

Atlantic Tsunami FACTSHEET

◆ Tsunamis are seismic sea waves. They are instantaneously generated shallow water gravity waves with a typical height of 1 meter (3ft.) and length of 160 kilometers (100 miles) in the open ocean, with heights which can exceed 10 meters (30 ft.) in shallow coastal areas. The wave period can range from several minutes to more than 30 minutes. Short period waves may indicate a local source. Longer periods indicate a more distant source.

◆ The potential sources for tsunamis in the western North Atlantic are earthquakes, submarine slumping, and volcanic activity. There may also be a unique source of seismic induced waves triggered by hurricanes or low pressure centers. Not every seismic event creates a tsunami! Rogue waves are similar events but meteorological in origin.

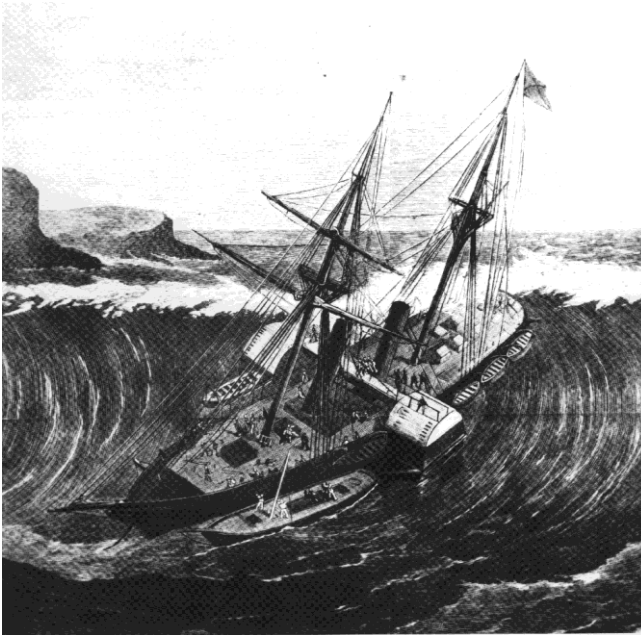
◆ The southwestern North Atlantic is seismically and volcanically active and is surrounded by tectonic plate boundaries. The Lesser Antilles is the most likely source for a Caribbean-wide tsunami disaster. The dome of the active volcano at Montserrat is getting bigger, which suggests a landslide tsunami hazard. The submarine volcano Kick'em Jenny, located 8 km off the north coast of Grenada poses a threat to all islands of the eastern Caribbean. Although only 5% of tsunamis are caused by volcanic activity, these are among the most deadly.

ATLANTIC TSUNAMIS

- 1530** Venezuela
- 1688** Jamaica
- 1690** Leeward Islands, Virgin Islands
- 1692** Jamaica
- 1751** Hispanola
- 1755** Saba, Antigua, St. Martin, Barbados, Martinique, Cuba
- 1767** Martinique and Barbados
- 1769** Hispanola
- 1770** Hispanola
- 1775** Hispanola and Cuba
- 1780** Jamaica
- 1781** Jamaica
- 1787** Jamaica
- 1802** Antigua
- 1823** Martinique
- 1831** Trinidad and St. Christopher
- 1837** Martinique
- 1842** Guadeloupe, Grenada, Becquia I., Haiti, St. Johns, Hispanola
- 1843** Antigua
- 1853** Venezuela
- 1860** Haiti
- 1867** Virgin Is., Puerto Rico, Saba, St. Christopher, St. Barthelemy, Antigua, Guadeloupe, Martinique, St. Vincent, Grenada
- 1868** Puerto Rico and St. Thomas
- 1874** Lesser Antilles
- 1881** Jamaica
- 1886** South Carolina
- 1887** Hispanola
- 1907** Jamaica
- 1911** Trinidad
- 1916** Panama
- 1918** Puerto Rico (2) and St. Thomas
- 1929** Canada
- 1932** Cuba
- 1946** Hispanola and Puerto Rico
- 1946** Puerto Rico
- 1953** Dominican Republic
- 1955** Venezuela
- 1969** Leeward Islands
- 1989** Puerto Rico
- 1991** Costa Rica
- 1992** Daytona Beach, Florida
- 2010** Haiti

Atlantic Tsunami Awareness

Population growth and the associated development in the region has increased tenfold, from 3 to 30 million people since the tsunami of 1867; even more so in Florida. Today a tsunami has the potential for devastation to life and property greater than that of all that lost in hurricane storm-surge in the last 100 years. Based on previous history, a tsunami disaster will occur every 19 years. The region is one of the last places with a documented history of tsunami disasters without a mitigation plan.



The Royal Mail Steamer *La Plata* anchored about 4 km from Charlotte Amalie (U.S. Virgin Islands) engulfed by the tsunami of November 19, 1867. From *Harpers Weekly* Vol. XII, No. 576, January 11, 1868, p. 30.

TSUNAMI SAFETY

Watch for:

1. Earthquakes
2. Volcanic activity
3. Hurricanes
4. Landslides
5. Extreme “tides”

These are signs that a tsunami may occur within minutes. Run away from the coast!

The first indication of a tsunami may be the receding of the water at the shore. This extreme apparent “low tide” is made even more curious by the stranded sea-life: fish flopping and crabs scurrying on the bare ocean floor. This is not a low tide. If you see this - run away! The “wall of water” or tsunami is only minutes from you. Many times the wave crest arrives first, and there is little warning, but to head for higher ground.

Additional Reading:

<http://itic.ioc-unesco.org/index.php>

Additional Information:

gmaul@fit.edu