

## EARTHQUAKES NEAR THE COAST



### PROTECT Yourself During the Earthquake

- If indoors, DROP under a sturdy table or object, COVER your head and neck and HOLD ON
- If outdoors, move to a clear area if you can safely do so – away from trees, beach cliffs, signs and other hazards – DROP to the ground, COVER your head and neck and HOLD ON
- If you are unable to DROP to the ground, COVER your head and neck and HOLD ON

### MOVE to High Ground

- As soon as it is safe to move, go to higher ground. DO NOT WAIT for an official tsunami warning
- Avoid downed power lines and weakened overpasses
- If you are not in a Tsunami Hazard Zone, stay where you are

### STAY There

- Remain on high ground. Waves from a tsunami may arrive for 8 hours or longer
- Return to the coast only when officials have announced that it is safe.

## TSUNAMI INFORMATION

- Tsunami – Series of waves commonly caused by an earthquake beneath the sea floor
- Water “Draw Down” – Unusual lowering of ocean water, exposing the sea floor. Water will strongly surge back toward land
- Tsunami surge on land is usually less than one (1) mile. Beaches, lagoons, bays, estuaries, tidal flats, and river mouths are dangerous places to be during a tsunami
- Tsunami waves are not like coastal waves. Tsunamis are more like a debris-filled flooded river
- Tsunamis cannot be surfed. There is no face to the tsunami waves
- Large tsunamis may be over fifty (50) feet high in some coastal areas. The first tsunami wave is not usually the highest.
- A tsunami may occur anywhere along the California coast. Millions of dollars in damage has occurred along the California coastline during past tsunami incidents. The 2011 Tohoku (Japan) tsunami caused over \$100 million in damage to California coastal communities.

## RESOURCES

California Governor’s Office of Emergency Services  
Earthquake, Tsunami and Volcano Program  
<http://www.caloes.ca.gov/tsunami>

Know Your Hazards  
<http://www.myhazards.caloes.ca.gov/>

California Geological Survey  
<http://www.tsunami.ca.gov>

Tsunami Preparedness Information/Registration  
<http://www.tsunamizone.org/>

National Oceanic and Atmospheric Administration/  
National Weather Service  
National Tsunami Warning Center  
<http://www.tsunami.gov/>  
<http://wcawc.arh.noaa.gov/>

Great California ShakeOut  
<http://www.shakeout.org/>

Earthquake Country Alliance  
<http://www.earthquakecountry.org/>

# How to Survive a Tsunami

- Protect yourself during the earthquake
- Move to highground or inland as soon as you can
- Stay there





## TWO WAYS TO KNOW IF A TSUNAMI IS COMING:

### NATURAL WARNING

If you observe the following warning signs, a tsunami may be coming:

- Strong Ground Shaking
- A Loud Ocean Roar
- Water Receding Unusually Far Exposing the Sea Floor

A tsunami may arrive within minutes and may last for several hours.

Stay away from coastal areas until officials announce that it is safe to return.



### OFFICIAL WARNING

You may be informed by officials of a tsunami warning by:

- Radio/National Weather Service Radio
- Television
- Telephone/Cell Phone
- Text Message
- Door-to-Door Contact by Emergency Responders
- Outdoor Sirens

Follow directions provided by the emergency personnel. You may be asked to leave the beach and low-lying coastal areas.

Natural and official warnings are equally important. Respond to the warning that comes first.



## EVACUATION

Evacuation should not be automatic. Before evacuating you should determine if you are in a hazard zone and consider possible hazards that may exist along your evacuation route.

- Know if you live, work, or play in a tsunami hazard zone.
- COUNT how long the earthquake lasts. If you feel more than 20 seconds of very strong ground shaking and are in a tsunami hazard zone, evacuate as soon as it is safe to do so.
- If you are on the beach or in a harbor and feel an earthquake—no matter how small—immediately move inland or to high ground.
- GO ON FOOT. Roads and bridges may be damaged.
- Avoid downed power lines.
- If evacuation is impossible, go to the third or higher floor of a sturdy building or climb a tree. This should only be used as a last resort.
- If you hear that a tsunami warning has been issued but did not feel an earthquake, get more information. Listen to the radio, television or other information sources and follow the instructions of emergency personnel.
- If you are outside of a tsunami hazard zone, take no action. You are safer staying where you are.



## WHERE SHOULD I GO?

All California coastal counties have tsunami hazard guidance maps and are in the process of posting tsunami hazard zone signs. These signs and maps will show you what areas are safe and what areas may be at risk. Use them to guide you to a safe area.

## PREPARE NOW

The steps you take to prepare will help you during the recovery process:

- Know if you live, work, or play is a Tsunami Zone. This information is available on the Cal OES My Hazards website identified on the back of this brochure or from your local emergency management officials
- Learn your recommended tsunami evacuation route
- Identify safe zones near you
- Get a Weather Radio that can alert you when you are in a Tsunami Zone, even if it's turned off
- Prepare an evacuation kit that includes:
  - Important Documents
  - Medications
  - Flashlight
  - Portable Radio/Weather Service Radio with Batteries
  - Water and Snacks
  - Warm Clothes
  - Silver Blanket (Alert Officials to Your Location)
- Keep your kit near the door so you can "grab and go"
- Practice walking your recommended evacuation route
- Identify a location to meet loved ones (Reunification Plan)
  - Decide where to meet if you become separated.
  - Designate an out-of-state relative for everyone to call if it is not possible to meet at the planned spot.
- Discuss plans with family, friends, coworkers and neighbors
- If you need help moving to higher ground, make a plan with family, neighbors or friends to help you evacuate. Plan for any extra time it may take to leave the tsunami zone.
- Develop a plan to help your pets move to higher ground including pet food and supplies
- Prepare to be on your own for several days
- Consider joining your Community Emergency Response Team (CERT)

If no maps or signs are available, go to an area 100 feet above sea level or two miles inland, away from the coast. If you cannot get this far, go as high as possible. Every foot inland or upwards can make a difference.