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12/12/22
GEOG 458
Final Project Proposal

Disability and income across the U.S.

Proposal:

Main topic/study area:

For the final project for this class, I have decided I want to look at datasets related to disability. Disability rights and justice for disabled people is a topic that is very passionate and close to me, as I myself have a disability/chronic illness that I've received treatment for over much of my adult life.

One aspect of disability that is especially interesting to me is income. To receive benefits under the government, your monthly income cannot exceed $1,350 (or $2,260 if you are blind) per disability-benefits-help.org. This cap, while it at some point had good intentions to prevent non-disabled people from claiming benefits not meant for them, is extremely limiting, and prevents disabled people from prospering or accumulating enough wealth to thrive. While not all disabled people use or receive these benefits, many who do cannot climb the social/financial ladder in any significant way – they are forced to strictly limit their income to their own detriment to keep benefits that are necessary to their survival.

For my map, I specifically want to compare and contrast the income levels of the disabled/non-disabled populations across the U.S.

Target audience:

While the primary audience for my map would likely be disabled people, people in circles revolving around disability, and any lawmakers/organizers who impact disability rights, I think my map could also have a larger audience of the general public. I hope to make my map easily understandable and accessible to my classmates as well as the general public so that people can think about disabilities and the impacts they have on individuals in a new light.

Data source:

For my map and bar charts, I will be using data from the United States Census Bureau: https://data.census.gov. When looking for disability-related data, I came across a table titled "Selected Economic Characteristics for the Civilian Noninstitutionalized Population By Disability Status" for the year 2021. The data has the ID S1811, and while it originally displays data only for the entirety of the U.S., it is possible to select specific data with the "Geos" icon visible on the table. While my original idea was to look at just Washington state, there is not enough recent data for each individual county, so instead I will be

looking at the statewide levels. The data table breaks down various aspects of the disabled vs. non-disabled public, but for my purposes I will be focusing in on populations and the earnings.

For the map itself, I will likely be using a GeoJSON file of the U.S. (potentially one of the ones used in class, or another one which I will source in the final project).

Link to data: https://data.census.gov/table?q=disability&g=0100000US$0400000_0400000US53$0500000&tid=ACSST5Y2020.S1811

Metadata information: Accessible by clicking on “Notes” within the table

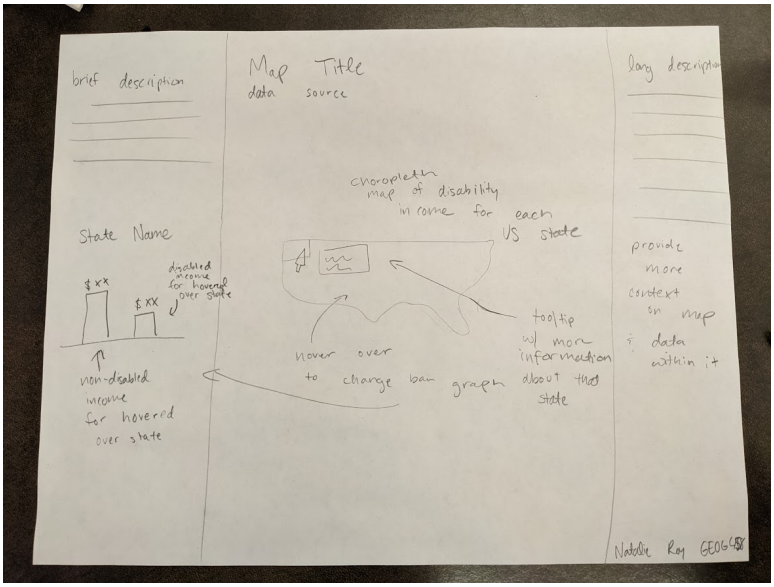
Format:

For my map, I’ll be creating a dashboard with all the information and findings discussed above. The dashboard will help compare and contrast the incomes of disabled people across the U.S., and will also help compare each state’s disabled/non-disabled income differences.

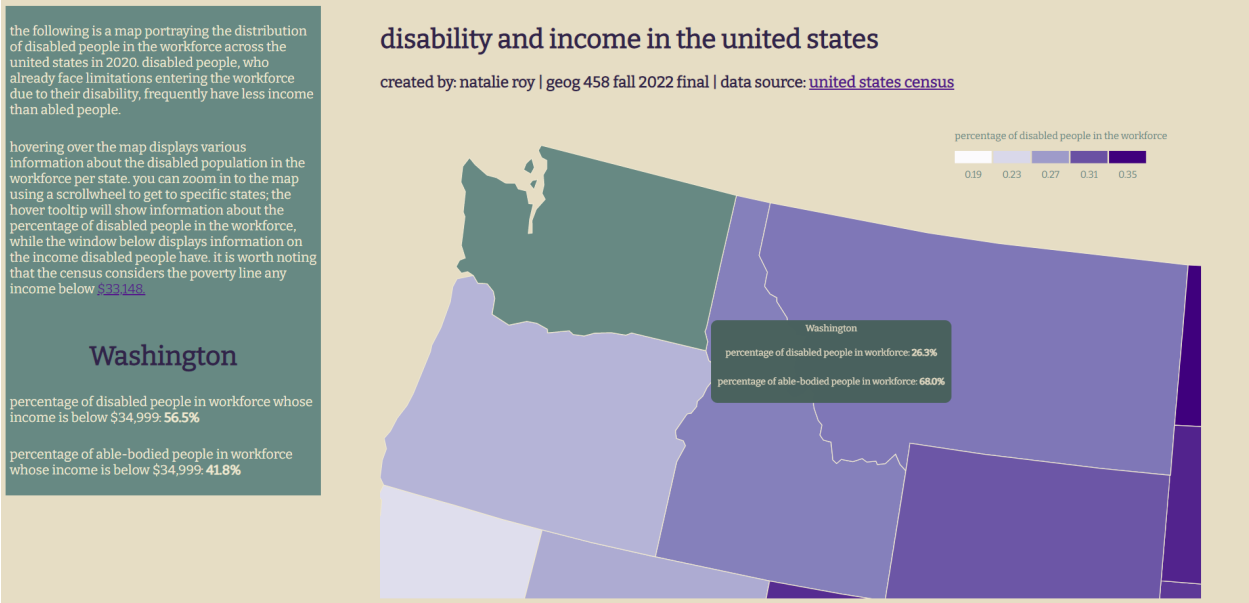
Project plan:

My plan for this assignment is to use our previous Lab 4 as the basis for my map, but to elevate it with some of the things we learned previously from the lab. I hope to utilize a bar graph with information about each state when hovered over, and I also would like to utilize a tooltip with more information on the census data from each state to give a deeper understanding of the data and the context surrounding it. My plan is to try and tackle an element of the map each night, with the goal of having it finished on Sunday before presentations start.

Map design:



Final Product:



The final product (index.html in the submitted files).

My final product turned out a bit differently than I expected, but overall I am pretty satisfied with what I accomplished! Due to other finals and class projects, I had to devote a bit less time to this than I would have liked to get my ideal outcome, but generally I think the map came together pretty neatly.

The first step when it came to creating the actual map was the data cleaning. The Census provides a wealth of information relating to modes of transportation and types of jobs, which are very interesting and would have been lovely to include in the final project, but I had to get rid of them in order to have data that was workable. The Census, additionally, gives their percentages for income in bins — $1 to $4,999 or loss, $5,000 to $14,999, $15,000 to $24,999, $25,000 to $34,999, and so on up to $75,000 or more. To avoid outliers impacting either dataset, I decided to compare and contrast able-bodied people with disabled people in the lower range of income — all of the bins including $34,999 or less. As the Census also determines the poverty line around this number, I thought it would provide an interesting analysis to compare the percentages of disabled/non-disabled people at this income level. The data cleaning was time consuming and took about 3 hours to accomplish, which was a bit more intensive than I anticipated — the data file disability.csv contains all of the numbers I calculated/inputting, the majority of which had me doing calculations to get accurate percentages.

My map is a choropleth that shows a breakdown of how many working disabled people are spread out across the U.S. I thought it would be interesting to compare and contrast what states disabled people are working in — as the map shows, the highest concentration of disabled workers seems to be in North Dakota, while the lowest concentrations appear in states like West

Virginia, Alabama, and Florida. With more time, I would have loved to look into reasons why these patterns might be occurring — whether labor laws, or specifically laws surrounding disability might have an impact on why more disabled people are working/not working in these states would be really interesting to know, however I unfortunately was unable to find or look deeper into why these patterns were occurring.

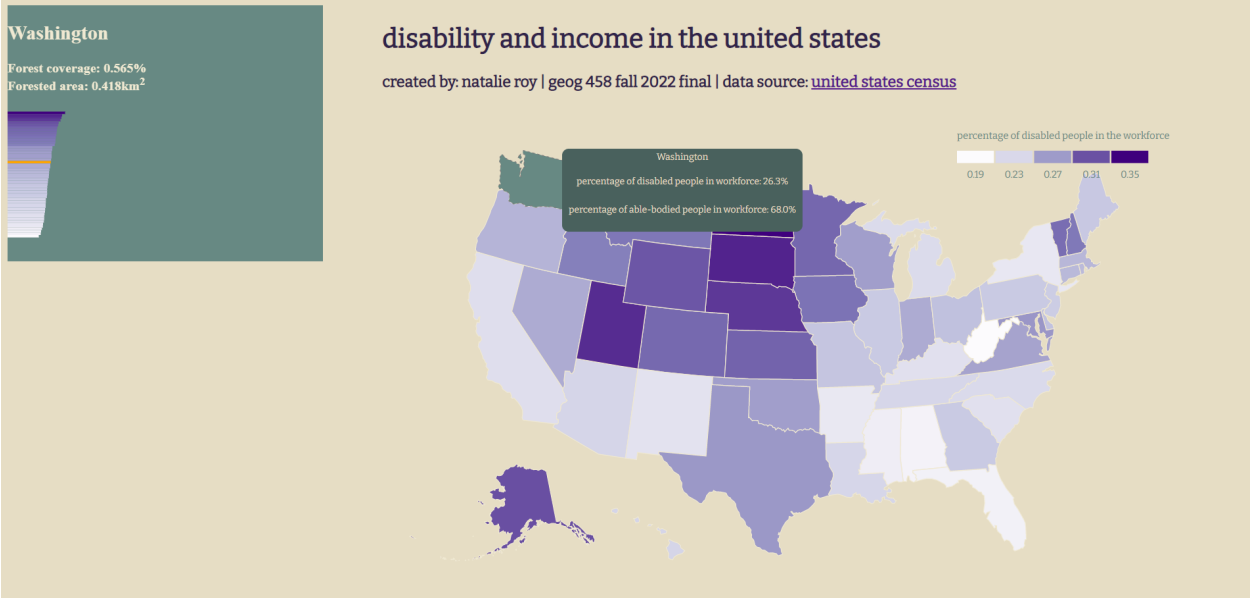
My map also incorporates the zoom and pan features we covered in class. This allows the map to focus in on certain areas for comparison (like the PNW, as seen in my screenshot above), but more importantly, I believe it adds a layer of accessibility to the map. Those with vision issues, or others with disabilities that might make a zoomed-out map inaccessible, have the ability to parse through the map in a way that is, hopefully, easier to them. The color scheme was also chosen with accessibility in mind — I tried to pick color schemes that I believe are more friendly for those with color blindness, however, it is likely that the color scheme does not work for all types of color blindness. With more time, I would have loved to add a feature that allows users to change the color scheme themselves to something that best fits their needs.

Aside from the information derived from the choropleth map, my map mainly communicates information through the tooltip and side panel. The tooltip displays information on each state's labor force makeup. It shows the percentages of disabled people who are working, and the percentages of non-disabled people who are working. In showing the differences between the two, it largely communicates the issue I wanted to address from the beginning of my mapmaking process — that disabled people are largely unemployed, either due to benefit issues or simply health or structural issues that prevent them from maintaining a job in the first place. In many, if not all, of the states, the percentage of able-bodied workers is around 60-70%, while the percentage of disabled workers is closer to 20-30%. These percentages are calculated as groups — the able-bodied statistic only includes able-bodied workers, and the disabled statistic only includes the disabled population. These numbers are not simply this way because there are fewer disabled people in the world. The percentages account for this difference in population size, and show that there are larger issues, bodily or otherwise, that prevent disabled people from working and engaging in society and the economy in the traditional way, largely to their detriment.

The side panel communicates this information as well, but in a slightly different way — through income. The side panel title and percentages change depending on which state one is hovering over, displaying the percentage of low-income disabled workers and low-income able-bodied workers side by side. This shows that, while many able-bodied people fall into the low-income range, disabled workers are more likely to fall into this category and often had percentages 10% to 15% higher than non-disabled workers.

The final aspect of my map, which I was not able to include due to glitching and bugs, was the chart aspect. While I originally planned to map the difference between disabled and non-disabled income percentages, after incorporating that into the sidebar I wanted to include something with a different layer of information — a bar graph, like the one we created in Lab 3. While I was eventually able to get this feature running, the bar graph, for reasons I could not determine, broke the zoom and pan function of the map. After trying lots of debugging

(re-ordering some of the functions, using console.log to check my steps to make sure the correct file types were being shared between the map and the chart, etc.), I wasn't able to get the two to mesh well together in the same file. Because of this, I have included a second file in my zipped folder (index2.html) that displays the working bar chart feature I would have liked to have in my final product. An image of this is also displayed below.



The bar graph file (index2.html in the submitted files)

One of the other things I did have to sacrifice in my final product was the hope to include lots of text in the map. In my mockup sketch, I indicated that I wanted to have two different sidebars, which contained an extended description of the map and the findings from it for readers to digest alongside the visualization. I found out early on that having two sidebar elements in the map was a bit tricky to maintain with the CSS, and for smoother visuals, ended up having to drop one of them and proceed with a single sidebar. Two sidebars, I quickly found when running the early drafts of my code on my laptop, does not give enough room for the map to shine, and the text can easily bog down the visual elements, like the tooltips, that my map contained. As an alternative, if I were to work further on this project, I think I would include a separate webpage that contains the larger amounts of writing I hoped to have in my sidebars. I still think that my final product manages to give a lot of information to viewers despite the single sidebar.

While I am very disappointed I wasn't able to get the chart to run in my final product, I am overall really happy with my map. I think that, despite the final chart not being displayed, my map contains all the information I set out to display, and it does so in a manner that is accessible and informative to the intended audiences.