

Assessing Environmental Justice in Albany, New York

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Abstract

- Environmental justice is a key component of sustainability as it seeks to promote the fair and equitable distribution of environmental burdens and benefits for all people. Instances of environmental injustice are prevalent on a large scale throughout the United States. The county of Albany, New York is examined to identify environmental justice problems related to income-level and racial demographics using GIS mapping analysis and geostatistics. Expected findings include correlations between socioeconomic factors and environmental burdens. This research is important because it will contribute to evidence of large-scale trends existing on a smaller scale that are often overlooked. Research into environmental justice trends can illuminate and instigate change for historically neglected populations.

Research Question



- What is the frequency of environmental injustice indicators in areas with populations of lower socioeconomic status in Albany, NY?

Rationale

- All humans deserve the right to the fair and equitable distribution of environmental burdens and benefits.
- States in the U.S. continuously choose to put the most vulnerable populations at the greatest risk of environmental burdens (Banzhaf et al., 2019), making environmental injustice a prominent wicked problem in the U.S. today.
- These trends are too persistent and harmful to ignore, and based on current research, the state capital of New York, Albany, seems to have concerning environmental injustice trends as well (Sherpa et al., 2013).
- As these trends exist on a larger scale, it is important to investigate if Albany, NY fits these trends of environmental injustice on a smaller scale.

Sustainable Development Goals



- This project is in pursuit of 3 of the 17 UN Sustainable Development Goals: Good Health and Wellbeing, Reduced Inequalities, and Peace, Justice and Strong Institutions.
- U.N. Sustainable Development Goals: Good Health and Well-being supports the assertion that certain populations should not bear undue exposure to environmental hazards. Reduced Inequalities are essential to achieving sustainable communities in Albany. Peace, Justice and Strong Institutions are necessary to assure the human rights of those in Albany effected by environmental justice issues (U.N. 2020).

Methods

- Quantitative data was collected and analyzed including socioeconomic and environmental burden data.
- Data was accessed from the U.S. Census Bureau and the New York State government GIS database.
- GIS map making was used to visualize trends in the data.
- Geostatistics will be used to analyze the data.

Study Area



Figure 1. Map of New York State indicating the city of Albany.

GIS Maps and Results

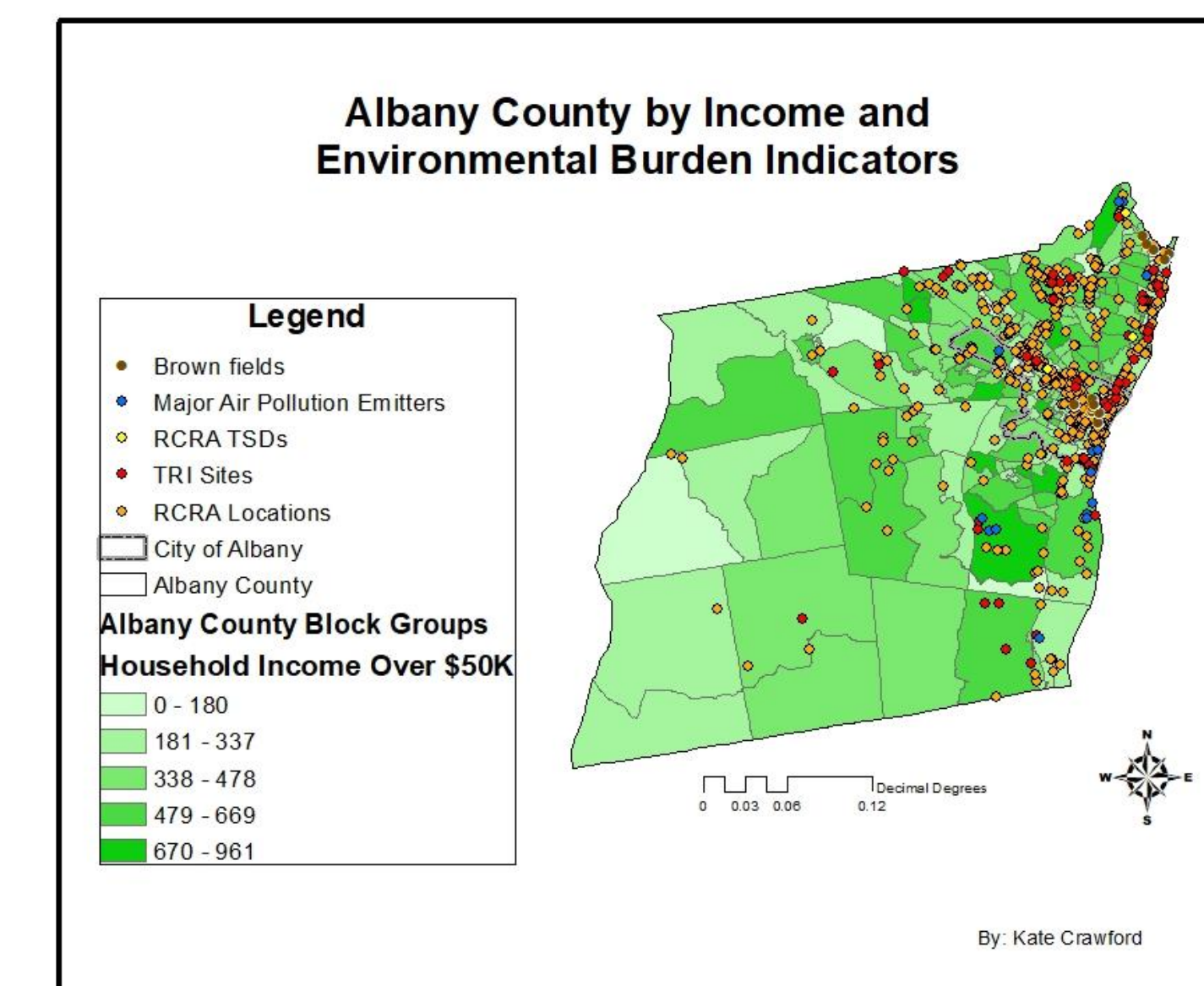


Figure 2. Albany County by Income and Environmental Burden Indicators

- Lighter green shades refer to block groups that have incomes under or at \$50k, while darker shades indicate income over \$50k.
- Brownfields, major air pollutant emitters, Resource Conservation and Recovery (RCRA) Treatment, Storage and Disposal sites, Toxic Release Inventory (TRI) sites, and RCRA locations are used as environmental burden indicators.
- Results: Environmental burden indicators are highly centralized to lower income block groups in the city of Albany, but can also be seen in higher income areas as well. Further analysis will be completed to determine significance of correlation.

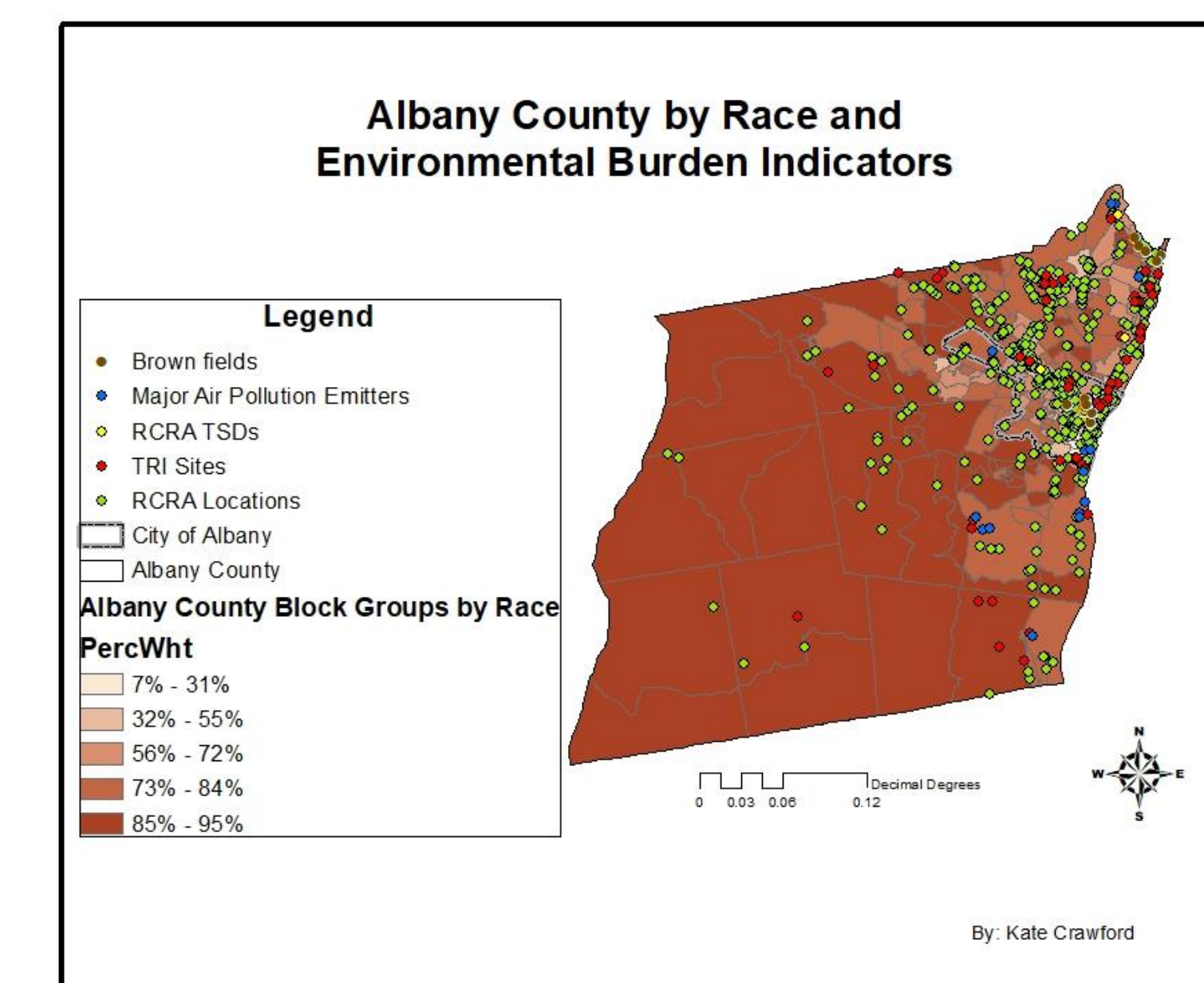


Figure 3. Albany County by Race and Environmental Burden Indicators

- Lighter orange shades refer to block groups that have a high percentage of white population, while lighter shades indicate block groups with low percentage of white population.
- Environmental burden indicators (see Figure 2).
- Environmental Burden indicators are highly centralized in the city of Albany, which is characterized by block groups with low percentages of white populations. Further analysis will be completed to determine significance of correlation.

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