




Earthquake Preparedness and School Emergency Management

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Introduction

- Objectives for this online learning experience
- Webinar instructions and “Tips”
- Introduction of speakers



Where are you located?

- A. West Region
- B. Central Region
- C. East Region
- D. Outside of the US



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What is your role?

- A. School Personnel
- B. District-Level Personnel
- C. School Emergency Planner /
Emergency Medical Services
- D. Other



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School Emergency Management

Districts and schools should create and enhance comprehensive, all-hazards emergency plans that:

- Involve the collaboration of community partners
- Are customized to the unique district, school, and campus
- Provide for the whole school community, including people with disabilities and special needs
- Support the implementation of NIMS (National Incident Management System)
- Use the four phases framework—Prevention-Mitigation, Preparedness, Response, and Recovery



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Four *interconnected* phases of emergency management

- **Prevention & Mitigation**
Identifying all potential hazards and vulnerabilities and reducing the potential damage they can cause
- **Preparedness**
Collaborating with community partners to develop plans and protocols to prepare for the possibility that the identified hazards, vulnerabilities or emergencies will occur
- **Response**
Working closely with first responders and community partners to effectively contain and resolve an emergency in, or around, a school or campus
- **Recovery**
Teaming with community partners to assist students and staff in the healing process, and restore a healthy and safe learning environment following an emergency event



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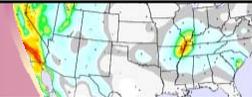
Overview of Webinar

- **Prevention & Mitigation**
 - Identify Hazards and Vulnerabilities
 - Improve Building Safety
 - Secure Furniture and Other Contents
- **Preparedness**
 - Develop Procedures and Teams
 - Conduct Trainings and Drills
 - Store and Maintain Disaster Supplies
- **Response**
 - Drop, Cover, and Hold On!
 - Evacuate / Student Accountability
 - Conduct Search and Rescue
 - First Aid and Triage, Extinguish Small Fires, etc.
- **Recovery**
- **Action Steps / Resources / Questions**

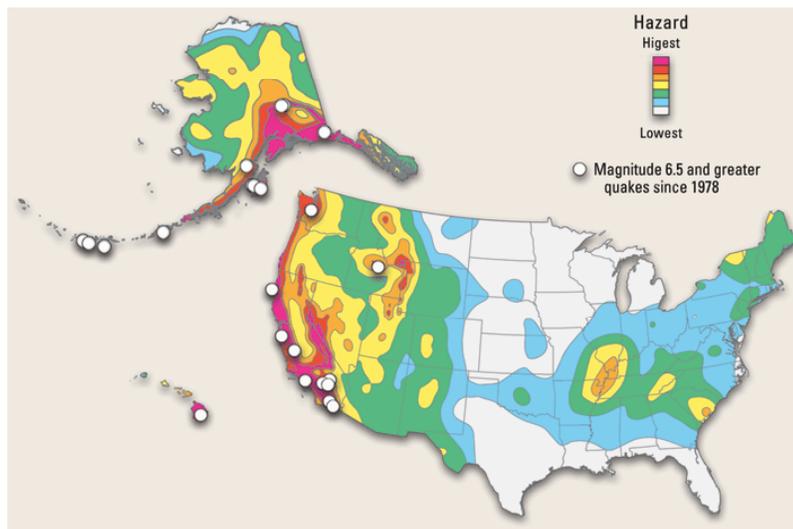


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PREVENTION & MITIGATION Identify Hazards and Vulnerabilities

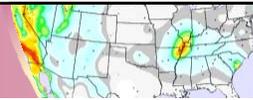


Are you at risk for earthquakes?

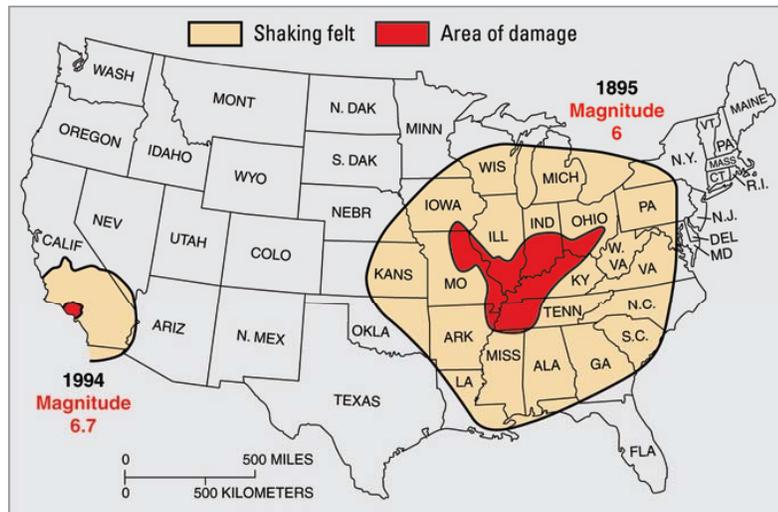


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PREVENTION & MITIGATION
Identify Hazards and Vulnerabilities

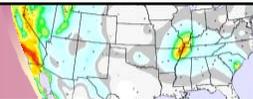


Are you at risk for earthquakes?



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PREVENTION & MITIGATION
Identify Hazards and Vulnerabilities



- **Help for determining your school's earthquake exposure**

- USGS Earthquake Program
- Your State Geologist or Office of Emergency Management
- Regional Earthquake Consortia (e.g., Central U.S. Earthquake Consortia)
- Local university researchers
- Consulting Geologists and Geotechnical Engineers



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PREVENTION & MITIGATION
Identify Hazards and Vulnerabilities



An earthquake brings a variety pack of issues...



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PREVENTION & MITIGATION
Identify Hazards and Vulnerabilities



Infrastructure problems



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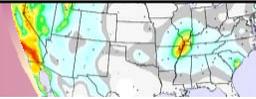
PREVENTION & MITIGATION
Identify Hazards and Vulnerabilities



Transportation Challenges



PREVENTION & MITIGATION
Identify Hazards and Vulnerabilities



Damage to buildings



PREVENTION & MITIGATION
Identify Hazards and Vulnerabilities



More building damage



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PREVENTION & MITIGATION
Improve Building Safety



- **Schools are built to building codes**
 - Code in place at time of construction
 - Goal is life safety, not continued operation
 - Codes only as good as their enforcement
 - Codes vary from state to state
 - Requirements for private/charter schools may be less strict
- **Example: 1933 California Field Act**
 - Structural standards for K-12 public school buildings
 - Requires thorough inspection procedures and certification



1933 Long Beach Quake



1992 Landers Quake



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PREVENTION & MITIGATION
Secure Furniture and Other Contents



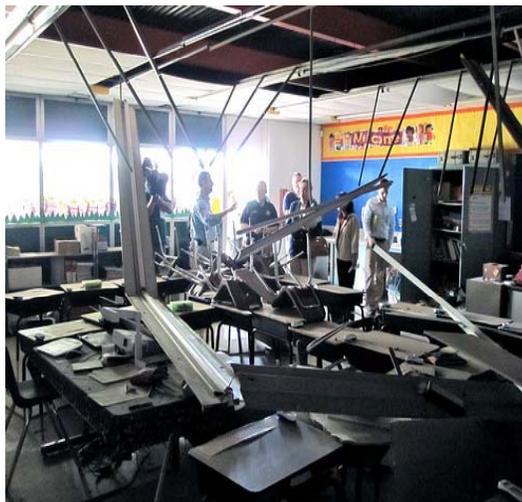
Contents, contents, contents!



PREVENTION & MITIGATION
Secure Furniture and Other Contents



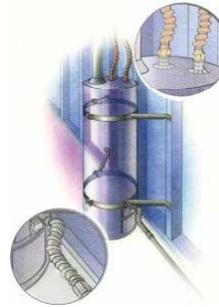
Everything up comes down



PREVENTION & MITIGATION
Secure Furniture and Other Contents



Straps, buckles, and other products are widely available



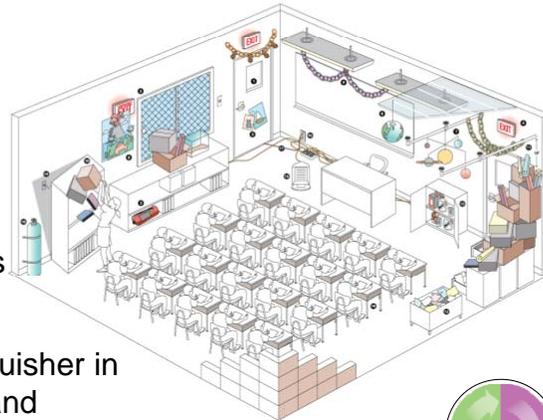
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PREVENTION & MITIGATION
Secure Furniture and Other Contents



Being prepared means having your classroom safe at all times. Avoid injuries by not having hazards in your classroom.

- Do not stack things above head level
- Do not block emergency exit signs or passageways
- Keep your fire extinguisher in operating condition and strapped to a wall



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PREPAREDNESS

Develop Procedures & Teams



- **Your current emergency plan likely only needs a few adjustments to address earthquakes**
- **Plan for:**
 - Incident Command (same for other hazards)
 - Drop, Cover, and Hold On (no warning time before earthquakes)
 - Evacuation (doors may be jammed, exits and paths blocked, etc.)
 - Search and Rescue (be mindful of aftershocks)
 - Triage (students, staff, teachers may be injured)
 - Student Accountability and Reunification
 - All employees may be required to stay until all students released



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Poll: Have you been involved with managing a disaster?

- A. Never
- B. Yes- supporting role
- C. Yes- leadership role
- D. Other



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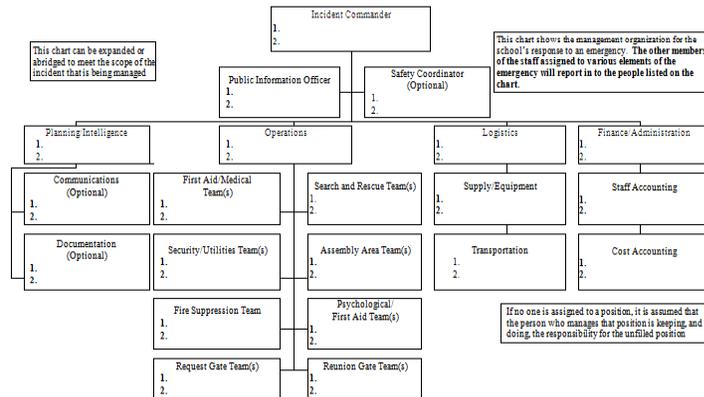
PREPAREDNESS Develop Procedures & Teams



Incident Command System



EMERGENCY MANAGEMENT ORGANIZATION CHART



The Standard Emergency Management System

Note: This Organization Chart is based on SEMS, and adapted for LAUSD use. The Principal and School Safety Planning Committee should use discretion in making further modifications to address specific needs of the school. **The first name in the box represents the primary responsible person whereas the second name denotes the Backup.**



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PREPAREDNESS Develop Procedures & Teams



- **Incident Commander**

- Usually the principal

- **Planning/Intelligence**

- Communications - parents
- Documentation

- **Logistics**

- Supply/Equipment
- Transportation - buses

- **Finance/Administration**

- Staff Accounting
- Cost Accounting

- **Operations**

- First Aid
- Utilities/Security
- Fire Suppression
- Search and Rescue – multiple teams
- Assembly Area Team
- Request/Reunion – 2 locations
- Psychological First Aid



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PREPAREDNESS

Develop Procedures & Teams

**FEMA Courses:**

- **IS 700 National Incident Command System**
National template for incident response
- **IS 800 National Response Network**
Concepts & Objectives, Roles & Responsibilities
- **IS 100.Sca Introduction to the Incident Command System For Schools**
How basic ICS principles can be applied in school-based incidents. How to interface with community response personnel
- **IS 200 ICS For Single Resources and Initial Action Incidents**
Prepares you to supervise or manage an incident using ICS



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PREPAREDNESS

Develop Procedures & Teams

**Operations in Action**

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PREPAREDNESS

Develop Procedures & Teams

**Don't forget:****Your specific needs population**

- Do they fully participate in all drills?
- Do you have the additional supplies they may need?
- Do they have the ability to evacuate or do you need to assign them?
- Do you have a plan to assist them and shelter them?
- Are your search & rescue and first-aid teams familiar with their needs?
- Learn about your community's emergency plans

Your staff needs

- Do they have specific needs?
- Do they have medical challenges?



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PREPAREDNESS

Develop Procedures & Teams

**Practice emergency drills regularly so that emergency procedures become more familiar.**

- Fire Drills (earthquakes often cause fires)
- Lockdown
- Shelter-in-place
- Drop, Cover, and Hold On: practice what to do DURING an earthquake



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PREPAREDNESS

Conduct Trainings & Drills



The *Great ShakeOut* earthquake drills are a new opportunity to have your drill along with your broader school community, when on the same day:

Millions of people practice...



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PREPAREDNESS

Conduct Trainings & Drills



- **ShakeOut began in Southern California in 2008: 5.4 million**
 - Mostly K-12 students and staff
 - Developed manuals, videos, print materials, and other resources
- **Expanded statewide in 2009: 6.9 million**
 - **First Statewide** earthquake drill for all residents, businesses, schools, organizations... all practicing Drop, Cover, and Hold On (and much more)
 - **Annual event on third Thursday of October**
- **Continues to grow**
 - 2010 California: 7.9 million
 - See next slide

**Shake
Out**[™]

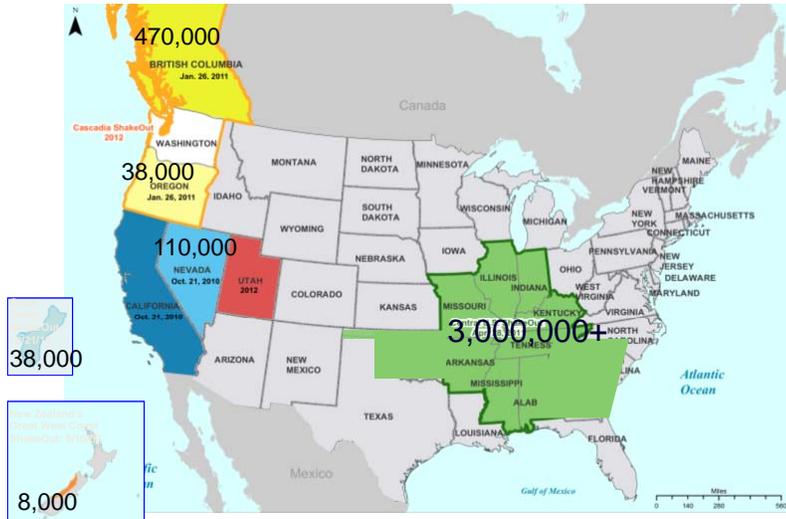


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PREPAREDNESS
Conduct Trainings & Drills



ShakeOut: Beyond California



Learn more at www.ShakeOut.org/regions



PREPAREDNESS
Conduct Trainings & Drills



Example ShakeOut Resources




PREPAREDNESS
Store and Maintain Disaster Supplies

What will you need in an emergency?

- Emergency plan
- Water
- First aid supplies
- Search and rescue supplies
- Shelter supplies
- Food
- Disaster management supplies




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PREPAREDNESS
Store and Maintain Disaster Supplies

Do you know where your emergency supplies are?



Your storage should depend on your needs and facilities, and be accessible to all.

LAUSD: A cargo container of emergency supplies is on every school campus.



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PREPAREDNESS
Store and Maintain Disaster Supplies



Emergency water is the most important item to consider when preparing for an emergency.

Special 55-gallon water barrels are an ideal storage solution



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PREPAREDNESS
Store and Maintain Disaster Supplies

Schools can use this formula to calculate the amount of water needed for a 3-day emergency:



$$\begin{array}{ccccccc}
 \text{\# of} & & & & & & \\
 \text{students} & \times & \frac{1}{2} \text{ gallon} & \times & 3 \text{ days} & = & \text{Total water} \\
 \text{and staff} & & \text{each} & & & & \text{needed in} \\
 & & & & & & \text{gallons}
 \end{array}$$

$$\frac{\text{\# gallons}}{55 \text{ gallons / drum}} = \text{\# drums}$$

(At home, keep 1 gallon per day per person for 5 to 7 days. Don't forget to include your pets!)



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PREPAREDNESS

Store and Maintain Disaster Supplies

Large commercial first aid kits should be stored in each cargo container.



Such kits are typically sufficient for up to 400 students



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PREPAREDNESS

Store and Maintain Disaster Supplies

In addition to the standard first aid kit, you may want to supplement with additional supplies.

- Bottled water to flush wounds
- Mylar or regular blankets to keep people warm and dry
- Box of non-latex exam gloves to protect against infections and disease
- Fresh bleach can be mixed with water (10:1) and used as a universal disinfectant



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PREPAREDNESS

Store and Maintain Disaster Supplies

Make sure your first aid kits are maintained:

- Kits should be labeled
- Stored in a clean, safe location – at the front of the emergency bin/container
- Replace expired items immediately; or preferably before they expire! Include timelines in your emergency plans



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PREPAREDNESS

Store and Maintain Disaster Supplies

**In an emergency, you will need an area for a latrine.
Simple “bucket” toilets can be stores with your supplies.**

- Line bucket with 2 plastic garbage bags
- Add absorbent to bottom of bags
- Place toilet seat on top of bucket
- Your toilet is ready for use.
The ideal ratio is 1 bucket for every 30 people.



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Poll: Have you experienced an earthquake?

- A. Never
- B. Minor- no damage or injuries
- C. Major- but I was ok
- D. Major- I had injuries and damage



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RESPONSE (During the Shaking) Drop, Cover, and Hold On!



- If outside, stay outside!
- If inside, stay inside!
- **Drop** to the floor
 - before the earthquake drops you!
- **Take Cover**
 - under a sturdy desk or table
 - Or get down next to a wall and cover your head with your arms
- **Hold On** to it firmly
 - Be ready to move with it until the shaking stops.



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RESPONSE (During the Shaking)
Drop, Cover, and Hold On!

- Why?
 - Buildings rarely collapse in the U.S.
 - Most people are injured in earthquakes by things falling on them
 - Get under something to be safe!
- **DO NOT** get in a doorway!
 - It does not protect you from falling items, and in strong shaking you can not stand
- **DO NOT** believe the “triangle of life”!
 - You are safer under, not next to a table
 - www.dropcoverholdon.org explains why



RESPONSE (After the Shaking)
Evacuate / Student Accountability

- First: Self evaluation/Teacher-led evaluation
 - Identify injured students
- Evacuation
 - Check for safe passage/clear exit route
 - Assist Injured students
 - Help to be directed to those who cannot exit
 - Go-kits
 - Assembly Area



RESPONSE (After the Shaking)
Evacuate / Student Accountability

- Student Accountability–Report to Command Post
- Reunification
 - Parent notification
 - Request Gate
 - Reunion Gate
 - Policies and Procedures



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RESPONSE (After the Shaking)
Evacuate / Student Accountability

First Aid and Triage



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RESPONSE (After the Shaking)
Conduct Search and Rescue

If it is safe to do search and rescue, the following tools and materials can be used:

- Personal protective equipment: helmets, gloves, masks, goggles and non-latex exam gloves



- Basic hand tools – for light search and rescue



Do not become a victim; if it is not safe to enter a building and do a search, stop, get help, or approach the task from another direction.

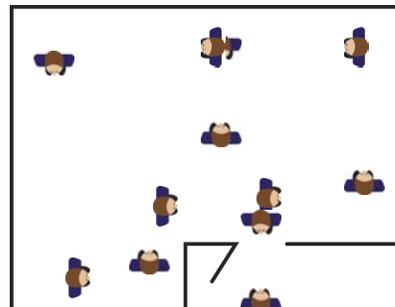


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RESPONSE (After the Shaking)
Conduct Search and Rescue

In a search, things may get confusing because of debris, lack of lighting, etc. Keep your search simple and follow these guidelines:

- Keep your right shoulder to one wall at all times. You will eventually circle the room and head back to the exit.
- When heading to the center of a room, always return your right shoulder to the wall and continue in the same direction.



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RESPONSE (After the Shaking)
Extinguish Small Fires, etc.



If there is a fire, know how to use a fire extinguisher properly.

Remember this acronym – PASS

- P**ull the pin
- A**im
- S**queeze the handle
- S**weep



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RECOVERY
Resume and Sustain Operations



- **Physical/Site Assessments**
 - Is it safe to return?
 - What needs to be fixed?
- **Emotional/Social**
 - Most critical piece
 - What needs to be addressed for learning to continue?
- **Educational**
 - How to keep on track for graduation?
 - Make up days or summer school?
- **Business**
 - How good is your COOP plan?
 - Do you know FEMA rules? (reimbursement, etc.)



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Action Steps

- Learn your earthquake risk and factor it into your Safe School Plan
- Secure furniture and contents to prevent damage and injuries
- Determine if your buildings need any structural improvements
- Develop your response procedures and establish teams
- Know where your emergency supplies are located, make sure they are sufficient for your needs, and are not expired.
- Hold regular Drop, Cover, and Hold On drills (ideal: twice per year)
- Organize search and rescue supplies and provide trainings to staff
- Learn about your community's emergency plans and how to coordinate for a speedy recovery



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Additional Resources

- **Archive of this Webinar and Additional Resources compilation:**

http://rems.ed.gov/index.php?page=training_webinars_past

- **Earthquake Preparedness section on REMS TA Center Web site:**

http://rems.ed.gov/index.php?page=resources_Additional§ion=1f_earthquake



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Questions

**Don't be shy.
Ask your questions now;
there may not be time later.**



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