Staying Safe Where the Earth Shakes

San Diego County Edition

Developed by:

Earthquake Country Alliance
California Earthquake Authority
California Governor's Office of Emergency Services

Earthquakes in San Diego County

Those of us lucky enough to live in San Diego County know how breathtaking the area can be. But like all of California, San Diego is earthquake country. Understanding the risks and preparing to survive and recover can help keep your family safe.

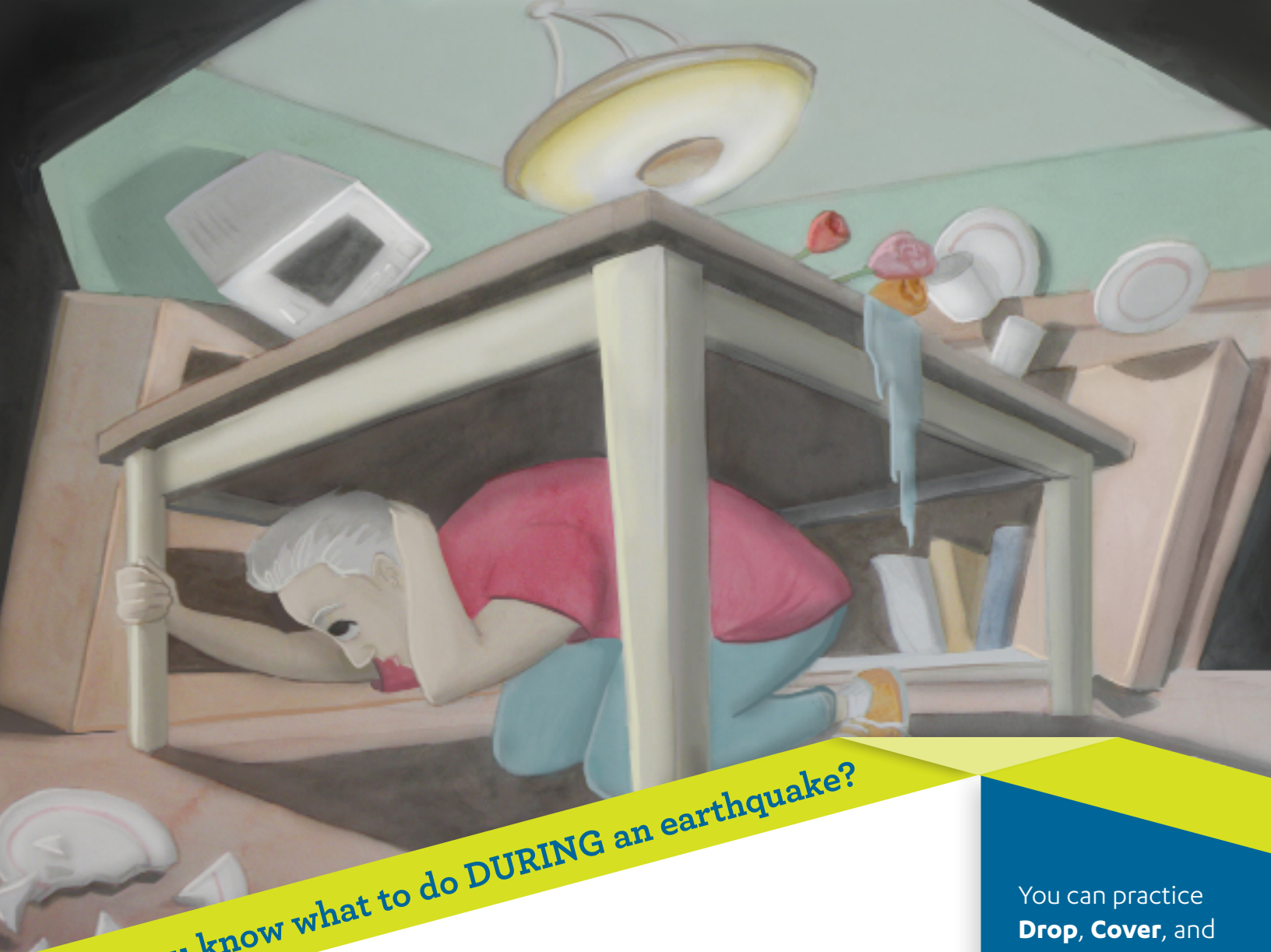
Most of us in San Diego County live less than **15 miles from a fault** that can have a damaging earthquake, such as the Rose Canyon fault along the coast and beneath downtown San Diego, and the Elsinore and San Jacinto faults that cut through East County. Large earthquakes on faults outside of the county can also shake us (like on Easter Sunday in 2010). Coastal areas are also at risk of tsunamis, generated from either earthquakes on local faults or across the Pacific.

Life After a Big Quake

Local earthquakes may cause damage throughout the county and cut off water and power for days or weeks. Large regional earthquakes may also disrupt these services and limit access in and out of the county. Fire and police departments will be dealing with the most serious situations and may be unable to respond quickly to issues in your community. Government assistance may not be available or may not be enough to replace your damaged belongings or repair your home. **Good news:** Taking steps now will give you confidence that you and your family are prepared to stay safe where the earth shakes.

Get Started Now by Reading this Booklet!

The Seven Steps to Earthquake Safety in this booklet give you basic guidelines for what to do before, during, and after a damaging earthquake. You can also visit **EarthquakeCountry.org** for more tips on how to apply these steps to your family's unique needs.



Do you know what to do DURING an earthquake?

You can practice **Drop**, **Cover**, and **Hold On** with millions of others! Visit **ShakeOut.org** to learn more.

DROP, COVER, AND HOLD ON

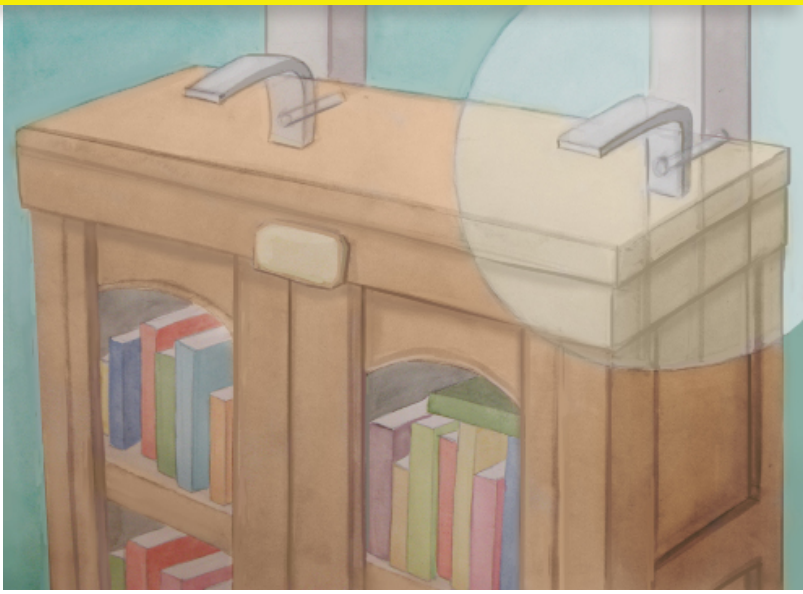
You can reduce your chance of injury if you:

- **DROP** down onto your hands and knees
- **COVER** your head and neck with your hands and arms and take shelter under a sturdy table or desk if possible.
- **HOLD ON** to your shelter until the shaking stops.

How would you protect yourself during an earthquake if you are in a car, or at the beach or enjoying a local baseball game? Find out more by reading Step 5 on page 8.

Staying safe where the earth shakes is more than just what we do **DURING** an earthquake. We can **PREPARE** to **SURVIVE** and **RECOVER** by following the **Seven Steps to Earthquake Safety** beginning on the next page.

Follow the Seven Steps to Earthquake Safety



Prepare

Step 1: Secure your space.

Earthquake shaking can move almost anything, even large or heavy items. Imagine your home being picked up and shaken sideways – what would be thrown around? How can you prevent it? Secure your space by identifying hazards and securing moveable items. Try doing one item from the list below every weekend until you get everything done. Start with what you can do for free. Don't be afraid to ask others for help.

No cost:

- Move heavy or large items, such as potted plants or large speakers to the floor or low shelves.
- Move things that can fall on you away from anywhere you spend a lot of time (bed, couch, desk, etc).
- Move heavy unstable objects away from doors and escape routes.

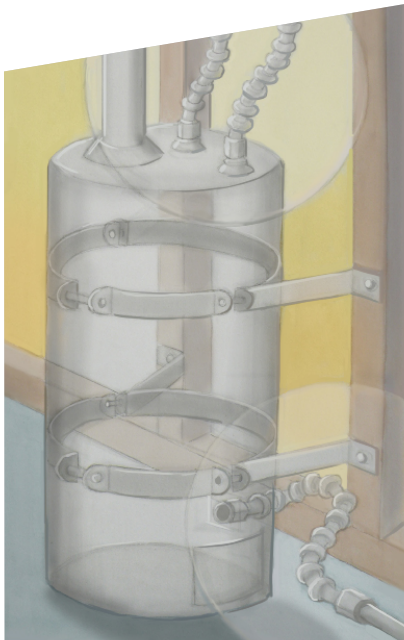
Low cost (many of these items are available at your local hardware store):

- Secure water heater to the wall studs with two metal straps. (Average cost $20)
- Secure (or brace) electronic items such as computers and TVs with straps. (Average cost $15)
- Hang mirrors and pictures on closed hooks. (Average cost $2 per hook)
- Secure top-heavy furniture and appliances to wall studs. (Average cost $12)
- Secure small items on shelves with museum wax. (Average cost for tub of wax $10)
- Install latches on kitchen cabinets. (Average cost $8)

Consider asking for help:

- Use flexible connections where gas lines meet appliances.
- Secure overhead light fixtures.
- Secure free-standing wood stoves or fireplace inserts.

For more about securing your space, go to: **EarthquakeCountry.org/step1**



Prepare
Step 2: Plan to be safe.

Plan to be safe by creating a disaster plan and deciding how you will communicate in an emergency. Before the next earthquake, get together with your family or housemates to plan now what each person will do before, during and after an earthquake.

Suggestions for your plan:

- Learn and practice "Drop, Cover, and Hold On" (see Step 5).
- Identify safe spots in every room you can easily reach in just a few steps, such as under sturdy desks or tables.
- Keep flashlights and extra batteries in several places.
- Store a fire extinguisher where you can easily get to it or attach it to a wall. Everyone in your family should know how to use one.
- Place a sturdy pair of shoes and a flashlight in a bag and tie it to one of your bed legs. This makes it easy to find shoes so you don't cut your feet on broken glass, one of the most common earthquake injuries.
- Take a first aid and CPR training course and download a first aid app to your smart phone.
- If you are a person with a disability or need extra help, work with your personal support network to make them part of your plan.
  Visit **EarthquakeCountry.org/disability**
- Find out if you live, work or play in a tsunami zone and make sure everyone knows how to get to higher ground if necessary. To see if you are at risk for tsunami, earthquake, fire and flood hazards, visit **http://MyHazards.CalEMA.ca.gov/**

Communicate with your family and neighbors:

- Choose a place nearby where everyone can meet if your home is not accessible.
- Provide all family members with a list of important contact numbers.
- Choose someone who lives out of the area who everyone can text or call to tell them how and where you are. Long distance phone lines are restored before local ones.
- Have a land line phone that doesn't require power.
- Learn how to use a NOAA Weather Radio with the Public Alert feature to get information on tsunamis or other hazards.
- Make sure everyone knows the location of the electrical circuit breaker and gas shut off valve. Tie a wrench near the gas turn off. Only turn off the gas if you smell or hear leaking gas or see the meter turning quickly. If you turn it off, you'll have to wait for the gas company to turn it back on. Ask your neighbors for permission to shut off their gas and power, if necessary, and give them permission to shut off yours.

For more about how to plan to be safe, go to **EarthquakeCountry.org/step2**

Prepare

Step 3: Organize disaster supplies.

Organize disaster supplies in a few convenient locations – your **HOME**, **CAR**, **SCHOOL** and at **WORK**. Routes away from home may be blocked, and help may not get to you for a while. **THINK ABOUT WHAT YOUR FAMILY WILL NEED IF YOU HAVE TO SHELTER AT HOME FOR UP TO THREE WEEKS**. In a big earthquake, utilities may not be available for an extended period of time.

Make a "grab-and-go" backpack with things you may need in an evacuation **AND** organize supplies for staying in your home for an extended period of time.

- Keep an **EMERGENCY BACKPACK** near the door to "grab-and-go" in case you can't stay in your home. This is especially important if you live or work in a tsunami zone. Place copies of important documents/cash in a plastic bag in the backpack. Include medication and extra glasses that anyone in your family may need. Other items: water, snacks, baby formula, cell phone chargers, etc.
- Store **EMERGENCY SUPPLIES** in a dry area at home including food and water for your family and pets, clothing, blankets, work gloves, tools, personal care items and anything you will need on a daily basis.
- **STORE WATER** for everyone in your family. The recommended amount is one gallon per person or pet per day for at least three days and ideally up to two weeks (even longer if you live in desert or remote areas).
- Create a **KIT FOR YOUR PETS** that includes dry pet food and any medications they might need. Keep a photo of you with your pet in the kit in case your pet gets lost. Consider implanting an ID "chip" so that your pet can be linked back to you even if you are separated.
- Buy a **NOAA WEATHER RADIO** with the Public Alert feature.

For more ideas on what to include in your disaster supplies, visit **EarthquakeCountry.org/step3**.

Prepare
Step 4: Minimize financial hardship.

Earthquakes may last only seconds but they can shake up our lives for weeks and months to come. You can minimize your financial hardship by organizing important documents, strengthening your property and considering earthquake insurance.

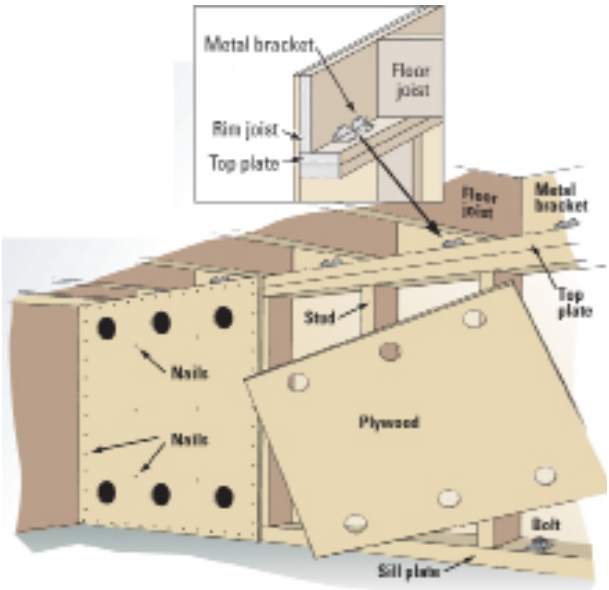
Do you own a home?

The latest recommendations for what you can do to strengthen your home are available at **http://Quake.Abag.ca.gov/housing/homeowners**

- Does your home have enough bolts connecting the "sill plate" to the foundation?
- Are there large openings in the walls of the lower story, such as a garage door, that should be better braced?

Do you rent?

If you are a renter, ask your landlord about the safety of your building and encourage any needed updates or repairs by directing them to **http://Quake.Abag.ca.gov/housing/renters**



Source: USGS
Homes with a crawl space should have panels of plywood connecting the studs of the short "cripple" walls. Doing some work on your home now may reduce earthquake damage and financial hardship when the next earthquake hits!

More ways to protect yourself financially:

- Renters and homeowners can protect themselves with earthquake insurance. Without earthquake insurance, you will be responsible for all costs to repair or rebuild your home and replace your personal property. Residential policies do not cover earthquake damage. For more information, contact your insurance agent or go to **EarthquakeAuthority.com**
- If you live in a tsunami zone, consider FEMA flood insurance. Homeowner's policies do not cover damage caused by flood or tsunami.
- Prepare a "grab-and-go" backpack where you keep important documents in a sealed plastic bag, things like:
  - Copies of identification
  - Copies of insurance cards
  - List of emergency contact numbers
  - Photos of belongings in your home. This will help you file an insurance claim.

To learn more, go to **EarthquakeCountry.org/step4**

For what to do while driving, at the movies and in other places go to EarthquakeCountry.org/step5

Survive

Step 5: Drop, Cover, and Hold On

When the earth shakes: **DROP**, **COVER**, and **HOLD ON**! The farther you move while the ground is shaking, the more likely you are to be hurt.

In most situations:

- **DROP** down onto your hands and knees (before the earthquake knocks you down). This position protects you from falling but allows you to still move if necessary.
- **COVER** your head and neck (and your entire body if possible) under a sturdy table or desk. If there is no shelter nearby, only then should you get down near an interior wall (or next to low-lying furniture that won't fall on you), and cover your head and neck with your arms and hands.
- **HOLD ON** to your shelter (or to your head and neck) until the shaking stops. Be prepared to move with your shelter if the shaking shifts it around.

Most buildings in California are designed to remain standing during earthquakes, but broken glass, bricks, and other building parts may fall. So, if you are inside, stay inside and if you are outside, move away from buildings.

- If you are **IN BED**, stay in bed, and cover your head with a pillow. People get injured when they get up and move around.

- If you are **OUTSIDE**, first drop then crawl towards open space if you can – stay away from building exteriors, overhead power lines and trees.

- If you are unable to **DROP**, brace yourself and protect your head and neck. In a wheelchair, set the brake and protect your head.

- If you're **NEAR THE SHORE**, and you feel a strong or long lasting earthquake, or the water suddenly draws back from the beach, tsunami waves may arrive within minutes. As soon as it is safe to move, go immediately to higher ground or inland away from the coast.

You can practice **Drop, Cover,** and **Hold On** with millions of others! Visit **ShakeOut.org** to learn more.

Survive

Step 6: Improve safety.

Right after an earthquake, you can improve safety by evacuating if necessary, helping the injured and preventing further damage.

When should I evacuate?

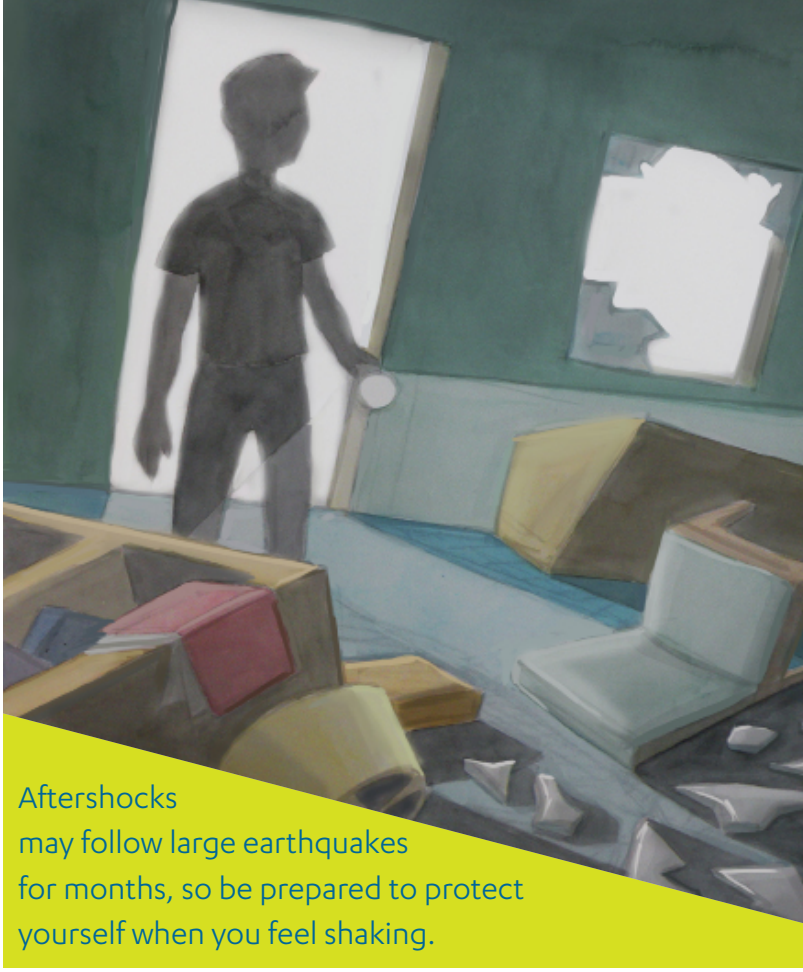
- If you are near a large body of water (the ocean or a large lake), move to higher ground as soon as you can safely move. Tsunami waves can arrive within minutes.
  - Go on foot. Roads and bridges may be damaged.
  - If evacuation is impossible, go to the third or higher floor of a sturdy building or climb a tree. This should only be used as a last resort.
  - Stay away from the coast until officials tell you it is safe to return. The danger may last for days.
- If you are not in a tsunami zone, evacuate your home or office only if there is damage to the building. You will be safest at home, even if the power is out.
- If you need to evacuate to a shelter, take your "grab-and-go" bag (Step 3). Shelters have limited space.

Help the injured:

- If a person is bleeding, put direct pressure on the wound.
- Do not move any seriously injured person unless they are in danger of further injury.
- Keep them warm to prevent shock.
- If you can, call 9-1-1.

Prevent further damage:

- Be prepared for aftershocks. Stay away from anything that looks like it may fall.
- Large fires are a sign to evacuate. If you have a fire extinguisher handy, put out small fires.
- Unplug appliances and electronics. When the power comes back, damaged appliances and electronics could start a fire.
- Shut off the gas if you smell or hear a gas leak, or see the meter spinning quickly. Only the gas company can turn the gas back on, so shut it off only if necessary.
- Do not use candles or matches. You could start a fire and there may also be gas leaks. Use your flashlights.



Aftershocks may follow large earthquakes for months, so be prepared to protect yourself when you feel shaking.

Let people know:

- Register on the Red Cross "Safe and Well" website so people will know you are okay: **SafeAndWell.org**
- Phone service may be out. When possible, text or call your out-of-area contact and tell them where you are, **THEN STAY OFF THE PHONE**. This will allow calls to be made for emergencies.

Stay informed:

- Surf the radio dial to find a station that is on the air. Listen to your NOAA Weather Radio for emergency information.
- Know your tsunami zone by going to **http://MyHazards.CalEMA.ca.gov/**

For more on how to improve your safety and the safety of others, go to: **EarthquakeCountry.org/step6**

Recover
Step 7: Reconnect and restore.

In the days and weeks that follow, restore daily life by reconnecting with others, repairing damage, and rebuilding community. You, your family, friends and neighbors can come together to start the process of recovery.

The first days after the earthquake:

- Do not enter your home until you know it's safe.
- Check for gas leaks, chemical spills, damaged electrical wiring and broken water pipes.
- Monitor local radio or television reports about where to get emergency housing, food, first aid, clothing and financial assistance.
- Check on your neighbors, especially seniors or the disabled.
- Use your refrigerated and frozen food first and save the canned goods for later.
- Take pictures of damage to your property and home.
- Contact your insurance agent or company right away to begin your claims process. Keep records of any repair or cleaning costs.

The first weeks after the earthquake:

- If your gas was turned off, contact the gas company to turn it back on.
- If the electricity went off and then came back on, check your appliances or electronic equipment for damage.
- Contact the Federal Emergency Management Agency (FEMA), U.S. Small Business Administration (SBA), or other federal and state agencies to find out about financial assistance for your home, apartment, farm or business.
- If you need repairs to your home, check with the Contractors State Licensing Board to ensure your contractor is fully licensed in California. Fraud is common following a disaster. Visit **CSLB.ca.gov**
- Talk with your family about how they are feeling. Children and older adults are of special concern in the aftermath of disasters. Contact local faith-based organizations, voluntary agencies, or professionals for counseling.
- Reach out to neighborhood or community organizations and get involved. Your voice is important in deciding how your community will rebuild in the years to come.

For more about how to reconnect and restore go to:
EarthquakeCountry.org/step7

Going to the beach is one of the best things about living in the San Diego area. But anytime you are near the beach, harbor or bay, you are at risk for a tsunami.

What is a tsunami?

A tsunami is a series of water surges or waves usually caused by an earthquake beneath the sea floor.

What areas are at risk?

Beaches, harbors, bays, and river mouths are at greatest risk.

What should I do to survive a tsunami?

- If you are in a tsunami zone and feel an earthquake, **MOVE INLAND** or to **HIGHER GROUND** as soon as it is safe to move.
- **COUNT** how long the shaking lasts. It's the length of shaking that is important — not how strong it is. The longer the earthquake lasts, the more likely it is that a tsunami was generated.
- **GO ON FOOT.** Roads and bridges may be damaged. If you cannot leave the area, go to the upper floor of a building or climb a tree — but only as a last resort.
- **TSUNAMIS ARE TRICKY.** The first surges of a tsunami are almost never the largest. It is not unusual for tsunami surges to last 12 hours or longer. Just when you think the danger is over, another damaging wave may arrive. **DO NOT GO BACK TO THE COAST** until officials allow you to return.
- **PRACTICE YOUR EVACUATION ROUTE** ahead of time with everyone in your family. Every minute counts.

Know your zone by going to **http://MyHazards.CalEMA.ca.gov/**

If you are in a tsunami zone or close to the coast, you may need to evacuate immediately after an earthquake.

Two ways to know if a tsunami is coming:

Natural warnings – these include the ground shaking, a loud ocean roar, or the ocean going out unusually far so you can see the ocean floor. If you see or hear any of these natural warnings, move inland to higher ground immediately.

Official warnings – you may be notified that a tsunami warning has been issued via TV or radio. Emergency workers may come door-to-door. In some cases there might be outdoor sirens and announcements from airplanes. Follow the instructions of emergency officials.

Who do I turn to in San Diego County?

In a life threatening emergency: Call 9-1-1.

If you need help but it's not an immediate emergency: Call 2-1-1.

If you are looking for a shelter: Use the Shelter Locator at RedCross.org or on the Red Cross Earthquake Mobile App. You can also visit SDCountyEmergency.com or call 2-1-1.

If you can't find a loved one: Check the Red Cross Safe and Well website at SafeAndWell.org, and register yourself there too.

If you are having trouble getting back on your feet months after the disaster: Call 2-1-1, they will help you.

If you are a person with a disability, there are specific resources for you at:
EarthquakeCountry.org/disability or call 2-1-1.

To coordinate an earthquake drill at your workplace, faith or community organization: Visit ShakeOut.org.

To find out if you live/work in (or will visit) a tsunami zone: Visit MyHazards.CalEMA.ca.gov.

For more information, go to:
EarthquakeCountry.org, MyHazards.CalEMA.ca.gov, sdcountyEmergency.com, EarthquakeAuthority.com.

Cal OES
GOVERNOR'S OFFICE OF EMERGENCY SERVICES

CEA CALIFORNIA EARTHQUAKE AUTHORITY™ THE STRENGTH TO REBUILD®

American Red Cross

Joining forces to send an urgent message:
Get Prepared, California!

Earthquake Country Alliance
We're all in this together.

Special thanks to:
Association of Bay Area Governments
Bay Area Earthquake Alliance
California Geological Survey
California Institute of Technology
Earthquake Country Alliance, Southern California
Federal Emergency Management Agency
Pearce Global Partners Inc.
Redwood Coast Tsunami Work Group
San Bernardino County Museum
San Diego County Office of Emergency Services
San Francisco Department of Emergency Management
Southern California Earthquake Center
U.S. Geological Survey

FEMA