

Over the last year, the Department of City Planning met with you and other community members from across the floodplain to discuss strategies to make buildings resilient to flooding. We heard many of you express an interest in learning more about flood resilience more broadly. This newsletter addresses some of the most common questions.

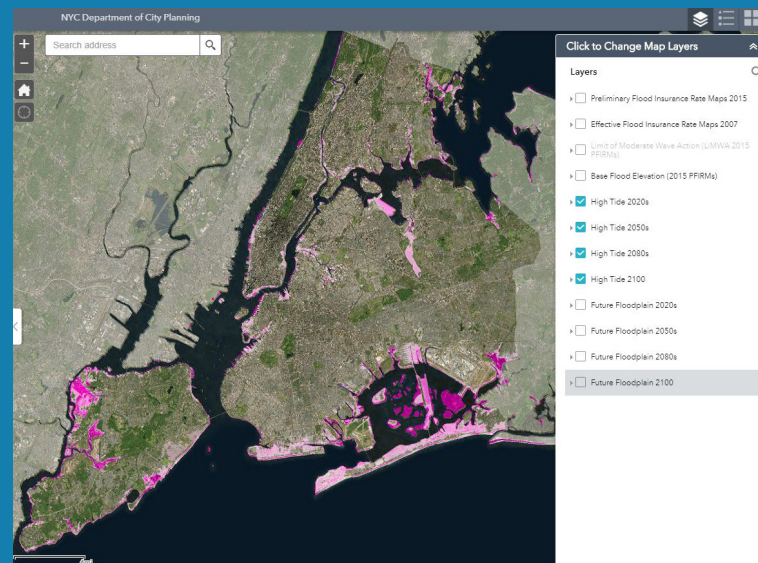
As we reflect on the importance of preparing for coastal storms six years after Superstorm Sandy, [recent flooding events](#) remind us of a slower, yet devastating coastal risk: sea level rise. As rising air temperatures are causing glaciers and ice sheets to melt, and rising water temperatures facilitate thermal expansion, sea levels are rising globally. Researchers and scientists are constantly [creating models](#) to better understand the rate / extent of rising sea levels, as well as the risks that will occur as a result.

Sea levels rise at different rates based on local environmental conditions. The global rate of sea level rise (SLR) has been about .5 inches per decade, but in NYC, sea levels have risen a foot over the last 100 years at a rate of about 1.2 inches per decade. While this may not seem like a large increase, the implications can be significant. The NYC Panel on Climate Change — an independent body of scientists that advises the City on climate risks and resiliency— projects that sea levels are expected to increase between 8-30 inches by the 2050's, and as much as 15-75 inches by the end of the century.

Rising seas will cause more frequent [“nuisance” or “sunny day” flooding](#) to occur in low lying neighborhoods. This is an incredibly expensive and disruptive issue that communities already face today, and will only be exacerbated by rising seas. Rising sea levels also threaten low-lying infrastructure such as roads, bridges, and waste water treatment plants, as well as underground infrastructure such as subways and tunnels. Higher water levels due to SLR will cause

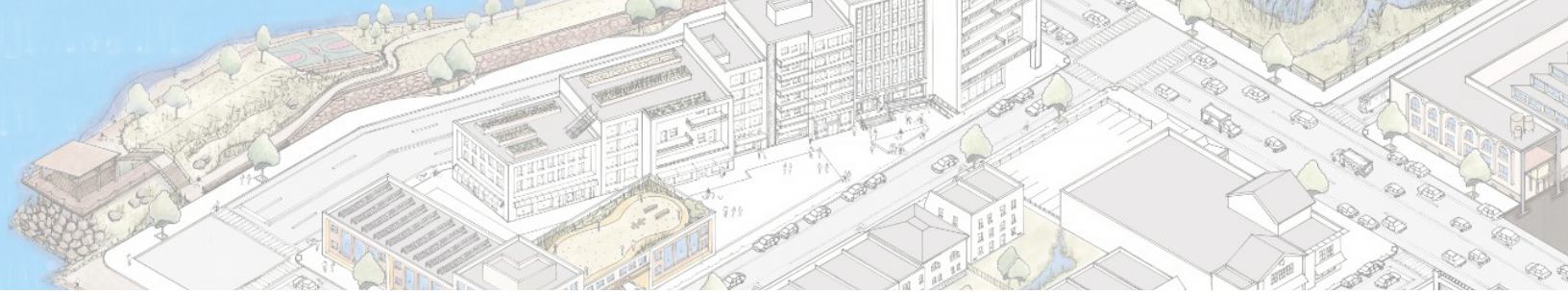
even higher storm surges, such as those experienced with Superstorm Sandy, sending flood waters further inland, increasing the extent of likely damage from a storm. Furthermore, SLR has been linked to increasing groundwater levels, which can cause basement flooding, as well as infrastructure damage.

Online Tool: NYC's Flood Hazard Mapper



The NYC Flood Hazard Mapper provides a comprehensive overview of the coastal flood hazards that threaten the city today, as well as how these flood hazards are likely to increase in the future with climate change. It is intended to enable more informed decision-making by residents, property and business owners, architects and engineers, and policy-makers.

Use [this interactive map](#) to understand and visualize the impacts of sea level rise on our city firsthand.



To address some of these issues, DCP has developed a zoning tool called ‘Special Coastal Risk District’ (SCRD) to limit density and population growth in exceptionally vulnerable neighborhoods, while allowing current residents of these areas to make the type of resiliency investments that will make their homes safer. This tool targets areas with low-lying shorelines, such as [Hamilton Beach and Broad Channel](#), in Queens, where coastal protection is not feasible due to the extent, shape, and multiple private ownership of the coast. It was adopted in areas where sea level rise projections indicate that, given upper range of sea level rise projections, by the 2050s, many properties and streets could be flooded on a daily basis, as well as in areas with targeted buyout programs on [Staten Island](#).

As we continue to work on making NYC’s coastline safer and more accessible, it is important to understand the various types of risks that we face; sea level rise results in slow, permanent flooding to very low-lying areas on the coast, essentially altering the shape of our shoreline, and therefore our city.



“Sunny day” high-tide flooding is already affecting coastal communities such as Broad Channel (shown here). Sea level rise will only exacerbate these risks.

Are you enjoying our newsletter?

What other topics do you think we should cover? We want to hear from you and hope you’ll **write to us** with any questions or feedback related to flooding and climate resiliency!