

# Could Sandy happen again? Maybe, says geologist

October 17 2013

---

Almost a year after Hurricane Sandy, parts of New York and New Jersey are still recovering from billions of dollars in flood damage. Tufts University geologist Andrew Kemp sees the possibility of damage from storms smaller than Sandy in the future.

"Rising sea levels exacerbate flooding," says Kemp. "As sea level rises, smaller and weaker storms will cause flood damage." An assistant professor in Tufts' Department of Earth and Ocean Sciences, Kemp co-authored a study on sea-level change close to New York that was published recently in the [\*Journal of Quaternary Science\*](#).

Sandy hit New York as a team led by Kemp was researching sea-level change and flooding that had occurred in seven historically damaging hurricanes in New York since 1788. Last October, Sandy's storm surge hit the coast at high tide, but storm and tidal conditions were not the only cause of the devastation, Kemp says. Seawaters off New York's coast have risen 16 inches since 1778, the year of New York City's first major recorded storm, his research shows.

To make this determination Kemp and his team studied salt-marsh sediments from Barnegat Bay in northern New Jersey, south of the tide gauge at Battery Park in New York. Using sediment cores, long cylinders drilled into the marsh floor that offer scientists a look back through time, they were able to reconstruct sea-level changes since 1788.

Kemp cites two factors for rising seas. One is the natural sinking of land

called glacio-isostatic adjustment. A second factor, and one supported by the latest report from the Intergovernmental Panel on Climate Change (IPCC), points to the melting of the ice-covered terrain of Greenland and Antarctic as well as the thermal expansion of ocean waters.

Looking forward, Kemp sees the possibility of storms less powerful than Sandy inflicting serious damage. He uses a basketball analogy. "It's like playing basketball and raising the level of the court so that shorter and shorter people can dunk. It makes low lying property and infrastructure more vulnerable at a time when developers are pumping money into coastal cities and towns."

Provided by Tufts University

Citation: Could Sandy happen again? Maybe, says geologist (2013, October 17) retrieved 26 April 2024 from <https://phys.org/news/2013-10-sandy-geologist.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.