

# **Alberni-Clayoquot Regional District**



## **Earthquakes and Tsunamis on the West Coast of British Columbia**

**“Surviving a Disaster is Everyone’s Business”**

## EARTHQUAKES AND TSUNAMIS

Tsunamis (often mistakenly referred to as “tidal waves”) occur very infrequently on the West Coast of North America but are still considered a serious hazard. The most serious tsunami impact would come from a mega thrust earthquake occurring in the Cascadia Subduction Zone, located off the West Coast of Vancouver Island. A mega thrust earthquake with a magnitude of 7.5 or greater could generate a tsunami.

The entire West Coast of North America is recognized as a high risk area in the event of a mega thrust earthquake and subsequently generated tsunami. Over 40 years ago, Port Alberni, along with other communities in Alaska, British Columbia, Washington and Oregon, experienced a tsunami first hand. Because of this incident, Port Alberni installed a tsunami warning system in its tsunami inundation zone. Currently, Port Alberni is the only community in British Columbia to have such a comprehensive and effective system.

Not all earthquakes cause tsunamis, but when a mega thrust earthquake occurs in the Cascadia Subduction Zone, the entire West Coast of North America will be severely affected. More than 200 earthquakes are recorded each year on Vancouver Island and the Lower Mainland. The majority of these earthquakes are not felt by the general public and do not generate tsunamis.

## HISTORICAL PERSPECTIVE

On average, large subduction earthquakes 9 magnitude and greater have occurred in the Cascadia Subduction Zone beneath the West Coast of Canada and the United States every 500 years. Archeological digs on Vancouver Island have found eight mega thrust occurrences in the last 6,000 years with the last one being on January 26, 1700, at 9:00 pm.

## WHAT CAN I DO TODAY?

What can you, as an individual, do to minimize the effects of any disaster including a mega thrust earthquake and subsequent tsunami that could affect the entire South West Coast of British Columbia?

- Prepare **disaster kits** for your home, car and work for every member of your family.
- Be aware of the **tsunami risk areas**.
- If you are in a tsunami risk area (Port Alberni and other areas on Vancouver Island or the Lower Mainland that have tsunami inundation zones) and a tsunami has been generated by a distant earthquake, **listen to emergency personal**



**and local media** for instructions on what to do. Officials in both Canada and the United States have adopted a 20-metre tsunami contour. This means that up to 20 metres above sea level is considered the inundation zone for a tsunami.

- If you feel a significant earthquake that lasts more than three minutes, assume a tsunami has been generated. If you are in a low lying coastal area, **calmly and quickly** move to higher ground as a precaution.
- Be familiar with the tsunami warning signs. A **rapid rise or fall** in coastal waters and a large earthquake are possible indicators of a tsunami.
- A tsunami is not a single wave but a **series of ocean waves**. Stay out of the danger area until an “all clear” is issued by emergency personnel.
- Know the community’s **tsunami warning system**.
- **DO NOT** go down to the water to watch the tsunami come in.

## BE PREPARED, NOT SCARED

We live in a beautiful province and, yes, there are disasters that could happen in every corner of it. But if we educate and prepare ourselves, we have a better chance of surviving these events. Municipalities and regional districts are required by law to create emergency plans and prepare for responses. Individuals must take their own initiatives to be personally prepared ... but not become scared to the point of drastically altering or changing their lives.

For further information on tsunamis, mega thrust earthquakes and disaster preparedness in general, check British Columbia’s Provincial Emergency Program (PEP) website at [www.pep.bc.ca](http://www.pep.bc.ca).

Remember ... **“Surviving a Disaster is Everyone’s Business”**