

# QGIS DATA VISUALIZATION PORTFOLIO

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# Important Notes

- ◆ The variety of maps were made using QGIS in accordance with GEO360 at University of Washington Seattle.
- ◆ All data cleaned and manipulated within QGIS and Excel.
- ◆ Visual 1 differs in that it was an independent research project effort. An extensive analysis and documentation of the research question is summarized

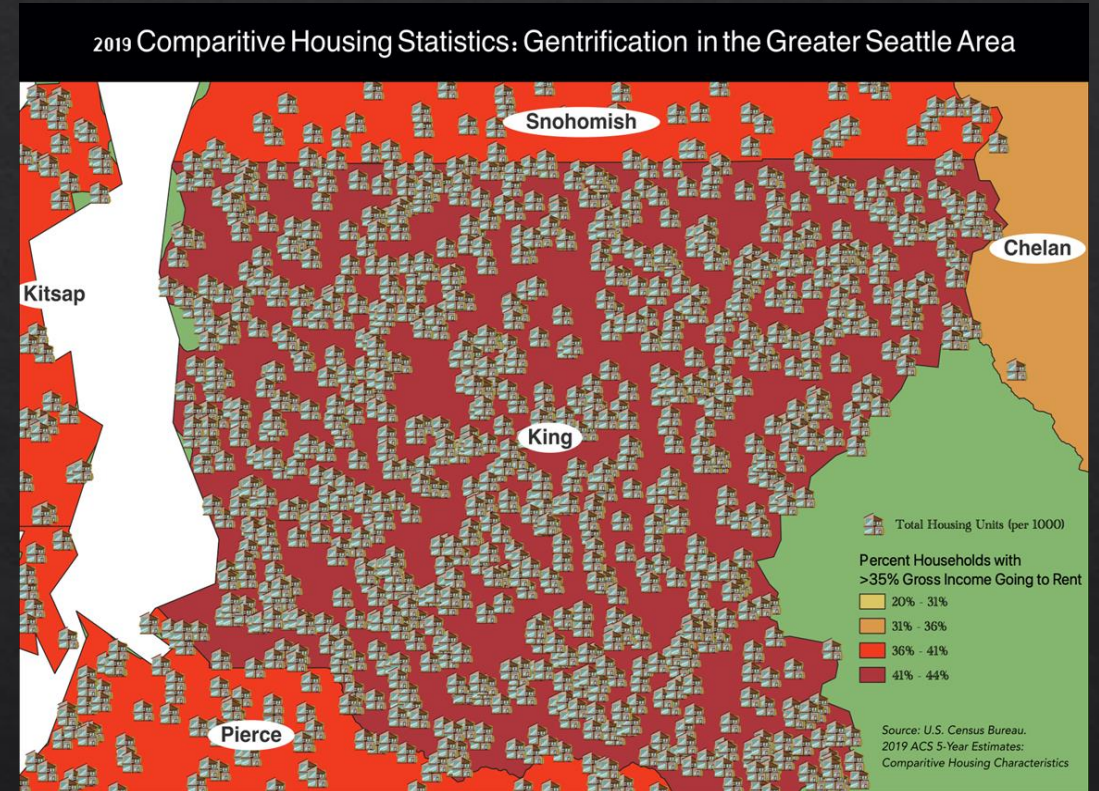
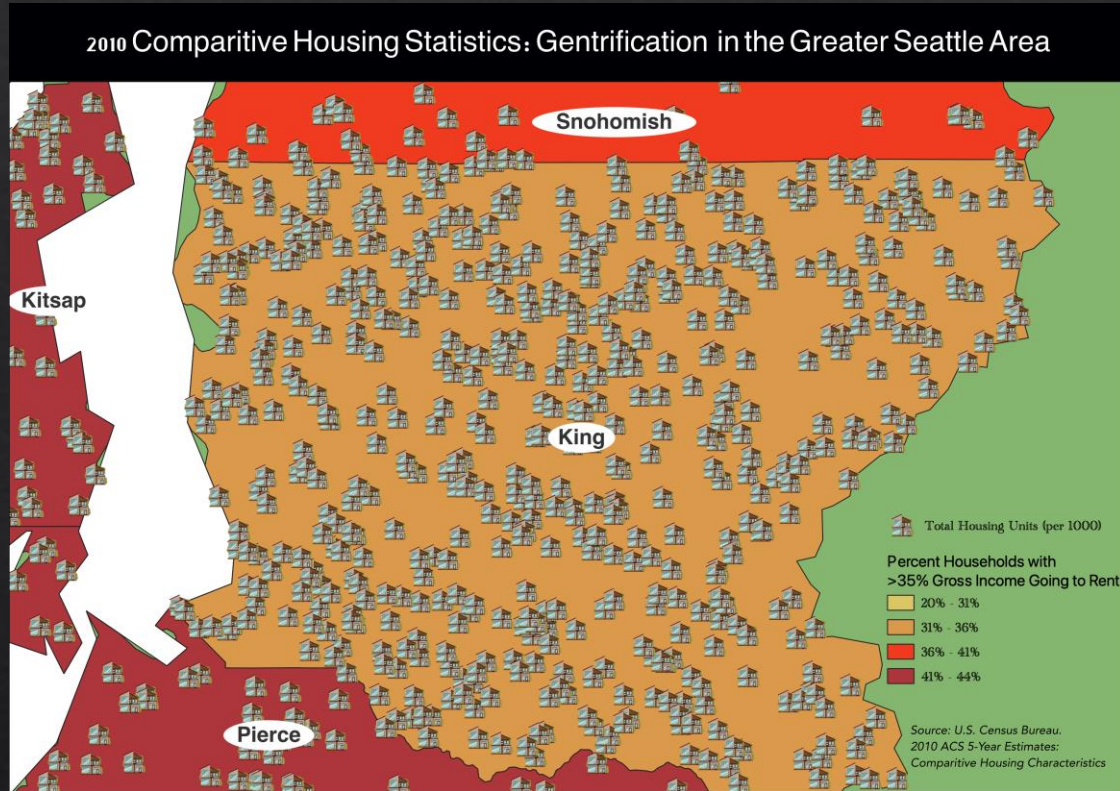
# Visual 1 Report Summary

Growing up in Washington, I have been in the Bothell/Lynwood area my entire life. I have seen neighborhoods near my childhood home change. I have seen whole complexes get built in the span of a year. Most of all, I have most noticeably seen a multitude of housing properties being erected wherever there is space available. That being said, the research question about the gentrification of Seattle was a topic I was interested in and continued to read more about. In terms of gentrification, the housing ecosystem is most definitely an influential factor. Being that I have moved around a few times in the Greater Seattle Area, the rent for properties I have looked for is enough to give a working college student nightmare. In connection to gentrification, I read an article that the housing supply is a good indicator of a city's rate of gentrification. Mainly, we can observe this through the analysis of how fast high-income homebuyers move into low-income neighborhoods. The prices have been on the rise in the market so I wanted to center my theme around this entire idea. In a broader lens, I decided to make two maps centered around the total number of houses and the income of those renting in the area.

During my planning phase, I decided on a two-map format that would be beneficial to the idea I am trying to express. Due to the temporal nature of the “rate of gentrification”, I choose to make maps of both the 2010 dataset and the 2019 dataset for side-by-side comparison. After finding the dataset, I was looking to express the total housing units and some sort of income-based metric. I found the total housing units data quickly; however, I was faced with a substantial amount of income statistics. After thinking about my idea, I went ahead and choose a pretty unique statistic. It is the percentage of people spending over 35% of their gross income on rent. I choose this because renters are not often in the high-income bracket of the spectrum. Additionally, I have always heard financial advice saying that you should ideally spend 30% of your gross income on rent. Existing in the over 35% category would mean that rent is high and may require some financial sacrifices. After choosing those two data fields, I began pondering how I wanted to represent them on the map. I wanted to focus on the Greater-Seattle area so I thought using a choropleth of the surrounding counties would be a good representation of what percentage of people are paying for expensive housing units. Lastly, to represent the total housing units, I decided to use a dot density operation to visually show the increase and change of house amounts when comparing both maps. I cleaned my data in order to easily join it to the county's shapefile. I approached this by only including the counties in Washington State. Additionally, I decided to divide the total housing units by 1000 so the dot density map would not be extremely cluttered. This would also serve as a visual indicator of the growing clutter and oversaturation of houses and people. On both maps, I found a balanced scale that would work on both maps so the color depiction and the comparison would be consistent. In the end, I put all these operations and considerations together into a two-map comparison piece to show the gentrification rate in Washington through the housing ecosystem.



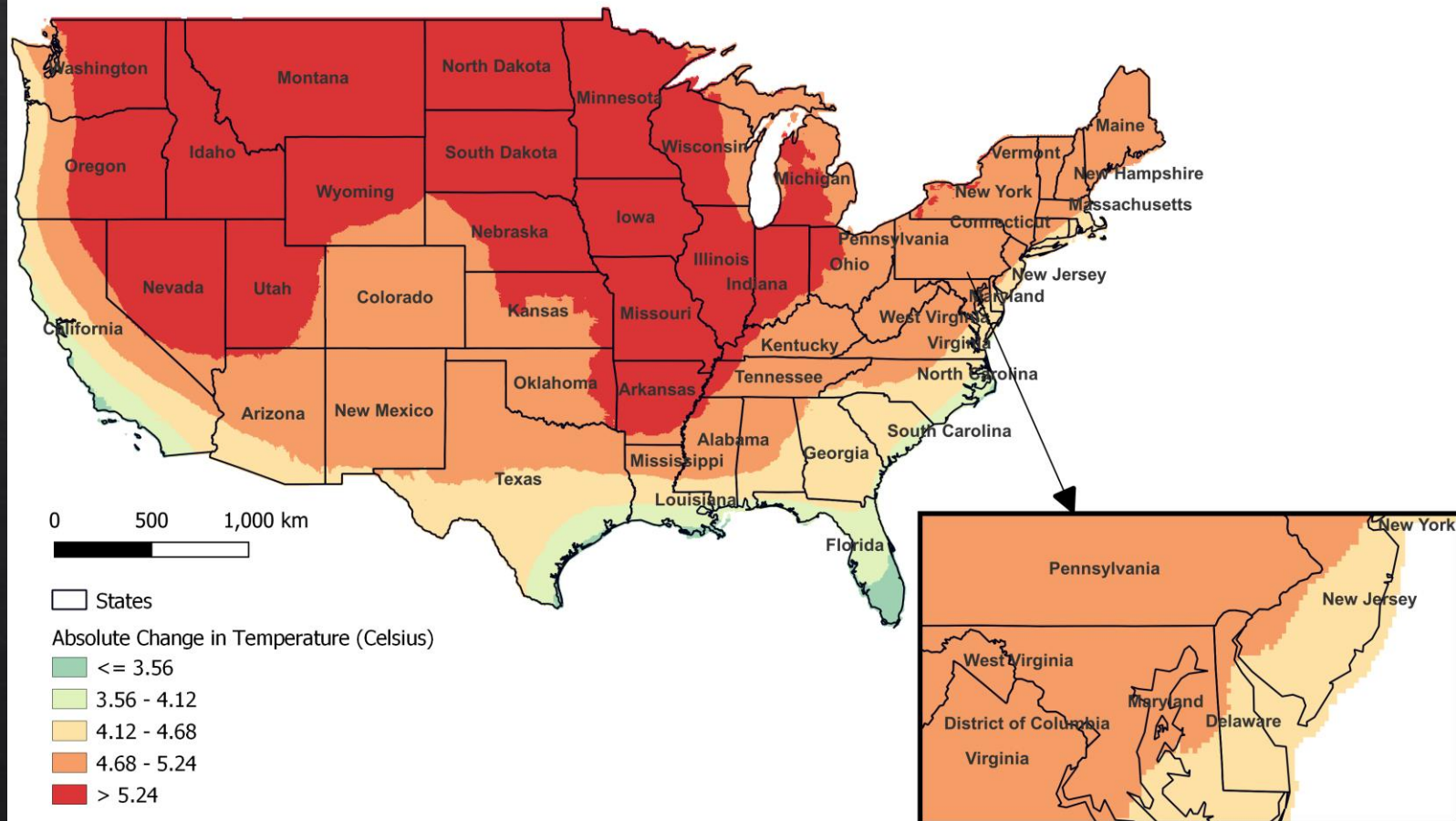
# Visual 1- Mapping Gentrification Rate



# Visual 2- Mapping Climate Change

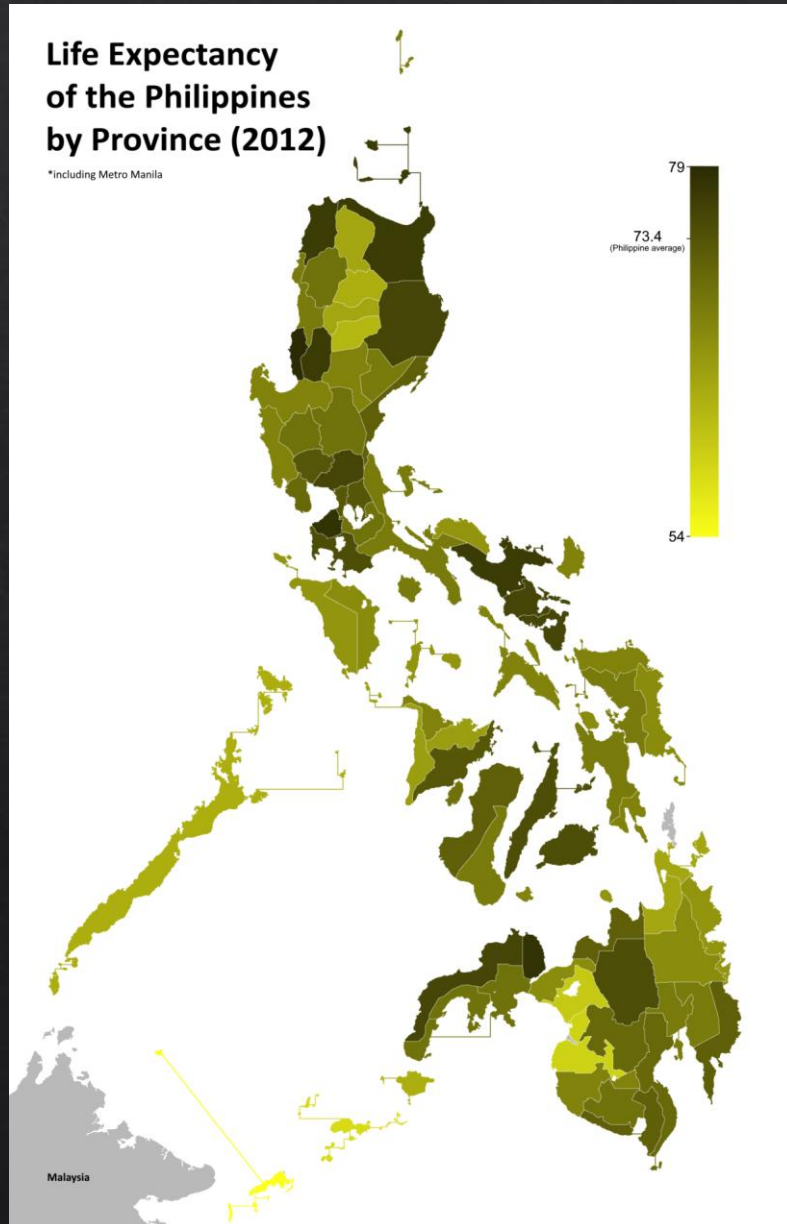
## *A Warming World*

A comparison between average summer temperatures from 1975-2005 to projected averages for 2071 to 2090





# Visual 3- Mapping Philippines Metrics



## Particulate Concentration by Country

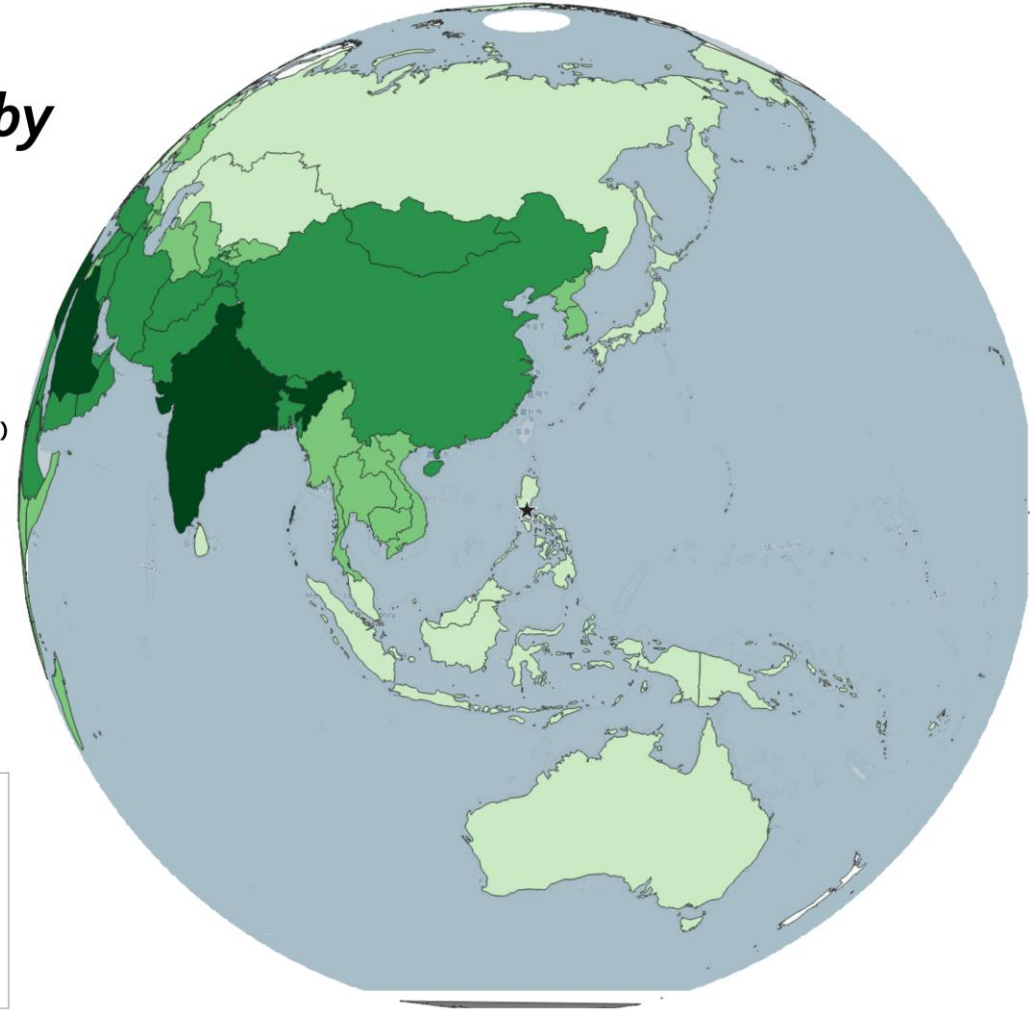
(Custom Philippines CRS)

★ Manila, Philippines

Mean Particulate Matter Exposure ( $\mu\text{g}/\text{m}^3$ )

- 0 - 7
- 7 - 19.5
- 19.5 - 35.7
- 35.7 - 61.6
- 61.6 - 99.7

For my location I choose the coordinates of Manila, the capital of the Philippines. My mom grew up in the suburbs of this metropolitan city and I thought I would pay homage to my culture!



# Visual 4- Mapping Global Emissions

## *Cumulative Emission as Compared to Annual CO<sub>2</sub> Consumption Based Emission*

