

Welcome!



Earthquake
Country
Alliance

ECA Bay Area
Spring 2023 Workshop

Ice-Breaker Discussion:

What have you done to encourage preparedness in your neighborhood?

1

ECA Bay Area Coordinating Committee Co-Chairs

Daniel Homsey

City and County of San Francisco

Ray Bonilla

Elevance Health

Dena Gunning

Central County Fire Department

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ECA Bay Area Coordinating Committee

- Coordinating Committee Chairs: **Ray Bonilla**, Elevance Health
Dena Gunning, Central County Fire Dept. (San Mateo County)
Daniel Homsey, City and County of San Francisco NEN
 - Communications Coordinator: **Susan Garcia**, USGS
 - Events Bureau Coordinators: **Chief David Cosgrave**, Coastside Fire Protection District
Kacey Treadway, Santa Clara County
 - Media Bureau Coordinator: **Open Position**
 - Membership Coordinator: **Wendi Ellis**, US Department of Health and Human Services
 - Participation Bureau Coordinator: **Theresa Langdon**, Alameda County Office of Emergency Services
 - Regional Workshops Coordinator: **Jeff Airth**, SFO
- SCEC Liaison for ECA Bay Area: **Gaby Noriega (USC/SCEC)**
bayarea@earthquakecountry.org

Each Coordinator welcomes additional members of their committee!

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Today's Agenda

Welcome from the ECA Bay Area Chairs
Dena Gunning

Participant Self-Introductions
You!

Thrive RISE: A Coalition of Community Organizations Active in Disaster (COAD)
Ana Miscolta (Thrive RISE)

Resilient Alice Griffith Project
Daniel Homsey (City and County of San Francisco) &
Neal Hatten, Bayview Senior Services

Overview of National CERT Conference and related Activities
Dena Gunning (Central County Fire Department)

Quake Break
Max Schneider (USGS)

ECA Updates and Opportunities
Mark Benthien (ECA Executive Director)

Open Discussion, Sharing, and Networking

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Self Introductions

Name

Organization or Community

5

***Thrive RISE: A Coalition of
Community Organizations Active in
Disaster (COAD)***

Ana Miscolta
Thrive RISE

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Community Organizations Active in Disaster (COAD) in San Mateo County



COADs are networks of nonprofits, government, and private sector that work together to respond to community needs before, during, and after disasters

- **Thrive RISE**
- **Coastside Emergency Action Program (CEAP)**
- **South County COAD**

*Shared resources
and services*

*Avoidance
of duplicative
efforts*

*Better
communication of
community needs*

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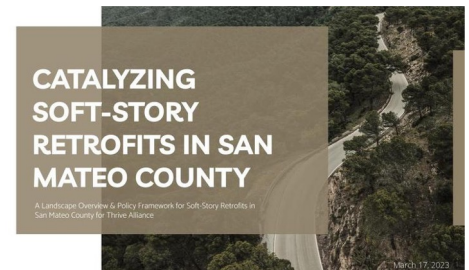
Thrive RISE "Blue Skies" Activities Snapshot

- Monthly Meetings
- Newsletter
- Trainings
- Research & Advocacy
- Secure Your Space
- Disaster Outreach and Education



Thrive RISE on Earthquake Resilience: Soft Story Retrofit Education/Advocacy

- Two research partnerships with Stanford Public Policy program to explore soft story issue in San Mateo County
- Policy briefings with elected officials and planning departments across county in partnership with SPUR
- Support for SB 189/AB 1505 to allocate state funding to soft story retrofits across CA



Thrive RISE on Earthquake Resilience: ECA Mini Awards

- \$1000 'secure your space' materials to install at San Mateo County nonprofits
 - 7 interested nonprofits serving community members with higher vulnerability to earthquakes
- Partnership with Team Rubicon to support installation
- First installation is tomorrow!



Event triggering emergency or disaster



County requests COAD activation

or

COAD self-activates



Within 72 hours:

- Situational updates to COAD partners via email or meeting
- Initial requests for information and resources



ACTIVATION PROTOCOL

Shifted programming within organizations

Collective advocacy

Formation of task forces

Sourcing and deployment of volunteers

Community messaging and alerts

Resource and service sharing and referrals





Lessons Learned Systemic

- Flooding occurs well outside mapped floodplains. Need better understanding of actual flood risk and to promote mitigation/insurance
- Need for consistent emergency resources across jurisdictions (TEPs, sandbags, publishing numbers for residents to call)
- Integrate community resilience hubs and other resources into emergency planning
- Nonprofit coordination for expanded services/hours during emergencies

San Mateo RCD

Thrive RISE Monthly Meeting

Last Wednesdays
10:00 - 11:30 am





NORTH FAIR OAKS

**PERSONAL SAFETY
PREPAREDNESS DAY**

SATURDAY, JULY 15
10:00AM - 2:00PM
CASA CIRCULO CULTURAL
3090 MIDDLEFIELD RD, REDWOOD CITY

- Family-friendly workshops
- Exciting safety demonstrations
- Discussions with emergency response experts
- Classes are in English and Spanish
- Food will be provided
- All ages welcome
- FREE event

For more information:
Kevin Foiles | kfoiles@smcgov.org | 650-454-5071



NORTH FAIR OAKS

**DÍA DE PREPARACIÓN PARA
LA SEGURIDAD PERSONAL**

SÁBADO 15 DE JULIO
10:00AM - 2:00PM
CASA CIRCULO CULTURAL
3090 MIDDLEFIELD RD, REDWOOD CITY

- Talleres para toda la familia
- Demostraciones divertidas sobre la seguridad
- Discusiones con expertos en respuestas de emergencia
- Las clases serán en inglés y español
- Habrá comida
- Todas las edades son bienvenidas
- Evento GRATUITO

Para más información:
Kevin Foiles | kfoiles@smcgov.org | 650-454-5071



Questions? Thank you!
ana@thrivealliance.org

Q&A

To be notified of future events and recordings, join ECA (free!):
EarthquakeCountry.org/join

Questions? info@earthquakecountry.org

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Resilient Alice Griffith Project

Daniel Homsey

City and County of San Francisco

Neal Hatten

Bayview Senior Services

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empowered
communities program



“Advancing Equity in Our Pursuit of Resilience”

Powered by:



For More Information Visit Empowersf.org or contact Daniel.Homsey@sfgov.org

A city aging in place



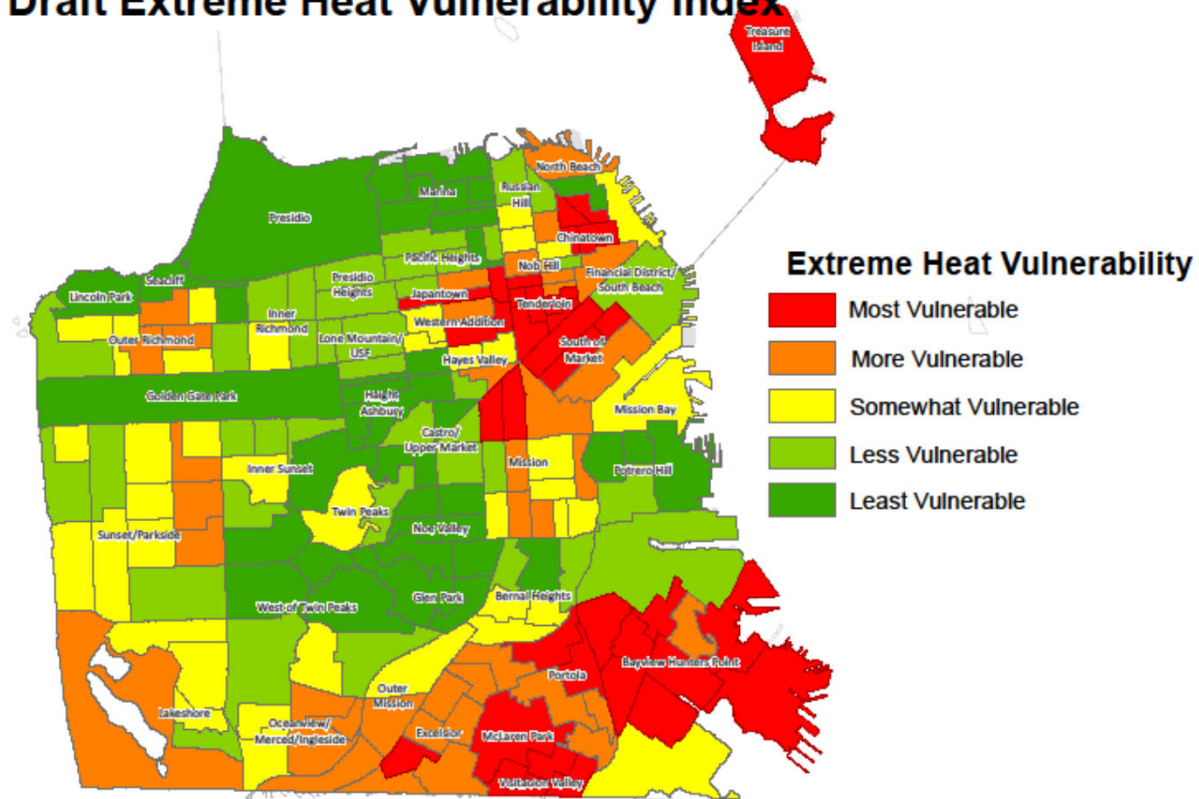
Today more than 190,000 seniors over the age of 60 live in San Francisco.

Today nearly 30% of seniors currently live alone...

By 2030, 27% of San Francisco residents will be 60 years old or older.

In other words, nearly 1 in 3 residents.

Draft Extreme Heat Vulnerability Index



San Francisco Department of Public Health
Climate and Health Program
01/17/2019

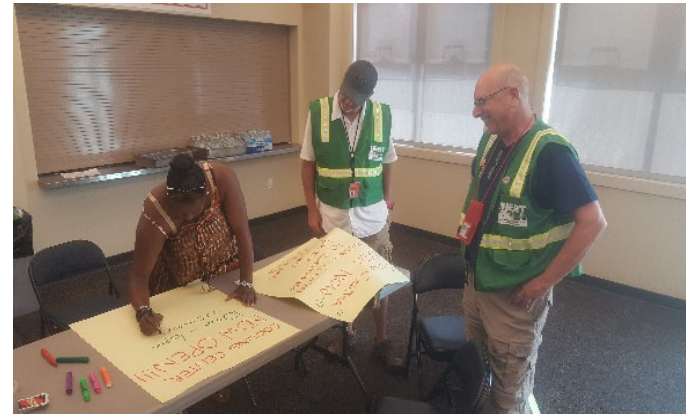


Our inv

atagey...



2017 Labor Day Weekend YMCA Cooling Center Heatwave Activation





Resilient Bayview Heatwave Resilience Project Overview



Objective 1: Engage Community Stakeholders

Convene workshops, community events and trainings that bring together essential stakeholders agencies and vulnerable populations around the mission of health and resilience.





the BRT

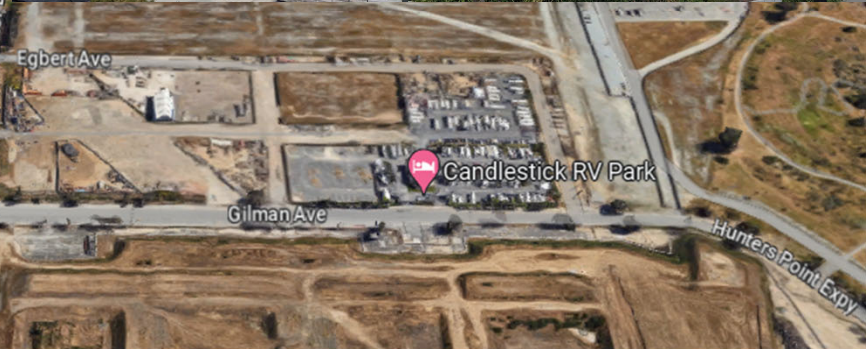
The Building Response Team

“The Ultimate Neighbor to Neighbor Disaster Response System”

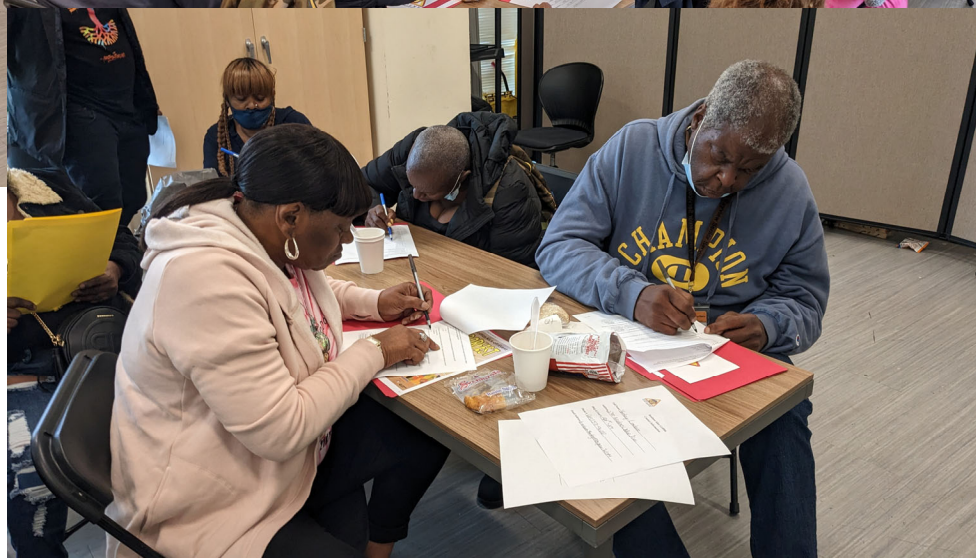
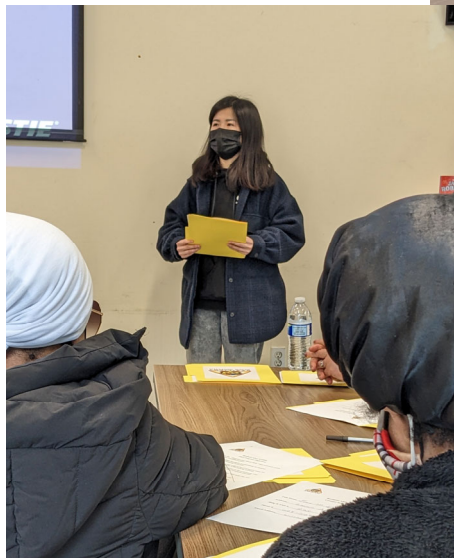




**RESILIENT
ALICE GRIFFITH**



R.A.G. Launch Meeting – May 4th, 2023



Resilient Alice Griffith Kick-off Event

NEIGHBORFEST

FOOD | FUN GAMES & PRIZES
HANDS-ON READINESS TRAINING

10 am - 2 pm
Saturday May 13, 2023
2600 Arelious Walker Dr.

nen empowersf.org

SFDEM

RESILIENT ALICE GRIFFITH

CALIFORNIA Office of the Governor

Earthquake Country Alliance

LIVABLE CITY

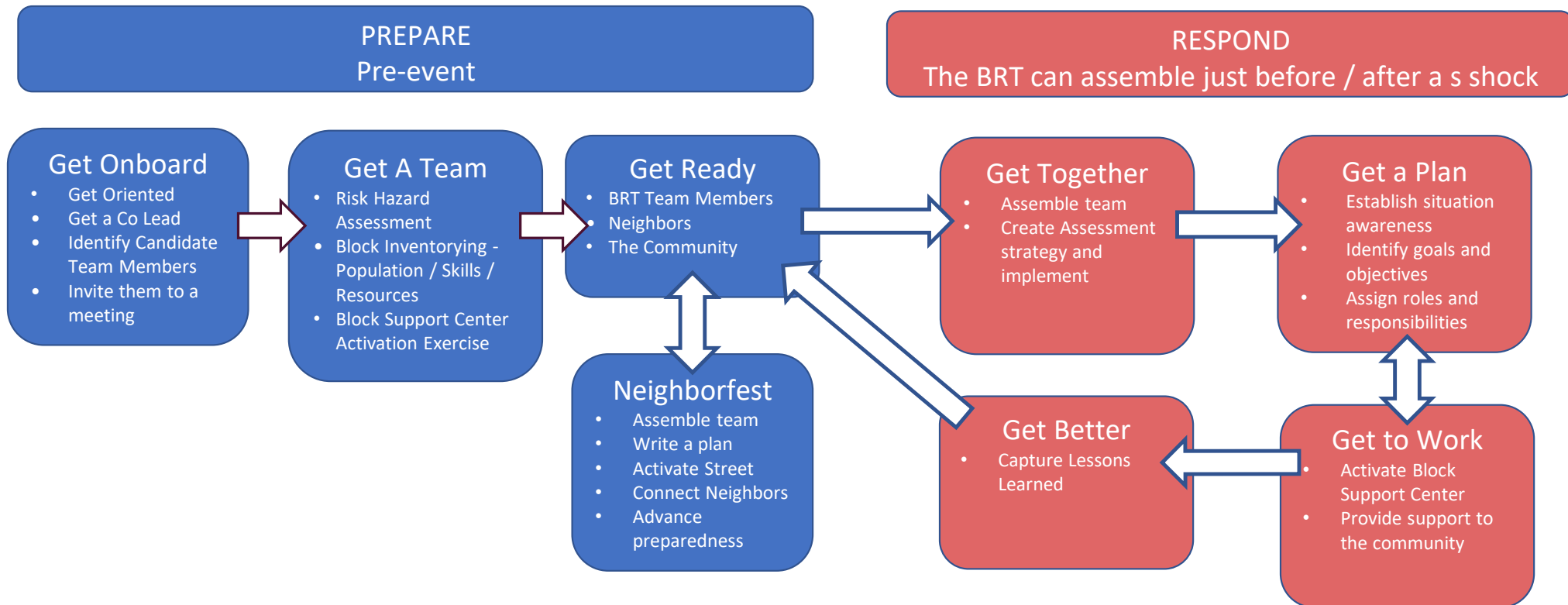


First R.A.G. Building Response Team Training

<p>Central Shelter (Up to 150 People)</p>	<p>Run Your Resilientville </p>	<p>Mass Feeding (Up to 500 People)</p>
		
<p>Vulnerable Populations</p>	<p>Impacts to Vulnerable Populations</p>	
<p>Gaps</p>		<p>Gaps</p>

The NEN Building Response Team Dev Process:

The NEN Strong Block program offers residents with a step-by-step process for responding to times of stress in an organized and results oriented manner.



The Building Response Team Activation Process:

Option 1: The Team is given notice of an impending shock



Option 2: The Team is given no notice of a shock





**RESILIENT
ALICE GRIFFITH**

Q&A

To be notified of future events and recordings, join ECA (free!):
EarthquakeCountry.org/join

Questions? info@earthquakecountry.org

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Overview of National CERT Conference and related Activities

Dena Gunning
Central County Fire Department

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2023 National CERT Conference

- **DATES:**
Pre-Conference: June 26-28
Conference: June 29 - July 1
- **LOCATION:**
Hyatt Regency SFO
(Burlingame)
- **REGISTRATION:**
\$675 Full Conference
\$575 Without Pre-Conference

Volunteers paying for registration personally can email info@nationalcert.org to request a 50% discount.

- **NationalCERT.org**



2023 NATIONAL CERT CONFERENCE

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Conference: June 29th - July 1st

LOCATION:
Hyatt Regency SFO
San Francisco Bay Area

REGISTRATION:
\$675 Full Conference*
\$575 Without Pre-Conference*
*\$50 early bird discount if registered by April 28th. Prices are inclusive of all taxes and fees.
Are you a volunteer and are paying for your registration out of pocket? Email info@nationalcert.org to request a 50% discount.

WHY YOU SHOULD ATTEND:

- Training Opportunities
- Professional & Personal Development Opportunities
- Learn how to make your CERT program more inclusive
- National CERT Conferences only happen once a year!

CONFERENCE HIGHLIGHTS:

- First National CERT Skills Competition
- Meet & network with attendees from over 40 States & Territories
- EMI L deliveries of CERT Train-the-Trainer and Program Manager
- TEEEX Training
- Cal OES CSTI Training
- FEMA supplemental CERT modules



2023 National CERT Conference

- **WHY ATTEND:**
 - Training Opportunities
 - Professional & Personal Development
 - Learn how to make your CERT program more inclusive

HIGHLIGHTS:

- First National CERT Skills Competition
- Attendees from over 40 states/territories
- CERT Train-the-Trainer & Program Manager 3-day trainings (English/Spanish/Chinese)
- Cal OES CSTI Training
- FEMA supplemental CERT modules
- more!



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- FEMA supplemental CERT modules



Trainings (tentative) to be offered during Pre-Conference, June 26 - 28, 2023

CERT Exercise

- CERT Skills Competition
- Task Book Sign off
- How to conduct Task Book Sign off
- How to plan and execute CERT Exercises, Disaster Simulation, and refresher drills

3-Day Training

- CERT Master Instructor
- L0428 CERT Train-the-Trainer in English
- CERT Train-the-Trainer in Mandarin
- CERT Train-the-Trainer in Spanish
- L0427 CERT Program Manager
- TEEEX PER 123 Wide Area Search

A La Carte Training

- Advanced Program Manager Workshop
- Agency Emergency Preparedness
- CERT Animal Response I and II
- CERT Donations Management Support Training
- CERT Emergency Communications
- CERT Firefighter Rehab
- CERT Tools for Leadership Success
- CERT Traffic and Crowd Management
- CERT TTT Annex for Teen CERT Instructor
- Continuity of Operations Planning
- Faith Based & Religious Literacy
- First Aid/CPR
- Flood Response for CERTs
- G288/489 Volunteer and Donations Management and Management of Spontaneous Volunteers during a Disaster
- Ham and Cram
- Personal Emergency Preparedness/ICS for Community Responders
- Psychological First Aid
- Red Cross Shelter Training
- Responding to the Disabilities and Access & Functional Needs Community
- TEEEX AWR 136 - Essentials of Community Cybersecurity
- TEEEX MGT 384 - Community Preparedness for Cyber Incidents
- You are the Help Until Help Arrives

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Q&A

To be notified of future events and recordings, join ECA (free!):
EarthquakeCountry.org/join

Questions? info@earthquakecountry.org

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Quake Break: Bay Area Seismic Activity since last ECA Workshop

Dr. Max Scheneider
United States Geological Survey (USGS)

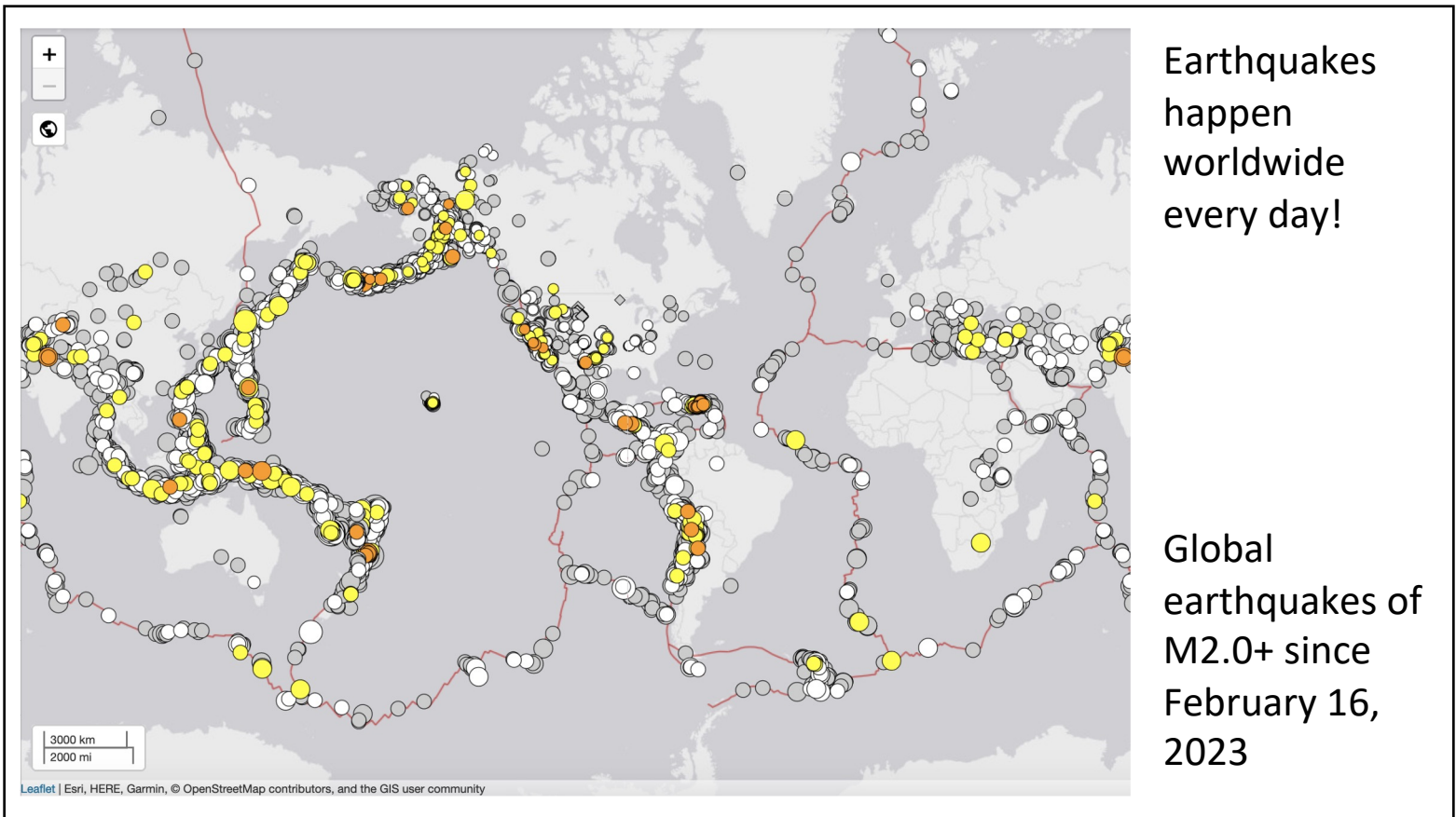
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Quake Break

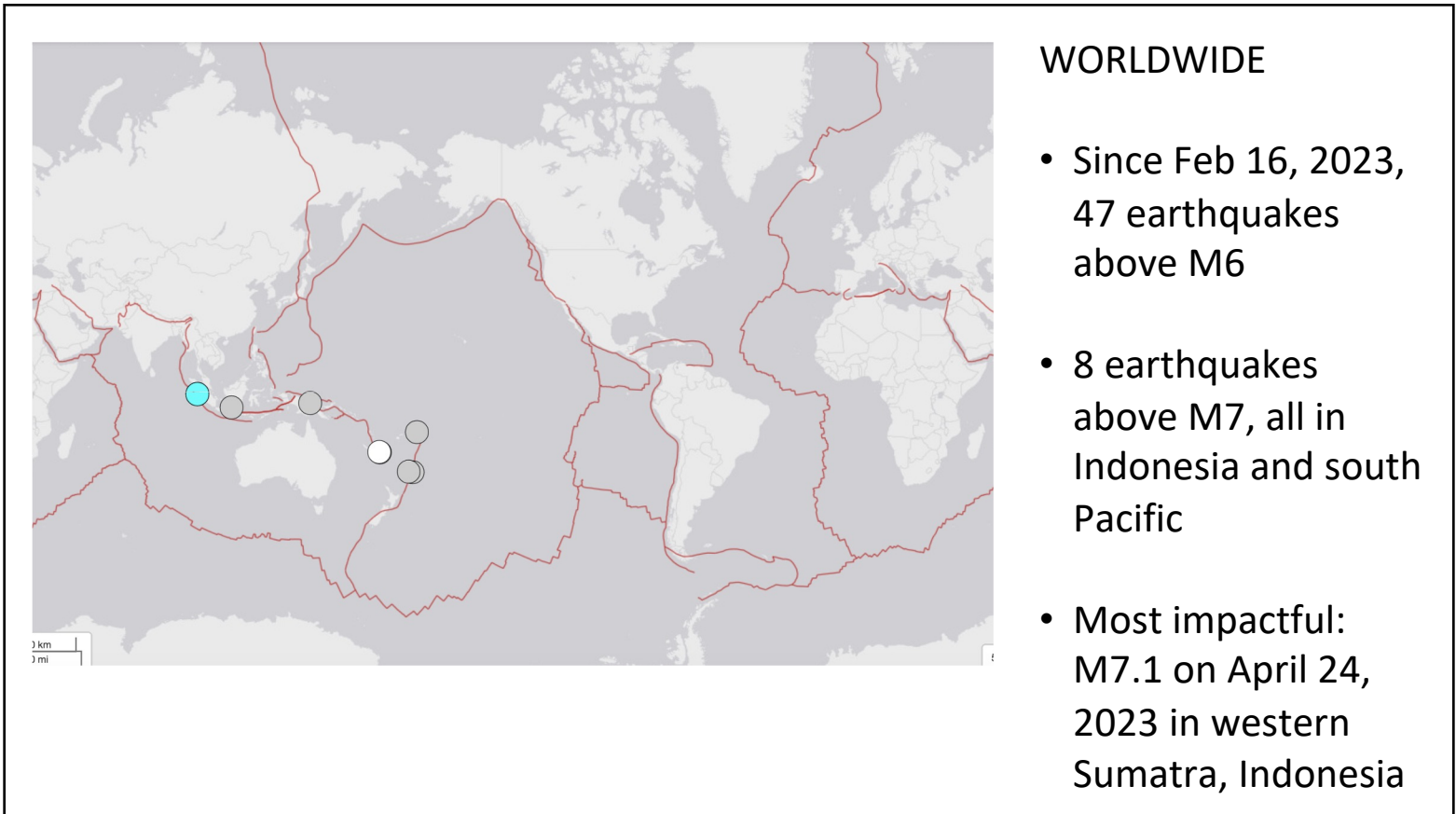
Max Schneider
Research Statistician
USGS Earthquake Science Center
Moffett Field, CA

June 15, 2023

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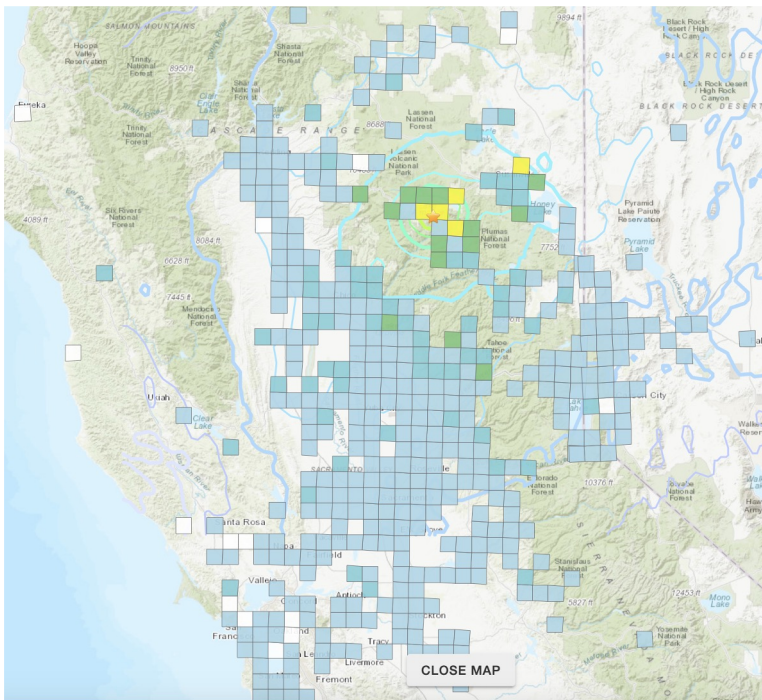
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N. CALIFORNIA

- 66 earthquakes above M3
- 8 earthquakes above M4
- M5.5 Lake Almanor earthquake May 11, 2023

M5.5 Lake Almanor earthquake, May 11, 2023



~280 Felt Reports



Source: Daily Mirror

- No known injuries/casualties
- Damages to businesses, CA Highway Patrol Dispatch disrupted for a day
- Shaking strong locally, felt as far away as Sacramento, San Francisco

M5.5 Lake Almanor earthquake, May 11, 2023

USGS Aftershock Forecast: What we think will happen next

According to our forecast, there is a 6% chance of one or more aftershocks that are larger than magnitude 5, which can be damaging, within the next week. There will likely be smaller aftershocks within the next week, with up to 32 magnitude 3 or higher aftershocks. Magnitude 3 and higher aftershocks are large enough to be felt nearby. The number of aftershocks will decrease over time, but a large aftershock can temporarily increase the number of aftershocks.

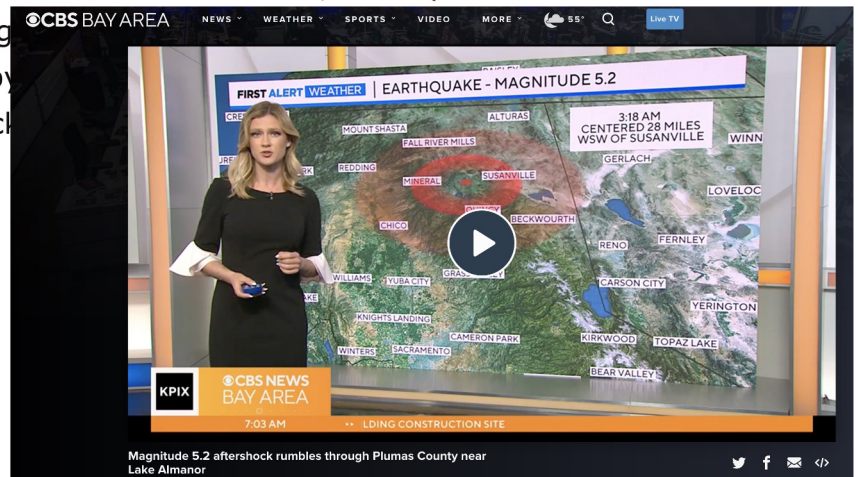
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M5.5 Lake Almanor earthquake, May 11, 2023

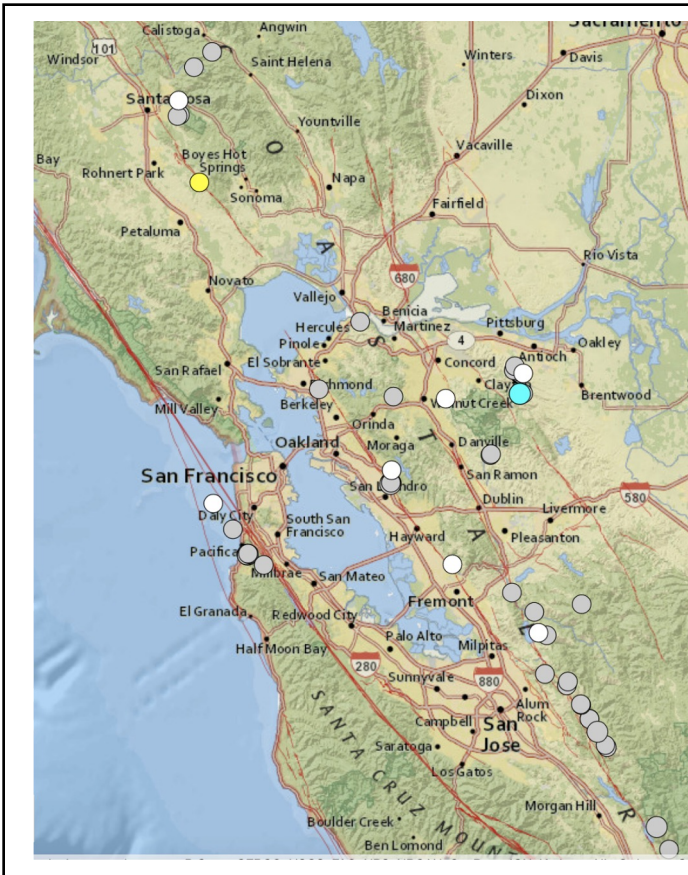
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And then one happened!
M5.2 Lake Almanor
aftershock, May 12, 2023



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BAY AREA

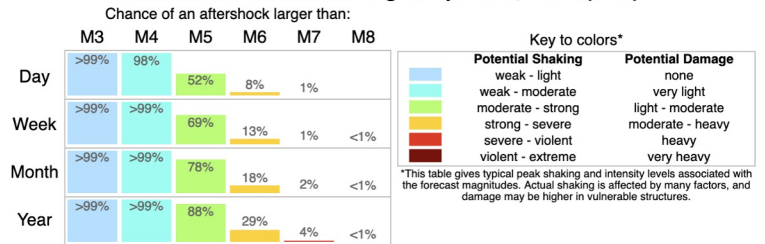
- 7 earthquakes above M3
- Many along known faults
- Notable: M3.7, Clayton (East Bay; April 20, 2023), M3.4, Pacifica (March 28, 2023) produced ~100 DYFI responses

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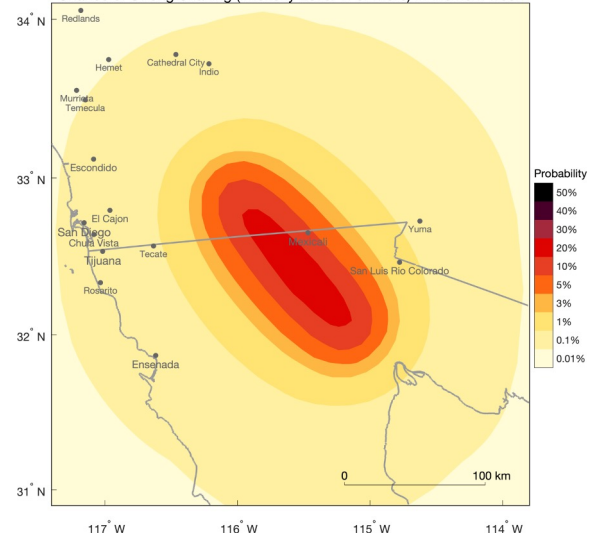
USGS research on products for aftershock forecasts

- Aftershock forecasts communicate **how many** aftershocks to expect, **when** and **where**
 - How **big** should they be?
 - How much **shaking** should they cause?
- We can show this information using different **products**: text, tables, graphics, maps, etc.

Aftershock Forecast starting 18 Apr 2018, 15:32 (UTC)



Chance of Strong Shaking (Intensity Level VI or more) in the next week

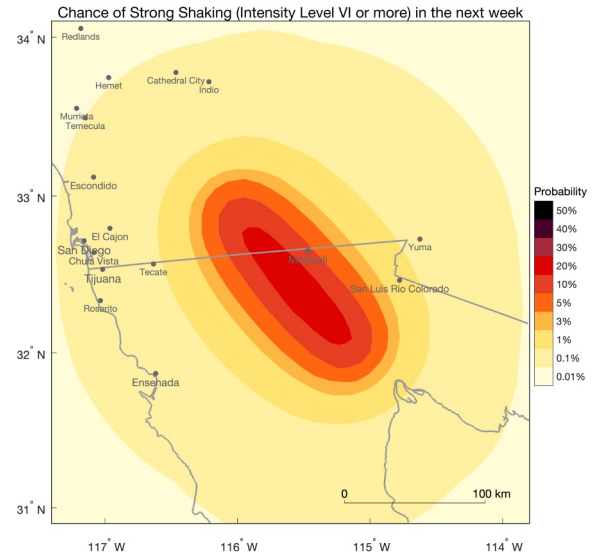
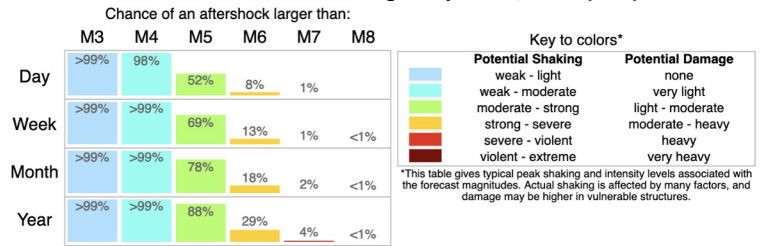


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USGS research on products for aftershock forecasts

- Aftershock forecasts communicate **how many** aftershocks to expect, **when** and **where**
 - How **big** should they be?
 - How much **shaking** should they cause?
- We can show this information using different **products**: text, tables, graphics, maps, etc.
- Workshops: **user needs elicited** from emergency managers, engineers, critical infrastructure, public information, and more
- Survey: **test new designs** based on user needs to create the **next generation of aftershock forecast products**
- We want your voice in shaping forecast products!
 - Sign up with me for more info on survey!

Aftershock Forecast starting 18 Apr 2018, 15:32 (UTC)



If you feel an earthquake...



Q&A

To be notified of future events and recordings, join ECA (free!):
EarthquakeCountry.org/join

Questions? info@earthquakecountry.org

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ECA Updates and Opportunities

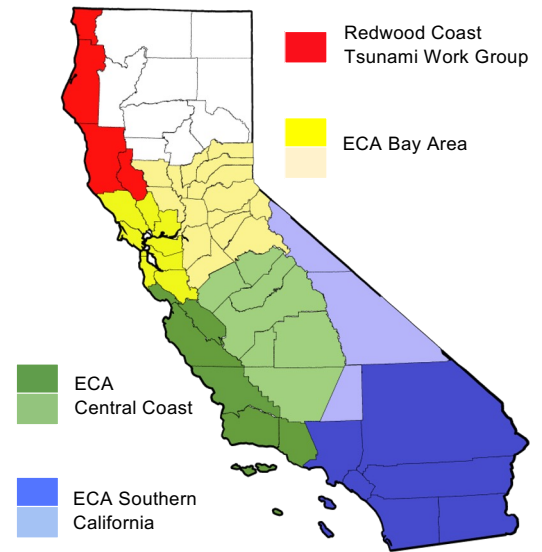
*Leadership Opportunities, Key Resources & Mini Awards,
the HayWired Toolkit, and commemoration of the
20th Anniversary of ECA*

Mark Benthien
ECA Executive Director

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Earthquake Country Alliance

- First meeting: June 16, 2003 @ USC
 - SCEC invited key regional partners that provide earthquake and preparedness information
 - Planned for the 10th Anniversary of Northridge
 - Launched first version of EarthquakeCountry.org
 - Became statewide in 2009, along with ShakeOut
- 4000+ *Public-Private-Grassroots* leaders
- *Regional Alliances* organize meetings and outreach activities
- California's Office of Emergency Services provides FEMA NEHRP funding for ECA earthquake mitigation activities
- USC's Southern California Earthquake Center (SCEC.org) administers ECA



Join: EarthquakeCountry.org/join



National Earthquake Hazards Reduction Program (NEHRP)

- Cal OES applies to FEMA for NEHRP funding, which is then subawarded to USC for SCEC to administer ECA's earthquake education, outreach, and mitigation activities.
- NEHRP is a partnership of four federal agencies that provide resources to mitigate and reduce losses caused by earthquakes in the U.S., including support for:
 - Research on the causes and effects of earthquakes
 - Building design recommendations to reduce earthquake damage and disruption
 - Activities that advocate earthquake risk reduction awareness and practices
- ECA also receives funding from NSF and USGS via their support of SCEC.



ECA Statewide Activities

Develop Messaging and Resources:

- EarthquakeCountry.org
- EarthquakeCountry.org/resources
- Terremotos.org



Support Tsunami Preparedness Week:

TsunamiZone.org/california



**March
27-31,
2023**

Created and Coordinate
The Great California ShakeOut:

ShakeOut.org/california



**Oct. 19
in 2023**

Webinars & other events

EarthquakeCountry.org/calendar

Seven Steps To Earthquake Safety

BEFORE

1. Secure Your Space



2. Plan To Be Safe



3. Organize Supplies



4. Minimize Financial Hardship



DURING

5. Drop, Cover, and Hold On



6. Improve Safety



AFTER

7. Reconnect and Restore



EarthquakeCountry.org/sevensteps

Terremotos.org/sietepasos

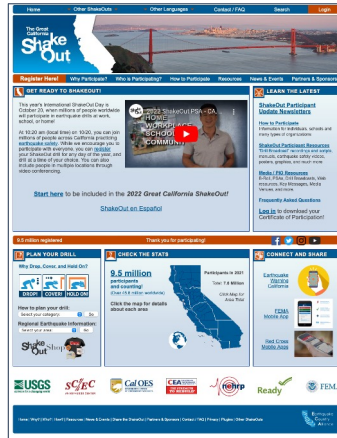
ECA Websites



EarthquakeCountry.org



Terremotos.org

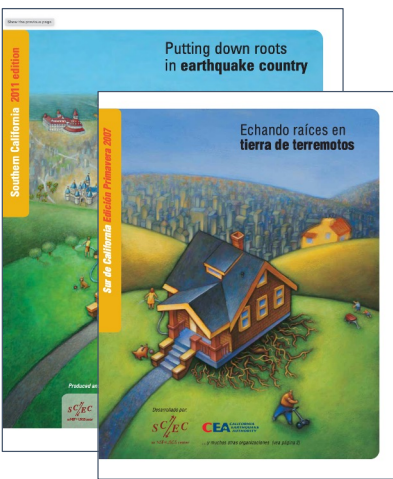


ShakeOut.org



TsunamiZone.org

ECA Booklets



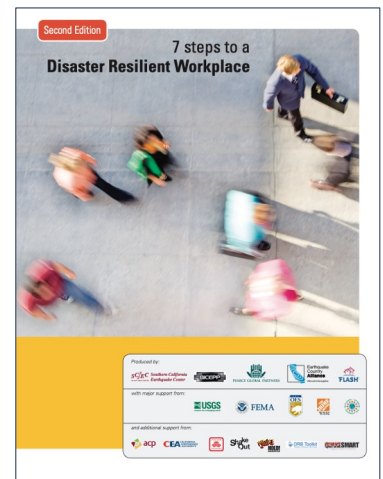
EarthquakeCountry.org/booklets

Southern California (English & Spanish)
 Bay Area (Several Languages)
 Also versions for Central US,
 Nevada, and Utah



EarthquakeCountry.org/stayingsafe

Statewide (English, Spanish, Chinese)
 10 Regional versions (English)



ResilientWorkplace.org

Updated Materials in 16 Languages

If You Feel Shaking or Get an Alert:

If Possible **DROP! COVER! HOLD ON!**

اگر لرزش آید یا از حس کردید یا هشدار دریافت کردید: **پایزاید! کورید! در صورت امکان نگه دارید!**

اگر لرزش آید یا از حس کردید یا هشدار دریافت کردید: **پایزاید! کورید! در صورت امکان نگه دارید!**

Si Siente Un Temblor o Recibe Una Alerta:

Si Es Posible **AGACHÉSE! CÚBRASE! ¡SUJETÉSE!**

Եթե զննվո՞ւ եք գո՞ւմ կամ ստացվո՞ւ էք ալերտ:

Եթե զննվո՞ւ եք գո՞ւմ կամ ստացվո՞ւ էք ալերտ:

Si Usa Andadera:

Si Usa Silla de Ruedas:

EarthquakeCountry.org/step5

Kế Hoạch Hành Động

Bảng Bước

Giữ An Toàn

Cov Niam Tswv Yim Pab Thaum Muaj Av Qeeg

Thaum Kij Muaj Muaj Av Qeeg Co Los yog tau ib Qho Xov Xwm. Iv Thavh Kij Los Khuej Kom Cov Khoom Toom Khuej Los Roug

Shake Out

EarthquakeCountry.org/step5

Pilong Hakbang sa Paghahanda sa Lindol

Sundan and Pilong Hakbang sa Paghahanda sa Lindol para maghanda sa kaligtaman at makabait sa saunang na panahon ng lindol Alam na sa EarthquakeCountry.org/pilonghakbang.

Hakbang 1: Patayin ang iyong lugar sa pangalagala ng mga pangangailan na bagay at kailangang pangangailan na bagay.

Hakbang 2: Mag-plano sa kailangan sa pamamagitan ng pagpapas ng plano sa emerhensiya at magpatay kung plano makikipag-pagmamay-ay.

Hakbang 3: Ayusin ang mga kagamitang pang-emerhensiya sa mga lugar na maluwag.

Hakbang 4: Bawasan ang kahokapang pang-emerhensiya sa mga lugar na maluwag.

Shake Out

大加州 ShakeOut

Shake Out

Recommended Earthquake Safety Actions

Federal, State, and local emergency management experts and other official preparedness organizations agree that the actions described below will reduce injury and death during earthquakes.

In most situations, if you feel shaking or get an alert, immediately:

- Drop when you are on your hands and knees. This position protects you from being knocked down and allows you to stay low and crawl to shelter if nearby.
- If a sturdy table or desk is nearby, crawl underneath it for shelter.
- If no shelter is nearby, crawl next to an interior wall (away from windows).
- Stay on your knees; bend over to protect vital organs.

Shake Out

Shake Out

EarthquakeCountry.org/languages

Your Action Plan for the Seven Steps

Your Action Plan

for the **Seven Steps to Earthquake Safety**

EarthquakeCountry.org

1 Secure Your Space

2 Plan to be Safe

3 Organize Emergency Supplies

4 Minimize Financial Hardship

5 Drop, Cover, and Hold On

6 Improve Safety

7 Reconnect and Restore

EarthquakeCountry.org/languages

Secure Your Space Guide & Worksheet

Step 1: Secure Your Space



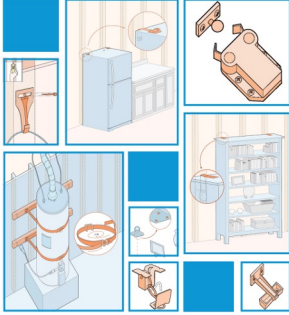
How to prevent items from falling during earthquakes

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 to secure 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, cabinet doors, hanging objects, and small objects, following the instructions within this document. Try securing at least one item every weekend until you get 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



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Secure Your Tall Furniture

Furniture such as bookcases, China hutches, and dressers are too heavy and can fall over during earthquakes causing damage and injuries, and possibly blocking exits. Flexible fasteners allow furniture to sway slightly without falling over.

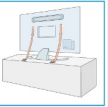
- Heavy strap kits available in stores or online come to the wall at one end and have adhesive pads that stick to the furniture with either heavy or buckle fasteners.
- These must be screwed into wall studs; identify where these are with a stud finder.
- Secure nylon straps to wall studs near each side of the furniture through a pre-punched hole in the straps. These can be hidden behind the furniture.
- If taller than 6 feet, secure straps to the sides, at 2/3 that height.
- Attach the other end of the strap to the furniture, following the kit's instructions.



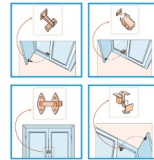
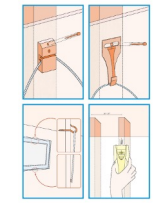
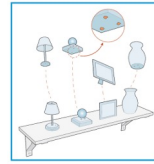
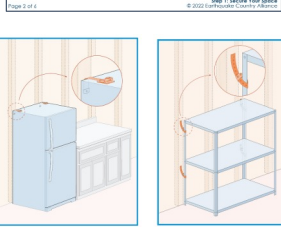
Secure Your Television

Televisions can easily tip over or fall during earthquakes. Here are two options to prevent this.

- Option 1:** Attach the TV to furniture (as shown).
- Use flexible nylon strap packages, with buckle or Velcro fasteners, available at hardware stores and online.
 - Stick one end of each strap onto the furniture as shown, following the package's instructions.
 - Connect the other end to the back of the TV by screwing the strap into TV-mount holes, or by slipping aluminum fasteners onto the TV.
 - If the furniture the TV is on is tall, properly secure it to studs in the wall using a stud finder to find the correct locations.



- Option 2:** Attach the TV to a wall with a mounting kit (available online, in a store, or online).
- Carfully follow the manufacturer's instructions.



Secure Your Space - Worksheet

Earthquake shaking can move almost anything, even large or heavy items. Imagine your home or workplace being shaken by an earthquake sideways and up-and-down – what could be thrown around? **How can you prevent it?**

START NOW by moving furniture such as bookcases away from beds, sofas, or other places where people sit, sleep, or spend a lot of time. Move heavy objects to lower shelves and secure bookcases to walls. Then continue your "hazard hunt" to help identify and fix things such as unsecured televisions, computers, furniture, water heaters, etc. Use the chart below to list what you need to secure these items and plan how to get it done. Guidance for how to secure most items is at EarthquakeCountry.org/step1.

Item to Secure or Move	Location	How	Who	When



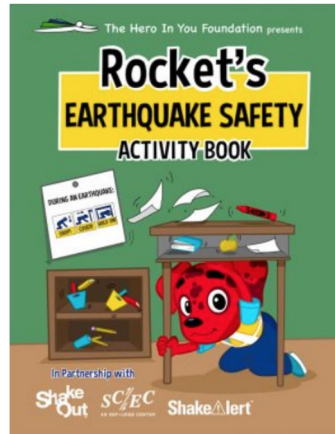
Page 6 of 6 © 2022 Earthquake Country Alliance

EarthquakeCountry.org/languages

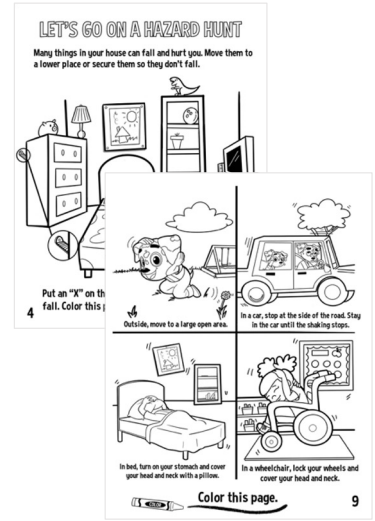
New materials for children age 4-9



English and Spanish Story Books



Many Languages



RocketRules.org/earthquake

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
- **Pre-defined packages:** Sets of materials will be available, however you can also customize them or propose other items
- **2023 Awards #2: Apply 6/26-7/14 @ EarthquakeCountry.org/miniawards**



Secure **WORKPLACE \$500 Package**

ITEM #	ITEM NAME	IMAGE	QUANTITY
4160-64	Furniture Strap		15
4740	File Cabinet Strap		15
5040	Bookcase Strap		15
4173	Home Electronics Safety Strap, Black		30
4338	A-Maze-ing Picture Hook, 4 Pack		10
4250	Kitchen & Cabinet Door Latch, 4 Pack		10
88111	QuakeHOLD! Museum Putty		10

Great ShakeOut Earthquake Drills

- Annual opportunity for schools, organizations, and families to practice earthquake safety and other aspects of their emergency plans
- 2023 International ShakeOut Day: **October 19**
- **3.5 million** already registered
- Learn more and register: ShakeOut.org



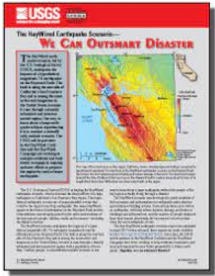
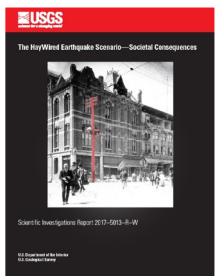
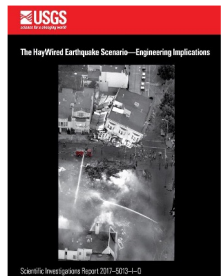
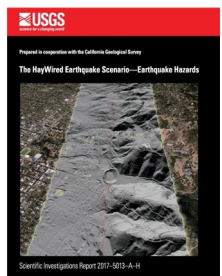
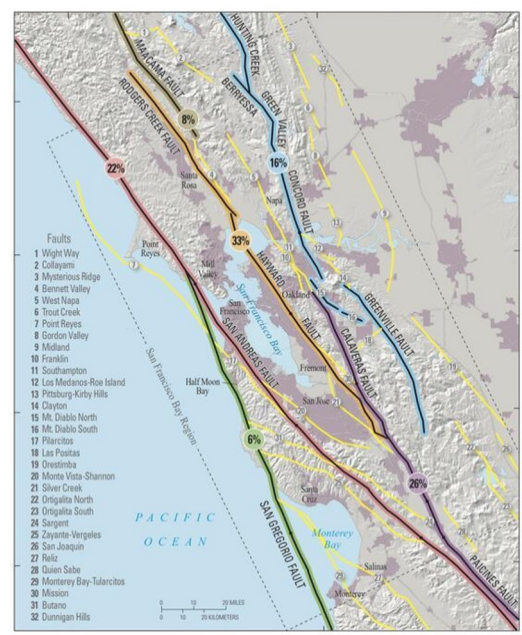
HayWired Scenario EXERCISE TOOLKIT

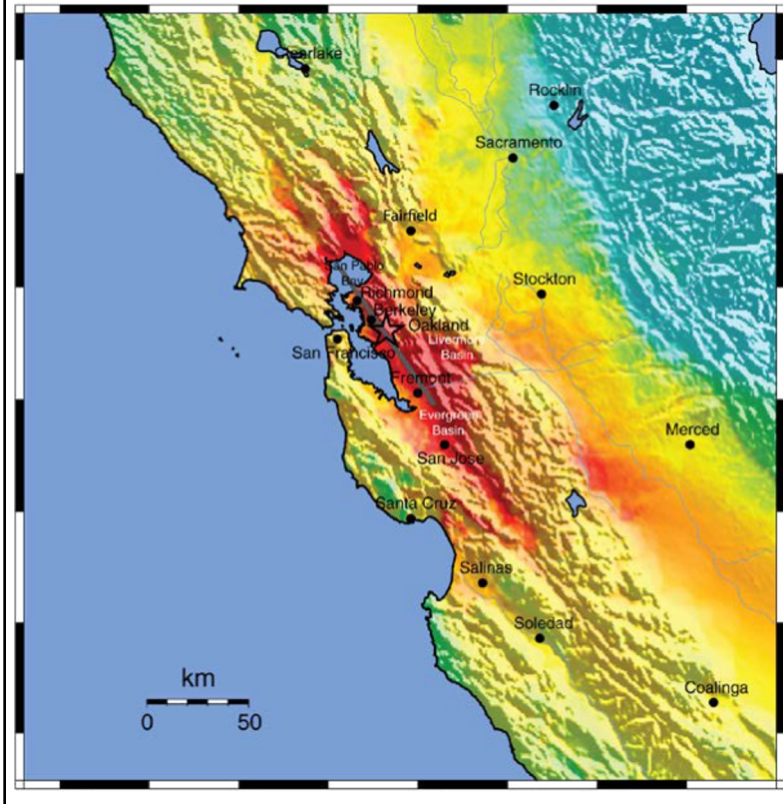
A **guide** for creating
discussion-based exercises
using the HayWired
Earthquake Scenario



What is the HayWired Scenario?

- Multi-year study led by the U.S. Geological Survey (USGS) and many partners
- Explores the many impacts of a magnitude 7.0 earthquake on the Hayward Fault, centered near Oakland, and its aftershocks
- Important to understand as the fault runs through a densely urbanized and interconnected region

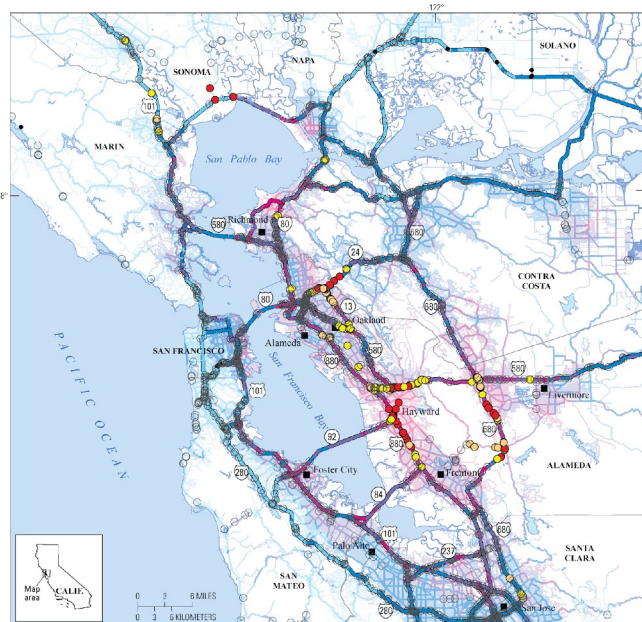




USGS ShakeMap of the San Francisco Bay region showing estimated shaking intensities for the hypothetical magnitude-7.0 mainshock selected for the scenario.

The earthquake begins under the City of Oakland (star) and ruptures the Hayward Fault along more than 83 kilometers (about 52 miles) of its length in both directions.

The Wealth of Information in the Scenario



Multi-hazard exposure of roadways and potential impacts to California Department of Transportation highway bridges

Hydrology from U.S. Geological Survey National Hydrography Dataset, 2016
Roadway data from U.S. Census Bureau TIGER files, 2010
Universal Transverse Mercator zone 10N projection
North American Datum of 1983

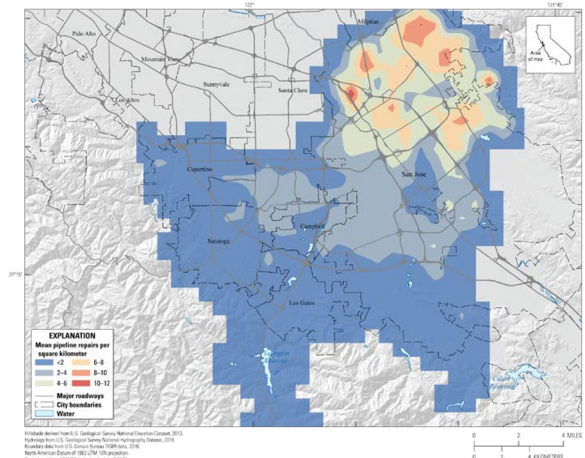
Data Spanning Many Themes and Topics

Exposure of telecommunications infrastructure to HayWired earthquake scenario hazards in the San Francisco Bay region, California.

Total in study area	Fiber routes, long-haul (km)	Fiber routes, interoffice (km)	Cellular sites	Fiber-IT buildings, data centers	Fiber-IT buildings, central offices	Fiber-IT buildings, point of presence	Wireless switch offices	Internet exchange points	Microwave towers	AM radio antennas	FM radio antennas	NTSC television transmitters	Digital television transmitters
Fires following earthquakes													
Percentage developed ¹	63%	60%	73%	98%	95%	95%	96%	100%	66%	22%	18%	11%	27%
Low exposure	1,029	7,882	2,054	287	158	14,650	11	8	905	9	7	0	0
Percentage exposed	17%	17%	25%	67%	23%	36%	21%	73%	24%	12%	2%	0%	0%
Moderate exposure	287	1,284	251	3	38	2,264	1	0	111	0	2	0	0
Percentage exposed	5%	2%	3%	1%	6%	6%	2%	0%	3%	0%	1%	0%	0%
High exposure	254	409	119	0	9	540	0	0	40	0	2	0	0
Percentage exposed	4%	1%	1%	0%	1%	1%	0%	0%	1%	0%	1%	0%	0%
Total exposure	1,570	9,575	2,424	290	205	17,454	12	8	1,056	9	11	0	0
Percentage exposed	26%	20%	29%	68%	30%	43%	23%	73%	28%	12%	3%	0%	0%

Why the HayWired Scenario is Useful for Exercises

- Emphasizes the variety of physical, technological, and societal impacts associated with the multiple hazards and cascading impacts of such an event.
- Insights gained from exercising for an earthquake can help us to better meet other more frequent challenges.
- The Toolkit is designed to help any organization plan, lead, and learn from discussion-based exercises.



Number of water pipeline repairs needed per square kilometer after the earthquake, in San Jose and nearby areas.

What is a Discussion-Based Exercise?

- Session where team members meet in an informal setting to discuss their roles during an emergency and their responses to a particular emergency situation. Also known as a “tabletop” exercise.
- A facilitator guides participants through a discussion of one or more scenarios.
- The duration depends on the audience, the topic being exercised and the exercise objectives.
- Most discussion-based exercises can be conducted in a few hours, so they are cost-effective tools to validate plans and capabilities.



Developing Your Exercise



- Guidance for developing a discussion-based exercise, with a corresponding planning worksheet
 - Basic questions to consider
 - How to select a theme/idea to exercise (with consideration for the different phases of emergency management)
 - Description of components needed:
 - Discussion objective
 - Key participants
 - Base scenario (specific for *your* exercise)
 - Discussion questions
 - Relevant data and visuals

Exercise Themes & Ideas

- The Toolkit identifies **30 Themes** addressed in the scenario, spanning **45 ideas** for discussion-based exercises, organized within each emergency management phase.
- Document symbols indicate **17 Facilitator Tools** based on the suggested ideas

	Planning and Preparedness	Response	Recovery	Mitigation
Access to Data & Information		29		39
Accounting for Employees		29		
Aftershocks & Fault Afterslips			35	
Alternate Locations	23		36	
Building Content				39
Clean-up				39
Communications & Internet	23 & 24	29 & 30		
Customer Base			36	
Economic Impact			36	
Elevators		31		
Employee Commutes and Residences	24			
Employee Retention & Staffing Shortage		31	37	
Fires After the Earthquake				40
Fuel (Gasoline and Diesel)	24	31		
Generators	25			
Insurance			37	
Lifeline Infrastructure in Fault Zones				40
Mail Package Delivery		32		
Mental Wellbeing			37	
Natural Gas	25	32		
Payroll	26			
Power (Electricity)	26	33	38	
ShakeAlert®	26			40
Shutting Off Utilities				41
Slow Return to Normal			38	
Structural & Non-Structural Building Damages				41
Supply Chain Movement of Goods	27			41
Water	27	33 & 34		
Wastewater Sewer	27	34		
Working Remotely	28			

Appendix I: Exercise Themes & Ideas

- The Toolkit identifies **30 Themes** addressed in the scenario, spanning **45 ideas** for discussion-based exercises, organized within each emergency management phase.
- Document symbols indicate **17 Facilitator Tools** based on the suggested ideas

Mitigation: Reducing vulnerabilities and the impacts of hazards

Theme	Exercise Ideas
Access to Data & Information 	<p>Issue: This Scenario disrupts electric power and connectivity to data services, with restoration timelines varying by infrastructure types and location. The earthquake may impact your ability to access records.</p> <p>Idea: Identify options to reduce the risk of losing access to important data and information you will need post-earthquake.</p> <p>HayWired Scenario Report References: Volume 3 (Chapter S and T)</p>
Building Contents 	<p>Issue: This Scenario upsets building contents and overturns unanchored equipment.</p> <p>Idea: In each of your work and storage areas, identify supplies and equipment that have the potential for moving, falling, or tipping. For items posing safety risks and/or higher monetary loss, identify how you can secure them or otherwise minimize the risk.</p> <p>HayWired Scenario Report References: Volume 2 (Chapters J and Q); Volume 3 (Chapter S)</p>

Facilitator Tools

- Each set of *Facilitator Tools* includes:
 - *Discussion Guide*
 - Suggested exercise objectives
 - Recommended participants
 - Discussion questions to select from
 - Locations of relevant data in the Reports
 - *Imagery Slideset*
 - Relevant maps, charts, and tables
- Facilitators can follow closely, or use as inspiration for their exercises



Toolkit Development Partners

As with the HayWired reports, partners from many organizations have helped to develop the Toolkit or provide feedback:

- . United States Geological Survey (USGS)
- . Federal Emergency Management Agency (FEMA)
- . California Governor’s Office of Emergency Services (CalOES)
- . California Geological Survey
- . Earthquake Country Alliance (ECA)/ Southern California Earthquake Center (SCEC)
- . California Resiliency Alliance (CRA)
- . Association of Bay Area Governments
- . Bay Area Council Economic Institute
- . Joint Venture Silicon Valley
- . Bay Area Center for Regional Disaster Resilience
- . Pacific Earthquake Engineering Research Institute (PEERI)
- . State of California Seismic Safety Commission

Now Available, and coming soon...

- Download the Toolkit & Facilitator Tools at EarthquakeCountry.org/haywired
- Several training workshops to be held over the next year – for business groups, underserved communities, local government, etc.
- Video tutorial will be available this summer



How to Collaborate within the ECA

1. Join the ECA (free!)

EarthquakeCountry.org/join

2. Participate with an ECA Regional Alliance

Attend quarterly workshops (or host one!) EarthquakeCountry.org/calendar

Serve on your region's Coordinating Committee

Plan local events, recruit members, organize ShakeOut activities, etc.

Learn more: EarthquakeCountry.org/alliance

3. Serve on an ECA Sector-Based Committee

Public Sector

Healthcare

Business

Higher Education

Accessibility

PreK-12 Education

Non-Profit & Faith-Based

Learn more: EarthquakeCountry.org/committees

How to Collaborate within the ECA

4. Collaborate via an ECA Outreach Bureau

News and Social Media Bureau- coordinate local and statewide earthquake news & events

Participation Bureau- recruit and support your area's ShakeOut and Tsunami Week registrants

Events Bureau- train and arrange speakers and staffing for preparedness fairs, conference booths, etc.

Request a presenter or information table: EarthquakeCountry.org/events

Email info@earthquakecountry.org to learn more.

5. Use, share, and help promote our resources and activities (link from your site, etc.)

Seven Steps to Earthquake Safety- EarthquakeCountry.org/sevensteps

Guidance in Multiple Languages- EarthquakeCountry.org/languages

Workshops, webinars, & other events- EarthquakeCountry.org/calendar

ECA Mini Awards- EarthquakeCountry.org/miniawards

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Q&A

To be notified of future events and recordings, join ECA (free!):
EarthquakeCountry.org/join

Questions? info@earthquakecountry.org

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Short Announcements from Attendees

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Participant Take-Aways

What is something that you:

learned

will do

will use

will tell others

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Open Discussion & Networking

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Connect with ECA Bay Area

- EarthquakeCountry.org/bayarea
- bayarea@earthquakecountry.org
- Terremotos.org
- [Twitter.com/eca](https://twitter.com/eca)
- info@earthquakecountry.org



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