**Joins and Relates in ArcGIS Desktop:** <http://resources.arcgis.com/en/help/main/10.2/index.html#//005s0000002n000000>

Joins and Relates are ways to connect two different datasets that have a common field. This is useful if you have existing data in text or spreadsheet format and you would like to tie it to another dataset or to a geographic dataset, such as a shapefile.

A **Join** is used when the relationship between the datasets is a One-to-One relationship, meaning that one record in dataset A links has only one corresponding reconrd in dataset B. A **Relate** is used with there is a One-to-Many relationship, meaning that dataset A has multiple corresponding records in dataset B. Esri’s help documentation has excellent further information on the importance of differentiating between these two relationship types. See the link above to this documentation.

Steps for joining tables in ArcGIS Desktop.

1. Add the two datasets you would like to Join to an ArcMap session.
2. Identify the common field in each dataset. The field must be the same **type,** ie integer, text, floating, etc.
   1. A common field is a field that exists in both datasets where each record is unique and corresponds to a record in the other dataset. This field is used to link the two datasets so the attributes of a record in one dataset can be tied to the same feature in the other dataset.
3. In your Table of Contents, right click on the layer to which you would like to join your table. Choose Joins and Relates and choose Join.
4. Be sure the dialog window is set to “Join attributes from a table.” Follow the instructions in the dialog box to: choose the common field in the layer upon which the join will be based; select the table you would like to join to the layer; and choose the common field in the table upon with the join will be based. It is a best practice to leave the “Keep all records” radio button selected so you can troubleshoot any records that do not join properly.
5. Click validate join to check that your parameters are correct and your join will go according to plan. If not, check your fields and consult the Esri help documentation to troubleshoot. Otherwise, click okay.
6. You can now export the data to a new shapefile while the layer and table are joined if you’d like to permanently append the table.