

Tufts University GIS Tip Sheet

Calculating Area, Perimeter, and Length in ArcGIS 9.2

Barbara Parmenter, PhD
Tufts University
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ArcGIS 9.2 makes it very easy to calculate the area and perimeter for polygon features and the length for line features. This is accomplished using the Calculate Geometry function in an attribute table. Note you can also calculate the X and Y coordinates of a polygon or line centroid using this function. For ArcGIS 9.2 help on this function, go to

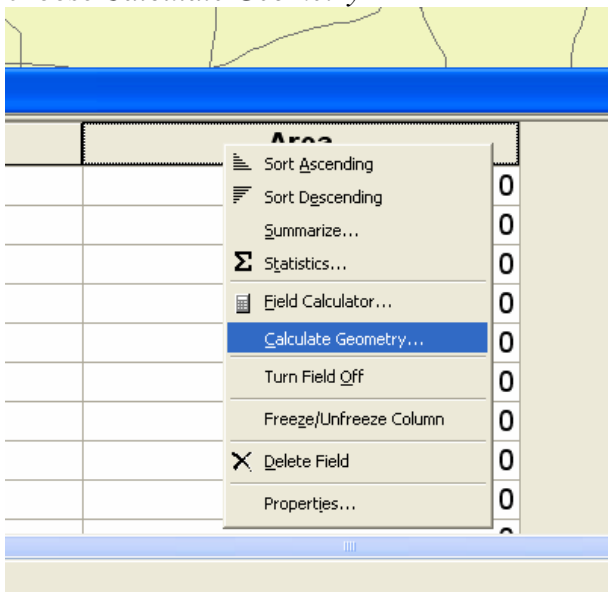
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Making_field_calculations

Important note: You can only calculate area, perimeter and length for **projected** data files! Data files that are in a geographic coordinate system, with units in decimal degrees (latitude and longitude) cannot have their area, perimeter and length calculated. You need to either project these data layers first, or set the Data Frame to a projected coordinate system.

You also have to have write permission to the data to calculate area, add a field, or do any other changes to table structure or values. That means you first should copy the data to your own space.

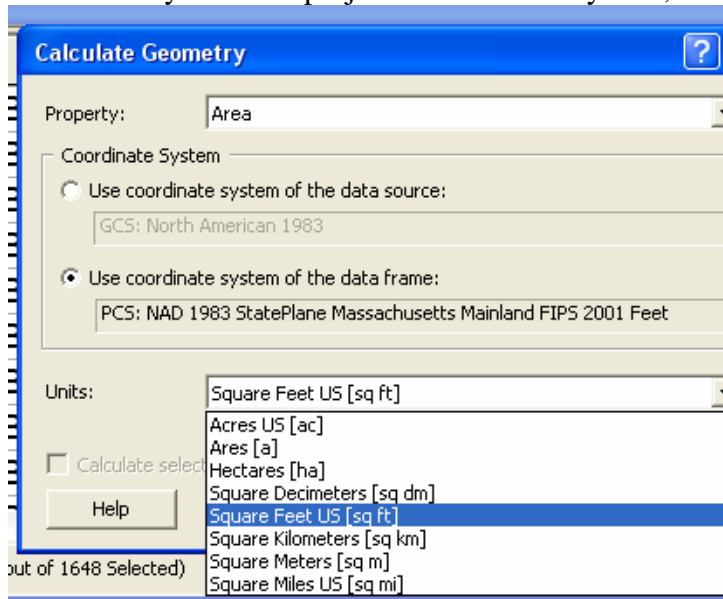
To recalculate area, perimeter, or length for a GIS data file that has existing fields for these properties

1. Open the layer's attribute table, right-click on the name of the attribute in question (e.g., Area) and choose *Calculate Geometry*



2. Ignore the warning message and press OK
3. Choose the property you want to calculate (e.g., Area), the coordinate system, and the units (e.g., meters), and press OK. (**Note:** if you see that the fields are disabled - e.g., *Area disabled* – that means you are trying to calculate area for an unprojected data set. First set the Data Frame's

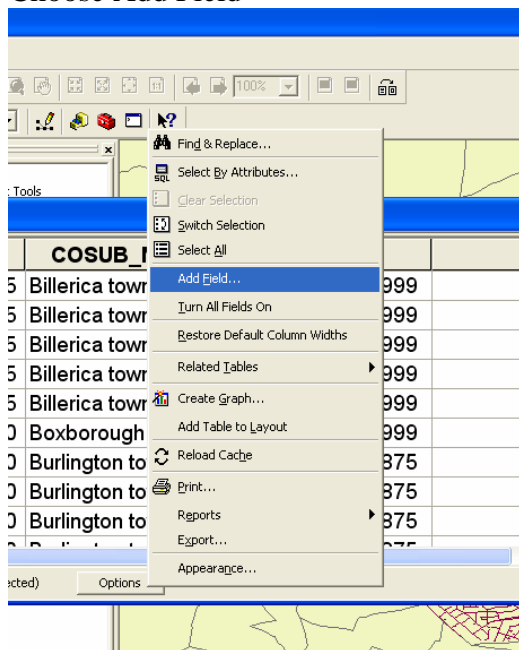
coordinate system to a projected coordinate system, then go through these steps again)



4. Do the same for any other fields if necessary (length, perimeter)

If you first need to create an attribute field to hold the area, perimeter, or length

1. Open the layer's attribute table
2. Click on Options
3. Choose Add Field



4. Name the new field (e.g., Area) and make it Double type (numeric, double precision) and leave the precision and scale set to 0 and press OK

The screenshot shows a dialog box titled "Add Field". It contains the following elements:

- Name:** A text input field containing the word "Area".
- Type:** A dropdown menu currently showing "Double".
- Field Properties:** A section containing a table with two rows:

Precision	0
Scale	0
- Buttons:** "OK" and "Cancel" buttons at the bottom.

5. Now you can do the geometry calculations for the new field as detailed above.