

CLIMATE ADAPTATION SECTION

CITY-WIDE ADAPTATION

PREPARING NYC FOR CLIMATE CHANGE

On October 29, 2012, Hurricane Sandy swept into New York Harbor, tragically killing 44 New Yorkers, and causing over \$19 billion in damages and lost economic activity.

To combat the climate crisis, the City is committed to minimizing New York City's contributions to climate change while also preparing for its current and future impacts. Under the leadership of Mayor Bill de Blasio, New York City is investing over \$20 billion in adaptation citywide. The impacts the City is preparing for include flooding from coastal storms, but also increased rainfall, deadly heatwaves, and the chronic impacts of sea level rise.

Here you can see some of the measures the City is undertaking to adapt the five boroughs to a warmer and more volatile future.

COASTAL PROTECTIONS

Strengthening coastal defenses is a key part of New York City's adaptation strategy. Since 2013, the City has initiated dozens of projects across all five boroughs to increase coastal resiliency. These projects employ a number of different strategies for preventing flooding, including constructing new dunes, restoring wetlands, integrating floodwalls into public spaces such as parks, and installing deployable flip-up gates that are raised in advance of an oncoming storm.

To learn more, read about the 2020 Groundbreakings below.



Rockaway Boardwalk rebuilt as a more resilient structure after Hurricane Sandy.

2020 GROUND-BREAKINGS

In the year ahead, groundbreakings are scheduled for three large-scale coastal protection projects across three different boroughs:

The **East Side Coastal Resiliency Project** in Manhattan, which will provide protection against storm surge and sea level rise for 110,000 vulnerable New Yorkers. The centerpiece of this 2.4 mile-long project involves elevating the East River Park approximately eight feet, improving access to the waterfront, and enhancing park amenities.

The U.S. Army Corps of Engineers' **Staten Island Coastal Risk Reduction Project**, which will protect 5.3 miles of Staten Island's shoreline from storm surge and sea-level rise with a series of buried seawalls, berms and levees.

The U.S. Army Corps of Engineers' **Rockaway Atlantic Shorefront Project** in Queens, which will further strengthen defenses for approximately six miles on the Atlantic side of the Rockaway Peninsula with a new tapered groinfield (stone jetties) to reduce erosion and a reinforced dune to block storm surge.

Combined, these three projects represent over \$2 billion in capital investments.



East Side Coastal Resiliency on a sunny day.



East Side Coastal Resiliency during a storm.



BUILDING AND ZONING CODES

Land use tools, such as building and zoning codes, offer powerful mechanisms for increasing the resiliency of our neighborhoods. With more than one million buildings in New York City, it's incredibly important to prepare the places where New Yorkers live and work for the coming changes to our environment.

Following Hurricane Sandy, the City strengthened the NYC building code, which now is among the highest and most protective in the country. The City also created a new zoning designation to limit density and discourage development in some of the most flood-prone neighborhoods.

Elevated homes in New Dorp, Staten Island.



INFRASTRUCTURE HARDENING

New York City's infrastructure allows our city to function and flourish. Without our electric, water and wastewater, transportation, and communications networks, life would grind to a halt. Since Hurricane Sandy, the City has worked with key utility providers to harden critical services to minimize disruptions during and after an extreme event. These providers have taken steps such as reconfiguring underground electric networks, and installing new, storm-proof doors to protect vulnerable assets.

The City also coordinates closely with the region's transportation agencies including the MTA and the Port Authority of New York and New Jersey on resiliency efforts.

STORMWATER MANAGEMENT

As a result of climate change, intense rainstorms will become more frequent and severe in the future. We must prepare for unpredictable, severe, and sudden rain events—like the recent flooding in Ellicott City, Maryland, which involved over eight inches of rain falling in the span of just two hours. These kind of events can cause severe flooding far from the coasts, causing property damage and disrupting lives.

New York City's strategy for managing increased rainfall includes expanding the capacity of the sewer system and increasing green infrastructure all throughout the five boroughs. Thousands of rain gardens have been built to capture and absorb stormwater, and a series of innovative Bluebelts on Staten Island use streams, ponds, and wetlands to channel stormwater runoff while creating new open space and wildlife habitat.



Rain garden during a storm in Flushing, Queens.
Photo: NYC Water / Rain Garden Construction, Flushing, Queens

COMBATTING EXTREME HEAT

As global temperatures rise, New York City is working to keep New Yorkers safe from heat illness and death. In 2015, the City developed its innovative Heat Vulnerability Index to identify communities with a higher risk for heat-related deaths during extreme heat events using physical factors (like green space and daytime surface temperature) and social factors (such as race and poverty).

Through the Cool Neighborhoods NYC strategy, the City is investing \$106 million dollars to green and cool historically underserved communities: planting trees strategically along city streets and small parks, restoring forests, coating millions of square feet of rooftops with reflective paint, and conducting outreach to share life-saving climate and health information with at risk populations.

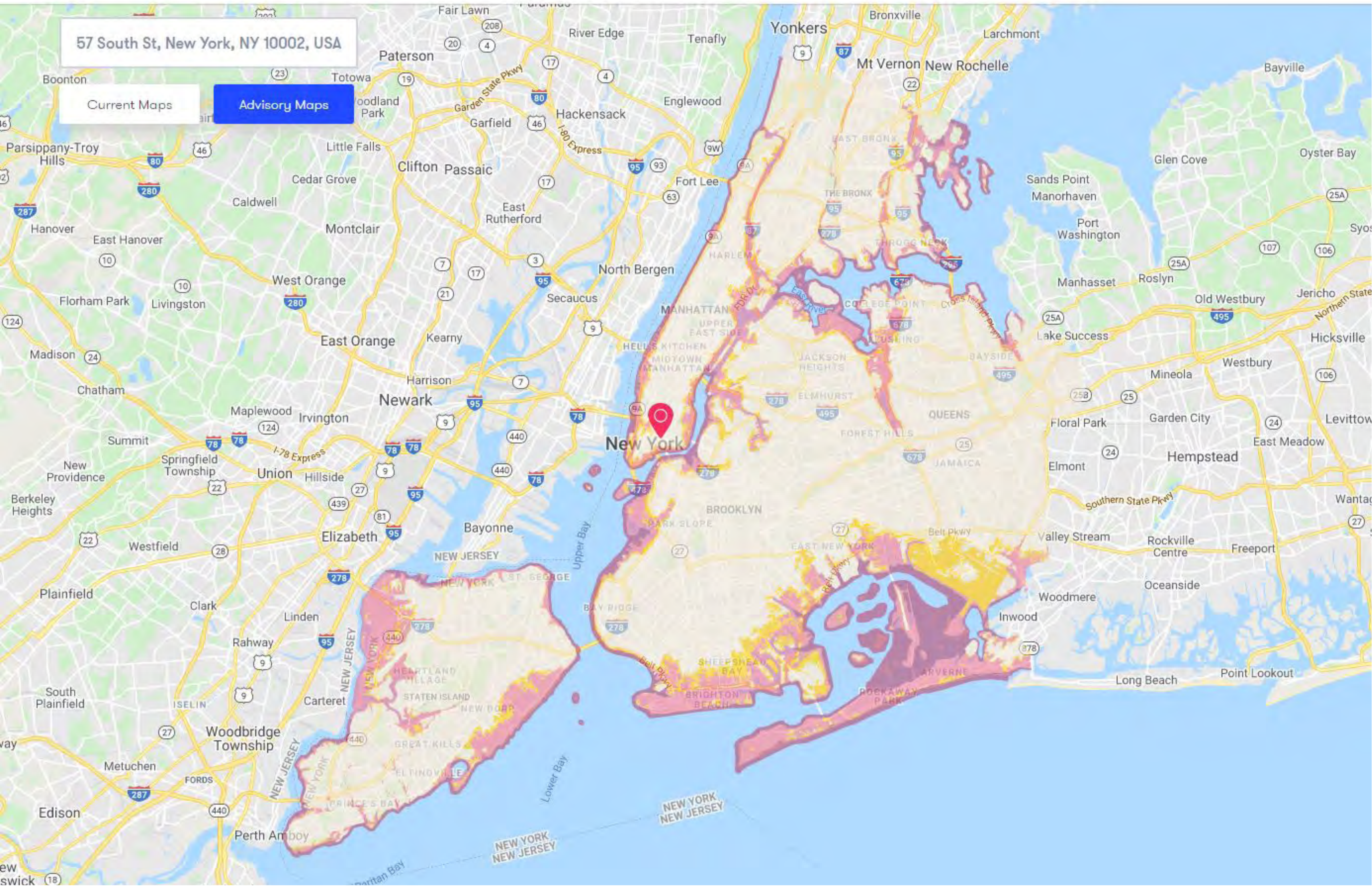


Local job seekers gain training and experience in installing energy saving reflective rooftops.



TACKLING THE CLIMATE CRISIS

The science is indisputable: The burning of fossil fuels is the single largest contributor to human-caused climate change. To address the climate crisis, New York City has committed to achieving carbon neutrality by 2050. This means ensuring our electricity comes from 100 percent clean sources, maximizing opportunities for energy efficiency in buildings, getting more people out of cars and onto public transit, bikes, or sidewalks, and much more. New York City's landmark Green New Deal, announced on Earth Day 2019, is reducing our city's emissions, directly confronting income inequality, and creating tens of thousands of good-paying jobs retrofitting buildings and expanding renewable energy.



FLOOD INSURANCE + FLOODHELPNY

Educating property owners about the importance of flood insurance is a crucial element in the city's multipronged climate resilience strategy. Flood insurance helps protect homeowners from the financial impacts associated with flood damage and helps ensure the speedy repair of buildings after a flood event.

Even after Hurricane Sandy, however, not all New Yorkers know their flood risk, and many families in the floodplain still do not have flood insurance. Through a variety of programs, including FloodHelpNY.org, the City is working to increase the number of New Yorkers with active policies while advocating for federal reforms that will make flood insurance affordable for all.

Visit floodhelpny.org for more information.