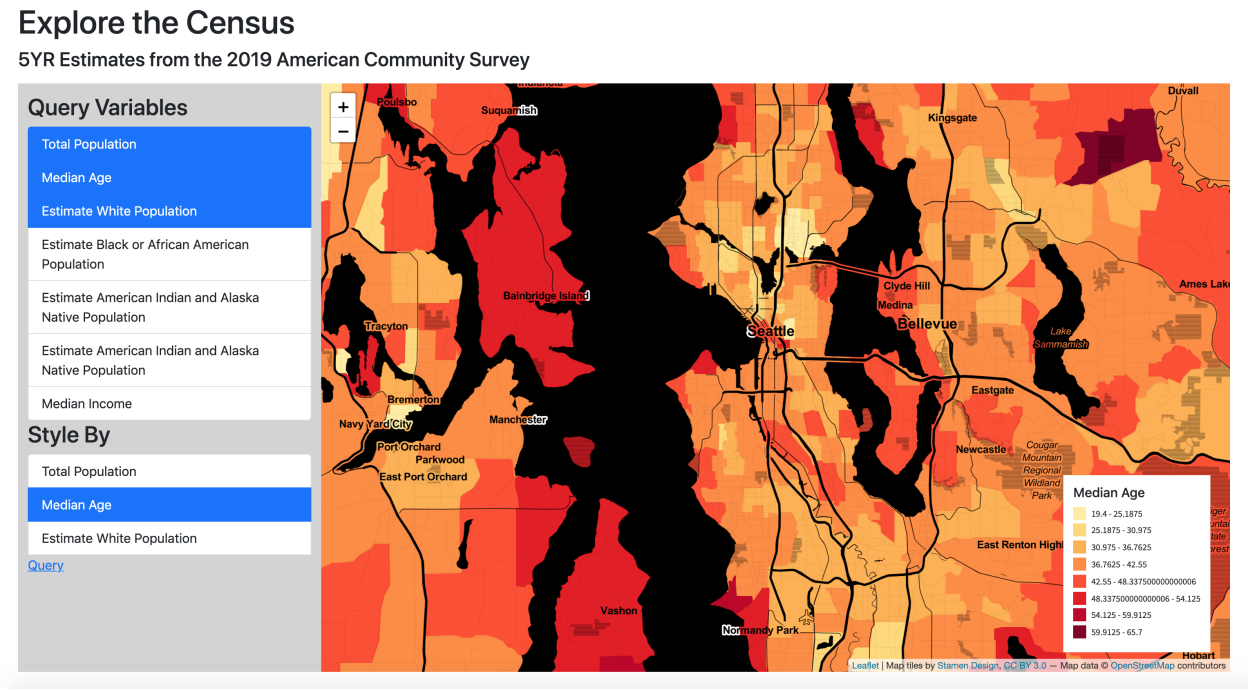
Final Project Write-Up



Give a one-to-three sentence summary description of the topic/subject of your map.

- This web map, as it exists today, is wholly about the census and giving the user the ability to quickly explore and compare different census data variables.

Describe your map in terms of its web-based and/or interactive aspects.

- In this web app, (website?) the user is presented with seven different census variables to bring into the web map (all selected variables appear in each popup). As the user selects these variables, they are also given the option to style the map by one census variable of interest. Once the user submits their selections, the Census API is called and the map/map elements are populated with that user's selected data.

What were your data sources?

- My data source is the 2019 American Community Survey (ACS) 5YR estimates from the Census Bureau. The map uses this dataset's API. The polygon layer is TIGER/line data from the US Census Bureau, and the basemap is Stamen's Toner basemap.

What tools did you use to create it?

- A number of tools were used in the creation of this web map including leaflet, the Census API, and QGIS, but generally, the bulk of the web map's functionality is through plain Javascript. Leaflet provides all of the primary mapping functionality to the site. The library handles the display of the tilelayer basemap as well as the census tract geojson layer. Leaflet is also used to style/restyle the map. The Census API is another important component of this map as it allows the user to dynamically draw in data dynamically from the census via a URL request. QGIS was also an important tool for filtering shapefiles and isolating outlier/troublesome census tracts.

What were some challenges you encountered?

- One persistent challenge that exists in the final map is removing outliers. If the user calls in a variable with a non-number value, the statistical process for creating the choropleth for that variable is significantly skewed and consequently, the styling of the map doesn't reflect the true range of data values. For many variables, I was able to control for outliers by removing census tracts with 0 population values, but there are still a number of census tracts that have a population > 0, as well as variables with non-number values.
- Another challenge I faced in the development of this map was in coordinating the order of function execution. The Census API requests are asynchronous and many of the maps essential functions are dependent on that census data being loaded. Therefore it was necessary to choreograph the loading of data, with the processing of that data, with the display and styling of the map. This choreography proved to be a conceptually challenging component of Javascript.

What are your favorite things about your map(s)?

- I really enjoy how dynamic this map is. I am particularly happy with how the legend and choropleth bins are able to update the users data selection.

How would you extend the project if you continued it? OR: What map(s) would you make next (on any topic/using any tool)? *(answer either question)*

- I imagine that this map could be very useful in the background of a variety of use-cases if I can improve the display of data and UI components. I could see a scenario where I merge this code into another web map. I think offering the user the ability to control the data context that a webmap's primary content layer could be compared to, could be very useful in a variety of contexts.