

# PCEMA

*Pacific County Emergency Management Agency*

# Preparedness Post

Volume 2, Issue 3 January 2013

**In  
This  
Issue**

## CASCADIA 313

January 26th marks the 313th anniversary of the last catastrophic earthquake and tsunami to strike our vulnerable coast. Celebrate by preparing!

Preparedness  
Drive

Project  
Safehaven

What You Need  
to Know About  
the Flu

Alaska Tsunami  
Scare

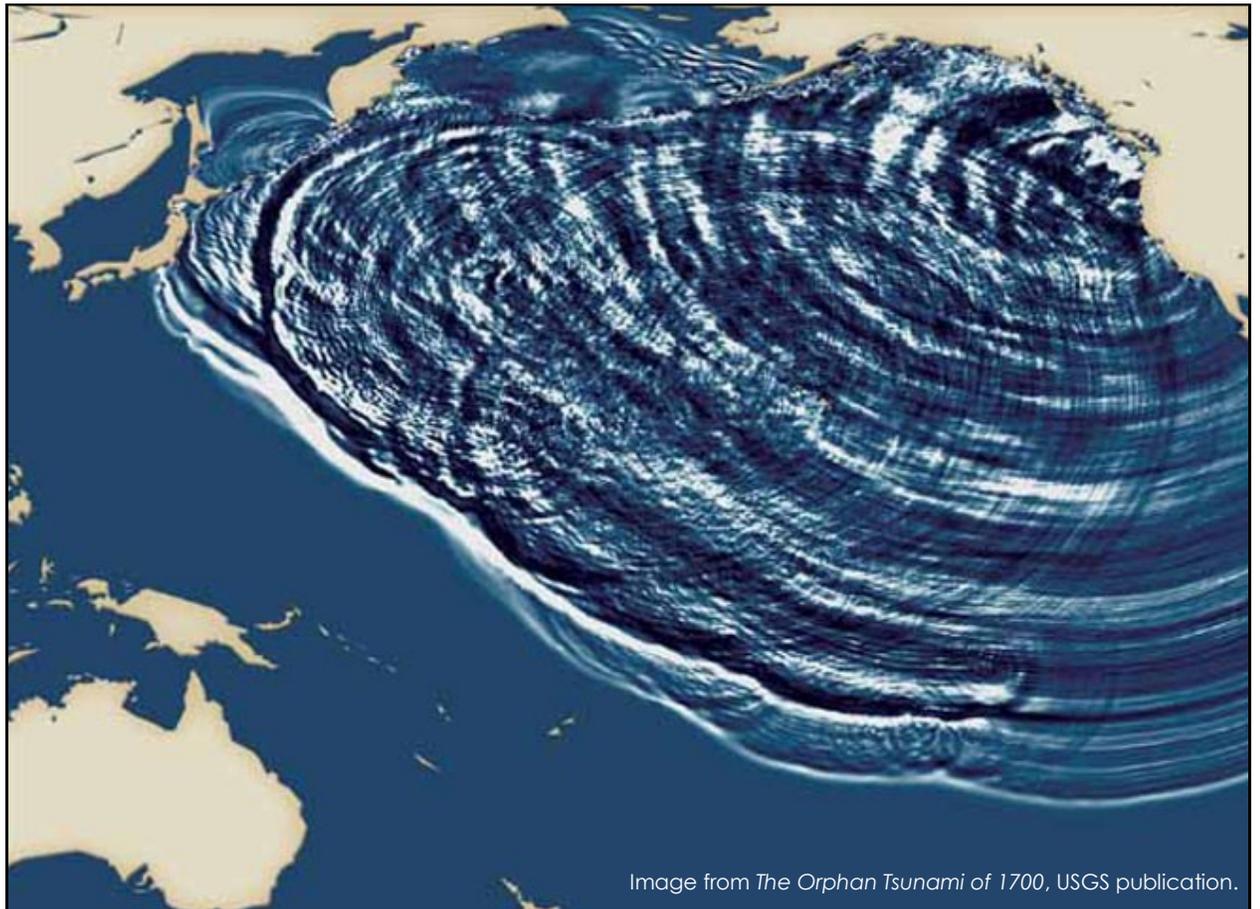


Image from *The Orphan Tsunami of 1700*, USGS publication.

# The Story is in the Soil

**Conclusive evidence shows that the Cascadia Subduction Zone has ruptured many times before, and likely will again.**

The Cascadia Subduction Zone (CSZ) runs from southern British Columbia to northern California. It lies 50 miles west of the Pacific County coast. The CSZ has ruptured seven times in the last 3500 years with an average of 200-500 years between events. The last major event occurred on January 26th, 1700, 313 years ago. A magnitude 9.0 earthquake violently shook the coast and was rapidly followed by a series of large and destructive tsunami waves. Few witnessed this event, and after three centuries, it is scarcely present in the public consciousness. Subduction zone earthquakes are cyclical, occurring at intervals which often surpass generational memory.

When the CSZ last ruptured, Native Americans were the only people on hand to witness the massive local tsunami generated by the M9.0 quake. Having inhabited the Cascadia coast for thousands of years, they've witnessed cycle after cycle of great earthquakes, passing warnings to future generations through oral tradition and artistic interpretation.

Until the 1980s, Native oral tradition was the only indication that CSZ events had ever occurred, but in the last twenty years, USGS geologist Brian Atwater has added significant insight. After an intensive study that took him through the mud and across the Pacific Ocean, Atwater was able to conclusively prove that local tsunamis happen here. Using a variety of methods, he unearthed evidence that indicated the frequency, magnitude, and impact of Cascadia events and articulated his findings in the USGS publication *The Orphan Tsunami of 1700*.

Because land surface elevation drops abruptly during great earthquakes, in what is called subsidence, Atwater looked to the soil for clues. When subsidence occurs, freshwater coastal plants die because their roots are suddenly exposed to salt water.

As the plants decompose, they leave a layer of dark peaty soil. Atwater identified and carbon dated buried peat layers on our coast. These layers were also overlain by tsunami sand deposits. He looked at standing groves of dead Western Red Cedar ("ghost forests") between the Copalis and Columbia rivers, which also died from salt water exposure. The ghost forests were tested and it was determined that they all died during the 1699-1700 growing season.

Armed with geological evidence and native history, Atwater headed to Japan to compare notes. The Japanese have kept meticulous records for centuries tracking weather, tsunamis, and other significant events. Because tsunami waves bounce across the Pacific Ocean, he suspected that the local Cascadia tsunami had a distant counterpart, and he was correct. Japanese records described a large tsunami of non-local origin (no earthquake felt) striking the coast of Japan on January 27, 1700. Using computer modeling, it was determined that the tsunami hit locally on January 26th, 1700 at around 10:00 p.m.

The Cascadia Subduction Zone has ruptured seven times in the last 3500 years with an average of 200-500 years between events. It has been 313 years since the last event.



Brian Atwater shows tsunami sand layers to participants of PCEMA's 2012 History in the Mudbank tour at the Niawiakum River.



A ghost forest of standing Western Red Cedar left from the 1700 quake and tsunami.

USGS Photo

In the event that a tsunami is generated off this coast, no official warning will be received as there will not be time between the earthquake and tsunami's approach to do so. The wave could arrive anywhere from 15-30 minutes after the earthquake. Natural warning signs will be the only indication to move to high ground. If you feel the ground shake, hear a thunderous roaring sound, or notice unusual tidal recession, don't hesitate...EVACUATE.

Check out  
**The Orphan Tsunami of 1700**  
by Brian Atwater  
to learn more.



# Highlights of the Facebook Feed [www.facebook.com/PCEMA](http://www.facebook.com/PCEMA)

PCEMA's Disaster Preparedness Drive event on Facebook needs more participants! Join the event and help us reach our goal of 50 people contributing to local preparedness!



Join this event to get stay up to date about the Disaster Preparedness Drive!



## Disaster Preparedness Supply Drive Underway

AmeriCorps Member Kirsten Harvill, in coordination with the Pacific County Emergency Management Agency (PCEMA), is organizing a disaster preparedness supply drive for low income families throughout Pacific County. Items will be collected until February 8th. Donations will be put together in kits for Pacific County families in need.

**ITEMS NEEDED INCLUDE:** bottles of water, water filters, non-perishable food items, battery powered or hand cranked radios, flashlights, glow sticks, first aid supplies, dust masks, garbage bags, basic tools, space blankets, back packs, and any other supplies which would be useful in the event of a disaster.

### ITEMS CAN BE DONATED AT:

- The Local Store in Grayland
- Everybody's in Raymond
- Pioneer Grocery in South Bend
- Dennis Company in Raymond and Long Beach
- Jack's Country Store in Ocean Park

Contact PCEMA AmeriCorps Member Kirsten Harvill to have a donation bin placed at your business:  
[kharvill@co.pacific.wa.us](mailto:kharvill@co.pacific.wa.us) or 360/875/642-9409



## Meet PCEMA AmeriCorps Member Lea Reuss



Lea began her term of service with PCEMA on October 1, 2012 and will continue through August 15, 2013. She is tasked with coordinating volunteers to clean tsunami debris from Pacific County beaches.

A recent graduate of Western Washington University, Lea holds a degree in Environmental Studies. She hopes to begin a career in the Air Force after her AmeriCorps service and hopes that the

11 years she spent as a Lacrosse player will help her get through boot camp. During her final year at Western, Lea was named an All-American athlete for the sport.

Her favorite part of service has been getting to know Pacific County. A previous resident of three different Washington cities (Vancouver, Sammamish, and Bellingham), Lea has grown to love the state and was happy for the chance to further explore it. Though Long Beach is the smallest town she has ever lived in, Lea has found the transition to be easy because "every person I have met here is nice and welcoming."

Lea joined AmeriCorps because she felt that it would be a great way to give back and hoped to benefit from the many opportunities that service provides; "I knew that by joining AmeriCorps I would get great job experience."

### Help Keep Pacific County Beaches Clean!

The first community beach cleanup of 2013 is January 19th. To help with tsunami debris cleanup between regular beach cleanups, contact Leanna Reuss, PCEMA AmeriCorps Member at 360-642-4482, [ltreuss@co.pacific.wa.us](mailto:ltreuss@co.pacific.wa.us), or drop by Long Beach City Hall (Mon-Fri 8 a.m.-5 p.m.).

### Community Beach Cleanup January 19th, 2013

**Friday, Jan. 18 Pre-Event Dinner**  
 4:30 PM supply distribution  
 6:00 PM Potluck at the Peninsula Baptist Church  
 23802 Pacific Way, Ocean Park  
 There will be a guest speaker from the Dept. of Ecology

**Saturday, Jan. 19 Beach Cleanup**  
 8:30 AM Volunteer at any major beach approach  
 Meet Volunteer's Sign Up at the Ocean Park Moose Lodge at 25915 1<sup>st</sup> Street.

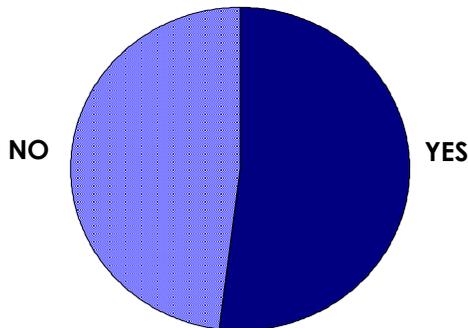


If you think you or your group can help please contact Shelly Pollock at [www.OurBeach.org](http://www.OurBeach.org) or give her a call at: 360-642-0033

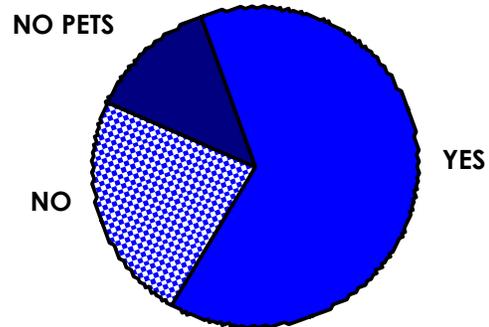
# Preparedness Survey Results are In!

## PCEMA gains insight into Pacific County residents' level of preparation

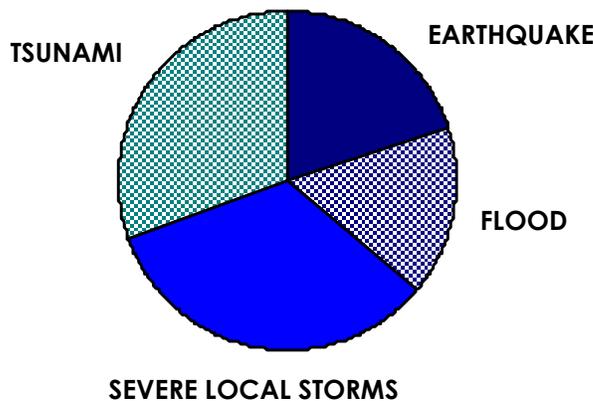
Do you have a disaster supply kit?



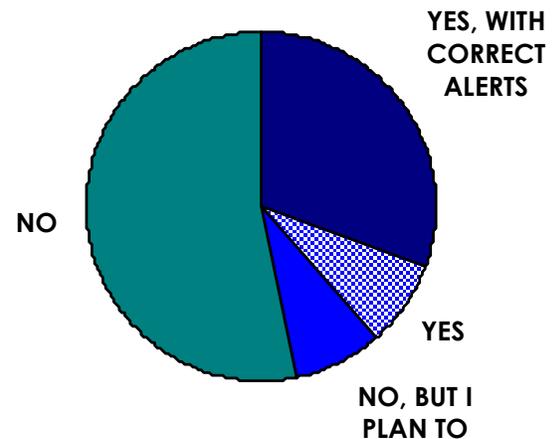
Does your disaster supply kit include supplies for your pets and/or livestock?



What do you consider to be the largest disaster risk in the area?



Do you own a NOAA weather radio?



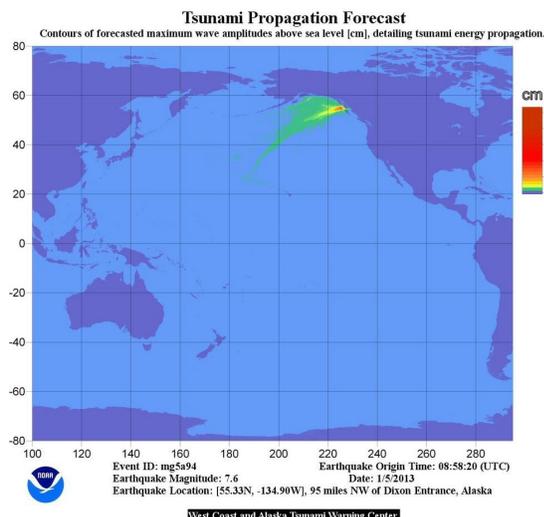
*This survey consisted of 13 multiple choice questions. PCEMA periodically sends out public surveys to help the agency understand Pacific County's general level of preparedness and to identify things that could be improved upon. For a complete report you can contact the PCEMA Office at 360-875-9340.*

## Tsunami Class

Would you like to learn more about how tsunamis work and how to best prepare for them? Join PCEMA for a Tsunami Train-the-Trainer course on Thursday, February 14th at the Grays Harbor College Columbia Education Center in Ilwaco from 1:00 p.m. to 4:30 p.m.

This class will explain the science behind tsunamis, potential impacts for Pacific County, and effective emergency response. Participants will learn how to present this information to their family, friends, coworkers, clubs, organizations, or with PCEMA as a Let's Talk Tsunamis volunteer presenter. The class is put on in coordination with the Washington Emergency Management Division.

## This Month in Earthquakes



On January 5th, a Mg 7.5 earthquake occurred 210 miles south of Juneau, AK. Initially, portions of Alaska were under a tsunami warning and portions of Canada were under a tsunami advisory. All tsunami warnings and advisories were cancelled by 2 a.m. on January 6th.

On Facebook, PCEMA actively posted updates and tsunami bulletins, monitoring the situation in Alaska and in Pacific County. Read the PCEMA wall to check it out.

# Potential for Tsunami Evacuation Berm at Long Beach Elementary

In early November 2012, the City of Long Beach, in coordination with the Washington Emergency Management Division, applied for FEMA's Hazard Mitigation Grant Program (HMGP), and if awarded, will have around 1.2 million dollars to build a tsunami evacuation berm—the first of its kind in North America. The City of Westport also applied for the HMGP, hoping to build a tsunami safe school. The grant will be awarded in March and funded in June. The Ocean Beach School District has agreed to work with the City to provide the chosen site behind Long Beach Elementary. A 25% state and local match is required for the HMGP, 12.5% of which would likely come from the state, with the remaining covered by the value of the land being used.

The City has based some of its planning for the berm on a vertical evacuation study for the Washington Coast by an interdisciplinary group called Project Safe Haven. Part of the Project Safe Haven study included a series of local public meetings to help determine what types of locations and structures best fit the community.

The Long Beach area has no ground high enough for tsunami evacuation. The proposed berm could hold as many as 1250 people. Though this will be a large project, the city is eager for the opportunity to provide its residents a safe haven.



To learn more about Project Safe Haven visit:  
[www.facebook.com/ProjectSafeHaven](http://www.facebook.com/ProjectSafeHaven)

# AHAB Sirens are Getting a Tune Up

The Washington State Emergency Management Division will be visiting each All Hazard Alert Broadcast (AHAB) siren site in Pacific County over the next few weeks. Maintenance is scheduled which will include radio replacement to account for FCC mandated narrowband operations, satellite dish alignment (winter winds cause some dishes to move slightly), general tests, and audio tuning.

In addition to the "quiet" tests conducted during maintenance visits, some sites will be involved in audio testing, with dynamic verbal announcements being made from the Pacific County Communications Center. Residents may hear verbal test messages which will be observed by maintenance personnel for audio quality, volume, and clarity. It is the goal of Pacific County Emergency Management to be able to use the audio capability of the AHAB outdoor sirens to make "on-the-fly" announcements should the need arise during an emergency, providing residents direction and information.

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Regular monthly testing will resume on Monday, February 4th at noon with the Westminster chimes followed by a voice message. As a reminder, the AHAB siren system is intended for outdoor warning only. Residents are encouraged to maintain a working NOAA weather radio as a form of indoor warning.

# Stronger than Usual Flu Season this Year

The 2012-2013 flu season has begun earlier than usual, and it's widespread across the U.S. with cases continuing to increase. According to [www.flu.gov](http://www.flu.gov), "most of the country is now experiencing high levels of influenza-like-illness." The prevalence of flu is nearly as high as peak levels from past seasons. The U.S. Department of Health and Human Services, along with the Centers for Disease Control is urging people who have not been vaccinated against the flu to do so.

**There are also things you can do to minimize the spread of the flu virus:** Wash your hands often with soap and water or an alcohol-based hand rub. Avoid touching your eyes, nose, or mouth. Germs spread this way. Try to avoid close contact with sick people. Practice good health habits. Get plenty of sleep and exercise, manage your stress, drink plenty of fluids, and eat healthy food. Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it. If you are sick with flu-like illness, stay home for at least 24 hours after your fever is gone without the use of fever-reducing medicine.

Check out:  
<http://youtu.be/5jhwAsZAv0>  
 to be a  
**WashYourHandsingTonian  
 & stop the flu.**

# PCEMA

Pacific County Emergency Management Agency

## UPCOMING EVENTS:

AHAB Siren Test: First Monday of the month @ noon - Page 5

Preparedness Fair: 10 a.m. - 4 p.m. on January 12th - Willapa Valley Grange

Preparedness Presentation w/ Kiwanis: 12 p.m. on January 16th - Barge Restaurant in Raymond

National Day of Service: 10 a.m. - 2 p.m. on January 21st - Dennis Co. in Long Beach & Raymond

Tsunami Train-the-Trainer: 1:00 p.m. - 4:30 p.m. on Feb 14th - Page 4

NOAA Weather Radio Event: March 21st - Location & Time TBD

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### Online & Social Media



@PCEOCNews Text follow PCEOCNews to 40404 to "fast follow" on your mobile device.



<http://www.facebook.com/PCEMA>



<http://www.pcema.blogspot.com/>

<http://www.co.pacific.wa.us/pcema/>

To join PCEMA's Weather Warning List email Denise Rowlett:

drowlett@co.pacific.wa.us



facebook



Sheriff's Office on Twitter:

@PCSOWA

On Facebook:

[www.facebook.com/PCSOWA](http://www.facebook.com/PCSOWA)

*Interested in Volunteering?*

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