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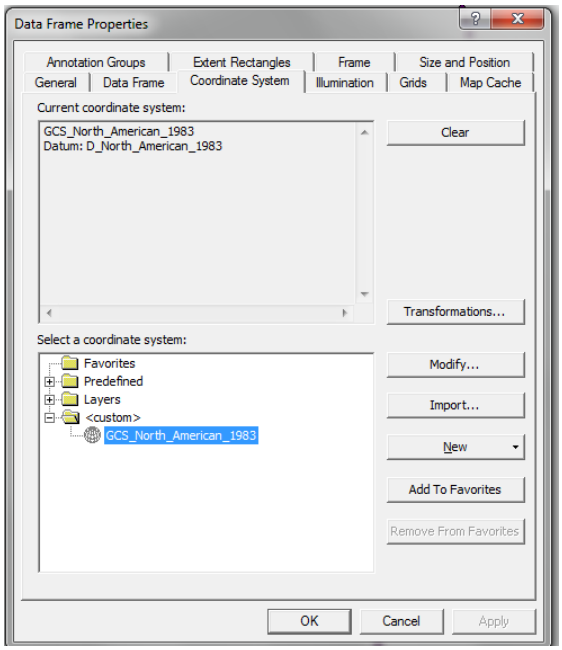
Adding X, Y Coordinates to a Table in ArcMap

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.

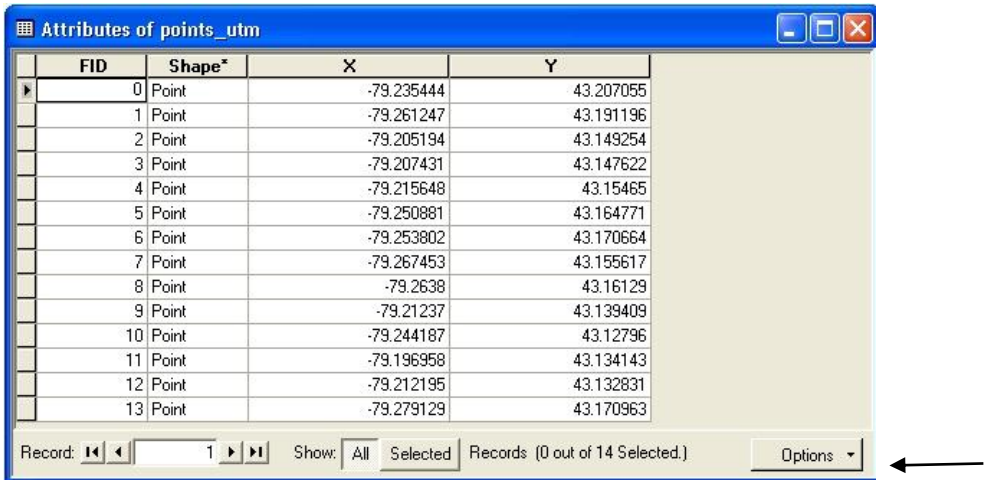
Prepping the shapefile and Data Frame properties



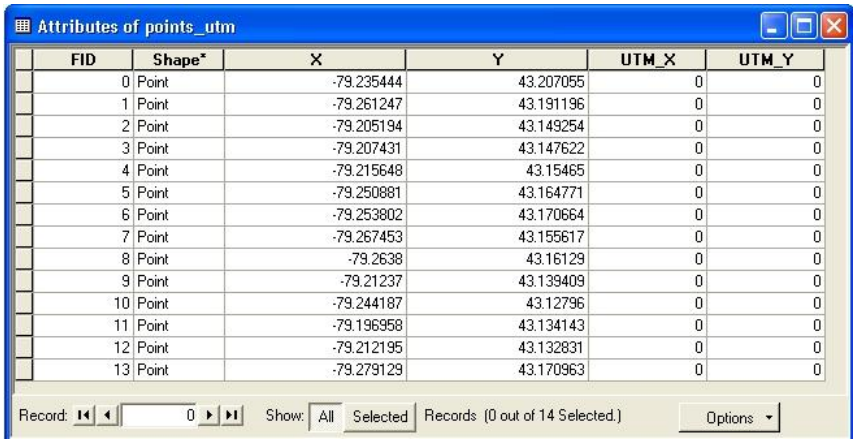
1. Run ArcMap and create a new document.
2. Click the Add Data button and add the point data file.
3. Double-click the data frame to access the properties.
4. The current selection is “GCS_North_American_1983”. To select a predefined projection for the data frame, select:

+ Predefined
+ 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.



7. Click the "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).



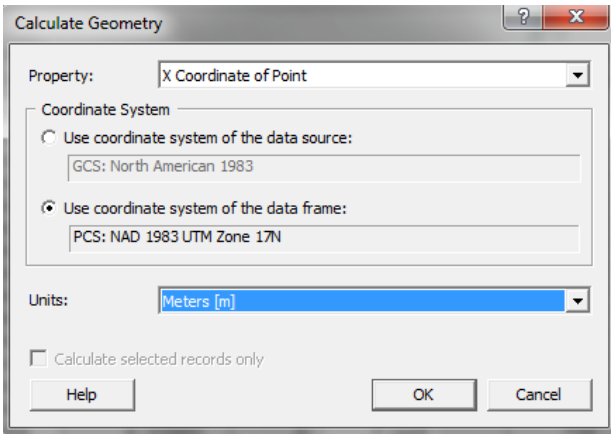
FID	Shape*	X	Y	UTM_X	UTM_Y
0	Point	-79.235444	43.207055	0	0
1	Point	-79.261247	43.191196	0	0
2	Point	-79.205194	43.149254	0	0
3	Point	-79.207431	43.147622	0	0
4	Point	-79.215648	43.15465	0	0
5	Point	-79.250881	43.164771	0	0
6	Point	-79.253802	43.170664	0	0
7	Point	-79.267453	43.155617	0	0
8	Point	-79.2638	43.16129	0	0
9	Point	-79.21237	43.139409	0	0
10	Point	-79.244187	43.12796	0	0
11	Point	-79.196958	43.134143	0	0
12	Point	-79.212195	43.132831	0	0
13	Point	-79.279129	43.170963	0	0

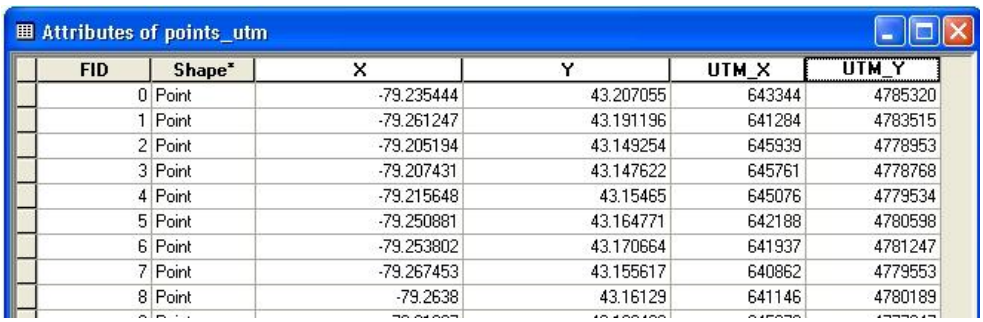
10. To understand how latitude and longitude coordinates relate, study the following chart as a general rule for a region in southern Ontario.

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 the coordinate system of the data frame.
14. Change the Units to “Meters [m]”.
15. Click OK to run the calculation.
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
4	Point	-79.215648	43.15465	645076	4779534
5	Point	-79.250881	43.164771	642188	4780598
6	Point	-79.253802	43.170664	641937	4781247
7	Point	-79.267453	43.155617	640862	4779553
8	Point	-79.2638	43.16129	641146	4780189