Working with Excel Files in ArcGIS 10

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To use Excel files effectively and with as little pain as possible, there are some important things to remember:

First, Read the ArcGIS 10 Help File on Excel

http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html#//005s0000001w00000 0.htm

Adding an Excel file to ArcMap:

- 1. Click Add Data (🔹)
- 2. Go to the Excel file (.xls) that you want to add
- 3. Double click on it
- 4. Select the worksheet you want to add and click Add

Note: When you add an Excel file in ArcGIS, make sure to click down to the worksheet level! If you try to add the file marked .xls, you will get an error message.

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But before you add an Excel file to ArcMap, read the following!

The first 8 rows of data values will determine field type when brought into ArcGIS.

If there is a mix of data types in first 8 rows (i.e. numbers and text), it will become a STRING field in ARCGIS. Essentially, make sure you format everything the same way throughout all the cells in a column, otherwise your data may be put into the wrong field type.

Note: If you have a field with more than 255 characters, ArcMap will put it as a BLOB file type, preventing you from reading its contents.

In some census data tables, there is an (x) to indicate missing numeric values – if this occurs in the first 8 rows, the entire field will be typed as text in ArcGIS and you will not be able to map it. Modify your data accordingly. I suggest deleting the (x) value – it will then appear as NULL in ArcGIS. If you type 0 instead of deleting it you are implying the actual value is 0 and this will affect statistical analysis accordingly. (Note: you can use the Edit-Replace function in Excel to look for all values of (x) and replace it with nothing)

After you have added the Excel file to ArcGIS, right click on it in the table of contents and choose Properties, then the Fields tab. Click on each field to check that it is in the correct type (text or "double" which is a kind of numeric data type). If the field did not import correctly, exit from ArcMap and open the Excel file and look at the first 8 rows again. Make sure they are the correct type of data for your field. Also make sure the first row is field names and the second row is data (e.g., Excel files from the census typically have two rows of field names and descriptors – one of these has to be deleted). Modify, save, and then re-open ArcMap and add the Excel file again to check it.

Getting the field type right is CRITICAL for proper joins later on. If you are, for example, joining a census tract SF3 data table to a census tract geography data set, and the ID fields on which you will join are of different field types, the join will not work. They both should be text or both numeric (text for IDs usually).

Modify field (column) names in Excel before adding the worksheet to ArcGIS

Life will be much easier for you if you modify field names in Excel before bringing the file into ArcGIS. Field names should:

- Be 10 characters or less (the ArcGIS Help says 64, but if you later want to export the Excel file to be part of a shapefile or .dbf file, you'll need to have the field names be 10 characters or less, so just do this from the beginning!)
- Start with a letter
- Use only letters, numbers or underscore (_) do not use spaces, special characters or periods

Do not try and work in Excel while it is open in ArcMap

You can have an Excel sheet open in Excel and add it to ArcGIS but you will be unable to modify the attribute table in ArcGIS, or Save in the Excel File. Essentially, both files become read-only when the other is open.

Best practice:

- exit out of Excel before adding an Excel file to ArcMap
- exit out of ArcMap before you modify an Excel file that has been open in ArcMap

Also, if you have an ArcMap session open with an Excel file in it, then remove the Excel file, you will still be unable to modify the new excel sheet until you close ARCGIS. I've found that I actually have to close my ArcMap session and restart it to see the changes in the Excel file.

You Cannot Modify Excel Tables in ArcGIS

Excel documents, even upon being imported into ArcgGIS, will not have an ObjectID field. This means that you will not be able to use relates, select features from it on the map, apply definition queries, or edit its attributes. To give the data an ObjectID field,

you must either export the points into a shapefile using *Data-Export Data* or Use ArcCatalog to make the document into a point feature class.

For more on this topic, see <u>Fundamentals of ObjectID Fields</u>

Working with tables is not easy!

All sorts of things can go wrong when you are working with tables of different types in ArcGIS. Fields don't import properly, they won't join, data disappears, etc. You are not an idiot. Tables are tough. Take a deep breath and see if starting from the beginning again works. Pay attention to all the little details, especially field name constraints and values in the first 8 rows!