CS590V HW 3: Mapping

The goal of this map is to illustrate the distribution of the American population across cities and states. This map uses two csv datasets, a JSON file of state shapes, and the d3 Albers USA projection. The first dataset, state.csv, has 48 records for each state in the contiguous US and 2 variables, state name and population. The second dataset, 100-cities.csv, has 100 records for each of the largest cities in the contiguous US and 7 variables: rank, city name, population, longitude, latitude, % growth 2010-2013, and state. Both datasets are from the 2014 US Census American Community Survey data.

A projection is a method by which 3D space is projected onto a 2D plane. The Albers projection is a conic, equal area map projection commonly used by the USGS and Census Bureau. The projection uses two standard parallels and, although scale and shape are not completely preserved, their distortion is minimized between the two parallels. Mike Bostock's d3 Albers USA projection is a composite Albers projection of the contiguous US with Hawaii and Alaska shown in the lower left.

There are several interactive elements to explore. First, the map allows the user to select which cities they want to show using a series of radio buttons. When a radio button is selected, all cities with values below the selected value have their fill set to "none", making them seem to disappear from the map. A second interactive element is that the user can hover over the points to view the city name, state, population and population rank. Thirdly, the user can zoom in and out of the map using both the mouse and buttons. Similarly, the user can pan around the map using the mouse and the arrows. I have been trying to add a slider to allow the user to highlight states by population, but unfortunately I have had no success.

Novel features of this map that I believe go above and beyond are: the amount of information available using hover, the use of color and circle size to communicate population information, the use of data from two csv files in addition to the state JSON file and the Albers USA projection, and the multiple zooming and panning options.

Where do Americans live? States by Population and 100 Largest U.S. Cities