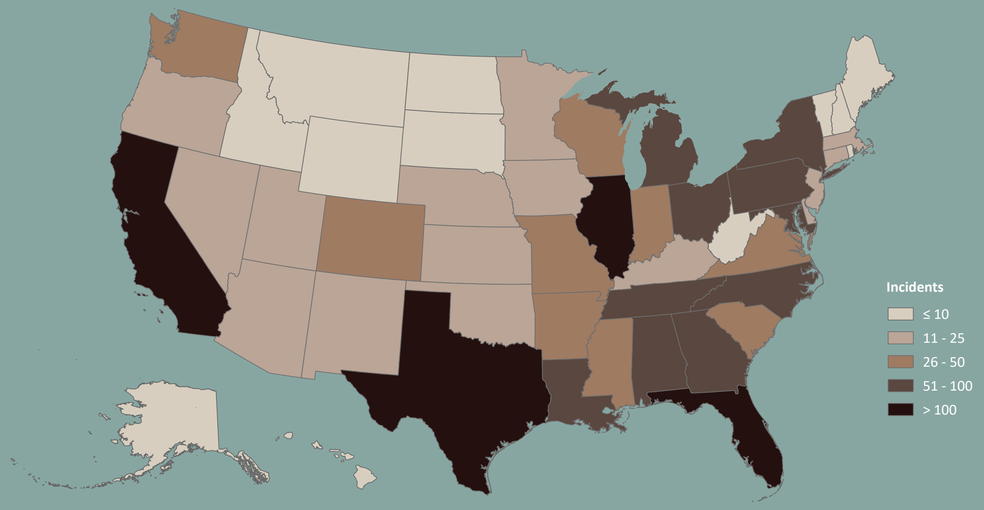
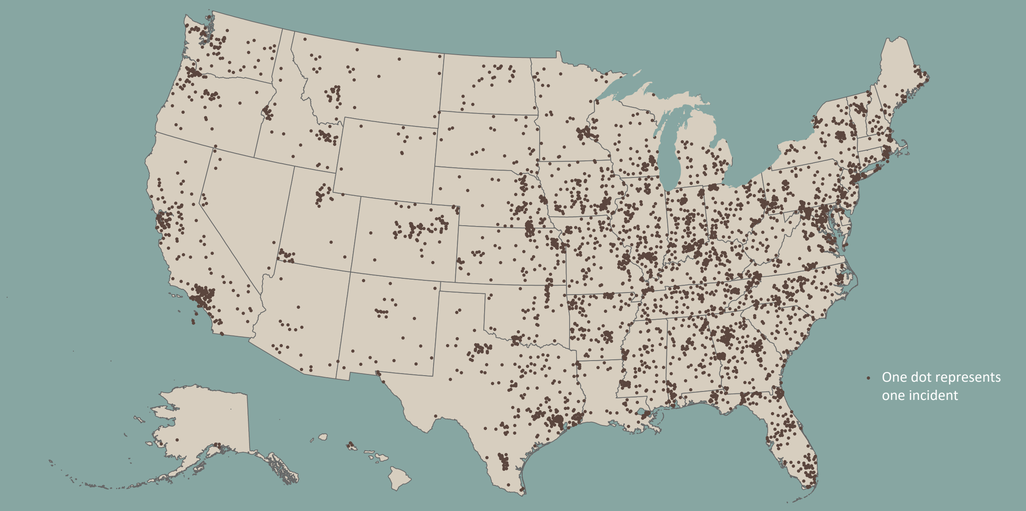
School Shootings in the United States from 1970 to 2022



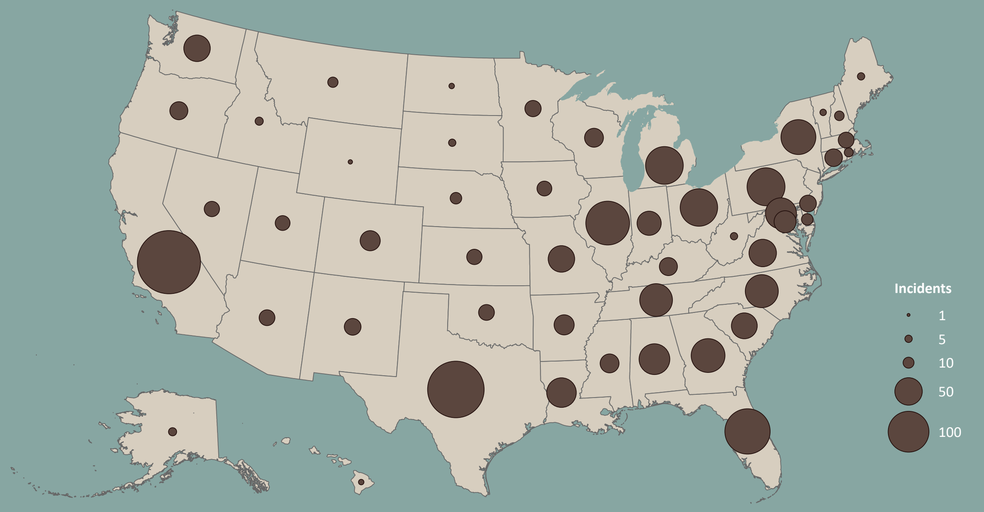
Choropleth

Choropleth maps display quantitative data for areas using variance in shading or pattern. The map above depicts the amount of school shootings in the United States from 1970 to 2022 with lighter areas representing less shootings and darker areas representing more shootings. The enumeration unit for this map is state. One thing to note is that states vary in population. Since highly populated areas are more likely to have school shooting incidents, the map could be misleading. As shown, the more highly populated states on the east coast have more incidents than the less populated states in the west. To get a more accurate depiction of the phenomena, it would be better to calculate incidents as a percentage or ratio of population, but this could be difficult since the population fluctuates, and the data covers a large date range. For this map, I chose a manual interval classification method to get nice round numbers in my legend for ease of interpretation. I also divided the classes so there were similar counts in each class, except for a few outliers.



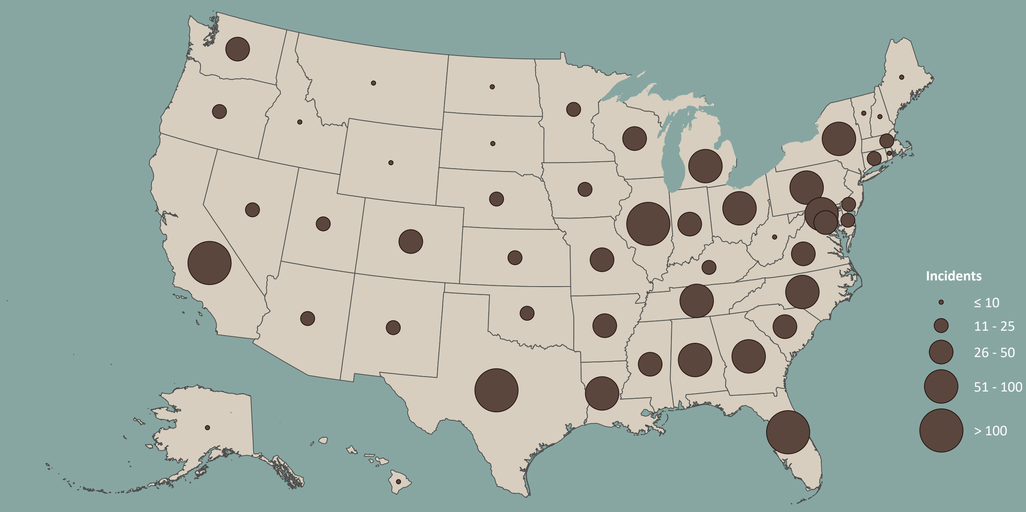
Dot Density

Dot density maps use dots to display a quantitative value, which reveals a distribution pattern. The map above depicts the amount of school shootings in the United States from 1970 to 2022 with each dot representing an incident. The enumeration unit for this map is county. Unlike the choropleth map, this map does not display rates per state, but rather demonstrates more localized patterns. You can see more specific concentrations where the dots get clumped together. For instance, within the state of California, you can see a higher concentration of dots in the Los Angeles and San Francisco areas. In Texas, you see more in the Houston area. I chose a dot size of 3 points at a scale of 1:18,000,000. If dots are too large, the map starts to look blotchy with all the dots mashed together. If they're too small, it's tough to see the dots.



Proportional Symbol

Proportional symbol maps use the scale of the symbol to show the quantitative differences between features. The map above depicts the amount of school shootings in the United States from 1970 to 2022 with dots sized proportional to the amount of school shootings in the area. Each symbol is scaled according to its actual data value. This is the main difference between the proportional symbol map and the graduated symbol map, which groups the values into classes. The enumeration unit for this map is state. You can see that the output for this map is similar to the choropleth map, but instead of areas with more incidents being colored darker, they have larger dots. For this map, I chose a minimum dot size of 4 points and I elected to use the Flannery appearance compensation for visual effect.



Graduated Symbol

Graduated symbol maps also use the scale of the symbol to show quantitative differences between features, but values are grouped into classes. The map above depicts the amount of school shootings in the United States from 1970 to 2022 with dots sized according to the value class that the area belongs to. Again, it's similar to the choropleth map, but enumeration units are symbolized with scaled symbols instead of color shading or pattern. The output looks nearly identical to the proportional symbol map, but if you look closely, you will notice that some of the dots have slight size differences due to the data being grouped in classes. For this map, I chose a minimum dot size of 4 points and a maximum dot size of 40 points. I then organized my classes the same as I did for the choropleth map because it seemed appropriate and helped with visualizing the comparison.

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0 500 1,000 Miles

* *Scale not applicable to Alaska and/or Hawaii*

Reference: CHDS School Shooting Safety Compendium. (n.d.). CHDS School Shooting Safety Compendium. https://www.chds.us/sssc/