

ALWAYS & NEVER

When Formatting Excel Tables

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Microsoft Excel tables are a highly useful data source for ArcGIS. In addition to adding them to ArcMap, previewing them in ArcCatalog, and using them as inputs to geoprocessing tools, you can use the Excel To Table tool in the Conversion toolbox in ArcToolbox (available at all license levels) to convert an Excel table to a geodatabase attribute table. This article describes the things you should always do and the things you should never do when formatting Excel tables for use with the Excel To Table tool.

Understanding Excel and ArcGIS Tables

Here is a quick review of the relationship between Excel tables and ArcGIS attribute tables. A row in an Excel table is a record in an ArcGIS attribute table. All rows in an Excel table have the same columns. A column in an Excel table is a field in ArcGIS.

Fields in an ArcGIS attribute table can store spatial information (i.e., area, length) and nonspatial data (e.g., address, owner) about features. Each row in an ArcGIS attribute table represents the record for one feature. Field names in an ArcGIS table created from an Excel table are derived from the first row in each column of the Excel table. Excel tables are read-only in ArcGIS. If you have an Excel workbook open when you are in ArcGIS, the Excel table is also read-only.

Which version of Excel you use matters. ArcGIS supports several Excel versions: .xls files (Excel 2003 and earlier) and .xlsx files (Excel 2007). The advantage of using Excel 2007 is that it allows much larger worksheets (1,048,576 rows by 16,384 columns) than Excel 2003 (65,536 rows by 256 columns).

If you want to use an .xlsx file but do not have Excel 2007, you will need to install the 2007 Office System Driver. It can be downloaded from the Microsoft Download Center. If you are using Excel 2010, you will have to install the 2007 Office System Driver whether you are working with .xls or .xlsx files.

THINGS YOU SHOULD ALWAYS DO

You can avoid problems by making sure column names and cell formatting in Excel adhere to these guidelines so they will convert correctly. The best strategy is to make changes in Excel before using the Excel To Table tool to convert the table.

Always create unique column names.

Because ArcGIS requires unique field names, no two column names in an Excel table should be the same. If a table with duplicate column names is converted, the resultant field names will be truncated to

10 characters and a version number added (e.g., two fields called Street_Name become Street_Name and Street_Name1). Always rename duplicate columns before conversion.

Always start column names with a letter.

If you start a column name with something other than a letter, ArcGIS will add the letter F in front of the nonalpha character. For example, 2Name becomes F2Name. Avoid this problem by ensuring all column names begin with a letter. If you converted an Excel table with a leading nonalpha character, in ArcGIS change the field names with the Alter Field geoprocessing tool or right-click the table in ArcCatalog, click Properties, click the Fields tab, and type a new field name that starts with a letter.

Ensure that all columns and rows contain values.

Upon conversion, any empty column will be created as a field with a generic name (e.g., field_1) that contains no values. Any empty row will be created with no values. This takes up storage unnecessarily and requires more display area to view the contents of the table. In Excel, delete all empty columns and rows. If you have already converted a table with empty columns, use the Delete Field geoprocessing tool in the Data Management toolbox or open the attribute table in ArcMap, right-click the field heading for the empty column, and click Delete Field. If you have already converted a table with empty rows, delete empty rows with the Delete Rows geoprocessing tool in the Data Management toolbox or open the attribute table in ArcMap, start an editing session, right-click the table, click Open Attribute Table, highlight the empty rows, right-click the far-left box, and click Delete Selected.

Use basic cell formatting in Excel.

Cells in columns should be formatted as text, number, or date in Excel. The cell formatting in a column is used by ArcGIS to set the field type. If no formatting has been specified in Excel (i.e., the default General is used), the field type in ArcGIS is determined by a scan of the values in the first eight rows for that column. If the scan finds mixed data types in those rows, ArcGIS will assign the field type as Text and any values will be converted to strings. Number field types in Excel are converted to Long Integer field types in ArcGIS. Year and Time field types in Excel are converted to the Date field type in ArcGIS. Avoid problems by setting the field types for the columns to Text, Number, or Date in Excel by right-clicking the column, choosing Format Cells,