

COMMUNITY DEVELOPMENT

FLOODING IMPACTS ON HOUSEHOLD FINANCES: INSIGHTS FROM FOCUS GROUPS IN NEW YORK CITY

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Overview

The New York Fed's Community Development Team conducted focus groups in New York City to examine the impact of flooding on household finances. We aim to build a deeper understanding of the financial experiences, tradeoffs, and priorities of individuals living in neighborhoods at-risk of flooding. Flooding is a recurrent and costly challenge impacting New York City households and may entail elevated risk to low- to moderate-income (LMI) residents.

Our goals for the focus groups included the following:

- Identify the economic circumstances and magnitude of needs related to flooding and prioritized by low- to moderate-income renters and homeowners in New York City.
- Improve estimates of typical financial losses incurred from climate events, including property loss and repairs, the need to find other places to live, lost labor hours, and impacts to health.

- Better understand the use of local programs that assist renters and homeowners who experience flooding and assess current gaps in services.

The New York Fed’s interest is in the economic impact of flooding on the Second District. This paper will investigate social vulnerability, or the potential for loss due to social inequalities shaped by economic, demographic, and housing characteristics.¹ While aggregate estimates on the vulnerability of built environments are gaining in frequency and precision, estimates on the vulnerability of households, especially renters, remain largely unexplored due to the difficulty in quantifying them.

Key Takeaways

- The most consequential flooding effects were on housing safety and stability, with residents living in basement units experiencing some of the worst recurrent impacts.
- Water damage and lost materials, as well as worsened mental and physical health are key consequences of flooding. Recovery in the aftermath can be costly, isolating, and time-consuming.
- Residents felt financially unprepared to handle the unexpected costs of flooding, and most renters reported having no renters insurance to help them recoup the cost of lost clothes, furniture, or equipment.
- Economic barriers, like housing affordability, prevent some residents from moving to higher ground. At the same time, positive community connections keep residents in their neighborhoods despite higher flood risk.
- Residents were highly dependent on friends, family, volunteers, and local non-profit organizations for disaster-related aid and assistance.
- Residents who lived alone or lacked strong social ties to their community felt a general sense of loneliness in these circumstances, not knowing where to find assistance and navigating an opaque relief structure on their own.

¹ Cutter, Susan, Bryan Boruff, and W. Lynn Shirley. 2003. “Social Vulnerability to Environmental Hazards.” *Social Science Quarterly* 84 (2): 242–61. <https://doi.org/10.1111/1540-6237.8402002>.

Residents who experienced flooding said the following changes would have helped:

- In the event of an emergency, a pause or protection from financial repercussions could help residents, especially renters, regain stability sooner.
- New York City’s outdated flood maps have consequences. No participants reported being offered or receiving public disaster assistance following a flood.
- Renters noted the desire for affordable insurance that adequately covers flooding. No participants reported receiving payment from renters insurance after experiencing flooding.
- Increasing community mobilization and assistance is critical for residents, especially people with disabilities, the elderly, and people who require a caregiver.

What We Heard

“September 2021 [Hurricane Ida] is when things changed. Water took over the sewer system and backed into my home. I didn’t realize how vulnerable my [basement apartment] was until then. I spent hours with buckets trying to get the water out and cleaning up after that. Even today, any time water comes down, water gets in.” – James

“Hurricane Sandy... I ended up being homeless because when the storm hit, government shut down. I was in the process of being a first-time homeowner through Habitat for Humanity – nothing could get processed.” – Olivia

“Many of my coworkers were also experiencing homelessness. I have coworkers that, to this day, cannot sleep properly because they were so traumatized, not just by the hurricane but how they were treated afterwards and the lack of supportive services.” – Amir

“My grandparents live in the Lower East Side. There were times that they couldn’t go outside because of the flooding, and we had to bring them food. They also live on the sixth floor, so if the elevator is not working because there’s a power outage, then they’re physically not able to get downstairs.” – Emma

“I don’t want to leave my apartment. It’s rent stabilized. I can’t move, the market won’t allow it. If I leave, I can’t come back.” – Bryce

“I don’t want a financial product. I don’t want to pay interest for something that’s not my fault, especially not as a renter. I can’t take care of [apartment] infrastructure. That’s above my head.” – Jessica

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Background

Flooding is a Recurrent Challenge with Economic Costs

As recently as September 29, 2023, New York City experienced flooded streets and highways, halted subway lines, and damaged basements as the remnants of Tropical Storm Ophelia came through the region. Tropical Storm Ophelia is just one of many large storms in the past two decades that has exposed the region’s vulnerability² to extreme rainfall and inland flooding, with Hurricane Sandy of 2012 and Hurricane Ida of 2021 standing out most in terms of economic costs and devastating effects. New York City’s extensive coastal geography and waterfront makes it highly vulnerable to river flooding caused by hurricanes, tropical storms, nor’easters, and high tides.³ Precipitation-driven flooding presents an additional challenge to residents, especially those living in basement units.⁴ The heavy rainfall from Tropical Storm Ophelia resulted in parts of New York City experiencing one of their highest levels of daily precipitation since Hurricane Ida,⁵ and the second wettest September since 1882.⁶

The New York Fed’s interest is in the economic impact of flooding on the Second District.⁷ New York City, alone, is found to have a severe risk of flooding over the next 30 years, with projections by the First Street Foundation that 30% of all properties will be severely affected in that timeframe.⁸ This raises considerations about long-term economic and financial impacts on the region. Hurricane Sandy, alone, cost the city an estimated \$19 billion in losses. By 2050, it is projected that another storm like Sandy could cause an estimated \$90 billion in losses, almost five times as much, due to rising sea levels and ocean temperatures.⁹

Lower-Income Households and Communities are Vulnerable

This paper will investigate social vulnerability, or the potential for loss due to social inequalities shaped by economic, demographic, and housing characteristics (Cutter, 243).¹⁰ While aggregate

² For the purposes of this paper, we define vulnerability as “the ability to respond to, cope with, recover from, and adapt to hazards, which in turn are influenced by economic, demographic, and housing characteristics” (Cutter, 243).

³ [NYC Planning](#), “Info Brief: Flood Risk in NYC,” November 2016.

⁴ [Federal Reserve Bank of New York](#), “Flood-Prone Basement Housing in New York City and the Impact on Low- and Moderate-Income Renters,” November 2023.

⁵ [National Weather Service](#), “Greatest Daily Precipitation at Central Park (1869 to Present),” October 2023.

⁶ [National Weather Service](#), “Wettest and Driest Years and Months at Central Park (1869 to Present),” October 2023; [Office of the New York City Comptroller](#), “Following Historic Storm and Flooding, Comptroller Lander Launches Investigation Into City’s Management of Extreme Rainfall,” October 2023.

⁷ The Second Federal Reserve District includes New York State, Northern New Jersey, Southwestern Connecticut, Puerto Rico, and the U.S. Virgin Islands.

⁸ [First Street](#), “New York Flooding Risk.”

⁹ [City of New York](#), “A Stronger, More Resilient New York,” June 2013.

¹⁰ Cutter, Susan, Bryan Boruff, and W. Lynn Shirley. 2003. “Social Vulnerability to Environmental Hazards.” *Social Science Quarterly* 84 (2): 242–61. <https://doi.org/10.1111/1540-6237.8402002>.

estimates on the vulnerability of built environments are gaining in frequency and precision, estimates on the vulnerability of households, especially renters, remain largely unexplored due to the difficulty in quantifying them.

Lower-income households and communities in the region may face elevated flood risk.¹¹ For those already constrained by the monthly costs of housing, childcare, and food, flooding creates another challenge in remaining safely and stably housed. New York Fed research finds that a significant share of immigrants, low- to moderate-income individuals, and racial and ethnic minorities live in a flood-prone census tract, approximately one in ten of each subgroup.¹² When comparing census tracts with higher flood risk to tracts with higher shares of low-income renters, vulnerable areas include East Bronx, East Harlem, the eastern coast of Staten Island, southern and eastern Brooklyn, the Lower East Side of Manhattan, and southern Queens (see Appendix A).¹³ Given the potential effect on households and the local economy, examining New York City’s vulnerability to climate events like flooding is paramount.¹⁴

Introduction

Focus Groups on Flooding Impacts in New York City

In August and September 2023, the New York Fed’s Community Development Team conducted focus groups in New York City to examine the impact of flooding on household finances. In collaboration with three community-based organizations – the Brooklyn Cooperative Federal Credit Union, the Neighborhood Housing Services of Queens, and the Margert Community Corporation¹⁵ – we gathered insights from residents in New York City. These insights supplement existing research on regional flood risk by building a deeper understanding of the experiences, tradeoffs, and priorities of individuals living in neighborhoods at risk of flooding. Our goals for the focus groups included the following:

- Identify the economic circumstances and magnitude of needs related to flooding and prioritized by low- to moderate-income renters and homeowners in New York City.

¹¹ Ibid.

¹² [Federal Reserve Bank of New York](#), “Flood-Prone Basement Housing in New York City and the Impact on Low- and Moderate-Income Renters,” November 2023.

¹³ Ibid.

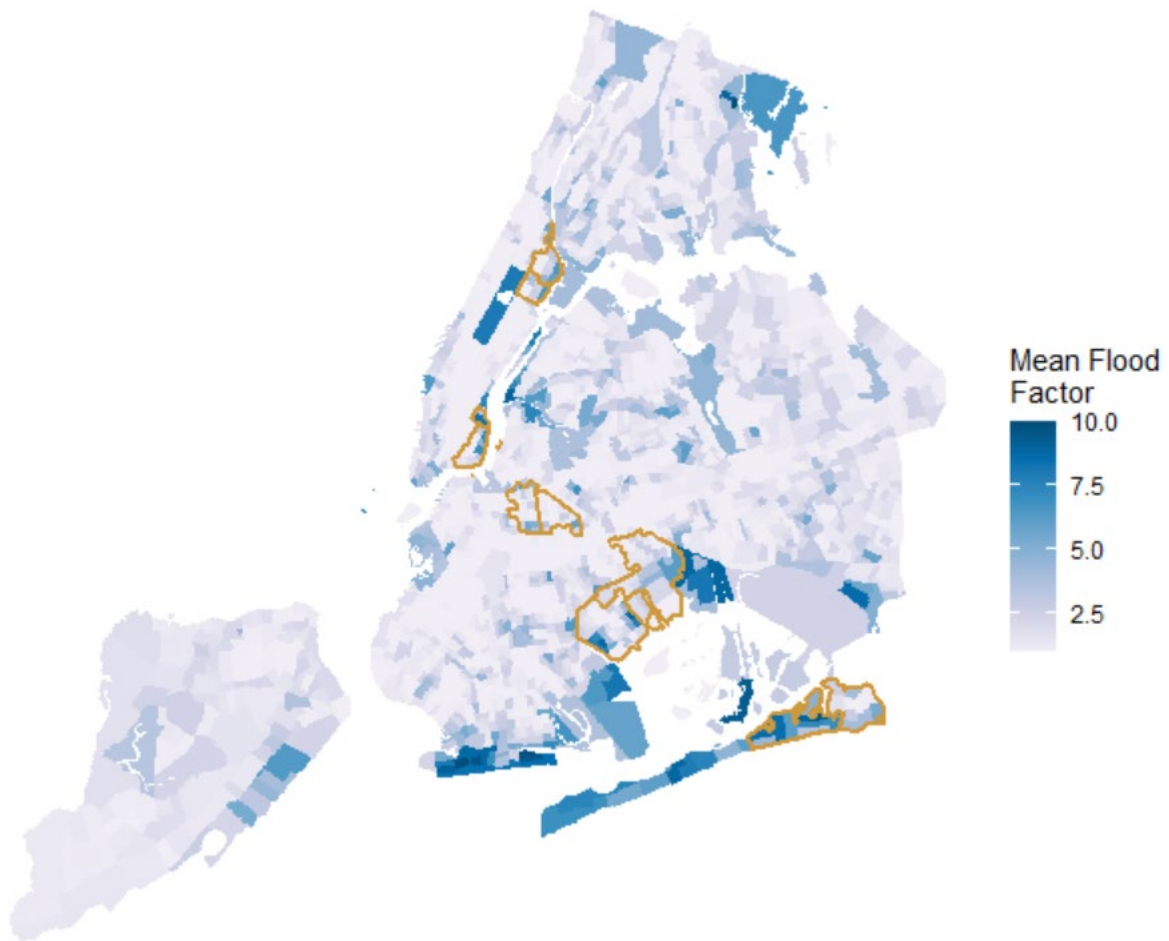
¹⁴ [Federal Reserve Bank of New York](#), “Blog Series on the Economic and Financial Impacts of Extreme Weather Events in the Fed’s Second District,” November 2023.

¹⁵ Due to resource constraints, we were unable to complete focus groups with the Margert Community Corporation. However, insights from the questionnaire shared by the Margert Community Corporation were included in our research study.

- Improve estimates of typical financial losses incurred from climate events, including property loss and repairs, the need to find other places to live, lost labor hours, and impacts to health.
- Better understand the use of local programs that assist renters and homeowners who experience flooding and assess current gaps in services.

Figure 1: Mean Flood Factor in NYC by Census Tract

Includes Outline of Select Neighborhoods of Focus Group Participants



Source: First Street Foundation (2021)

Note: First Street Foundation's Flood Factor is measured on a 1 to 10 scale, with 1-2 indicating Minimal/Minor Flooding, 3-4 indicating Moderate Flooding, 5-6 indicating Major Flooding, 7-8 indicating Severe Flooding, and 9-10 indicating Extreme Flooding. Select neighborhoods include (from top left) East Harlem, Alphabet City, Lower East Side, Bedford-Stuyvesant, East New York, Canarsie, Arverne, and Far Rockaway.

Table 1. Flood Risk of Select Neighborhoods of Focus Group Participants

| NEIGHBORHOOD | FLOOD RISK ¹⁶ |
|---------------------------------|--------------------------|
| East Harlem | Major |
| Lower East Side & Alphabet City | Moderate to Major |
| Bedford-Stuyvesant | Major |
| East New York & Canarsie | Major to Extreme |
| Far Rockaway & Arverne | Extreme |

Source: First Street Foundation (2021)

Note: First Street Foundation’s Flood Factor is measured on a 1 to 10 scale, with 1-2 indicating Minimal/Minor Flooding, 3-4 indicating Moderate Flooding, 5-6 indicating Major Flooding, 7-8 indicating Severe Flooding, and 9-10 indicating Extreme Flooding.

Methodology

Why are focus groups important for flooding research?

Focus groups are a qualitative method of analysis used to engage communities, facilitate discussions, and collect narrative data.¹⁷ The focus groups conducted by the New York Fed are not representative of all New York City residents who have experienced flooding. However, as detailed throughout this report, the focus groups provide a well-rounded understanding of flooding impacts on residents, including property loss and repairs, the need to find other places to live, lost labor hours, and impacts on health.

Participants were selected through a convenience sampling approach using a questionnaire (see Appendix B) distributed by three community-based organization, the Brooklyn Cooperative Federal Credit Union, the Neighborhood Housing Services of Queens, and the Margert Community Corporation.¹⁸ Using the questionnaire, we selected participants living in zip codes with a high risk of flooding, participants living in low- to moderate-income households, and participants who have experienced flooding. A total of 252 residents responded to the questionnaire, from which 53 residents were selected for three focus groups. Selected residents had diverse racial, ethnic, educational, and family backgrounds and represented 35 zip codes throughout Manhattan, Brooklyn, and Queens.

Of the 53 selected participants, 31 ultimately joined the focus groups in August and September 2023, which were held both virtually and in-person. Among those we spoke to, 15 reported having

¹⁶ First Street, “How is my Flood Factor calculated?”

¹⁷ Centers for Disease Control and Prevention, “Data Collection Methods for Program Evaluation: Focus Groups,” August 2018.

¹⁸ Qualtrics, “Convenience sampling method: How and when to use it?”

an annual household income below \$50,000, before taxes, and 16 had an annual income above \$50,000. Only 3 participants reported making less than \$15,000 annually. We spoke with 19 renters and 11 homeowners, and the majority of both reported living in a small apartment complex of 1-4 units. All but two participants had direct experience with flooding while living in the NYC.

Table 2. Demographics of Focus Group Participants

| ANNUAL HOUSEHOLD INCOME, BEFORE TAXES | |
|-----------------------------------------------------------------------------------------------|----|
| Less than \$15,000 | 3 |
| \$15,000 to \$34,999 | 7 |
| \$35,000 to \$49,999 | 5 |
| \$50,000 to \$74,999 | 6 |
| \$75,000 to \$99,999 | 7 |
| \$100,000 or more | 3 |
| RACE/ETHNICITY | |
| Asian or Asian American | 1 |
| Black or African American | 15 |
| Hispanic or Latino | 3 |
| White or Caucasian | 8 |
| Two or more (including American Indian or Alaska Native, Hawaiian Native or Pacific Islander) | 4 |
| LIVING SITUATION | |
| Renter | 19 |
| Homeowner | 11 |
| Living with others, not paying rent or mortgage | 1 |
| HOUSING TYPE | |
| Large Apartment Complex (40+ units) | 3 |
| Midsized Apartment Complex (5-40 units) | 8 |
| Small Apartment Complex (1-4 units) | 15 |
| Basement Apartment or Accessory Dwelling Unit | 2 |
| Single Family Home | 2 |
| Other | 1 |

Findings

Finding #1: The most consequential flooding effects were on housing safety and stability, with residents living in basement units experiencing some of the worst recurrent impacts.

“September 2021 [Hurricane Ida] is when things changed. Water took over the sewer system and backed into my home. I didn’t realize how vulnerable my [basement apartment] was until then. I spent hours with buckets trying to get the water out and cleaning up after that. Even today, any time water comes down, water gets in.” – James

Most focus group participants we spoke with felt unprepared for the impacts of flooding on their housing and finances, even those who had previously experienced extreme weather events. Cited impacts included extensive damage to the home, such as impaired infrastructure, damaged electrical wiring, and lost personal belongings, as well as the growth of mold and mildew.

Renters living in basement units experience some of the worst impacts of flooding, as similarly detailed by numerous reports.¹⁹ Participants living in basement units shared that storm runoff and raw sewage often floods their units anytime there is a heavy rain. At least three participants noted that lingering dampness caused mold and mildew, highlighting a recurrent challenge that impacts indoor air quality and health over time.

The NYC Comptroller’s Office estimates that about 10%, or 43,000, basements units in one- to three-family buildings in the city are currently facing some type of flood risk.²⁰ Further analysis by the Pratt Center for Community Development finds that unregulated basement units, or unaccounted-for units that are not regulated by the NYC Department of Buildings through a certificate of occupancy, are overwhelmingly located in rent-burdened communities of color (those paying more than 30% of monthly income on monthly rent).²¹ At the same time, analysis by the New York Fed finds that 72% of all basements in the city are located in areas with low flood risk and higher shares of low- to moderate-income renters, indicating the presence of safer and more viable basement housing stock for lower-income renters.²²

¹⁹ Silva, Stephanie. 2022. "Down then Out: Basement Apartments and Housing Insecurity in the Face of Flood Risks." PhD diss., Massachusetts Institute of Technology. <https://hdl.handle.net/1721.1/145169>. See also: *The New York Times*, "How the Storm Turned Basement Apartments Into Death Traps," September 2021; *Bloomberg*, "In NYC’s Basement Apartments, Deadly Flood Risks Remain," September 2022.

²⁰ *Office of the New York City Comptroller*, "Bringing Basement Apartments into the Light," August 2022.

²¹ *Pratt Center for Community Development*, "New York’s Housing Underground: 13 Years Later," October 2021.

²² *Federal Reserve Bank of New York*, "Flood-Prone Basement Housing in New York City and the Impact on Low- and Moderate-Income Renters," November 2023.

Renters living in subpar housing units are also at risk. Participants shared that housing units can be superficially attractive but lacking substantial maintenance and modifications which, in the wake of an extreme weather event, could be the difference between safe or unsafe housing. Renters were heavily reliant on their landlords, who may or may not be responsive after flooding. In the best situations, landlords offered monetary assistance to tenants after flooding, with one participant receiving \$500 from their landlord after Hurricane Ida to help them temporarily manage costs. In a few situations, participants felt ignored by their landlords after experiencing housing damage from flooding. However, landlords can experience financial distress after flooding, as well, and may not always be able to assist tenants.

Finding #2: Water damage and lost materials, as well as worsened mental and physical health are key consequences of flooding. Recovery in the aftermath can be costly, isolating, and time-consuming.

“Hurricane Sandy... I ended up being homeless because when the storm hit, government shut down. I was in the process of being a first-time homeowner through Habitat for Humanity – nothing could get processed.” – Olivia

“Many of my coworkers were also experiencing homelessness. I have coworkers that, to this day, cannot sleep properly because they were so traumatized, not just by the hurricane but how they were treated afterwards and the lack of supportive services.” – Amir

Flooding not only impacts day-to-day life, it also impacts access to utilities, supportive services, and commutes. Participants faced important tradeoffs after a flood, such as choosing to go to work or to restore their home. Those in jobs without telecommuting or remote options lost days of work, and ultimately, wages. The delay or shutdown of public transportation in the aftermath of a flood further disrupted commutes and resulted in lost income for participants. Residents who relied on supportive services, including those who were unhoused, felt that their needs were not prioritized due to shutdowns or delays in local services.

Participants noted a time burden to recover and recuperate from flooding that often distracted them from work responsibilities, with one participant addressing recovery as a “full-time job.” Additional impacts that were time-consuming for participants included:

- Collecting basic resources such as food, water, clothes, and furniture
- Removing standing water and soaked materials
- Restoring housing infrastructure and electrical services

- Applying for disaster-related aid and assistance to help cover expenses
- Taking care of neighbors and loved ones outside of the home

“The mental stress... it’s been exhausting dealing with the aftereffects of flooding and finding mold. It’s been a learning experience. I’m laughing now, but it’s not funny.” – Anthony

“In terms of my mental health, anytime it starts to rain or storm, I become very uncomfortable and anxious.” – Isabella

Participants completed these recovery tasks while experiencing negative or traumatic emotional responses and continuing to work to maintain income. All participants commented on the negative mental toll of dealing with the aftermath of flooding, and lingering anxiety around weather patterns.

All participants felt financially unprepared to handle the unexpected costs of flooding, even those who reported having some emergency savings. Most participants reported having no renters insurance to help them recoup the cost of lost clothes, furniture, and equipment. At least one participant who did have renters insurance discovered that flooding wasn’t included in their policy. Standard renters insurance often does not cover flood damage, and relief programs in the event of a federal disaster declaration offer only basic coverage for renters.²³

Why might low- to moderate-income households be more vulnerable to flood risk?

When asked about challenges that have impacted their households in the past two years, top responses were the following: housing costs (17), housing or property damage (16), not enough income (15), lack of savings (15), and overdue bills (12).

Finding #3: Residents were highly dependent on friends, family, volunteers, and local nonprofit organizations for disaster-related aid and assistance.

“In Bed-Stuy, we have a lot of community groups and churches... that’s where the support was. It was the community. None of that was mobilized through the city. We needed to check on single moms in this building, we needed to check on seniors in that building, all while making sure that you’re okay too.” – Ava

²³ New York State Department of Financial Services, “Renter’s Insurance.”

“My grandparents live in the Lower East Side. There were times that they couldn’t go outside because of the flooding and we had to bring them food. They also live on the sixth floor, so if the elevator is not working because there’s a power outage, then they’re physically not able to get downstairs.” – Emma

Flooding not only impacts commutes to work, it can impact picking up and dropping off children and aiding grandparents, family members, or loved ones with disabilities who might not live in the same location but rely on others for care. Support for the most vulnerable community members was a noted concern among focus group participants.

New York City has over 1.1 million older adults and almost one million people with disabilities.²⁴ The United Nations warns that individuals with disabilities are the most adversely affected in emergencies, yet less likely to have access to emergency support.²⁵ Caregivers play a critical role in emergencies, especially for older adults who are isolated, living alone, or hours away from a family member. Others may have chronic health conditions like diabetes and kidney failure that can pose increased risks when storms and flooding disrupt regular healthcare or cause power outages.²⁶

“I have a network of support. I take care of other people and other people take care of me. That's how you have to live. People don't have the resources to stay in a hotel.” – Aaliyah

In the aftermath of flooding, participants were highly dependent on volunteers at local nonprofit organizations to provide food, clothing, and assistance. When local nonprofits couldn’t fill the gap, participants relied on friends and family in the area and neighbor-to-neighbor connectedness. A few participants were involved in mutual-aid groups that could provide financial assistance, while others depended on the kindness of their social networks to provide shelter or food. Residents who lived alone or lacked strong social ties to their community felt a general sense of loneliness in these circumstances, not knowing where to find assistance and navigating an opaque relief structure on their own.

Finding #4: Economic barriers, like housing affordability, prevent some residents from moving to higher ground. At the same time, positive community connections keep residents in their neighborhoods despite higher flood risk.

²⁴ Office of the New York City Comptroller, “Aging with Dignity: A Blueprint for Serving NYC’s Growing Senior Population,” March 2017; NYC Mayor’s Office for People with Disabilities, “Resources.”

²⁵ United Nations, “Disability-Inclusive Disaster Risk Reduction and Emergency Situations.”

²⁶ FEMA, “Older Adults, People with Disabilities Need Help Amid Disasters,” November 2023.

“My family went through Hurricane Sandy. We’re from the Rockaways, that’s where I grew up. I moved to Crown Heights 11 years ago because it isn’t an evacuation zone.”²⁷ – Jessica

The residents we spoke with chose their homes based on community, convenience, affordability, opportunity, and family. Only one resident reported choosing their neighborhood with the floodplain in mind.

“I don’t want to leave my apartment. It’s rent stabilized. I can’t move, the market won’t allow it. If I leave, I can’t come back.” – Bryce

“I guess the solution would be to eventually move... but I would like to stay in the neighborhood because the people are very nice and my neighbors are really cool.” – Alex

Residents noted housing affordability as a key economic barrier that prevents them from leaving flood-prone areas. All participants recognized the need to move to higher ground. However, few could afford to go elsewhere. When asked where they would relocate, many participants said they would have to leave the state due to a lack of housing affordability throughout the region. A few participants have rent-stabilized or rent-controlled units and would not be able to afford market-rate rents if forced to leave their units.

Other participants do not want to leave their community due to their social connections with family and friends. For those who do not want to move, there was a strong fear of being displaced by residents moving into newer, more resilient, market-rate housing being built in their neighborhood. One homeowner whose basement consistently floods chooses to stay in East Brooklyn because his family has owned the home for at least three generations.

Analysis by Rebuild by Design finds that 40% of New York City’s residents are at risk of displacement due to storm surge and rising sea levels, or from the movement of people inland to relocate out of harm’s way.²⁸ Currently, 1.3 million New York City residents live within or directly adjacent to the floodplain.²⁹ As flooding impacts low-lying communities, those who have the financial means to move to higher ground may gentrify inland communities, displacing long-term, lower-income residents.³⁰

²⁷ NYC hurricane evacuation zones indicate areas at-risk of storm surge flooding based on risk level. The city determines which zones should be evacuated depending on the characteristics of an actual storm as it is approaching the city. See also: [NYC Hurricane Evacuation Zone Finder](#).

²⁸ Milliman, “Climate displacement in NYC: Making space for our neighbors,” December 2022.

²⁹ Rebuild by Design, “Who Lives in the Floodplain in the Year 2100?”

³⁰ Rebuild by Design, “Climate Displacement in NYC: Making Space for Our Neighbors.”

Recommendations

The following section outlines recommendations we heard from focus group participants. Overall, residents understand that aspects of flooding are outside of any one person’s control. However, there was a strong sentiment that specific measures by nonprofit organizations, local governments, and financial institutions could greatly minimize the damage inflicted by flooding.

1. Emergency grants and nonprofit assistance to replace furniture, clothing, equipment, and lost income.

“There needs to be a grant program. I don’t want a financial product. I don’t want to pay interest for something that’s not my fault, especially not as a renter. I can’t take care of [apartment] infrastructure. That’s above my head.” – Ava

“If a disaster happens in my neighborhood, some kind of funding that’s accessible to everyone would be helpful.” – Tory

Columbia University’s Poverty Tracker finds that 45% of adults in New York City would not be able to cover an anticipated \$400 expense with cash, signaling that households in the region may not be financially prepared for expense shocks.³¹ Given the costly nature of storm recovery and recuperation, participants highlighted the need for emergency grants or in-kind donations to help cover emergency expenses and lost income. This shouldn’t only be for tenants, but also for landlords and homeowners to repair housing infrastructure, remove mold and mildew, and replace electrical wiring and equipment. Although disaster relief does exist at the local and state levels, as focus group participants noted earlier, the time burden and strict qualifications needed to receive funding serve as a deterrent. Funding that is easily accessible is a high priority for participants.

Participants were heavily reliant on volunteer services from local nonprofit organizations, community support groups, mutual aid groups, and churches. These groups were integral in helping residents recover lost or damaged clothing, furniture, and equipment, as well as providing food and water. Increased community mobilization and assistance is critical for residents, especially people with disabilities, the elderly, and people who require a caregiver.

³¹ Center on Poverty and Social Policy, “Nearly half of New Yorkers couldn’t cover a \$400 emergency expense with cash,” July 2019.

2. Increased individual and city preparedness.

“There is supposed to be some type of dignity in how you live and how you exist. If you’re paying your taxes and an emergency happens, I would like money to be deployed for that.”

– Aaliyah

“The buses were still charging fares in the middle of a hurricane.” – James

A perceived lack of action has caused many whom we spoke with to question the priorities of local government, their decision-making processes, and whether they care about New York City’s most vulnerable residents. Participants were skeptical about efforts like the East Side Coastal Resiliency Project, which aims to reconstruct waterfront parks to protect them from storm damage, sea level rise, and increased flooding, because of lack of community input and concerns it would cause further displacement.³²

Most participants felt unprepared for the flooding they experienced. A lack of individual preparation beforehand can cause chaos and confusion during a state of emergency. Participants noted receiving mixed messages and wrong information, sometimes from official sources. Better knowledge-sharing within neighborhoods and a more hands-on response from the city through notifications with recurrent updates; wellness checks on single parents, people with disabilities, and the elderly; food pantries or food and water delivery; and reduced or free public transportation were all measures highlighted during the focus groups. Residents appreciated clear messages of, “Here’s who you can call and here’s where you can go.”

3. Awareness of resources from financial institutions during a crisis. “Don’t help me, but don’t hinder me.”

“Financial institutions... sometimes they compound and make the issue worse. If you’re dealing with an issue like flooding, or if your power is out, you are fatigued. Don’t charge me. Give me protection from overdraft fees. Or a gas card or a Metrocard.” – James

“During the [COVID-19] pandemic, my bank offered a \$5,000 loan to pay mortgage or bills at a 4% interest rate. I was pre-approved because I was in good standing. You didn’t even have to start paying it back for a year. There was a grace period.” – Olivia

“You need some money to regroup.” – Anthony

³² NYC Parks, “East Side Coastal Resiliency.” See also: [East River Park ACTION](#).

Participants noted that some financial institutions exacerbated their distress after a flood with fees from overdrawing an account or missing a payment. This is an important consideration for residents who have lost income due to flooding or an extreme weather event.

Households often use financial products to regain stability after an extreme weather event. While some households may require more credit for rebuilding or consumption smoothing, one study finds that spikes in credit card borrowing are modest and short-lived after flooding (Gallagher, 215). For homeowners, the same study shows that flooding may reduce total debt balances when they use flood insurance to repay mortgages rather than to rebuild.³³

In the event of an emergency, a pause or protection from financial repercussions could help residents, especially renters, regain stability sooner. Several participants encouraged pre-approved loans as a layer of protection. Some financial institutions may be in a better position than others to provide reprieve after an extreme weather event. A study by the New York Fed finds that larger, multi-county banks are barely affected after an extreme weather event and their income increases significantly with exposure to disaster. For local banks, the study finds more negative stability effects from extreme disasters, although not sufficiently large to threaten bank solvency.³⁴

4. Insurance that adequately covers flooding.

“Some people get the cheapest insurance... I’ve seen worst-case scenarios so many times, seeing people denied [by insurance]. When things hit the fan, you want protection. Everyone should have that protection.” – Mia

More than two-thirds, or 69%, of NYC households are renters who may need more thorough protection from flood risk and losses.³⁵ Several participants discovered that flood damage and losses were not covered by their renters insurance, possibly highlighting a lack of informed decision-making, lack of insurance literacy, or inadequate insurance options.³⁶ Renters noted the desire for affordable insurance, particularly in the \$30-\$50 monthly expense range, that adequately covers flooding. Residents in flood-prone areas are encouraged to purchase flood insurance, as standard renter and homeowner insurance

³³ Gallagher, Justin, and Daniel Hartley. 2017. "Household Finance after a Natural Disaster: The Case of Hurricane Katrina." *American Economic Journal: Economic Policy* 9 (3): 199-228. <https://www.aeaweb.org/articles?id=10.1257/pol.20140273>.

³⁴ Federal Reserve Bank of New York, "How Bad Are Weather Disasters for Banks?" January 2022.

³⁵ Office of the New York City Comptroller, "Spotlight: New York City's Rental Housing Market," January 2024.

³⁶ Tennyson, Sharon. 2011. "Consumers' Insurance Literacy: Evidence from Survey Data." *Financial Services Review* 20 (3): 165-179. <https://ssrn.com/abstract=1896316>.

policies do not cover flood damage. Although renters living in high-risk flood zones can purchase a policy from the National Flood Insurance Program (NFIP), some lower-income renters are likely to purchase insurance within their budgets.³⁷

The Center for NYC Neighborhoods has launched a pilot project, not yet widely available, that will provide low- to moderate-income communities in high-flood-risk neighborhoods with emergency cash funds after a major flood, financed by parametric insurance coverage for excess rainfall and storm surge events.³⁸ Parametric insurance is a type of insurance that pays out a predetermined amount based on the occurrence of an event like flooding, rather than compensating for actual losses incurred. This is a relatively new approach to insurance that has the potential to help residents recoup losses more efficiently after an extreme weather event.³⁹

5. Updated flood maps.

Updated flood maps in New York City are an essential tool for assessing and managing flood risk, guiding community planning and development, setting insurance rates, supporting disaster preparedness and response efforts, and promoting public awareness about flood hazard. A participant who experienced flooding reported being turned down from receiving aid at the local level because they weren't living in a current, identified flood zone. No focus group participant had been offered or successfully received disaster assistance from local or federal assistance programs.

Flood maps are typically managed by FEMA in coordination with local authorities. However, it is unclear how often these flood maps are updated. For instance, FEMA's Flood Insurance Rate Maps that show areas in the nation at high-risk for flooding haven't been significantly updated since 1983.⁴⁰

Other resources available to residents include the NYC Hurricane Evacuation Zones which are determined by the NYC Emergency Management to represent varying threat levels of coastal flooding resulting from storm surge.⁴¹ At the time of this report, metadata from the Evacuation Zone maps were updated as recently as January 5, 2024.⁴² The First Street Foundation's Risk Factor tool provides in-depth, property-specific climate risk assessments on flooding, in addition to extreme hurricane winds, extreme heat, and wildfire. However, it

³⁷ FEMA, "Yes, renters can buy flood insurance," May 2018.

³⁸ Swiss Re, "A historic first for New York City," March 2023.

³⁹ Swiss Re, "What is parametric insurance?" July 2023; FEMA, "Role of Insurance."

⁴⁰ City of New York, "Flood Maps."

⁴¹ See: NYC Hurricane Evacuation Zone Finder.

⁴² Data.gov, "Hurricane Evacuation Zones."

is important to note that the Risk Factor tool is designed to approximate risk and is not intended for active events.⁴³ Lastly, the NYC Stormwater Flood Maps document smaller scale but more frequent stormwater and nuisance flooding with the goal of helping residents better understand the impacts of increasing rainfall in the city.⁴⁴

Conclusion

A Collective Response for a Collective Challenge

Flooding is a frequent and expensive natural disaster that has broad impacts on economic growth and stability, as well as on household finances in New York City and throughout the United States. The focus groups conducted by the New York Fed’s Community Development Team provide a nuanced understanding of flooding impacts on residents and their experiences with housing safety and stability, time burdens, and material losses. Residents were not prepared to manage the costs of damages and repairs after flooding while navigating opaque relief structures. Residents faced an important tradeoff between working to maintain income or spending time to restore their home. A key priority for residents in the aftermath of flooding was the wellness of their most vulnerable neighbors and loved ones, including children, grandparents, single mothers, and those with disabilities. Long-term residents experienced a tension between staying in their neighborhoods despite high flood risk or leaving their community. At the same time, concerns around being displaced from their neighborhoods and current lack of housing affordability were prominent.

The concerns raised by focus group participants are multifaceted and potential solutions involve a variety of stakeholders. **Community-based organizations** like churches and nonprofits play an important role in providing for immediate needs like food, water, clothing, and neighborhood assistance, especially for the most vulnerable residents. **Local government** is necessary in mitigating floods through city planning and, in the aftermath, deploying funds to organizations with capacity to provide immediate relief, and providing clear, consistent messages of where residents can go for help in an emergency. Renters, especially those living in basement units, need adequate coverage from **insurance companies** to recoup financial and material losses from flooding. Similarly, **financial institutions** are integral in helping residents regain stability, and some are well-positioned to provide pauses and protections from financial repercussions after an emergency.

The New York Fed has hosted several events on flooding and the region’s vulnerability to climate-related risks.⁴⁵ Increasingly, stakeholders are taking note of the hazards and vulnerabilities of

⁴³ See: [First Street Risk Factor](#).

⁴⁴ See: [NYC Stormwater Flood Maps](#)

⁴⁵ [Federal Reserve Bank of New York](#), “Community Development.”

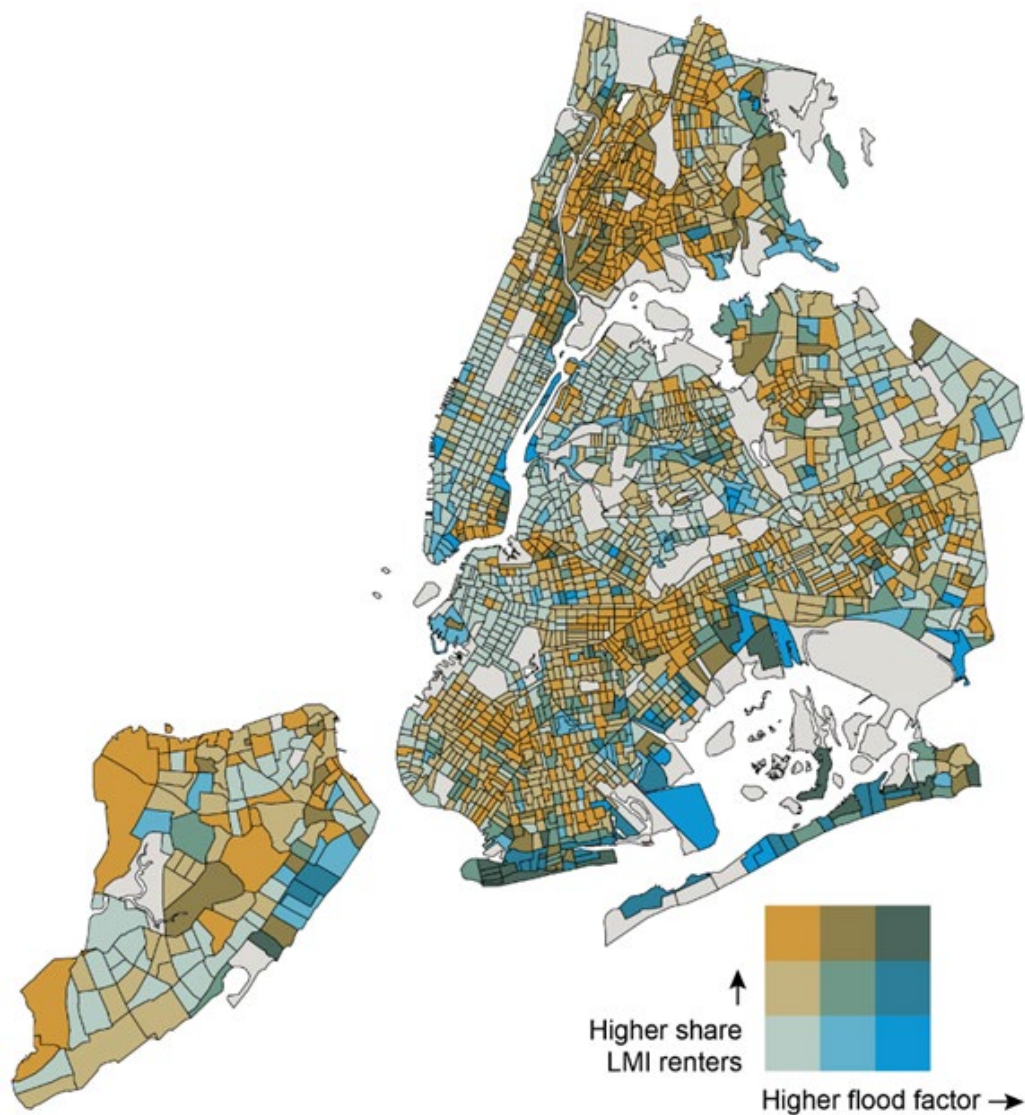
natural disasters, and their impacts on the financial health of households living with low-to-moderate incomes.⁴⁶ As droughts, floods, and destructive storms become more frequent, building resilient communities and the infrastructure to mitigate climate change is an important facet of maintaining a healthy economy.

⁴⁶ See: [SaverLife](#), “The Downpour,” November 2023; [The Aspen Institute](#), “A Gathering Storm: Why The Growth in Climate Hazards Matters for Household Financial Security,” March 2024; [U.S. Department of Treasury](#), “The Impact of Climate Change on American Household Finances,” September 2023.

Appendix A

Map of Flood Risk and LMI Renter Populations in NYC

by Ambika Nair and Claire Kramer Mills.⁴⁷



Source: American Community Survey (5-year, 2017-2021); First Street Foundation (2021).

Notes: Dark gray census tracts indicate areas for which data are not available. The numeric buckets for the flood factor axis are 0-35 percent, 35-67 percent, and 67-100 percent. The numeric buckets for the share of LMI renters axis are 0-31 percent, 31-64 percent, and 64-100 percent

⁴⁷ Federal Reserve Bank of New York, "Flood-Prone Basement Housing in New York City and the Impact on Low- and Moderate-Income Renters," November 2023.

Appendix B

Questionnaire for Recruiting Focus Group Participants

1. I agree to participate in the Climate Effects Study.
 - a. I agree
 - b. I do NOT agree
 - i. [Skip To End of Survey if = I do NOT agree]
2. Name
 - a. [short answer text]
3. Phone
 - a. [short answer text]
4. Email
 - a. [short answer text]
5. Zip Code
 - a. [short answer text]
6. Race/Ethnicity [checkboxes]
 - a. American Indian or Alaska Native
 - b. Asian or Asian American
 - c. Black or African American
 - d. Hawaiian Native or Pacific Islander
 - e. Hispanic or Latino
 - f. White or Caucasian
 - g. None of the above, please specify [short answer text]
7. Gender [checkboxes]
 - a. Woman
 - b. Man
 - c. Transgender
 - d. Non-binary
 - e. None of the above, please specify [short answer text]
8. Are you 18 years of age or older? [multiple choice]
 - a. Yes
 - b. No
 - i. [Skip To End of Survey if = No]

9. Which of the following dates and timeslots are you available? Please select all that apply. [checkboxes]
- a. [Choice 1]
 - b. [Choice 2]
 - c. None of the above
10. Have you been impacted by flooding in New York City in the past two (2) years? [multiple choice]
- a. Yes
 - b. No
11. If yes, how were you impacted?
- a. [long answer text]
12. What is your current annual household income, before taxes? [multiple choice]
- a. Less than \$15,000
 - b. \$15,000 to \$34,999
 - c. \$35,000 to \$49,999
 - d. \$50,000 to \$74,999
 - e. \$75,000 to \$99,999
 - f. \$100,000 or more
13. How many people are living in your household, including you?
- a. [short answer text]
14. Which one is most applicable to you right now? [multiple choice]
- a. Homeowner
 - b. Renter
 - c. Living with others without paying rent or mortgage
 - d. Living with others, paying rent or mortgage
 - e. Other
15. What best describes your housing type? [multiple choice]
- a. Single Family Home
 - b. Small Apartment Complex (1-4 units)
 - c. Midsized Apartment Complex (5-40 units)
 - d. Large Apartment Complex (40+ units)
 - e. Accessory Dwelling Unit or Basement Apartment
 - f. Townhouse or Duplex
 - g. Other

16. Are you a landlord? A landlord is anyone who receives payments to have an individual(s) live at a property they own or manage. [multiple choice]
- Yes
 - No
17. How satisfied are you with your current housing situation? [multiple choice]
- Extremely dissatisfied
 - Somewhat dissatisfied
 - Neither satisfied nor dissatisfied
 - Somewhat satisfied
 - Extremely satisfied
18. How satisfied are you with your current financial situation? [multiple choice]
- Extremely dissatisfied
 - Somewhat dissatisfied
 - Neither satisfied nor dissatisfied
 - Somewhat satisfied
 - Extremely satisfied
19. Have you been impacted by any of the following challenges in the past two (2) years? Please select all that apply. [checkboxes]
- Housing or property loss
 - Housing or property damage
 - Eviction
 - Housing costs
 - Healthcare costs
 - Substandard living conditions
 - Not enough income
 - Overdue bills
 - Lack of insurance
 - Lack of savings
 - Bad credit score
 - Not being able to qualify for a loan
 - None of the above
20. Lastly, we will discuss the impacts of flooding on personal finances in a 90-minute session. Is this something you're comfortable talking about in a small group? [multiple choice]
- Yes
 - No

Appendix C

Sample Questions for Focus Group on Flooding and Household Finances

1. Introductions / Ice Breaker
 - a. What is one thing you love about your neighborhood?
 - b. Why do you stay in your neighborhood?
2. Frequency and Intensity of Flooding
 - a. How has flooding impacted you and your family?
 - b. How often do you experience flooding in your neighborhood?
 - c. Do you think the level of flooding has increased or decreased over time?
 - d. Do you think you live in a flood zone, or in an area considered at higher risk of flooding?
 - e. Does the level of flooding affect if you'd like to stay in your neighborhood?
 - f. What level of flooding would make you want to leave your neighborhood?
3. Material Losses in Housing and Property
 - a. How has flooding impacted your housing situation?
 - b. Has your home ever been significantly damaged from flooding?
 - c. Have you ever been displaced from your home after flooding?
 - i. If so, where did you go?
 - ii. How did you identify and pay for an alternative living situation(s)?
 - iii. How long were you displaced?
 - iv. Were you able to move back?
 - d. Have you experienced damage to any other property after flooding (e.g., car)?
 - e. How costly were the repairs to your home or property after flooding?
4. Impacts on Health, Employment, and Education
 - a. How would you rate your health or mental health in the aftermath of flooding?
 - b. Have any health-related issues or medical expenses come up due to storms or flooding (e.g., air quality, mold exposure, stress)?
 - c. Has flooding ever affected your job or your household's income stream (e.g., work shutdown, limited mobility)?
 - d. How have floodings impacted your household and/or children (e.g., schooling, childcare, transportation), if at all?
5. Financial Preparedness and Well-Being
 - a. How would you describe your financial position today?
 - b. Do you feel financially prepared to handle significant flooding?
 - c. If you experienced sudden and costly flooding...

- i. How much would you need in savings to address any damages?
 - ii. How would you pay for damages?
 - iii. What bills would you prioritize?
 - d. How would you describe your financial security in the short and long term after experiencing a flood?

6. Financial Products

- a. How did you make ends meet during and after flooding?
- b. Did you use any of the following resources after flooding?
 - i. Homeowners / Renters Insurance
 - ii. National Flood Insurance
 - iii. Disaster Assistance
 - iv. Loans
- c. Did you take on new debt or use existing credit lines after flooding?
 - i. Could you keep up with payments?
 - ii. Did you borrow from friends and family?
 - iii. Did you go to a bank or alternative lenders?
- d. How far did you get with seeking aid and assistance?
 - i. Was the experience positive or negative?

7. Mitigating Strategies / Sources and Use of Information

- a. Have you made any significant changes to your home or finances to prepare for the next flood?
 - i. What products did you invest in to mitigate property damage from flooding?
- b. Where do you currently get information about your community and resources for assistance?
 - i. What information do you wish you had known before a flood?
- c. What services, aid, or assistance do you wish were available to you in the aftermath of flooding?
- d. Who do you go to for knowledge and support in your community?
- e. What institutions or community organizations do you trust for knowledge and support?

8. Closing

- a. We have primarily focused on flooding events. Are there any other climate-related issues you would like to raise?
- b. Are there any general questions or comment before closing?