

Uploading Survey Data to ArcGIS


Overview

The completed field survey spreadsheets are uploaded to ArcGIS (Esri's geographical information system software) and converted to shapefiles. These are files that store geometric information about geographical features. These can be shown as points, lines or areas (polygons).

The aim is to upload all data as point and polyline data with associated attribute information (as recorded on the spreadsheet). The spreadsheets and shapefiles will be stored in:
V:\GIS\EditData\AONB\UNLPS\Our Farm Heritage.

Preparing the data

The co-ordinates first need checking before the original 'FEATURES_ALL' tab is split into three further tabs.

- Check numeric data
 - There should be no errors in the numeric data. If there are errors, then correct them.
- Check co-ordinate data
 - Create point data (as described on page 2) using the full data set.
 - Select 'Zoom Extent' to see if any co-ordinates are way off.
 - Zoom into the holding to check more local errors.
 - Identify the errant point/s and investigate the error/s.
 - Correct error/s on the final data spreadsheet.
- Check that the descriptions are under 254 characters (including spaces).
- Sort data
 - Select the entire sheet by clicking in the top left corner of the sheet.
 - Select *Data* → .
 - Check the 'My data has headers' box and sort as shown in Figure I.1.
 - Copy and paste the point data to the 'FEATURES_POINTS' tab and the polyline data to the 'FEATURES_LINES' tab.

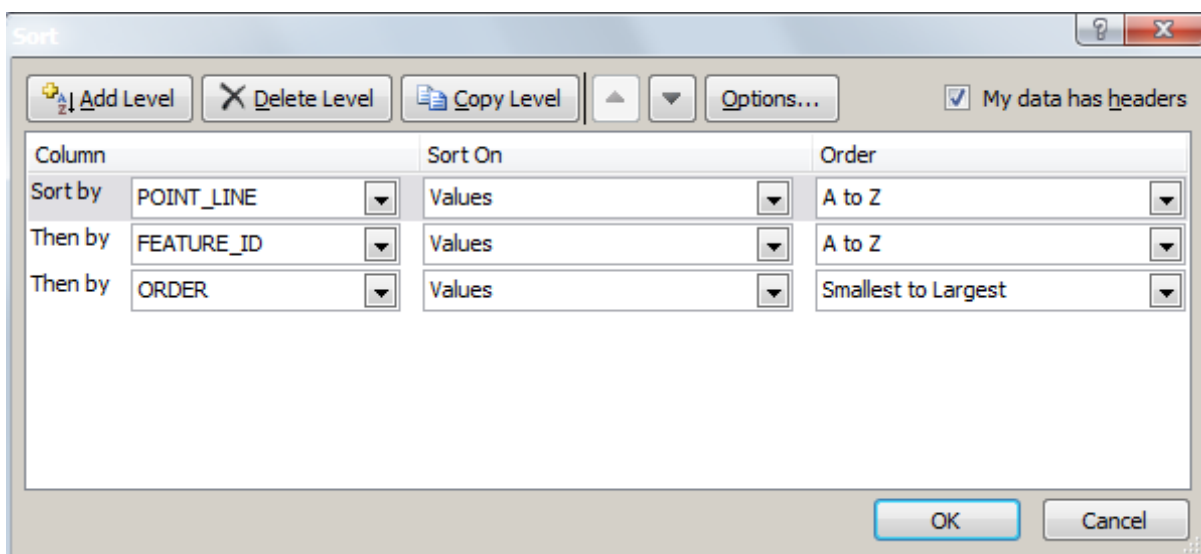


Figure I.1: 'Sort' dialogue box


- Point data – ‘FEATURES_POINTS’
 - Delete the ‘Point_Line’ and ‘Order’ data (i.e. P and blank).
- Polyline data – ‘FEATURES_LINES’
 - Delete the ‘Point_Line’ data (i.e. L).
- Attribute data for the polylines – ‘FEATURES_JOINING’
 - Copy all data from the ‘FEATURES_LINES’ tab in the spreadsheet to a further tab ‘FEATURES_JOINING’.
 - In this new tab, delete all rows except those containing the first point for each line (i.e. the rows that contain all the attribute information).
 - Delete the *Order* column.
 - Rename the X and Y columns to END_X and END_Y.

FEATURE_ID	DESC	HER_REF	TYPE	WALL_FIELD_BLDG	POOR_COND_Y_N	HIGH_VULN_Y_N	ROUGH_DATE	SKETCH_NO	PHOTO_FILENAME	FURTHER_SURVEY_Y_N	END_X	END_Y
1234/01	Short ditch running NW-SE, parallel to field boundary.	N/A	DITCH	F	N	N	Mo	N/A	P1000168	N	412557	468975
1234/02	Line of stones/terrace close to wall. Ditch close to wall.	N/A	LINEAR FEATURE	F	Y	N	U	N/A	P1000170	N	412534	468870

Figure 1.2: Example of the ‘FEATURES_JOINING’ tab

- Clear contents
 - For each of the new spreadsheets, clear a number of columns to the right of the data and rows below the data (e.g. five) by selecting them, right-clicking and selecting *Clear Contents*.

Creating point data

- *File* → *Add Data* → *Add Data* **or** click the Add Data icon on the toolbar 
 - Locate the spreadsheet and click *Add*. Select the ‘FEATURES_POINTS’ tab and click *Add* again.
 - The selected file will be added to the bottom of the *Table of Contents* (to the left of the frame. If it is absent, open it by clicking *Windows* → *Table of Contents*).
- Right click on the file in the *Table of Contents* and select *Display XY Data*.
 - Specify the location of the X and Y data.
 - Check that the projection is set to British National Grid. If it is not, click *Edit...* and select it from the projection list.
 - Click *OK* (ignore the warning and click *OK* again).
 - The point data will be plotted.
- Right click on the event file in the *Table of Contents* and select *Data* → *Export Data*.
 - Ensure the following settings:
 - *All Features and this layer’s datasource*
 - Set the destination source for the data renaming the file to your initials_data type_sequential number, e.g. JG_points_01
 - Click *OK*.
 - After processing, click *Yes* to add the data to the layer.

Creating polylines

- Follow the same methodology for creating shapefile point data using the 'FEATURES_LINES' tab.
- *Geoprocessing* → *ArcToolbox* → *Data Management Tools* → *Features* → *Points to Line*.
- Enter the following in the dialogue box and click *OK*:
 - *Input Features*: Select the file containing the shapefile line data that you have just created.
 - *Output Feature Class*: Select the same location as the file in the *Input Features*.
 - *Line Field*: Select *FEATURE_ID*.
 - *Sort Field*: Select *ORDER*.
- In order to add attribute data to the polylines:
 - Right click on the polyline file in the *Table of Contents* and select *Joins and Relates* → *Join...*
 - In the dialogue box –
 - select *FEATURE_ID* as the field to base the join on for both the polyline layer and the table (1 and 3).
 - Select the 'FEATURES_JOINING' table (using the folder option).
 - Choose the *Keep only matching records* option.
 - Click *OK*.
 - Export the polyline file as a new file so that the newly joined attribute table remains attached.
 - Right click on the polyline file in the *Table of Contents* and select *Data* → *Export Data*.
 - Ensure the following settings:
 - *All Features and this layer's datasource*
 - Set the destination source for the data renaming the file to your initials_data type_sequential number, e.g. JG_lines_01
 - Click *OK*.
 - After processing, click *Yes* to add the data to the layer.

Final data

- Remove any blank fields (ones without headers) from the attribute tables.
- Rename the column headers (alias) so complete words.
- In the polyline attribute table, also remove the 2nd column of Feature ID (Feature_1).

Changing the symbols

To change the symbols, right click on the symbol in the *Table of Contents*.

Identifying attributes

To view the attribute information for a point or polyline, click  on the toolbar, and then click the point or line to show its attributes.

Managing the data

It is possible to combine data from several fields to one master farm spreadsheet. If you do this, remember:

- To include all field data in the 'FARM_RECORDS' tab on the master spreadsheet.
- Rename the master document with the Farm name and the date it was created.
- Do not delete the original spreadsheets.