

Boston Water Atlas: Flood Risks

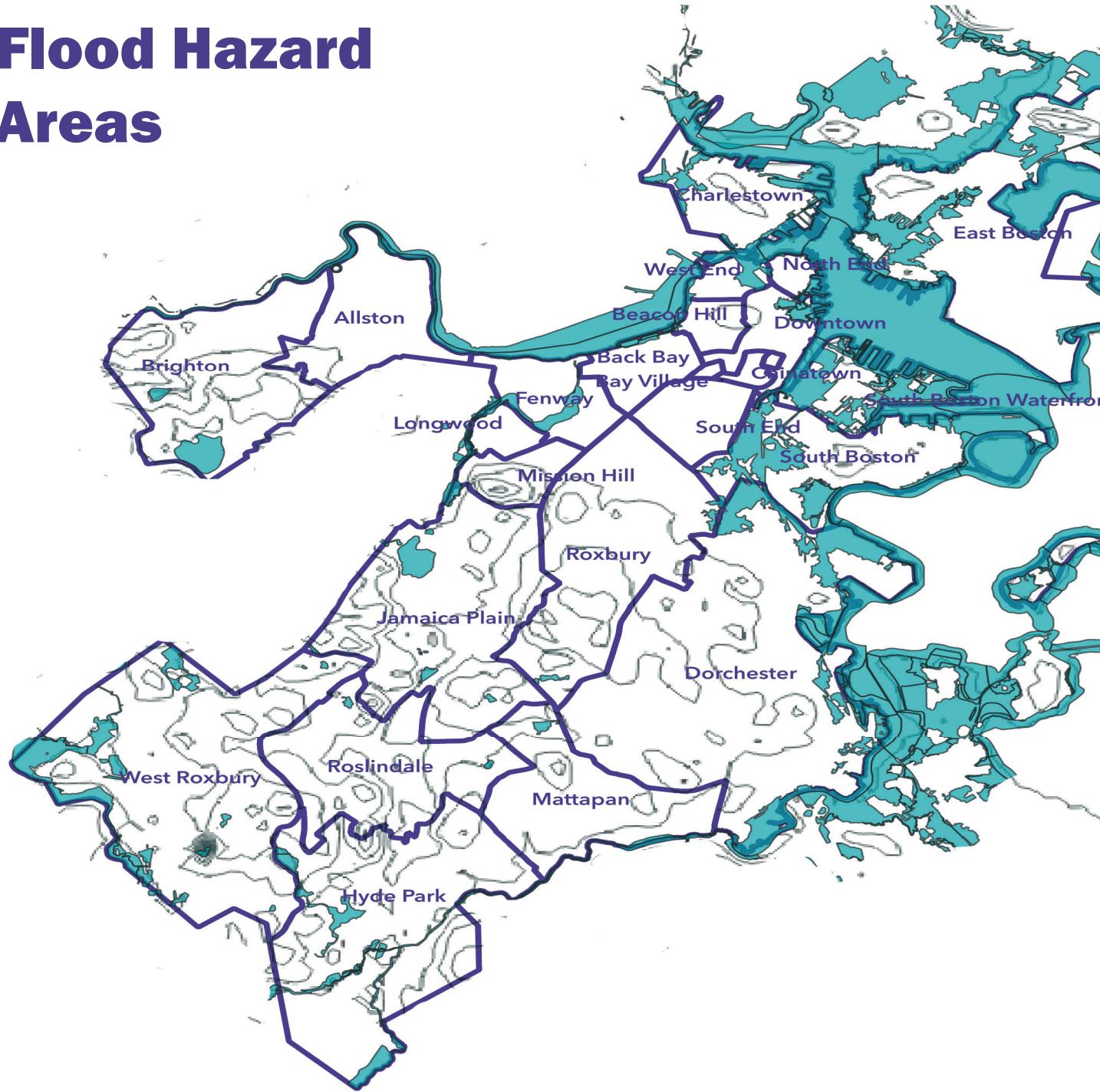
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Introduction

Initially Inspired by the Boston Globe's Flooding could shut down Logan airport, hospitals, and other critical infrastructure in Mass., and the risk is only growing, it focused on how flooding will affect the infrastructure of Massachusetts. It focuses on the current and growing threat of flooding in Massachusetts.

I wanted to take this concept and use it for the Boston Water Atlas, I want to identify flood hazards and how it could possibly affect communities, infrastrucutre, and neighborhoods in Boston. I gathered data from the United States Geological Data, FEMA, Analyze Boston, and the First Street Foundation to create a series of maps that showcased how Flood Hazard Areas and Flood Risk affect communities and property in Boston.

Flood Hazard Areas



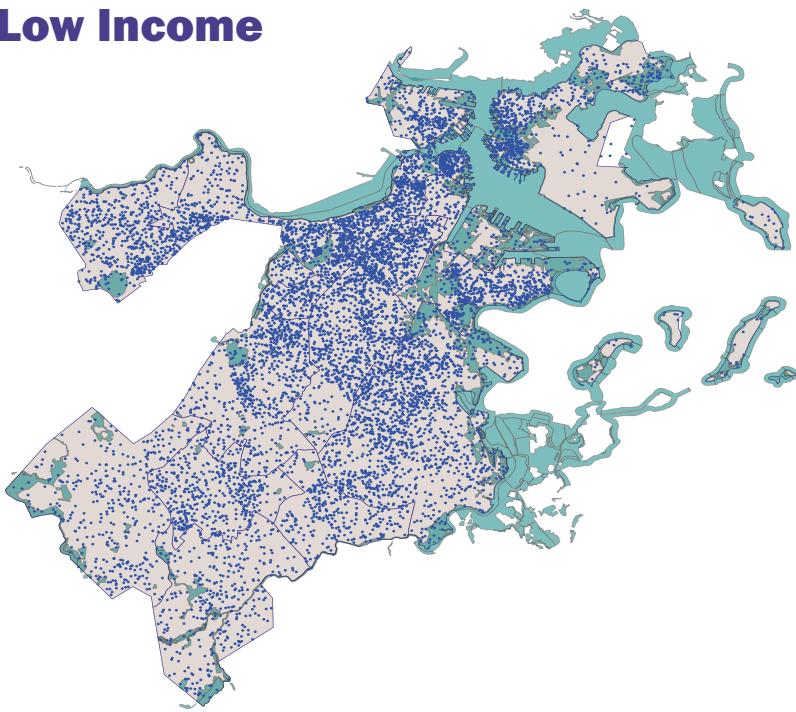


My initial risk zone map that integrates elevation projections of Boston and FEMA's Flood Hazard Areas, which showcases a 15 meter elevation layer and shows that the prominent flooding areas are in locations with low elevations.

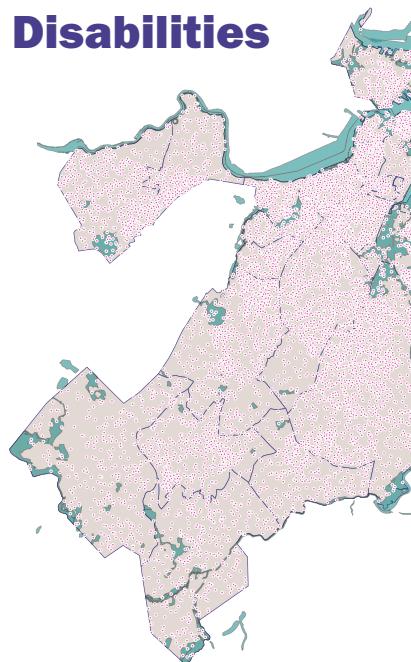
I focused on neighborhoods because I wanted to acknowledge that climate change won't affect every neighborhood and community equally. People in low elevation areas are going to be affected greater by floods.

Vulnerable Communities

Low Income

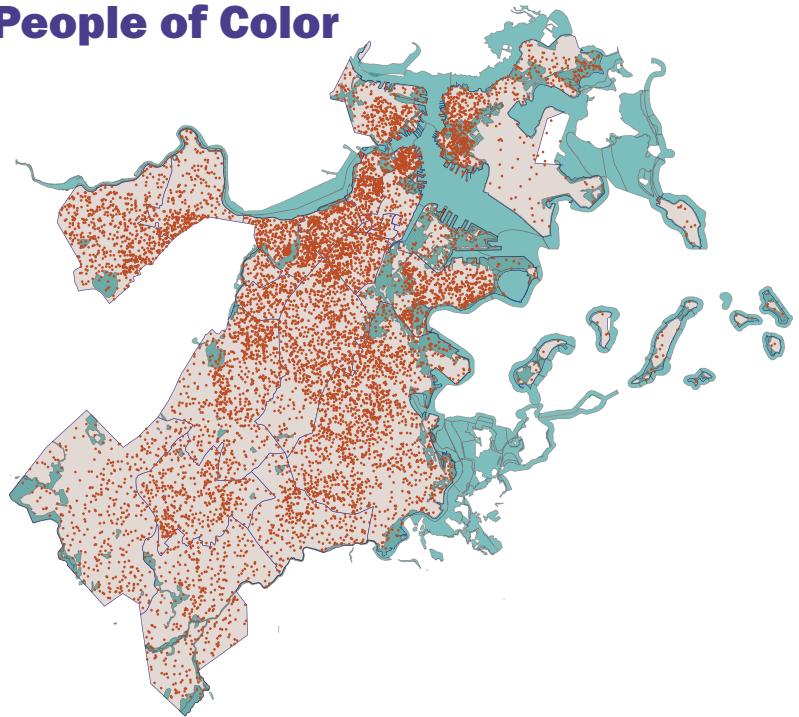


**People with
Disabilities**



These charts are from Climate Readiness, which measures groups who are deemed more vulnerable to climate disasters. The map showcases low-income communities, people affected with disabilities, and people of color.

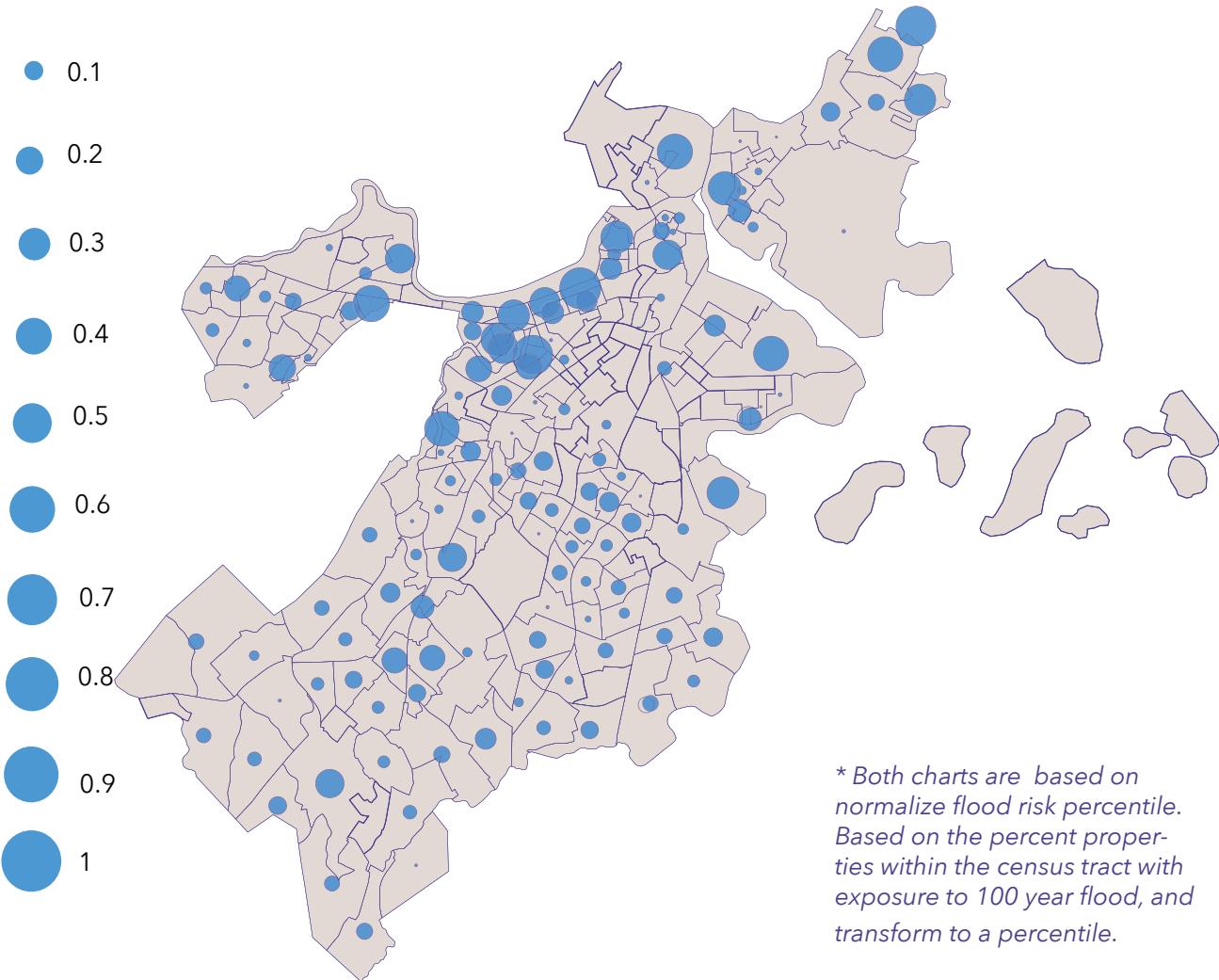
People of Color



A dot density map that showcases the concentration of the people is towards water sources. I wanted to showcase where flooding will affect people and how emergency response is limited to people who live in these areas.

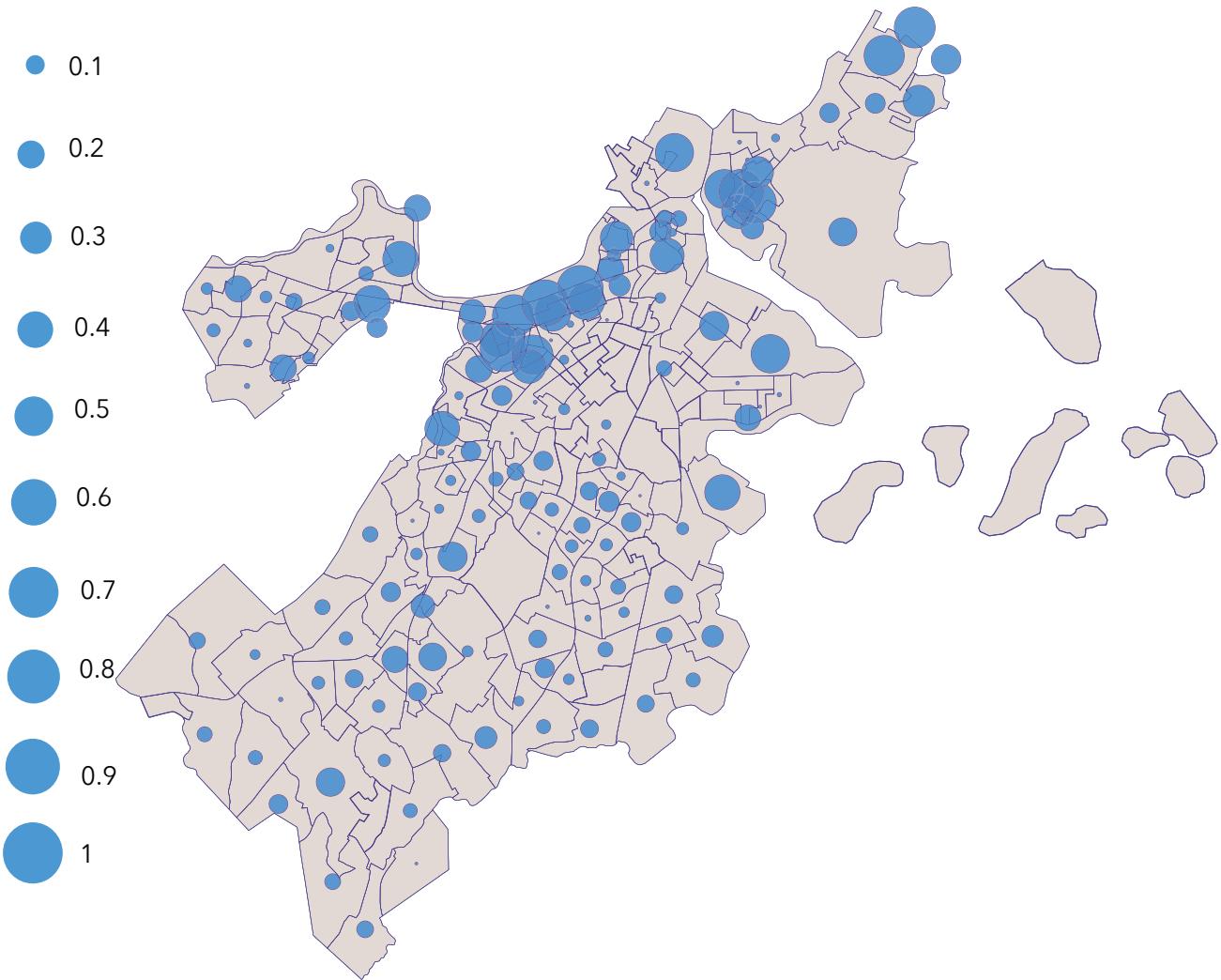
Flood Risk 2020

From the First Street Foundation, the third group of charts showcases a proportional symbol map with data from the First Street Foundation that showcases flood risk in the census tract in 2020 vs 2050.



Flood Risk 2050

I wanted to showcase how already vulnerable areas, can cause more damage to property in the future. We see in both prominent and shallow flood risk areas, the flood risk percentile increases in 2050.



Overall, this is a map of flood hazard areas and how the risk of flooding increases as time passes so communities and infrastructure in these areas are negatively impacted now and over time. Furthermore, we have vulnerable communities who live in these areas and due to various reasons can lead to lack of emergency response during a disaster.

In Boston, initiatives such as Climate Ready Boston, is launched to help Boston plan for the impacts of climate change and to serve the most vulnerable in their community.

Sources:

<https://data.boston.gov/dataset/climate-ready-boston-social-vulnerability>

<https://data.boston.gov/dataset/boston-neighborhoods>

<https://nu.maps.arcgis.com/home/item.html?id=2b245b7f-816044d7a779a61a5844be23>

<https://nu.maps.arcgis.com/home/item.html?id=75c-2109c7b0a4a018a3a22edef799871#>

