

Glossary

Adaptation: _____

Resiliency: _____

Stakeholder: _____

Risk: _____

Global climate models: _____

Green infrastructure: _____

Other terms you learned:

Climate Change in NYC: Coastal Flooding

Observed Changes: Sea level rise in New York City has averaged 1.2 inches per decade (total of 1.1 feet) since 1900, nearly twice the observed global rate of 0.5 to 0.7 inches per decade over a similar time period.

Projected Changes: Projections for sea level rise in New York City are 11 to 21 inches by the 2050s, 18 to 39 inches by the 2080s, and could reach as high as 6 feet by 2100.

Projected sea level changes alone would increase the frequency and intensity of coastal flooding. Additionally, climate change leads more frequent storms.

**Information taken from the 2015 NPCC Report.*

Figure 1. Global Average Absolute Sea Level Change, 1880–2015

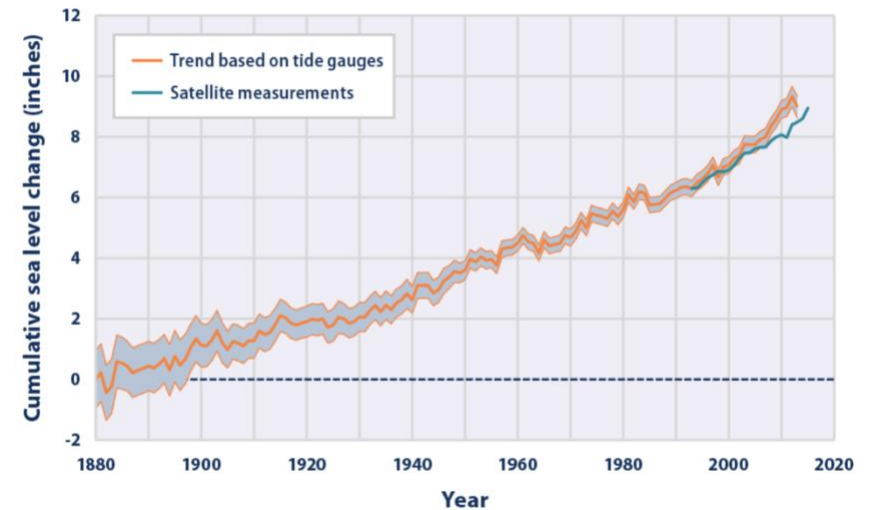


Figure 1 source: [EPA](#)

NYC Projects that Address Coastal Flooding

Some of New York City's strategies for addressing coastal flooding include:

- Building coastal protection infrastructure projects such as seawalls and levees
- Raising shoreline edges in low-lying communities
- Educating residents about coastal flood risk
- Improving flood insurance programs
- Elevating buildings to avoid flooding

Example of a resiliency infrastructure project: **East Side Coastal Resiliency Project (ESCR)**



Image source: [East Side Coastal Resiliency Project](#)

An integrated coastal protection system that will reduce the risk of flooding and facilitate access to the waterfront, creating improved public spaces and enhanced natural areas.

Stretching from Montgomery Street to East 25th Street, the ESCR Project will strengthen 2.2 miles of urban coastline against floods and rising sea levels, while providing social and environmental benefits to the community.

Designing Your Project

What is the goal of your project? _____

What are some specific design features you plan on using? _____

Where will your project be located? _____

What impact will your project have on the community? _____

Who are the stakeholders involved? _____

What will your project look like? Sketch below:

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Other terms you learned:

Climate Change in NYC: Extreme Heat

Observed Changes: Mean annual temperature has increased at a rate of 0.3°F per decade (total of 3.4°F) from 1900 to 2013 period in Central Park, although the trend has varied substantially over shorter periods.

Projected Changes: Mean annual temperatures are projected to increase by 4.1 to 5.7°F by the 2050s and by 5.3 to 8.8°F by the 2080s. Heat waves and extreme heat days are very likely to increase. The frequency of heat waves is projected to triple by the 2080s, and extreme cold events are projected to decrease.

**Information taken from the 2015 NPCC Report.*

Heat Vulnerability Index (HVI) for New York City Community Districts

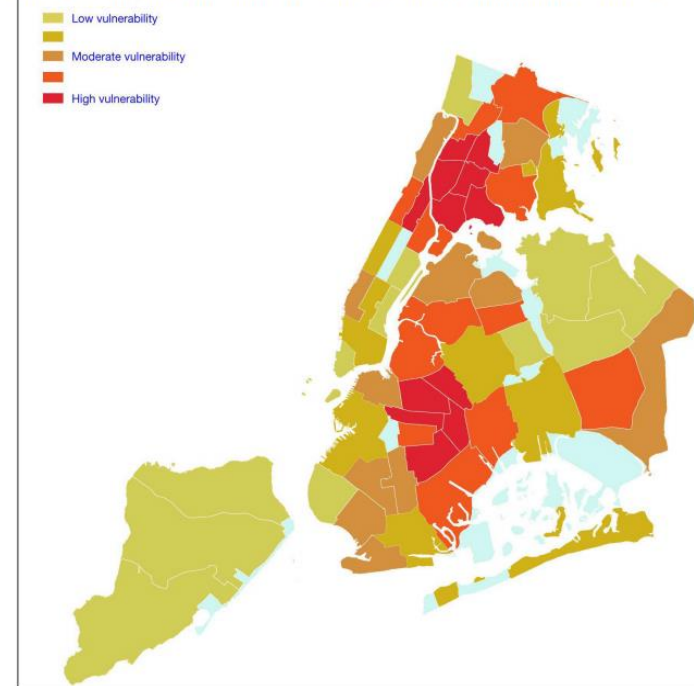


Figure 3: Source: DOHMH, 2015.

Image source: [Cool Neighborhoods NYC](#)

NYC Projects that Address Extreme Heat

New York City's strategies for addressing extreme heat are outlined in **Cool Neighborhoods NYC**, which include:

- Conducting targeted street tree plantings
- Encouraging New Yorkers to check on at-risk neighbors through the Be a Buddy NYC program
- Understanding the role that cool pavements play in addressing the Urban Heat Island Effect
- Painting building rooftops white to reflect sunlight



Image source: [Cool Neighborhoods NYC](#)

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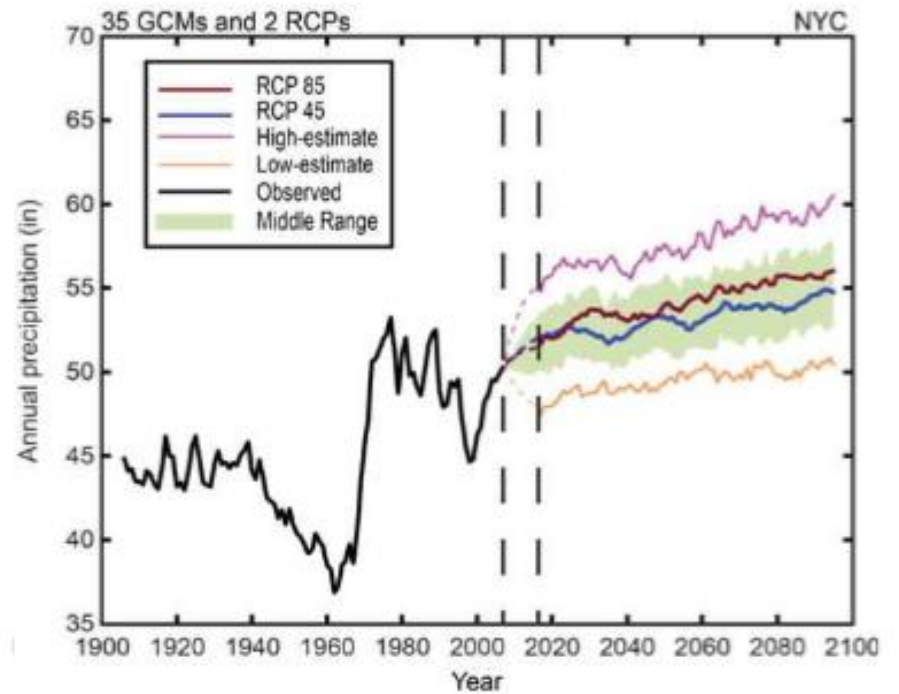
Other terms you learned:

Climate Change in NYC: Stormwater

Observations: Mean annual precipitation has increased at a rate of approximately 0.8 inches per decade (total of 8 inches) from 1900 to 2013 in Central Park. Year-to-year (and multi-year) variability of precipitation has also become more pronounced, especially since the 1970s.

Projections: Mean annual precipitation increases projected by the global climate models (GCMs) are 4 to 11 percent by the 2050s and 5 to 13 percent by the 2080s.

**Information above and graph below taken from the 2015 NPCC Report.*



NYC Projects that Address Stormwater

Some of New York City's strategies for addressing stormwater include:

- Installing green infrastructure such as curbside rain gardens and green roofs
- Increasing permeable pavement
- Educating residents about keeping litter out of catch basins

Example of a policy project: **Rooftop Farm atop the Brooklyn Navy Yard**

In 2011, the Department of Environmental Protection awarded Brooklyn Grange, a local environmental non-profit, \$592,730 to construct a 40,000-square-foot commercial rooftop farm. The rooftop farm manages over one million gallons of stormwater per year. The production of fresh local produce on the rooftop farm also creates opportunities for urban agriculture jobs training and volunteerism, education and advocacy.



Image source: [Brooklyn Grange](#)

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