

## Chapter 7

# Making Choropleth Maps in ArcGIS Pro

**Skills you will learn:** How to create categorical and choropleth maps using ArcGIS Pro.

If you are unsure about how to use the ArcGIS Pro user interface, you should read the tutorial [A Quick Tour of ArcGIS Pro](#) before using this tutorial.

### Getting started

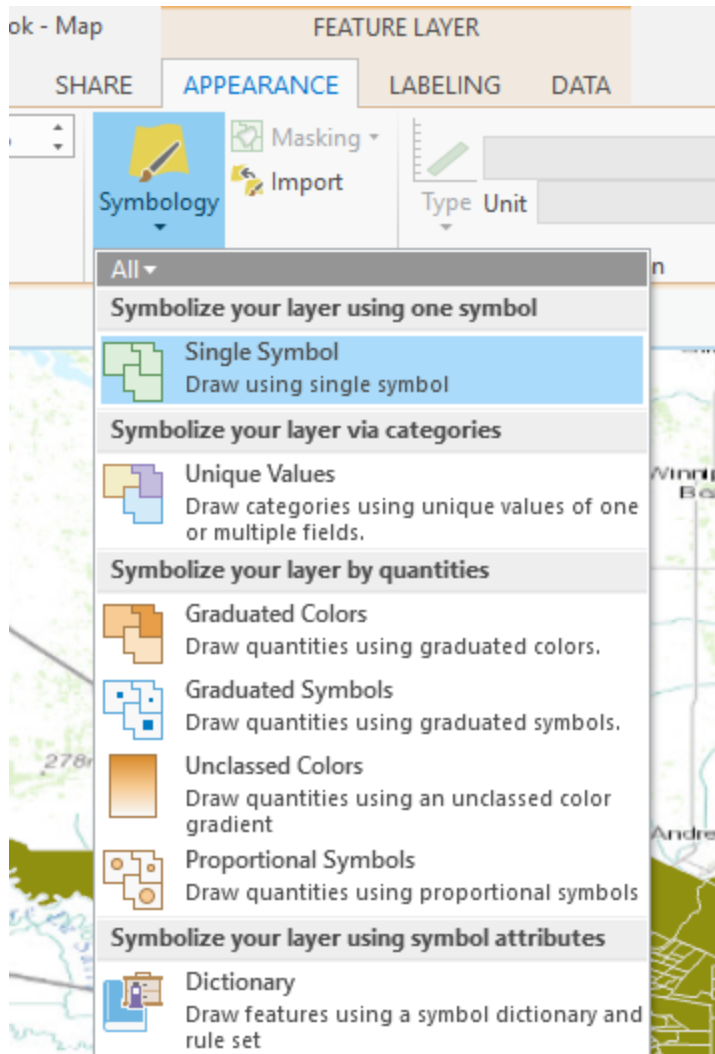
You will either need a map layer that already has the attributes you would like to display, or a map layer and a separate data table with the attributes. Make sure the map layer and the data table have a matching field for making the join, and that there is only one record on either side of the join.

To begin, add the data file(s) you would like to use for your map to your project. If the map layer already has the attributes you would like to display on the choropleth map, jump to the section [Making the Map](#), below. We will demonstrate this skill using a map of census tracts in Winnipeg, Manitoba, Canada and a data file of median household incomes from the census.

Create a join from the map layer to the layer that contains the related data. If you are unsure how to join layers, see the tutorial [Joining Maps to Other Datasets in ArcGIS Pro](#).

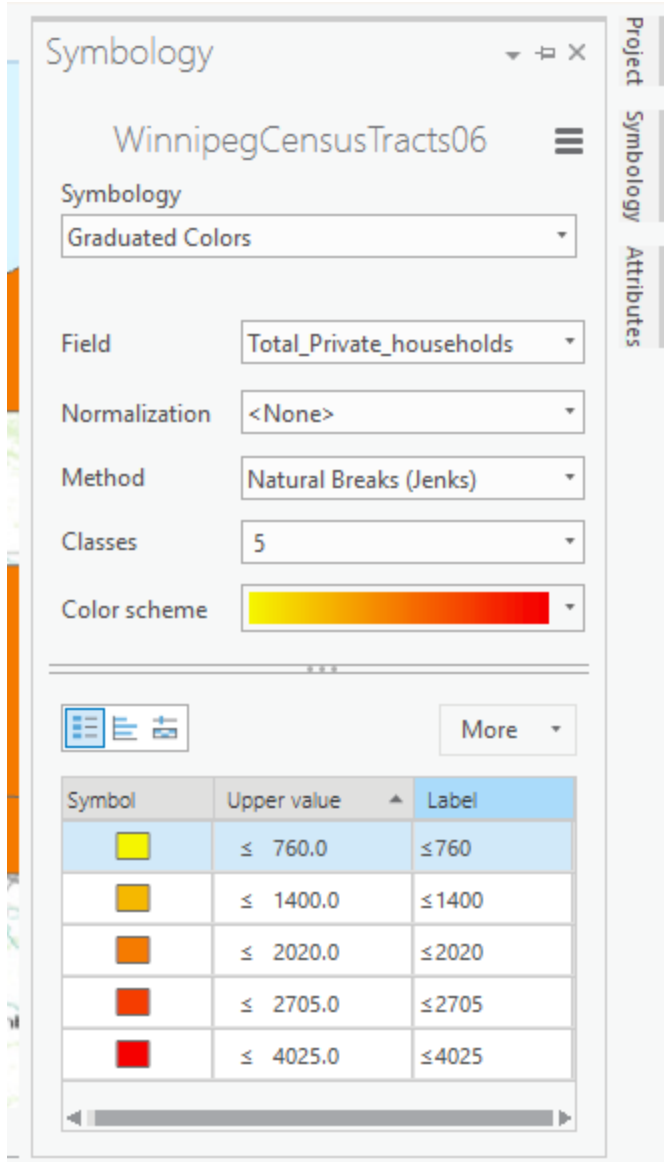
## Making the map

Go to the Appearance ribbon and click the arrow on the Symbology icon.



Click on Graduated Colors.

ArcGIS Pro will automatically suggest settings in the Symbology pane (?).

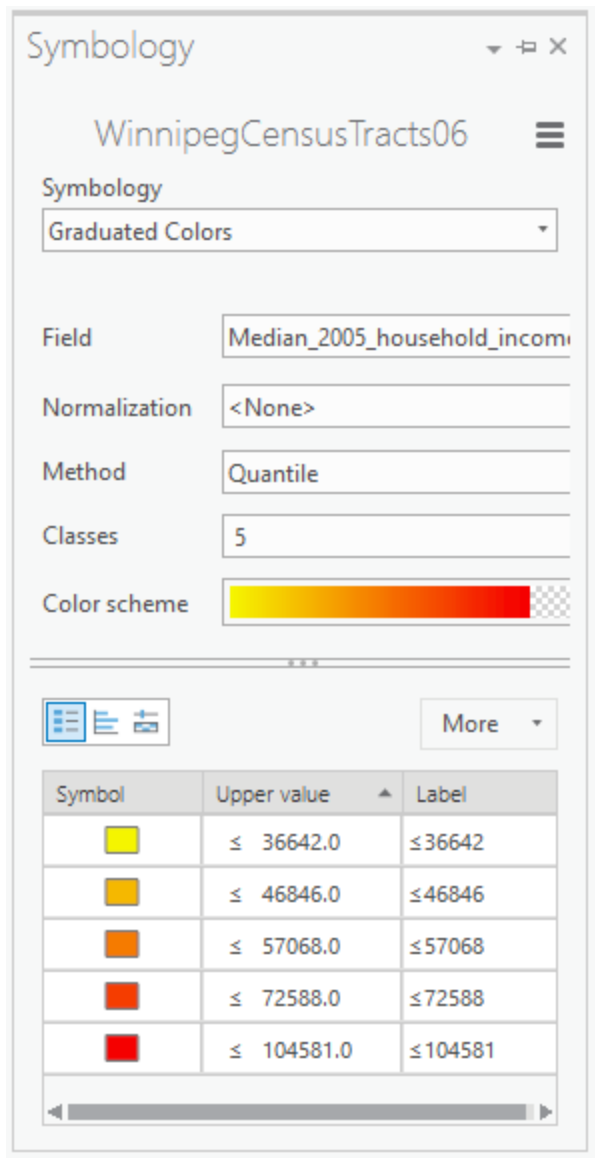


ArcGIS Pro defaults to classifying the data using the Natural Breaks method, which aims to create breaks in the data that describe natural groupings in the data. (For more on classification systems see <http://blog.cartographica.com/blog/2010/8/16/gis-data-classifications-in-cartographica.html>). The values are calculated on the fly by ArcGIS Pro.

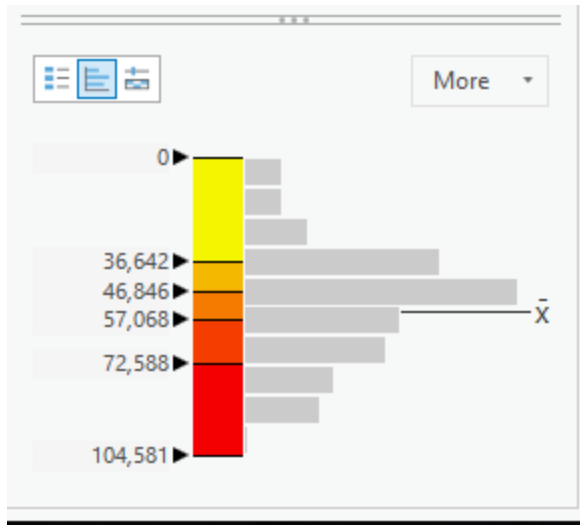
For demographic data such as income data, quantiles can be a straightforward way to display the data as people can see at a glance areas that are in each 20 per cent (quintiles) or each 25 per cent (quartiles) tranche of the total range of values. For our demonstration map, we will use quintiles.

Change Method to Quantile and Classes to 5. Also, change the field to be displayed to median household income.

ArcGIS Pro will show the chosen breakpoints.

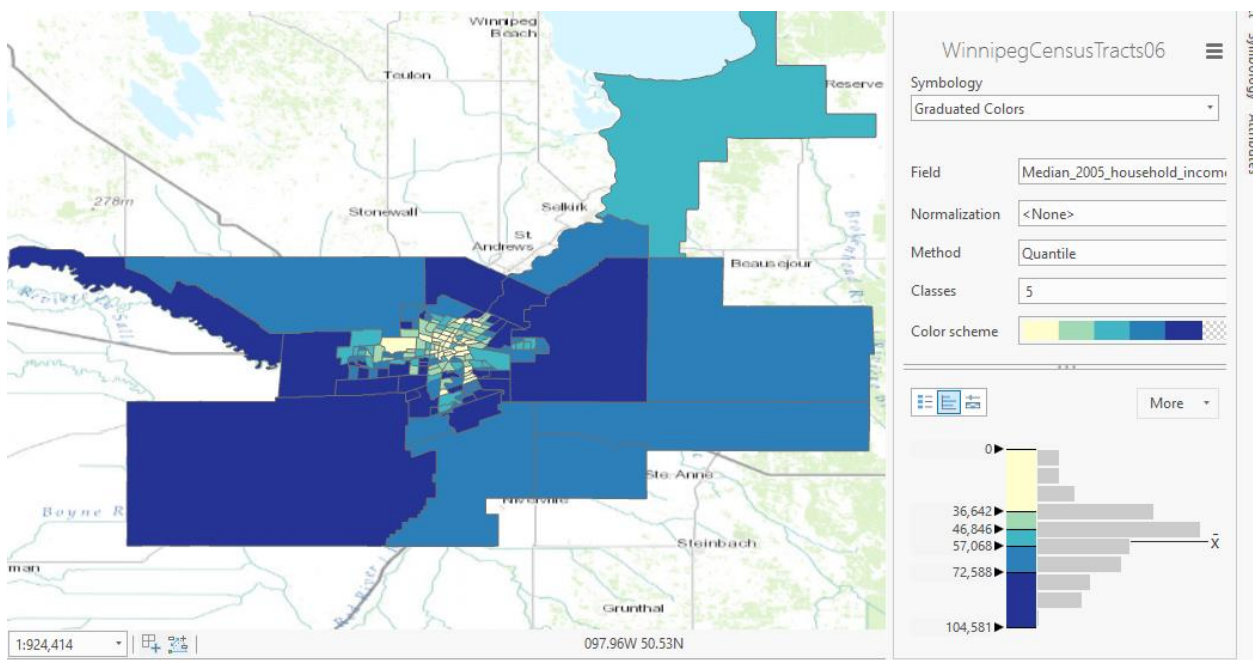


If you wish to see a histogram of a distribution of the values instead of the breakpoints, click on the small chart icon in the centre of the group of icons just above where the break values are displayed.



The default color scheme may not be exactly what you want. For example, the red colour scheme seen here is probably not the best way to display data related to income because we automatically equate red with bad. See chapter 6 of *The Data Journalist* for a more complete discussion of choices of breakpoints and colours on choropleth maps.

Choose a new colour scheme from the Color Scheme dropdown. Here, we have chosen a range from white to dark blue.



Keep in mind that using quantiles will cause the extreme lowest value and extreme highest values to be contained in the bottom and top quantiles. This method does not

emphasize the lowest income and highest income areas as effectively as using natural breaks, but has the advantage of being easy to understand. As always, you have to think about what you are trying to display on the map, and how the choice of breakpoints affects the audience's perception of the data.