CITY 185: Visualizing Census Data: Social Explorer and PolicyMap
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All census data can be retrieved from the U.S. Census Bureau (data.census.gov). For data visualization and mapping tools drawing from census data, use Social Explorer or PolicyMap. Decennial census and American Community Survey (ACS) data are the basis for these tools. The source of the data is listed in the legend. Additional non-census data are included in these databases so be careful to look at the source of data (see below for how to cite census data).

To access these databases, search for Social Explorer and PolicyMap in Tripod. If you are off-campus, you will have to use the off-campus access proxy on the library homepage. You can create an account which will allow you to save your maps, revise, and share them with others. See below for details on saving your maps.

These visualization and mapping tools allow you to see patterns at various geographies (state, county, place, zip code, census tract, block groups). By zooming to the most granular area (block groups), you may see patterns that were not visible at the city level. Remember it is the interpretation of these patterns that are integrating into your research.

If you have any questions, please feel free to email me (lsurtees@brynmawr.edu), make an appointment (https://calendly.com/lsurtees).

Geographies
Census data can be displayed on the scale of the state, county, zip code, census place (city, town, village or CDP), census tract, block group as well as other types of geographies such as congressional district. **A census tract** is roughly equivalent to a neighborhood by the census and typically has 2500-8000 people. They may be small towns, rural areas, or neighborhoods. **Block group** is the smallest geographic unit in the census. It is a subdivision of a census tract and correlates closely with neighborhoods. There are typically between 600 people or 240 housing units and 3000 people or 1200 housing units. In Social Explorer, the default category is census tract, but this can be changed. For increase granulation of data, try block groups. For statistical reasons, data for census tracts and block groups are only available for 5-year estimates. 1-year estimates may be available for larger geographies. In Social Explorer and PolicyMap, type in the address in the geographies search bar. Hover over or click on the map to find list of geographic designations (state, county, census tract, block group).

Census.gov
This is the government site for census data. It includes census data from the multiple surveys conducted by the government. It is only drawing on census data. https://www.census.gov/data.html

Social Explorer
Social Explorer maps census data including historic census data.
One particularly useful feature is the side-by-side maps allowing you to observe and compare two different maps simultaneously. Make sure when using side-by-side maps that you have both makes at the same zoom and geographic unit to avoid any distortions. While mapping the data helps to see patterns, you may be interested in creating a report to have all the census in a list form rather than a map. Click on "create new" and select report. Then choose the geography and the data that you would like to see. Reports provide the margin of error which helps to determine the reliability of the data.

There is a new feature in Social Explorer that explores "change over time". It is only available for ACS data between 2010-2018. Click on the "calendar" icon to use this feature. Select the range of years that you want. It will display the two datasets plus the change in percent over time.
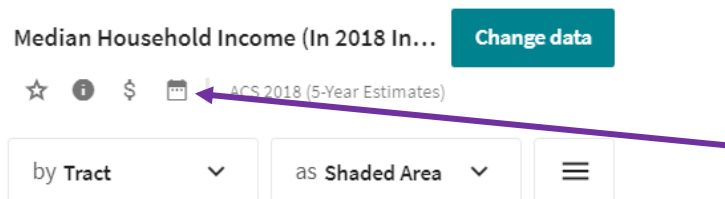
Save your Map
In Social Explorer, you can save your map by using the "export" button. Here you can choose to export as an image (.png). You can sign up to make a personal (free) account in Social Explorer to save, share and collaborate with others.

Policy Map

PolicyMap contains census data as well as other aggregated data from a variety of sources. Be sure to look at the source of the data so that you can evaluate the validity of the data source. Don't forget to cite the source (see below for citation advice).

Making 3-layer maps

PolicyMap doesn't permit side-by-side comparisons but does have a feature called 3-layer maps. 3-layer maps permit you to overlay data layers on a single map. The areas highlighted in color indicate the location where all criteria are met. You can adjust the ranges of the different data layers based on your research questions. For example, one layer is the median household income but I am only interested in median household incomes between $10 000 and $100 000 so I would adjust the scale in the legend box of that data. The next layer is for average number of vehicles and I am only looking at areas with 0-1 cars – then I would adjust that scale.

Saving in PolicyMap

With PolicyMap, you can save your map to the "saved work" but this is an institutional folder which means that other BMC people can look at your maps. You can create a personal account to save your work to your folder. Alternatively, click "print" and choose to export the map as a pdf or png. Before exporting, remember to edit the title because you will not be able to change it after it has been exported.

Citing your Maps

PolicyMap gives guidelines for citing maps made in PolicyMap –see http://brynmawr.policymap.com/citing/
In Social Explorer, the source of the data (usually the ACS) is listed in the data box.

Comparing Data

Using these tools allows you to compare datasets to see and track changes over time. You can compare geographic areas over time and across different categories of data. For visualizing the data, Social Explorer allows you to compare two maps side-by-side. Remember always to be in the same units of measurements and at same resolution when comparing maps in Social Explorer. You may also want to try the "change over time" feature in Social Explorer (see above)

American Community Survey (ACS) is conducted annually in contrast to the Decennial Census (every 10 years). Annual data is a small sample size (3.5 million surveys) so must be used with caution and include margin of error. 1-year estimates are good for identifying rapidly changing characteristics but there is a larger margin of error and they are not available for small census geographies (e.g. tract and block group). Use 5-year estimates for small geographies (neighborhoods, census tracts, block groups). In general, 5-year estimates are better overall estimates of larger trends and for understanding trends amongst subgroups of the population. Remember it is best to use surveys that are 5-year vs. 1-year estimates because they provide more reliable estimate, which increased the precision and reliability of the data.

When comparing monetary data over different periods, you need to adjust data for inflation based on national-level consumer price index. Social Explorer has a "Consumer Price Index" (CPI) feature to help with this adjustment. When looking at monetary data, use the $ symbol in the data box.

Accuracy of the Census Data

The Census is not perfect and may result in overcounts/undercounts. Low-income people, children, and minorities are typically underrepresented. The Census Bureau corrects for some of the counts but there is still a margin of error. The U.S. Census Bureau released that the 2010 Census had a net overcount of 0.01% (ca. 36000 people) https://www.census.gov/newsroom/releases/archives/2010_census/cb12-95.html. This is significantly lower than the 2000 census 0.49% and 1.6% in 1990.