

Cookbook for Importing Point Information into a Polygon Shapefile using ArcGIS9

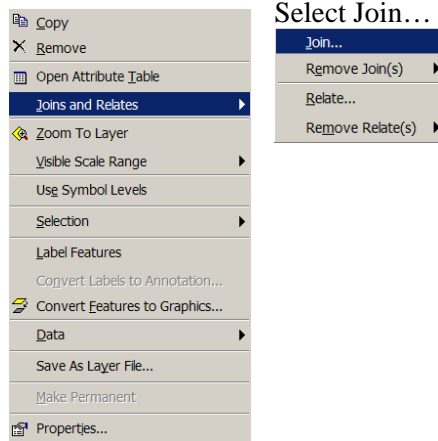
I. Create a Master polygon shapefile. In addition to the FID field this shapefile must have a field containing a unique ID number for each polygon. In the following example the polygons are in the shape of hexagons so we have named this number field “HEXID”.

II. In ArcCatalog

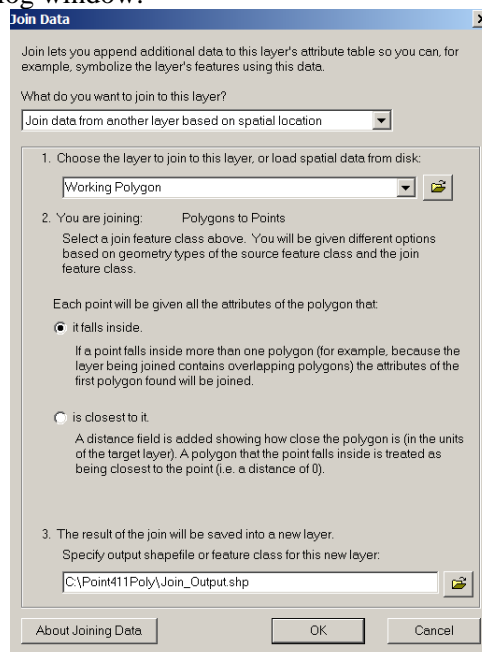
- Copy the Master polygon shapefile so you have a polygon shapefile that you can modify.
- Rename the working polygon shapefile to match the point shapefile naming convention.

III. In ArcMap

- Create your map document.
 1. Add the point & working polygon shapefile
 2. Do a *spatial join* between the point & polygon shapefiles
 - Right-click the point file & scroll down to “Join and Relates”



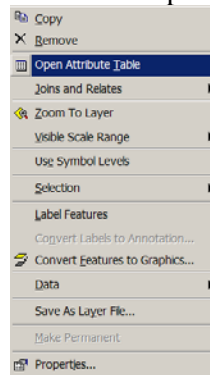
- In the “Join Data” dialog window:



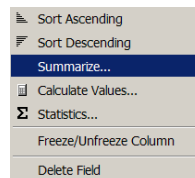
- “What do you want to join to this layer? “
Select “Join data from another layer based on spatial location”
 - “1. Choose the layer to join to this layer...”
Select the working polygon layer
 - “Each point will..”
Select “it falls inside.
 - “Specify output shapefile...”
Confirm or change the location & change the default “Join_Output.shp” to something more appropriate
 - Click on “OK”
- The new point shapefile will be automatically imported into your ArcMap program and it will contain all the fields in the working polygon shapefile including “HEXID”.

3. Find the total count of each unique “HEXID” in the new point shapefile.

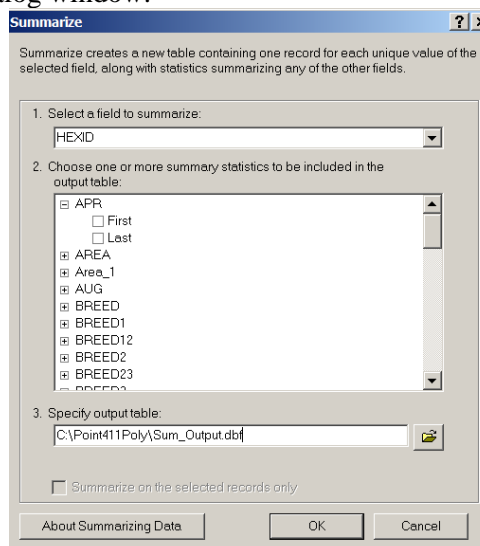
- Right-click the new point shapefile and select “Open Attribute Table”



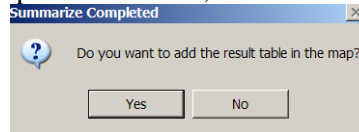
- In new point shapefile’s attribute table, click on the name of your unique ID field, in our example we would click “HEXID”, the column should now be selected.
- Right-click the name of your unique ID field, we would click “HEXID”, and select “Summarize...”



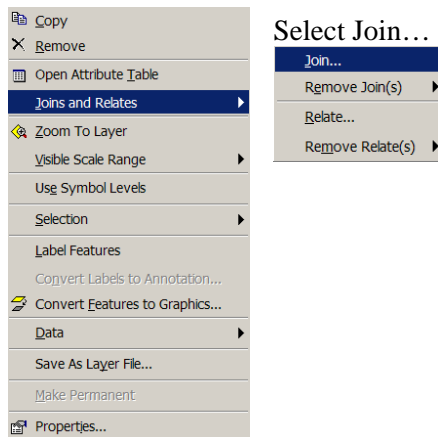
- In the “Summarize” dialog window:



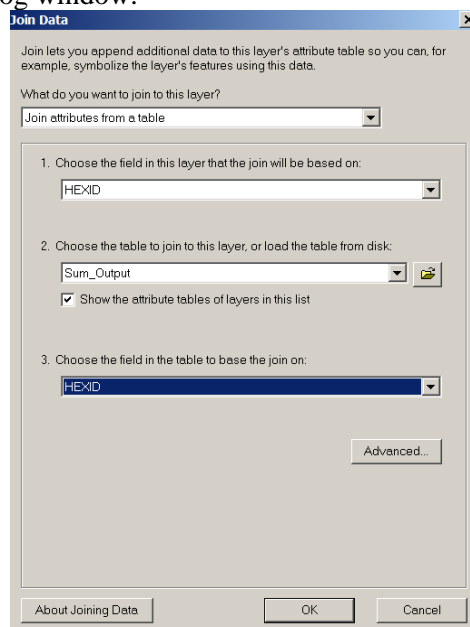
- “1. Select a field to summarize:”
Confirm that your unique ID field was selected, if not change it to the appropriate field name.
- “2. Chose one or more summary statistics to be included in the output table:”
Leave default (selects none)
- “Specify output table:”
Confirm or change the location & change the default “Sum_Output.shp” to something more appropriate
- Click on “OK”
- At the “Summarize Completed” window, click “Yes”



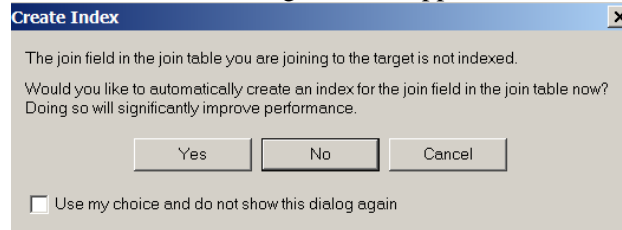
- Close the shapefile’s attribute table.
 - The newly created table should be in listed in your map’s table of contents. In our example the table contains three fields: “OID”, “HEXID”, and “Count_HexID”
4. Join the table data to the working polygon shapefile and create a final polygon.
- Right-click the working polygon shapefile & scroll down to “Join and Relates”



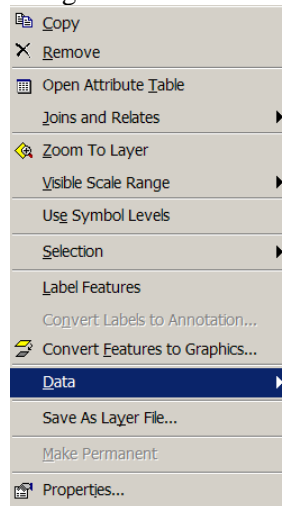
- In the “Join Data” dialog window:



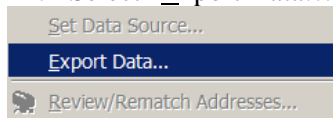
- “What do you want to join to this layer? “
Select “Join attributes from a table”
- “1. Choose the field in this layer...”
Select the working polygon’s “HEXID” field
- “2. Choose the table to join...”
Select the table you just created.
- “Choose the field in the table...”
Select the table’s “HEXID” field
- Click on “OK”
- A “Create Index” dialog box will appear, we recommend clicking “Yes”



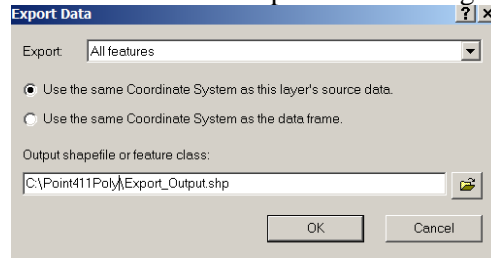
- The table database is now temporarily joined to the working polygon shapefile. To create a final polygon:
 - i. Right-click the working polygon and select “Data”



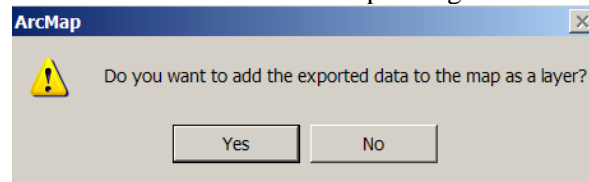
- ii. Select “Export Data...”



iii. In the “Export Data” dialog window



1. “Export” select “All features”
2. Click the first radio button “Use the same Coordinate System as this layer’s source data.”
3. “Output shapefile or feature class:” Confirm or change the location & change the default “Export_Output.shp” to something more appropriate
4. Click “OK”
5. Click “Yes” in the ArcMap dialog box.



- The new & final polygon will contain the total of points spatially located in each polygon. Polygons not containing points will have a value of “0”.