

Tsunami Science and Preparedness: *Creating Tsunami Resilient Communities*

Glossary of Terms

Term	Definition
Amplitude:	The maximum height of a wave above the mean sea level. The rise above or drop below the ambient water level as read on a tide gage.
Arrival time:	Time of arrival, usually of the first wave, of the first wave of the tsunami at a particular location.
Asperity:	Something that obstructs progress, usually used to refer to differing amounts of slip along fault during an earthquake. This can lead to a larger tsunami in some areas than would be expected by a uniform slip.
Bore:	Traveling wave with an abrupt vertical front or wall of water. Under certain conditions, the leading edge of a tsunami wave may form a bore as it approaches and runs onshore. A bore may also be formed when a tsunami wave enters a river channel, and may travel upstream penetrating to a greater distance inland than the general inundation.
Capability:	Ability to deal with and withstand disaster
Celerity:	Speed of travel of a wave from one point to another. This is not the same as the water particle velocities in the wave.
Coastal:	Land near the ocean, the seashore.
Credible Worst Case Scenario:	The largest event that is scientifically credible on the human timescale.
Deployment:	1. The placement of people equipment in the field. 2. Implementation
Disaster:	The impact of a natural or man-made hazard that negatively affects society or environment. Disasters occur when hazards strike in vulnerable areas.
Dissemination:	The passing out or spreading about of something, usually ideas.
Education:	The knowledge or skill obtained or developed by a learning process.
Emergency:	Situation just before and after a hazard that can cause harm to populations, property, infrastructure and goods/services. In this phase, (local) response services are activated.
Emergency Management:	A coordinated and organized effort to mitigate against, prepare for, respond to, and recover from an emergency. The commonalities among all types of man-made and natural disasters suggest strongly that many of the same management strategies will apply to all such emergencies. EM requires a close working partnership among all levels of government and the private sector.
Evacuation:	The clearance of people from a given locality often under government order due to a natural or man-made threat.
Exercise:	Practice of a scenario.
Exposure:	The intensity, duration, and variation in hazard characteristics at a particular site or to a person.
Forecast:	To estimate or calculate in advance, especially to predict
Frequency:	The measurement of the number of occurrences of a repeated event for a given unit of time. Also called recurrence interval.

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Harbor resonance:	The continued reflection and interference of waves from the edge of a harbor or narrow bay which can cause amplification of the wave heights, and extend the duration of wave activity from a tsunami.
Hazard:	Circumstance that increases the likelihood or probable severity of a loss.
Horizontal inundation distance:	The distance that a tsunami wave penetrates onto the shore, measured horizontally from the mean sea level position of the water's edge. Usually measured as the maximum distance from a particular segment of the coast.
Human perception:	How people view and estimate the occurrence of a hazard.
Impact:	1. The effect of a hazard on a person or location. 2. The force transmitted by a collision.
Inundation:	Horizontal distance from the shoreline of the furthest extent of a wave.
Landslide	The downward sliding of a mass of earth and rock.
Leading-depression wave:	Initial tsunami wave is a trough, causing a draw down of water level.
Leading-positive wave:	Initial tsunami wave is a crest, causing a rise in water level. Also called a leading-elevation wave.
Marigram:	Tide gage recording showing wave height as a function of time.
Mercalli Scale	A scale of seismic intensity. It measures or rates the effects of an earthquake at different sites based on human perception and damage.
Mitigation:	Policies and activities that reduces the vulnerability to damage from future hazards.
Moment Magnitude, Mw.:	Magnitude based on the size and characteristics of a fault rupture, and determined from long-period seismic waves. It is a better measure of earthquake size than surface wave magnitude, especially for very large earthquakes. Calibrated to agree on average with surface wave magnitudes for earthquakes less than magnitude 7.5.
Numerical Modeling	Computer simulation of an event using a system of equations.
Oral History:	Stories of events passed from one generation to the next without written language.
Paleoseismology:	The geologic study of prehistoric earthquakes.
Period:	The length of time between two successive peaks or troughs. May vary due to complex interference of waves. Tsunami periods generally range from 5 to 60 minutes.
Preparedness:	Being made ready beforehand for a disaster.
Probabilistic Tsunami Hazard Assessment (PTHA):	A map that shows the hazard from tsunami based on the probability that a tsunami will exceed a certain elevation in a given number of years. The analysis takes into consideration the uncertainties in the size and location of earthquakes and the resulting tsunamis that can affect a particular site.
Recovery:	The process of returning to former prosperity or status.
Resilient:	Recovering readily from adversity.
Response:	A reaction to a specific stimulus.

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Risk:	The estimated impact that a hazard event would have on people, services, facilities, and structures in a community, and the likelihood of an occurrence resulting in those conditions. Also a function of vulnerability/exposure, the hazard, and capacity.
Runup:	Maximum height of the water onshore observed above a reference sea level. Usually measured at the horizontal inundation limit.
Seiche:	A standing wave oscillating in a partially or fully enclosed body of water. May be initiated by long period seismic waves, wind and water waves, or a tsunami.
Seismic:	Caused by or related to an earthquake.
Severity:	The strength or severity of a natural hazard.
Simulation:	An imitation or representation of a potential situation. Often made using computers.
Strike-slip earthquake:	An earthquake caused by horizontal slip along a fault.
Teletsunami:	A tsunami that travels more than ~1000 kilometres from its origin before reaching land.
Thrust earthquake:	An earthquake caused by slip along a gently sloping fault where the rock above the fault is pushed upwards relative to the rock below. The most common type of earthquake source of damaging tsunamis.
Tidal wave:	Common term for tsunami used in older literature, historical descriptions and popular accounts. Tides, caused by the gravitational attractions of the sun and moon, may increase or decrease the impact of a tsunami, but have nothing to do with their generation or propagation. However, most tsunamis give the appearance of a fast-rising tide or fast-ebbing as they approach shore and only rarely as a near-vertical wall of water.
Travel time:	Time that it takes the tsunami to travel from the source to a particular location.
Tsunami Catalog	Record of tsunami events and magnitudes in an area. There are several online resources.
Tsunami earthquake:	A tsunamigenic earthquake which produces a much larger tsunami than expected for its magnitude.
Tsunami magnitude:	A number which characterizes the strength of a tsunami based on the tsunami wave amplitudes. Several different tsunami magnitude determination methods have been proposed.
Tsunami:	Long period, impulse driven wave. Tsunamis often consist of multiple waves. Can be caused by earthquakes, volcanoes, landslides, or impact of a meteor or comet.
Tsunamigenic earthquake:	Any earthquake which produces a tsunami.
Vulnerability:	The susceptibility of a person or location to a hazard.
Warning:	A signal that warns of imminent danger
Wave amplitude:	The height above average water level of the crest of the wave
Wave period:	Time between two wave crests