

## Data Entry (Excel)

### Introduction

These instructions provide best practices for preparing data in Excel for use with ArcGIS.

1. Run Microsoft Excel.
2. From the Quickstart window select “Blank Workbook”.
3. The first row will define field names and must adhere to certain rules:
  - a. Must begin with a letter.
  - b. Must be less than 64 characters long.
  - c. Must contain only letters, numbers and underscores (**NO spaces, hyphens or special characters**).
4. Enter appropriate field headings. When preparing a table to join with previously georeferenced data, you must include a common field on which to base the join (i.e. “ident” from Part One will match “Identity” in table below).

	A	B	C	D	E	F	G	H	I
	Identity	Species_Name	Number_of_stems	dbh_cm	Line	A_distance_m	B_distance_m	Height_m	Condition

5. Enter details for each record taking care with consistency and accuracy.

	A	B	C	D	E	F	G	H	I
1	Identity	Species_Name	Number_of_stems	dbh_cm	Line	A_distance_m	B_distance_m	Height_m	Condition
2	02 04 15	Acer rubrum	3	60	A	12.2	6.8	25	AS
3	02 04 16	Acer rubrum	6	45	A	4.5	8.4	20	AS
4	02 04 17	Betula papyrifera	4	56	B	2.1	6.2	22	AS
5	02 04 18	Acer saccharum	6	75	C	5.6	3.3	30	AS


6. Save the Excel workbook (.xlsx) and save the file a second time in either CSV (comma separated) format or an older version of Excel (i.e. 97-2003, .xls).
7. Close all Excel windows.

### SUMMARY:


#### BEST PRACTICES FOR CREATING AN EXCEL TABLE FOR USE WITH ARCGIS

1. All naming of FILES and FIELD NAMES:
  - a. Must begin with a letter.
  - b. Must be less than 64 characters long.
  - c. Must contain only letters, numbers and underscores (NO spaces, hyphens or special characters).
2. Each record should be entered accurately and consistently.
3. The table should include a field common to previously georeferenced data to facilitate a join in ArcGIS.
4. Save table in 2 formats (.xlsx and .xls).
5. Make a backup of the final table before proceeding.
6. Make sure Excel is closed completely before using the table in ArcGIS.

### Joining Excel Data to a Geography File

1. Run ArcMap.
2. Create a new blank document.
3. Click **Add Data** .

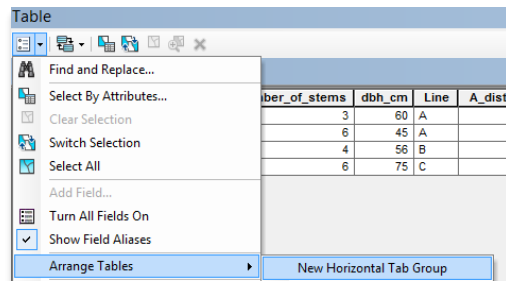
In the Add Data dialog box, establish a folder connection.

4. Click **Connect to Folder** . Navigate to your storage directory (only select the folder) where the geography file (in this case, GPS data) is saved and click OK. Essentially this connection is a shortcut to a directory.
5. From the **Look In** dropdown of the Add Data dialog box, select the folder connection established in step 4.
6. Select the GPSPoints shapefile from the first exercise and click Add. The GPS points appear in the map window.
7. Click Add Data and navigate to the storage location of the Excel file (.xls) created in the previous section. It is best to use an older version of Excel or even CSV format when adding table data to ArcGIS.
8. Double-click the Excel file and select the appropriate workbook. Click Add. The table appears in the Table of Contents.

We will explore the attributes of the GPS shapefile and the attributes in the table and then establish a join based on the "Identity" field common to both tables.

9. Right-click the GPSdata shapefile and select Open Attribute Table.
10. Right-click the table and select Open.
11. From the table window, click the menu in the top left corner and select **Arrange Tables > New Horizontal Tab Group**.

Both tables are visible. Note the common field containing Tag details. This common field will facilitate a virtual join.



The screenshot displays two table windows side-by-side. The top window is titled 'Table - Tag\_plot' and contains the 'Tag\_plot' table. The bottom window is titled 'Table - Tag\_pts' and contains the 'GPSpts' table. A red arrow points from the 'Identity' field in the 'Tag\_plot' table to the 'ident' field in the 'GPSpts' table, highlighting their commonality.

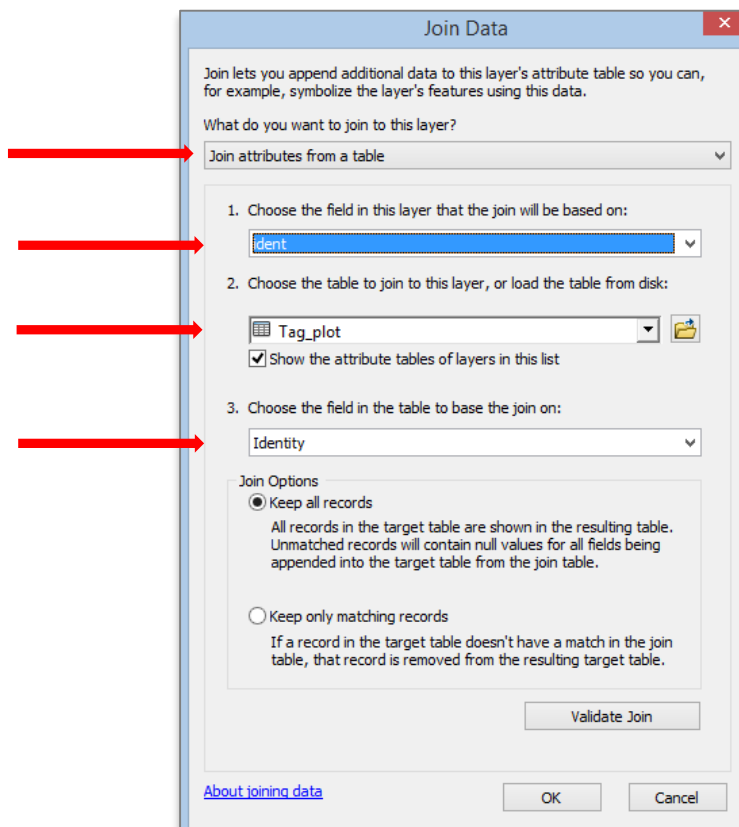
FID	Shape*	type	ident	Latitude	Longitude	y_proj	x_proj	comment
0	Point	WAYPOINT	02 04 15	43.169767	-79.280853	4781101.919775	639739.830102	16-JUL-11 8:34:02AM
1	Point	WAYPOINT	02 04 16	43.169887	-79.277266	4781121.23312	640031.097729	16-JUL-11 1:00:22PM
2	Point	WAYPOINT	02 04 17	43.1813	-79.325875	4782308.596295	636054.522067	17-AUG-13 4:13:11PM
3	Point	WAYPOINT	02 04 18	43.181302	-79.325899	4782308.754012	636052.631218	17-AUG-13 4:13:14PM

Identity	Species_Name	Number_of_stems	dbh_cm	Line	A_distance_m	B_distance_m	Height_m	Condition
02 04 15	Acer rubrum	3	60	A	12.2	6.8	25	AS
02 04 16	Acer rubrum	6	45	A	4.5	8.4	20	AS
02 04 17	Betula papyrifera	4	56	B	2.1	6.2	22	AS
02 04 18	Acer saccharum	6	75	C	5.6	3.3	30	AS

12. Right-click the GPS data layer in the **Table of Contents** and select > Joins & Relates > Join...

13. From the dialogue box, make the following selections:



14. Click OK. The attribute table of the GPSdata file now includes all details from the Excel table.


**NOTE: This is a TEMPORARY join!**

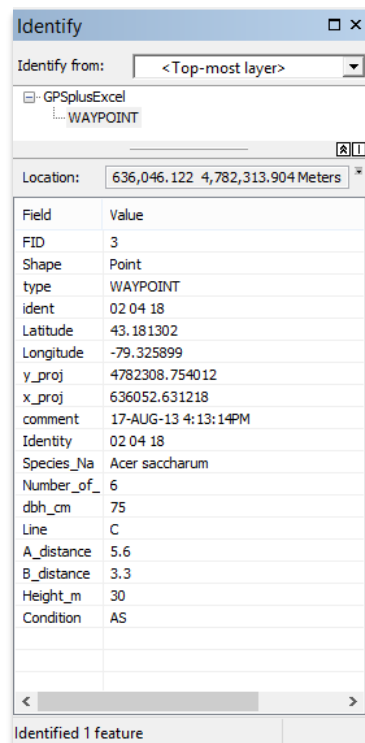
15. To make it permanent for future reference, right-click the GPS points layer in the Table of Contents and select DATA > Export Data.

16. Navigate to your storage space, provide a name (beginning with a letter, NO spaces or special characters), select shapefile from the file type.

17. Click Save.

18. Click YES to add the new layer to the map.

19. Use the Identify tool  to click a dot on the map to see the associated attributes.



Go to [From the Field to the Map: Part Four](#) to learn about representing your data by changing symbology and classifying data using ArcGIS.

Go to [From the Field to the Map: Part Three](#) to learn about prepping address data and geocoding in ArcGIS.