Mapping Vulnerable Populations and Respiratory Hospitalizations During Extreme Heat Events in New York City

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INTRODUCTION

Known for having the highest mortality rate of all weather phenomena, significant heat events also contribute to degraded health within our communities, particularly affecting the child and senior populations.

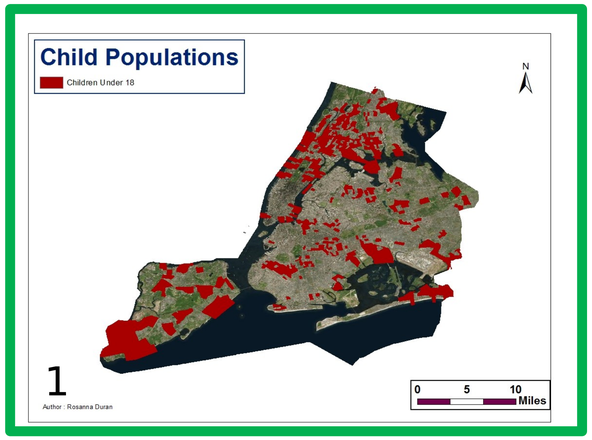
The objective of this project was to identify the geography of child/senior populations in the five boroughs (Manhattan, Bronx, Brooklyn, Queens, Staten Island), to identify the geography of respiratory hospitalizations and to asses the vulnerability within these communities.

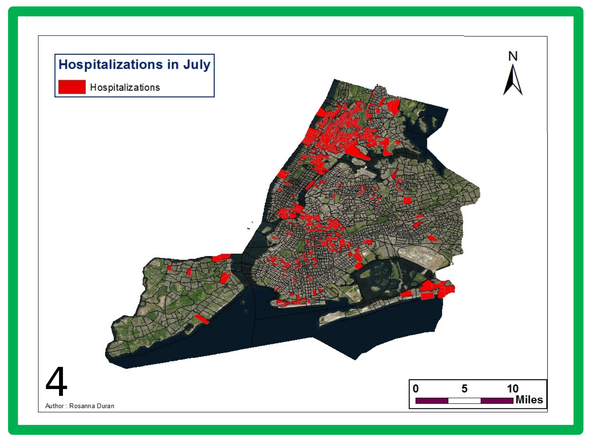
METHODOLOGY

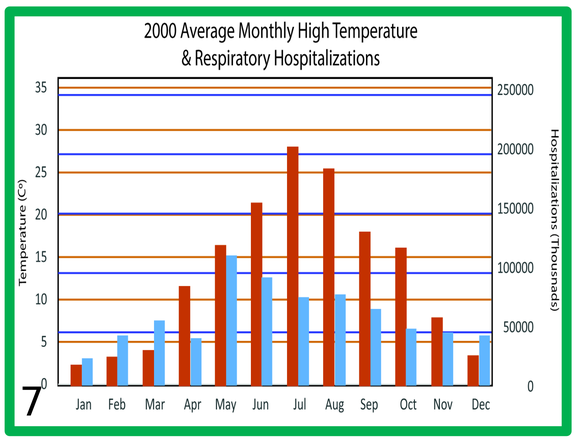
Data was gathered for 2010 from the National Climatic Data Center, the U.S. Census, the American Fact Finder and Infoshare.org. After proper formatting of this data it was imported into ArcMap for geoprocessing. Linear statistics were performed on the average monthly temperature and hospitalization data to determine significance and correlation.

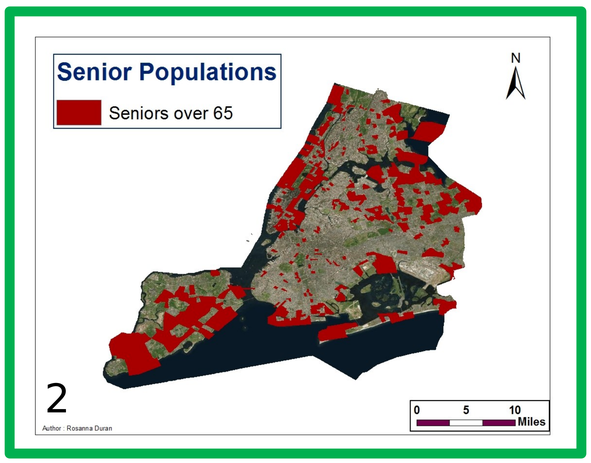
CONCLUSION

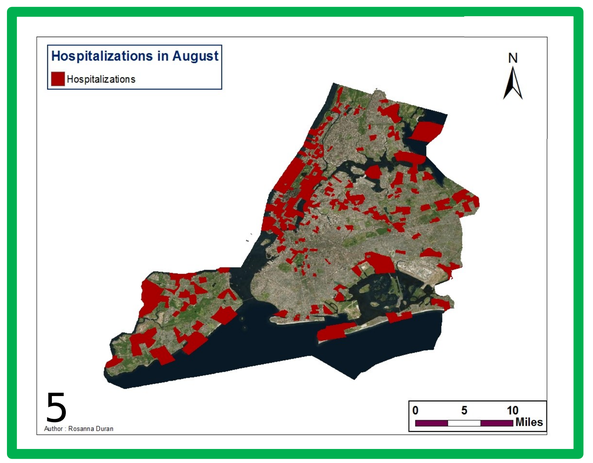
This research identified correlation between the 2010 summer heat wave events and upper respiratory hospitalizations. Furthermore,

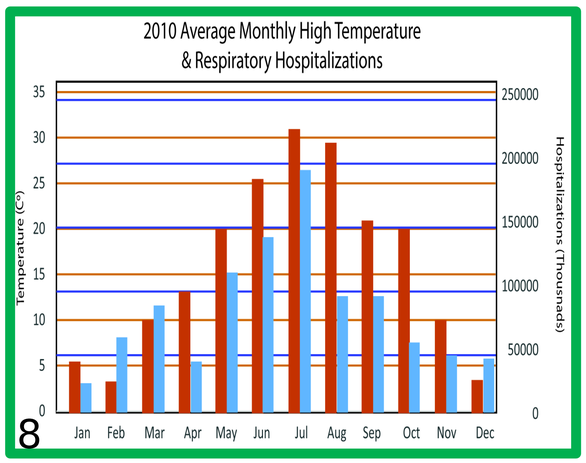


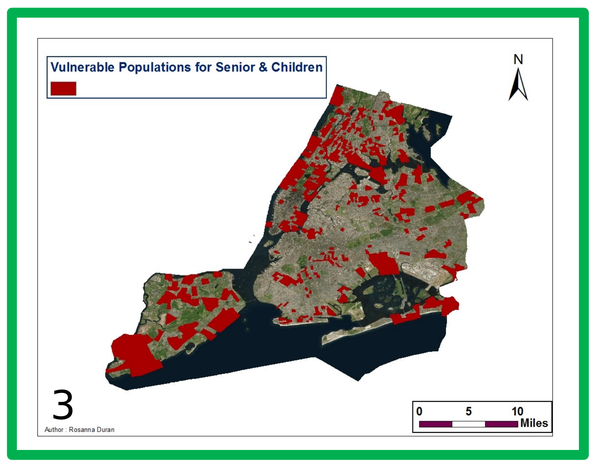


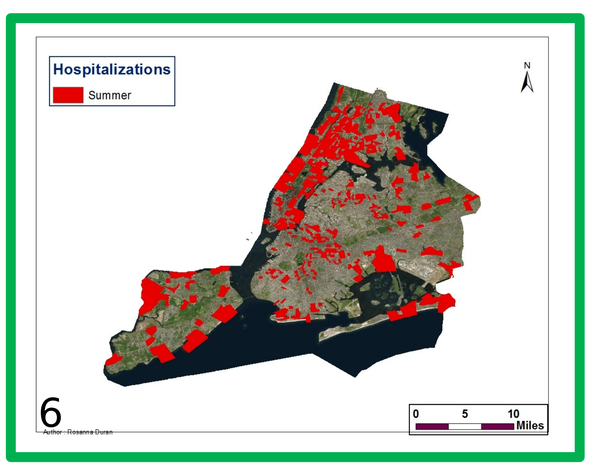


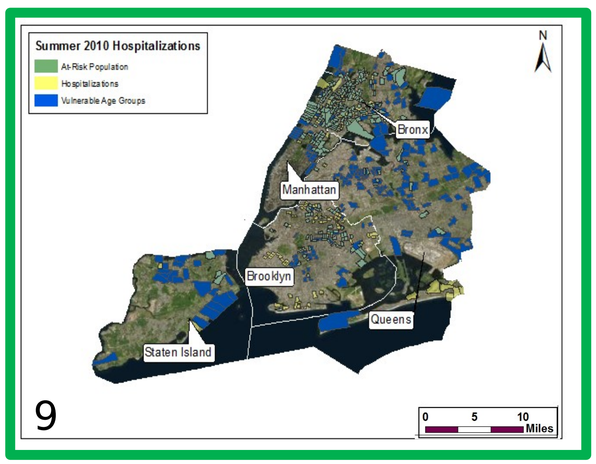












1,2,3 - These maps show the locations where there are the largest populations of children and seniors.
4,5,6 - These maps are based on 2010 when there were several summer heat events and how hospitalizations increased as well .
7,8 - Theses bar graphs explain the correlations between respiratory hospitalizations and the heat events, which both increase from 2000 to
9 - This graph explains where the high risk areas, hospitalizations and vulnerable groups were located in the five boroughs in the summer of

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