

## **Evidence for a tsunami generating impact event in the New York coastal region approximately 2300 years ago**

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Goodbred et al, 2006 [1] provide evidence for a tsunami event on Long Island approximately 2300 years ago. They record run-ups hundreds of meters inland, and graded bedding in cores consistent with a rapid, high-energy depositional event, namely a tsunami. Because the Atlantic Ocean lacks frequent seismic activity associated with tsunami, we explore the possibility that the tsunami was generated by a hyperbolide impact into the Atlantic Ocean. Samples from cores with the tsunami deposit layer were examined from Sandy Hook, Great South Bay, and the Hudson River. Examination of grains was performed with scanning electron microscopy and energy dispersive X-ray analysis. Analysis showed the presence of impact suggestive glassy spherules in the Hudson cores. All Hudson cores contained spherules of similar aluminum silicate composition. Some exhibit quenching texture, which is consistent with rapid cooling. Additionally, the cores in the Great South Bay and Sandy Hook contained glass of a similar aluminum silicate composition. The presence of vesicular glass and spherules in the tsunami layer is unusual, considering the Hudson is non-volcanic. This makes a hyperbolide impact into the Atlantic a likely explanation for the tsunami deposits.

1. Goodbred, S., Krentz, S. LoCicero, P., Nitsche, F., Carbotte, S., and A. Slagle, 2006. Evidence for a newly discovered 2300-year-old tsunami deposit from Long Island, New York. Eos Trans. AGU 87(53), Fall Meet. Suppl., Abstract OS43C-0681.