

Vulnerable to climate change, New York constructs seawall

December 14 2021, by Ana Fernandez



Construction workers on a flood defense project on the east side of Manhattan, New York.

After major storms highlighted New York's weaknesses in the face of climate change, the city is erecting a \$1.45-billion system of walls and

floodgates to protect it from rising sea levels.

Superstorm Sandy in 2012 was the trigger for establishing the East Coast Resiliency Project (ESCR), running 2.5 miles (four kilometers) along the shoreline of Lower Manhattan. Hurricane Ida, which ravaged parts of the [city](#) this year, added further urgency.

During Sandy, which killed 44 city residents while impacting 110,000 more and leaving \$19 billion in damages, [water levels](#) rose upwards of eight feet, according to Tom Foley, New York's acting Design and Construction Commissioner.

The completed wall will reach as high as 16.5 feet, Foley said. The project will also include gates to prevent water from seeping into Manhattan, home of the densest population in the United States.

The wall between 23rd and 20th streets is already constructed, an area where the East River and residential housing are at their most narrow.

Further down, where terrain allows, the project will include a hilly park that will serve as a protective wall, as well as a dock, an esplanade, bike lanes, benches and garden areas.

The city will also plant some 1,800 trees—nearly double the number that the project's construction has destroyed, along with an additional 1,000 in the neighborhood, said Sara Nielsen of the New York City Parks Department. Some 500 new trees have already been planted.

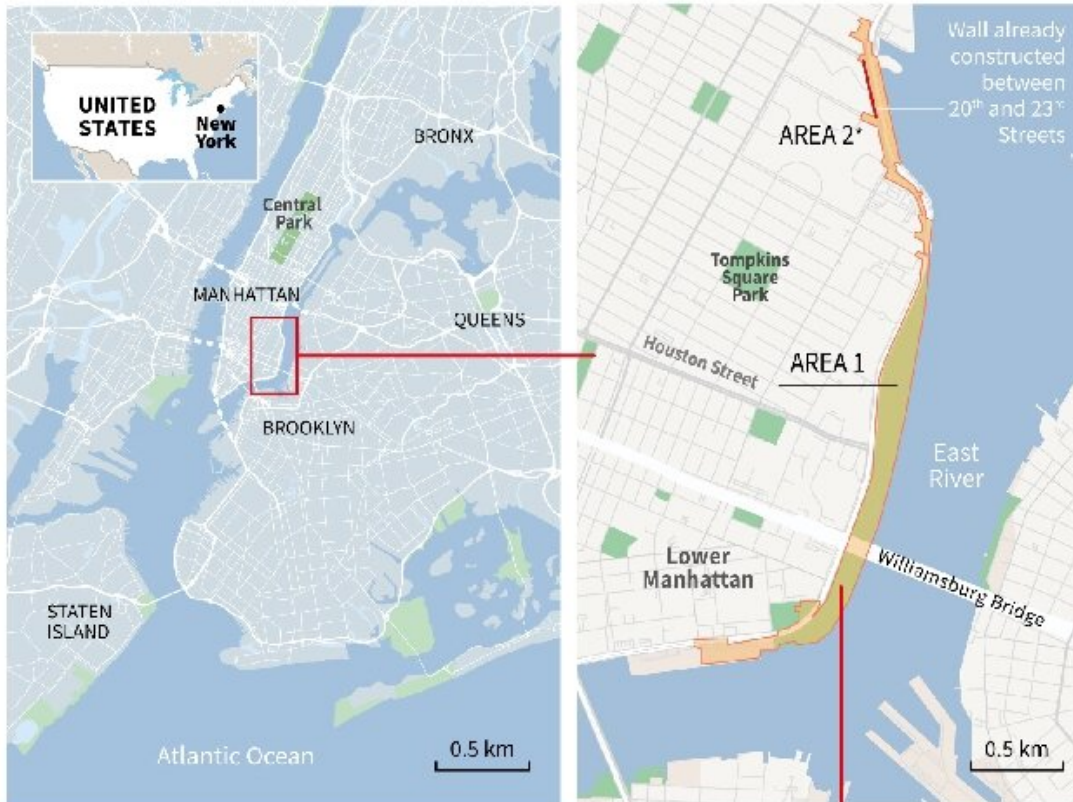
New York builds a wall to protect against flooding

Sea level is expected to rise 0.67 metres by 2050 and 1.82 metres by the end of the century

- Length: 4 km
- Materials: Steel and reinforced concrete
- Cost of the project: approx. \$1.45 billion
- Height: approx. 3 to 5 metres
- Completion date: 2026

The work includes

-  Planting of 1,800 trees
-  Underground drainage system
-  Electrical substation
-  Gates
-  Raising the elevation of East River Park



Source: NYC, @Mapcreator1234HERE The USS Intrepid, St. Ignace Park and V. Longo Brothers Playground

New York's flood wall—Details of the East Side Coastal Resiliency (ESCR) project between East 25th Street and Montgomery Street in Manhattan.

And a new underground drainage system will improve the sewage network's evacuation capacity, while the construction of a power substation should help prevent a days-long power loss that happened during Sandy.

That major 2012 superstorm proved one of the worst to hit the United States this century, along with 2005's Katrina, which devastated New Orleans, and Harvey, which lashed Houston in 2017.

'Adaptable'

But the project is far from enough: New York's some 520 miles of coastline faces forecasts of more than two feet rise in sea levels by 2050 and nearly six feet by the end of the century.

According to Jainey Bavishi, who directs the Mayor's Office of Climate Resilience, the city is investing in a "multi-layered strategy."

"We are building coastal protections where possible to keep the water out—but we also recognize that we're not going to be able to keep the water out in all places," Bavishi told AFP.



Lower Manhattan skyline and New York city.

She explained that the protections now under construction are "built to be adaptable."

"So if the projections for [sea level](#) rise and storm surge get worse than what we believe they are now, we can actually add elevation to the wall to add further protection."

Many buildings in Manhattan along with crucial infrastructure are also being reinforced, Bavishi explained, with construction limited in high-risk areas, and collaboration with residents and small businesses to minimize the impact of extreme weather events.

Some citizens are unhappy with the project and local associations have lodged appeals against it. Barring delays from those hurdles, the project is meant to be finished by 2026.

The hope is that Lower Manhattan will be able to breathe easier.

"I think it's a good idea but things move slowly, so I don't know how... effective it's going to be," said one resident named Terry.



Planning for the future—flood defense on the New York shoreline.

'Ambitious'

The ESCR is just one component of a larger [project](#) announced in 2013, when the city revealed a nearly \$20 billion plan aimed at "[climate resilience](#)."

But that price tag is just a "down payment," Bavishi says. "Resiliency is a process, not an outcome."

The US Congress recently approved a massive social spending plan of \$1.2 trillion, which will allocate roughly \$550 billion to climate and clean energy tax incentives.

"I do believe that our entire climate resiliency strategy is one of the most ambitious in the United States and potentially in the world," Bavishi said.

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