Tsunami

A tsunami is a series of great waves that are created by undersea disturbances, such as earthquakes or volcanic eruptions. As opposed to typical waves that crash at the shoreline, tsunamis bring a continuously flowing “wall of water” that has the potential to cause devastating damage in coastal areas immediately along the shore. Areas at greatest risk are less than 50 feet above sea level and within 1 mile of the shoreline. Most deaths that occur during a tsunami result from drowning. Associated risks include flooding, polluted water supplies, and damaged gas lines.

TSU-1 Map and Assess Vulnerability to Tsunami

FEMA Resources/Publications
FEMA P-646, 646-A

Tsunami risk can be better assessed and monitored with mapping techniques, including the following:

- Using GIS to map areas that are vulnerable to inundation by tsunamis.
- Developing and maintaining a database to track community vulnerability to tsunamis.
- Offering GIS hazard mapping online for residents and design professionals.
- Educating map users on the appropriate uses and limitations of maps.
- More accurately mapping problem areas to educate residents about unanticipated risks. Upgrading maps provides a truer measure of risks to a community.

TSU-2 Manage Development in Tsunami Hazard Areas

FEMA Resources/Publications
FEMA P-55

Planning and regulations can mitigate tsunami damage in many ways, such as:

- Adopting and enforcing building codes and design standards that contain requirements for tsunami-resistant design.
- Limiting new development in tsunami run-up areas.
- Encouraging new development that is configured to minimize tsunami losses by using site planning strategies that slow water currents, steer water forces, and block water forces.

TSU-3 Protect Against Fire Following Tsunami

Communities can encourage wildfire mitigation measures (i.e., tree breaks) in tsunami-prone areas to reduce impacts of fires that may occur after a tsunami hits the coastline.

Structure and Infrastructure Projects

TSU-4 Build Tsunami Shelters

Ensure the population is adequately protected from tsunami inundation by constructing tsunami shelters.

TSU-5 Protect Buildings and Infrastructure

FEMA Resources/Publications
FEMA P-646, 646-A

Ensure buildings and infrastructure are adequately protected from tsunami inundation with the following:

- Requiring coastal structures to be built to standards that allow for proper vertical evacuation and to be specially designed and constructed to resist both tsunami and earthquake loads.
- Locating new and relocating existing infrastructure and critical facilities outside of the tsunami hazard area.
- Elevating existing buildings above the inundation level.
- Relocating fire-prone infrastructure such as electrical lines or case tanks.

Education and Awareness Programs

TSU-6 Increase Public Awareness of Tsunami Hazard

FEMA Resources/Publications
FEMA P-646, 646-A

Improve public awareness and better prepare citizens for evacuation during a tsunami by the following:

- Educating citizens regarding the dangers of tsunami and inform them of emergency procedures and routes to use should a tsunami warning be issued.
- Conducting tsunami drills.
- Designating tsunami inundation zones and marking evacuation routes.
- Developing maps showing possible tsunami inundation areas and steering developers away from high-risk areas.
- Participating in NOAA's TsunamiReady Community program.

Other tsunami-related mitigation actions may also apply to other hazards. See the sections entitled "Flood," "Storm Surge," and "Multiple Hazards" for other possible ideas.

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