Public Perceptions of Coastal Change and Citizen Science at Rockaway Beach

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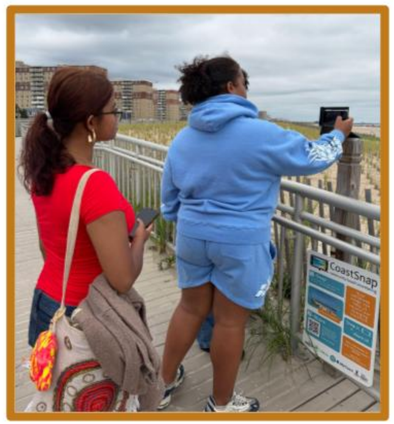
Introduction

The Rockaway Peninsula is increasingly affected by shoreline erosion, rising sea levels, and stronger coastal storms, all of which influence the local environment. As these changes become more noticeable, public awareness and involvement play an important role in supporting coastal resilience and conservation. Citizen Science programs such as *CoastSnap—a platform that tracks shoreline change through photos taken by visitors*—encourage community members to engage with their environment by learning about coastal change and contributing to scientific initiatives. Comprehending how residents and visitors view these environmental changes can provide valuable insight into public awareness and help encourage opportunities to strengthen community engagement.

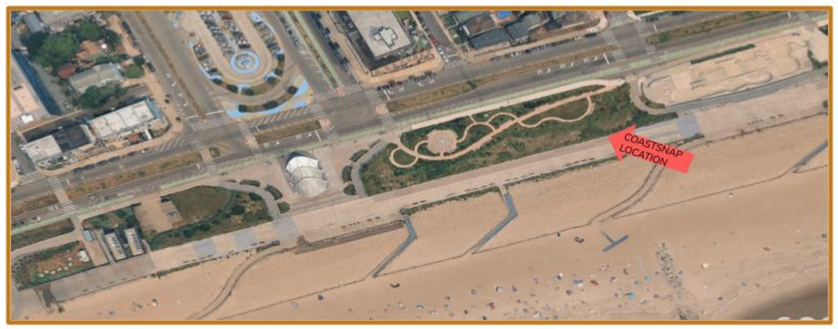


Objective

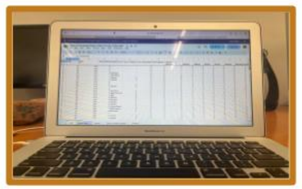
Building on the importance of public awareness, the objective of this project is to understand how local residents and visitors relate to the changing coastal environment of Rockaway Beach using surveys conducted along the Rockaway Beach and boardwalk. This project examines *if* and *how* individuals perceive local environmental changes, how informed they are about these changes, and whether or not they're willing to contribute to citizen science initiatives such as *CoastSnap*.

Methodology

- First, we curated survey questions that would accurately assess the opinions of both Rockaway residents and visitors.
- We began to conduct surveys by the *CoastSnap* location and eventually branched out across the Rockaway peninsula boardwalk. 87 participants were surveyed.



- After collecting the data, we entered the information into a spreadsheet and cleaned the data.
- To analyze our results, we created graphs, tables and charts.



Conclusion

This project demonstrated that many Rockaway Beach residents and visitors are aware of environmental changes affecting the peninsula, although most have not heard of *CoastSnap* before. After learning about the program, many participants expressed a willingness to take part in this initiative and to make a positive impact on the environment through their behaviors. Survey responses also showed that concerns about issues such as flooding, water quality, and sea-level rise are common within the community. These findings suggest that citizen science tools like *CoastSnap* can strengthen resilience to environmental change and generate a willingness to contribute to coastal conservation.

Results

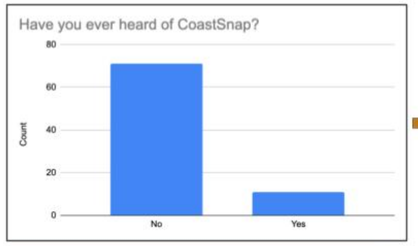
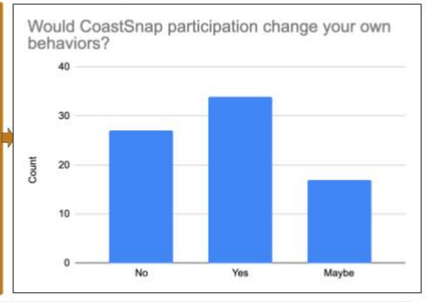


Figure 1. Participants initially were asked about their experience with CoastSnap. If they replied that they'd never heard of it, we followed with a brief explanation.

Figure 2. After explaining the purpose of CoastSnap and its benefits, we asked participants if participating in CoastSnap would change any of their own behaviors, such as how often they visited or their support for conservation efforts.



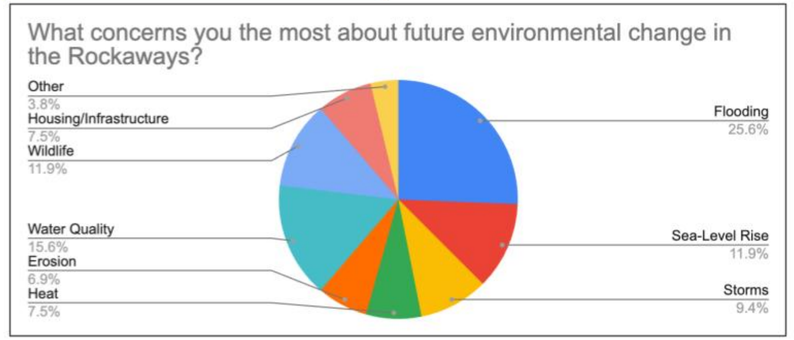


Figure 3. Residents of Rockaway Beach are incredibly vulnerable to environmental changes due to the location of the peninsula. While surveying, we made sure to ask about what specifically these environmental changes meant for them.

References

- Harley, Mitchell D., and Michael A. Kinsela. "CoastSnap: A global citizen science program to monitor changing coastlines." *Continental Shelf Research* 245 (2022): 104796.
- Harley, Mitchell D., et al. "Shoreline change mapping using crowd-sourced smartphone images." Coastal Engineering 150 (2019): 175-189.
- Google Sheets
- Google Earth

"It is important that you gain old knowledge and new knowledge because then you will have the ability to expand what you know" - Survey Participant