

## ArcMap: Creating New Shapefiles from MS Excel Spreadsheets

These instructions address how to convert a tabular list of point coordinates into a new ESRI shapefile. The users can also use them to save data to a geodatabase feature class.

1. Open ArcMap.
2. Create a new project and save it.
3. Add background data to the data frame. Use the “Add Data” button or drag and drop from ArcCatalog.
4. Start MS Excel. Open the file with the data and coordinate information. You can have fields in your table other than the Northing and Easting (or X & Y) fields. \*\*If you are using geographic coordinates for the X & Y, they need to be in decimal degrees. West and south coordinates need to have a negative sign in front. See note below on converting Degrees, minutes, seconds to decimal degrees.
5. Clean up the file to delete fields of data you don’t need in the final shapefile.
6. Make sure the Northing and Easting (or X & Y) columns are formatted to numbers. If you do not have decimal places, specify that in the format dialog box. \*\*If you are using geographic coordinates, it is best to have at least 5 digits after the decimal to make sure your data is precise enough for large scale mapping.
7. Put the cursor in the cell directly below the last lower right cell holding your data.
8. Save your file to a format that ArcMap can read. File menu → Save As. Try one of the following two formats:
  - a. Dbase IV
  - b. Comma Delimited. You will need to make sure the file extension actually reads txt. To do this, choose “comma delimited (csv)” as your Save As type. Then change the name of the file to include a .txt and put the whole filename in quotes.
9. Close MS Excel.
10. Return to the ArcMap project.
11. Start the dialog box to add XY data. Tools menu → Add XY Data.
12. This tool allows you to show the location of XY coordinates from a file on-the-fly. Fill in the following sections of the dialog box and then click OK.

Name (navigate to the file using the folder button on the right)

Choose the correct X and Y field headings from your table.

Set the Spatial Reference (click on the “Edit” button). You need to do this so the program knows what projection and datum the coordinates are in.
13. The data will display in the data frame map area. Check to make sure all of the positions are present and that there is no error in the attributes or relative locations.
14. Save the data to a shapefile. Right click on the filename in the TOC → Data → Export Data → shapefile. Be sure to read the Export Data dialog box carefully for information on the coordinate system to assign to the data.

Further information can be found in:

+Using\_ArcMap.pdf (digital book) or

+ArcGIS Desktop Help → Contents tab → ArcMap\Creating maps\Adding x,y coordinate data to a map

+ArcGIS Desktop Help → Contents tab → ArcCatalog\Exploring the values in a table>About tabular data sources

\*\*Geographic Coordinate users!!! Make sure your coordinates are in decimal degrees with 5 or more digits after the decimal place. Coordinates representing the west & south need to be negative numbers. The following is the formula to convert Degrees, Minutes, & Seconds (DMS) to Decimal Degrees (dd).

DMS → dd:  $D + M/60 + S/3600 = dd$

Example:  $45^{\circ}30'45.22''$ :  $45 + 30/60 + 45.22/3600 = 45.512561$