



Earthquake

An earthquake is the sudden, rapid shaking of the earth, caused by the breaking and shifting of subterranean rock as it releases strain that has accumulated over a long time. If the earthquake occurs in a populated areas, it may cause many deaths and injuries and extensive property damage. While earthquakes are often believed to be a West Coast occurrence, all 50 states and

five U.S. territories are at some risk for earthquakes at any time of year.

When a 5.9 magnitude earthquake struck central Virginia in 2011, it highlighted the fact that it is impossible to predict when or where an earthquake will occur.

How to Prepare

- 1 **Stay informed.** ALL Marines (active duty and Reserve), civil service, and contractor personnel with a NIPR computer account—verify and update official contact information populated in the **Marine Corps Enterprise Mass Notification System (eMNS)** by information found in the Global Address List (GAL), and self-register all cell phones, home phone, email addresses, etc. in eMNS. Registration of personal information enhances Marine Corps Installations' ability to rapidly provide emergency information and changes to the base's operating status during non-working hours and wherever you are.
- 2 Know earthquake terminology:
 - **Aftershock**—An earthquake of similar or lesser intensity that follows the main earthquake.
 - **Earthquake**—A sudden slipping or movement of a portion of the earth's crust, accompanied and followed by a series of vibrations.
 - **Epicenter**—The place on the earth's surface directly above the point on the fault where the earthquake rupture began. Once fault slippage begins, it expands along the fault during the earthquake and can extend hundreds of miles before stopping.
 - **Fault**—The fracture across which displacement has occurred during an earthquake. The slippage may range from less than an inch to more than 10 yards in a severe earthquake.
 - **Magnitude**—The amount of energy released during an earthquake, which is computed from the amplitude of the seismic waves. A magnitude of 7.0 on the Richter scale indicates an extremely strong earthquake. Each whole number on the scale represents an increase of about 30 times more energy released than the previous whole number represents. Therefore, an earthquake measuring 6.0 is about 30 times more powerful than one measuring 5.0.
 - **Seismic Waves**—Vibrations that travel outward from the earthquake fault at speeds of several miles per second. Although fault slippage directly under a structure can cause considerable damage, the vibrations of seismic waves cause most of the destruction during earthquakes. *(Terminology provided by FEMA)*
- 3 Minimize home hazards by bolting or strapping shelves, bookcases, china cabinets, other tall furniture, and the water heater to studs in the walls and by placing large, heavy, or breakable objects on lower shelves.
- 4 Identify a safe place in every room of your home where nothing can fall on you, such as under a table, against an inside wall, or in a doorway.
- 5 Make an **evacuation plan** as a family.
- 6 Make an **emergency communication plan** in case family members are separated during an earthquake.
- 7 Practice earthquake drills as a family so everyone knows what to do, especially "**Drop, Cover, and Hold On!**"
- 8 Build an **emergency kit**.



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What to Do If There Is an Earthquake

- If you are indoors:
 - » Do not run outside. There may be falling debris.
 - » If possible, DROP to the ground, take COVER under a table or sturdy piece of furniture, and HOLD ON until the shaking stops.
 - » If you are not near any sturdy furniture, crouch in an inside corner of the building or in a load-bearing doorway where there is less of a chance of things falling on you.
 - » Stay away from windows, light fixtures, unstable furniture, or anything that could fall.
- » Stay inside until the shaking stops and you are absolutely sure it is safe to go outside.
- » The electricity may go out, so don't use elevators.
- If you are outdoors:
 - » Move away from buildings, street lights, and utility wires, or anything that could fall.
 - » Once in an open area, stay there until the shaking stops.
 - » Statistics show that the most injuries in earthquakes are caused by falling debris. The greatest danger exists directly outside buildings, at exits, and alongside exterior walls.
- If you are in a moving vehicle:
 - » Stop as soon as you can, away from buildings, overpasses, utility wires, or anything that could fall.
 - » Stay in the vehicle.
 - » Proceed very slowly once shaking stops.
 - » Avoid roads, bridges, or ramps that might have been damaged by the earthquake, and anticipate traffic light outages.
- Once you are in a safe place, follow your command's protocols for personnel accountability and contact your command's designated Point of Contact to check-in and report your location and situation.

What to Do When the Shaking Stops

- Check yourself and others for injuries.
- Look for and extinguish small fires. Fire is the most common hazard after an earthquake.
- Inspect utilities—check for gas leaks, look for electrical system damage, and check for sewage and water line damage. Turn off gas, power, or water if you suspect a leak.
- Use the telephone only for emergency calls.
- Stay tuned to the radio eMNS alerts
- for further information and instructions.
- Expect aftershocks, which can come minutes, hours, or days after an earthquake.
- If an aftershock happens, "Drop, Cover, and Hold On."
- Open cabinets cautiously. Beware of objects that can fall off shelves.
- Be very careful of falling debris in homes or outdoors. This is how most injuries occur.
- If you are trapped beneath debris:
 - » Do not light a match for light.
- There may be gas leaks in the area.
- » Do not move around or kick up dust.
- » Cover your mouth with a handkerchief or piece of clothing to reduce dust inhalation.
- » Tap on a pipe or use a whistle to help rescuers find you. Shout only as a last resort as it will increase dust inhalation.
- If you live near the ocean, be aware of possible tsunamis, which are caused by earthquakes off the coast.

Where to Find Additional Information

- Centers for Disease Control and Prevention (CDC)—www.bt.cdc.gov/disasters/earthquakes
- Department of Homeland Security (Ready.gov)—www.ready.gov/earthquakes
- FEMA—www.fema.gov/hazard/earthquake/index.shtm