

Mapping Inequality in Atlantic County, New Jersey

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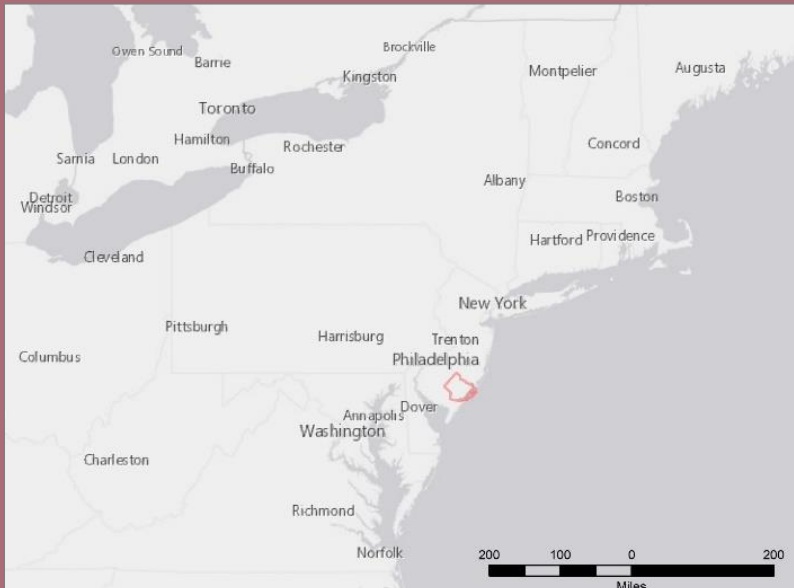
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Abstract

Climate change is rapidly occurring all over the world and rising sea levels are a major concern. In this study, I wanted to see how residents of a coastal city such as Atlantic City, New Jersey could be impacted by them. Using GIS, I found that many minorities and people with lower average household incomes reside on and near the coast. The elevation near Atlantic City is lower than the rest of the county. People are already experiencing an increase in flooding and not receiving the necessary help (PBS, 2017). Minorities living near the coast in Atlantic County, New Jersey are being impacted by climate change more than others living in the county.

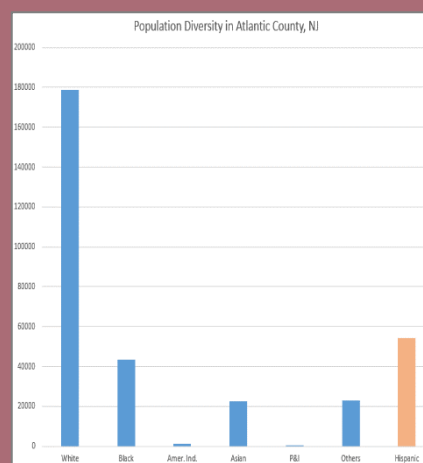
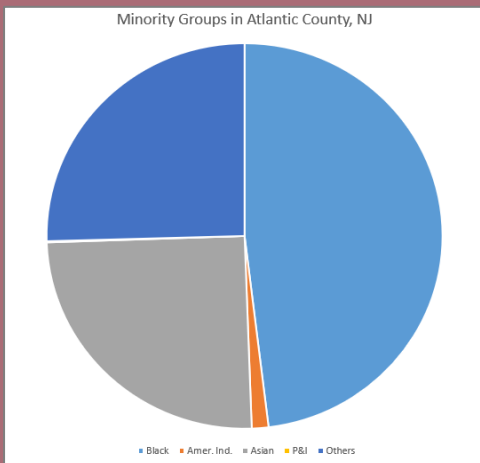
Introduction

Atlantic County, New Jersey is geographically located on the east coast of the United States. Atlantic City is the largest municipality in the county. Atlantic County's largest source of revenue is tourism and entertainment. This is particularly true for Atlantic City, where casino and resort are big attractions. The casinos and resorts are also promoting service businesses such as restaurants, shops, spas, golf, and food. Before the pandemic of 2020, about 27 million people visit this area every year and that brings in about 6.5 billion dollars. The estimated population of Atlantic County was 263,670 in 2019. The population for Atlantic City was 37,743. Majority of work forces are in service industry with low income.

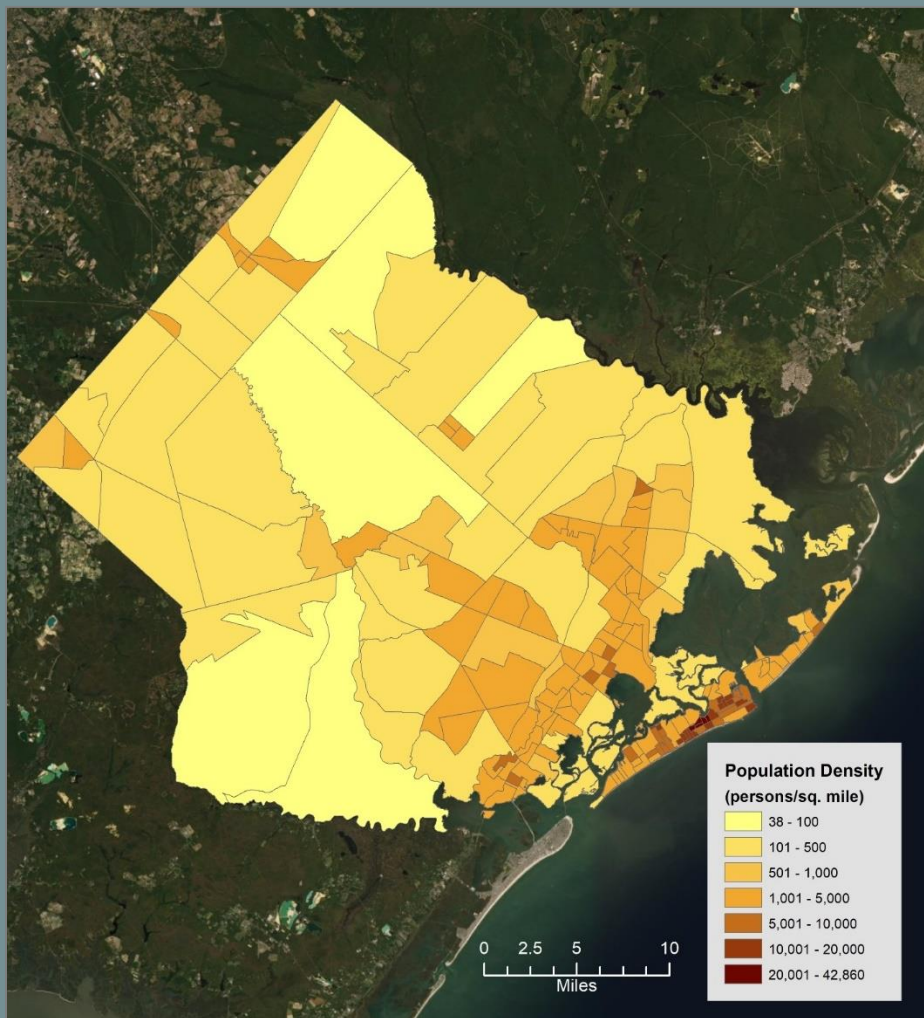


Data Sources

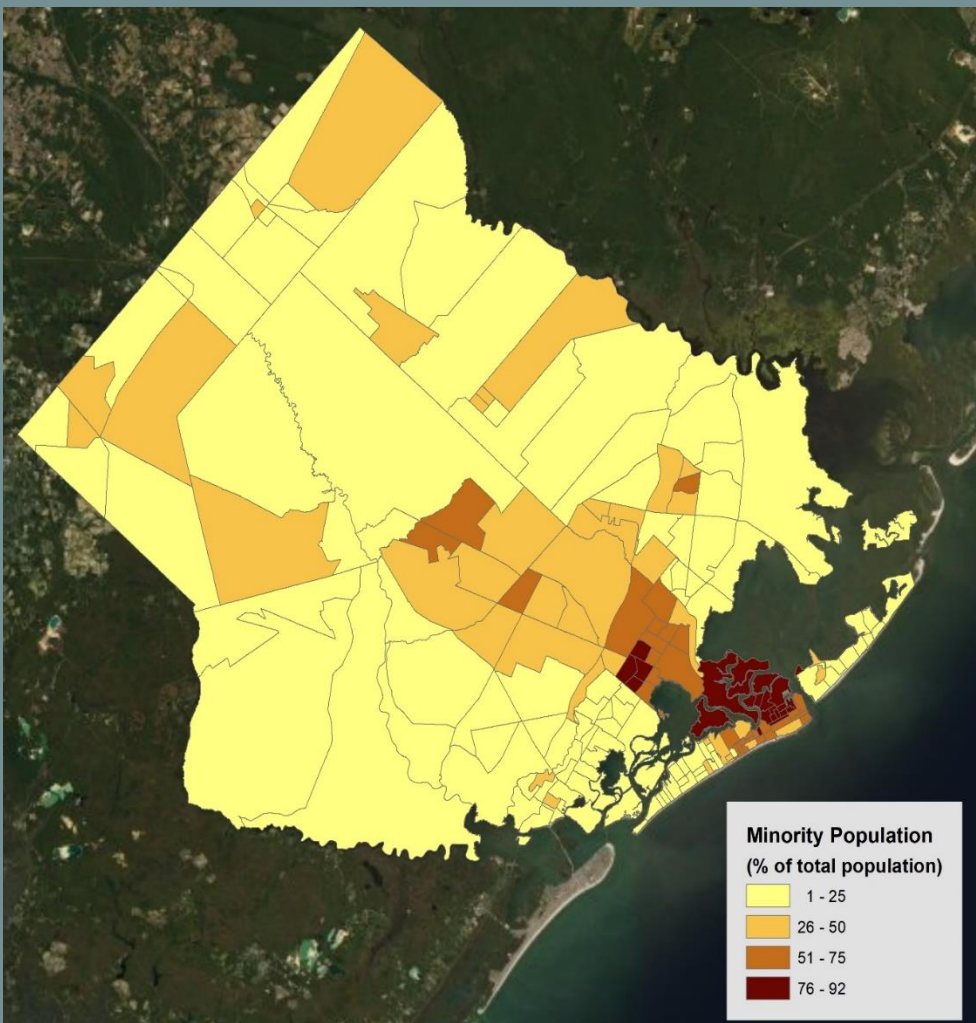
Esri's Updated Demographics dataset (2016) was used in this study. The dataset provided population, economic, and environmental information for the United States. Data for Atlantic County, New Jersey was extracted from the dataset at the census block group level. The elevation data was from USGS' EarthExplorer website. An interview with residents of Atlantic City describing all the problems they face with the rising sea levels by PBS (2017) was also used.



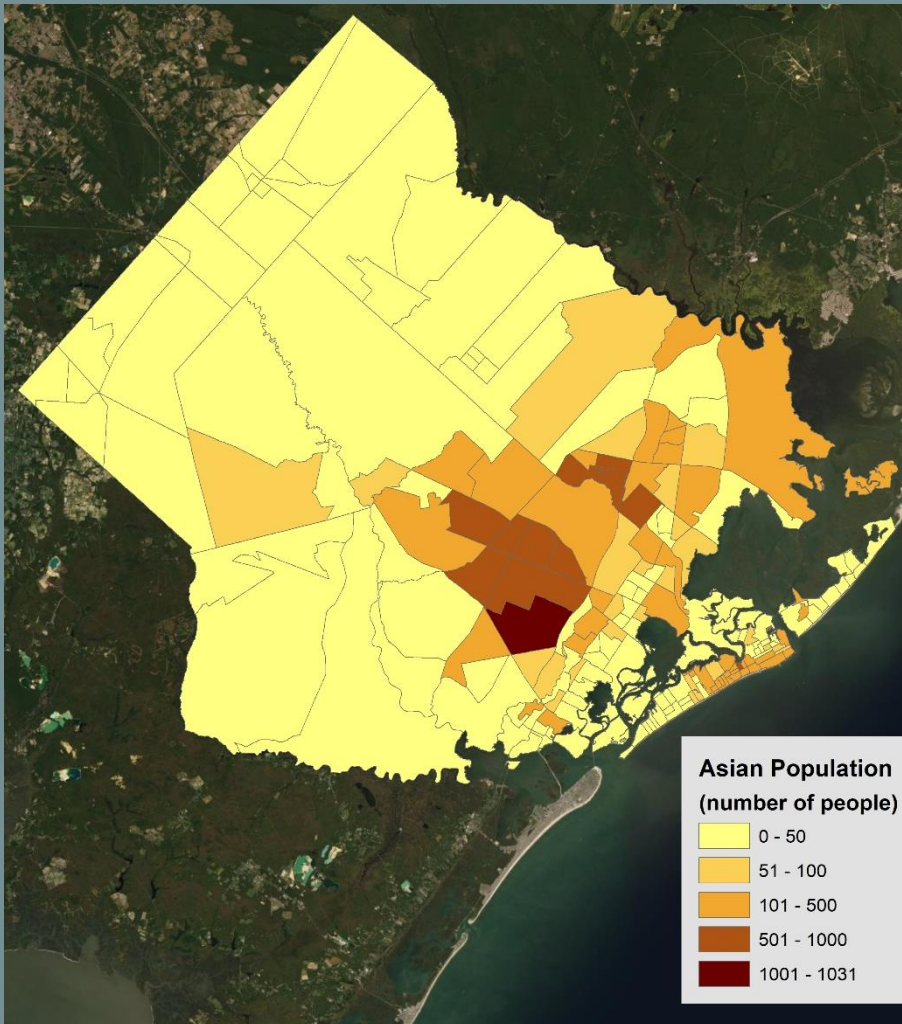
Results



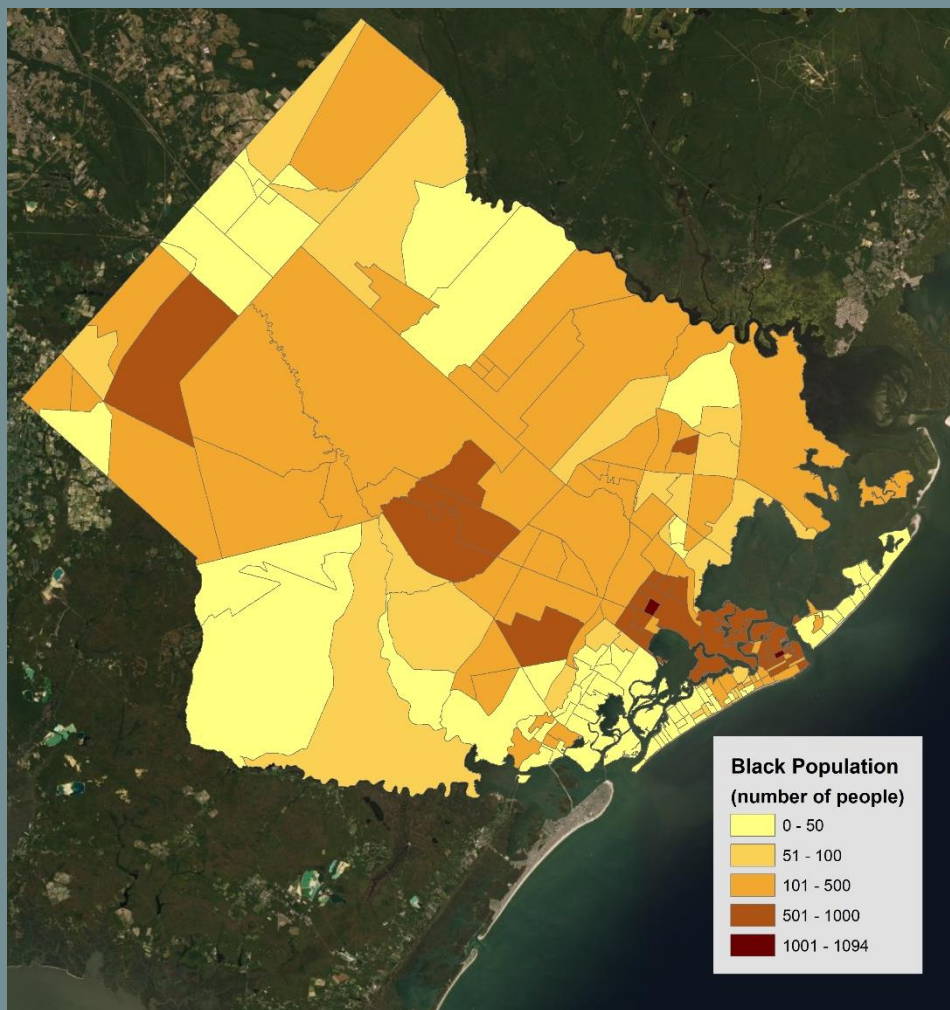
The largest densities of people are located on or near the coast.



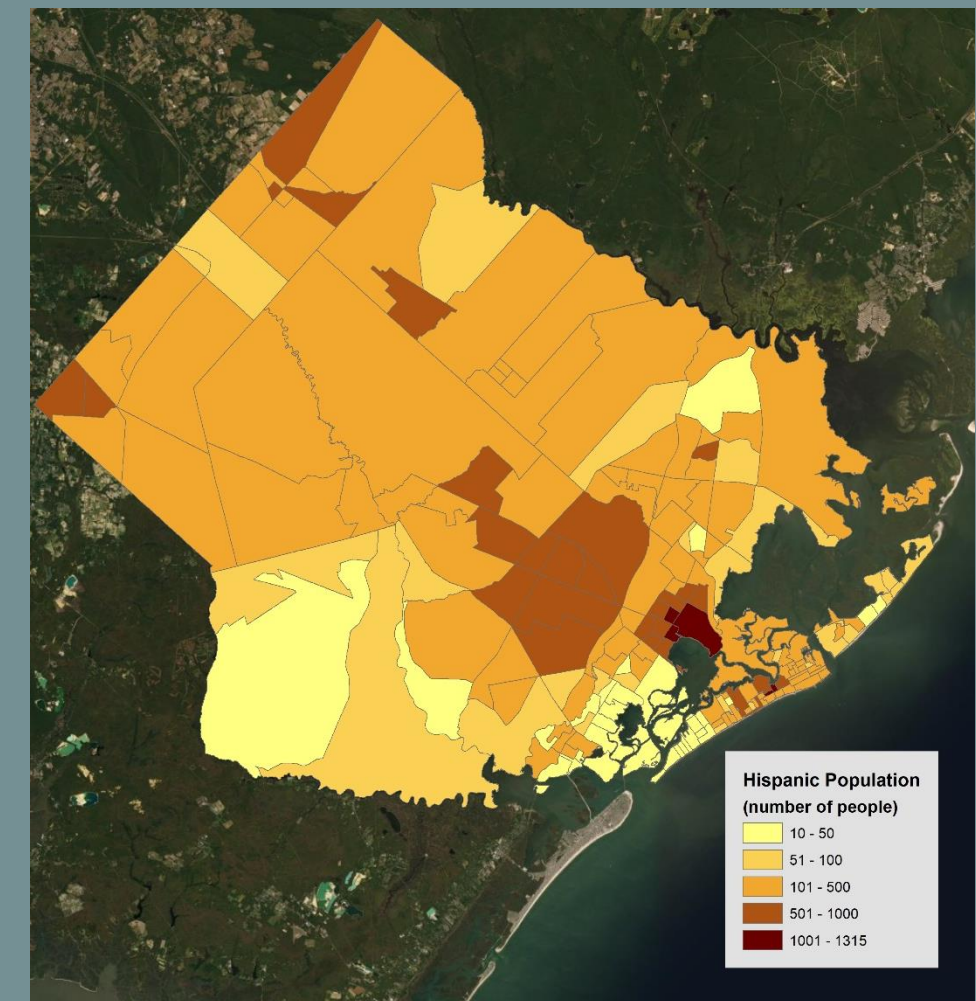
The area with the largest minority population is on the coast.



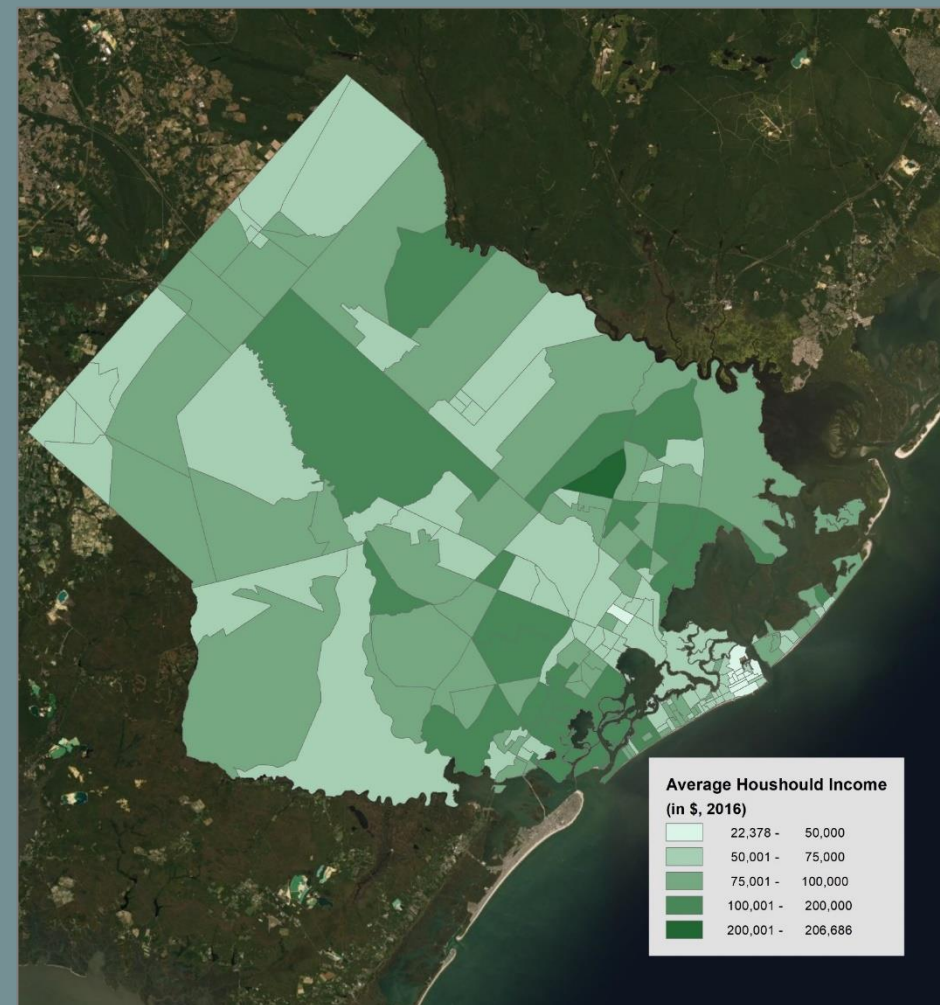
The Asian Population



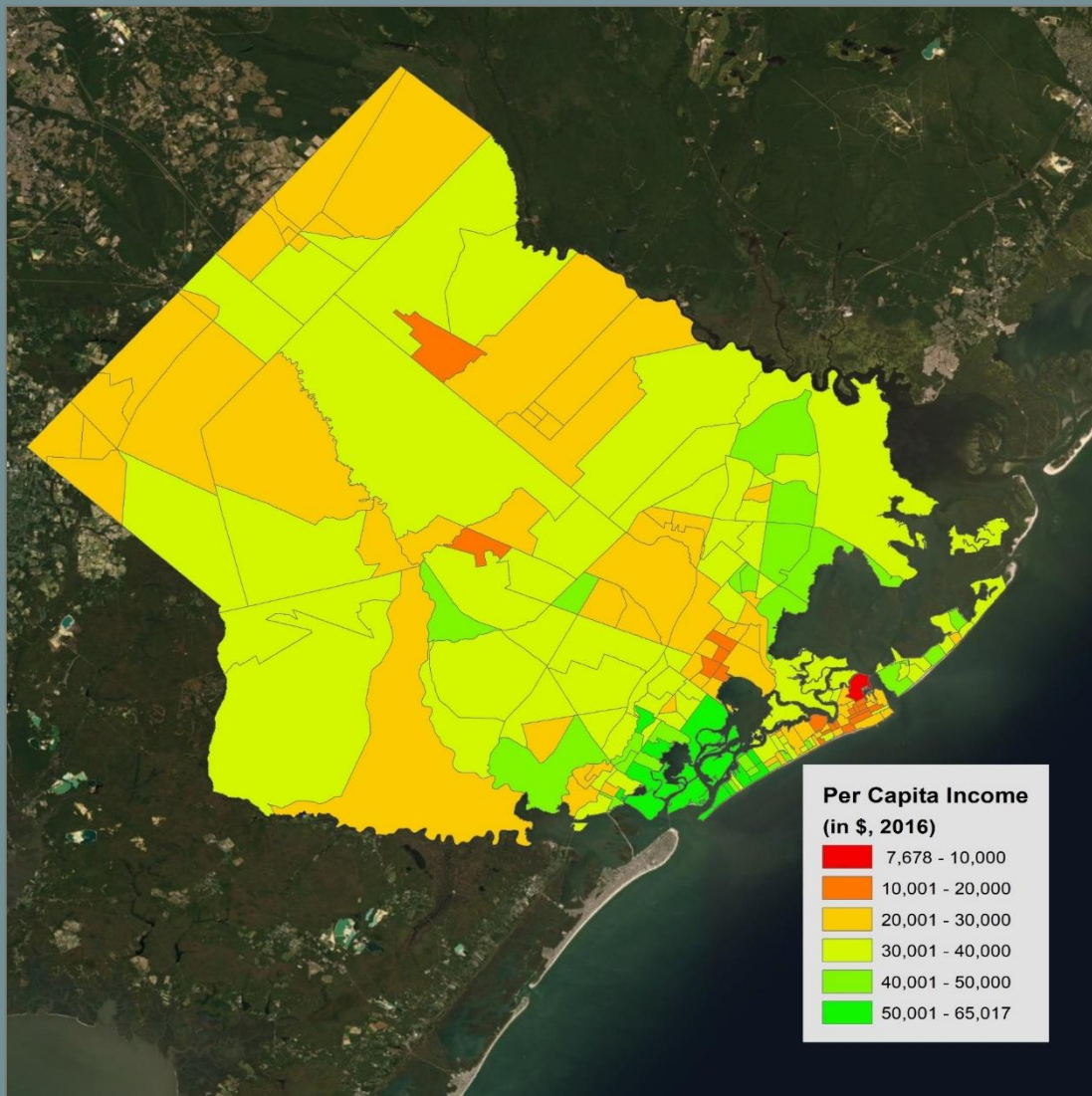
The Black Population



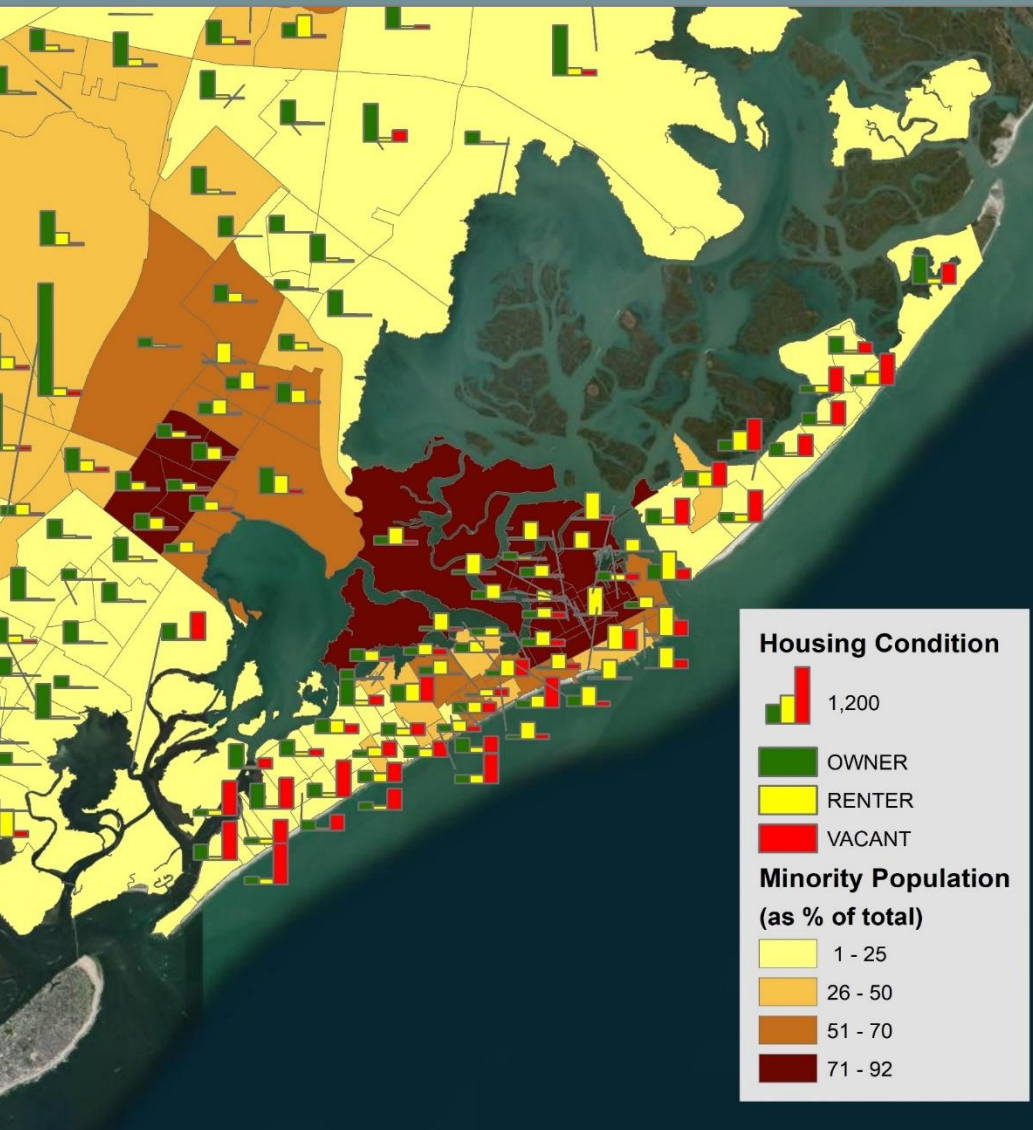
The Hispanic Population



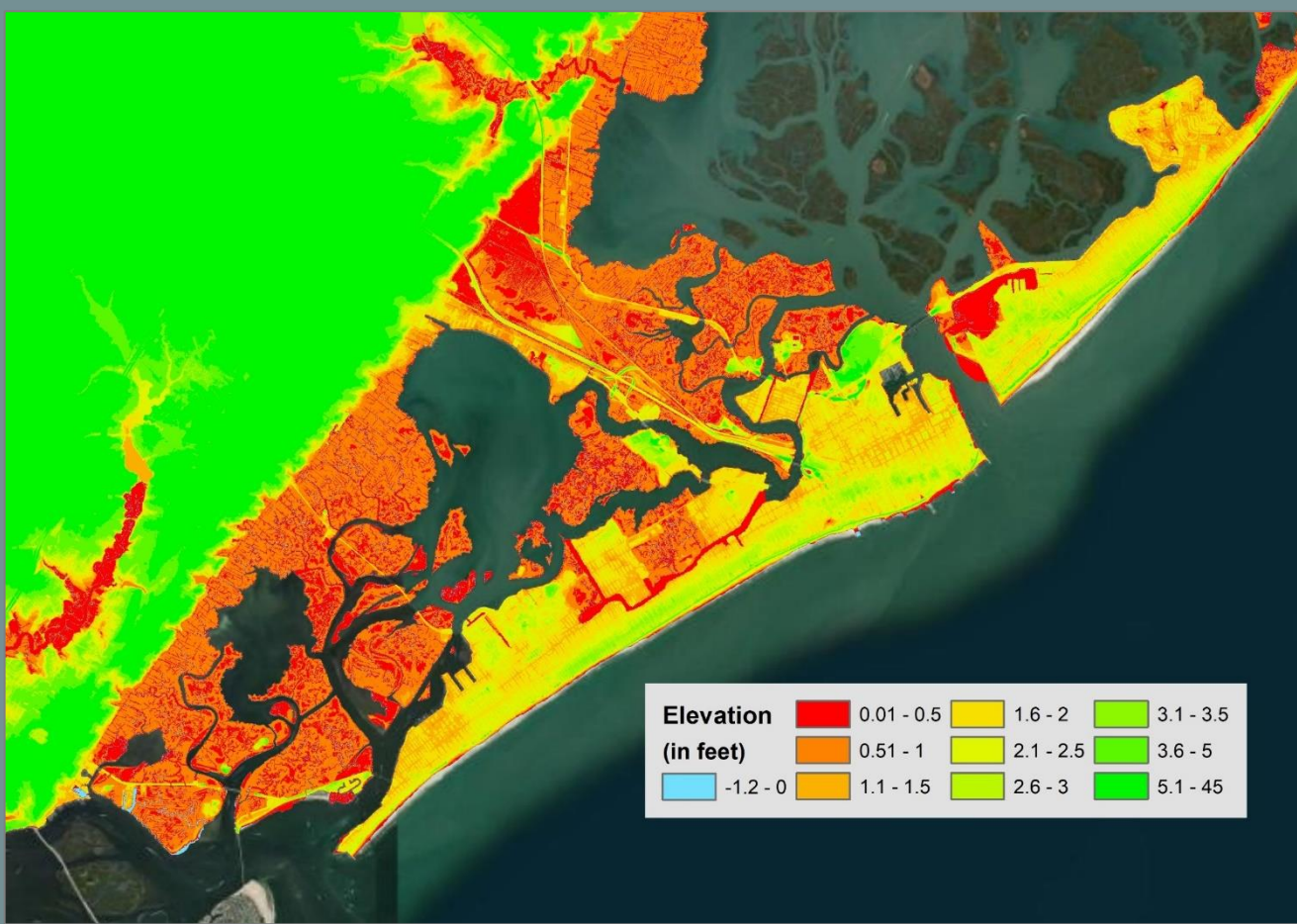
The average household incomes along the coast that are most frequent is \$20,000-\$75,000.



The per capita varies depending on location along the coast.



There is a variety of vacant, renter, and owner houses along the coast. In the area with the large minority population, there are few vacant houses.



The elevation of the land on and near the coast is 0.01-2.5 feet, which increases the chances of flooding. The area with many minorities is lower than most.

Methodology

In this study, GIS (Geographic Information Systems) was used to map the social, economic, and environmental inequality of Atlantic County. In the interviews conducted by PBS (2017), residents of the area discussed the issues of rising sea levels. They talked about how they are not receiving help from the government. I generated a series of maps to see if there were relations between inequalities and being impacted by climate change (rising sea levels). With ArcGIS software, different mapping techniques (e.g., choropleth, digital elevation model, spatial query, and etc.) were applied in this project.

Conclusion

Maps generated from this project show that there are clustered minority areas in the east and northeast coast of Atlantic City. Economically, these areas are much worse than the other parts of the county. Instead of owning houses, large percentage of residents in the areas are renters. The areas are also facing potential flood problems with changing climate. The high inequality of economic, housing, and environmental problems are related to spatial distribution of racial groups, which should be addressed by the policy makers.



Sources

Esri: Updated Demographics, <https://doc.arcgis.com/en/esri-demographics/data/updated-demographics.htm#GUID-7199AD23-685E-4CE0-A522-E9C6F74F9ABA> .
PBS: In Atlantic City, Residents Feel Injustice of Climate Change, NewsHour Productions LLC, 1 July 2017, www.pbs.org/newshour/show/atlantic-city-residents-feel-injustice-climate-change.
USGS: EarthExplorer, <https://earthexplorer.usgs.gov/> .