

Creating an Ratio Attribute

This allows attributes that are involved in splitting (like intersection or union) to have their values change relative to the area that they represent. Selecting RATIO means the attributes of the resulting features are a ratio of the original feature's value. The ratio is based on the ratio in which the original geometry is divided. If the geometry is divided equally, each new feature's attribute gets one-half the value of the original object's attribute.

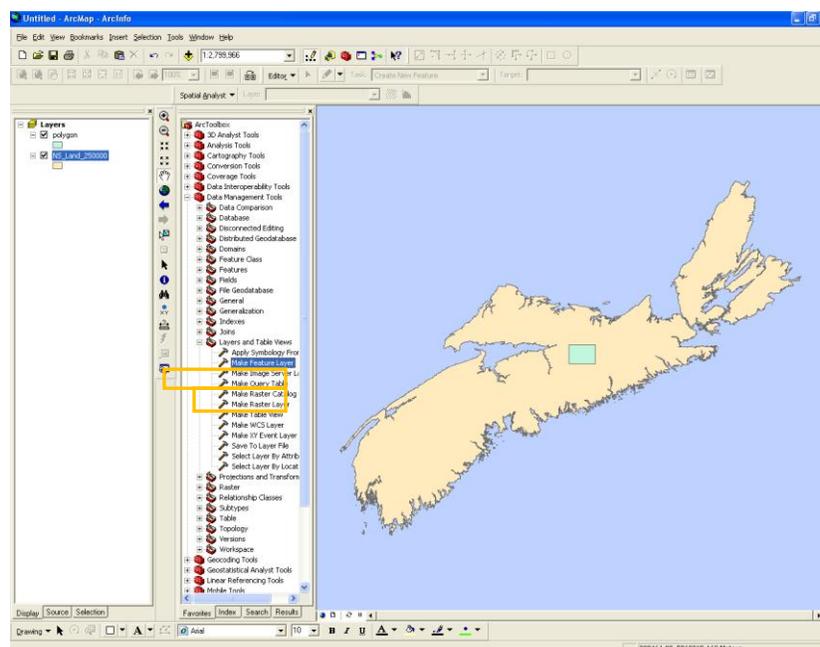
This tool works on a Layer file. This Layer file is only temporary file and will be removed upon exiting the program.

Just a reminder on what a layer file is ...

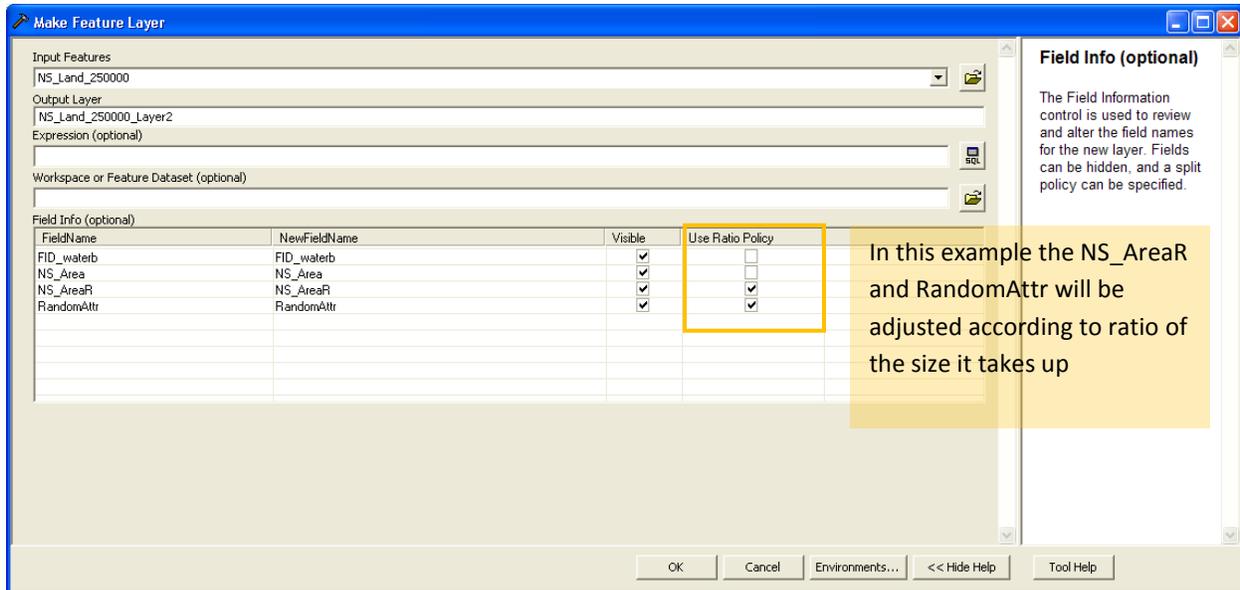
Layer File - In ArcGIS, a reference to a data source, such as a shapefile, coverage, geodatabase feature class, or raster, that defines how the data should be symbolized on a map. Layers can also define additional properties, such as which features from the data source are included. Layers can be stored in map documents (.mxd) or saved individually as layer files (.lyr). Layers are conceptually similar to themes in ArcView 3.x. (from <http://support.esri.com/index.cfm?fa=knowledgebase.gisDictionary.search&searchTerm=layer>, March 2009)

Step 1 – Create a Feature Layer (management)

Open Toolbox – Favorites Tab – Data Management Tools – Layers and Table Views – Make Feature Layer



This opens a tool window. For the Input Features choose file that contains the attribute value that you want to change according to the ratio. Enter Output layer name. REMEMBER this is only a temporary file and is erased upon the program closing. The Expression and Workspace are both optional. In order to change a field to ratio, it must be checked in the Use Ration Policy in the Field Info Section. If the Use Ration Policy is unchecked the attribute when used, clipped, etc will remain the same as the input field value.



Step 2 - Run Process that changes the area of the file – (Clip, Intersect etc)

In this case a clip is run. To see how the ratio effects the data the original file contains an attribute called Random and all of the polygons in the file have a value of 100. There is also a copy of the original area in an attribute called NS_Area. This wasn't set up as a ratio attribute so the value should stay the same as the original input. The Final result should show different values based.

Pre-clip Data

Attributes of NS_Land_250000_Layer2

| FID | Shape * | FID_waterb | NS_Area | NS_AreaR | RandomAttr |
|------|---------|------------|---------------|---------------|------------|
| 975 | Polygon | -1 | 44201033120.3 | 44201033120.3 | 100 |
| 1027 | Polygon | -1 | 10299428019.4 | 10299428019.4 | 100 |
| 1009 | Polygon | -1 | 194090022.464 | 194090022.464 | 100 |
| 836 | Polygon | -1 | 114192367.302 | 114192367.302 | 100 |
| 295 | Polygon | -1 | 37286105.2241 | 37286105.2241 | 100 |
| 26 | Polygon | -1 | 36822108.5906 | 36822108.5906 | 100 |
| 989 | Polygon | -1 | 16333824.3024 | 16333824.3024 | 100 |
| 1003 | Polygon | -1 | 13924912.847 | 13924912.847 | 100 |

Record: 0 Show: All Selected Records (1 out of 1028 Selected) Options

Clip tool

Clip

Input Features
NS_Land_250000_Layer2

Clip Features
polygon

Output Feature Class
C:\jen_strang\data\for_website\ns250000\NS_Land_250000_Clip.shp

XY Tolerance (optional)
Meters

OK Cancel Environments... Show Help >>

Results of Clip

Attributes of NS_Land_250000_Clip

| FID | Shape * | FID_waterb | NS_Area | NS_AreaR | RandomAttr |
|-----|---------|------------|---------------|---------------|------------|
| 0 | Polygon | -1 | 44201033120.3 | 652550255.699 | 1.476324 |

Notice the values of **NS_Area** and **NS_AreaR** are different as is the value of the **RandomAttr**

Record: 1 Show: All Selected Records (0 out of 1 Selected)

Verification of Tool

To verify that the Ratio worked properly a new field can be added and then the area of this new file can be calculated independently. Notice that the area of the **AreaCheck** is the same as the value of the ratio attribute **NS_AreaR**.

| FID | Shape * | FID_waterb | NS_Area | NS_AreaR | RandomAttr | AreaCheck |
|-----|---------|------------|---------------|---------------|------------|---------------|
| 0 | Polygon | -1 | 44201033120.3 | 652550255.699 | 1.476324 | 652550255.699 |

Record: 0 Show: All Selected Records (0 out of 1 Selected) Options