Instruction/Adding\\_xy\\_to\\_table.zip](http://www.brocku.ca/maplibrary/Instruction/Adding_xy_to_table.zip)

#### Prepping the shapefile and Data Frame properties

1. Run ArcMap and create a new document.
2. Click the Add Data button  and add the point data file.
3. Double-click the data frame to access the properties.
4. The current selection is "GCS\_North\_American\_1983". To select a projected coordinate system for the data frame, select:

- + Projected Coordinate Systems
- + UTM
- + NAD 1983
- + NAD 1983 UTM Zone 17N

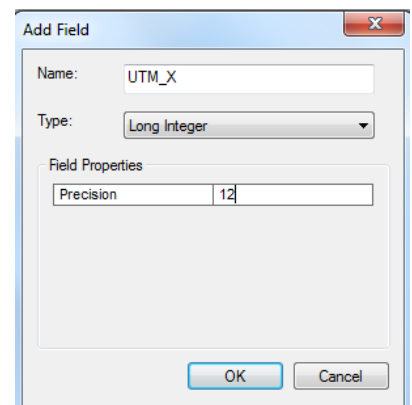
5. Click OK to return to the map window.
6. Right-click the point layer and select *Open Attribute Table*. Notice the existing columns include latitude and longitude but not UTM eastings and northings.



**Table Options**

	FID	Shape *	X	Y
	0	Point	-79.235444	43.207055
	1	Point	-79.261247	43.191196
	2	Point	-79.205194	43.149254
	3	Point	-79.207431	43.147622
	4	Point	-79.215648	43.15465

7. Click the "Table Options" button and select "Add Field...". Give the new field an appropriate name, change the type to "Long Integer" and make the precision "12".
8. Click OK.
9. Repeat the above step to add a field for the UTM Y coordinate (northing).



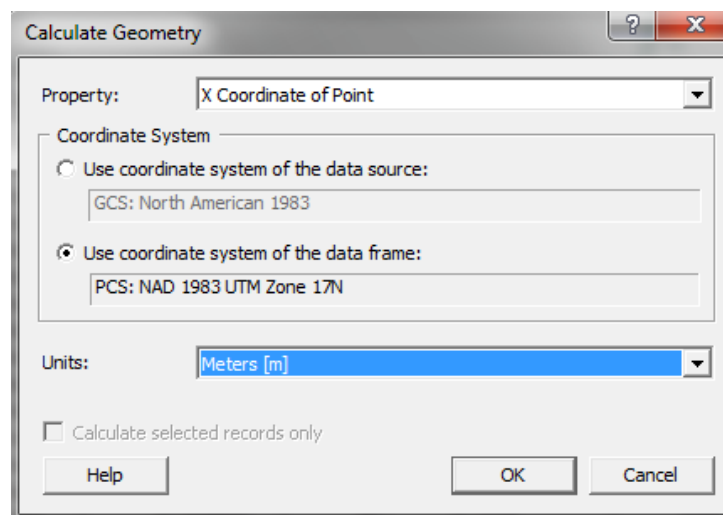
	FID	Shape *	X	Y	UTM_X	UTM_Y
	0	Point	-79.235444	43.207055	0	0
	1	Point	-79.261247	43.191196	0	0
	2	Point	-79.205194	43.149254	0	0
	3	Point	-79.207431	43.147622	0	0
	4	Point	-79.215648	43.15465	0	0

10. To understand how latitude and longitude coordinates relate, study the following chart as a general rule for a region in southern Ontario.

Latitude	43 degrees	UTM-Y	4,763,000 metres N
Longitude	-79 degrees	UTM-X	623,000 metres E

### Updating the column with UTM coordinates

11. Right-click the UTM\_X heading and select "Calculate Geometry...". Click **Yes** to the warning about editing the table outside of an edit session.
12. Select the geometric property you want to be calculated. In this case "**X Coordinate of Point**".
13. Select "**Use coordinate system of the data frame**".
14. Change the Units to "**Meters [m]**".



15. Click **OK** to run the calculation. Click **Yes** to the warning.
16. The table will update with UTM X coordinates.
17. Repeat the above steps to calculate the UTM Y coordinates. The results should resemble the following image.

FID	Shape *	X	Y	UTM_X	UTM_Y
0	Point	-79.235444	43.207055	643344	4785320
1	Point	-79.261247	43.191196	641284	4783515
2	Point	-79.205194	43.149254	645939	4778953
3	Point	-79.207431	43.147622	645761	4778768