

## EARTHQUAKES

Each year 12,000-14,000 earthquakes are reported—that's an average of 35 earthquakes a day. When Americans think of earthquakes, California probably comes first to mind. The Palmetto State is home to one of the most active earthquake-producing regions in North America, a twenty-five by fifteen-mile oval known as the Middleton Place-Summerville Seismic Zone, whose center lies about 22 miles northwest of Charleston. But earthquakes can happen in any part of the state, and a repeat of a large earthquake, such as the 1886 Summerville-Charleston event, would cause damage throughout the entire state.

Unlike hurricanes, the arrival date, time, and intensity of an earthquake can't be predicted. Your dwelling may have been severely damaged and not be available as a residence for days, weeks, or months after the earthquake. Furthermore, public shelters—typically school buildings, few of which are engineered to withstand earthquakes, may have not have survived the earthquake any better than your dwelling. Emergency housing may not be available for weeks or months. Emergency vehicles, specifically EMS vehicles, ambulances, and fire trucks, may have been damaged or trapped in their stations, or the roads to your residence may be impassable. This is especially likely on the low-lying sea islands, some of which have only a single bridge connecting them to the mainland. Evacuation and/or relocation after the earthquake (as it was in 1886) may be necessary if damage to your dwelling or community is extensive. Surviving and recovering from an earthquake starts with preparation.

### 1. Prepare a Family Disaster Plan.

- Identify safe spots at home and work:
  - Under sturdy tables or desks.
  - In structurally sound or strongly supported doorways.
  - In a small room or hallway.
- Never take cover near windows or heavy furniture that can tip over, such as bookcases and entertainment units. Avoid poorly supported doorways, such as those with metal frames
- Designate a specific outdoor meeting place where all family members will assemble immediately after the quake stops. The designated place should be out-of-doors and away from any buildings, utility poles, or highway overpasses which could fall on people when aftershocks take place.
- Designate a specific out-of-state friend or family member to contact so that all family members have a single person who can provide information about all members of the family.
- Make up a credit-card-size emergency contact list for each family member's wallet. Have the lists laminated in plastic so that they will last. The emergency contact card should list each family member's name; Social Security number; home, work, or school addresses and phone numbers; cell phone numbers and email addresses; and the out-of-state contact person's name, addresses, and all possible telephone and fax numbers and email addresses. Send a copy to the out-of-state contact person.

- Prepare a [family disaster supplies kit](#). Families with children should have each child create their own personal pack.
2. Prepare an in-home Disaster Supply Center. Your in-home disaster supply center should be a designated place in an earthquake-resistant part of your home. It should be stocked with a 10-day supply of non-perishable supplies sufficient to provide for all members of the family, including your pets. These supplies should include:
- Food, preferably food that does not require much water or cooking.
  - A manual can opener.
  - Water. One gallon per day per person.
  - Prescription medicines. Ask your physician or pharmacist if these can be safely stored in plastic bags in the refrigerator, which will lengthen their storage life.
  - Alternative cooking sources, such as a charcoal or propane gas grill or cook stove. Use both types outdoors only.
  - Propane tanks to supply the grill and gas lanterns.
  - Flashlights, stored empty, with batteries in separate waterproof containers or plastic bags. Batteries stored for a long time can leak, and leaking batteries can destroy flashlights and radios. Battery- or propane gas-powered lanterns will illuminate larger areas. Do NOT purchase or use candles because they are a fire hazard and may cause explosions from leaking home gas lines.
  - Sanitation supplies (plastic bags for disposing of bodily wastes and garbage), toilet paper, and pre-moistened sanitary wipes for personal cleansing. If funds permit, a portable folding toilet would be useful.
  - Pet food, litter, leash, traveling case, and muzzle. Without the last two, your pet may be denied access to even pet-friendly shelters. Have ID tags and collars made for all pets so they can be returned to you if they are lost.
  - A fire extinguisher.
  - Heavy work gloves, heavy shoes, socks, and a set of work clothes for cleanup work for each adult.
  - Extra blankets, sealed in watertight bags or containers.
3. Prepare In-car Disaster Supply Kits. If an earthquake severely damages your home, the emergency supplies stored in your in-home disaster supply center may have been damaged or destroyed. If you are at work or school, you may not be able to get home quickly. For this reason, each family vehicle should contain a bag (such as a gym bag) in the trunk of each car containing at least a three-day supply of

survival essentials. These should include:

- A vital information file folder, containing a copy of your emergency contact list, your driver's license, Social Security card, insurance company contact information, a household property inventory, [and further information coming soon].
- A variety of ready-to-eat, non-perishable food (canned or dried), such as nutritionally complete energy bars or pre-packaged, ready-to-eat emergency meals.
- Drinking water, preferably in 16-ounce sealed bottles.
- A first aid kit meeting the specifications of the American Red Cross.
- A flashlight, and small transistor radio.
- Two sets of batteries for the flashlight and radio, stored in a separate plastic zipped baggie.
- Emergency cash. Credit and debit cards will be useless if electricity is not available.
- A complete set of work clothes, shoes, and work gloves.

#### **During...**

- **IF INDOORS, STAY THERE.** Take cover using the drop, cover, and hold on technique. Do not run downstairs or outside while the building is shaking, as there is danger that you may be knocked down and injured. Running out an exterior door when an earthquake is underway makes you vulnerable to falling objects, such as overhead building parts and falling glass. After the shaking stops, and if an open space is close to the building, run to the open space.
- **IF OUTDOORS, STAY THERE.** Stay at least 10 feet away from any building from which window glass and other debris could fall. Move away from trees, streetlights, and power lines. Crouch down and cover your head. If on a sidewalk near multiple buildings, duck into a doorway to protect yourself from falling bricks, plaster, glass, and other debris.
- **If at home.** If you are in bed or on a couch when the shaking starts, roll off onto the floor and stay next to the bed or couch. If the ceiling falls, a survivable void will likely remain close to the bed. If you are elsewhere in the house, move away from windows, because they may shatter. Move away from exposed brick or stone fireplaces, because they or their chimneys may fall. Move to a doorway or next to a central wall. If near a study table, duck down and take shelter under it. Assume the fetal position, protect your head with your hands and arms, and hold onto the table.
- **If in a multi-story office, store, or hospital.** Do not use stairways or the elevators. Move to a doorway or next to a central wall. If near a study table, duck down and take shelter under it. Assume the fetal position, protect your head with your hands and arms, and hold onto the table.
- **If in a multi-level parking facility.** Lie face down next to, but not in, a car or truck. The vehicle, even if flattened, will likely create a survivable void next to it.

- **If in a large store.** Move away from display shelves containing objects that could fall. Do not use stairways or the elevators, and do not rush for the exit. Move to a doorway or next to a central wall. If near a study table, duck down and take shelter under it. Assume the fetal position, protect your head with your hands and arms, and hold onto the table.
- **If in a stadium or theatre.** Drop to the floor. Get below the level of the back of the seat, assume the fetal position, and cover your head with your hands and arms.
- **If in a school.** This information will be posted soon.
- **If driving.** Drive as far out of traffic is possible. Pull over to side of the road and come to a careful stop. Do not park under an overpass or near trees, power lines, light posts, or signs, as they could fall on you. Stay inside your vehicle until the shaking stops. Turn on the radio to receive emergency broadcasts. If you resume travel, be alert to fallen rocks, structures, power lines. Do not drive on or under overpasses, which may collapse. Remember that aftershocks, either larger or smaller than the first shock, are likely, and many may follow.

### **After...**

Earthquakes are dangerous, but the disasters they can trigger such as fires, floods, landslides, tsunamis (giant sea waves) and avalanches can be more devastating.

Expect aftershocks, smaller earthquakes that can occur after a major quake. Monitor radio news reports for updates and the latest emergency information. The risk of injury increases for those who go outside too soon. If you lose electricity, use a flashlight. Never use candles because of the possibility of a gas leak and the danger of fire. When authorities say the event has ended, check your home for structural damage, gas leaks, and fire. Report any problems to the appropriate authorities. Record any damage that has resulted from the quake.

*Source: FEMA, National Earthquake Information Center*