[Tsunami-Like Waves June 13, 2013](http://oldwcatwc.arh.noaa.gov/previous.events/06-13-13/index.php)

Tsunami-like waves were observed during the afternoon of June 13, 2013 along the US east coast from North Carolina to Massachusetts. The largest impact was at Barnegat Light, NJ where two people were swept off a jetty and injured. Wave size was at least 6 feet peak-to-trough at this location.

**What caused the tsunami-like waves on June 13th?**

The source is complex and still under review, though the coincidence at several gages with strong atmospheric pressure fluctuations indicates that this event was possibly generated by meteorological causes. A strong weather system (low-end [derecho](http://en.wikipedia.org/wiki/Derecho)) propagated from west to east over the central Atlantic coast just before the tsunami-like waves occurred. Rapid pressure fluctuations associated with the weather system combined with travel over relatively shallow water is a hallmark of meteotsunami generation. Slumping along the continental shelf east of New Jersey is also a potential source of the event.

**Was there particular seismic activity offshore that corresponds to the event?**

No seismic activity other than background noise was observed at the time of the event.

**How is a meteotsunami different than any other tsunami?**

The difference between the two is in how the wave is generated. Tsunamis are generated by a sudden displacement of a large amount of water; usually from below as in earthquakes and submarine landslides. Meteotsunamis are generated by atmospheric effects from above which generate the waves over time through resonance effects.

**How is a tsunami different than wind generated waves?**

Tsunamis have longer distances between wave crests. An observer on a beach sees wind-generated waves approach and break on the order of every 3-15 seconds. Tsunami crests are between 5 minutes and two hours apart. The difference in wavelength causes tsunamis to flood as opposed to break and causes the entire water column to be in motion versus just the upper section for wind waves.

**Where did the waves occur?**

Tsunami-like waves were recorded on tide gages from North Carolina to Massachusetts. In total, more than 30 tide gages and one deep ocean pressure sensor monitored by the West Coast/Alaska Tsunami Warning Center (WCATWC) recorded the event. Effects were visually observed along the New Jersey coast and in southern Massachusetts.

**How often to meteotsunamis happen?**

Meteotsunamis can occur several times a year, but are usually too small to be noticed by people on the coast. Previous significant meteotsunamis along the east coast occurred in October, 2008 in Maine and July, 1992 in Florida.