



ECA Southern California

Fall 2025 Workshop

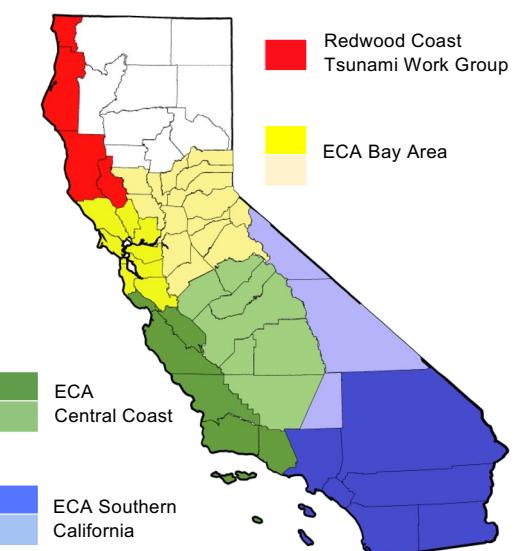


December 10, 2025

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Earthquake Country Alliance

- 4000+ *Public-Private-Grassroots* leaders
- Statewide *committees* develop resources and deliver programs
- *Regional Alliances* organize meetings and outreach activities
- California's Office of Emergency Services provides FEMA NEHRP funding for ECA earthquake mitigation activities
- USC's Statewide California Earthquake Center (SCEC.org) administers ECA



Join: EarthquakeCountry.org/join



Co-Chairs, ECA SoCal Coordinating Committee

Margaret Vinci

Manager, Office of Earthquake Programs,
Caltech/ShakeAlert

Alan Hanson

Simpson Strong-Tie, retired

EarthquakeCountry.org/socal

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ECA SoCal Coordinating Committee

Coordinating Committee Chairs:

Alan Hanson (Simpson Strong-Tie)
Margaret Vinci (Caltech)

Media Bureau Coordinator:

Mimi Teller (American Red Cross Los Angeles)

Participation Bureau Coordinator:

Pei Lee (Orange County Emergency Management)
Positions available for each county

Events Bureau Coordinators:

John Hammett & Lance Webster

ShakeOut Day Event Coordinator:

Open position

Quarterly Workshops Coordinator:

Open position

Join Us! Email socal@earthquakecountry.org

Brief Self Introductions

Name

Organization or Community

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Today's Agenda

AltaSea Welcome and Overview

Robin Aube (Director of Advancement for AltaSea at the Port of Los Angeles)

Overview of Emergency Management at the Port of Los Angeles

Lynette Ursery (Emergency Management Coordinator, Port of Los Angeles)

Recent SoCal Earthquakes

Margaret Vinci (Manager, Office of Earthquake Programs, Caltech/ShakeAlert)

BREAK

Your Action Plan for the Seven Steps to Earthquake

Mark Benthien (Statewide California Earthquake Center & ECA Executive Director)

Margaret Vinci (Manager, Office of Earthquake Programs, Caltech/ShakeAlert)

Alan Hanson (Simpson StrongTie, retired)

ECA Activities & Opportunities

Mark Benthien (SCEC/ECA)

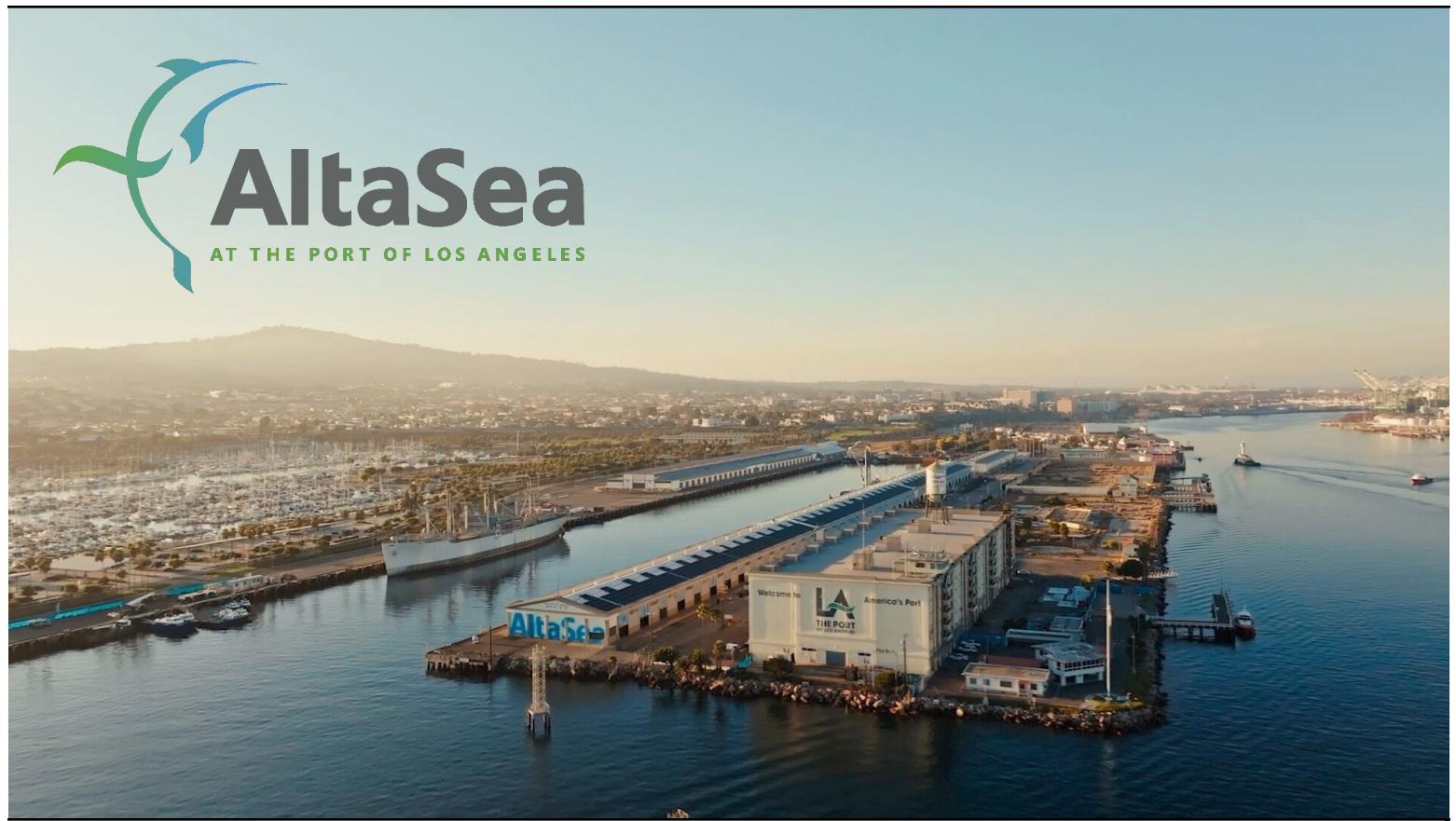
Attendee Announcements and Sharing

Adjourn

AltaSea Welcome and Overview

Robin Aube
Director of Advancement for
AltaSea at the Port of Los Angeles

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ABOUT US

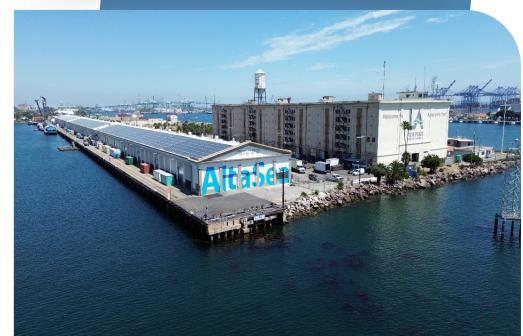
Founded in 2014, AltaSea is a non-profit ocean-focused science, business, and education center. Located at the Port of Los Angeles— AltaSea is uniquely positioned to place Southern California at the global center of the Blue Economy.

OUR MISSION

AltaSea at the Port of Los Angeles is dedicated to accelerating scientific collaboration, advancing an emerging blue economy through business innovation and job creation, and inspiring the next generation, all for a more sustainable, just, and equitable world.

OUR VISION

We will turn to the ocean to develop and scale up rapid solutions for some of the planet's most pressing challenges, such as climate change, energy supply, and global food security—and prepare today's generation of students for future careers in science, technology, engineering, business and ocean-related industry professions.

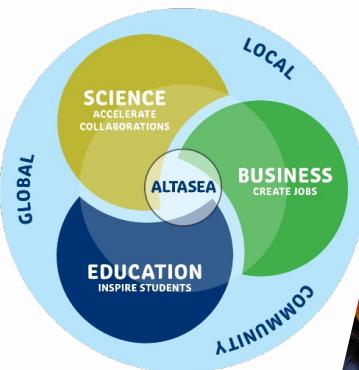


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WHAT WE DO

ALTASEA IS A UNIQUE MODEL FOR OCEAN-RELATED SOLUTIONS

Through a bold plan conceived in concert with the community, AltaSea is making a lasting mark on the future of Los Angeles and the planet. The emphasis on creating public-private collaborations sets the organization apart. It is from these intersections that innovation is born, and from innovation comes groundbreaking impact.



Science

AltaSea convenes and supports the world's finest marine scientists as they conduct breakthrough research and discover solutions addressing energy supply, climate change and global food security.

Business

AltaSea nurtures new and existing businesses that commercialize scientific breakthroughs and emerging technologies to create ocean-related products, services and jobs.

Education

AltaSea ignites passion and learning with pioneering programs that teach children and adults the critical role that the ocean has for our planet.



FOCUS CLUSTERS

AltaSea will create focal points of collaboration by initially focusing on the oceanic fields of Regenerative Aquaculture, Renewable Energy, and Blue Technology & Underwater Robotics. This approach allows a cluster of business, science and education to be formed at AltaSea around each category.

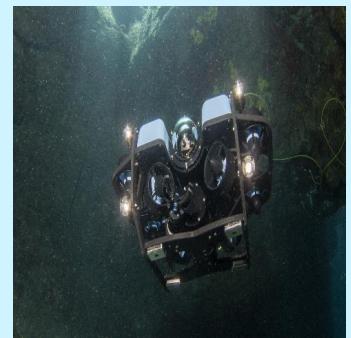
REGENERATIVE AQUACULTURE



RENEWABLE ENERGY



BLUE TECH & UNDERWATER ROBOTICS



- On-land Aquaculture
- Open Ocean Aquaculture
- Food Production
- Kelp Extraction Products

- Carbon Capture
- Energy Storage
- Hydrogen Energy
- Wave, Tidal, and Wind Energy

- Data Acquisition
- Deep-water Monitoring
- Maritime Security
- Robotic Innovation

OCEAN STEM

INSPIRING THE NEXT GENERATION

AltaSea's K-12 programs educate students about the Blue Economy, an initiative to protect the ecosystem of the ocean and turn to it as a resource for solving challenges such as climate change, energy supply, and food security.

Student & Educator Engagement

- AltaSea on-site Field Trips
- Multi-week school based and virtual Ocean Exploration, Aquaculture and Marine Energy courses
- High School Ocean Ambassadors Program
- Blue Economy career workshops for High Schoolers
- Ocean STEM Professional Development workshops for Educators
- Ocean STEM Educator training workshops
- Learning Portal with open-source Ocean Stem resources and sample curriculum for Ocean exploration, Aquaculture and Marine Energy
- Blue Economy summer speaker series for Teens



WORKFORCE DEVELOPMENT

The Workforce Development Program Goals are to

- 1) Create equitable and accessible pathways to blue economy careers, starting with early learning that continues into high school and college internship and training opportunities
- 2) Provide paid ocean STEM / blue economy internships for LA area students, expanding the number of students placed in internships by at least 50% each year
- 3) Partner with organizations to place (and track) trained workers



Post-Secondary Student & Adult Career Engagement

- Internships
- Apprenticeships

Flexible Blue Economy Research Space

The 'Flex Labs' program is being developed to support post-secondary student researchers and other collegiate research teams seeking temporary facilities for ocean-related research and development



Certificate / Training Programs, Collegiate Engagement, and Professional Development

- Blue Economy and Climate Action Pathways (BECAP)
- Aquaculture Certificate and Associate in Science Degree – SMC and virtual
- Hydrogen Energy Certificate – LA Harbor College & Commercial Partners

DEEP BLUE DECADE INITIATIVE

AltaSea's Deep Blue Decade

After the success of our first decade, we now seek to find climate solutions globally and improve the quality of life worldwide. We must radically increase support for blue economy technologies, rapidly scale their impact, and build the workforce necessary to meet the climate challenges.

DBDI Ocean Community Partners

- ★ Indonesia
- ★ Jordan
- ★ Tanzania
- ★ Tonga

Advisory Partners

- ★ Malaga
- ★ Monaco

Education Partners

- ★ UK
- ★ South Korea
- ★ New Jersey

Future Ocean Community Partners

- ★ Caribbean
- ★ Panama
- ★ Brazil
- ★ India
- ★ Saudi Arabia



BE PART OF THE DEEP BLUE DECADE!

AltaSea's Accomplishments

225,000	Square Feet in Operation
18,419	Students Served
102	Interns & Mentors Completed Programs
31,477	AltaSea Visitors
3,000	Linear Feet Wharf Operations
4	Active BlueTech Test Beds

Q & A

Join ECA (free) be notified of future events, etc.
EarthquakeCountry.org/join

Questions?
info@earthquakecountry.org

Please complete our
brief workshop survey:
SurveyMonkey.com/r/5RQT7QF



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A presentation slide for the Los Angeles Harbor Department's Natural Disasters Preparation. The slide features a black and green abstract background. On the left, there is an aerial photograph of the Los Angeles Harbor area. Below the photo is the logo for The Port of Los Angeles, which consists of a stylized 'LA' with a green wave graphic and the text 'THE PORT OF LOS ANGELES'. The main text on the slide reads 'Los Angeles Harbor Department' and 'Natural Disasters Preparation' in green, followed by the date 'December 10, 2025'. Below this, in a smaller green font, is 'Presented By' followed by the name 'Lynette Ursery' and 'Emergency Management Coordinator I'. In the bottom right corner, the text 'PAGE 16' is visible.

Data Collection



COLLECT INFORMATION REGARDING THE INCIDENT AND SHARE IT INTERNALLY WITH OUR CITY TEAM (EMD), PORT PARTNERS, TENANTS, AND STAKEHOLDERS.



ASSESSMENT AND INFORMATION GATHERING WILL BE CONDUCTED WITH INPUT FROM PORT OPERATIONS, POLICE, FIRE, UNITED STATES COAST GUARD, OR OTHER FIRST RESPONDERS AT THE DISASTER SCENE(S).

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Information Sharing



- We depend on our partners at Los Angeles City Emergency Management to inform the public about significant events that may impact the Wilmington/San Pedro area.
- Residents can RYLAN information at <https://ready.lacity.gov/>

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Preparedness



- Monthly Bulletins
- Tsunami Awareness Week Campaign
- World Tsunami Day
- Great ShakeOut

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Initial Notification



- Everbridge Notification System

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Local Source Tsunami



- No “Official Tsunami Warning”
- Earthquake is your warning
- Strong or long shaking
- Go to high ground or inland
- Tsunami may arrive within minutes
- Signs, education and training important
- Know Your Zone www.TsunamiZone.org

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Department Operations Center

- Activated by POLA Emergency Management or Port Police
- Disseminate external and internal information

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Los Angeles County Tsunami Hazard Areas

Explore your area of interest in the map below. You may also [OPEN THE MAP IN A NEW WINDOW](#)

 **Tsunami Hazard Area Map**

Find address or place



Los Angeles County Tsunami Hazard Areas

- Los Angeles County Emergency Response web page
- Los Angeles County Office of Emergency Management
- Ready.gov: **Tsunamis** summarizes how to Prepare NOW, Survive DURING, and Be Safe AFTER.
- TsunamiZone.org offers suggestions and resources for your family or organization to "know your zone" and to learn how to be safe.
- The Earthquake Country Alliance develops resources and organizes activities to improve earthquake and tsunami preparedness, mitigation and resiliency. The ECA offers a host of free booklets and other materials in multiple languages.

 **Cal OES MyHazards**

Cal OES MyLocation

Helping reduce your risks from natural hazards

Home Earthquake Risk Flood Risk Fire Risk Tsunami Risk All Risks

High Risk Moderate Risk

How does MyHazards work?

MyHazards is a tool for the general public to discover hazards in their area (earthquake, flood, fire, and tsunami) and learn steps to reduce personal risk. Using the MyHazards tool, users may enter an address, city, zip code, or may select a location from a map. The map targets the location, and allows users to zoom and scroll to their desired view. The screen then presents information on the risks identified within the search radius, and recommended actions. MyHazards website performs best when using Internet Explorer. Hazard Data is approximate and data layer visibility are subject to the extent of the Map.

Type in your address below to learn how to address natural hazards in your area.

California address

What Natural Hazards Impact Your Neighborhood?

Use this website to discover the hazards that exist in your area and learn how to reduce YOUR risk! Remember, the best way to recover from disasters is by reducing the risks before a disaster strikes.

Please note: This web site is for general purpose use only. Real estate disclosure information can be obtained from your local city or county government. See our disclaimer below for more information regarding the limitations of this web service.

The Purpose of MyHazards web site

We all understand that disasters will continue to occur throughout California. Hazard mitigation saves lives, preserves property, and protects the environment during times of disaster. MyHazards facilitates the identification of hazards by individuals, businesses, and local government.

►Are you in the Tsunami Zone?

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Tsunami Hazard Signs



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Get Involved, Become Aware, Prepare !

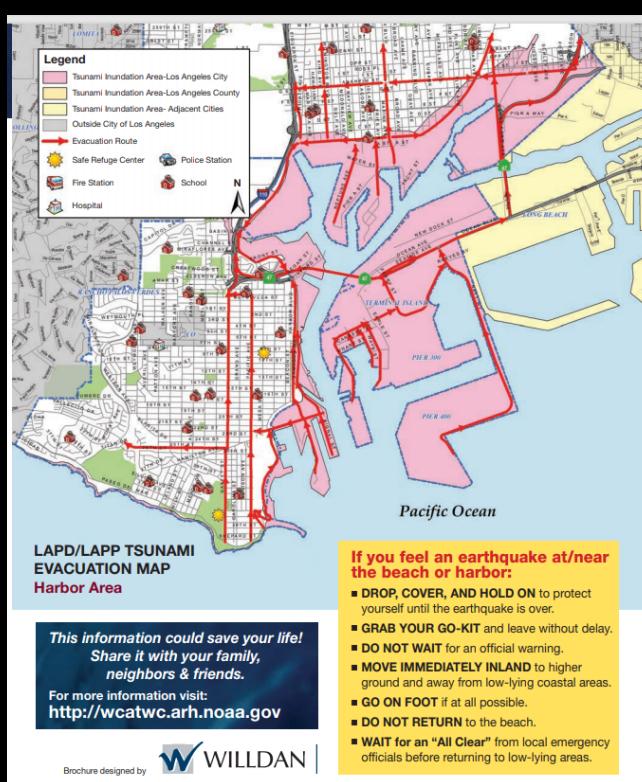
- ✓ Family Communication Plan
- ✓ Emergency Contacts - Written
- ✓ Emergency Supplies/Go Bag
- ✓ Prepare for Pets
- ✓ Know where to go
- ✓ Family Evacuation Plan



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TSUNAMI INUNDATION MAPS HARBOR AREA CITY OF LOS ANGELES



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THANK YOU



PORT OF LOS ANGELES
EMERGENCY MANAGEMENT DIVISION
WWW.PORTOFLOSANGELES.COM

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Q & A

Join ECA (free) be notified of future events, etc.
EarthquakeCountry.org/join

Questions?
info@earthquakecountry.org

Please complete our
brief workshop survey:
SurveyMonkey.com/r/5RQT7QF



Recent SoCal Earthquakes

Margaret Vinci
Manager, Office of Earthquake Programs
Caltech/ShakeAlert

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Quake Break – Southern California

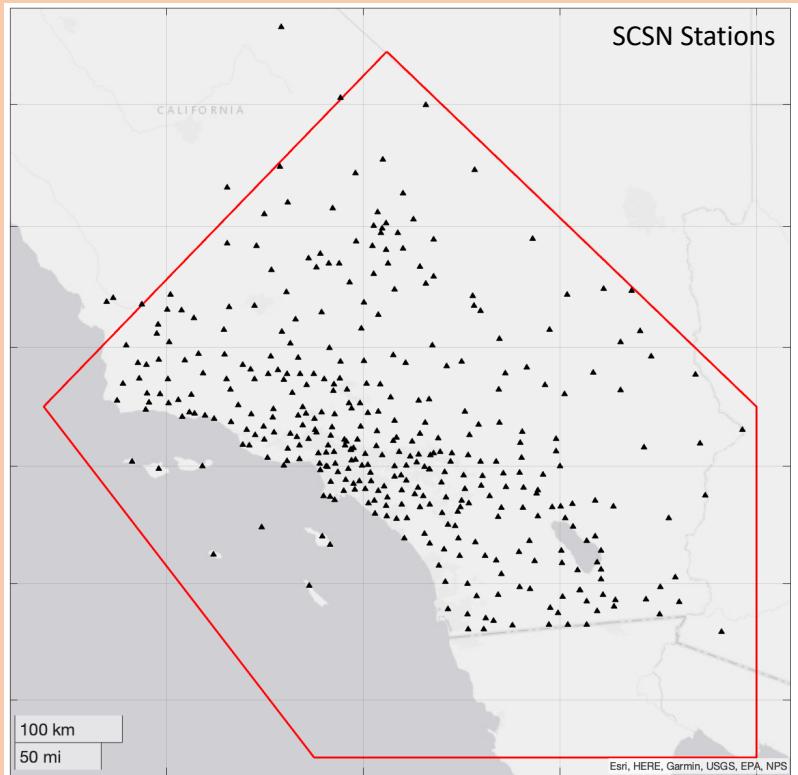
September – November 2025

Margaret Vinci
SCSN/Caltech



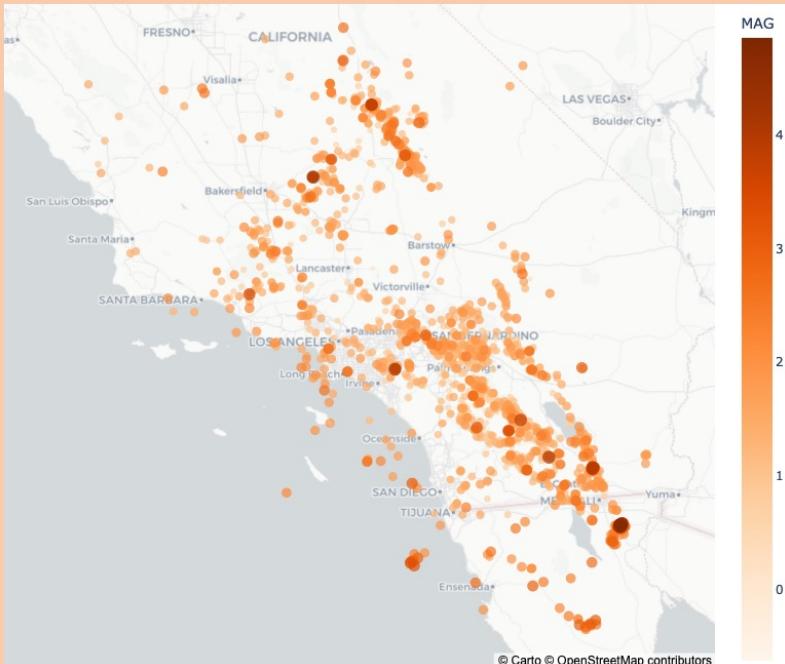
Caltech **ANSS** Advanced National Seismic System

* Follow us on social media: @CaltechSeismo
* For earthquake notifications: @CaltechQuake (X/Twitter)



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This quarter in Southern California there were:



3,715 earthquakes + 116 quarry blasts

M>2 – 267

M>3 – 29

M>4 – 0

9/6/25 M3.5 - LaVerne
 9/10/25 M3.7 - Maricopa
 9/13/25 M3.6 - Pine Valley
 10/5/25 M3.5 - Big Bear City

Last 7 days 287 – average daily rate: 41

Event range: 0.44 – 3.20

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Post-ShakeAlert® Message Summary

Earthquake:

Advanced National Seismic System (ANSS):

M 5.9 - 22.7 km (14.1 mi) E of Carson City

ANSS location:

Not available at report time

ANSS depth:

Not available at report time

ANSS origin (Local):

Not available at report time

ANSS origin (UTC):

Not available at report time

ShakeAlert first Message (UTC):

2025-12-04 16:07:09.10

ShakeAlert Event ID:

ew1764864420

ShakeAlert Messages Issued (after origin time):

Initial: Not available

Peak: Not available

Final: Not available

ShakeAlert System Magnitude Estimates:

Initial: M 5.9

Peak: M 5.9

Final: M 5.9

ShakeAlert System Location Accuracy:

Initial: Not available at report time

Peak: Not available at report time

Final: Not available at report time

Wireless Emergency Alert:

This alert was distributed over the WEA system.

WEA alerts are distributed to the MMI 4+ area if ShakeAlert Peak M>5.0

Number of Stations Reporting:

0 within 10 km of epicenter

0 within 100 km of epicenter

5 used in final ShakeAlert Message

Nearby Cities:

City	Distance km / (mi)	Time* sec	Shaking (MMI**)
Carson City	23 / (14)	~7	Moderate (5)
Reno	41 / (26)	~12	Light (4)
South Lake Tahoe	52 / (32)	~15	Light (4)
Sacramento	186 / (116)	--	Weak (3)

Radius shaken before message release: Not available



8/4/25 M5.9 Dayton, Nevada False Alert

The ShakeAlert EEW system released an incorrect alert triggering WEA, MyShake, Android and IOS cell phone alerts to estimated MMI 3 intensity areas across NoCal

- Event did not occur but ShakeAlert delivery system worked the way it was designed to work – just no event
- Cause: seismic sensors belonging to the Nevada network picked up strong noise signals and incorrectly misinterpreted as an earthquake and triggered an alert
- Fail safe technology is incorporated into the system to detect and cancel such events but did not do so in this event & will be improved to address such activity
- Issues are rare but events like this uncover bugs and the System is being continually being upgraded
- **NOTE: First false alert since the system went live in 2016 and these events are rare – EEW is complex!**

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How can you sign up to get ShakeAlert EEW alerts?

ShakeAlert-Powered Earthquake Early Warning on Your Cell Phone

Available in Washington, Oregon, and California



Wireless Emergency Alerts
Sent by FEMA to all WEA-capable cell phones
Minimum magnitude 5.0
Light Shaking or Greater (MMI IV+)

Android Alerts
Sent by Google to all Android phones
Minimum magnitude 4.5
Weak to Light Shaking (MMI III-IV): Be Aware
Moderate Shaking or Greater (MMI V+): Take Action

Cell Phone App
Sent by the MyShake App (requires download)
Minimum magnitude 4.5
Weak Shaking or Greater (MMI III+)
Moderate Shaking or Greater (MMI IV+): Take Action

ShakeAlert™
05.2025



For iPhones, enable the “Local Awareness” feature

- Settings > Notifications
- Government alerts > emergency alerts
- Turn on Local Awareness
- Bi-Level alerts:
 - Awareness alert: alert to prepare to take action
 - Action Alert: labeled critical strong shaking immediate action

<https://support.apple.com/en-us/102516>

Caltech

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Q & A

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EarthquakeCountry.org/join

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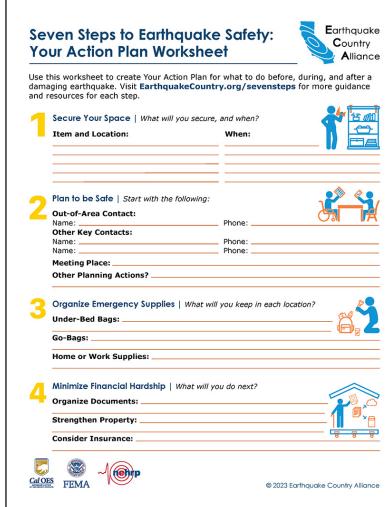


Your Action Plan for the Seven Steps to Earthquake Safety



Earthquake Country Alliance Cal OES FEMA

Your Action Plan
for the
**Seven
Steps to
Earthquake
Safety**
EarthquakeCountry.org



Earthquake Country Alliance

Seven Steps to Earthquake Safety: Your Action Plan Worksheet

Use this worksheet to create Your Action Plan for what to do before, during, and after a damaging earthquake. Visit EarthquakeCountry.org/sevensteps for more guidance and resources for each step.

1 Secure Your Space | What will you secure, and when?
Item and Location: _____ When: _____

2 Plan to be Safe | Start with the following:
Name: _____ Phone: _____
Other Key Contacts:
Name: _____ Phone: _____
Name: _____ Phone: _____
Meeting Place: _____
Other Planning Actions: _____

3 Organize Emergency Supplies | What will you keep in each location?
Under-Bed Bags: _____
Go-Bags: _____
Home or Work Supplies: _____

4 Minimize Financial Hardship | What will you do next?
Organize Documents: _____
Strengthen Property: _____
Consider Insurance: _____

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EarthquakeCountry.org/resources

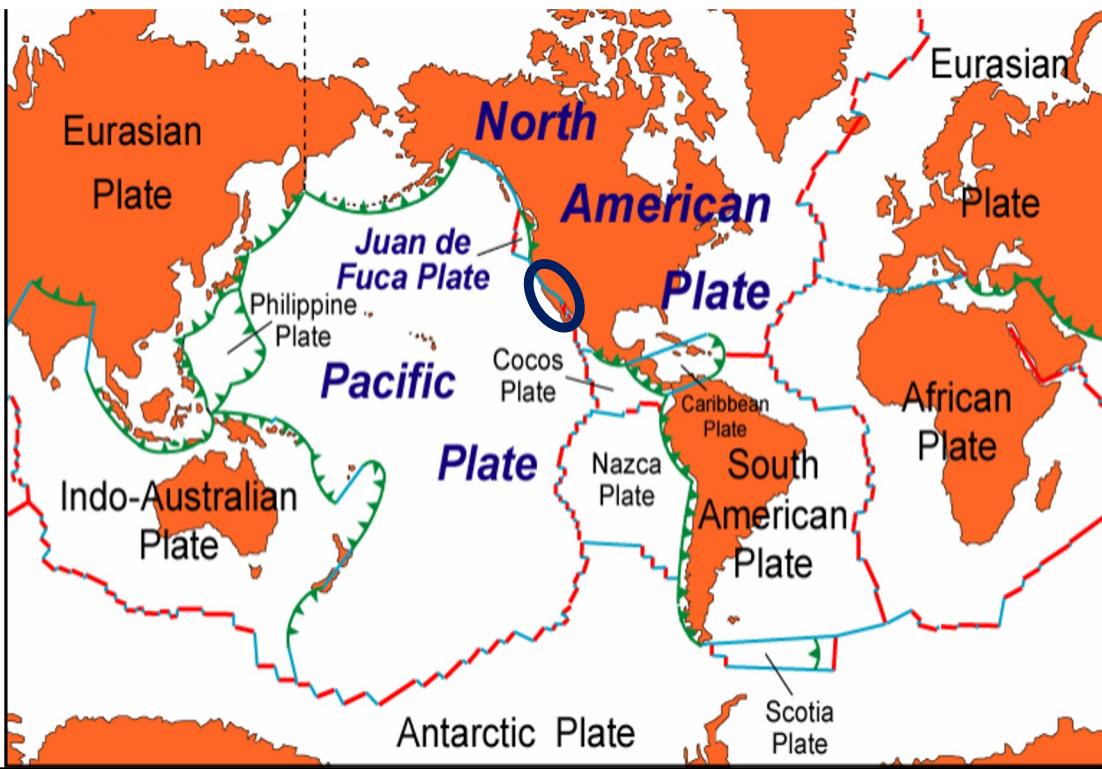
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Share Feedback or Suggestions

Please complete our workshop survey:
SurveyMonkey.com/r/5RQT7QF



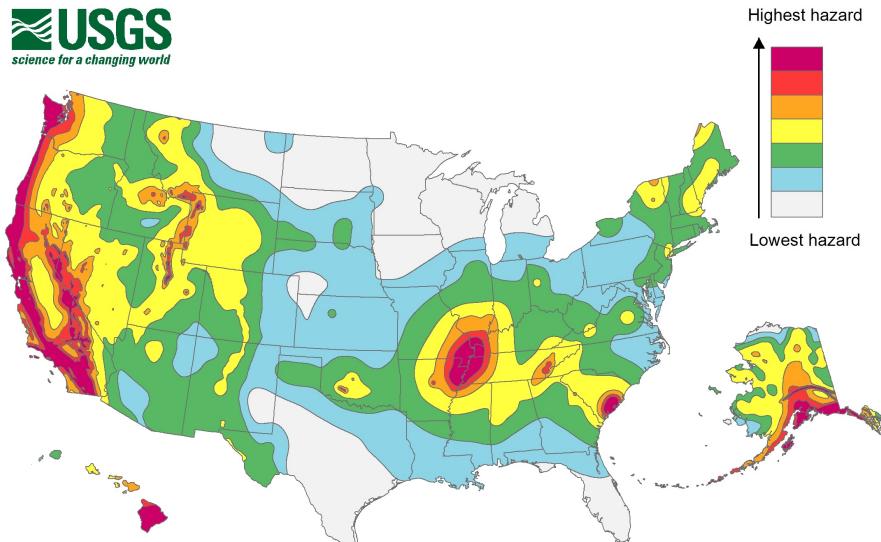
We Live on the Edge...



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National Seismic Hazard Maps

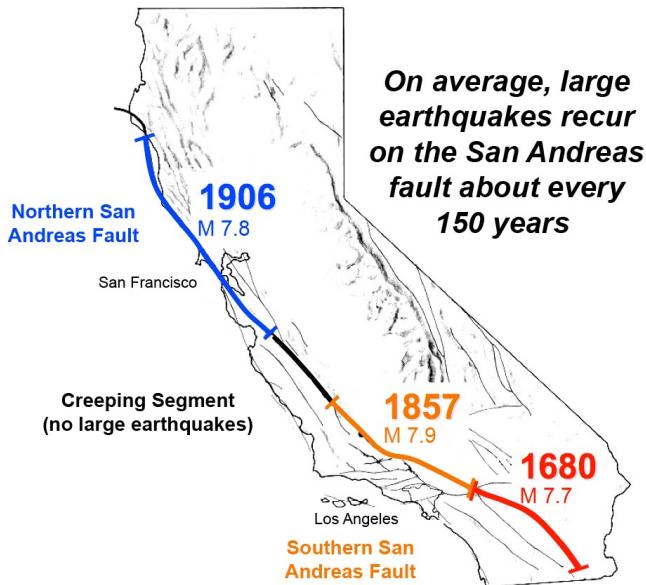


usgs.gov/programs/earthquake-hazards/hazards

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Why we must prepare now

- It has been almost 169 years since the last great San Andreas earthquake in Southern California (January 9, 1857 Magnitude 7.9 "Ft. Tejon Earthquake" (orange))
- It has been over 340 years since the last great earthquake on the southernmost section of the San Andreas fault. (red)
- In addition, there are hundreds of other faults (such as the Newport-Inglewood fault) that can also have damaging earthquakes.
- There will be major loss of life and property unless we each take action now, especially by securing our buildings and their contents.



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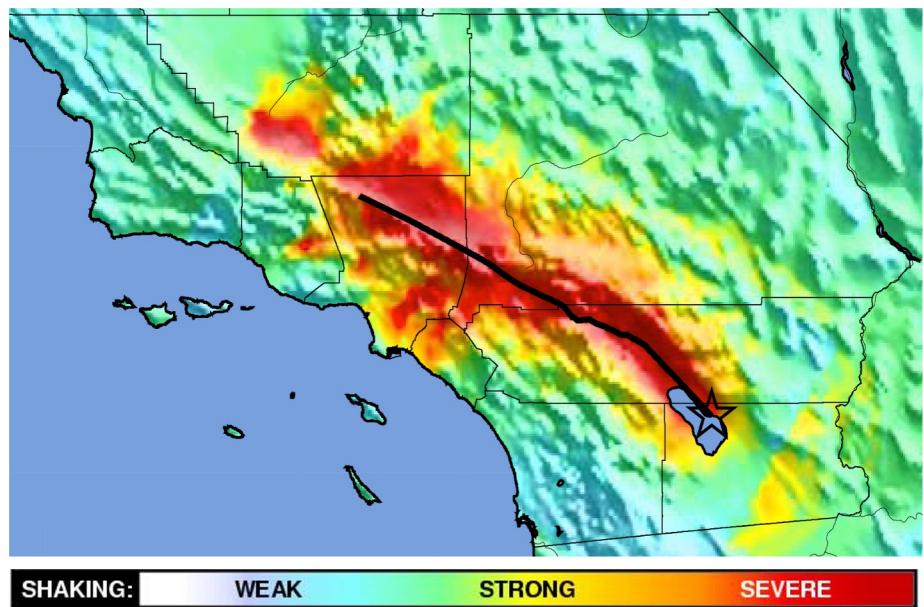
Improved Understanding of Major Faults



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A Possible “Big One” (M7.8)

- Southernmost San Andreas
- 180 mile rupture
- Magnitude 7.8
- 100 seconds of fault rupture
- Shaking for over 2 minutes in many places
- Dr. Lucy Jones (USGS) led many scientists, engineers, and others to create a scenario of what will happen.



ShakeOut.org/scenario

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ShakeOut Scenario “Disaster Equation”

300,000 buildings significantly damaged

Widespread infrastructure damage

1,600 large fires

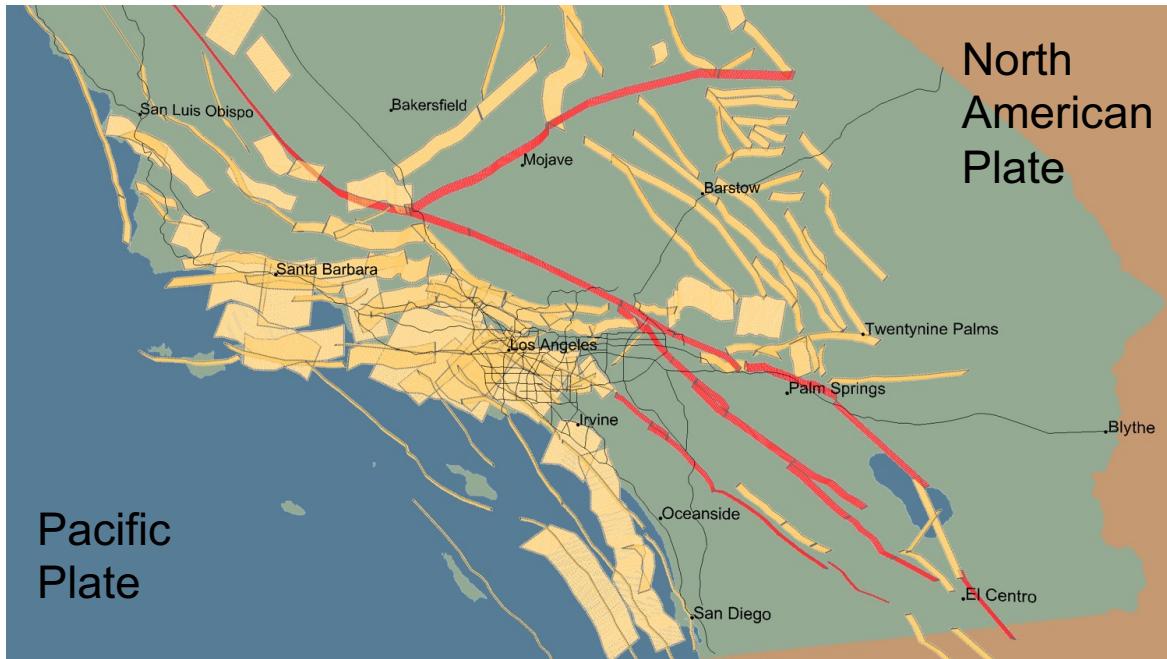
\$213+ billion damages

270,000 displaced persons

50,000 injuries

1,800 deaths

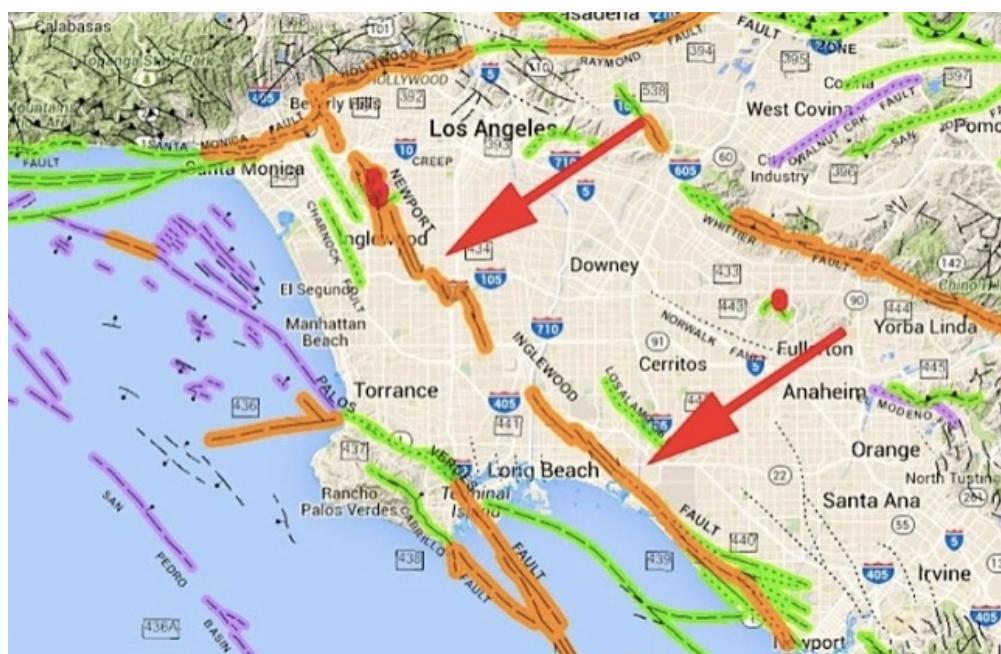
More than 300 Active Faults



Each can have earthquakes larger than magnitude 6

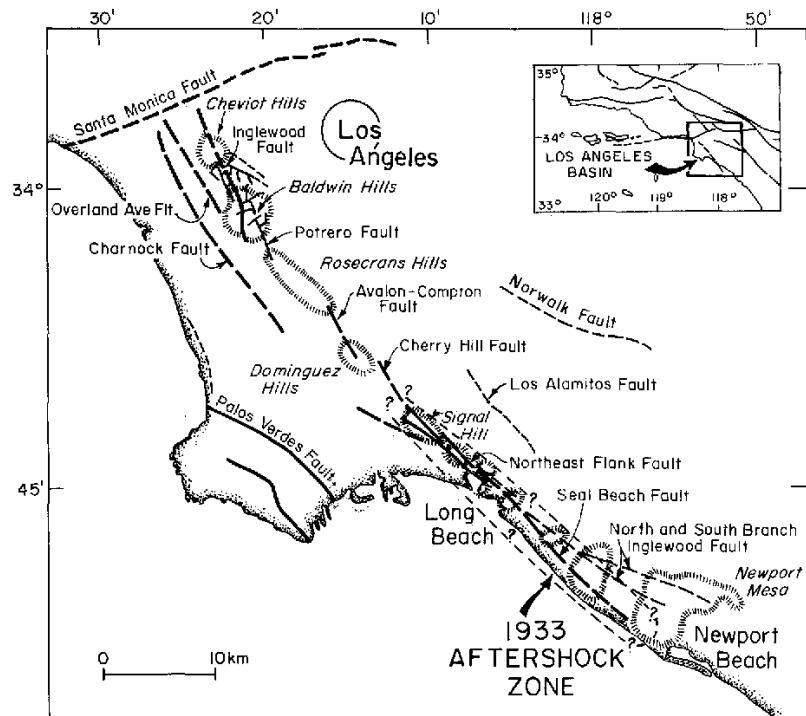
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Los Angeles Region Major Faults



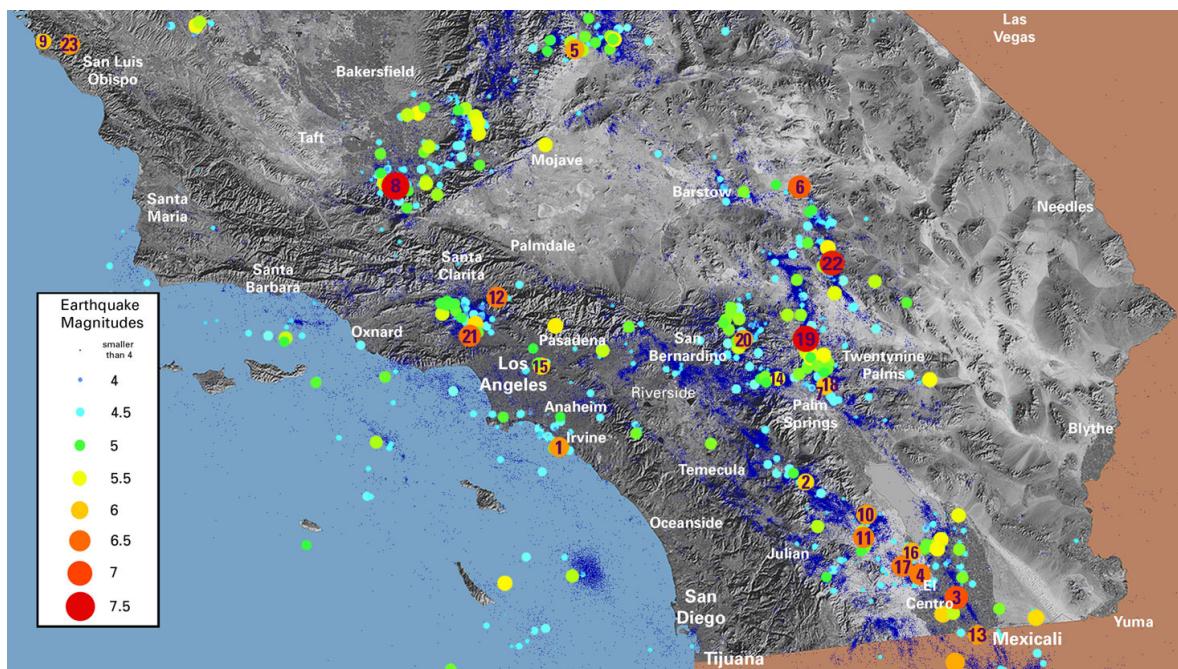
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Newport-Inglewood Fault



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30 Earthquakes Every Day



Most are too small to be felt by people

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More Can and Must Be Done...

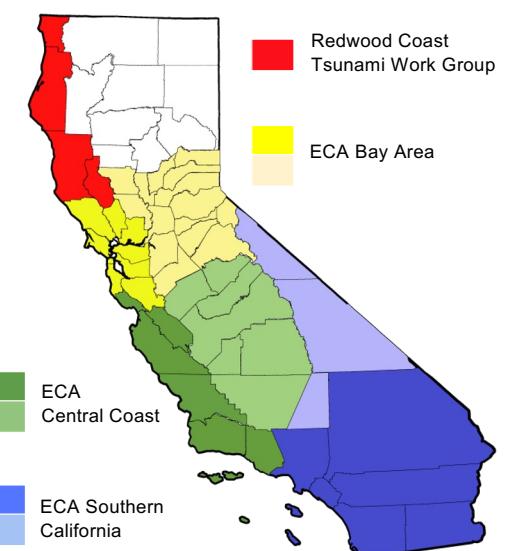
- ...at every level
- ...before, during, and after
- ...by each and all of us



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Earthquake Country Alliance

- 4000+ *Public-Private-Grassroots* leaders
- Statewide *committees* develop resources and deliver programs
- *Regional Alliances* organize meetings and outreach activities
- California's Office of Emergency Services provides NEHRP funding for ECA earthquake mitigation activities
- USC's Statewide California Earthquake Center (SCEC.org) administers ECA



Join: EarthquakeCountry.org/join



ECA Statewide Activities

Develop Messaging and Resources:

EarthquakeCountry.org

EarthquakeCountry.org/resources

Terremotos.org



Support Tsunami Preparedness Week:

TsunamiZone.org/california



March
21-29,
2026

Created and Coordinate
The Great California ShakeOut:

ShakeOut.org/california



Oct. 15,
2026

Webinars & other events

EarthquakeCountry.org/calendar

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Seven Steps To Earthquake Safety

1. Secure Your Space



2. Plan To Be Safe



3. Organize Supplies



4. Minimize Financial Hardship



BEFORE

5. Drop, Cover, and Hold On



6. Improve Safety



DURING

AFTER

7. Reconnect and Restore



EarthquakeCountry.org/sevensteps

Terremotos.org/sietepasos

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Step 1: Secure Your Space

BEFORE

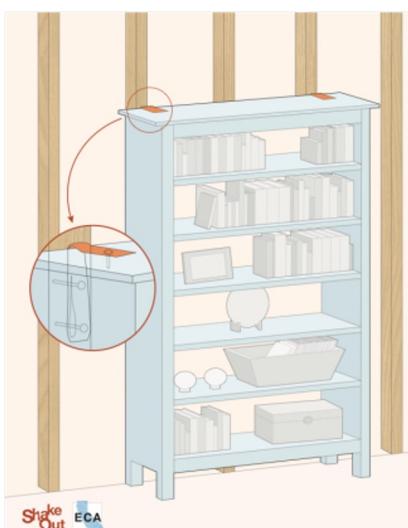
- Identify hazards
- Secure moveable items
- Reduce Injuries and damage



EarthquakeCountry.org/step1

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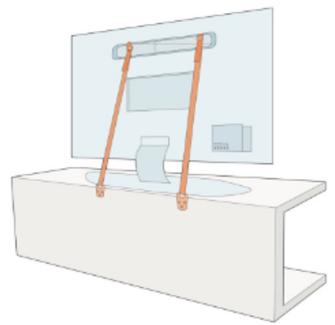
Top-Heavy Furniture



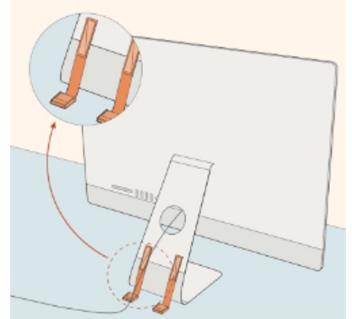
Use flexible nylon straps (buckles or velcro)

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TVs and Electronics



Straps and buckles secured with adhesive and bolted to anchor points

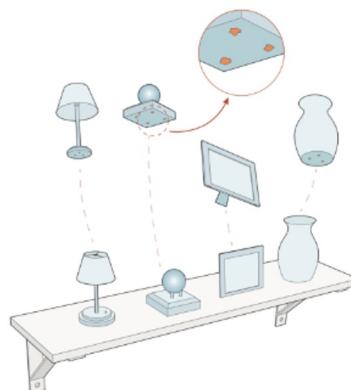


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Smaller Items

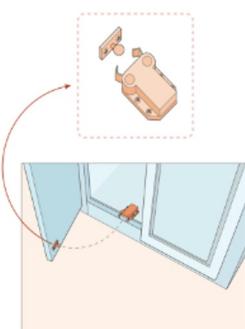


- Earthquake Putty
- Microcrystalline Museum Wax



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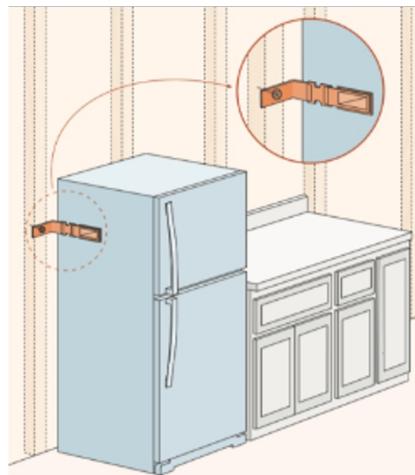
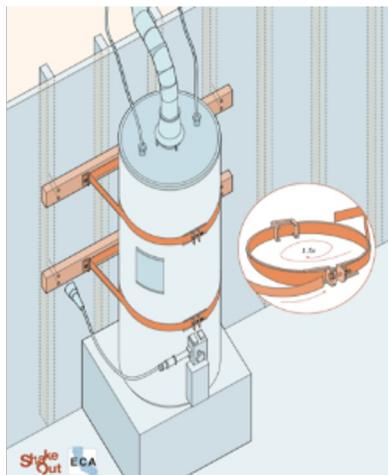
Kitchen Cabinets



Many options are available at hardware stores and online

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Water Heaters and Large Appliances



- Use flexible stainless-steel gas connectors
- Secure large appliances to wall studs



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Secure Your Space Guide & Worksheet

Step 1: Secure Your Space
How to prevent items from falling during earthquakes

Imagine your entire home or workplace being picked up and shaken during an earthquake – even heavy objects can fall or be thrown around! This usually causes the most injuries during earthquakes, and replacing items or repairing damages can also be very costly.

These issues can be prevented through simple actions like securing furniture and other items in place. That's why "Secure Your Space" is Step 1 of the Seven Steps to Earthquake Safety!

Start now by moving tall furniture like bookcases away from beds, sofas, or other places where people spend a lot of time. Move heavy objects to lower locations.

Then continue by securing things such as televisions, dressers, water heaters, cooktops, hanging objects, and other objects, following the instructions within this document. Try securing at least one item every week until you have everything done. You may need to ask others for help or to borrow tools. Perhaps you might help them too. We're all in this together!

Learn more at EarthquakeCountry.org/Step1

How to Secure:

- Tall Furniture
- Televisions/Monitors
- Hanging Objects
- Small Objects
- Refrigerators
- Cabinet Doors
- Storage Racks
- Water Heater

EarthquakeCountry.org/step1

57

Begin to Secure Your Space

TODAY:

Move a heavy object to a lower location

- Review **EarthquakeCountry.org/step1**
- List potential hazards to be secured
- Secure everything in a weekend, or over time
- Show your friends, family, neighbors, etc. to encourage them to *Secure Their Space* (even better... help each other!)

Your Step 1 Action Plan	
What will you secure, and when?	
Item and Location:	When:

Step 2: Plan to Be Safe

BEFORE

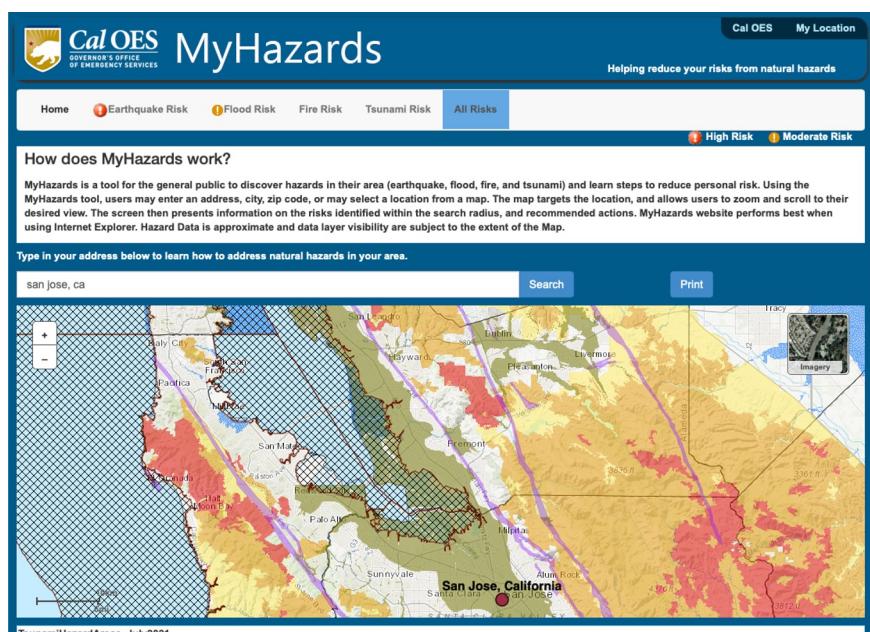
- Create a disaster plan
- Decide how to communicate in an emergency



EarthquakeCountry.org/step2

59

Know Your Hazards



MyHazards.CalOES.ca.gov

60

Why Prepare??

- Disasters can occur anytime, anywhere
- First Responders will not be immediately available
- Preparing is key to maintaining independence



61

Why Prepare?



Utilities may not work

62

Why Prepare?



Roads may be
impassible



Transportation
may be
unavailable

63

Why Prepare?



Grocery stores, pharmacies,
banks, etc. may be closed



Getting accurate information
will be difficult

64

Planning Is Personal

- Make a plan where you spend time
 - Work, school, family or friend's homes
- Assess YOUR situation
- Plan, prepare, practice
 - worst case scenario
- Address YOUR needs & concerns



65

Plan How You Will Extinguish Small Fires

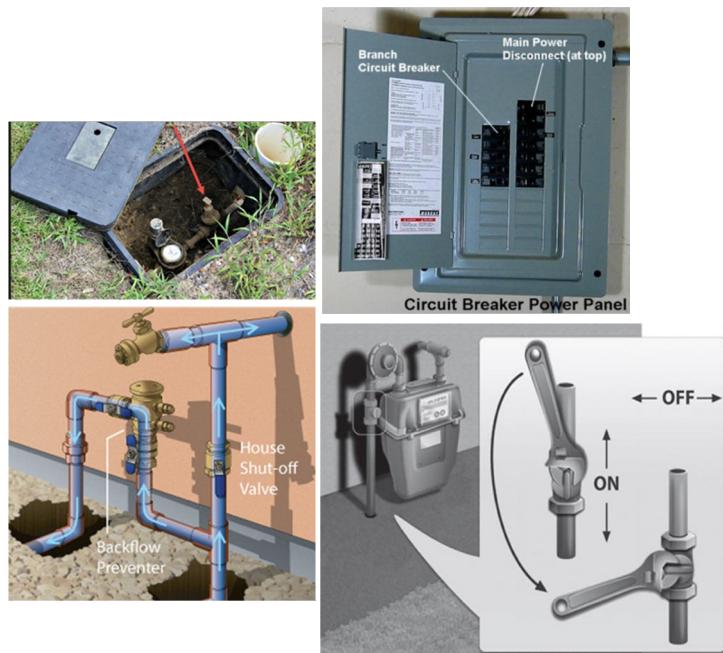
- Get at least one fire extinguisher for your home.
- Your local fire department can train you and your family to use it properly, or you can watch videos online.



66

Plan How You Will Turn Off Utilities (if needed)

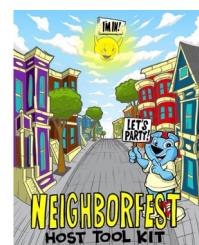
- Know the location of utility shutoffs (gas, water, and electricity)
- Keep needed tools nearby
- Know how to shut them off
- Gas:
 - Only turn off the gas if you smell, hear, or see leaking gas
 - Use wrench and turn $\frac{1}{4}$ way
 - Or have automatic gas shutoff valve installed



67

Take Training/Networking Programs

- Learn about local programs, such as:
 - CERT
 - Map Your Neighborhood
 - Neighborfest
 - Red Cross trainings



68

Plan How To Communicate and Connect

- Choose a meeting place where everyone will go if your home is not accessible.
- Share a list of key contacts (include someone in another area to text or call)
- If you are a person with a disability, identify and include your support network
- Sign up for local emergency text alerts or download alert phone apps.
- Get a NOAA Weather Radio for weather updates or any portable radio for news
- Know your neighborhood Amateur Radio operator – or become one!

Your Step 2 Action Plan *Start with the following:*

Out-of-Area Contact:

Name: _____ Phone: _____

Other Key Contacts:

Name: _____ Phone: _____

Name: _____ Phone: _____

Meeting Place: _____**Other Planning Actions?**

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Step 3: Organize Disaster Supplies

BEFORE

- At home, work, and in your car
- Copies of prescriptions, extra glasses, etc.
- Essentials for 3 days, ideally 2 weeks



Disaster Supplies Checklist

- Choose where you want to store your supplies:
 - Under-Bed bag?
 - Go-Bag?
 - Home?
 - Work?
 - Car?
- What personal items do you need?

Step 3: Organize Emergency Supplies
The Seven Steps to Earthquake Safety

Earthquake Country Alliance

The chart below can help you customize supplies for when and where you need them: **under-bed bag** (immediate supplies), **evacuation** ("go-bag" - 3 days), **home** (2 weeks), and perhaps at **work** and in your **car**. Choose what makes the most sense based on your need and budget. Learn more at EarthquakeCountry.org/step3.

Under-Bed?	Go-Bag?	Home?	Work?	Car?	Item:
<input type="checkbox"/>	Clothing, shoes, hard hat / helmet, gloves				
<input type="checkbox"/>	Whistle				
<input type="checkbox"/>	Flashlight / headlamp				
<input type="checkbox"/>	Dust mask / respirator				
<input type="checkbox"/>	Glasses / contacts				
<input type="checkbox"/>	Tools (gas wrench, shovel, crowbar, knife)				
<input type="checkbox"/>	Contact lists (in-state, out-of-state)				
<input type="checkbox"/>	Copies of ID / important documents				
<input type="checkbox"/>	Batteries, battery pack, & charging cables				
<input type="checkbox"/>	Medications / Copies of Prescriptions				
<input type="checkbox"/>	First-aid supplies and emergency blanket				
<input type="checkbox"/>	Water and food (long shelf-life)				
<input type="checkbox"/>	Portable radio				
<input type="checkbox"/>	Toiletries (sunscreen, tissue, hygiene items)				
<input type="checkbox"/>	Cash (small bills)				
<input type="checkbox"/>	Hospital kit (optional)				
<input type="checkbox"/>	Pet supplies (food, water, toys, leashes)				
<input type="checkbox"/>	Litter / sand (spills, traction)				
<input type="checkbox"/>	Jumper cables, spare tire, inflator, jack				
<input type="checkbox"/>	Flares / road hazard lights				
<input type="checkbox"/>	Personal item				
<input type="checkbox"/>	Personal item				

Choose...
what makes sense for **YOU** and where to keep it!

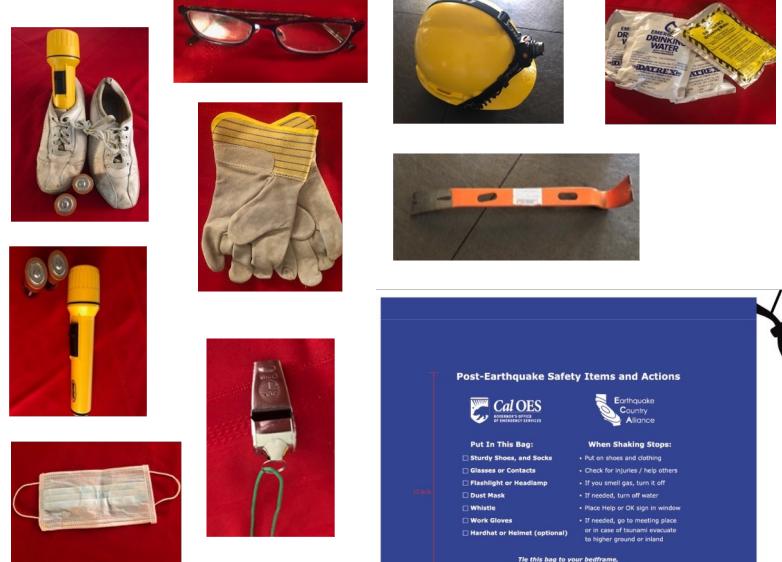
© 2022 Earthquake Country Alliance

EarthquakeCountry.org/step3

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Under-Bed Bags

- Keep **shoes**, socks, and a **flashlight** in a **closed** bag attached to each bed.
- You can also include other items as in this picture.



Prevents...

- Stepping on broken glass, or glass in shoes
- Tripping over objects

Allows you to...

- Exit bedroom safely
- Help injured

Post-Earthquake Safety Items and Actions

Put In This Bag:

- Duct tape
- Flashlight or Headlamp
- Dust Mask
- Whistle
- Work Gloves
- Hardhat or Helmet (optional)

When Shaking Stops:

- Check for injuries / help others
- If you are safe, turn on lights
- Place Help or OK sign in window
- If needed, go to meeting place or in case of tsunami evacuate to higher ground or inland

Tie this bag to your bedframe, so it can be found during shaking stops

Travel  EarthquakeCountry.org 

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Go Bags / Car Kits

- Prescription & critical medications
- Non-perishable food & manual can opener
- As much water as can carry
- Flashlights & batteries or other power
- First aid kit
- Personal health and hygiene needs
- Pet supplies (water, food, leash, carrier)



73

Home Supplies / Stay Kits

- Up to 2 weeks of water, food, and other supplies

1 gallon of water per person or pet, per day, for up to 2 weeks

3 people +1 dog = 4 gallons/day

4 gallons x 14 days= 54 gallons

Under-Bed?	Go-Bag?	Home?	Work?	Car?	Item:
<input type="checkbox"/>	Clothing, shoes, hard hat / helmet, gloves				
<input type="checkbox"/>	Whistle				
<input type="checkbox"/>	Flashlight / headlamp				
<input type="checkbox"/>	Dust mask and goggles				
<input type="checkbox"/>	Glasses / contacts				
<input type="checkbox"/>	Tools (gas wrench, shovel, crowbar, knife)				
<input type="checkbox"/>	Contact lists (in-state, out-of-state)				
<input type="checkbox"/>	Copies of ID / important documents				
<input type="checkbox"/>	Batteries, battery pack, & charging cables				
<input type="checkbox"/>	Medications / Copies of Prescriptions				
<input type="checkbox"/>	First-aid supplies and emergency blanket				
<input type="checkbox"/>	Water and food (long shelf-life)				
<input type="checkbox"/>	Portable radio				
<input type="checkbox"/>	Toiletries (sunscreen, tissue, hygiene items)				
<input type="checkbox"/>	Cash (small bills)				
<input type="checkbox"/>	Maps (local and regional)				
<input type="checkbox"/>	Pet supplies (food, water, toys, leashes)				
<input type="checkbox"/>	Litter / sand (spills, traction)				
<input type="checkbox"/>	Jumper cables, spare tire, inflator, jack				
<input type="checkbox"/>	Flares / road hazard lights				
<input type="checkbox"/>	Personal item _____				
<input type="checkbox"/>	Personal item _____				



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Personalize Disaster Supplies

- Account for dietary needs
- Medical Information list
- Stockpile medications & supplies
- Plan for refrigerated medication
- Label adaptive equipment with your contact information
- Key people know location



What is missing (or needs to be checked?)

Your Step 3 Action Plan
What will you keep in each location?

Under-Bed Bags: _____

Go-Bags: _____

Home or Work Supplies: _____

Step 4: Minimize Financial Hardship

BEFORE

- Organize important documents
- Strengthen your property
- Plan for emergency expenses



EarthquakeCountry.org/step4

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Organize Important Documents

(keep copies in your go-bag or in a secure place online)

IDENTIFICATION	<input type="checkbox"/> Birth, marriage, adoption, and other certificates <input type="checkbox"/> Driver's License, Social Security, Passport, Green Card, Military I.D. <input type="checkbox"/> Pet identification (licenses/tags, photos) and vaccination records
FINANCIAL	<input type="checkbox"/> Checking, savings, retirement, and investment account info <input type="checkbox"/> Lease or rental agreement, deed/title, mortgage info <input type="checkbox"/> Vehicle payment info, registration, title <input type="checkbox"/> Utility bills, credit cards, student loans, etc. <input type="checkbox"/> Homeowners/renters, auto, life, earthquake, flood Insurance <input type="checkbox"/> Photos and lists of belongings (for insurance claims)
MEDICAL	<input type="checkbox"/> Health/dental insurance, Medicare, Medicaid, VA health benefits <input type="checkbox"/> Lists of medications, immunizations, allergies, prescriptions, etc. <input type="checkbox"/> Living will, medical power of attorney
CONTACT INFO	<input type="checkbox"/> Family, neighbors, friends (including an "out of area" contact) <input type="checkbox"/> Employers, supervisors, employees, colleagues <input type="checkbox"/> Schools, childcare, elder care <input type="checkbox"/> Doctors, dentists, veterinarians, social service providers

EarthquakeCountry.org/step4

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Strengthen Your Property

- Home retrofit guidance is available for several vulnerable home types at:

StrengthenYourHouse.com

- Wood-framed, pre-1980 homes with raised foundations and crawl spaces
 - Wall framing is bolted to the home's foundation and vertical walls in the crawl space are braced with plywood
 - Visit **EarthquakeBraceBolt.com** to learn about grants up to \$3000
- Pre-2000 homes with a living space above the garage
 - Typically, a new steel beam, or a pre-manufactured shear wall system will be installed to reinforce the front of the garage
 - Visit **EarthquakeSoftStory.com** to learn about possible grant programs
- Hillside Homes
- Mobilehomes and Manufactured Homes
- Chimneys and Fireplaces

- Many cities are requiring retrofit of other vulnerable buildings, including some types of apartment buildings and commercial buildings.

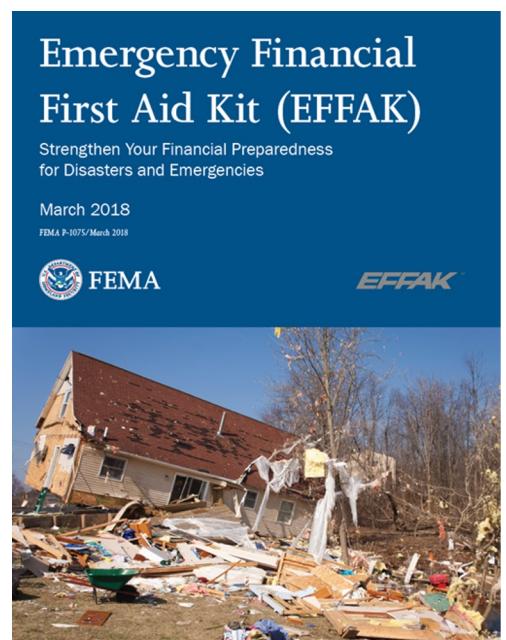


79

Plan for Emergency Expenses

- Keep a small amount of cash at home in a safe place
- Have an emergency savings account
- Consider earthquake insurance (homeowners, renters, commercial)
- Download FEMA's *Emergency Financial First Aid Kit (EFFAK)*

ready.gov/financial-preparedness



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What Will You Do Now to Minimize Financial Hardship later?

Your Step 4 Action Plan

What will you do next?

Organize Documents: _____

Strengthen Property: _____

Emergency Expenses: _____

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Step 5: Drop (Lock), Cover and Hold On

DURING

- When the earth shakes, act immediately
- Protect yourself from falling to the ground, or from falling objects



EarthquakeCountry.org/step5

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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

83

Adapt to Your Situation

- 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 often
- EarthquakeCountry.org/step5

If You Feel Shaking or Get an Alert:



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 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 for advice for a variety of settings

Know How to Protect Yourself

In *most* situations and building types:



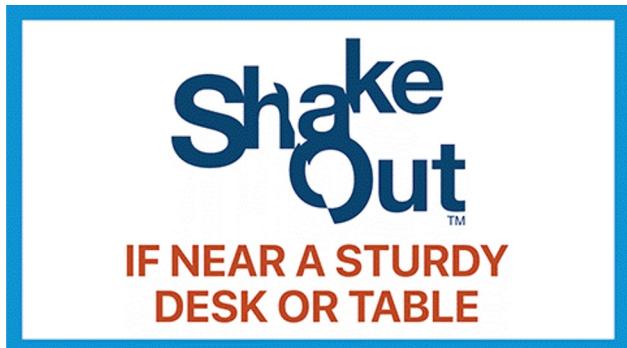
Hold On to your shelter until shaking stops

- 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 for advice for a variety of settings

Earthquake Safety Video Series



- Separate short (1-8 min) videos:
 - indoors, nearby table/desk
 - indoors, no table/desk
 - theater/stadium
 - near the shore
 - in a car
 - in bed
 - for users of mobility devices/aids
- View full videos at Youtube.com/greatshakeout
- Download full videos at ShakeOut.org/messaging



IF USING A CANE

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IF USING A WHEELCHAIR

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IF USING A WALKER

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IF YOU'RE IN BED

92

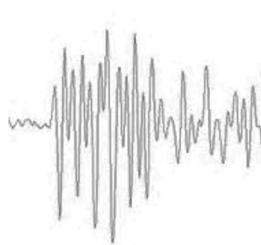
When Should You Protect Yourself?



When You Get an Earthquake Early Warning



When You Feel Earthquake Shaking



When You Do an Earthquake Drill

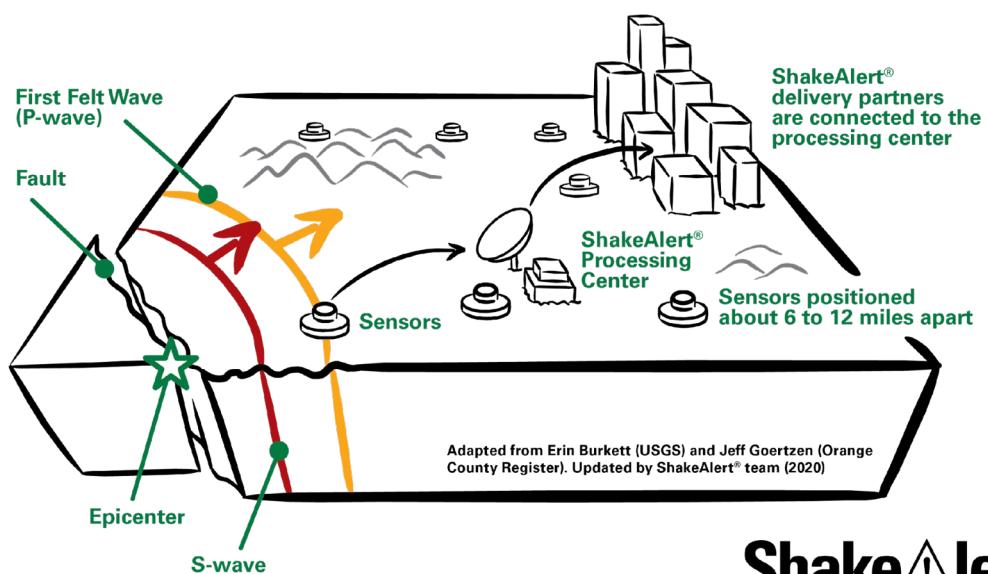
Get Ready to ShakeOut.
ShakeOut.org
Register: ShakeOut.org

ShakeOut.org
2026: October 15

93

Earthquake Early Warning

- Detects an earthquake as it begins
- Rapidly estimates ground-motion patterns
- Issues alerts to locations expected to experience significant shaking



ShakeAlert™

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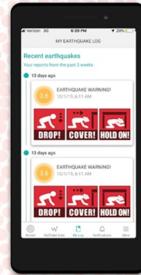
Earthquake Warning California

Earthquake Early Warnings
Now Available through Wireless
Emergency Alerts (WEA)



Magnitude = **5** or greater
and
Intensity at your location =
greater than **IV**

Download the **MyShake**™
Earthquake Early Warning App.



Magnitude = **4.5** or greater
and
Intensity at your location =
greater than **III**

earthquake.ca.gov

Great ShakeOut Earthquake Drills

- Annual opportunity for schools, organizations, and families to practice earthquake safety and other aspects of their emergency plans
- 2026 International ShakeOut Day: **October 15**
- Learn more and register: [**ShakeOut.org**](http://ShakeOut.org)
- **10.5 million** registered in 2025
- How to participate, guides, etc.: [**ShakeOut.org/howtoparticipate**](http://ShakeOut.org/howtoparticipate)

**Shake
Out**
TM



Everyone Can ShakeOut



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Example ShakeOut Resources

Get Ready to ShakeOut.



Plan to Practice

Your Step 5 Action Plan

Who will you practice with and when?

People at home:

When:

People at work:

When:

Other groups:

When:

Step 6: Improve Safety

DURING

- Evacuate if necessary
- Help the injured
- Prevent further injuries or damage



Evacuation (If Needed)

- If there is **building damage, a fire, or other hazard**, safely go to your planned meeting place (Step 2).
- If you feel shaking and are **near the coast**, move to higher ground once you can safely move. Tsunami waves can arrive within minutes. Distant-source tsunamis may have official alerts and more time to evacuate. Learn more at **TsunamiZone.org**.
- Remember to bring your Go-Bag!



EarthquakeCountry.org /step6

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Help the Injured & Prevent Damage

Help the injured:

- Check your first aid kit for instructions or a first aid app.
- Ask permission before helping someone else.
- If someone is bleeding, put direct pressure on the wound.
- If someone is not breathing, provide hands-only CPR
- Do not move a seriously injured person unless there is danger of further injury.
- Call 9-1-1 to request medical help for serious injuries.

Prevent further damage:

- Move or secure items that may fall during aftershocks.
- Use a fire extinguisher for small fires only.
- Shut off the gas only if you smell or hear a gas leak.
- Use flashlights instead of lighting candles or matches.

Your Step 6 Action Plan

*What will you do **now**, so you can improve safety **after**?*

EarthquakeCountry.org/step6

Step 7: Reconnect and Restore

AFTER

- Restore daily life
- Reconnect with others
- Repair damage
- Rebuild community



EarthquakeCountry.org/step7

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Step 7: Reconnect and Restore

The first weeks after the earthquake:

- If your gas was turned off, contact the gas company
- Visit **FEMA.gov/assistance** to learn what might be available.
- If you need repairs, check that contractors are licensed.
- Talk with others about how they are feeling, and help them seek counseling if needed.

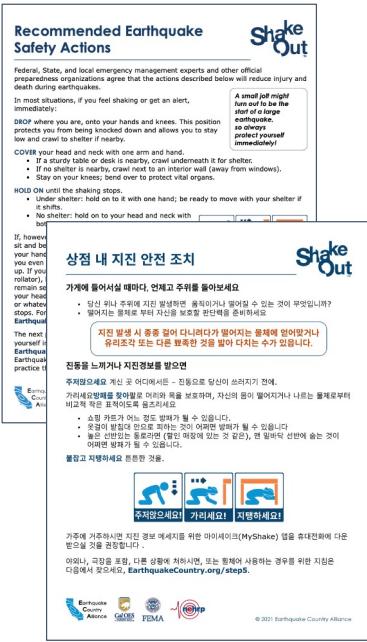
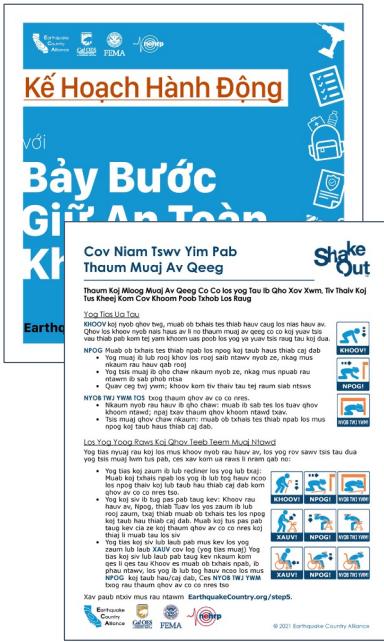
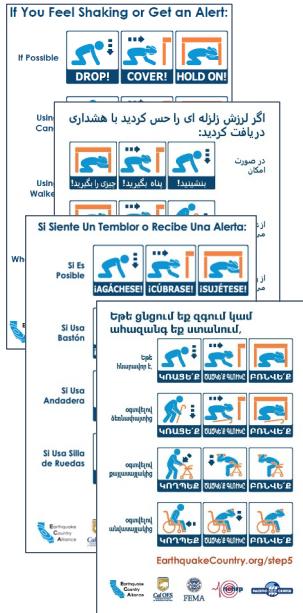
If you cannot stay in your home:

- Shelters may be overcrowded; staying with friends or family, or in a hotel, may also be options.
- Tell a neighbor and out-of-area contact your location.
- Only take your Go-Bag and essential items to a shelter.
- Have a plan for pets in case they cannot stay with you.

Your Step 7 Action Plan

*What else might you do **now** to speed your recovery? _____*

Safety Guidance in 16 Languages



EarthquakeCountry.org/languages

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Together We Prepare

- Start preparing *TODAY!*
- Share information with your family, friends, colleagues, personal support team, and other communities
- Become engaged in community preparedness groups & other stakeholder opportunities



Connect with ECA

- EarthquakeCountry.org/bayarea
- bayarea@earthquakecountry.org
- Terremotos.org
- X.com/eca
- Facebook.com/earthquakecountryalliance
- Instagram.com/earthquakecountryalliance
- info@earthquakecountry.org



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Q & A

Join ECA (free) be notified of future events, etc.
EarthquakeCountry.org/join

Questions?
info@earthquakecountry.org

Please complete our
brief workshop survey:
SurveyMonkey.com/r/5RQT7QF



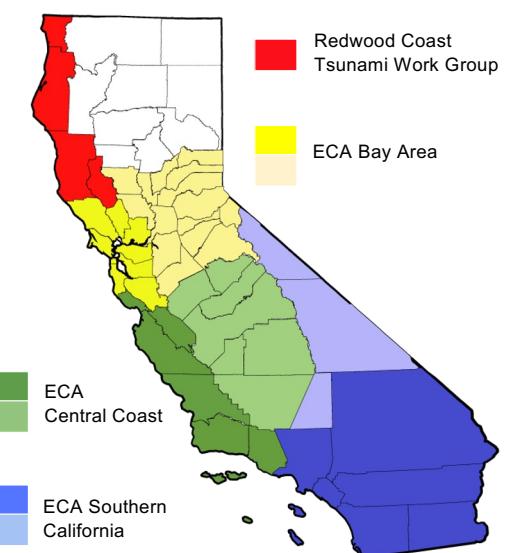
ECA Activities & Opportunities

Mark Bentien
Statewide California Earthquake Center (USC)
ECA Executive Director

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Earthquake Country Alliance

- 4000+ *Public-Private-Grassroots* leaders
- **Statewide committees** develop resources and deliver programs
- **Regional Alliances** organize meetings and outreach activities
- California's Office of Emergency Services provides FEMA NEHRP funding for ECA earthquake mitigation activities
- USC's Statewide California Earthquake Center (SCEC.org) administers ECA



Join: EarthquakeCountry.org/join



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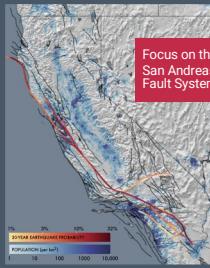
Statewide California Earthquake Center

A collaborative research and education hub that brings together experts across geoscience and related fields

SCEC's mission is to develop and share cutting-edge earthquake system science to enhance California's resilience and to educate and inspire future scientists.

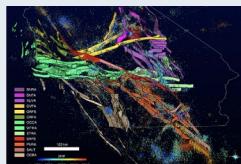
SCEC is a consortium of more than 90 institutions and a **community of over a thousand individuals**, guided by diverse leadership teams to fulfill the Center's mission.

SCEC's Natural Laboratory and Study Area



Focus on the San Andreas Fault System

Earthquake System Science and Innovation



SCEC integrates new research and technologies to enhance predictive system-level models and simulations to synthesize knowledge and quantify seismic hazards.

Education and Workforce Development



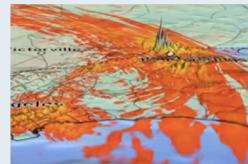
SCEC prepares the next generation of scientists through transformative research experiences, community building, and professional skills development.

Outreach and Community Engagement



SCEC engages stakeholders across geoscience and related fields through workshops, drills, and collaborations to advance earthquake science, education, and preparedness.

Earthquake Preparedness and Risk Reduction



SCEC bridges the gap between cutting-edge science and preparedness for a more resilient California, through education, research, and more realistic earthquake simulations.

www.SCEC.org

 U.S. National Science Foundation

 USGS
science for a changing world

 U.S. DEPARTMENT OF ENERGY



 FEMA

 Cal OES
GOVERNOR'S OFFICE OF EMERGENCY SERVICES

 PG&E

 USC

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ECA Statewide Activities

Develop Messaging and Resources:

EarthquakeCountry.org
EarthquakeCountry.org/resources
Terremotos.org



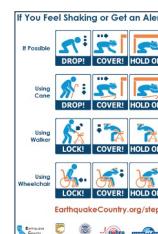
Support Tsunami Preparedness Week:
TsunamiZone.org/california



**March
21-29,
2026**

*Created and Coordinate
The Great California ShakeOut:*
ShakeOut.org/california

**Shake
Out**TM



**Oct. 15,
2026**

Webinars & other events
EarthquakeCountry.org/calendar

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ECA Outreach Bureaus (Regional & Statewide)

- **Events Bureau**

- Speakers for online/in-person events – **Join us!**
- Booths and tables at events
- Request presenter or information table:
EarthquakeCountry.org/eca-events



- **Participation Bureau**

- ShakeOut and Tsunami Week recruitment and communications
- County/City Partners for local engagement



- **Communications Bureau**

- Statewide and local coordination
- Media event planning
- Year-round messaging / news releases
- Post-earthquake shared messaging

ECA Mini Awards

- **Purpose:** provide materials for ECA member projects that improve earthquake resilience by promoting mitigation, awareness, and preparedness, and multiply impact of programs
- **Purchases:** \$500 to \$1000 each
- **Eligibility:** Proposals for earthquake **mitigation** and **education** activities
- **New packages:** For 2026 you'll be able to fully customize the materials for your project (furniture straps, printed materials, etc.)
- **Next Application Period:** Spring 2026
- **Join ECA** so you will be notified (EarthquakeCountry.org/join) – free!

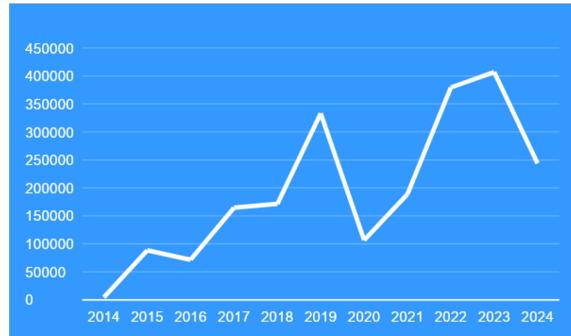
ECA SoCal 2025 Mini Award Recipients

Healing Urban Barrios	2 furniture & file cabinet anti-tip fasteners, 1 tall storage cabinet fastener, 5 storage rack fastening kit, 1 tv straps, 8 home electronic straps, 3 table top equipment fastening system, 3 quakeHOLD! Putty
Corona Norco Unified School District Safety and Security	10 furniture straps, 5 bookcase and storage straps, 8 file cabinet straps, 5 tabletop equipment fastening system, 2 floor copier and laser printer fasteners, 5 QuakeHOLD! Gel
Corona Ranch Elementary	8 furniture bookcase & file cabinet anti-tip fasteners, 2 floor copier & laser printer fasteners, 2 standard refrigerator fasteners, 8 quakeHOLD gel
Dr. Augustine Ramirez Intermediate School	2 furniture straps, 3 floor copier, 3 standard refrigerator fasteners, 20 quakeHOLD! Putty, 10 a-maze-ing picture hooks
Ocean Hills Country Club Safety & Emergency Response Team Club	50 quakeHOLD! Putty, 25 quakeHOLD! Gel
Food for People Inc.	10 furniture straps, 12 file cabinet strap, 7 storage rack fastening kit
Chámmakilawish Pechanga School	5 furniture straps, 5 bookcase and storage straps, 5 file cabinet straps, 2 Seismolatch deluxe automatic cabinet latches, 2 QuakeHOLD putty, 2 QuakeHOLD Gel
Simi Valley Office of Emergency Services	2 tv straps, 3 home electronic straps, 1 Seismolatch automatic cabinet latch, 10 QuakeHOLD! putty, 10 QuakeHOLD! gel
First Congregational Church of Bakersfield	10 bookcase/storage straps, 4 file cabinet straps, 1 furniture bookcase/file cabinet fastener, 2 storage rack fastening kits, 2 tabletop equipment fastening systems, 2 cabinet door earthquake latches
High Desert Emergency Action Alliance	35 furniture straps, 15 bookcase and storage straps
kulturspace	25 water heater straps

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California Tsunami Preparedness Week

- 2025: 434,000!**
- 2026 Goal: 500,000 Participants (year-long)**
- Simple actions to register your group:
 - Provide tsunami messaging to your employees, customers, etc. from TsunamiZone.org and @thetsunamizone (X, FB, IG)
 - Hold a Tsunami Walk
 - Conduct a discussion-based exercise
- Encourage large employers, universities, school districts to have activities or share guidance, and then register!



TsunamiZone.org/california

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Quake Heroes



- 54-minute documentary featuring stories of people who experienced the 1994 Northridge earthquake in Los Angeles, and how they helped others
- Key moments tied to the *Seven Steps to Earthquake Safety*
- Scientists and engineers share how they informed the public about what happened, inspected damage, and learned lessons for reducing future losses.
- Encourages viewers to become trained (CERT, CPR, etc.) so they are prepared to help others
- A model for communicating risk and motivating whole community preparedness and mitigation
- Production sponsored by FEMA, NSF, USGS, Structural Engineers Association of Southern California, Simpson Strong-Tie, Hero in You Foundation, Safe-T-Proof, and others



**RETROSPECTIVE
INTERVIEWS**



**ARCHIVAL NEWS
FOOTAGE**



**CINEMATIC
RE-ENACTMENTS**

QuakeHeroes.org

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Quake Heroes Events

- Organized to motivate preparedness actions by large community groups, businesses, local governments, and their members, employees, and constituents.
- Events may include panel discussion before the film with local leaders, scientists, engineers, etc.
- *Quake Heroes Expos*: After viewing the film, attendees explore a **Seven Steps to Earthquake Safety** resource and information fair where they can:
 - register for CERT and other trainings
 - receive free or low-cost disaster supplies & earthquake safety fasteners
 - learn about earthquake insurance & retrofitting
 - sign up for alerts
 - experience an earthquake simulator

Interested? Email info@quakeheroes.org

CITY OF MURRIETA

QUAKE HEROES

FILM+EXPO

March 15, 9 a.m. - 1 p.m.

**Murrieta Public Library
Community Room & Garden**

Register to Attend (free) at
EarthquakeCountry.org/murrieta

**8 Town Square
Murrieta**

Watch an inspiring film based on true stories!

Discounts on earthquake preparedness supplies!

Program starts at 9:15 a.m.

Ride an earthquake simulator!



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Q & A

Join ECA (free) be notified of future events, etc.

[**EarthquakeCountry.org/join**](http://EarthquakeCountry.org/join)

Questions?

[**info@earthquakecountry.org**](mailto:info@earthquakecountry.org)

Please complete our
brief workshop survey:

[**SurveyMonkey.com/r/5RQT7QF**](http://SurveyMonkey.com/r/5RQT7QF)



**Please
Complete Our
Workshop
Survey**



[**SurveyMonkey.com/r/5RQT7QF**](http://SurveyMonkey.com/r/5RQT7QF)

Short Announcements from Attendees (3-4 minutes each)

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What is something that you:

learned
will do
will use
will tell others

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Connect with ECA

- EarthquakeCountry.org
- EarthquakeCountry.org/socal
- Terremotos.org
- X.com/eca
- info@earthquakecountry.org

