



High-Tide Storm Was a Known Risk for New York

By Eric Roston - Oct 30, 2012

Research has shown for several years that Manhattan faces serious flood risk.

A 2008 study concluded that New York was vulnerable to storm-surge flooding from even a moderate storm and recommended that local authorities build protections as other cities have. The Fox Point Hurricane Barrier, which spans the Providence River in Rhode Island, was built in the middle of the last century after major storms. London's Thames Barrier has protected London since 1982.

The *Bulletin of the American Meteorological Society* published "[New York City's Vulnerability to Coastal Flooding](#)," in its June 2008 issue. Led by Brian Colle of the State University of New York at Stony Brook, the study suggested that "both state and city authorities in NYC and coastal northern New Jersey should begin exploring the feasibility of constructing European-style storm-surge barriers across major connections of New York Harbor to the ocean as protection against serious storm surge flooding." Colle could not be reached for comment.

Researchers used storm surge models to study how events of varying sizes -- and hitting at varying tide levels -- affected the city. The seawall around lower Manhattan is about 1.5 meters above sea level and "offers little protection against major storm surge events," the authors noted.

Low tides spared lower Manhattan any flooding during Hurricane Floyd, in September 1999. Researchers simulated that storm, altering its wind speed and timing relative to high-tide. What they found was eventually proved yesterday by Sandy. "[S]ignificant flooding would have occurred across coastal southern and western Manhattan Island" if Floyd had hit during high tide and if its winds were category 1 hurricane strength instead of tropical storm winds. Hurricane Sandy hit with hurricane-force winds, near high tide.

How to protect a coast against hurricanes and other storms is a difficult, expensive question that can go on for decades, in the U.S. most famously in the levee system of New Orleans and Southern Louisiana. The U.S. Army Corps of Engineers found in the 1980s and 1990s that New York City's low-lying, heavily populated neighborhood posed a higher than appreciated storm surge risk, according to the city's [Office of Emergency Management](#). The office states on its website that "New York City's unique geography — located at a 'bend' in the coastline between New Jersey and Long Island — makes it especially vulnerable."

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