Conditioned Choropleth Maps -- User Manual

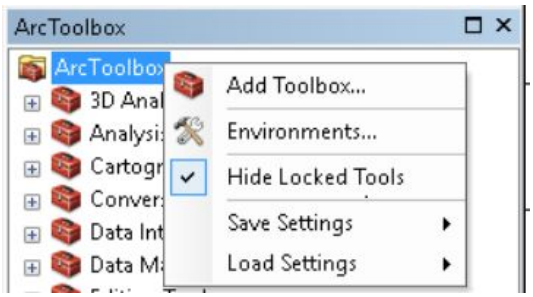
Introduction

This is an ArcToolbox that is designed to generate conditioned choropleth maps. Conditioned choropleth maps are useful tools to examine and visualize the correlations between several variables (typically three variables). They do so by extending the concept of small multiples from the depiction of multiple related variables separately (on individual maps) to the representation of subcomponents of multivariate relationships (with a portion of the relationship among three variables shown on each map). Specifically, two condition variables will be classified into n classes, and each class of one variable will match with every class of the other condition variable to generate n*n small maps. The main variable will be classified into m classes, and each class will be assigned a unique color. In each small map, only features that fall into the range of two conditioned variables will be highlighted with different colors based on their main values.

Our ArcToolbox allows users to select one shapefile as input, and allows users to choose two condition variables and the main variable from attributes of the shapefile. Then users can choose from equal break and quantile break methods that will be applied to all of the variables. The output will be a static image or pdf.

Installation Guidelines

1) Download package zip file.
2) Extract zip file by right-clicking and clicking “Extract All”.
3) Open ArcMap 10.3.
4) In ArcMap, click File → Open, and select the supplied template file “ccm_tempalte.mxd” from the “Code” folder.
5) Open ArcToolbox by clicking Geoprocessing on the menu bar and clicking ArcToolbox.
6) Right-click ArcToolbox at the top of the list and click “Add Toolbox...”



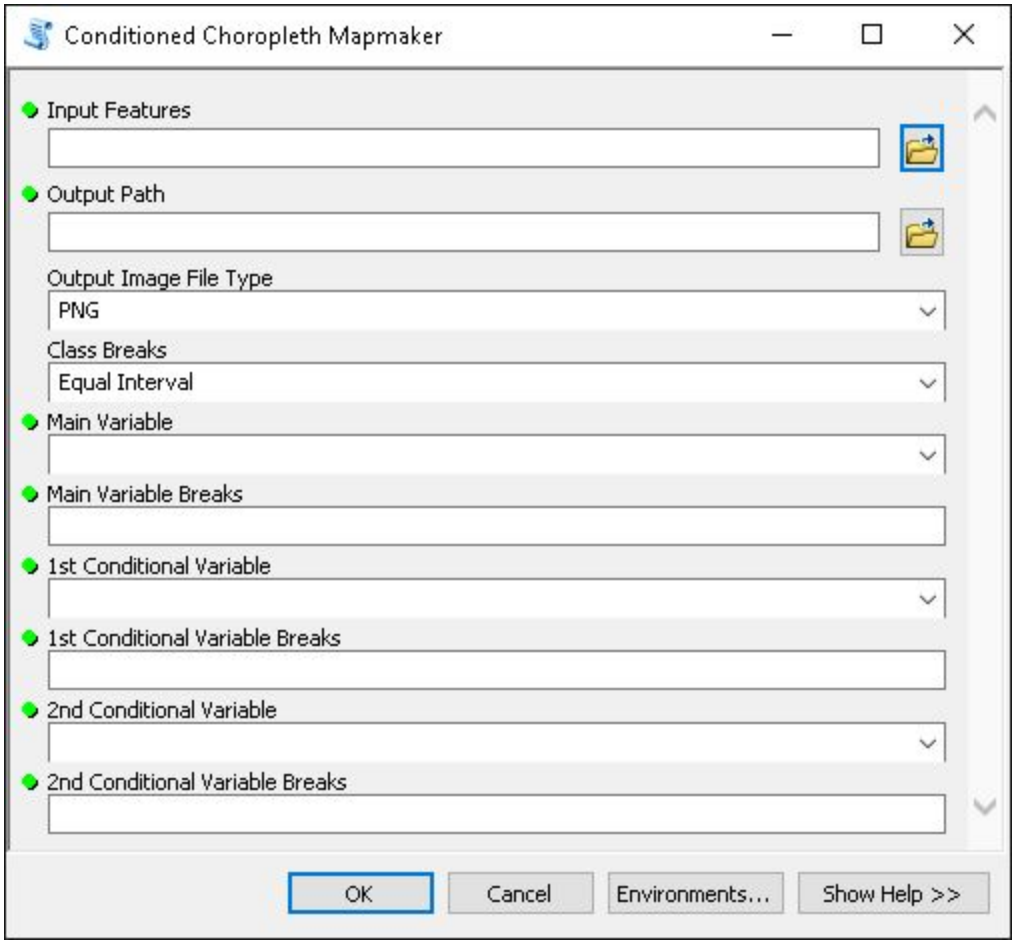
7) After clicking “Add Toolbox…” navigate to the package you unzipped into the “Code” folder, select the file “ccm.tbx”. The Conditioned Choropleth Mapmaker tool will now be added to the ArcToolbox (inside of the CCM Toolbox).

Functions

1) It allows users to generate classic 9-map conditioned choropleth maps.
2) It allows users to select the shapefile they are going to use.
3) It allows users to choose two condition variables and one main variable from the attribute lists of the input shapefile.
4) It provides two classification methods that apply to the variables.
5) It provides output format options such as jpeg, png, pdf etc.

Tutorial

1) After the installation process is complete, click “CCM” to expand the toolbox and double-click “Conditioned Choropleth Mapmaker”.
2) Specify the parameters in the Conditioned Choropleth Mapmaker tool. Specify the desired shapefile in the “Input Features” field, the path where to output the map in the “Output Path” field, the desired file type in “Output Image File Type”, the type of class breaks, and the desired variables.



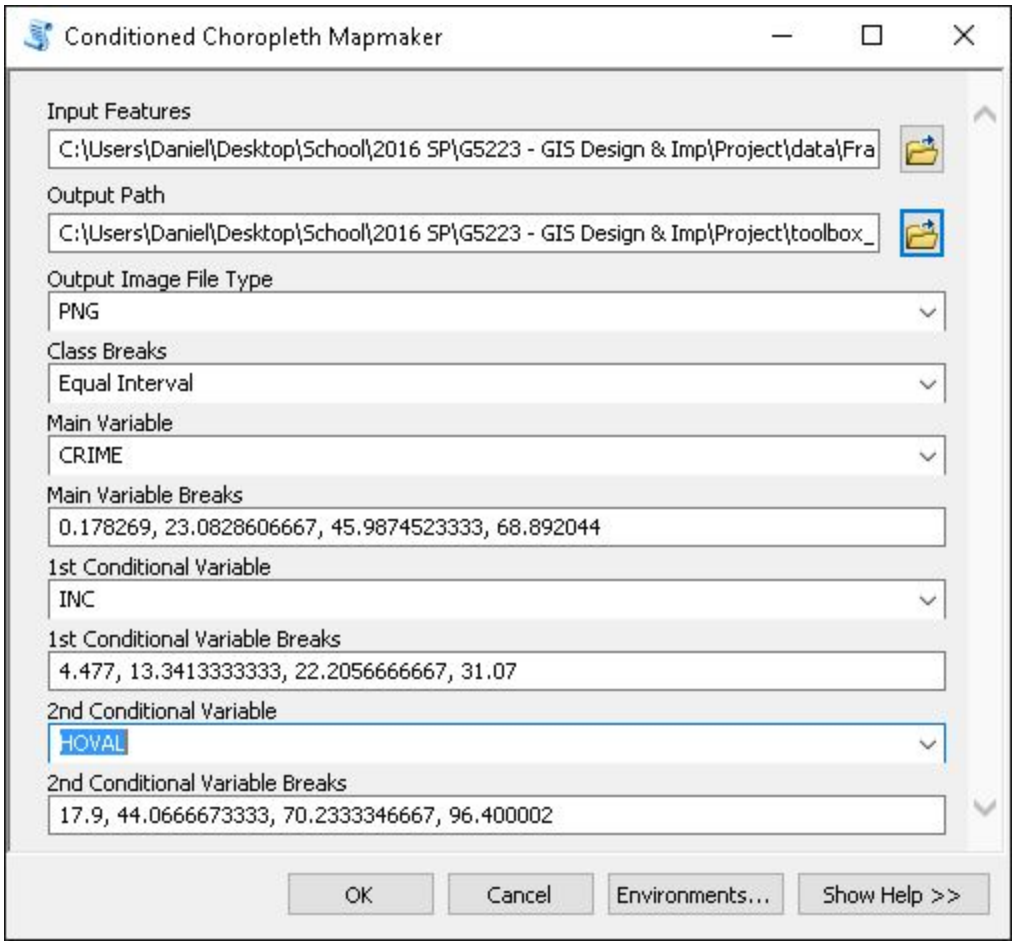
Note: the main variable is the theme of the map and will appear as the title of the map. The 1st conditional variable appears on the x-axis, and the 2nd variable appears on the y-axis.

Press OK to run the tool.

3) After the tool is finished running, the image will be saved in the specified output folder.

Usage Example

Sample input:



Sample output: