Alessandro Fattorini

I spent this semester working with Rebuild by Design, a non-profit organization working to try and gain a better understanding of how overlapping environmental and human-made vulnerabilities leave communities at risk. Hurricane Ida killed 13 people in New York City due to stormwater flooding and Rebuild began working to find solutions and improvements to meteorological alerts and stormwater management. That led to this collaboration project with UConn where we formed a team of students to compile the data to provide findings and suggestions regarding what can be done to try and prevent this from happening in the future. The frequency of severe storms is expected to increase as the planet's climate continues to destabilize and that means that lives will continue to be at risk until a myriad of improvements can be implemented.

Before we could do any of that we found every primary language spoken in New York City other than English based on their locations within each of the communities within the boroughs. Those languages were then compared with the list of languages covered by each community board website to see where to focus our efforts. However, we also paired this data with the maps showing stormwater flood predictions, evacuation centers, elevation, impervious cover, and data detailing how many housing units were substandard in case of storms of varying frequencies. All of this information was absolutely necessary to have anywhere near a comprehensive understanding of how water moves and how we need to be proactive rather than reactive when a major storm approaches. We talked to experts working with the city to learn how the emergency alert system works when it comes to time-sensitive and location-specific notifications. They explained how the majority of their weather alerting comes directly from the National Weather Service even though they have a meteorologist as a member of the staff.

This led to my favorite part of the project, becoming cognizant of how weather forecasting works and how improvements to that could help promote trust in the alerts. NotifyNYC covers 98% of the languages spoken by volume so a big portion of the issue is the lack of usage of the available assistance methods. We spoke with the NotifyNYC meteorologist to have a better understanding of what it is he does and what role he has in the emergency preparedness system. He explained that currently, the warning systems are as technologically advanced as we are currently capable of. Beyond the translation issues that this project faces, it is impossible to accurately predict the exact characteristics of how a storm will impact NYC until one to two hours before it arrives. This makes it difficult for a meteorologist to emphasize which boroughs may need to consider imminent evacuation and who is safe because trust in the system goes down when false notifications come out. Due to the variability in pockets of rain and an impervious landscape NYC can have very drastic differences in impact with minimal changes to storm patterns.

Overall this internship has been amazing and the things I have learned are unforgettable. I enjoyed spending time with my peers discussing our project as well as the others in our class. We all had projects suited to us and it was great to see them develop and come along as ours did. Trying to solve real-world problems from your college apartment seems kind of unfathomable but when you communicate with your mentors frequently and check in on how the expectations change as new information comes along it is very manageable. The nature of this project was very fluid as some weeks we had time to really comb through data and other weeks we just set up meeting questions and talked to interesting people for as long as we could hold them down. This project with Rebuild was absolutely great and I am just so thankful for the opportunity to take part in this opportunity to make an impact on how cities deal with major rain events.

Beyond all that, Dr. Juliana Barrett made the entire internship experience fun and as easy as could be.