



Virginia Department of  
Emergency Management



# EARTHQUAKE PREPAREDNESS GUIDE

# EARTHQUAKES

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Earthquakes can cause extraordinary damage with no advanced warning. Earthquakes have struck Virginia and will do so again. All Virginians, including businesses, homeowners, property owners and facility managers should develop preparedness plans and take proactive steps to ensure that earthquake disasters do not lead to long-term devastation. The steps communities and individuals throughout the Commonwealth take in advance will help to ensure a shorter road to recovery after the next earthquake strikes. **Buying earthquake insurance coverage is the best way to protect your home or business and your family's financial investment. Talk to your insurance agent about coverage options today!**

Review the Earthquake Preparedness Guide to educate yourself about the threats earthquakes pose and to learn about actions you can take to protect life and prepare property now. The actions you take today will help to protect life and property in the future. Follow VDEM on social media for updates and visit [VAemergency.gov/earthquakes](http://VAemergency.gov/earthquakes) for additional planning resources and information.

## 2011 LOUISA COUNTY EARTHQUAKE

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On August 23, 2011, an earthquake with a magnitude of 5.8 struck Louisa County in Mineral, Virginia, causing extensive damage.

### **Distance**

The furthest landslide from the epicenter was 150 miles (greatest distance recorded from any earthquake of similar magnitude).

Damage reported as far away as Brooklyn, NY.

**Felt by more people than any other quake in U.S. history: An estimated 1/3 of the U.S. population felt the earthquake across more than a dozen states.**

### **Financial Impact**

The 2011 Louisa County earthquake caused between \$200 and \$300 million in damages, of which only about \$100 million was insured.

### **Damages**

- » North Anna Nuclear Generating Station
- » Charlottesville Gas Leak
- » Lake Jackson Dam
- » Washington Monument



# BEFORE AN EARTHQUAKE

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## PREPARE YOUR HOME

- ✔ Bolt and brace water heaters and gas appliances to wall studs. Have a professional install flexible fittings to avoid gas or water leaks.
- ✔ Install strong latches or bolts on cabinets. Large or heavy items should be closest to the floor.
- ✔ Anchor top-heavy, tall and freestanding furniture such as bookcases, TVs and china cabinets to wall studs to keep these from toppling over.
- ✔ Consider home repair and strengthening measures for exterior features, such as porches, decks, sliding glass doors, canopies, carports and garage doors.
- ✔ In the event of an earthquake, you may be instructed to shut off the utility services at your home. Teach responsible members of your family how to turn off the gas, electricity and water at valves and main switches. Consult your local utility providers if you need more information.
- ✔ Practice Drop, Cover, then Hold On with family and coworkers. Drop to your hands and knees. Cover your head and neck with your arms. Crawl only as far as needed to reach cover from falling materials. Hold on to any sturdy furniture until the shaking stops.
- ✔ Create a family emergency communication plan that has an out-of-state contact. Plan where to meet if you get separated.
- ✔ Make a supply kit that includes enough food and water for at least three days, a flashlight, a fire extinguisher, and a whistle. Consider each person's specific needs, including medication. Do not forget the needs of pets. Have extra batteries and charging devices for phones and other critical equipment. For more information, visit [VAemergency.gov/emergency-kit](https://www.vaemergency.gov/emergency-kit).
- ✔ Consider obtaining an earthquake insurance policy. Standard homeowner's insurance does not cover earthquake damage.



# BEFORE AN EARTHQUAKE

## EMERGENCY COMMUNICATIONS

Your emergency communication plan should include extra cellular phone charging devices as well as additional communication tools: AM/FM radio, smartphone alerts and apps, and a NOAA weather radio with additional batteries are recommended.

### Household Information

Write down phone numbers and email addresses for everyone in your household and other contacts including extended family, friends, neighbors or coworkers. This information will help you reconnect with others even if you don't have your mobile device with you or if the battery runs down.

If you have a household member who is deaf or hard of hearing, or who has a speech disability and uses traditional or video relay service (VRS), include information on how to connect through relay services on a landline phone, mobile device or computer.

### Out-Of-Town Contact

Identify someone outside of your community or state who can act as a central point of contact to help your household reconnect. In a disaster, it may be easier to make a long-distance phone call because local phone lines can be overwhelmed or impaired.

### School, Childcare, Caregiver and Workplace Emergency Plans

Make sure your household members with phone and email accounts are signed up for alerts and warnings from their school, workplace and local government agencies including: police, fire, ambulance services, public health department, public works, public utilities, school system and your local emergency management office. Following these agencies on social media will provide you with an additional avenue to access convenient and critical information.

### Other Important Phone Numbers and Info

Write down, store or have convenient access to phone numbers for emergency services, utility and service providers, medical providers, veterinarians, insurance companies and other critical services.

**Visit [www.data.gov/disasters/apps-tools/](http://www.data.gov/disasters/apps-tools/) for a list of apps and tools you can use during severe weather and other disasters!**



# DURING AN EARTHQUAKE

## INSIDE

- » **“Drop, Cover and Hold On”** - Drop down, take cover under a sturdy desk, table or bench, or against an inside wall and hold on.
- » Do not use elevators.
- » Stay away from glass, windows, outside doors and walls.
- » Stay away from bookcases or furniture that are not secure and could fall.
- » Stay indoors until the shaking stops and you're sure it's safe to exit.

## OUTSIDE

- » Stay outdoors, do not go inside.
- » If you are outdoors, find a clear spot away from buildings, trees and utility lines.

## IN A CAR

- » Stop as quickly as safety permits: keep roads clear for emergency vehicles.
- » Avoid stopping near or under buildings, trees, overpasses and utility lines.
- » Proceed cautiously after the earthquake has stopped, watching for road and bridge damage.
- » Do not attempt to drive across bridges or overpasses that have been damaged.
- » Listen to your car radio for instructions from emergency officials and local media.
- » Do not get out of your car if downed power lines are across it. Wait to be rescued.

## PUBLIC TRANSPORTATION

- » Listen to and become familiar with your public transportation emergency plans.
- » When shaking stops, follow driver or operator's safety instructions.



# AFTER AN EARTHQUAKE

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- » If you are away from home, return only when authorities say it is safe to do so.
- » After an earthquake, the disaster may continue. Expect and prepare for potential aftershocks or landslides.
- » Check on neighbors, friends and family members after an emergency.
- » Safety shut-off valves should stop the flow of gas when they sense a problem. If you are unsure whether you have an automatic shut-off valve on your natural gas or propane system, contact your local gas or propane company.
- » Look for and extinguish small fires. Fire is the most common hazard after an earthquake.
- » Use extreme caution during post-disaster clean-up. Do not attempt to remove heavy debris by yourself. Wear protective clothing, including a long-sleeved shirt, long pants, work gloves, and sturdy, thick-soled shoes.

## **IF TRAPPED UNDER DEBRIS:**

- » Do not use matches or a lighter to assist with visibility.
- » Cover your mouth with a handkerchief or clothing.
- » Tap on a pipe or wall so rescuers can find you.
- » Shout only as a last resort – shouting can cause you to inhale dangerous amounts of dust.

## **POSSIBLE RECOVERY RESOURCES**

### **Local**

Report disaster damage to your home and business to your locality's office of emergency management. Contact your city or county's department of social services, human services, community services board, public health, housing and local emergency management office to access additional resources and information after a disaster.

### **Federal Emergency Management Agency (FEMA)**

#### **Individuals and Households Program (IHP)**

**If a Presidential disaster declaration is made,** FEMA's Individuals and Households Program **may** provide financial help or direct services to those who have necessary expenses and serious needs if they are unable to meet these needs through other means. Contact the FEMA Individuals and Households Program at 800.621.FEMA.

#### **Public Assistance: Local, State, Tribal and Private Nonprofit**

FEMA's Public Assistance (PA) grant program **may** provide federal assistance to government organizations and certain private nonprofit (PNP) organizations if a Presidential disaster declaration is declared.

PA provides grants to state, tribal, territorial, local governments and certain types of PNP organizations, so that communities can quickly respond to and recover from major disasters or emergencies. Contact the FEMA Public Assistance Division at 202.646.3834.

#### **Small Business Administration (SBA)**

The SBA **may** loan money to homeowners, renters and business owners. Homeowners may borrow up to \$200,000 for disaster-related home repairs. Homeowners and renters may borrow up to \$40,000 to replace disaster-damaged personal property including vehicles. The SBA may not duplicate benefits from your insurance or FEMA. You may receive an SBA referral when you apply with FEMA. Contact the SBA at 800.659.2955 from 8 a.m. - 9 p.m., Mon. - Fri. or email [disastercustomerservice@sba.gov](mailto:disastercustomerservice@sba.gov).

#### **U.S. Department of Agriculture (USDA)**

Visit the USDA Disaster Resource Center at [USDA.gov](http://USDA.gov). You will find information about specific disasters and emergencies, how to prepare, recover, and help build long-term resilience, as well as information about USDA assistance from disaster events.