Goal: identify risk variables that are highly correlated with “natural risk”, and propose interventions to minimize those risks that we are capable of changing.

Descriptive Statistics:

Box plots? Frequency Chart?

Q1: Exploratory: what type of communities are more vulnerable to flood?

Outcome: FloodHealthIndex (the higher the index, the better)

Descriptive value (describe how the index was calculated, what variables were included)

Q2: Will housing values be impacted by flood vulnerability?

Hypothesis: Houses located in areas with higher flood vulnerability will have lower market values

Q3: Validate the SF government agency data using other data sources?

Hypothesis: the FloodHealthIndex accurately represents the flooding vulnerability in SF

Q4: How the flooding impact physical or mental health? What are some of the aftereffects of floods on health?

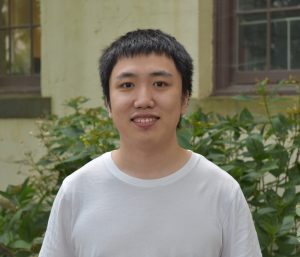
Q5: Do the areas with high flood vulnerability equipped with more medical facilities/fire stations?

|  |  |  |  |
| --- | --- | --- | --- |
| **OLS Regression Results** | | | |
|  | **coefficient** | **STD** | **P-value** |
| Children | 3.5529 | 4.257 | 0.404 |
| Elderly | 21.7213 | 3.999 | <0.001 |
| Non-White | 6.3453 | 1.620 | <0.001 |
| Poverty | -3.6523 | 2.362 | 0.123 |
| Education | -2.0566 | 1.451 | 0.157 |
| English | -3.4440 | 3.192 | 0.281 |
| Elevation | -0.0122 | 0.002 | <0.001 |
| Sea Level Rise | 19.2500 | 3.639 | <0.001 |
| Precipitation | -34.5672 | 12.213 | 0.005 |
| Diabetes | 0.0166 | 0.043 | 0.700 |
| Mental Health | -0.1127 | 0.022 | <0.001 |
| Asthma | 0.8637 | 0.106 | <0.001 |
| Disability | 33.2143 | 5.518 | <0.001 |
| Housing Quality | 0.0203 | 0.022 | 0.351 |
| Live Alone | 8.6179 | 2.391 | <0.001 |
| **R-Squared** | | 0.721 | |

\* About the project

*Be sure to write what inspired you, what you learned, how you built your project, and the challenges you faced. Format your story in*[*Markdown*](https://www.markdownguide.org/cheat-sheet/)*.*

As graduate students at UNC, we are interested in using data-driven approaches to solved real-world problems and make an impact to other people’s life.



Yang Yang, PhD student in City and Regional Planning



Yunzhi Qian, PhD student in Nutrition