

THE NEW NORMAL: COMBATING STORM-RELATED EXTREME WEATHER IN NEW YORK CITY

November 2021 Monthly Update



NYC

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Introduction

On September 27, 2021, the de Blasio Administration released *The New Normal: Combatting Storm-Related Extreme Weather in New York City*. The report was delivered to the Mayor by the Extreme Weather Response Task Force, a top-level convening of senior leaders across City agencies, along with outside experts on climate change and resiliency. A full copy of the report can be found here: <https://on.nyc.gov/IdaReport>.

The New Normal described a new reality for our city — one in which extreme storms are more frequent and more intense, and even so-called storm “remnants” like those from Ida are as ferocious and dangerous as those aimed directly at New York City. The report called on City government and its agencies to educate, train, and acclimate all New Yorkers to this new world, and implement more aggressive planning to prepare for the worst-case scenario in every instance. The New Normal laid out a series of protocol and policy enhancements to achieve these goals, and identified short- and long-term infrastructure upgrades to transform the City’s readiness. The report also called on all levels of government – from the New York City Council to New York State to the Federal government – to work in common cause, advocating for specific legislation and collaboration to protect New Yorkers.

Finally, *The New Normal* documented the de Blasio Administration’s commitment to update New Yorkers on the progress of these initiatives consistently through the end of the Administration, in a series of monthly progress reports. The Task Force released the first monthly update on November 5, 2021, which can be found here: <https://www1.nyc.gov/assets/orr/pdf/publications/110521-weather-report-al-004.pdf>. The following pages contain the second and final monthly update of the de Blasio Administration.

Key Progress in November 2021

Two months after the release of *The New Normal: Combatting Storm-Related Extreme Weather in New York City*, City agencies have made significant progress toward short-term goals identified in the report. This progress has occurred across a range of areas, including: assistance for New Yorkers still recovering from Ida; communications enhancements; new technology and metrics; infrastructure improvements; and significant steps taken to immediately protect those in basement units. Key steps from the past month include:

Ida Recovery

- **Continuing shelter for displaced residents.**

Immediately following Ida, the New York City Emergency Management (NYCEM) worked with the City's Department of Housing Preservation and Development (HPD) and American Red Cross (ARC) to establish an emergency hotel program for displaced residents. As of December 2021, the City continues to support more than 150 displaced families in emergency shelter. The Department of Social Services (DSS), Public Engagement Unit (PEU), and Brooklyn Community Services are working with each family to find long-term housing as needed, including through emergency vouchers and additional access to City and State resources.

- **Continuing repairs for Ida-affected homes.**

The City also continues to assist New Yorkers whose homes suffered damage during Ida. This support includes working with each homeowner to navigate the FEMA financial assistance applications, and connecting homeowners to a dedicated list of New York City plumbers and electricians who are prioritizing Ida-affected repairs. In some cases, when FEMA financial assistance has not covered the full cost of damages, the City is working on reimbursing homeowners for necessary repairs. The City also continues to advocate for additional steps from FEMA to help affected homeowners:

- 1. Aligning FEMA's assistance with local repair costs instead of a national standard.** Repairs in New York City often cost more than repairs in localities with a lower cost-of-living. FEMA should take this into account when providing financial aid to New York City families, instead of using a single national standard. On average, FEMA has given households ~\$5,000 for repairs which is lower than needed.

- 2. Sharing detailed data on estimates and financial assistance with the City.** By sharing this critical information, the City can more quickly assess which homeowners need additional support from agencies.

- 3. Growing FEMA's list of what is considered a "critical repair."** Too many homeowners affected by Ida have encountered bureaucracy in navigating FEMA's financial assistance applications – where certain household items like boilers are considered "critical" in some cases but not others, and repairs to some rooms are essential but not others. We urge FEMA to expand its list of what is considered for critical repairs to help New Yorkers return to their homes safely.

- 4. Speeding up the process to get homeowners their financial aid.** Every day without financial aid is a day that families cannot schedule critical repairs and return safely to their homes. More than three months post-Ida, this aid must be a priority. Currently there are still 1,550 pending cases.

Communications Enhancements

- **New warning signage at flood-prone roadways.**

In the wake of Ida, DOT committed to adding warning signs for drivers at 100 flood-prone locations across the five boroughs – warning drivers that an upcoming stretch of roadway is prone to flooding in the event of bad weather, and urging them to avoid the area. In October, DOT installed the first two signs. In November, DOT installed an additional ten warning signs at the following locations:

Brooklyn

- Belt Parkway from VZB to Plumb Beach
- BQE between Atlantic Avenue and Summit Street

Manhattan

- 1st Avenue @ East 125th Street
- Harlem River Dr. south bound Exit @ W 155th Street

Queens

- Westbourne Ave Dunbar Street – Norton Drive
- 39th Ave at Francis Lewis Blvd
- Cooper Avenue Underpass (between 74 St. and 69 Dr.)

Staten Island

- Mapleton Avenue and Grimsby Street
- Doty Avenue (between Robin Rd. and Fr. Capodanno Blvd.)
- Amboy Road (between Fawn Lane and Ainsworth)

The remaining 88 signs will be installed by June 1, 2022, ahead of the next hurricane season.

- **New outreach to basement and cellar residents.**

Following Ida, the City committed to overhauling its communications to basement and cellar dwellers who are most vulnerable to extreme storms. Over the past two months, the City has re-trained emergency workers on basement unit evacuations, created a new working group for basement apartment conversions, and started to build a catalogue of every basement unit in the city, as well as property owners and tenants

As part of building the catalogue, the City is currently conducting outreach, including door-to-door canvassing, to addresses with basement and cellar units. Immediately, we will connect these residents with NotifyNYC – the City’s free emergency communications program – to ensure they receive urgent texts, phone calls, and warning messages ahead of extreme weather and evacuation notices.

Infrastructure Enhancements

- **Sandbag distribution.**

Sandbags offer a simple but effective way to prevent or reduce flood water damage, acting as a wall that can form the first layer of defense or re-route water around, instead of through, buildings. In the wake

of Ida, the Department of Transportation (DOT) committed to immediately procuring sandbags for residents in single-family to four-family homes in advance of future storms. In November, DOT set up five sites across the city and distributed more than 7,200 sandbags to vulnerable households. DOT will establish additional pick-up sites ahead of future extreme storms.

- **Drainage solutions for community driveways.**

Several community driveways, which are below-grade alleys behind residential streets that provide access to basement-level garages, are in low-lying areas that were significantly flooded during Ida. The City, led by the Department of Environmental Protection (DEP), has committed to connecting these driveways to nearby City sewers. DEP has completed the first two of these improvements in East Elmhurst, Queens, and distributed a maintenance guide to all community members. DEP will continue engineering evaluations and site surveys to develop solutions for additional 38 community driveways in the next six months.

- **Relief sewer installation in Queens.**

During Ida, chronic flooding occurred in areas across the City. One area was in Jamaica, Queens, near the Greater Allen Senior Center – putting elderly and vulnerable New Yorkers at risk. The City has now begun a project to install 1,365 linear feet of storm sewer and 1,180 linear feet of water main in Hendrickson Place, 166th St., and 108th Ave. This relief sewer alongside the existing under-capacity storm sewer will alleviate flooding conditions and protect New Yorkers.

Long-Term Planning Updates

- On **November 22**, the Administration announced a new pilot program that will help ensure new City infrastructure and public facilities are prepared for the worsening impacts of climate change. Under this program, 23 City capital agencies will begin designing and constructing dozens of new projects using the NYC Climate Resiliency Design Guidelines, which were developed by the Mayor's Office of Climate Resiliency (MOCR). These Guidelines translate future-looking climate change projections into technical guidance that engineers and architects will use as they design roads, buildings, sewer systems, hospitals, public housing, and other pieces of critical public infrastructure.

Forty pilots were selected through a rigorous process that considered climate exposure, equity, and project scope. They range in budget from \$3 million up to \$1 billion and include a wide diversity of facilities spread across all five boroughs. The cohort of projects will apply resilient design principles from the very beginning of their design.

- On **November 30**, the Administration released the November Financial Plan which included additional funding to implement recommendations put forward in *The New Normal*, including: an expanded sensor network, a database of basement apartments, green infrastructure maintenance, and staffing for wetlands management. This plan includes a new \$39 million expense allocation, in addition to the \$2.4 billion in capital funding for these projects.

Update on Federal Support

On **November 15**, President Biden signed the \$1.2 trillion Infrastructure Investment and Jobs Act (IIAJ). This Act allocates unprecedented federal funding to resiliency work nationwide, and the Administration expects these funds will advance numerous NYC adaptation needs. While the Administration continues to determine with the Federal government the level of funding available to New York City, we expect this funding to be available for projects including:

- **Neighborhood cloudburst projects**, which use innovative stormwater management approaches to transform open spaces and streetscapes to store rainwater and take pressure off the sewer system during heavy downpours, as described in *The New Normal*
- **Tree planting** including creating cool corridors, urban reforestation and planting trees on public housing campuses
- **Coastal protection**, such as implementation of projects as part of the Lower Manhattan Coastal Resiliency Strategy
- **Wetlands acquisition and restoration**, prioritizing projects identified in the NYC Wetlands Management Framework
- **Neighborhood planning**, looking to the newly-created Promoting Resilient Operations for Transformative, Efficient and Cost-saving Transportation (PROTECT) Grant Program to seed resiliency work in New York City's communities
- **Climate science**, using funding allocated to NOAA to better understand climate risk
- **Transportation and transit projects** to ensure that our transit and roadways are resilient to current and future extreme weather and sea level rise
- **Household weatherization improvements** to reduce household energy use through installation of cost-effective energy savings programs
- **Lead water distribution service line replacement**, which helps facilitate increasing the capacity of our drainage infrastructure as we replace old water mains and service lines.

Update on All Initiatives

Commitment Title	Agency Owner	Commitment Narrative
Response #1: Immediate enhancements to extreme weather communications.		
1. Extreme Weather Coordinator	MO	The new Extreme Weather Coordinator, Deputy Mayor Wolfe, continues to work closely with NYCEM and other agencies to lead and organize extreme weather responses.
2. Increased mandatory evacuations	MO, NYCEM	New messaging is amplified as weather conditions warrant.
3. Increased travel bans	MO, NYCEM	New messaging is amplified as weather conditions warrant.
4. Warning signage	DOT, NYCEM	DOT installed flood warning signage at 10 additional locations. By July 2022, DOT will install warning signage at 100 flood-prone locations.
5. Updating Early warning system	MO, NYCEM	The new messaging was shared during the November 13 rainfall and wind event to warn New Yorkers of potential storm conditions. Messaging will continue to be shared before weather events.
Improved communication to homeowners:		
6. Creating Basement-specific messaging and alerts	NYCEM	New messaging is amplified as weather conditions warrant.
7. Flooding guidance in DEP communications	DEP	DEP designed outreach materials and will share the materials in March as part of Flood Preparedness Week.
8. Developing field-validated current day stormwater flood maps	DEP, MOCR	DEP continues to review precipitation scenarios modeled under the Citywide Stormwater Resiliency effort.
9. Expanding Flood Risk and Flood Insurance Awareness in Inland Areas.	HPD, MOCR	HPD and MOCR are designing materials about flood risk and flood insurance tailored for inland neighborhoods and identifying priority inland neighborhoods to expand outreach.

10. Restarting FloodHelpNY in-home resiliency audits and financial counseling programs/ retrofits for 1-4 family homes	HPD, MOCR	MOCR is coordinating with HPD and the Center for NYC Neighborhoods to identify priority neighborhoods for audits and working to develop program eligibility requirements.
11. Restarting vulnerable multifamily building resiliency audits under FloodHelpNY	HPD, MOCR	MOCR is developing flood mitigation assessments that will apply to a wide-range of HPD supervised developments.
12. Spreading the word on Zoning for Coastal Flood Resiliency (ZCFR) law.	DCP	DCP prepared materials for the public explaining zoning for coastal flood resiliency and planning for resilient neighborhoods at nyc.gov/zcfr .
Improved communication in vulnerable communities:		
13. “Rainboots on the Ground”	NYCEM	NYCEM is working with the NYC Civic Engagement Commission to release a joint RFP that will increase the City’s overall capacity for building and sustaining community networks.
Improved communication and support for small business owners & commercial property owners:		
14. Increasing communication pre and post event	NYCEM, SBS	NYCEM is updating its Ready New York materials to include more explicit guidance for those with basement apartments and other low-lying properties.
15. Expanding SBS Business PREP (BPREP) citywide	SBS	SBS is currently developing new & expanded online resiliency resources. These will be integrated into regular business education and resiliency services in Q1 CY2022.
16. Expanding Small Business Emergency Grant fund	SBS	The NYC Small Business Emergency Grant Program provided grants of up to \$5,000 to small businesses that suffered physical damage. SBS is reviewing best way to expand.

Response #2: Immediate enhancements to storm analysis & data initiatives.

1. Expand the Flood Sensor Networkcitywide	MOCR	FloodNet completed the sensor deployment in South Williamsburg and is planning for a deployment of sensors in Red Hook and the Rockaways by early December. MOCR developed a list of priority locations for subsequent deployments before the end of the year.
2. Enable real-time crisis information via drone data	NYCEM	NYCEM is drafting a RFP to find suitable drone service vendors.
3. Citywide map of combined flood risk and model of all flooding hazards.	DEP, MOCR	MOCR and DEP are developing a RFP and continue to coordinate with the New York City Panel on Climate Change to resolve methodological questions about the best way to pursue a compound flood map.
4. Partner with private weather forecasting service	NYCEM	NYCEM continues to incorporate the private weather vendor into its routine operations for forecasts and situational awareness.
5. Develop a Coastal Flood Vulnerability Index.	MOCR	MOCR continues coordination with the New York City Panel on Climate Change to recommend the most credible indicators of coastal vulnerability. MOCR added the initiative to develop a Coastal Flood Vulnerability Index as a priority item to an existing Town + Gown RFP, which is set to release in December 2021.
6. Improve projections of future extreme precipitation	MOCR	MOCR began discussions with DEP, NPCC, NYSERDA, and the New York State Climate Impacts Assessment to organize a workshop in early 2022 to elicit expert opinion on preliminary projections and to adopt preliminary Intensity, Duration, Frequency curves for use by DEP in stormwater planning. The workshop is an integral part of the Town + Gown RFP which is set to release in December 2021.

7. Modeling and mapping initiatives based on Ida to increase readiness	MOCR	MOCR is meeting weekly with FEMA and USGS to review progress with mapping from the High-Water Marks, and along with NYCEM, is investigating the possibility of using NYPD counterterrorism camera footage to help map flooding extent.
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Response #3: Immediate enhancements to city and household infrastructure.

Citywide

1. Accelerating the short-term Stormwater Resiliency Plan (various projects)	MOCR	<ul style="list-style-type: none"> Expanding pre-storm mitigation areas: NYCEM is currently hosting agency input workshops to identify pre-storm mitigation areas and identify next steps. Establishing a framework for cloudburst neighborhoods: MOCR and DEP continue progress with the Interagency Cloudburst Task Force. The framework is under development to identify areas where cloudburst planning for grey and green infrastructure is feasible from a technical perspective, can be quickly deployed, and prioritizes vulnerable populations.
2. Accelerating “high-level” storm sewer upgrades	DEP	Capital Program management is currently preparing SE883, a High-Level Storm Sewer (HLSS) project in Bensonhurst, Brooklyn, tentatively scheduled for FY25/26. There are several other HLSS projects scheduled in the 10-year plan for South East Queens (SEQ).
3. Expanding the porous pavement program	DEP	DEP is working with DDC to bring onboard a consulting firm from a Requirements Contract to begin feasibility studies and subsequently geotechnical investigations in the Bronx.

4. Increasing catch basin inspection frequency in commercial areas	DEP	DEP is finalizing the optimized inspection plan that will help reduce flooding caused by clogged catch basins with estimated completion by December 2021. DEP is participating in hiring pools through December 2021 to expand the catch basin inspection program by adding 30 additional inspections. Projected onboarding will start in January 2021.
5. Deployable barriers in non-drainage areas	DEP	DEP purchased two types of deployable flood barriers for testing and distribution to residents in the East Elmhurst area. DEP is collaborating with NYCEM and developing a residential guide for deployable barrier usage.
6. 20 additional Trust for Public Land Playgrounds	SCA	SCA is continuing the site selection process to identify 20 additional Trust for Public Land playgrounds by 2025.
7. Expanding NYCHA's Green Infrastructure (GI) program to 7 additional campuses.	NYCHA	<p>NYCHA and DEP continue to work together to develop solutions for the site to be constructed jointly.</p> <p>For the sites NYCHA will manage:</p> <ul style="list-style-type: none"> • One site: the conceptual designs are underway. • One site will be designed and built-in conjunction with the execution of a comprehensive modernization at the development

<p>8. Accelerating additional GI projects citywide</p>	<p>DDC, DEP</p>	<p>DEP and DDC kicked-off a bi-weekly task force to review DDC-managed green and grey projects for acceleration and discuss strategies for their advancement. DDC has five overall project areas that have been organized into 13 construction projects:</p> <ul style="list-style-type: none"> • Right-of-Way GI in Whitestone and Bayside (1 project) • Permeable pavement in Gravesend Bay Tributary area (7 projects, 2 of which will be design-build) • Right-of-Way GI in Prospect Lefferts, East Flatbush, and Canarsie (3 projects) • Bronx permeable pavement (feasibility analysis and 1 design-build project) • Stormwater Management in Southeast Queens (1 project)
<p>9. Creating a Stormwater Project Delivery Task Force</p>	<p>DDC,DEP</p>	<p>The Task Force has held biweekly meetings since kicking off in mid-October. The Task Force is on track to provide comprehensive recommendations to streamline site investigations, design, and permitting to expedite critical projects by the end of 2021.</p>
<p>10. Investigating the impact of all climate hazards on the City’s social infrastructure</p>	<p>MOCR</p>	<p>The draft scope of work and preliminary spatial analysis is underway. The categorization of facilities for assessment is complete. The Task Force is expected to kick off in early 2022.</p>

Household		
1. Studying expanding backwater valve installations to prevent sewer backups into private properties	MOCR, DEP	The draft scope of work and MOU with NYCEM are in development. The RFP will be released in late December/early January as soon as NYCEM's new Master Service Agreement procurement vehicle is established. Grant funding was received to study expanding backwater valve installations. Procurement for the study will happen in December 2021.
2. Offering residents sandbags pre-storm	DOT	DOT has distributed 8,673 sandbags to date and held a week of distribution sites for NYers to pick up sandbags
Response #4: Keeping New Yorkers in basements and cellars safe		
1. Creating a database of subgrade spaces Citywide	MOCR, DCP	DCP and MOCR continue to develop the project scope. DCP will discuss the project with the consultant team in December.
2. Providing enhanced communications to basement occupants, immediately	NYCEM	NYCEM will use the results of the basement database survey to encourage basement occupants to sign up for the City's mass notification system, through which alerts can be pushed directly in real-time.
3. Enhancing NYPD/FDNY first responder readiness for basement evacuations	FDNY, NYPD	NYPD continues to train members from the Critical Response Group and Strategic Response Group in Urban Water Rescue. There are no additional evacuation drills scheduled at this time.
4. Contracting trusted CBOs to reach at-risk residents door-to-door.	NYCEM	DoITT created a database and canvassers are going door-to-door in hard-hit areas to identify basement tenants.

5. Finding drainage solutions for community driveways	DEP	Construction of the second alley, East Elmhurst at 86th Street area has been completed. A maintenance guide will be created and distributed to the homeowners for the alley way construction locations.
7. Working group to consider regulatory changes and programmatic support	MO	The City has identified and brought together a working group to expand the basement pilot program, comprised of representatives across city agencies and outside experts. The working group is drafting an amnesty program that will seek to encourage owners of basement apartments to legalize existing basements, while ensuring that the basements legalized are safe places to live. The City and working group have begun the process of involving stakeholders in City agencies and in the broader housing community to determine safety requirements.
Response #5: Long-term infrastructure improvements		
1. Improving our legacy sewer system for the future (various projects)	DEP	DEP continues to evaluate the current drainage planning process for revision and sewer projects for expansion. Once completed, DEP will use the existing conditions citywide drainage model to evaluate where parts of the system would result in flooding in extreme conditions to inform response and feasibility for Capital projects.

2. Continuing the integration of Bluebelts (various projects)	DEP	The Citywide Bluebelt mapping feasibility analysis is underway, depicting potential Bluebelt locations anticipated at the end of Spring 2022. Three Bluebelts projects in the Mid-Staten Island area are under construction with two expected to be complete by Spring 2022 and the third by Fall 2023. A fourth Bluebelt will enter the bid process soon, expected to be awarded by the end of FY21.
3. Tibbets Brook stream daylighting	DEP	DEP is continuing to advance the design in collaboration with Parks and community stakeholders. DEP is also working closely with Law, DCAS, and Parks to acquire the CSX lots.
4. Accelerating the long-term Stormwater Resiliency Plan (various projects)	MOCR	<ul style="list-style-type: none"> • Future rainfall intensity projections: See Task 2.6 above. • New drainage standard: DEP continues to evaluate current drainage planning process for revision and sewer projects for expansion.
5. Providing transformational, neighborhood-scale stormwater strategies to “cloudburst” neighborhoods (various projects).	DEP	Identification of additional cloudburst neighborhoods and priority projects is continuing. An interagency meeting was held to solicit feedback, and DEP and MOCR continue to assess physical risk and social vulnerability.
6. Implementing the East Harlem Cloudburst Resiliency Project.	NYCHA, DEP	The FEMA-funded feasibility study is nearing completion and an application was submitted to FEMA for full design and construction funding.

<p>7. Implementing the Wetlands Management Framework (various projects)</p>	<p>DPR</p>	<p>In November, Parks began identifying project team members and reviewing the conceptual scope and implementation strategies for three new wetland projects. At Bridge Parks South, to expedite the work and reduce construction conflicts, DPR is doing additional field reconnaissance.</p> <p>At Ramblersville, DPR discussed steps needed for the property to be transferred to parks and learned that the needed meets and bounds surveys can occur concurrently with the surveys for design.</p> <p>At Hammonds Cove, DPR is beginning the conceptual design refinement.</p>
<p>8. Adding stormwater green infrastructure in parks.</p>	<p>DPR</p>	<p>In November DPR started surveying to initiate next steps.</p>
<p>9. Investigating the impacts of sea level rise and extreme weather on housing.</p>	<p>MOCR</p>	<p>MOCR is outlining a draft scope to inform an interagency team that will undertake this assessment. The review will incorporate climate risk information, building damage assessments, vulnerable typologies (with a special focus on subsidized affordable housing stock). This work will prioritize capital investments and programs that will reduce risk exposure and improve resident risk awareness.</p>
<p>10. Updating building, electrical, plumbing, and zoning codes to address precipitation risks and coastal flooding.</p>	<p>MOCR, DCP, DOB</p>	<p>MOCR continues to coordinate the evaluation of proposed code updates together with DCP and DOB. MOCR is reviewing options for engaging technical recommendations, including a FEMA Mitigation Assessment Team (MAT), as well as an engineering consultant study.</p>

11. Evaluating stormwater fees	DEP	DEP is continuing to progress the Sustainable Rate Structure Study, including convening Advisory Group meetings, to ensure robust stakeholder engagement, dialogue, and feedback throughout the study. DEP is currently completing an in-depth revenue requirements analysis. The revenue requirements analysis will be the basis for analyzing various water and wastewater rate structure options.
Response #6: Working with partners in government		
1. Formalizing an MTA Taskforce	DEP, DOT, MTA	DEP, DOT, and MTA continue to meet weekly to exchange data on chronic flooding locations, schedule joint inspections, and identify solutions to mitigate flooding. To date, agencies met in the field 10 times and completed 34 site inspections.

This report was produced by the Office of the Deputy Mayor for Administration in collaboration with the City agencies and Mayor's Office presented within.

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