

ESP

FOCUS

Earthquakes



California is earthquake country!

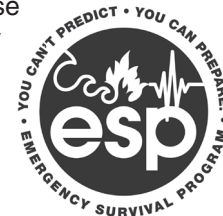
Thousands of earthquakes occur in California each year, but most are too small to be felt. Some cause moderate damage and injuries in a small area. Others can cause regional destruction.

Because the San Andreas fault is the longest fault in the region, it produces the largest earthquakes. Scientists estimate that large earthquakes on the San Andreas occur about every 150 years. The largest earthquake on the southern portion of the San Andreas in recorded history occurred in 1857. The fault ruptured all the way from Parkfield in southern Monterey

County to Cajon Pass in San Bernardino County. Scientists estimate its magnitude at 7.9. A repeat of this earthquake today would cause extensive damage, deaths, and injuries throughout Southern California. Many scientists are even more concerned about the potential for a large earthquake on the southernmost section of the San Andreas, from the Salton Sea through the Coachella Valley to the Cajon Pass, where an earthquake has not occurred since around 1680. Such an earthquake may also cause great damage throughout the region.

In Southern California alone there are over 300 other faults that may also cause damaging earthquakes. Most everyone in Southern California lives within 30 miles of one of these faults. When earthquakes on these faults are in populated areas, the losses can be substantial. The Northridge earthquake in 1994 caused more than 33 deaths, more than 9,000 injuries, and \$40- \$42 billion in losses.

No one knows when or where such a quake will occur, but everyone can reduce their risk of death, injury, and property loss in an earthquake by following the Seven Steps to Earthquake Safety outlined on the reverse side of this Focus Sheet, wherever they live, work, or play.



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The Seven Steps to Earthquake Safety

The following steps are excerpted from "Putting Down Roots in Earthquake Country." The full text can be viewed and ordered at www.earthquakecountry.info.

Step 1: Fix potential hazards in your home

- Install latches on kitchen cabinets.
- Secure TVs, stereos, computers, etc. with velcro straps. Use putty or wax adhesive for smaller items.
- Hang mirrors and artwork from closed hooks.
- Secure top-heavy furniture and appliances to walls.
- Install flexible connectors on gas appliances.
- Strap water heaters correctly to the wall.
- Store flammable or hazardous materials on lower shelves or on the floor

Step 2: Create a disaster plan

- Practice "drop, cover, and hold on."
- Keep shoes and a flashlight next to each bed.
- Take a Red Cross first aid and CPR course.
- Know how and when to shut off utilities.
- Learn how to properly use a fire extinguisher.
- Select a safe place outside of your home to meet your family or housemates after the earthquake.
- Designate an out-of-state contact person who can be called to relay information.
- Keep your children's school release card current.

Step 3: Create disaster supplies kits

Keep a *personal disaster supplies kit* in your home, in your car, and at work, with at least the following:

- Medications and important medical information
- First aid kit and handbook
- Spare eyeglasses or contact lenses
- Bottled water and snack foods
- Whistle (to alert rescuers to your location)
- Emergency cash, in small bills.
- List of out-of-state contact phone numbers
- Working flashlight with extra batteries and bulbs
- Personal hygiene supplies
- Copies of personal identification
- In addition to your personal disaster supplies kits, store a household disaster supplies kit with a three-day to one-week supply of items needed to live without normal services (water, electricity, etc.) and to begin recovery.

Step 4: Fix your building's potential weaknesses

If your building needs the following retrofitting, you likely need to consult a professional:

- The framing of your house should be bolted at least every 6 feet to the perimeter of the concrete foundation (every 4 feet in a multistory building).
- Homes with a crawl space should have plywood connecting the studs of the short "cripple" walls.
- Larger openings in the lower floor, such as a garage door, should be properly reinforced.
- Masonry walls and chimneys should be reinforced.

For those who rent: You control which apartment or house you rent. Ask the landlord these questions:

- What retrofitting has been done on this building?
- Have water heaters been strapped to the wall studs?
- Can I secure furniture to the walls?

Step 5: During earthquakes and aftershocks

Drop! Cover! and Hold On!

- During earthquakes, drop to the floor, take cover under a sturdy desk or table, and hold on to it firmly.
- If you are in bed, hold on and stay there, protecting your head with a pillow.
- The area near outer walls is very dangerous. Do not try to go outside during shaking.
- If outside, move to a clear area if you can safely do so; avoid power lines, trees, and other hazards.
- If driving, pull over to the side of the road, stop, and stay in your car until shaking stops.

Step 6: After the earthquake, check for injuries and damage

Check for injuries:

- If a person is bleeding, put direct pressure on the wound. Use clean gauze or cloth, if available.
- Administer rescue breathing if necessary.
- Carefully check children or others needing special assistance.
- Do not move seriously injured persons unless they are in immediate danger of further injury.
- Get medical help for serious injuries.

Check for damage:

- If possible, put out small fires immediately.
- Shut off the main gas valve only if you suspect a leak. Wait for the gas company to turn it back on.
- Shut off power at the main breaker switch if there is any damage to your house wiring. Unplug broken lights or appliances as they could start fires.
- Hazardous materials such as bleach, chemicals, and gasoline should be covered with dirt or cat litter.
- Stay away from chimneys or brick walls with visible cracks. Don't use a fireplace with a damaged chimney.
- Stay away from downed power lines and objects in contact with them.

Step 7: When safe, continue to follow your disaster plan

The first days after the earthquake...

Until you are sure there are no gas leaks, do not use open flames or operate any electrical or mechanical device that can create a spark. Never use the following indoors: camp stoves, gas lanterns or heaters, gas or charcoal grills, or gas generators. These can release deadly carbon monoxide or be a fire hazard in aftershocks.

- Turn on your portable or car radio for information and safety advisories.
- Call your out-of-state contact, tell them your status, then stay off the phone.
- Check on the condition of your neighbors.
- If power is off, plan meals to use up refrigerated and frozen foods first.
- If your water is off or unsafe, you can drink from water heaters, melted ice cubes, or canned vegetables.
- Report damage to your local building department and to your local office of emergency services.

If you cannot stay in your home...

Because shelters will likely be overcrowded, do not leave home just because utilities are out of service or your home and its contents have suffered only moderate damage. If you do evacuate, tell a neighbor and your out-of-state-contact where you are going, and take your personal disaster supplies kits and other essentials.

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This information sheet is produced as part of the Emergency Survival Program (ESP). ESP is an awareness campaign designed to increase home, neighborhood, business and school emergency preparedness. ESP was developed by the County of Los Angeles. The California Emergency Management Agency (Cal EMA) and representatives from Contra Costa, Imperial, Inyo, Kern, Los Angeles, Marin, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura counties, Southern California Edison, the Southern California Earthquake Center and the American Red Cross assist in the development of campaign materials and coordination of the campaign.



Emergency Survival Program (ESP)

YOU CAN'T PREDICT. YOU CAN PREPARE!

Use the Emergency Survival Program's new list of actions as your guide for personal and community emergency preparedness.

January

Then and Now

In large regional earthquakes, such as the 1906 San Francisco earthquake, or the terrorism acts of September 11, 2001, emergency response agencies might be overwhelmed. You, your neighbors, co-workers and classmates may be forced to take actions on your own. Take time now to learn about what happened then and how it can prepare you for the safety actions to take now.

February

Make a Plan

Planning for an earthquake, terrorist attack, or other emergency is easier than you think. Make sure that your emergency plan includes evacuation and reunion plans; your out-of-state contact person's name and number; the location of your emergency supplies and other pertinent information. By planning now, you will be ready for the next emergency.

March

Make Disaster Kits

Everyone should have disaster supplies kits stored in accessible locations at home, at work and in your vehicle. Having emergency supplies readily available can reduce the impact of an earthquake, a terrorist incident or other emergency on you and your family. Your disaster supplies kits should include food, water, flashlights, portable radios, batteries, a first aid kit, cash, extra medications, a whistle, fire extinguisher, etc.

April

Floods

Storms can cause flash floods, create power outages and damage homes. Assemble emergency supplies to include sand bags; identify safe routes; and teach children to avoid areas of potential flooding. When flooding occurs, listen to the radio or watch television for information and instructions.

May

Terrorism

Fear is a major tactic used by terrorists to achieve political and social objectives. But the terrorists are not in charge. You can fight back by taking many of the same actions you would to prepare for earthquakes, fires, and other emergencies. Start by having a family emergency plan. Also assemble emergency supply kits at home, at work, and in your car.

June

Public Health Emergencies

Public Health Emergencies may be related to outbreaks of infectious diseases, food and waterborne illnesses, and other threats to the public's health and safety. Pandemic flu is of concern and health experts recommend the following to prevent the spread of flu: wash your hands with soap and water frequently; cover your cough and sneeze; stay home if you are sick. Stay away from others so they will not become sick. In autumn, get the flu shot!

July

Heat Wave

Although sun is necessary, exposure to ultraviolet radiation is potentially dangerous and can damage skin. Heat injuries that can occur include sunburn, heat cramps, heat exhaustion and heatstroke. If your home is not air-conditioned, spend time in public facilities like public libraries, malls, and community centers that are air-conditioned. Never leave children or pets unattended in hot vehicles.

August

Drop, Cover, and Hold On!

Learn what to do during an earthquake, whether you're at home, at work, at school or just out and about. Taking the proper actions, such as "Drop, Cover, and Hold On", can save lives and reduce your risk of death or injury. During earthquakes, drop to the floor, take cover under a sturdy desk or table, and hold on to it firmly. Be prepared to move with it until the shaking stops. If you are at the beach, move to higher ground.

September

Back to School

Schools should have emergency plans to meet the threat of terrorism, earthquakes and other emergencies. They should be updated and exercised regularly. Emergency supplies, such as water, food and other basic items, are also an important part of school preparedness. If you are a parent or guardian, know your child's school emergency plan and make sure they have your updated emergency contact information.

October

Earthquakes

No one knows when the next earthquake will happen, but we can reduce its impact by being prepared. Identify hazards and remove or reduce them. Store emergency supplies and replenish them annually. Educate your family where to drop, cover, and hold on and take a first aid course. Conduct practice drills on a regular basis.

November

Fire and Ice

Preparedness is the key to surviving wildland fires and lethal winter storms. Timely preparation, including structural and non-structural measures to avoid the impacts of wildland fires and severe winter weather, can help reduce heavy repair expenditures following an event. Also remember to keep your car and other vehicles fueled and in good repair in case you are asked to evacuate. Have your emergency survival kit ready to go with you, just in case.

December

Landslides and Mudslides

Significant property damage can be caused by landslides and mudslides. Prepare an evacuation kit to include important documents and irreplaceable items such as photographs. When it rains, monitor the amount of rainfall and look for warning signs of landslides and mudslides such as new springs, tilted trees or new holes in hillsides.

Additional campaign materials are available through your local County Office of Emergency Management.

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