

EARTHQUAKE PREPAREDNESS



DURING A PANDEMIC

Agenda

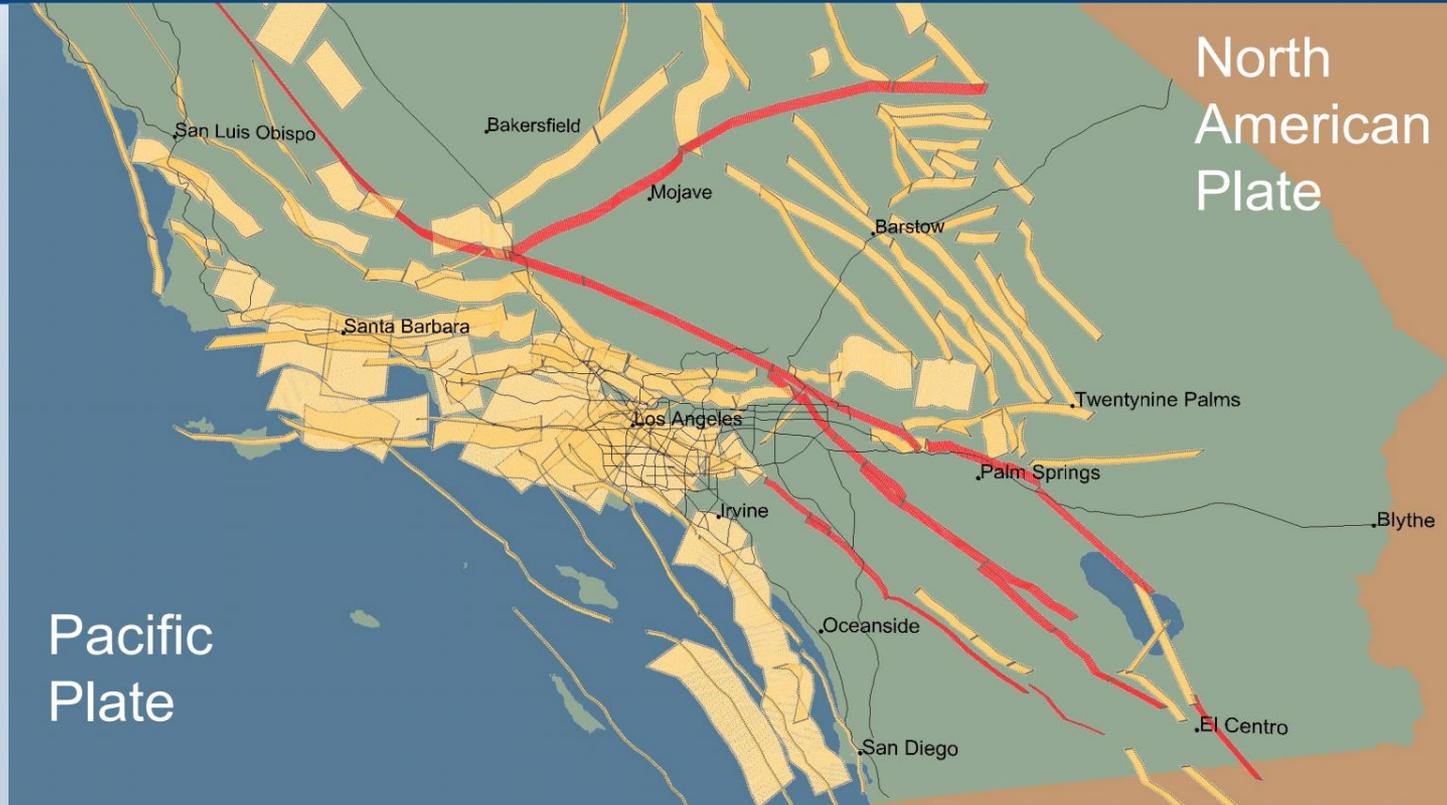
Earthquake Hazards

What to do during an earthquake

What to do after an earthquake

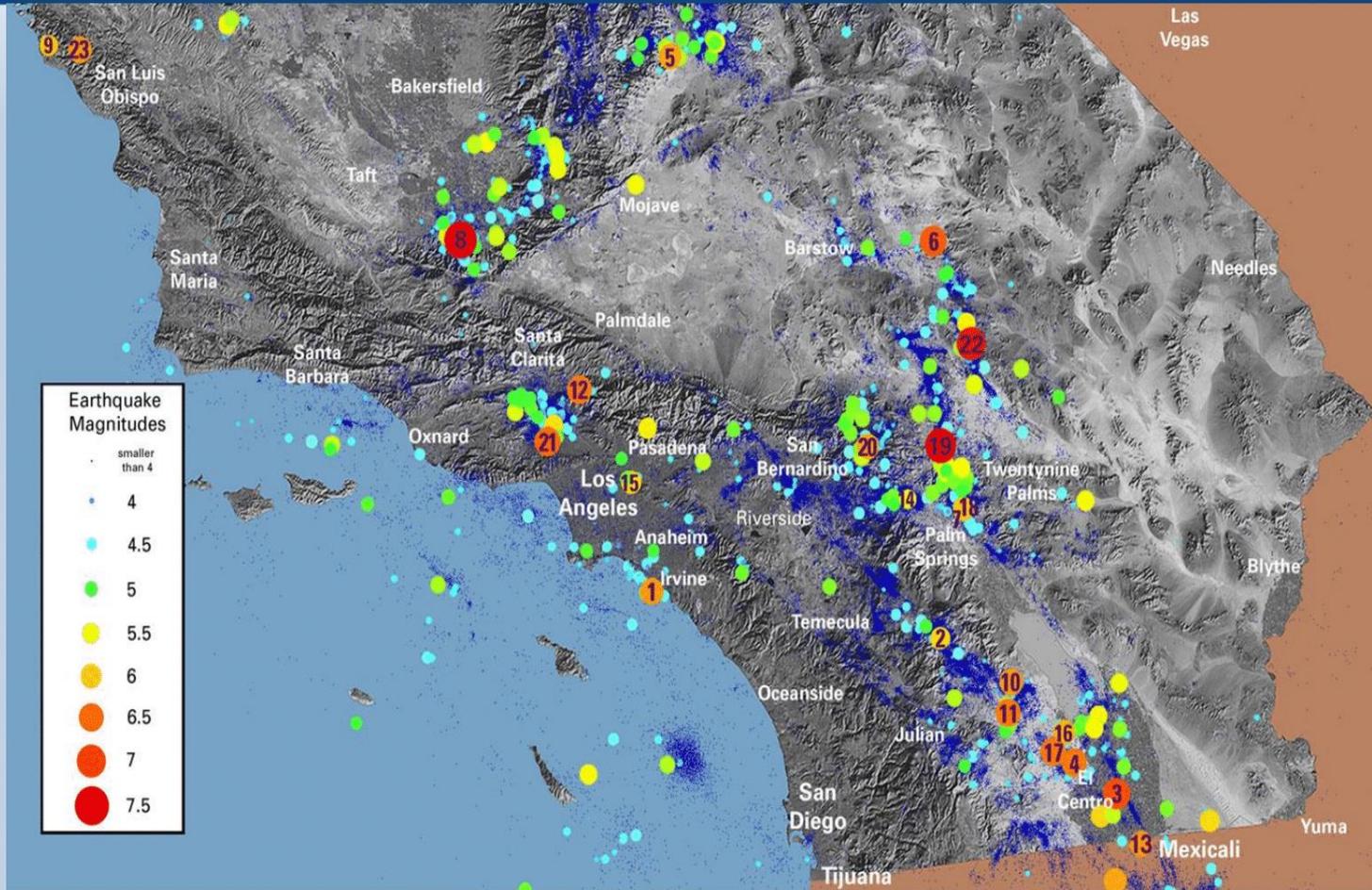
What you can do to be prepared at
work and **at home**

So Cal: More than 300 Active Faults



Each can have earthquakes larger than magnitude 6

30 Earthquakes Every Day



Most are too small to be felt by people

San Andreas Fault Scenario- 7.8 Mg

1,600 Fires

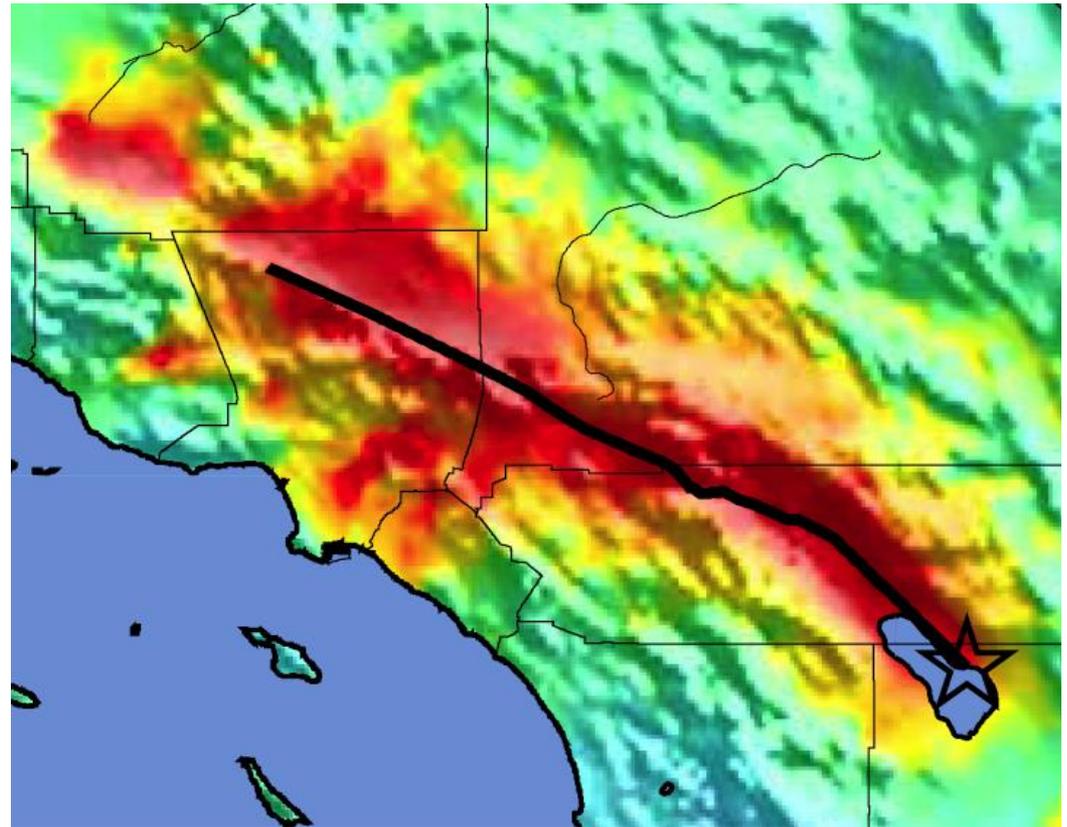
1,800 Fatalities

53,000 Injured

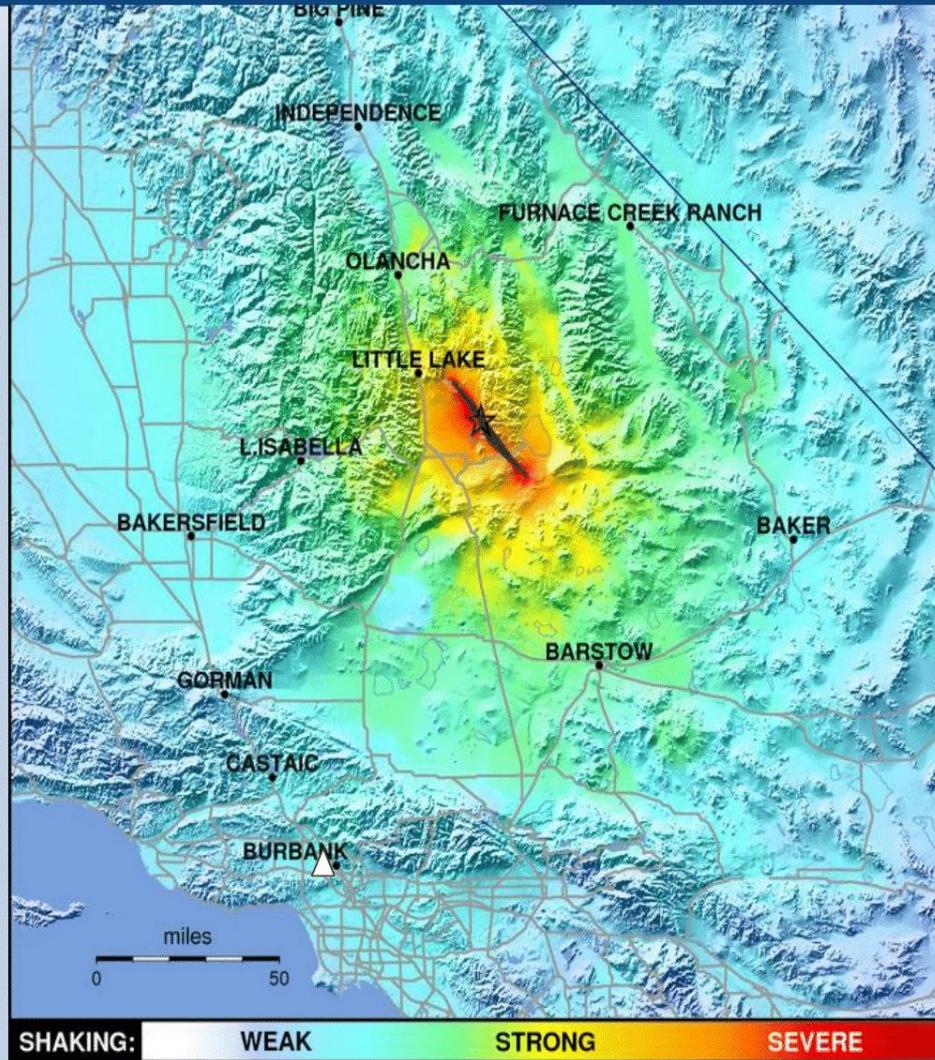
255,000 Homeless

**300,000 Damaged
Buildings**

\$213 Billion



July 5, 2019 Ridgecrest Magnitude 7.1



Magnitude**1.0 - 3.0****3.0 - 3.9****4.0 - 4.9****5.0 - 5.9****6.0 - 6.9****7.0 and higher****Intensity****I** – Not felt.**II – III:** Felt indoors & on upper floors, but most do not recognize it as an earthquake.**IV – V:** Felt by nearly everyone, may awaken at night, “stuff “disturbed, walls may make cracking noise.**VI – VII:** Felt by all, many frightened. Slight damage in well built buildings, considerable damage in poorly built/designed buildings. Some chimneys may break.**VII – IX:** Damage considerable, plumb issues, shifting off foundation, heavy furniture overturned.**VIII or higher:** Well built wooden structures destroyed, masonry structures, & bridges destroyed, rails bent.

Earthquakes

- 1857 Fort Tejon 7.9 Mg
- 1906 San Francisco 7.9 Mg
- 1933 Long Beach 6.4 Mg
- 1971 San Fernando 6.5 Mg
- 1987 Whittier Narrows 5.9 Mg
- 1989 Loma Prieta 6.9 Mg
- 1994 Northridge 6.7 Mg
- 1999 Hector Mine 7.1 Mg
- 2003 San Simeon 6.6 Mg
- 2008 Chino Hills 5.5 Mg
- 2014 Napa 6.0 Mg
- 2019 Ridgecrest 7.1 Mg

Concurrent Pandemic + EQ

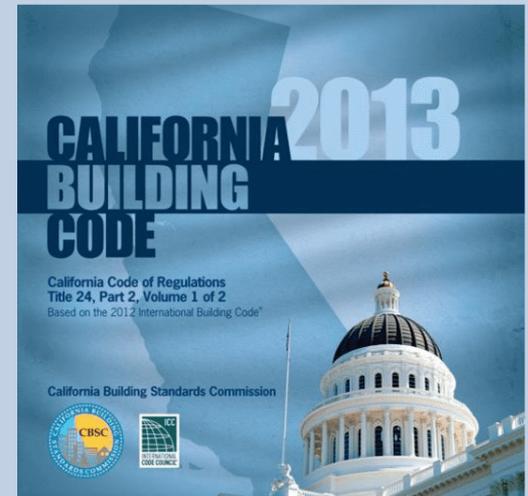
- Emergency operations already taxed.
- Virtual coordination that has been in place could be disrupted.
- New life saving mission would push the systems to their limits.
- Supply chains would be interrupted-
worsening the shortage of PPE, food,
medical supplies.

Impacts

- Disruption to communications
- Debris & hazards blocking roadways
- Building Damage – Need for sheltering outside of homes.
- Anxiety- Heightened already

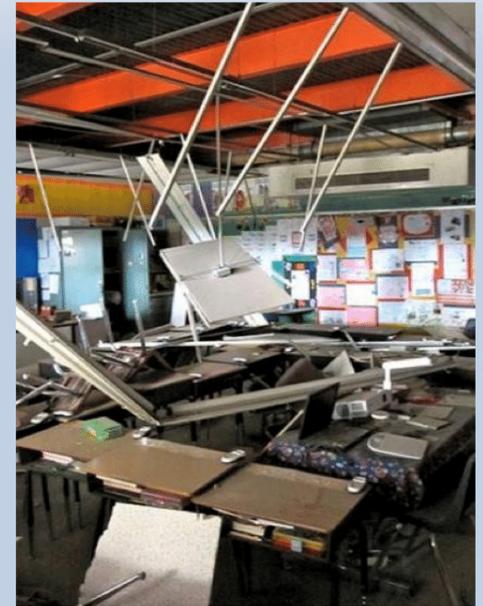
Good News: California Buildings Are (Mostly) Well-Built

- Woodframe homes do very well
- School construction carefully monitored since 1933
- Steadily improving building codes
- Highly trained and licensed engineers and contractors



Why *Drop, Cover, and Hold On?*

- Strong consensus for many years, based on data for how people are injured, and experience of Urban Search and Rescue firefighters
- Prevents being thrown to the ground
- Reduces injury from falling or flying items... including structural elements and exterior façades (brick, glass, etc.)
- Increases chance of surviving collapse



Classroom in Calexico, CA
April 2010 M7.2



EarthquakeCountry.org/step5

Know How to Protect Yourself

In *most* situations and building types:



Drop on to your hands and knees, where you are



See [EarthquakeCountry.org/step5](https://www.EarthquakeCountry.org/step5) for advice for a variety of settings

Know How to Protect Yourself

In *most* situations and building types:



Cover your head and neck
with one arm and hand.

- *If a sturdy table or desk is nearby, crawl underneath it for shelter*
- *If no table/desk, crawl against a wall or next to low furniture for sideways protection*



See [EarthquakeCountry.org/step5](https://www.earthquakecountry.org/step5) for advice for a variety of settings

Know How to Protect Yourself

In *most* situations and building types:



Hold On to your shelter
until shaking stops

- Be ready to move with your shelter
- *If not under a shelter*, hold on to your head/neck with both arms and hands



See [EarthquakeCountry.org/step5](https://www.earthquakecountry.org/step5) for advice for a variety of settings

Adapt Your Response

- If you can't get back up, don't get down
 - Bend over and cover your head and neck with your arms/hands
- Instruct others how to assist you
- Practice is key
- EarthquakeCountry.org/disability

Protect Yourself During Earthquakes!

IF POSSIBLE			
	DROP!	COVER!	HOLD ON!
USING CANE			
	DROP!	COVER!	HOLD ON!
USING WALKER			
	LOCK!	COVER!	HOLD ON!
USING WHEELCHAIR			
	LOCK!	COVER!	HOLD ON!



www.EarthquakeCountry.org/disability

But What If I am In A...

- Bed
- Car
- Theatre or Lecture Hall
- Supermarket
- Costco or Warehouse

After The Shaking Stops

- Check for injuries in your area. Do not attempt to move seriously injured people unless they are in immediate danger. Call for medical assistance (213.740.4321), and render first aid if required.
- Check the area for safety hazards such as building damage, fires, gas leaks, chemical spills, fire alarms, or floods. If the area or building appears to be unsafe, leave the building, and report critical issues to (213-740-4321).

Preparedness

You can't control how the earthquake will *shake* you.

But you can act now, and control how it will *harm* you.

Family Plan



- Evacuation Plan
- Duck, Cover and Hold Drill
- Family Reunion Plan
- Out-of-State Contacts

Water



2- 4 weeks Supply
2 gallon/person/day
Rotate every 6 months
Be ready to purify
Drink, First Aid & Cleaning

Water Storage Options



Food



- More of the foods you normally eat
- Canned food = no cooking (can opener?)
- Low sodium
- Comfort food

Medications



- Minimum 2-weeks supply
- Never take “last one”
- Prescription glasses
- **Extra PPE**
- **Extra Disinfecting Supplies**

Supplies

Other Supplies

Flashlight

Transistor radio

Work gloves

First Aid Supplies

Gas shut-off

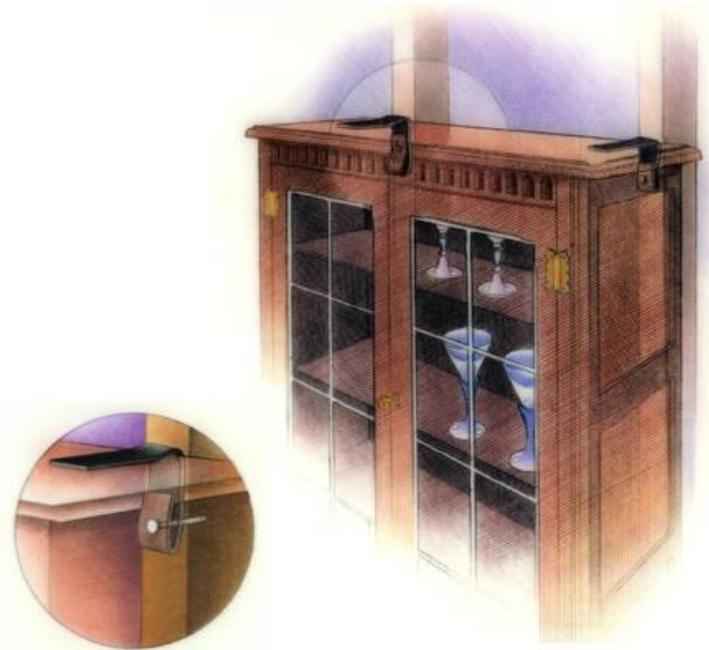
Wrench

Plastic & duct tape

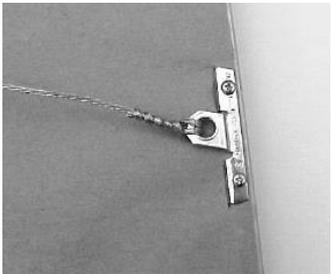
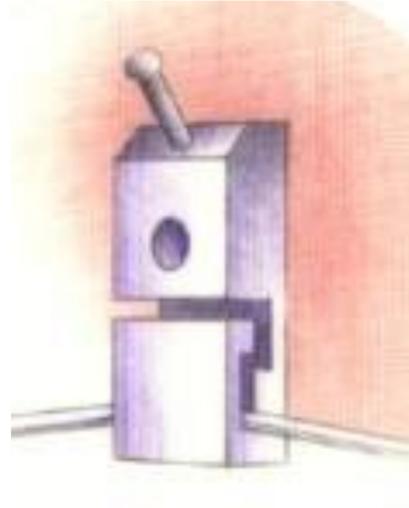
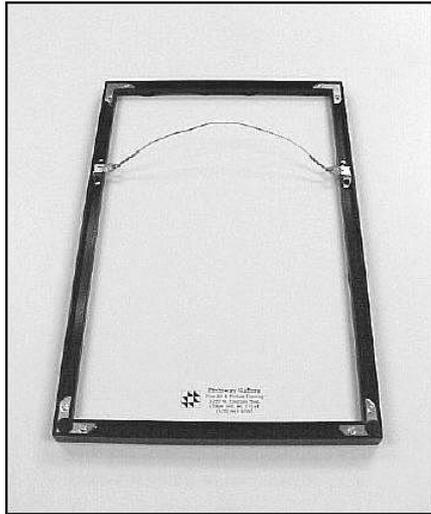
Evacuation Bag

- Change of clothes
- Personal hygiene supplies
- Contact lists
- Critical papers (insurance, medical history, deed, etc.)
- Cash

Secure Furnishings



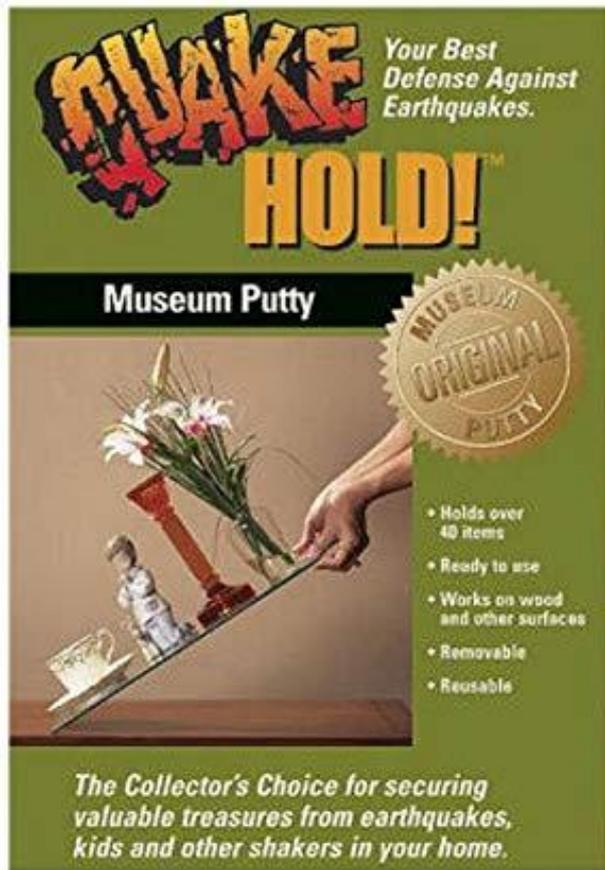
Don't Let Pictures Fall



Shelves



Knick-Knacks



QUAKE HOLD!™
Your Best Defense Against Earthquakes.

Museum Putty

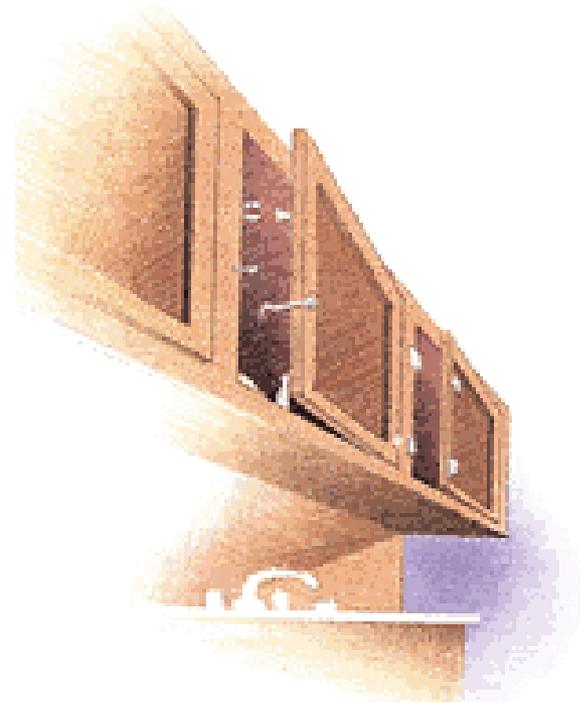
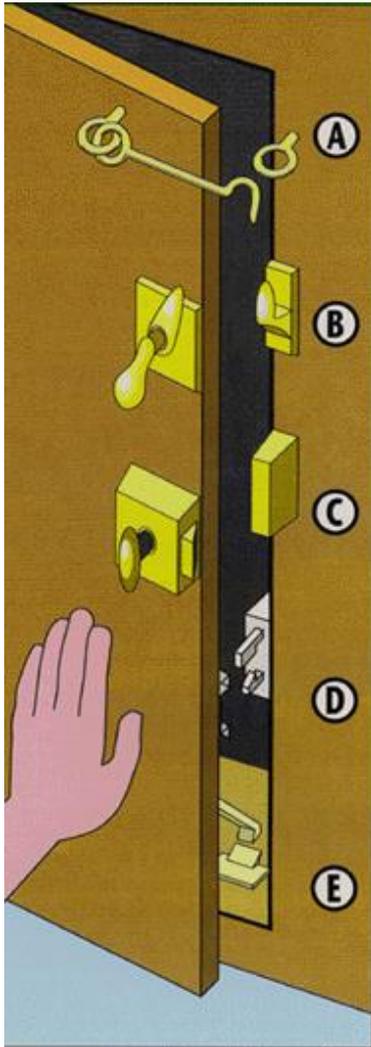
MUSEUM ORIGINAL PUTTY

- Holds over 40 items
- Ready to use
- Works on wood and other surfaces
- Removable
- Reusable

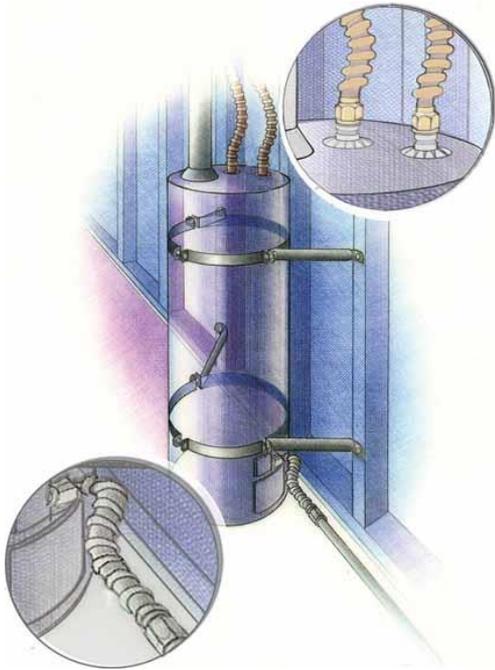
The Collector's Choice for securing valuable treasures from earthquakes, kids and other shakers in your home.



Cabinets



Appliances



Replace rigid gas connections to water heaters and other gas appliances, with flexible stainless-steel gas connectors.



Why Prepare?



Phones



Power

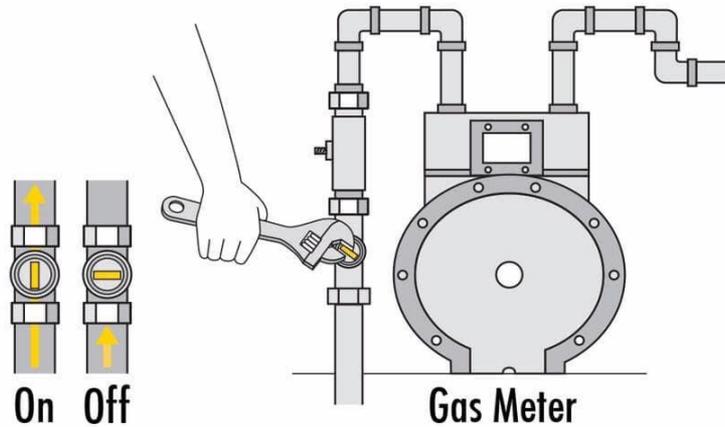


Water

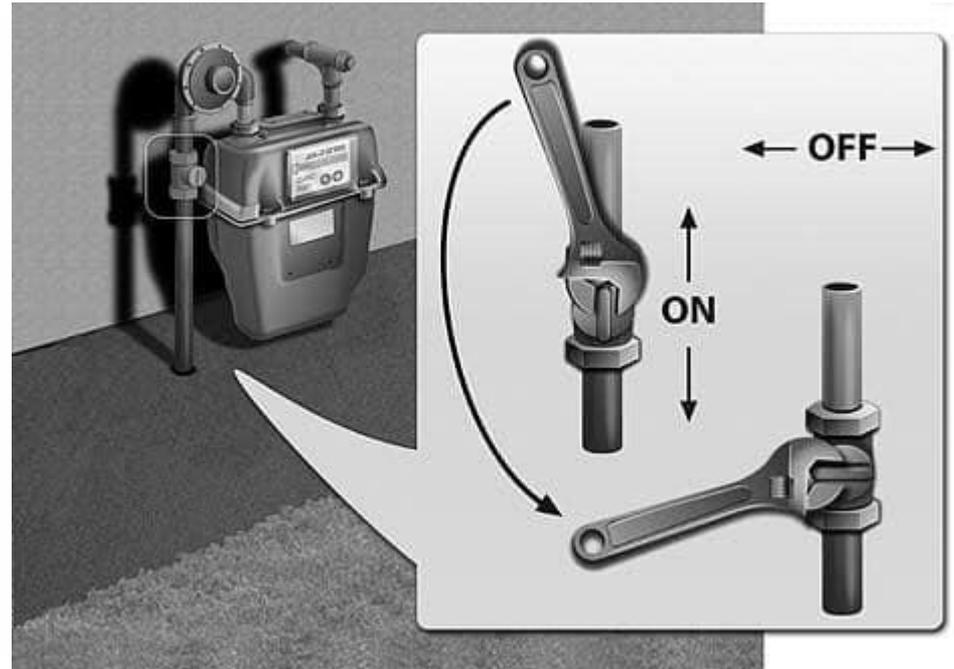
Utilities may not work

Utilities- Gas

Shutting off Gas in an Emergency



Modified from FEMA B-526



Utilities- Electrical



Utilities- Water

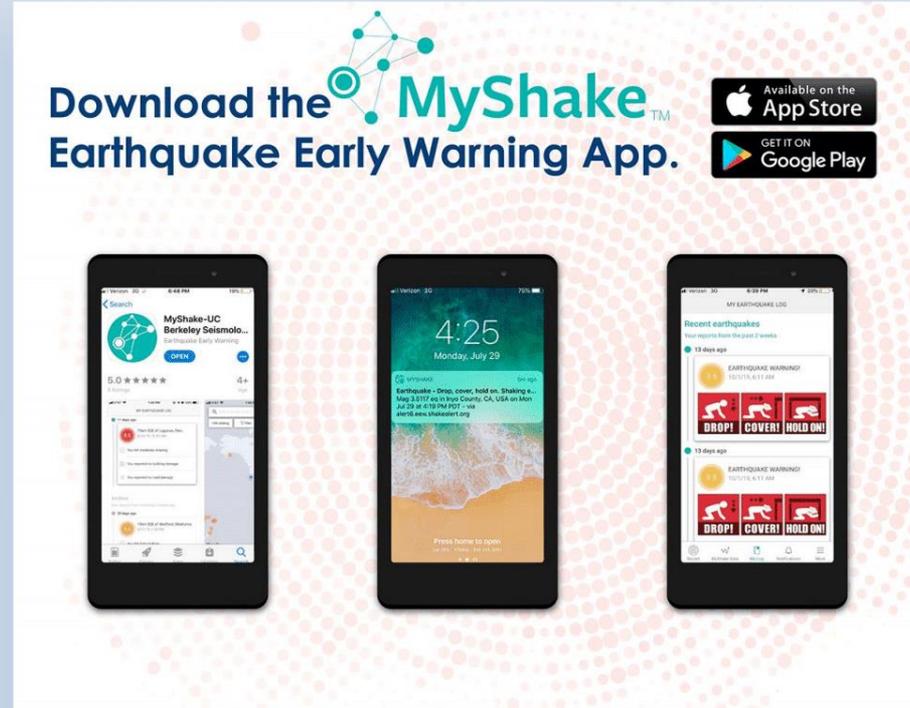
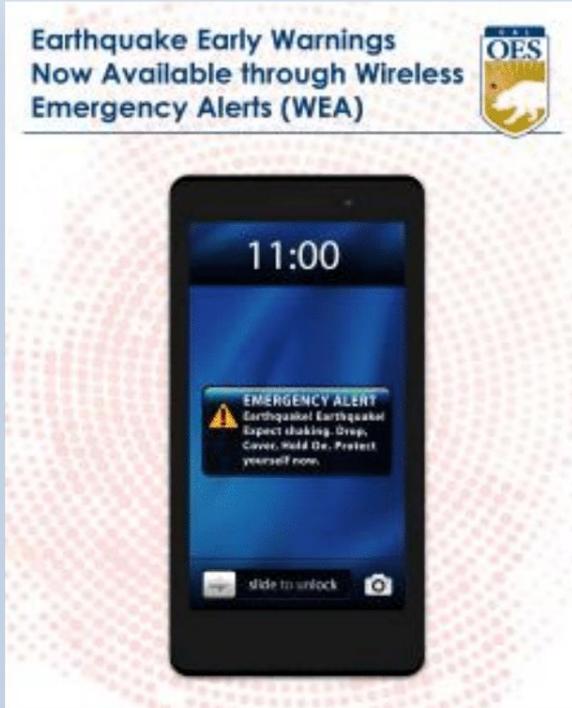


Financial Preparedness



- Protect valuable papers & documents
- Purchase earthquake insurance
 - Make sure the house is bolted to the foundation and the chimney reinforced.
- Keep cash (small bills) on hand.

California Earthquake Early Warning



earthquake.ca.gov

Earthquake Early Warning

- Wireless Emergency Alerts (similar to Amber Alerts) issued when:
 - Magnitude 5.0 or greater
 - Areas of Intensity IV (Light) shaking
- MyShake App notifies when:
 - Magnitude 4.5 or greater
 - Areas of Intensity III (weak) shaking

earthquake.ca.gov

Alerting Thresholds



Intensity	Shaking
I	Not felt
II	Weak
III	Weak
IV	Light
V	Moderate
VI	Strong
VII	Very Strong
VIII	Severe
IX	Violent
X	Extreme



**WIRELESS
EMERGENCY
ALERTS**

WEA used in response to magnitude 5.0 earthquake to people who will experience shaking level IV (light) or greater.




MyShake used in response to magnitude 4.5 earthquake to people who will experience shaking level III (weak) or greater.



Learn First Aid



How To Get Involved At USC



**Building
Emergency
Response Teams**

**Amateur Radio
Emergency
Response Team**



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4 Person #460



Pet Kit #11107



2 Person #240



My Pet &
Me Kit #11102



Sanitation Kit 33044

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Order Instructions:

- 1 - Place order online or Phone
sosproducts.com
- 2 - Enter **Coupon Code: HC2563U**
- 3 - Have it Shipped or Pickup Curbside
- 4 - Receive order - Now you are prepared!

Limit 1 coupon per purchase. Not valid with any other offers, coupons or discounts.
Coupon must be presented before purchase by phone and online. **Expires 12/31/2020**

More Information

- USC Earthquake Procedures: <https://fsep.usc.edu/usc-emergency-procedures/emergency-procedures-for/during-an-earthquake/>
- USC Emergency Procedures Video: <https://usc.edu/emergencyvideos>
- Campus Buildings Emergency Information Fact Sheets: <https://fsep.usc.edu/emergency-planning/building-emergency-fact-sheets/>
- Seven Steps to Earthquake Safety: <https://EarthquakeCountry.org/sevensteps>