Studies have indicated that disadvantaged populations are most vulnerable to the health and displacement effects of climate change. Furthermore, hurricane intensity is expected to increase as climate accelerates. 2012’s hurricane Sandy was a brutal reminder of this, displacing thousands in New York and New Jersey, and many of the communities hit by Sandy are still rebuilding today, over three years later. Many news stories and publications have emphasized the vulnerability of the Boston area, and climate adaptation efforts now being implemented are designed to mitigate the damage that is anticipated over the coming decades. This project will look at the number of vulnerable people and households in Cambridge and Somerville. Climate change is often framed as an environmental justice issue—is this true for low-income populations living in Cambridge and Somerville?

Overview

Results

The model was run three times using block data and block group data to determine the total number of people at-risk, and the owner’s income data to determine the overall number of people within each income group who would be affected. Low-income households were defined as any household with an income of $30,000 or less. This number was chosen because the Massachusetts Department of Energy and Environmental Affairs considers $30,515 as the threshold for low-income households in their classification of Environmental Justice Populations. This number was chosen because it is 65% of the median household income value of $46,956. Median income was defined in households with an income between $30,001 and $50,000; just above the median household income. Any household with income of greater than $50,000 were considered higher income.

Conclusions

Based on this model, we can conclude that the majority of households within Cambridge and Somerville are located within hurricane surge inundation zones, and low-income people are somewhat more likely to live in these areas. Efforts should be taken to educate all residents of Cambridge and Somerville about disaster preparedness, and special effort should be taken to promote education at community centers or other organizations serving low income people.