

Tsunami Outreach in the COVID era

Redwood Coast Tsunami Work Group Projects

2020



Visit the Virtual Fair!



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California Partner 101 - NTHMP

October 27, 2020

Redwood Coast Tsunami Work Group



- Home
- Tsunamis & Warnings
- About RCTWG
- Hazard Maps
- Resources
- How to Prepare
- Donate

Daily Earthquake Report *Daily Earthquake Update* has been updated.

View Edit Customize display



Know your zone! *Virtual Fair*

The first step to being prepared is knowing the hazard zones in your area.

Familiarize yourself with the interactive map, printable maps, and tsunami signs below.



Humboldt County
Tsunami Hazard Zone App

Sign up for
Emergency Alerts

Events & Projects

Donate to RCTWG

See what is going on around the state at the TsunamiZone.org website.



Visit the Virtual Fair!

Come join us at the Virtual Fair. Learn more about earthquake and tsunami hazards, as well as what to do to be prepared!

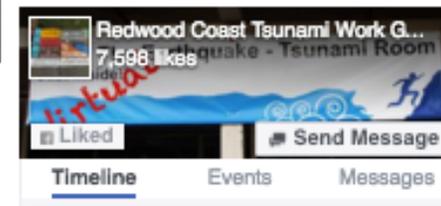
Daily Earthquake Update

Tuesday, October 27, 2020 - 9:35am



[edit](#)

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Redwood Coast Tsunami Work G...
7,598 likes
[Send Message](#)

Timeline Events Messages

rctwg.humboldt.edu/



Welcome to the Redwood Coast Tsunami Work Group's Virtual Fair!

Please come into the room and learn about the earthquake and tsunami hazards on California's North Coast and what you can do today to make you and your family safe. By entering our room, you have taken the important first step.

Now explore!

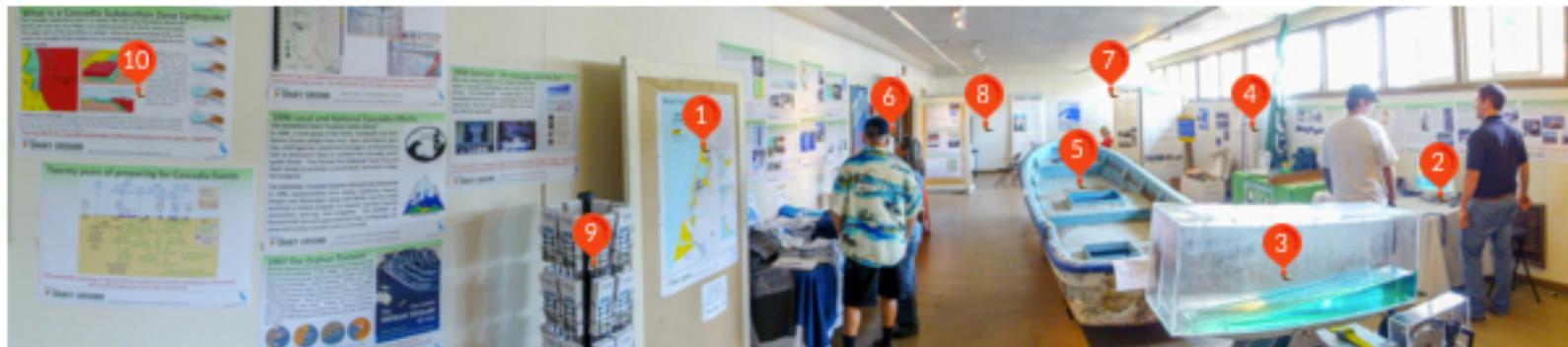
Select the balloons below in our virtual room photo to see the latest tsunami hazard maps, earthquakes happening right now and much more.

And just like at the real fair, we welcome your questions.

[Submit your question](#)

Or browse our [Frequently Asked Questions Page](#)

Photo Tour of the RCTWG Virtual Fair



1

Know your zone!

The first step to being prepared is knowing the hazard zones in your area.

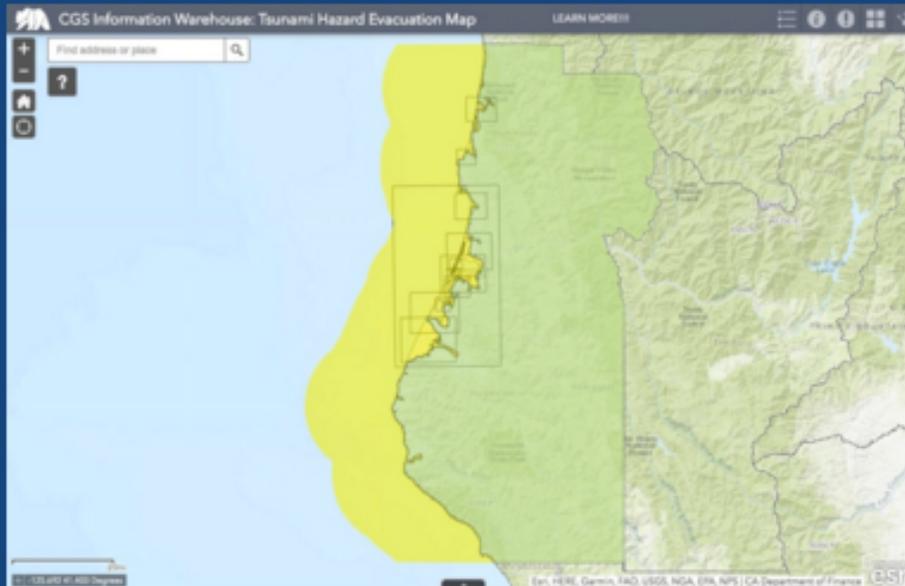
Familiarize yourself with the interactive map, printable maps, and tsunami signs below.

[CGS Interactive Map of Humboldt County](#)

[Watch a video on how to use the map](#)

NOTE: In 2020, the California Geological Survey released new maps for Humboldt County and there was a significant update to the colors used on the maps. Also, keep in mind, these maps are based on a magnitude 9 earthquake which would produce the largest tsunami likely to impact the Cascadia subduction zone.

New Tsunami Hazard Maps are also being developed for sections of California's coastline. If you don't see your county on the map now, check back soon.



Humboldt County - Interactive PDF

This map contains all Humboldt city maps in an interactive PDF.

[Download the PDF](#)



Evacuation Maps by Community

These maps will show you which sections of your town **MIGHT** be hazardous during a tsunami.

Explore our [Tsunami Hazard Maps](#) page or select your community below to view a larger map.

Humboldt



Del Norte



Keep an eye out for Tsunami Signs!

When you visit coastal areas, look for tsunami signs.



On roads and highways, you should see **ENTERING** and **LEAVING** tsunami zone signs that roughly correspond to the hazard zone boundary on the maps.

Additional **HAZARD** zone signs are posted on roads within the zone to remind you that a tsunami could affect you at these locations. At coastal recreation and parking areas or along trails you may see beach hazards signs that includes information about multiple hazards such as tsunamis, sneaker waves, and changing tides..

In some areas, **EVACUATION ROUTE** signs are posted to help guide you to safe areas and in some places to an **EVACUATION SITE**.





Real-Time Earthquake Map

See what's shaking *right now!*

The US Geological Survey is responsible for monitoring earthquakes in the United States and around the world. Earthquake information is posted within a few minutes of any earthquake. This is done by analyzing seismic data from instruments in the US and around the world.

Visit the world map below and see where earthquakes are occurring right now.

[USGS Seismic Activity map](#)

See what's shaking at Berkeley's Jacoby Creek Seismic Station (JCC) located five miles southeast of the HSU campus.

[JCC Seismic Station](#)

Want to see more seismograms? Visit the [UC Berkeley Northern California network](#) to view what's shaking right now on seismic stations throughout the northern part of the state. Follow the steps below to view the seismograms:

1. Click on a station (blue square) on map.
2. Select all in the pop-up window.
3. Then fetch plot. Give it a minute to create the seismograms.
4. Scroll down to view what's shaking!

[UC Berkeley Seismograms](#)

Hear the latest daily earthquake report*

by Dr. Lori Dengler

* Initial reports are preliminary and the location and magnitude might change slightly as seismologists examine the data.

Daily Earthquake Update

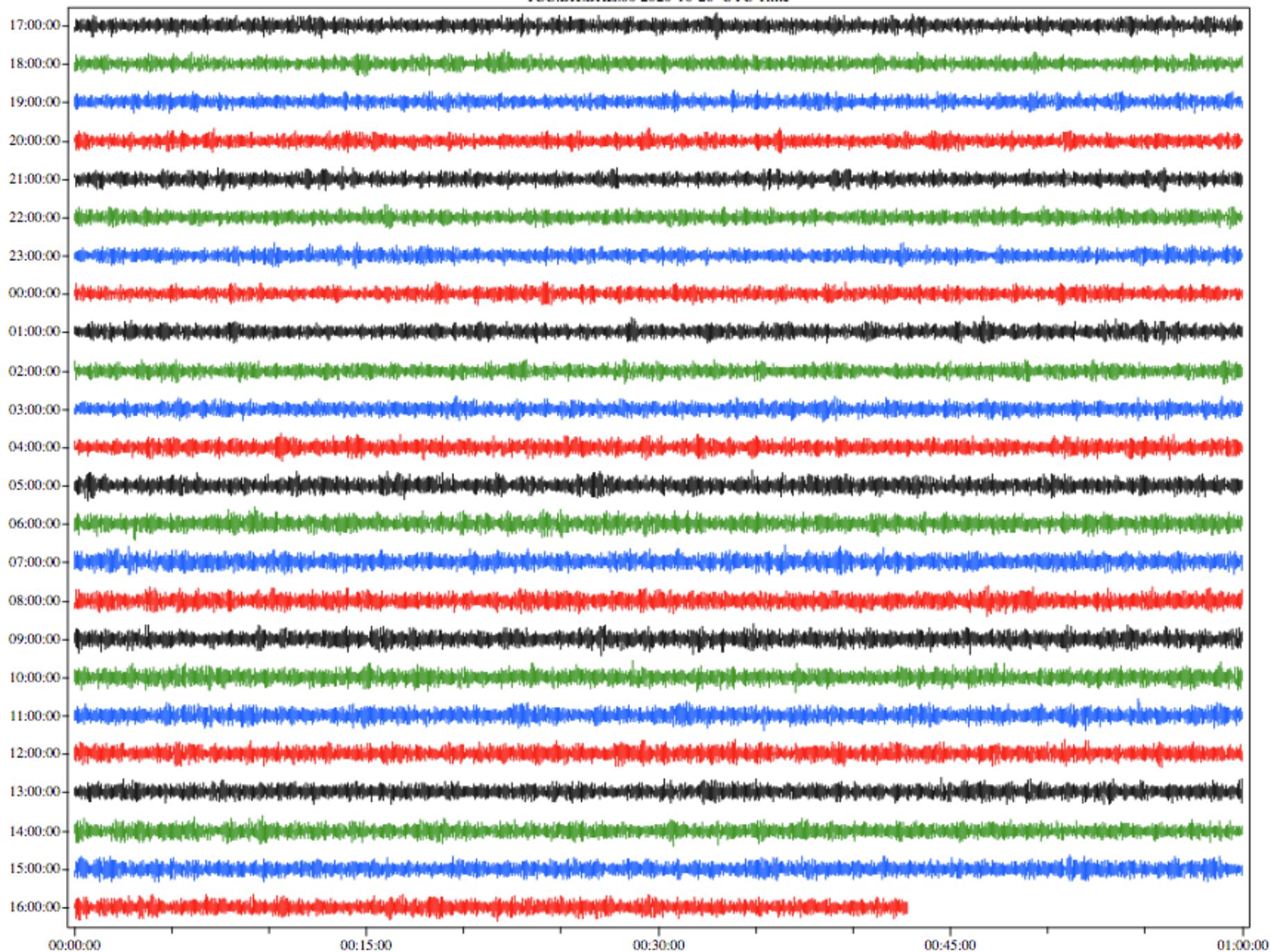
Tuesday, October 27, 2020 - 9:35am

 2:23

[edit](#)

View the last 5 days of recordings on kamome.humboldt.edu/resources.

JCC.BK.BHZ.00 2020-10-26 UTC Time



Learning About Tsunamis

Tsunamis can be very powerful!

A tsunami is different from the typical waves you see at the beach. Most ocean waves are caused by wind blowing across the sea surface. Tsunamis are caused when an earthquake or other event like a landslide moves the entire water column from the seafloor to the ocean surface. This produces a wave (also called a surge) of water that moves out in all directions, and these surges are capable of impacting areas far from where they began. This all means that tsunamis can be much more powerful and travel much faster than typical wind-driven waves. Tsunamis are also known to travel faster in deeper water which is how they are able to travel from Japan to the California coastline in about 9 hours.

As a result, we can have **local tsunamis** as well as **distant tsunamis**. On California's north coast, a local tsunami would be produced by a local earthquake. A distant tsunami could be produced by an earthquake somewhere else throughout the Pacific Ocean and travel to our shores.

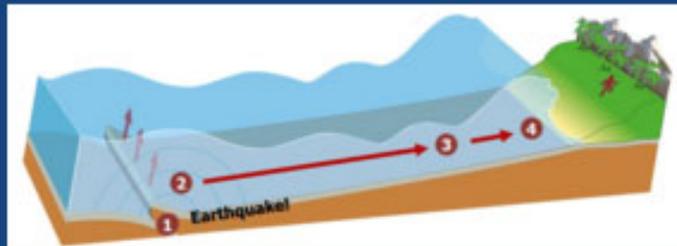
There are both natural and official warnings for tsunamis.

Natural warnings, like the ground shaking for a long time, are important signs to pay attention to as they could indicate a tsunami arrival within minutes. The best thing to do is to head to high ground and stay there. [Listen to Dr. Lori Dengler](#) as she describes what to do if you experience an earthquake followed by a tsunami.

Official warnings are used when we have time to prepare for approaching tsunamis, meaning they are coming from distant locations. These are issued by the Tsunami Warning Centers and carried out by local officials. To hear about official warnings and learn about warning centers, [listen to this podcast](#).

Natural vs. Official Warnings

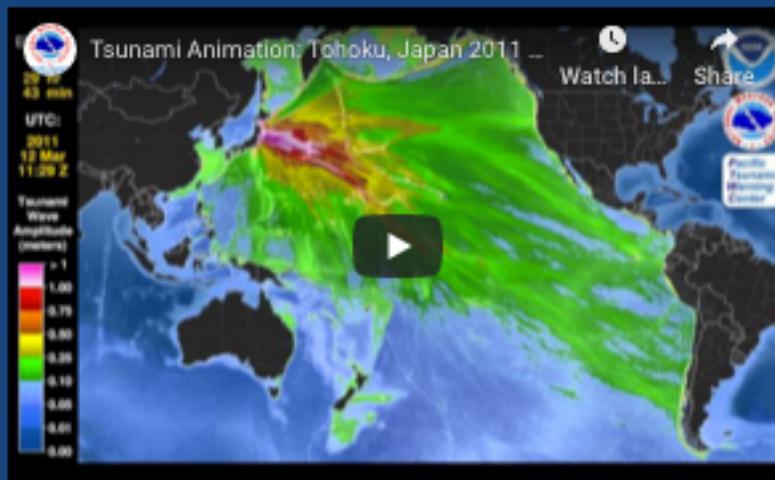
How tsunamis are created...



- 1 A plate shifts abruptly, causing an earthquake and displacing water.
- 2 Waves are generated and move out in all directions across the ocean, some traveling faster than 500 mph.
- 3 Waves enter shallow water. They compress, their speed slows, and they build in height.
- 4 Wave height increases and associated currents intensify, becoming threats to life and property.

How fast do the waves travel?

The animation below shows you the tsunami surges as they made their way across the Pacific Ocean after the 2011 Japan earthquake. Computer models are used to help us understand tsunami travel, and in this animation you can see that as the tsunami moves across the ocean the height of the surge is rather small. It reaches California's coastline in about 9 hours which means that it was traveling very fast across that deep ocean.



What happens when the waves hit the shore?

Once the surges begin approaching the shore and the water depth changes, the surge height and speed changes as well. This is when we begin to see strong currents and water flowing over the land in some cases. The video below helps us visualize how the tsunami changes as it approaches shore.





Preparing Your Family & Community

Now that you've learned about your local tsunami zones, we've assembled four important tips to help get you prepared.

Earthquakes and tsunamis can be alarming and disorienting, but we can take small steps to be more prepared emotionally and mentally so when a tsunami occurs we have the muscle memory to know what to do.

TIP 1

What to do during an earthquake and/or tsunami?

It's as simple as doing the actions shown below.



Check out our preparedness triad in other languages, too. [Learn the steps](#) in 13 different languages!

TIP 3

Sign up for emergency alerts

All California counties have emergency notification systems. To find yours, search **emergency notification** along with your county name. Below you'll find the links for the north coast counties. Visit the sites to learn how to sign up for emergency alerts and messages where you live.

[Del Norte County](#)

[Humboldt County](#)

[Mendocino County](#)

The state also has an earthquake alert system!

Sign up for the [Earthquake Warning California](#) alerts and download the app to your phone to get notifications right away.



**EARTHQUAKE
WARNING
CALIFORNIA**

rctwg.humboldt.edu/

TIP 2

Practice earthquake and tsunami drills!

Join the [Great ShakeOut](#) on October 15th!

Register your family, friends, and place of business at [shakeout.org](#)!

Remember, participating can be fun and easy! Join the HSU Geoscience students while they participate this year and explain why you should take the time to ShakeOut.

[Watch the Student PSA \[VIDEO\]](#)



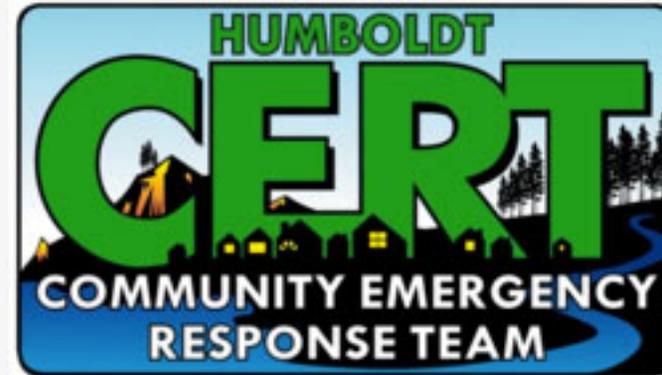
Join Us **October 15, 2020**
in the World's Largest
Earthquake Drill. **Shake Out**
www.ShakeOut.org

Visit [tsunamizone.org](#) and register to participate in tsunami preparedness activities as well!

World Tsunami Awareness Day is November 5th and Tsunami Awareness week will be in March 2021.

TIP 4

Learn about Community Emergency Response Teams (CERT)



Organizations like CERT have great resources to help when practicing earthquake drills, preparing emergency plans, collecting supplies, and learning about potential hazards.

[Humboldt CERT Coalition website](#)

[Watch the Humboldt Bay CERT Coalition video.](#)

Tsunami Debris

What happens to all the stuff that is washed away in a tsunami?

The 2011 Japan tsunami was a lesson on what happens to debris that gets pulled far enough offshore to become part of the Pacific-wide circulation. Boats, refrigerators, parts of shrines, a dock, and even a motorcycle were found washed up on shores in Alaska, Hawaii, British Columbia and the Pacific Northwest. Two small boats washed ashore in northern California and their registration numbers linked them back to the tsunami and Japan. Kamome landed in Crescent City in April 2013. Below is a heartwarming story of the little boat who connected high school students and communities.

Visit kamome.humboldt.edu



What to do if you find debris after a tsunami:

1. Ask yourself if it's hazardous or not

- If it is hazardous, call 911. Things like oil or chemical drums, gas cans or propane tanks could pose a hazard and should be reported to the authorities as soon as possible.
- If it isn't hazardous, contact the U.S Coast Guard National Response Center at 1-800-424-8802 or email your observations to DisasterDebris@noaa.gov

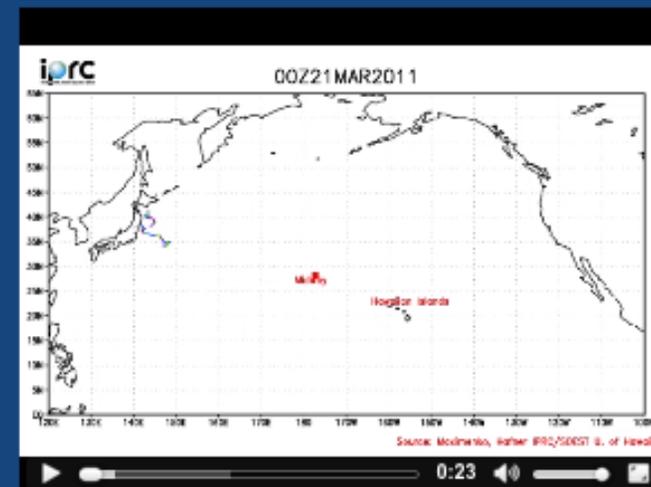
2. Ask yourself if you should pick it up and pack it out

- If you don't know what it is, don't touch it. Report it to the authorities so it can be dealt with appropriately.
- If it's ordinary beach debris and you have the means, pack that trash out with you. Let's leave the beaches cleaner than they were when we arrived.

Printable version of this information

What to do if you find Debris

Watch how the debris from the 2011 Japan Tsunami traveled across the Pacific Ocean.





Kids Corner

It's important to get the whole family involved!

Below you will find a few resources and tools to get you started:

[The Wave - A Japanese Folktale](#)

[ABCs with Kamome](#)

[Kamome Color Book](#)

[Extraordinary Voyage of Kamome](#)

You can also find many other resources on the [Extraordinary Voyage of Kamome](#) website or follow the links below for Tsunami preparedness activities by grade which are also a part of our curriculum on the Kamome website.

[Grades K-2](#)

[Grades 3-5](#)

[Grades 6-8](#)

[Grades 9-12](#)



Takeaways & Talking Points

Below you'll find some of our key takeaway messages.

These quick-guides will describe how to know if a tsunami is coming, how to read the tsunami evacuation maps, and will provide you with the steps to be prepared for earthquakes and tsunamis.

[edit](#)

- [You live in Earthquake Country](#)
- [You Can Prepare for the Next Quake](#)
- [What Every Northern Californian Should Know About Tsunamis](#)
- [The Importance of Education, Tsunami Heroes & Heroines](#)
- [How Will I Know if a Tsunami is Coming and What Should I Do?](#)
- [Tsunamis are Tricky](#)
- [Tsunamis for Tourists](#)
- [What About Tsunami Debris?](#)
- [The "Miracle of Kamaishi"](#)
- [The little boat that could – a story of tsunami endurance](#)
- [Seven Steps That May Save Your Life](#)
- [STEP 1: Part 1 - Identify potential earthquake and tsunami hazards and begin to fix them](#)
- [STEP 1: Part 2 - Identify potential earthquake and tsunami hazards and begin to fix them](#)
- [STEP 2 & 3: Create a disaster preparedness plan](#)
- [STEP 4: Identify potential weaknesses and begin to fix them](#)
- [STEP 5: Protect yourself during an earthquake – Drop, Cover, and Hold on](#)
- [STEP 6: Evacuate if necessary – Check for injuries and damage](#)
- [STEP 7: When safe, continue to follow your disaster preparedness plan](#)
- [Special Considerations for People with Limited Mobility](#)
- [Don't Forget About Pets in Your Emergency Planning](#)





Movie Corner

Sit back, relax, and enjoy some short videos about earthquakes and tsunamis.

Check out the videos below to learn more about earthquakes and tsunamis:

- Follow along with Sue Nami as you learn about her hazards.
- NOAA's Tsunamis - Be prepared & stay safe!
- Dr. Dengler's Keynote Presentation at Tokyo Museum
- Reflections on the 1964 Tsunami in Crescent City, CA
- Dr. Dengler's Presentation - The Whys of Earthquakes and Tsunamis on the North Coast

Building Connections & Learning from Each Other

- Amya Miller's Story
- Recovering Hope - connections between Crescent City & Rikuzentakata
- The Friendship that a Boat Carried

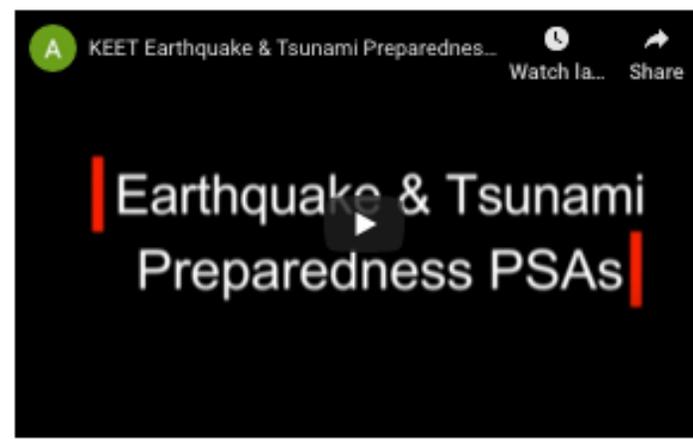
Planning & Testing the Local Warning Systems

- CAL OES & NOAA Tsunami Exercise Overview
- Sounds of a Tsunami Siren
- Civil Air Patrol Message

Explore Humboldt County's "Ask An Expert" playlist!

- Do Small Earthquakes Help Prevent the Big One?
- Are We Overdue for the "Big One?"
- How Do I Know That a Tsunami is Coming?
- How Likely Are We to See the "Big One" in Our Lifetime?
- How Were the Tsunami Hazard Zones and Safe Areas Determined?
- If an Earthquake Knocks Out Cell Towers, How Will I Know That a Tsunami is Coming?
- How Will We Drive Out of a Tsunami Zone When All of the Roads Are Closed?

KEET Earthquake & Tsunami Preparedness PSAs



The First "Sue Nami"



Resources

Below you will find resources to help you prepare.

You will find Tsunami Evacuation Map Brochures for your community, a downloadable version of the Living on Shaky Ground magazine, and a copy of our magnet graphic (Triad) that will give you a daily reminder about the steps for safety: drop, cover, and hold on; get to high ground; and stay there!

Brochures - Humboldt



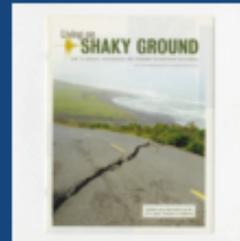
- [Humboldt Bay - Entire Bay Area](#)
- [Humboldt Bay - Entire Bay Area SPANISH](#)
- [Arcata](#)
- [Arcata Bay](#)
- [Big Lagoon](#)
- [Eel River Valley](#)
- [Eureka](#)
- [Fairhaven and North Spit](#)
- [Fields Landing and King Salmon](#)
- [Manila](#)
- [McKinleyville](#)
- [Moonstone and Clam Beaches](#)
- [Orick](#)
- [Samoa](#)
- [Shelter Cove](#)
- [South Bay](#)
- [Trinidad](#)

[edit](#)

Brochures - Del Norte

- [Del Norte - REGIONAL SPANISH](#)

Living on Shaky Ground



- [Magazine Download](#)

A magazine on how to prepare for the earthquakes and tsunamis.

[Shaky Ground website](#)

[edit](#)

Preparedness Triad



- [Triad - English](#)

This preparedness triad is available in many languages! [Check out the options](#) and learn how to be earthquake and tsunami safe in 13 different languages!

Check out the archive!

Take a step back in time by checking out our past fairs.

The Earthquake and Tsunami Room has been a feature at the Humboldt County Fair for many years. Enter our archive to visit a past fair. We've assembled our previous resources for you to explore regarding events like the 1964 Great Alaska earthquake and tsunami, the 2011 Japan earthquake and tsunami as well as many others.



[VIEW 2006 FAIR \[PDF\]](#)

[VIEW 2013 FAIR \[PDF\]](#)

Welcome to the
Earthquake and Tsunami Room



Making our North
Coast Communities
Tsunami Resilient

[VIEW 2007 FAIR \[PDF\]](#)

 This way to the Tsunami Boat
And the 2014 Earthquake - Tsunami Room



Featuring a real tsunami debris boat and remember the
1964 tsunami and the 1964 flood

[VIEW 2014 FAIR \[PDF\]](#)

Posters 2008 Humboldt County Fair



The 2008 Humboldt County Earthquake - Tsunami Room featured
the Big Shaker earthquake simulator and posters about the May
2008 M7.9 China earthquake and lessons for the North Coast

[VIEW 2008 FAIR \[PDF\]](#)

 This way to the Tsunami Boat
And the 2015 Earthquake-Tsunami Room



Featuring a twenty-year history of the Redwood Coast
Tsunami Work Group and a return of the tsunami boat

[VIEW 2015 FAIR \[PDF\]](#)

rctwg.humboldt.edu/

Posters 2009 Humboldt & Del Norte County Fairs



The 2009 Humboldt County Earthquake – Tsunami Room ran from August 13 – August 21 and featured the L'Aquila, Italy earthquake and the TsunamiReady program

[VIEW 2009 FAIR \[PDF\]](#)



[VIEW 2016 FAIR \[PDF\]](#)

Posters 2010 Humboldt County Fair

"What's Up With Our Crazy Planet – Lessons of the Earthquakes and Tsunamis of 2009 and 2010."



The 2010 Humboldt County Fair Earthquake – Tsunami Room ran from Aug 12 - 22 and featured posters about the September 2009 Samoa tsunami, the January 2010 Eureka and Haiti earthquakes, the February 2010 Chile earthquake and tsunami, and the April Baja earthquake

[VIEW 2010 FAIR \[PDF\]](#)



The 1992 Cape Mendocino Earthquakes

#1: April 25, 11:06 AM
Magnitude 7.3

#2: April 26, 12:41 AM
Magnitude 6.5

#3: April 26, 4:18 AM
Magnitude 6.6

Twenty-five years after - what have we learned?

[VIEW 2017 FAIR \[PDF\]](#)

Posters 2011 Humboldt County Fair



The 2011 Humboldt County Fair Earthquake - Tsunami Room ran from Aug 11 -21 and featured posters about the February 2011 New Zealand earthquake and the March 2011 Japan earthquake and tsunami

[VIEW 2011 FAIR \[PDF\]](#)

Enter here Earthquake - Tsunami Room



[VIEW 2018 FAIR \[PDF\]](#)

Posters 2012 Humboldt - Del Norte - Mendocino County Fairs



Featuring tsunami debris, resilience and the importance of education

[VIEW 2012 FAIR \[PDF\]](#)

THE EXTRAORDINARY VOYAGE OF KAMOME

The voyage continues

How a small boat built cultural and preparedness
connections across the Pacific

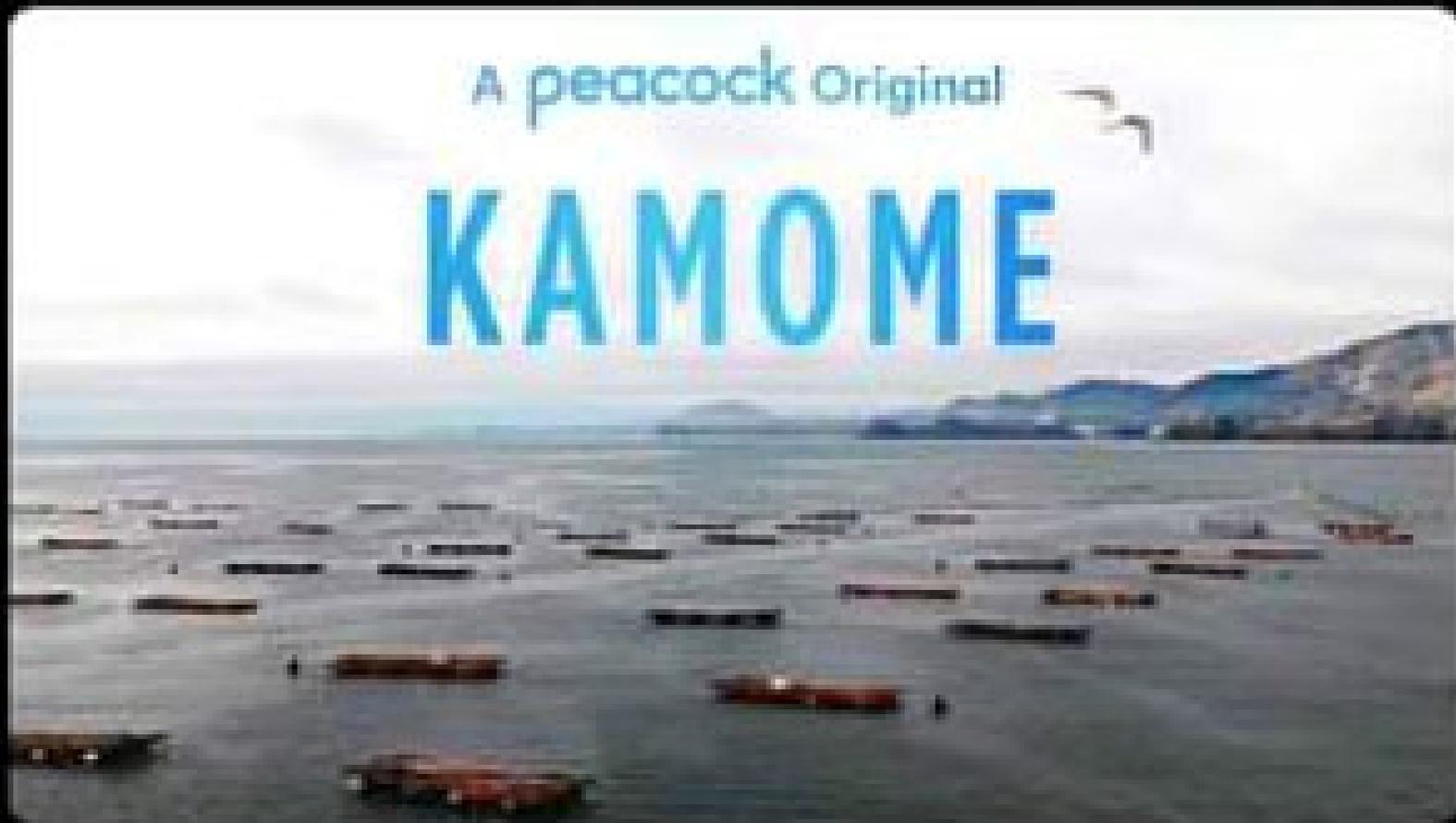


Crescent City, April 16, 2018



Rikuzentakata, June 15, 2018

Rikuzentakata – Crescent City Sister City Signing



23 minute documentary by NBC Sports for the Japan Olympic Games
Free streaming on PeacockTV