

Remembering the Great Japan Earthquake and Tsunami of March 11, 2011 And Efforts to Reduce the Impact of a Similar Event in the Pacific Northwest

Monday, March 11th marks the 8th anniversary of the Great Japan Earthquake and Tsunami, (Sometimes called the Great *Tōhoku* Earthquake and Tsunami). The dramatic and startling images, covered on live television, are indelibly chiseled into the subconscious of everyone who watched the events unfold in real time, as the most disaster prepared country in the world, faced the wrath of a magnitude 9.1 earthquake, the 4th largest ever recorded and a series of massive tsunami waves.

Earthquake Early Warning

At 2:46 pm on Friday, March 11, 2011, the Japanese Earthquake Early Warning System received an indication of a major earthquake fault rupture, 45 miles east of the [Tōhoku region](#) and 231 miles northeast of Tokyo. Within seconds, the Earthquake Early Warning System transmitted a warning message to the people in and surrounding the Tohoku region of Japan, indicating a large earthquake had occurred. *People* began receiving the warning message, via a cell phone text message, as local television and radio stations began broadcasting the earthquake warning. As a result of the Early Earthquake Warning, elevators in Tokyo moved to the closest floor and opened to allow passengers to evacuate and take protective actions. *Factory assembly lines were automatically shut down and the Tōhoku Shinkansen high-speed bullet trains, travelling nearly 200 mph, were automatically prompted to slow and stop, potentially saving thousands of passengers from injury.* Just 5-15 seconds after the alert, coastal areas of the *Tōhoku* region closest to the rupture, began to violently shake, while a more devastating disaster was fast approaching – a series of massive tsunami waves.

The Impact

As of September 2018, data indicates 15,896 people were killed and 2,536 are still missing from the magnitude 9.1 earthquake and resulting tsunami. 58,000 of the coastal citizens who evacuated their homes remain evacuated 8 years later, while 5,623 still live in prefabricated temporary housing. The economic damage from the disaster event is estimated to be near \$360 billion. As of Spring 2017, seven cities, towns and villages have been deemed “difficult to return” zones by the Japanese government because of increased radioactivity in those areas, due to the Fukushima Daiichi nuclear disaster that occurred during the tsunami.

Is Knowing What to Do Enough?

We can never be prepared enough for disaster, nor should we take any of them lightly. Any effort toward disaster preparation will help reduce the impact the event will have upon your family, business and community.

- Families need to develop a [Family Emergency Plan](#) and discuss all types of disaster events (earthquake, flood, wildfire, tsunami, severe weather, etc.), with each other, to determine which actions to take, where you would evacuate to, shelter locations, and how to contact each other, should you become separated in a true emergency or disaster – then actually practice your plan at least once each year.
- Each family should prepare [Family Emergency Kits to be able to be on your own for a minimum of 2 weeks](#).
- Make individual [Go Kits](#) for each member of the family, as well as your pets, to store in your home, in vehicles and at work, in the event you must evacuate in a hurry.

- Sign up to receive emergency and disaster alerts and updates through the Emergency Notification System in your community, city and county.
- Obtain an All Hazard ALERT Weather Radio for emergency and disaster notifications automatically.
- Take a first aid and CPR class. You never know who might need assistance.
- Learn [protective actions be used during an earthquake](#) to prevent injury, as well as learning, there may be after-shocks, and the possibility of tsunami in low lying coastal areas.
- If in [tsunami](#) inundation areas, learn what to do and where to go while at home, at work and while shopping.
- Get involved with local community groups that prepare for disaster such as a [Community Emergency Response Teams \(CERT\)](#).
- Sign up for the [Washington Shake Out](#) and practice your disaster plans with your family.

Local, State and Federal Efforts to Reduce Disaster Impacts

Efforts are increasing in coastal communities to build [Tsunami Vertical Evacuation Structures](#), like the [Ocosta Elementary School](#), in Grays Harbor County and the planned [Vertical Evacuation Tower](#), in Tokeland, by the Shoalwater Bay Indian Tribe.

[Unreinforced Masonry Buildings](#) are being identified throughout Washington as local governments are working with owners to assist in ways to retrofit the buildings, preserving the historic facades, while protecting people from an exterior wall collapse during earthquake.

Earthquake Early Warning is being developed and is becoming more robust throughout the Pacific Northwest and in Washington State. Pilot users are being sought in schools, business and industry to begin implementation of the [ShakeAlert Earthquake Early Warning System](#). Currently Earthquake Early Warning messages cannot be sent to individuals, because the current process to send the warning to individual cell phones is far too slow. Work is ongoing, toward the development of a process that can transmit the warning to everyone, much more quickly and prior to the earthquake shaking at your location.

For more information on Earthquake Early Warning and/or how to become a Pilot User of the ShakeAlert Earthquake Early Warning System, please contact:

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