



All photos courtesy of Malcolm Bowman

# Coast Watch...

## Relative “Quiet” Broken with March Storm

### WEB EXTRA

Stony Brook, NY, March 19, 2010 - A late season nor'easter ripped through Metropolitan New York and Long Island the evening of March 13, 2010. And although the storm's fury fell short of the damaging 1992 nor'easter, the results of last Saturday's storm will still be considered a moderate coastal flooding event that caused roadway and railroad closures. A combination of high winds—some reported up to hurricane force—and saturated soil brought down numerous trees resulting in extensive power outages, especially on Long Island where 263,000 customers lost power.

This storm did not break any records, but did break the relative “quiet” of the past decade. The gauge at the Battery in lower Manhattan recorded a peak surge of 1.28 meters and a storm tide of 2.58 meters. Said Stony Brook University's **Dr. Brian Colle**, “This was the highest surge since the January 1996 nor'easter and the storm tide was within 0.38 meter of the 1992 flooding event.” (Click here to read more about the 1992 flooding event that brought much of NYC's transportation

to a halt.) Other flooding events during the “active” 1990s with storm tide greater than 2.50 meters at the Battery were: October 19, 1996 (2.51 m); March 20, 1996 (2.53 m); March 14, 1993 (2.54 m); December 11, 1992 (2.96 m); and October 31, 1991.

Stony Brook University's **Dr. Malcolm Bowman** was down at the Battery at high tide Saturday evening to check out the conditions, camera in hand. (We thank him for sharing his photos here.) “The seawall had been overtopped and the boat ramp beyond the gate was completely inundated,” said Bowman. “So, too, was the promenade and the area around the Coast Guard's historic Battery tide station. If you were to sit on the park benches, your legs would be in standing water.” Snapping pictures in the gloom and dark, Bowman was surprised at how eerily calm and quiet it was compared to the howling wind and rain experienced further uptown. There were a few other brave souls out there and because of high winds and tides, the Staten Island Ferry service was suspended.

“There's lots of interesting science here to get fired up about,” says Colle. He observed that there were similarities between the 1992 storm and the recent one. “Not the deepest cyclone in both, but the storms were sitting just inland with a huge fetch and strong winds ahead (north) of a west-east front. This March 2010 storm offers more clues on what it takes to get a big flooding event.”

Dr. Bowman also commented on why there was a high storm surge at Port Jefferson (the port closest to Stony Brook University) and other locations around Long Island Sound. “Surges are often highest in western Long Island Sound because of its NE-SW orientation and its funnel shape. Northeast winds drive surges down the Sound and they pile up in western LIS. Also large waves break against the shore, adding additional surge.”

Bowman and Colle are both members of the Stony Brook Storm Surge Group at the School of Marine and Atmospheric Sciences (SoMAS) and recipients of New York Sea Grant funding for various projects. Click here for more on how these researchers are finding ways to improve storm surge forecasts.

*Editor's Note: Professor Colle conducts a Friday afternoon weather discussion each week where students and faculty alike share their enthusiasm and meteorological expertise for weather and its forecasting. It was after attending the informative March 12 weather discussion that this writer called her sister traveling from Maryland to New York and said, “Don't come.” She didn't listen and spent several harrowing hours on flooded roads and alternate routes. From the vantage point of the Verrazano Narrows Bridge she could see that the Belt Parkway which hugs the coast of Brooklyn had flooded with seawater.*

— Barbara A. Branca



The gauge at The Battery in lower Manhattan (at far back left) recorded high surge and storm tide numbers. So high, in fact, service was suspended for the Staten Island ferry (seen here, in the distance).



At high tide on Saturday evening, The Battery Park seawall had been overtopped and the boat ramp beyond the gate (pictured here) was completely inundated.



The promenade at the Battery was also completely inundated from the flooding event. The seawall is pictured here on the right.