Environmental Racism in a Growing City: Investigating Demographic Shifts in Salt Lake City's Polluted Neighborhoods

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Environmental racism in a growing city:
Investigating demographic shifts in Salt Lake City’s polluted neighborhoods

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Abstract

We add to a literature on environmental racism by linking the relationship between race and targeted exposure. We analyze American Community Survey (ACS) demographic data for the past two decades to determine whether census tracts with high densities of EPA environmental hazard sites have seen a growing, shrinking, or unchanging proportion of Latinx residents. We analyze whether targeting and pollution exposure overlap across US cities. We find that the degree of overlap has increased over time. We conclude that mapping environmental hazards on top of census data provides a more accurate view of potential exposure risks. This work can inform policy decisions on which census tracts to target for interventions.

Background

Salt Lake City (SLC), UT, USA is one of the largest cities in the Utah metropolitan area and is expected to see continued population growth. SLC is 80% white from Elliot’s age but legacies remain in the city and spatial patterns representing redlining and segregation categories other than “white alone” (Collins & Grineski, 2019). Lacking access to decent shelter, white residents black and Latinx residents were restricted to areas that were being developed for industry and likely had the highest pollution exposure. In 2019 we see a decrease in the % Latinx residents in downtown SLC and census tracts further west seem to see an increase in % Latinx residents. In our analysis hot spots that image pollution for Latinx communities were compared to the location of redlining districts from the 1930s to visually inspect spatial patterns of pollution, race, and redlining. This suggests that early developed communities in Utah. By looking at SLC’s history we can see how the legacy of redlining and religious affiliation impact Latinx neighborhoods today and into the future.

Data and Methods

We analyze American Community Survey (ACS) year estimates from 2007 and 2019 to determine whether census tracts with high densities of EPA environmental hazard sites have seen a growing, shrinking, or unchanging proportion of Latinx residents. Polluted sites include Hazardous Waste and Used Oil facilities, superfund sites, brownfield sites, and remediated sites (US EPA). Polluted sites were combined to create a map of environmental hotspots, which was then used to create a choropleth map with pollution exposure. The choropleth analysis is conducted in QGIS software (v. 3.10), and Latinx=+0.5% of the population and pollution exposure (Figure 1). SLC’s Latinx and Black communities were at greater risk of pollution exposure, and often are not protected. These findings are concerning and may worsen as SLC becomes more racially diverse. 

9% Latinx People per Census Tract - Salt Lake County, UT

Redlined Districts in Salt Lake City: 9% Latinx in 2010 and 2019

Terrestrial Pollution Hotspots - Salt Lake City

Figure 1: Redlined districts in SLC with Latinx residents in 2010 and 2019.

Figure 2: Terrestrial pollution hotspots in SLC. Environmental hotspots in redlined districts.

Figure 3: Original redlining map for SLC from the 1930s.