

Quick Start Manual for *SEER*CMapper*

User Manual

By

David Wong, George Mason University

dwong2@gmu.edu

September, 2018

Before you start, ensure that

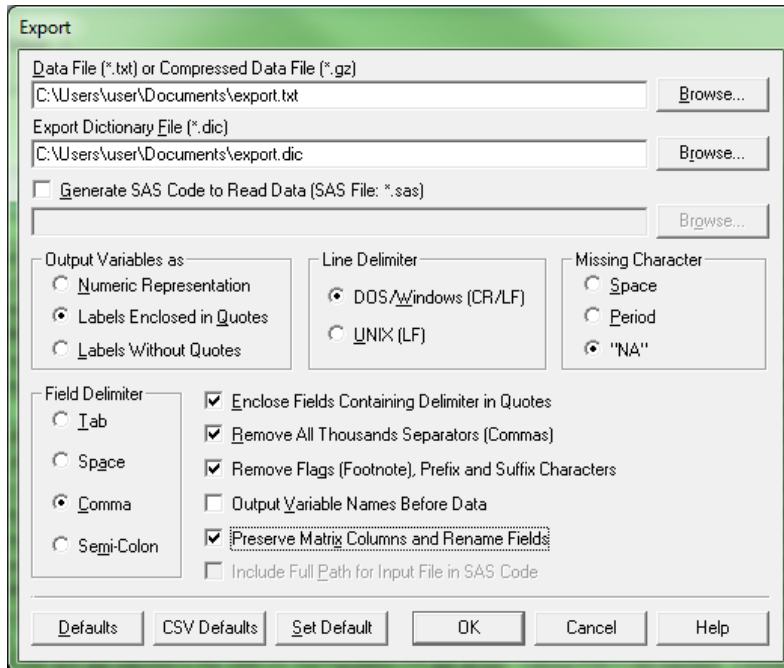
- 1) the Java Virtual Machine (JVM) or Java Runtime Environment (JRE) is installed (www.java.com). To find out if you have JVM/JRE installed, visit the page https://www.java.com/en/download/help/version_manual.xml. If not, you can also install Java through www.java.com. Also, users need to ensure that Java is not disabled on your web browser.
- 2) you have access to SEER data, a registered user of *SEER*Stat* and have a basic operational knowledge to access and download data from the SEER database.

Download SEER data from SEER*Stat

Note that the mapping program uses only rates data with standard error (SE) at the **county** and **state** levels. When you download the SEER data, pay attention to the following steps:

- 1) use the “Rate Session” for either an “Incidence” or “Mortality” dataset.
- 2) make sure that the box for “Show Standard Errors and Confidence Intervals” is checked.
- 3) select one of the geographical levels (**do not include more than one level**):
 - Select “State” for tabulation at **state** level.
 - Select “State-county” for tabulation at the **county** level. (Do not just select “county”)
 - Select “Registry/county” for tabulation at the **county** level if “State-county” is not available.
- 4) After the table is generated and displayed on screen, click the “Matrix” menu tab, choose “Export” and “Results as Text File.” Select options in the form as shown below (Figure 1).
 - Use the SAME name for the Data File and Dictionary File (e.g., output1.dic). Make sure that both files are saved in the same folder.

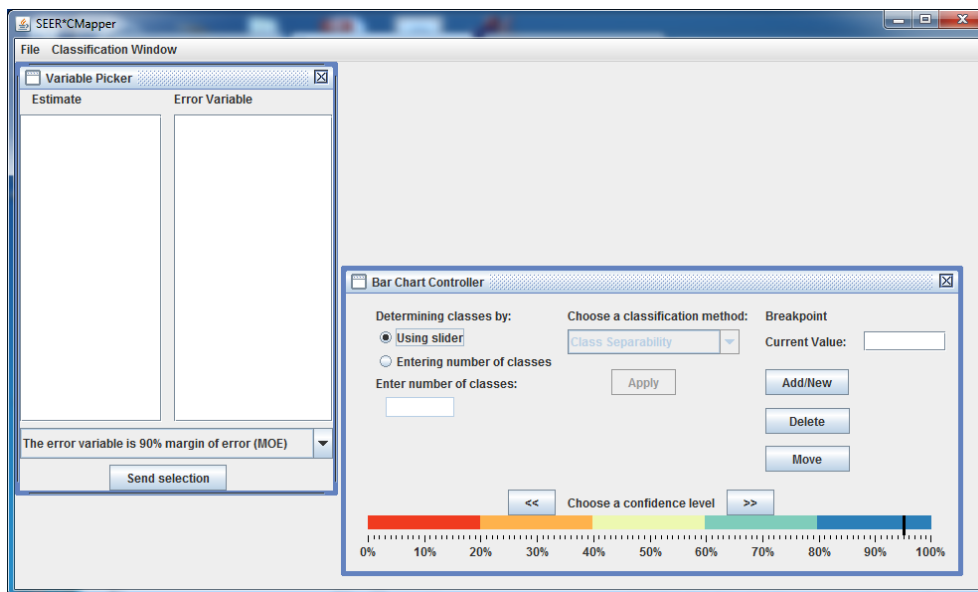
Figure 1: Export window in *SEER*Stat*.



Download and Launch *SEER*CMapper*

Download *SEER*CMapper* from <http://geospatial.gmu.edu/seer-cmapper> and unzip (or “extract”) the content of the file. Double-clicking “mapping.jar” file to launch the mapping program.

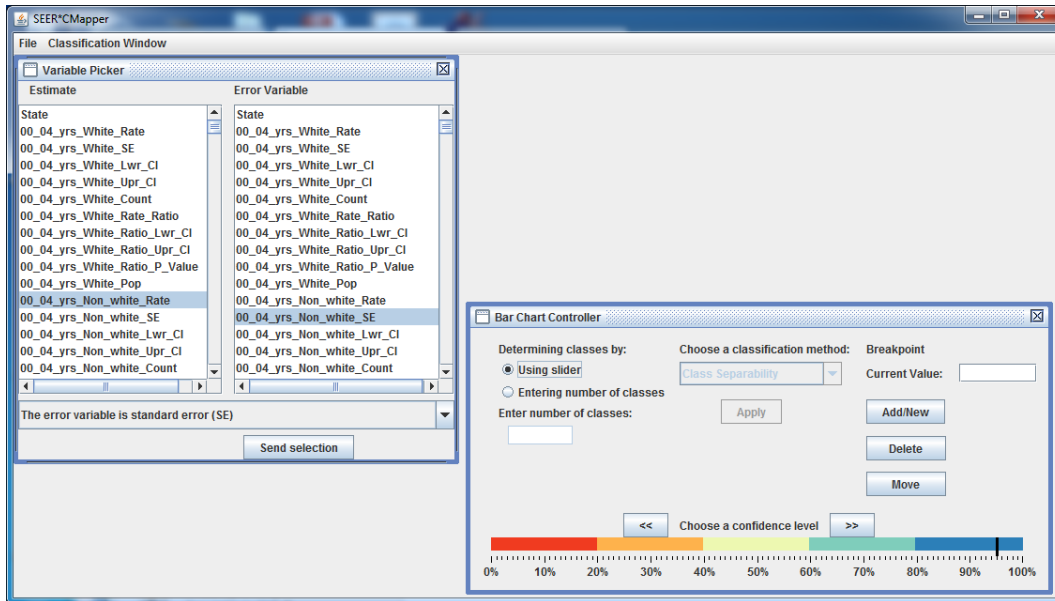
Figure 2: The interface of *SEER*CMapper*



Creating choropleth maps using SEER*CMapper

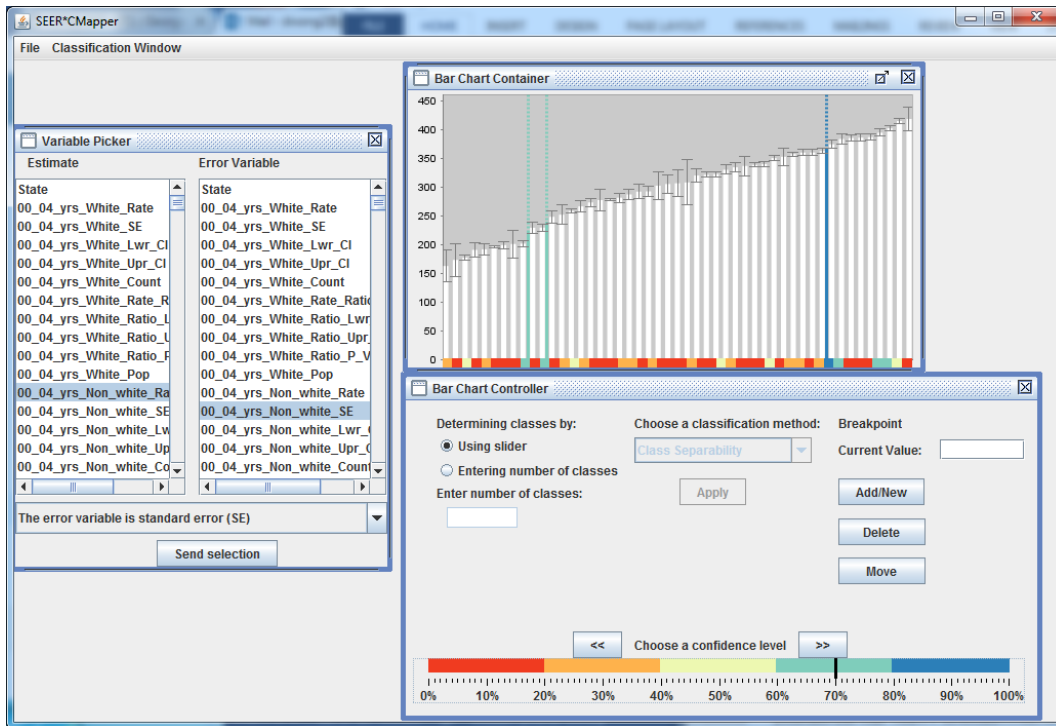
- Open Shp/Dic File.” For “Files of Type,” make sure that “Dic files” is selected. Then navigate to the folder where the SEER .dic file is stored and select the .dic file to open.

Figure 3. Column labels in SEER data are ingested into the Variable Picker window.



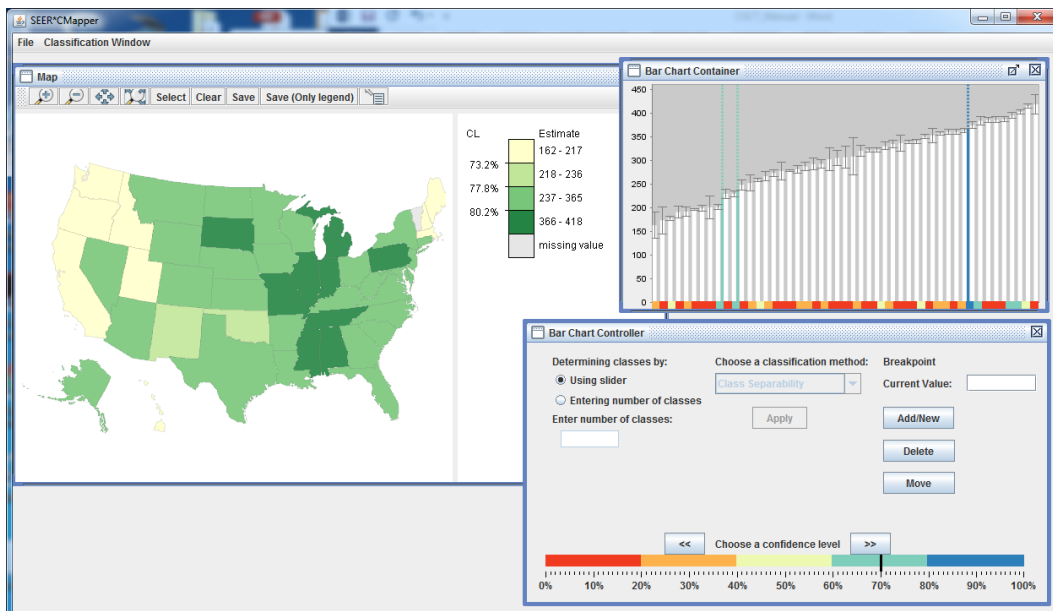
- In the Variable Picker window,
 - choose the column label for the estimate (left column of the Picker window).
 - choose the column label for the error variable (right column of the Picker window).
 - specify the type of error variable (should be SE for SEER data)
- Under the “Classification Window” menu, choose “chart” to launch the “Bar Chart Container”
- In “Bar Chart Controller” window, drag the cursor (black vertical line/ marker) on the 5-color bar to the left to the minimum acceptable confidence level or separability for all class breaks (Figure 4).

Figure 4. Bar chart with inserted class breaks by dragging the cursor to the desirable separability level.



- Under the “Classification Window” menu, check “Map” to display the choropleth map using the class breaks determined via the bar chart (Figure 5).

Figure 5. Choropleth map with a class separability legend generated by the SEER*CMapper.



- Click the “Save” tool to save the map and legend as one graphics file (in .jpg format), and the “Save (legend only)” tool save the legend only, not the map.

Adjusting Class Break Values

- In the “Bar Chart Controller” window, three buttons allow users to Add/New, Delete and Move class break
- Click the “move” button (the button will turn red), and move the mouse cursor to select the class break line, which will turn to black when selected.
 - move the cursor across the plot to the desire position
 - click the mouse again will move the break to the new position
 - refer to the horizontal color bar (x-axis) in the bar plot for desirable positions (colors on the bar correspond to different levels of CL in the Controller window)

Evaluating the Reliability of Map Classes

*SEER*CMapper* can be used to evaluate the reliability of classes determined by popular map classification methods. *SEER*CMapper* includes several popular map classification methods to create choropleth maps. These methods include natural breaks, equal interval and quantile.

- Check the radio button for “Entering number of classes” under “Determining classes by”.
- Select a classification method and enter the desirable number of classes (max=9).
- Click the “Apply” button will refresh the display of the bar plot and the map.

Heuristic Adjusting Class Breaks

The number of classes, separability levels of class breaks, and classification methods are interrelated.

- Under the Classification Window menu, click “Star Plot” to display a star plot showing the relationship between the number of classes, averaged separability level, and within-class variability (Figure 6).
- Refer to Sun et al. (2017) for details of these criteria.
- Choose a classification method other than the separability method under the “Choose a classification method” window.
- Click the polygons (lines) in the star plot to select a classification scheme based on the three criteria, and the map display will be updated by the chosen scheme.

Figure 6. Star plot with three axes corresponding to three criteria to evaluate a map classification.

