

Annex: 2015 Hazard Mitigation Plan Update

This Annex is intended to keep the 2014 Hazard Mitigation Plan (HMP) up-to-date and help New York City (NYC) Emergency Management monitor activities that occurred since the Plan update's approval in 2014. As noted in the HMP's Plan Maintenance section, Chapter 6, NYC Emergency Management will keep track of all changes annually and incorporate these updates into a revised plan document at the end of the five-year plan-update cycle in 2019. This update represents NYC's commitment to keeping the HMP effective and relevant as outlined in Chapter 6.

Since the local adoption of the FEMA-approved HMP on April 17, 2014, the following updates and changes have occurred:

Chapter 2: Planning Process

- The NYC Office of Emergency Management (OEM) is now called NYC Emergency Management (NYCEM).
- The Mayor's Office of Long Term Planning and Sustainability (OLTPS) has split into two offices: the Mayor's Office of Sustainability (OS) and the Mayor's Office of Recovery and Resiliency (ORR).

Chapter 3: Risk Assessment: Resources and Occurrences

- Extreme Temperatures:
 - Urban Green Council released a study [Baby It's Cold Inside](#) (2014) that looks at the impacts of extreme cold and extreme heat on building types during power outages.
 - Recent Hazard Occurrences (Threshold: days with average temperatures below 10 degrees):

Start	Event	Location	Description
January 3-4, 2014	Extreme Cold	Citywide	Average temperature 8.48F (averaged over Central Park and JFK), minimum recorded temperature 6.8F.
January 7- 8, 2014	Extreme Cold	Citywide	Average temperature 8F (averaged over all three weather stations), minimum recorded 3.2F (Central Park and LGA)
January 22-23, 2014	Extreme Cold	Citywide	Average temperature 8.42F (averaged over all three weather stations), minimum recorded temperature 6.8F (at JFK)
January 7 – 8, 2015	Extreme Cold	Citywide	Average temperature 8.6F (averaged over all three weather stations)

Source: <http://mesonet.agron.iastate.edu/request/download.phtml> (downloaded from weather observation stations at JFK, La Guardia, and Central Park)

- **Earthquakes:**

- In 2014, DOB revised the Construction Codes and moved toward a risk-based approach, following the model of American Society of Civil Engineers Standard 7-2010. This means that, instead of designing against the probability of an earthquake happening, we are designing against the probability of a new structure collapsing or sustaining significant damage during an earthquake.
- USGS hazard maps were released in July 2014 show that on the East Coast, larger more damaging earthquakes are more probable than previous maps have shown.
- Multidisciplinary Center for Earthquake Engineering (MCEE), in collaboration with the Structural Engineering Association of New York (SEAoNY), initiated studies to better understand the vulnerabilities of unreinforced masonry buildings in NYC. Working with the State University of New York at Buffalo, the MCEE is currently testing the shaking table prototypes of Unreinforced Masonry (URM) structures in order to develop pre-engineered solutions of NYC's building stock.

- **Infrastructure Failures:**

- [Caution Ahead](#) released by Center for an Urban Future in March 2014, which looks at aging infrastructure in NYC.
- Recent Hazard Occurrences:

Start	Event	Location	Description
March 12, 2014	East Harlem Building Collapse	Park Ave between East 116 th and East 117 th Street	Two buildings collapsed due to a gas main explosion. Eight fatalities, 31 injured, 106 residential units vacated across seven buildings
March 26, 2015	East Village Building Collapse	2 nd Avenue between East 7 th Street	Three buildings collapsed due to gas explosion. Two fatalities, 25 injuries, 144 residential units vacated across eight buildings.

Source: NYCEM activation notes.

- **Disease Outbreaks:**

- Recent Hazard Occurrences (threshold for disease outbreak inclusion: new or emerging cases, potential for high consequences, national attention/significance, or may require a citywide response (i.e. PODs))

Date	Event	Description
September, 2014	Human Enterovirus 68 (EV-D68)	DOHMH reported 44 cases in New York City. Infections in children, causing respiratory illness severe enough to require hospitalization, especially among children with asthma.
October 23, 2014	Ebola	A healthcare worker who returned from Guinea to New York City tested positive for Ebola. Patient was treated at Bellevue Medical Center in Manhattan and discharged on November 11, 2014.

Date	Event	Description
January – April 2015	Measles	From Jan 1 to April 3, 2015, 159 people from 18 states were reported to have measles. Most of the cases were associated with travel to Disneyland Resort Theme Parks in California. Three cases were reported in New York State, two of which were in NYC. These cases were related to international importation not to the Disneyland outbreak.
January 2015	Hepatitis A	Since mid-January, three cases of Hepatitis A have been identified for persons who ate food from different locations belonging to one restaurant chain (Juice Press, juice and smoothie bar). There were also two cases associated with other juice locations.

Source: NYCEM Activation Notes and DOHMH Health Alerts (<https://a816-health29ssl.nyc.gov/sites/NYCHAN/WebPages/home.aspx>)

- Flooding:
 - Recent Hazard Occurrences: (threshold for event inclusion includes the following factors rainfall over 3 inches, duration more than 10 hours, or maximum hourly rainfall greater than 0.5 inches)

Date	Event	Location	Description
April 30th, 2014	Flash Flood	Queens	Total rainfall 3.02 inches. Maximum hourly rainfall equaled 0.46 inches. Duration 20 hours recorded at La Guardia (LGA) Airport weather observation center. This flash flood event destroyed many homes in Howard Beach. Multiple power disruptions. 311 reports: 19 destroyed homes, 61 homes have major damages, 44 have mild damages. The amount of damage to private homes triggered the Small Business Administration (SBA) physical disaster declaration, allowing for disaster loan assistance to private homeowners, renters, and businesses.
August 13 th , 2014	Flash Flood	Queens	Total rainfall 3.08 inches. Duration 13 hours (JFK Airport weather observation station). Maximum hourly rainfall equaled 1.6 inches. Long Island was more affected. Total rainfall 13.57 inches.
December 9, 2014	Flash Flood	Queens	Total rainfall 3.04 inches (JFK Airport weather observation station). Maximum hourly rainfall equaled 0.36 inches. Duration 17 hours.

Source: <http://mesonet.agron.iastate.edu/request/download.phtml> (Downloaded from weather observation stations at JFK, La Guardia, and Central Park)

- Winter Storms:
 - The 2014 and 2015 winter seasons ushered in many snow events. NYCEM was activated 7 times for winter weather. From January 2, 2014 to March 20, 2015 there were 16 snow events in which total accumulation was above 2 inches. Total snowfall for the 2014/2015 winter weather season was 49.8 inches.
 - Recent Hazard Occurrences: (threshold for event inclusion: maximum height of snow more than 10 inches)

Date	Name	Total (inches)	NESIS	Comments
February 13 – 14, 2014	N/A	12.5"	N/A	Sustained winds 20-30 mph with gusts up to 45 mph. Impacts to public transportation, particularly bus delays.
January 26 – 27, 2015	Blizzard - Juno	12"	N/A	NWS forecasted 30 inches for the city, roads were closed to traffic and subways were also halted. Public schools were closed. Widespread snow with areas of blowing snow. High near 27. Wind chill between 5 and 15. Snowfall rates decreased from original forecast.
March 5, 2015	N/A	11"	N/A	Widespread snow, steady temperature of 25 degrees. Wind chill values between 15 and 20. Subways and buses experienced weather related delays. LGA and JFK airports experienced flight delays and cancellations.

Source: <http://mesonet.agron.iastate.edu/request/download.phtml> (Downloaded from weather observation stations at JFK & La Guardia)

Chapter 4 Mitigation Actions: The annual update of mitigation strategies for the Mitigation Planning Council (MPC) is currently on hold due to additional City initiatives taking place in the Winter and Spring of 2015 (*OneNYC* development and the Recovery and Resiliency Program Tracker). The Planning Team will leverage information from these City initiatives to update the HMP mitigation actions for future annual review cycles.

- *Capital Projects Tracker* – Mayor's Office of Operations is tracking active construction and IT projects over \$25M.
- *Recovery and Resiliency Program Tracker* – (ORR) Mayor's Office of Recovery and Resiliency is tracking all recovery and resiliency work around the City on a monthly basis.
- *OneNYC* – Mayor's Office is tracking all projects from previous PlaNYC reports and current initiatives identified in *OneNYC*.

Chapter 4.5: Capability Assessment Below are recently released tools that support the implementation of mitigation actions.

Planning and Regulatory (City Plans):

- [NYC's Risk Landscape: A Guide to Hazard Mitigation](#) (NYCEM and DCP Nov. 2014): Developed by NYCEM and NYC Department of City Planning (DCP) in November 2014, this user-friendly version of the 2014 HMP tool presents and promotes the core concepts of hazard mitigation to a large audience. Hazards addressed in this guide include Coastal Storms, Coastal Erosion, Flooding, Strong Windstorms, Extreme Heat, Winter Weather, Water Shortage, Earthquakes, and Pandemic Influenza.
- [Reduce Your Risk Ready New York Guide](#) (NYCEM Oct. 2014): In October 2014, NYCEM developed a Ready New York guide geared towards the homeowner. This initiative included close collaboration with the NYC DOB. The guide identifies strategies that homeowners can employ to reduce the impacts of coastal storms, flooding, earthquakes, brush fires, strong windstorms, extreme heat, and winter weather.
- [Retrofitting for Flood Risk](#) (DCP Oct. 2014): This comprehensive guide on retrofitting buildings for New Yorkers living in the floodplain was developed by DCP in October 2014. The report provides a detailed assessment of retrofitting strategies that will enable New York City home and property owners to reduce the risk of damage and disruption from coastal flooding. The report also highlights the limitations of current federal regulations for buildings in urban environments like New York City.
- [OneNYC 2015](#) (NYC Mayor's Office April 2015) – A new version of *PlaNYC*, *OneNYC* is the City's blueprint for the physical future of New York City. This milestone report organized under four visions: Growth, Sustainability, Resiliency, and Equity –with many supporting priorities under each vision. The plan tackles aspects to improve the daily lives of New Yorkers and future generations in all areas by addressing a series of challenges from a growing population expected to 9 million by 2040; our aging infrastructure; climate change; and growing inequity.
- [One City: Built to Last](#) (NYC Mayor's Office Sept. 2014): This plan contributes to the citywide goal to reduce Green House Gas by 80% by 2050, reducing energy use in buildings by improving the efficiency of building systems, equipment, and operations, and dramatically expand on-site renewable energy generation.
- [Building the Knowledge Base for Climate Resiliency NPCC 2015 Update](#) (NPCC Feb. 2015): This report provides region-specific climate projections through 2100 for temperature, precipitation, and sea level rise. New topics covered in the report also include public health, with a focus on extreme heat events and coastal storms, and enhanced dynamic coastal flood modeling, which incorporate the effects of sea level rise.

Planning and Regulatory (Federal):

- [Federal Flood Risk Management Standard \(White House January 2015\)](#) Executive Order establishing a flood standard that will reduce the risk and cost of future flood disasters by requiring all Federal investments in and affecting floodplains to meet higher flood risk standards. The new standard gives agencies the flexibility to select one of the three approaches for establishing the flood elevation and hazard area used in siting, design, and construction:
 - Use data and methods informed by best-available, actionable climate science

- Build two feet above the 100-year (1%-annual-chance) flood elevation for standard projects, and three feet above for critical buildings like hospitals and evacuation centers; or
- Build to the 500-year (0.2%-annual-chance) flood elevation

Education and Outreach

- *Urban Heat Island (UHI) Working Group:* Organized by the Mayor's Office of Recovery and Resiliency (ORR), this group consists of City agencies, academics, and private utility providers. The group will inform the City's efforts to mitigate and adapt to the impacts of extreme heat and understanding of the impact of UHI.
- *Climate Change Adaptation Working Group:* Organized by the Mayor's Office of Recovery and Resiliency, this group will inform the City's efforts to mitigate and adapt to climate change.
- *Built Environment Working Group:* Organized by the Mayor's Office of Recovery and Resiliency to discuss programs, policies, projects and issues that relate to making the built environment resilient.