Drunk Driving Fatalities in 2004

This stories purpose is to classify all data gathered by MADD in 2004 using four different maps and four different histograms.

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Mothers Against Drunk Driving (MADD) gathered data in 2004 about drunk driving statistics. Below, I will be analyzing the data by producing maps and histograms that better represent and visualize this data. Drunk driving has always been an issue, and more people should be aware of how fatal this decision can be for themselves and others.

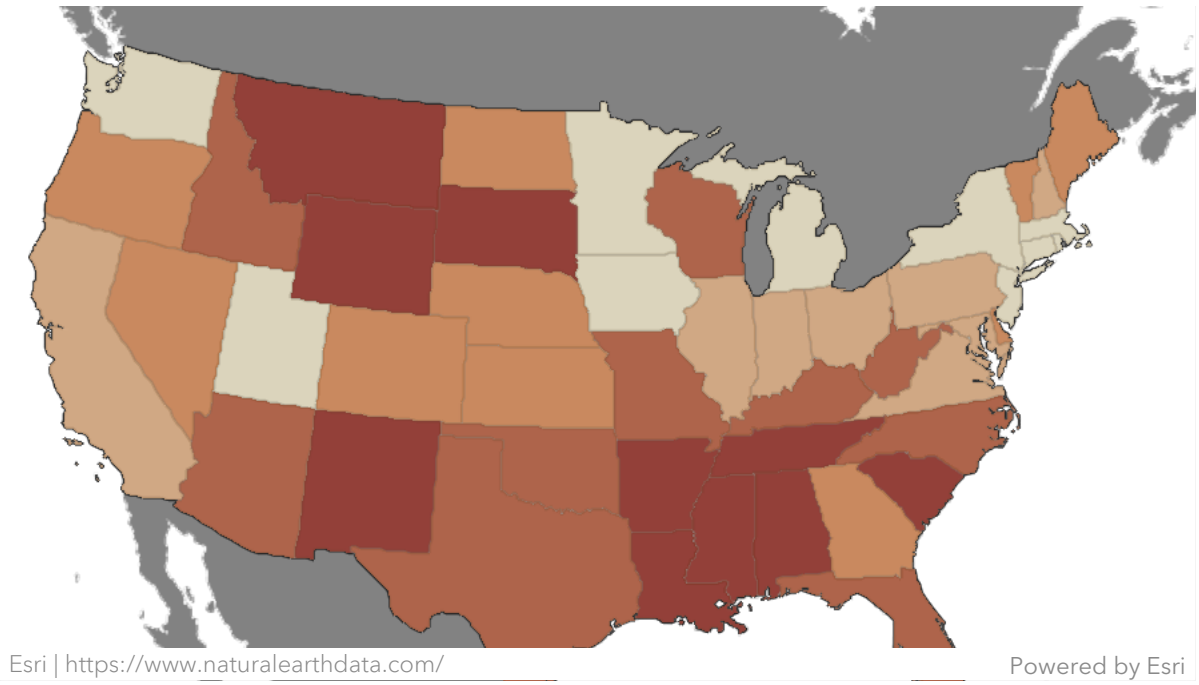
Photo by Michael Discenza on Unsplash

Data Classification

Before viewing the maps, I would like to explain data classification. Data classification is used for classifying numerical data into symbols, or in the maps below colors. There are many different methods you can use including ones you create yourself. As stated above, we are viewing four different types.

Quantiles Map

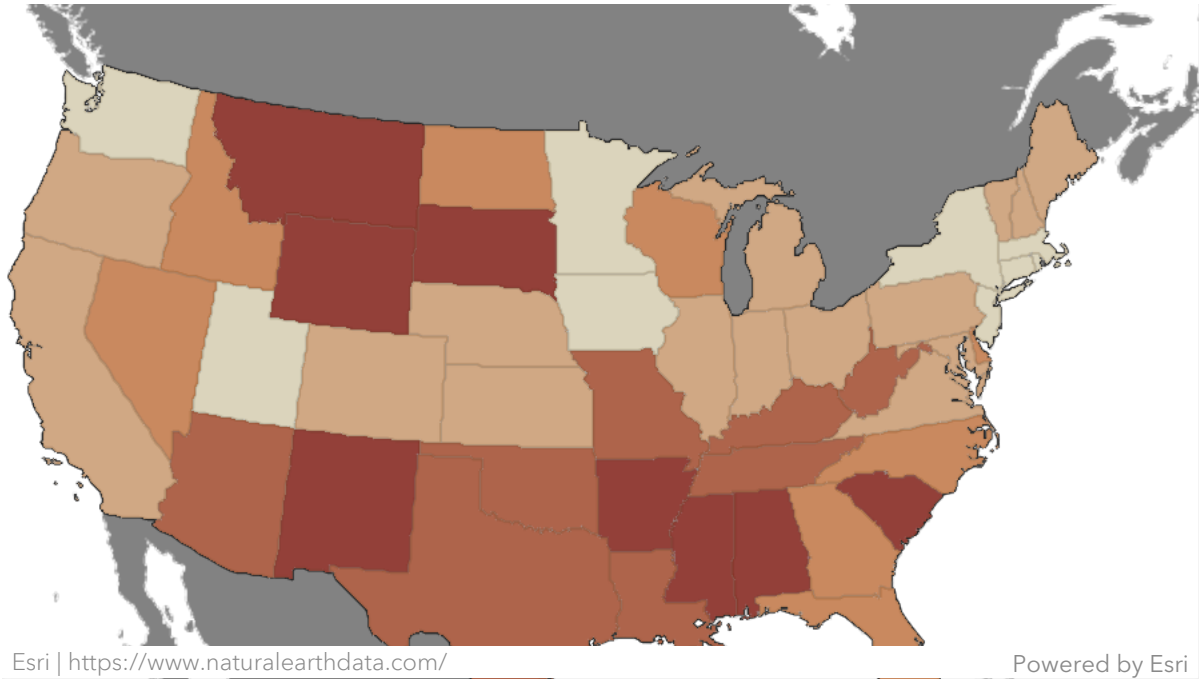
The first map, presented below, will be showing a classifying rate of drunk driving by quantiles map. Quantile classification is when data gets split up into a number of classes, and within each class there is an equal number of features. Even though many people assume the equal number of features is a good thing this can produce a map that is misleading on which state has the most amount and the least amount of fatalities. This is because when it is being split up evenly into four classes for example the range of values can differ a large amount but still fall into the same class.



Drunk Driving Fatalities Quantiles AS

Natural Breaks Map

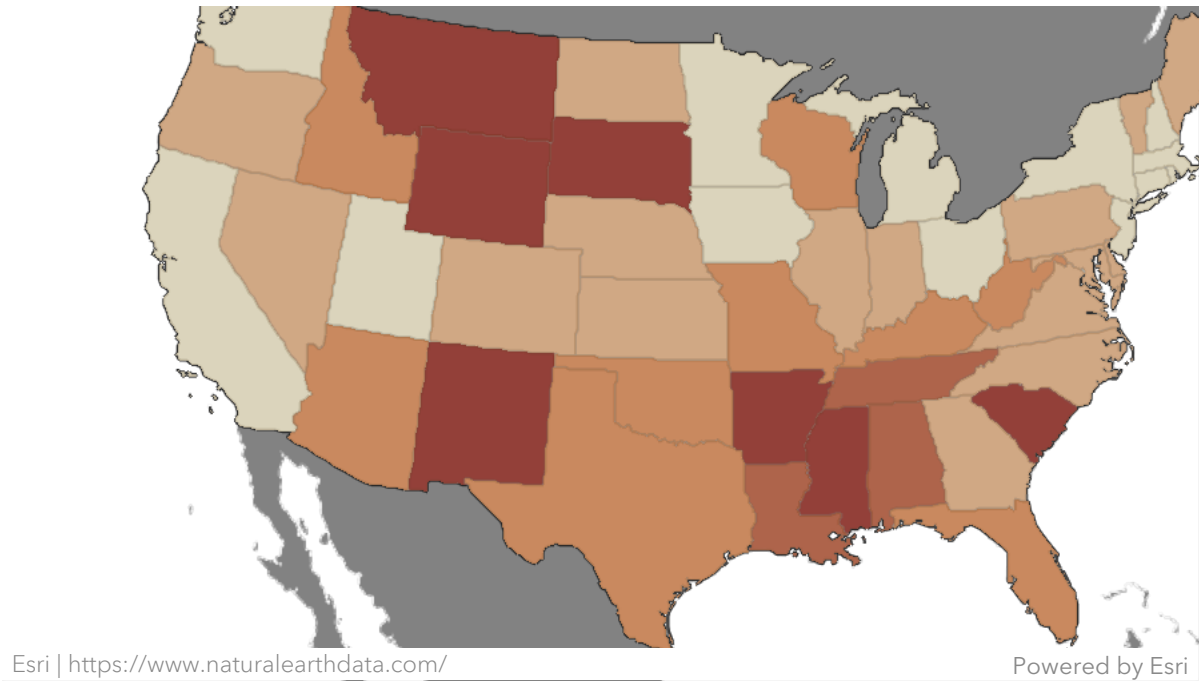
The next map we will be looking at is the natural breaks map. When observing this map, you should know that this type of map is best for finding the perfect range set. For example, if there were 23 states that had a range of 3-7, and another 17 states with a range of 9-13 these would be the best ranges to display because the majority of the states fall into those specific ranges. The natural breaks classification allows the data to be split up naturally, hence the name. This method can result in bigger differences in the data.



Drunk Driving Fatalities Natural Breaks AS

Equal Interval Map

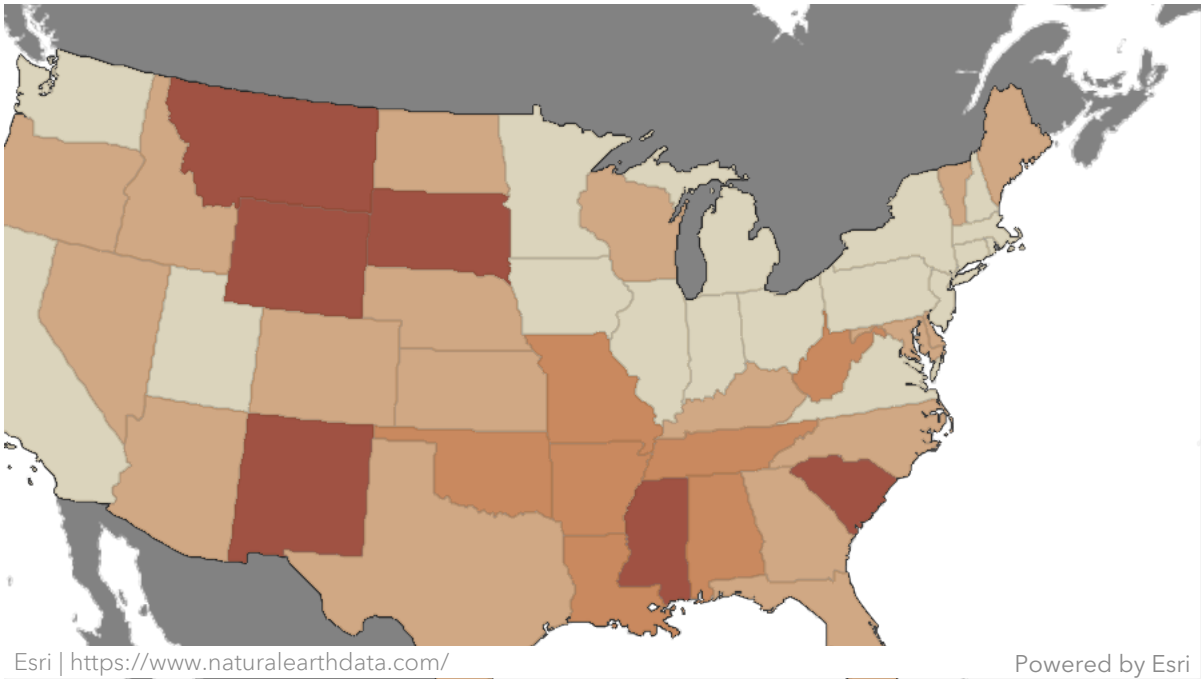
The third map we will be analyzing is the equal interval map. With equal interval classification the values get divided into equal sized ranges. For a comparison it differs completely from the quantile classification map because the numbers inside the category will differ.



Drunk Driving Fatalities Equal Interval AS

Standard Deviation Map

The last map we will be looking at is the standard deviation map. When analyzing a standard deviation classification the goal is to eliminate outliers from the dataset. This classification allows us to see the actual average and how it differs from the mean of each states drunk driving fatalities.



Drunk Driving Fatalities Standard Deviation AS

Classification Information

This can all be a lot of information, but if you would like to read more about different methods of data classification including the ones from above and a few others you can by following this link.

Histograms

Below are the histograms produced from the same data as the maps, from MADD. The histograms allow us to look at the overall statistics as one rather than by state, which we can view from the maps above. The colors and ranges of the histograms and the maps are identical, just being presented in a different form.

Here I will be explaining a few way to interact and see the data better through these histograms. If you hover your cursor over one of the colums it will display the data value and ranges. The next way you can interact is each histogram has a circle in the top

right corner that displays four outward pointing arrows, if you click on this it will enlarge the histogram that you clicked on. To reduce the size back to normal there will be another small circle in the top right corner with four inward pointing arrows, by clicking this it will return you to the display of all four histograms. Lastly, you will see an icon in the top right corner that has an arrow pointing out if you click on this it will take you to a new tab with just the histograms.

Drunk Driving Data Classification Histograms AS

Credits

Data used to create maps and histograms from MADD 200 and Natural Earth Data.

Classification Methods Information- ArcGIS Pro