



Flood sensors are providing accurate and precise information about coastal flooding to support resilience building across all five boroughs of New York City.

Citizen Scientists in New York City Apply Technology to Track Coastal Flooding

For years, residents of New York City (NYC) have been noticing, and raising awareness of, high tide floods that are getting deeper and more frequent. In low-lying neighborhoods, coastal floods regularly inundate local streets and properties. But scientists, city agencies and leaders lack information on the extent, frequency, depth, and duration of the flooding that disrupts city services and daily lives.

In 2021, New York Sea Grant (NYSG) joined the Science and Resilience Institute at Jamaica Bay, City University of New York (CUNY) Advanced Science Research Center, and Brooklyn College to design and install low-cost flood sensors. This effort is part of CUNY's interdisciplinary Climate Crisis Research Grant program that also provides funding for the purchase of innovative equipment to address climate change impact on urban and coastal environments.

NYSG worked closely with community partners established through the **Community Flood Watch Project** (CFWP) to identify critical locations for flood sensor placement. The experimental sensors were installed in community-selected locations around Jamaica Bay: three in Hamilton Beach, two in Far Rockaway. The sensors constantly track real-time street flooding, measuring the height and duration of each tidal flood event and sending that information to a shared database. These data are shared with residents and city agencies, and help to supplement geo-referenced photographs submitted by residents through the CFWP.

As part of New York City's plan to combat extreme weather, the City is interested in funding citywide expansion of the flood sensor network. As a result of this pilot program, stakeholders across all five boroughs have voiced interest in becoming a part of the **FloodNet** flood sensor network.

Project Partners:

- Science and Resilience Institute at Jamaica Bay
- Brooklyn College
- CUNY Advanced Science Research Center
- New York City Mayor's Office of Climate Resiliency
- New York University



Tidal flooding in Broad Channel, Queens, NYC. Photo: Katie Graziano/NYSG

In coastal neighborhoods of New York City, stakeholder relationships and ideas built through the Community Flood Watch project led to the experimental installation of flood sensors in Hamilton Beach and Far Rockaway in 2021. These pilot flood sensors not only send valuable real-time flood data, but have also provided a critical proof of concept for city-wide expansion of a flood sensor network.

*Learn more at
<https://www.srijb.org/ljbfloodwatch/>.*

NYSG Focus Area for this project: Resilient New York Communities and Economies.

New York Sea Grant is a joint program of Cornell University, the State University of New York, and NOAA.
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