

Welcome!



ECA Bay Area Spring 2024 Workshop

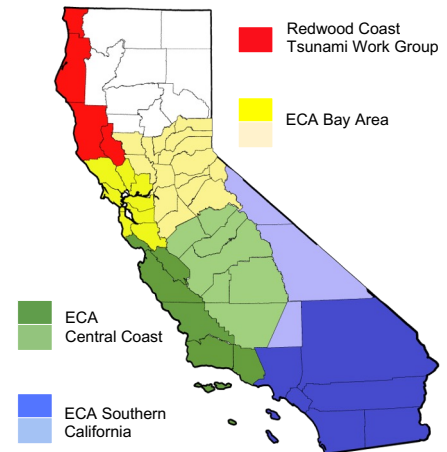
Ice-Breaker Discussion:

Ask someone you don't know about past earthquake experiences

1

Earthquake Country Alliance

- 4000+ *Public-Private-Grassroots* leaders
- Subject matter expert *Committees* develop resources and 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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ECA Bay Area Coordinating Committee Co-Chairs

Jeff Airth

San Francisco International Airport

Ray Bonilla

Elevance Health

Dena Gunning

Central County Fire Department (San Mateo)

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ECA Bay Area Coordinating Committee

- Coordinating Committee Chairs: **Jeff Airth**, SFO International Airport
Ray Bonilla, Elevance Health
Dena Gunning, Central County Fire Dept. (San Mateo County)
- Communications Coordinator: **Susan Garcia**, USGS
- Events Bureau Coordinators: **Chief David Cosgrave**, San Mateo County Dept. of Emgcy. Svs.
Kacey Treadway, Santa Clara County Ofc. of Emgcy. Mgmt.
- 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 International Airport

SCEC Liaison for ECA Bay Area: Mark Benthien (ECA/SCEC)
bayarea@earthquakecountry.org

Each Coordinator welcomes additional members of their committee!

EarthquakeCountry.org/bayarea

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Today's Agenda

Welcome & Self-Introductions

Rossmoor EPO (Emergency Preparedness Organization)
Marcia McLean, EPO Board Member

Contra Costa County Earthquake Hazards including Recent Research on the Concord Fault
Austin Elliott, Ph.D. (U.S. Geological Survey)

Quake Break
Grace Parker, Ph.D. (U.S. Geological Survey)

Break

Life After HayWired: Lessons from the HayWired Scenario Exercise Toolkit
Monika Stoeffl (California Resiliency Alliance) and Mark Benthien (ECA/SCEC)

Help Us Create ECA Tools & Activities for Your Use!
Mark Benthien (ECA Exec. Director / Statewide California Earthquake Center)

Announcements by Participants & Open Discussion
Activities/events, new resources, recommended trainings, etc.

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Self Introductions

Name

Organization or Community

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Rossmoor EPO (Emergency Preparedness Organization)

Marcia McLean
EPO Board Member

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Q&A

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

EarthquakeCountry.org/join

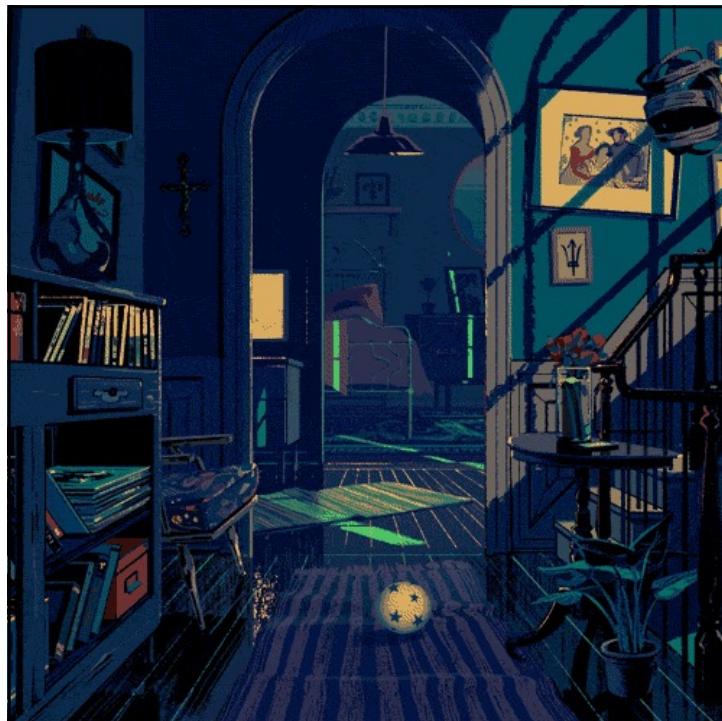
Questions? info@earthquakecountry.org

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Contra Costa County Earthquake Hazards including Recent Research on the Concord Fault

Austin Elliott, Ph.D.
U.S. Geological Survey

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Contra Costa County Earthquake Hazards Including Recent Research on the Concord Fault

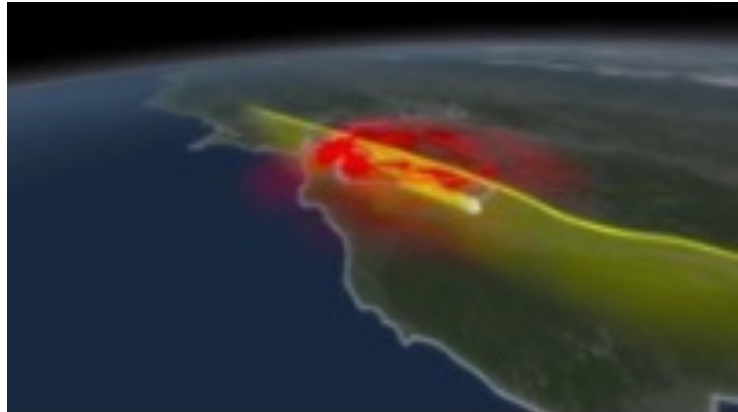
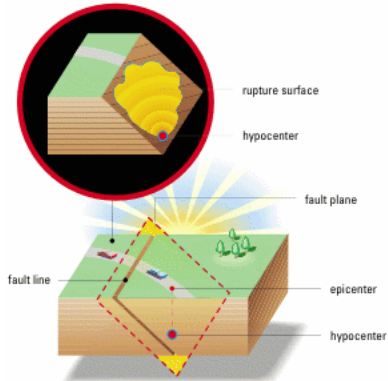
Dr Austin Elliott, earthquake geologist
USGS Earthquake Science Center
Moffett Field, CA

Rossmoor Community

June 11, 2024

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What is an earthquake?



California Academy of Sciences on YouTube <https://youtu.be/m5xM-CTDL0>

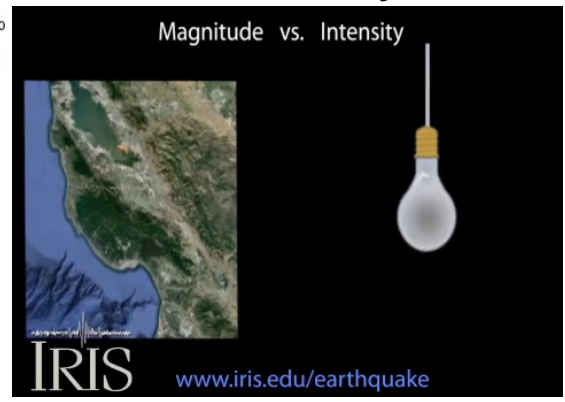
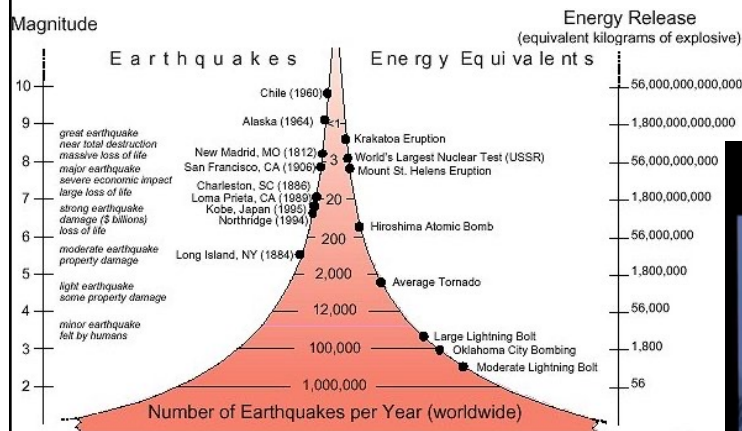
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How big are earthquakes?



MAGNITUDE = total energy/size

INTENSITY = shaking level where you are



IRIS www.iris.edu/earthquake

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How big are earthquakes?



graphics from European-Mediterranean Seismic Center app "LaskQuake"

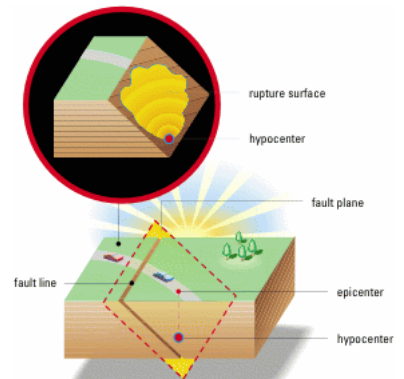
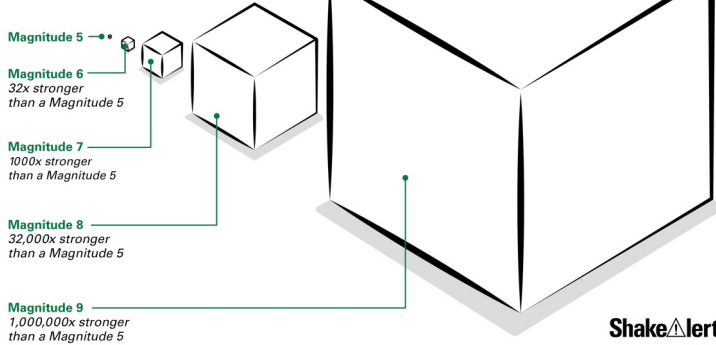
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How big are earthquakes?



Earthquake Magnitude and Energy Released

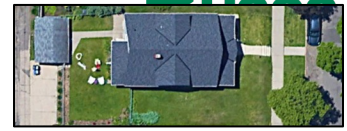
A single step in the magnitude scale represents a ~32x stronger earthquake (by energy released).



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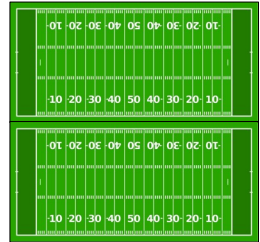
How “big” are earthquakes?

(how much of a fault breaks in a quake?)



→ surface rupturing | buried ←

Magnitude	Area	Dimensions	Rough Analogue:
0	0.00001 km ² (100 m ²)	10 m x 10 m	typical apartment
1	0.0001 km ² (1,000 m ²)	30 m x 30 m	typical U.S. home lot size
2	0.001 km ² (10,000 m ²)	100 m x 100 m	(2) football fields
3	0.1 km ² (100,000 m ²)	300 m x 300 m	long city block
4	1 km ²	1 km x 1 km	neighborhood/subdivision
5	10 km ²	3 km x 3 km	an international airport
6	100 km ²	10 km x 10 km	City of San Francisco
7	1,000 km ²	10 km x 100 km (~15 km x ~66 km)	SF ↔ Santa Cruz / Santa Monica ↔ Riverside
8	10,000 km ²	50 km x 200 km	
9	100,000 km ²	1000+ km long	



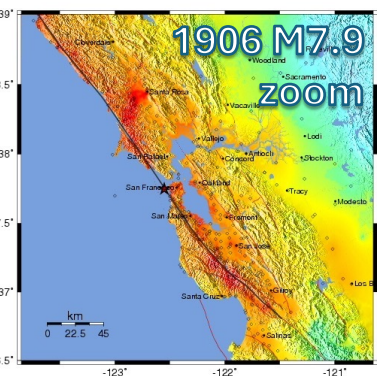
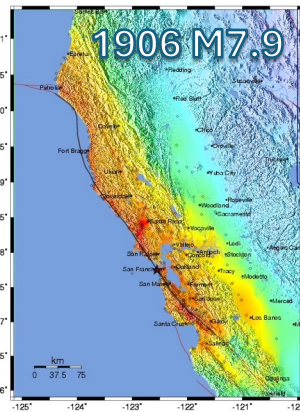
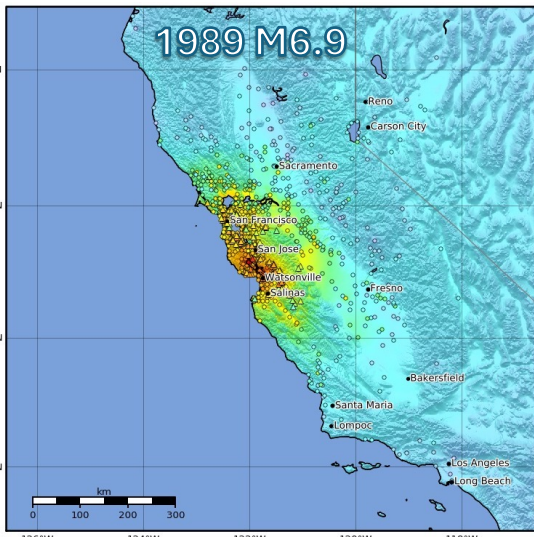
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How big are earthquakes?



USGS “shakemaps” show shaking intensity

rupture speed: 3.5 km/sec



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC. (%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-85	85-124	>124
PEAK VEL. (cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-18	18-37	37-80	80-118	>118
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

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Where are the Faults?



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Active Tectonics in Contra Costa County

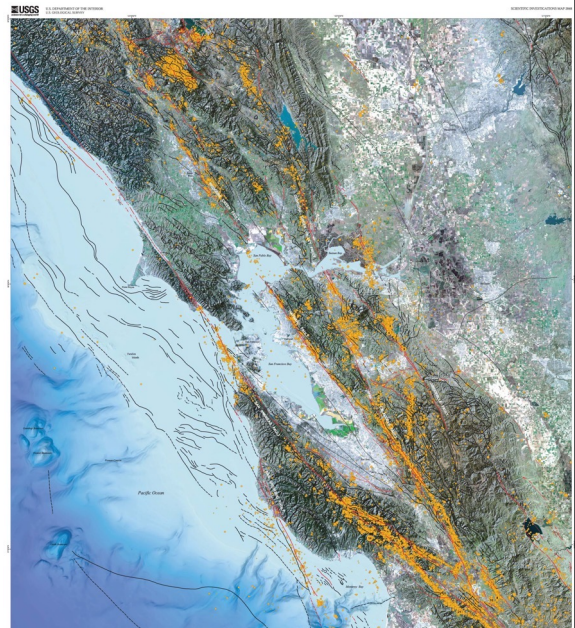


Local Faults:

- Calaveras Fault
- Franklin/Southampton / West Napa Fault
- Diablo-Concord-Green Valley Fault
- Greenville / Livermore & Las Positas Fault
- Hayward Fault
- San Andreas Fault

Local Earthquakes:

- M5.1 Alum Rock 2022
- M4.5 Pleasant Hill 2019
- M6.0 South Napa 2014
- M5.7 Alum Rock 2007
- M6.9 Loma Prieta 1989
- M6.4 Morgan Hill 1984
- M5.8 (&5.3) Livermore 1980
- M5.7 Coyote Lake 1979

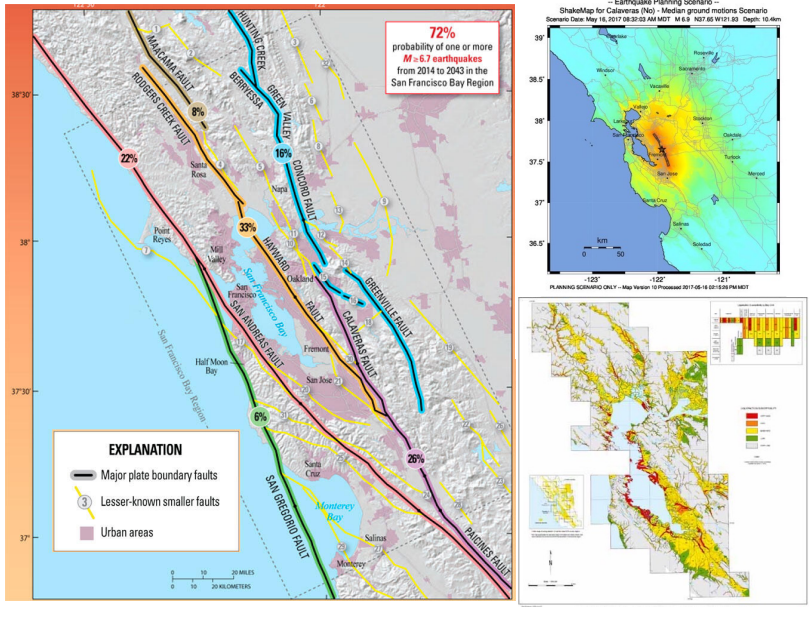


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Active Tectonics in Contra Costa County

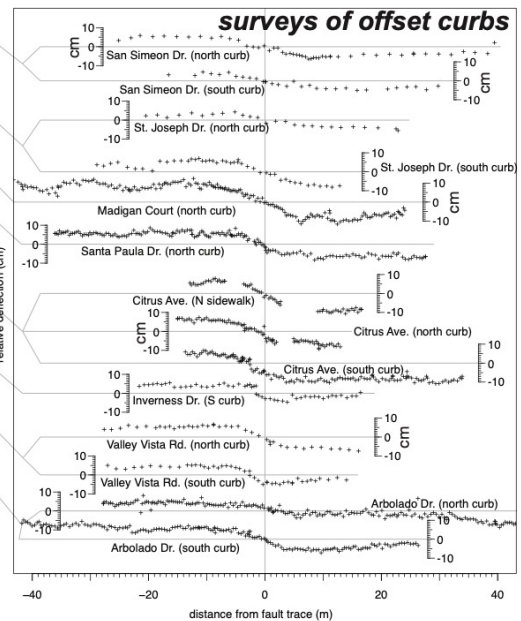
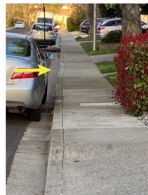
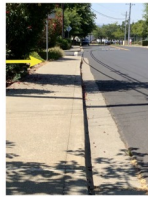
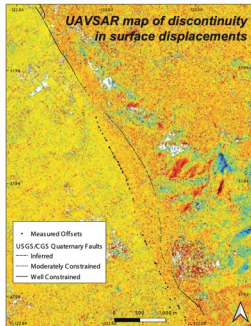
Earthquake Hazards

- Fault rupture probabilities based on
 - Geological recurrence interval
 - Geological long-term slip rate
 - Current crustal velocity (GPS!)
 - Magnitude-frequency distribution
- Shaking distribution based on
 - Attenuation
 - Underlying geology
 - "directivity" of rupture
- Secondary hazards
 - Landslides
 - Liquefaction
 - Fire
 - (tsunami?)
 - Power outage
 - Utility/transportation disruption



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New Discoveries on the Concord Fault



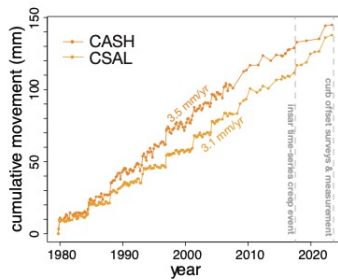
- Fault slip occurs between earthquakes also
- Detected by Earth-imaging satellites
- Slowly deforming roads/sidewalks
- Measurement campaign to understand amount, rate, location

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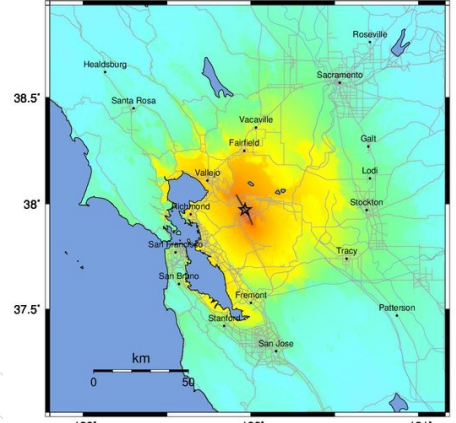
New Discoveries on the Concord Fault



Monitoring aseismic slip;
Planning for seismic slip



-- Earthquake Planning Scenario --
ShakeMap for Concord - Median ground motions Scenario
Scenario Date: May 16, 2017 08:32:03 AM MDT M 6.5 N37.97 W122.04 Depth: 11.4km

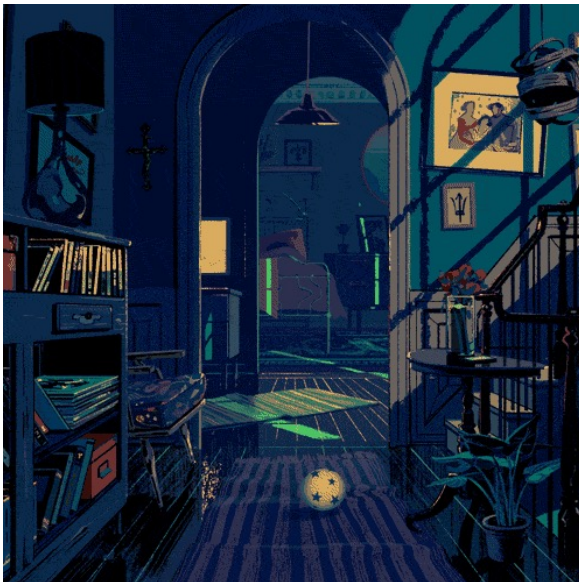


PLANNING SCENARIO ONLY -- Map Version 10 Processed 2017-05-16 03:06:13 PM MDT

POTENTIAL DAMAGE	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
PEAK ACC (mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>139
PEAK VIB. (cm/s)	<0.02	0.1	1.4	4.7	8.6	20	47	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

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What to expect in a large earthquake




- If you feel shaking or get an alert, **DROP, COVER, and HOLD ON**
- Begins as rumble or vibration
- Stronger lurching then arrives
- Shaking may last tens of seconds
 - ...and may intensify before dying out
- Items fall, topple, shatter
- Difficult to move
- Gradual cessation – seek info
- *Expect aftershocks*
 - mostly smaller, may be bigger
 - This means be/get ready for quakes

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What to do in an earthquake






DROP!


Using Cane




DROP!



COVER!




HOLD ON!




COVER!


Using Walker




LOCK!



COVER!




HOLD ON!




HOLD ON!


Using Wheelchair



LOCK!




COVER!




HOLD ON!

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Emergency Plans





ROSSMOOR WALNUT CREEK Golden Rain Foundation

Concept of Operations

Hazard Assessment

The Contra Costa County Hazard Mitigation Plan, Volume 2-Planning Partners Annexes, January 2018, Table 15-11, lists the hazard types and prioritizes them based on the probability and impact on the City

Table 2.1 GRF Hazard Ranking Matrix as Applied to Rossmoor

Hazard Type	Probability		Impact				Sum of Factored Impacts	Total Score (Sum of Factored Impacts) x (Factored Probability)	Hazard Planning Consideration		
	Score	Factored x 2.0	Affected Area		Secondary Impact						
			Score	Factored x .8	Score	Factored x .7					Score
Earthquake	3	6	4	3.2	4	2.8	4	2	8	48	High
Landslide	2	4	1	0.8	2	1.4	2	1	3.2	12.8	Medium
Severe Weather	2	4	4	3.2	2	1.4	2	1	5.6	22.4	Medium
Wildfire	3	6	3	2.4	2	1.4	3	1.5	5.3	31.8	Medium
Flood	1	2	1	0.8	1	0.7	2	1	2.5	5	Low

The GRF ranked the hazards based on the probability and specific impact on Rossmoor. Table 2.2 illustrates the hazard type, ranking, risk rating score, and hazard categorization specific to Rossmoor.

Table 2.2 GRF Hazard Ranking Specific to Rossmoor

Rank	Hazard Type	Risk Rating Score (probability x Impact)	Category
1	Earthquake	48.0	High
2	Wildfire	31.8	Medium
3	Severe Weather	22.4	Medium
4	Landslide	12.8	Medium
5	Flood	3.5	Low

How to prepare:

- Community organization
- Anticipate hazards
- Secure your space
- Know/help your neighbors

“7 steps to earthquake safety”

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Thank You

Dr Austin Elliott, Research Geologist
ajelliott@usgs.gov
USGS Earthquake Science Center
Moffett Field, CA

Rossmoor Community

June 11, 2024

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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


Grace Parker, Ph.D.
U.S. Geological Survey

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Quake Break

Grace Parker¹
June 11, 2024
Earthquake Country Alliance Bay Area Spring Workshop



¹U.S. Geological Survey, Earthquake Science Center, Moffett Field, California
Contact: gparker@usgs.gov

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Q&A

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Life After HayWired: Lessons from the HayWired Scenario Exercise Toolkit

Monika Stoeffl

California Resiliency Alliance

Mark Benthien

ECA Executive Director,

Statewide California Earthquake Center

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HayWired Scenario EXERCISE TOOLKIT

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

USGS science for a changing world

Earthquake Country Alliance


CALIFORNIA RESILIENCY ALLIANCE

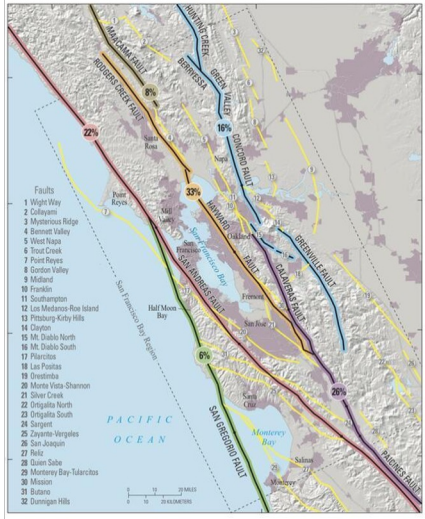
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HayWired Scenario Exercise Toolkit

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





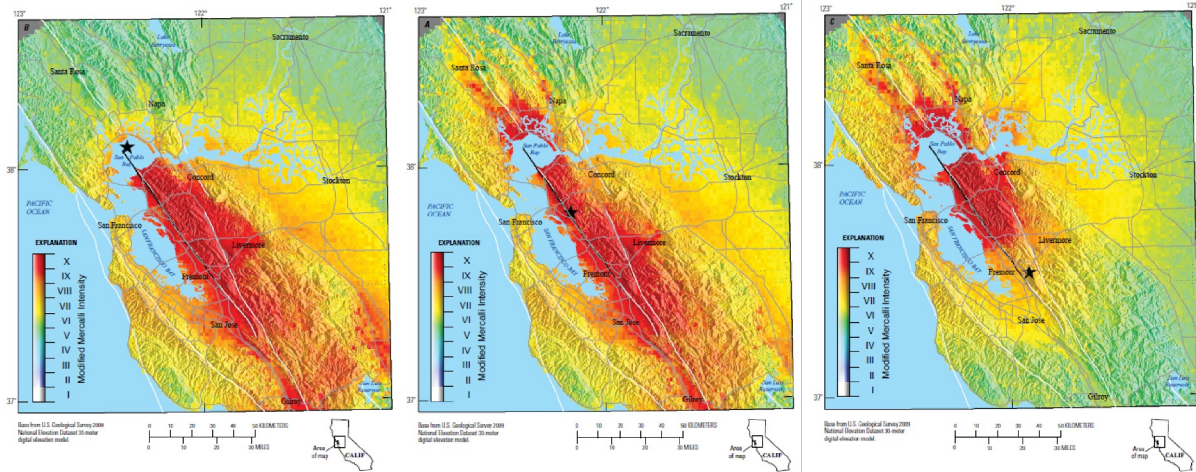
Faults

- 1 Wright Way
- 2 Coliseum
- 3 Mt Diablo Ridge
- 4 Bennett Valley
- 5 West Napa
- 6 Trout Creek
- 7 Point Reyes
- 8 Gordon Valley
- 9 Midland
- 10 Franklin
- 11 Southstar
- 12 Los Medanos-Rose Island
- 13 Pittsburg-Kelby Hills
- 14 Clayton
- 15 Mt. Diablo North
- 16 Mt. Diablo South
- 17 Pilarcitos
- 18 Los Prietos
- 19 Orinda
- 20 Monte Vista-Shannon
- 21 Silver Creek
- 22 Orinda North
- 23 Orinda South
- 24 Sargent
- 25 Zayante-Vergennes
- 26 San Anselmo
- 27 Balz
- 28 Glen Saba
- 29 Moroney Day-Talbot
- 30 Mission
- 31 Redwood
- 32 Danavon Hills

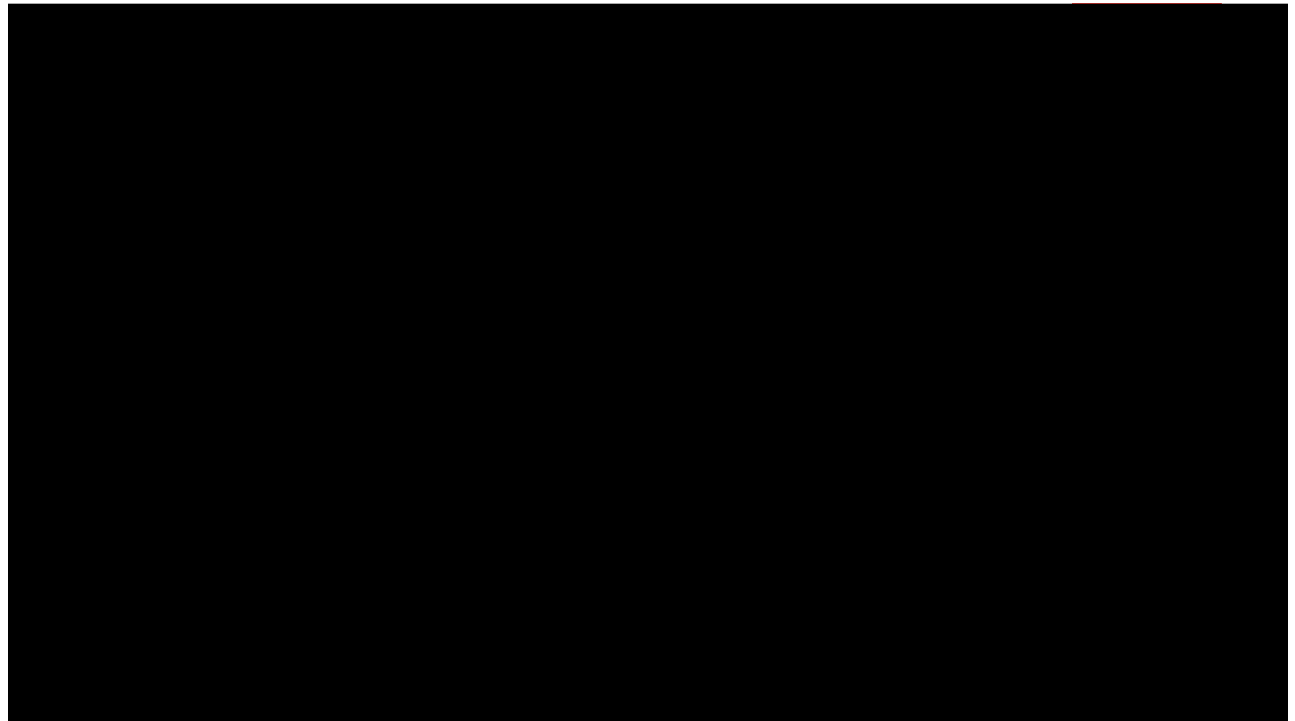
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M7.0 Hayward Fault Scenarios

- Effects of three epicenter locations in maps of Instrumental Intensity



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Quick Sharing

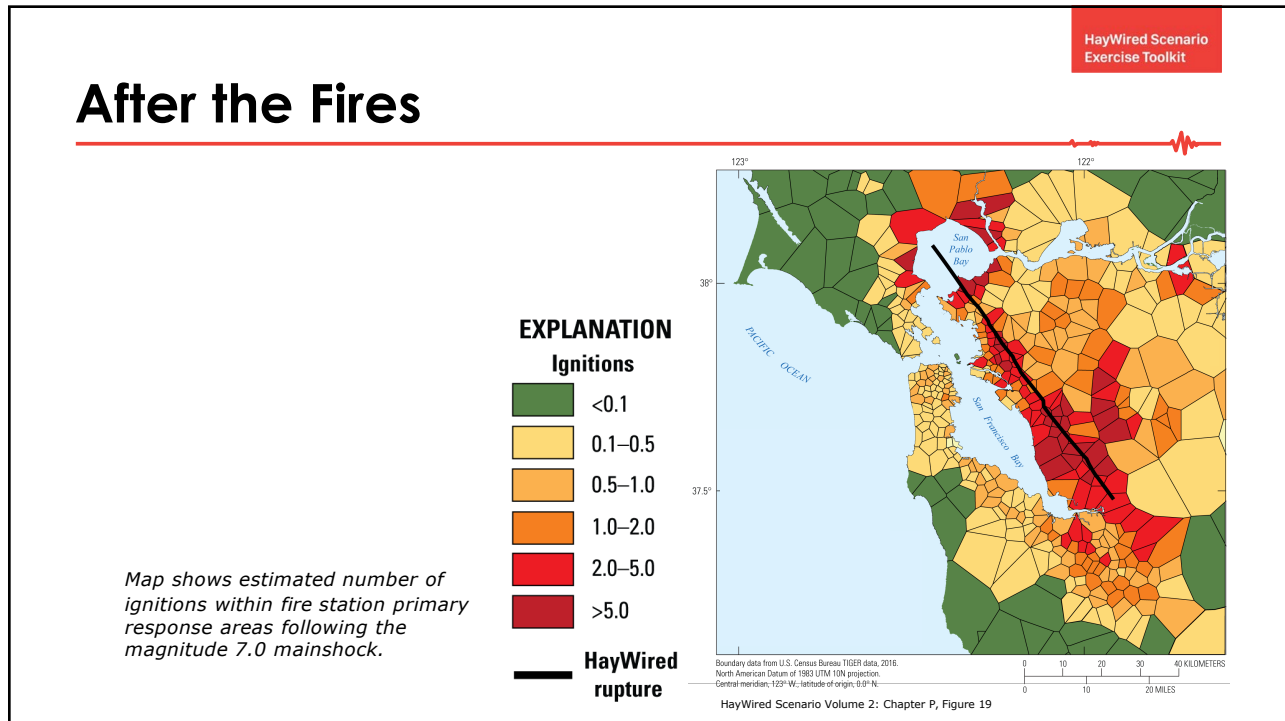
- What was surprising about the scenario?
- What concerns you most?
- Do you think others will be more, or less, affected than you?
- What about life in the weeks to months that follow?

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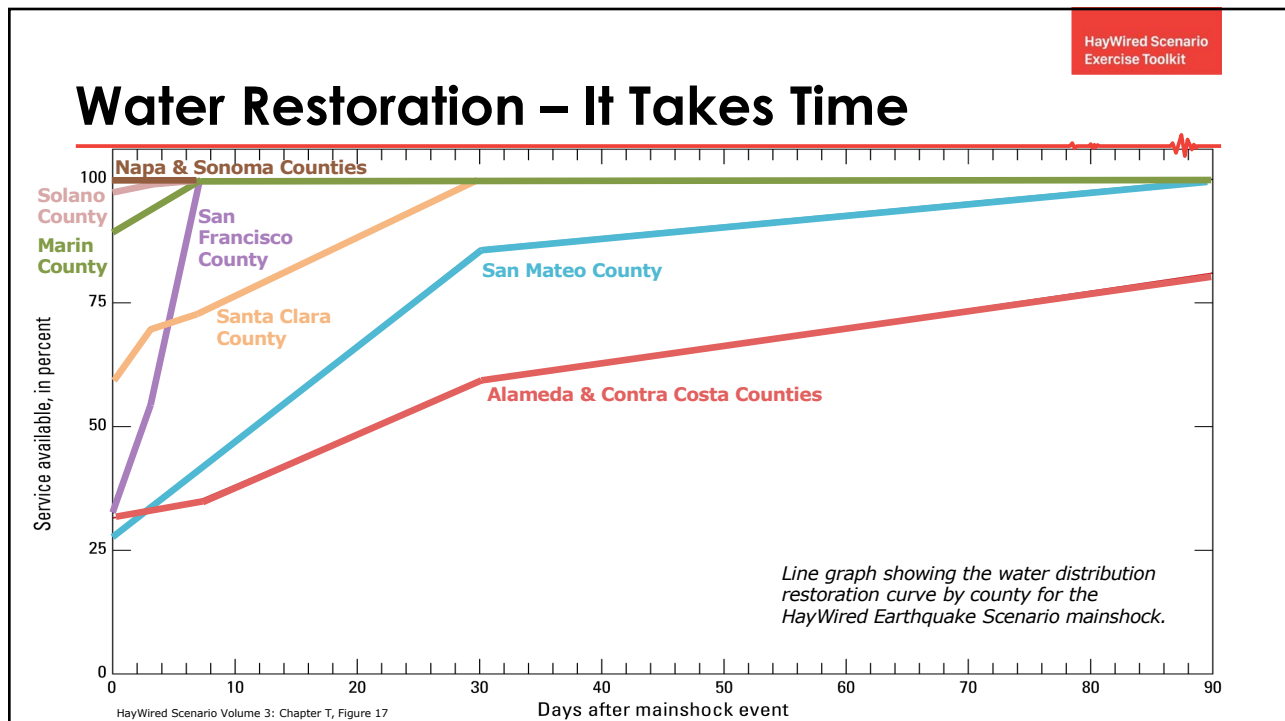
Life After a HayWired Event



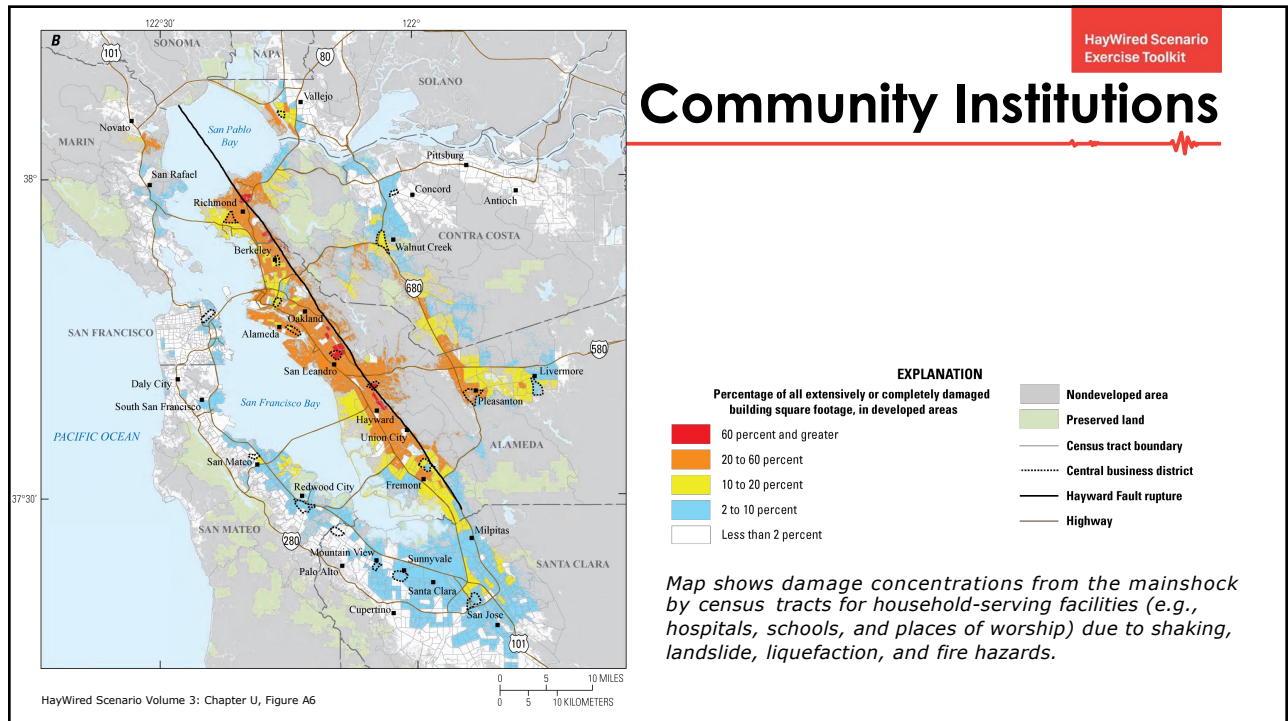
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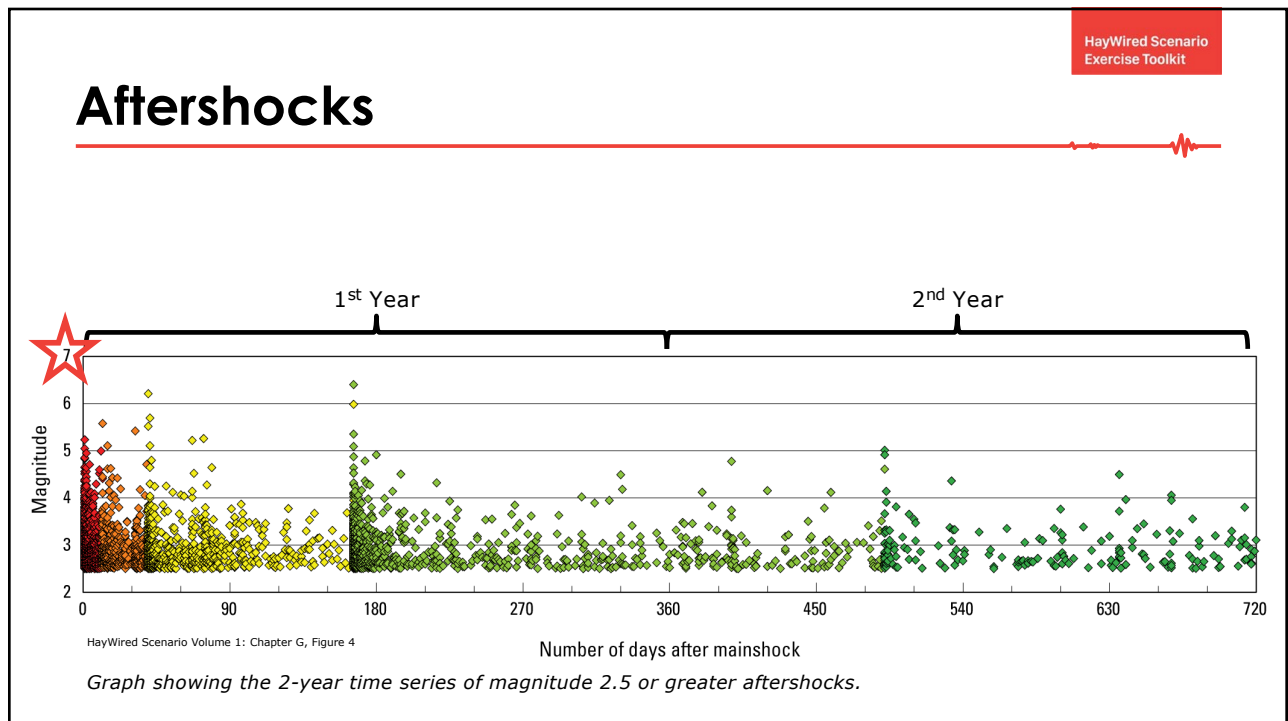
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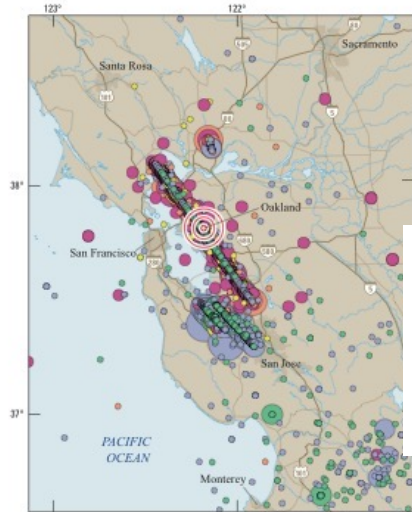


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Aftershocks



EXPLANATION

HayWired mainshock
 Magnitude 7.0

Aftershock magnitude

- 2.5 - 2.9
- 3.0 - 3.9
- 4.0 - 4.9
- 5.0 - 5.9
- 6.0 - 6.9

Time from mainshock

- Within 1 day
- Within 1 week
- Within 1 month
- Within 1 year
- Within 2 years (end of modeling period)

Map shows the hypothetical mainshock and aftershocks for the HayWired Earthquake Scenario in the 2 years after the mainshock.

HayWired Scenario Volume 1: Figure 3

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Population Shifts – Camp Fire Example



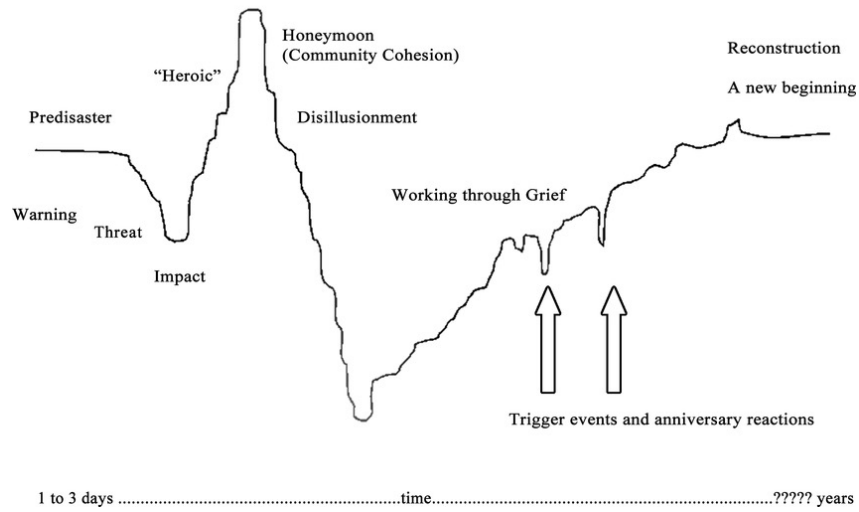
Data curation and map by Peter Hansen, Department of Geography & Planning - CSU, Chico

This map depicts where over 13,000 Camp Fire survivors have gone in the contiguous US per their new permanent "change of address."

It is not comprehensive of all survivors and comprises about 1/3rd of survivors.

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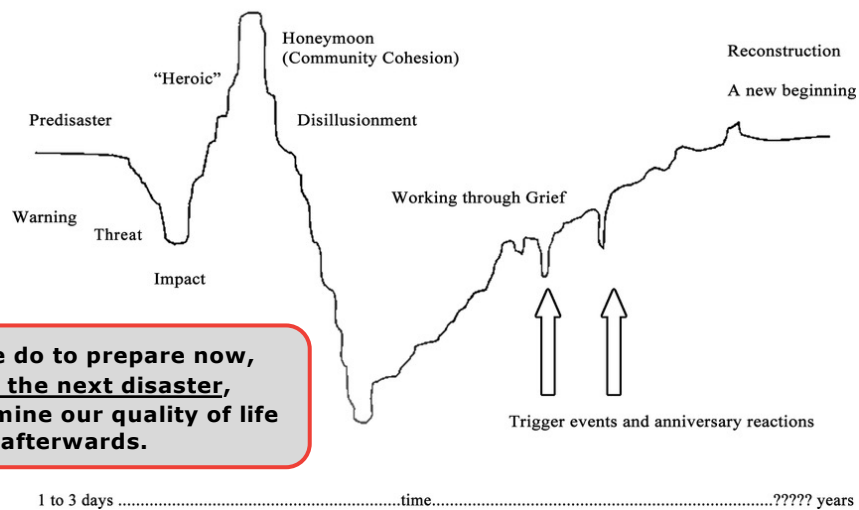
Recovery is Not Linear



Source: Diane Meyers and Leonard Zunin, as cited in US Health & Human Service's Training Manual for Mental Health and Human Service Workers in Major Disasters (2000)

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Actions Taken Now Can Change the Recovery Curve



What we do to prepare now, before the next disaster, will determine our quality of life afterwards.

Source: Diane Meyers and Leonard Zunin, as cited in US Health & Human Service's Training Manual for Mental Health and Human Service Workers in Major Disasters (2000)

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HayWired Scenario
Exercise Toolkit

HayWired Scenario Exercise Toolkit

- Created to guide discussions about planning, preparedness, response, and mitigation.

- Partnership of many organizations:
 - United States Geological Survey (USGS)
 - Statewide California Earthquake Center (SCEC)
 - Earthquake Country Alliance (ECA)
 - California Resiliency Alliance (CRA)

 - Federal Emergency Management Agency (FEMA)
 - California Governor's Office of Emergency Services (Cal OES)
 - California Seismic Safety Commission
 - California Geological Survey
 - 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)

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HayWired Scenario
Exercise Toolkit

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.

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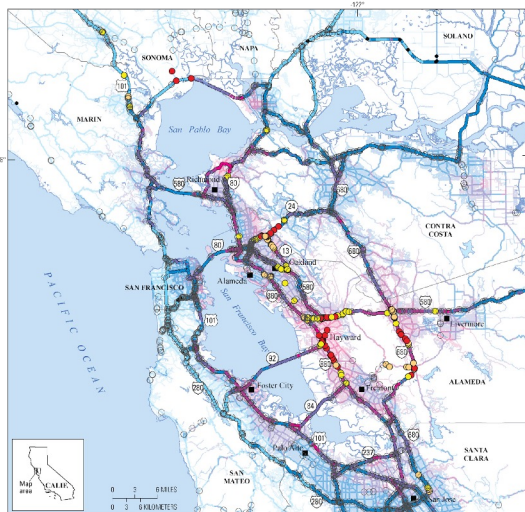
What is a Discussion-Based Exercise?

- 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.



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The Wealth of Information in the Scenario



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

Transportation network		EXPLANATION	
Surface street	Secondary street	Highway	Multi-hazard exposure
—	—	—	• None
—	—	—	○ Low
—	—	—	○ Moderate
—	—	—	○ Moderate-high
—	—	—	○ High
—	—	—	○ Medium-high
—	—	—	○ High

Problems from U.S. Geological Survey National Hydrography Dataset, 2018
 Boundary data from U.S. Census Bureau, TIGER/Line, 2010
 Universal Transverse Mercator zone 18N projection
 North American Datum of 1983

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Appendix I: Exercise Themes & Ideas

- The Toolkit identifies **30 Themes** addressed in the scenario, spanning **45 ideas** for discussion-based exercises; these are organized within each emergency management phase.
- Document symbols indicate the **17 Facilitator Tools** created based on suggested ideas
- **3 new tools** will be added soon:
 - Economic Impact (Recovery)
 - Food Insecurity (Planning/Prep)
 - Payroll (Planning/Prep)

	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			

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Section 3: 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

57

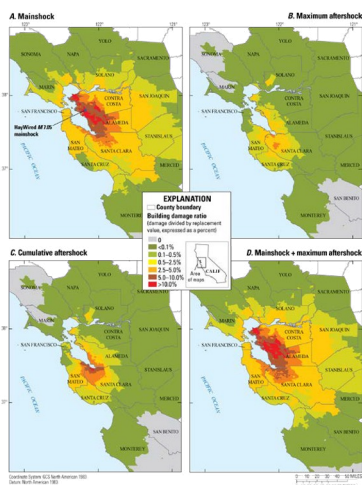
Facilitator Tools

- 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



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Section 4: Facilitating Your Exercise



- Now that you have developed (or selected) the components needed for your exercise, this section provides best practices for how to:
 - Prepare your participants
 - Get started, including ground rules
 - Manage discussion dynamics - to involve all participants, manage the pace, etc.
 - Use visuals and data
 - Take notes to capture key results

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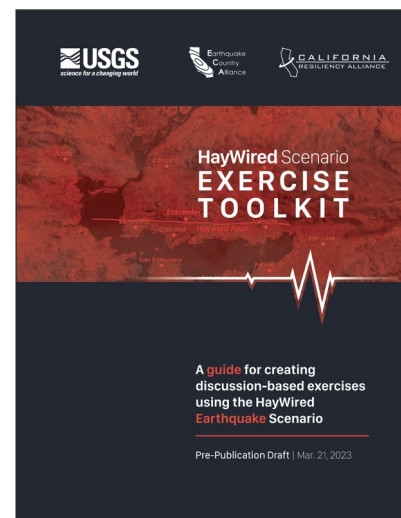
Section 5: Implementing Lessons

- The goal of your exercise should be to enable continuous improvement by applying the lessons and insights learned.
- This section has suggestions for how to:
 - Capture lessons, insights, ideas, and actions
 - What gaps and vulnerabilities were identified?
 - What tasks and actions were identified?
 - What were the team's strengths?
 - Leverage results to improve everyday operations
 - Find answers to questions that remain unanswered
 - Follow through on actions and tasks

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Access & Training Opportunities

- All materials are available at EarthquakeCountry.org/haywired
- We have support for several workshops this year.
- Ideal audiences: Businesses, business associations, non-profits, government agencies, and others looking to improve planning and resilience.
- Email Benthien@usc.edu if you can host a workshop or know someone who may be interested.



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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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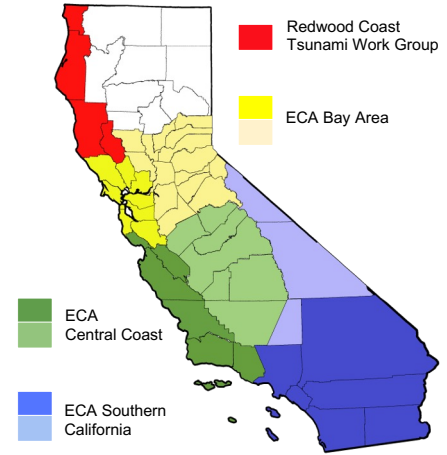
Help Us Create ECA Tools & Activities for Your Use!

Mark Benthien
*ECA Executive Director,
Statewide California Earthquake Center*

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Earthquake Country Alliance

- 4000+ *Public-Private-Grassroots* leaders
- Subject matter expert *Committees* develop resources and 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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ECA Statewide Activities

Develop Messaging and Resources:
EarthquakeCountry.org
EarthquakeCountry.org/resources
Terremotos.org



Support Tsunami Preparedness Week:
TsunamiZone.org/california



March 23-31, 2024

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



Oct. 17, 2024

Webinars & other events
EarthquakeCountry.org/calendar

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ECA Sector-Based Outreach Committees

- Businesses
- Public Sector
- Non-Profit & Faith-Based Organizations
- Accessibility
- Healthcare
- Higher Education
- PreK-12 Education

Each meets bimonthly; Join us!
EarthquakeCountry.org/committees

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ECA Events Bureau

- Speakers for online/in-person events
 - The Seven Steps to Earthquake Safety
 - Tsunami Preparedness
 - Earthquake Safety for People with Disabilities
 - Community Earthquake Preparedness
 - Organizing a Community ShakeOut Event
 - School Earthquake Preparedness
 - The Science of Earthquakes
 - Earthquake Insurance
 - Emergency Planning for Apartment Residents
 - Is Your Business Prepared for Disasters?
 - ShakeAlert Earthquake Early Warning System
 - Map Your Neighborhood
- Booths or info tables at events
- We may simply send materials in advance
- Request presenter or information table:
EarthquakeCountry.org/eca-events



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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 2024 you'll be able to fully customize the materials for your project (furniture straps, printed materials, etc.)
- **2024 Awards:** New application process in JUNE

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

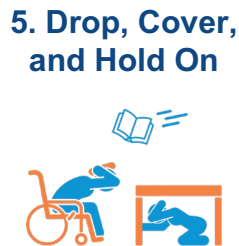
68

Seven Steps To Earthquake Safety

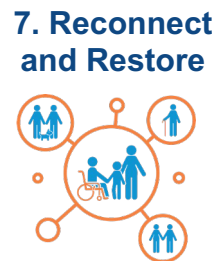
BEFORE



DURING



AFTER



EarthquakeCountry.org/sevensteps

Terremotos.org/sietepasos

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Updated Materials in 16 Languages

The collage displays 16 different language versions of the ShakeOut earthquake safety materials. Each version includes the 'Drop! Cover! Hold On!' slogan and illustrations of people in various situations (e.g., in a car, on a train, in a wheelchair, in a classroom). The languages shown include English, Vietnamese, Vietnamese with Braille, Hmong, Filipino, Chinese, Spanish, and others. The materials are provided by EarthquakeCountry.org.

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Printed Materials Ordering Process

- Cal OES NEHRP funding now supporting printing & shipping of ECA materials to local governments, non-profits, and others (on approval)
- A new ordering form will be available mid-June
- Request from many ECA printed materials
- Items will be printed and shipped to you for free
- Limits will apply per person/organization
- For larger quantities, purchases will be possible

This collage is similar to the one above, showing 16 language versions of the ShakeOut earthquake safety materials. It includes the 'Drop! Cover! Hold On!' slogan and illustrations of people in various situations. The languages shown include English, Vietnamese, Vietnamese with Braille, Hmong, Filipino, Chinese, Spanish, and others. The materials are provided by EarthquakeCountry.org.

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Northridge 30th Anniversary Campaign

- SCEC/ECA is leading the development of a year-long educational campaign to commemorate the 30th anniversary of the Jan. 17, 1994, Northridge earthquake
- Purpose: increase awareness about earthquake hazards, encourage preparedness and mitigation, and inform about self-protective actions and response skills.
- Grant funding and sponsorships, including:
 - Cal OES
 - California Seismic Safety Commission
 - Earthquake Program via FEMA NEHRP
 - California Earthquake Authority
 - Optimum Seismic
 - **Other public/private partners**
- Primary activity: many “Quake Heroes Expo” events.
- Campaign website at EarthquakeCountry.org/northridge



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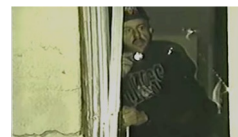
Quake Heroes



- 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, and learned key lessons for reducing future losses (tuck-under parking buildings are featured)
- Encourages viewers to become trained (CERT, CPR, etc.) so they are prepared to help others
- 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

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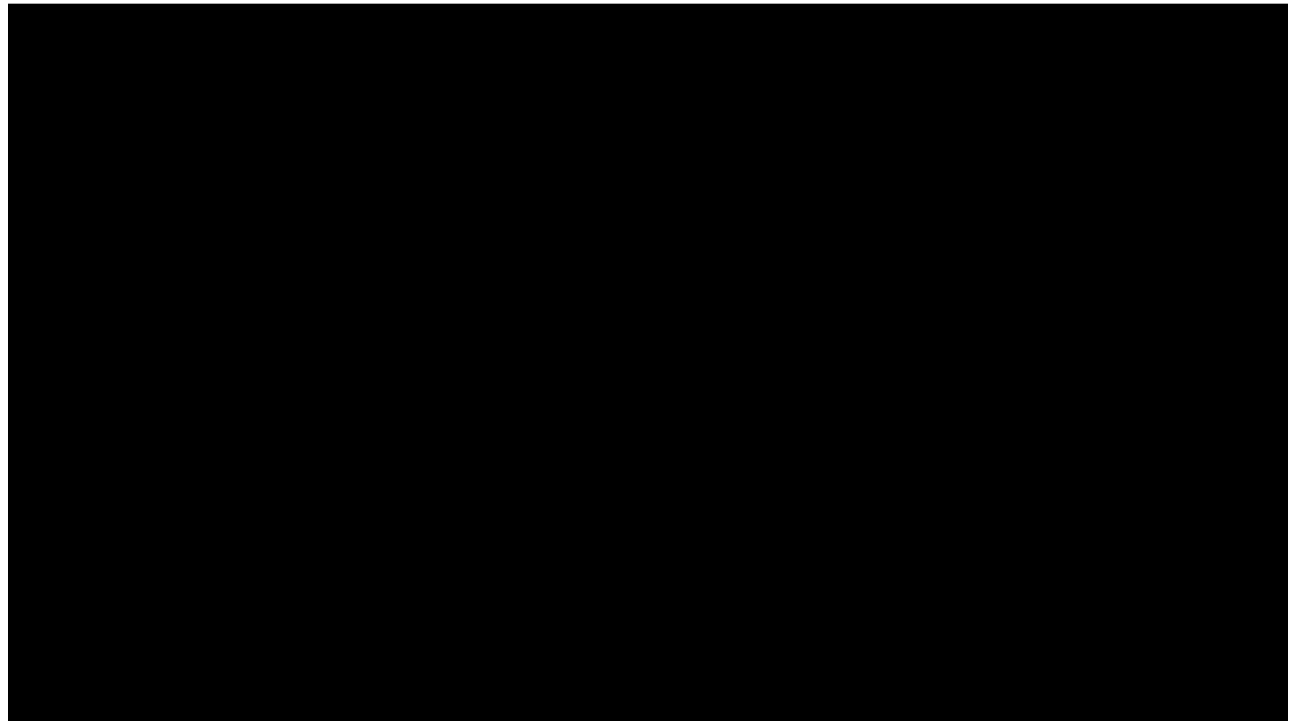


Quake Heroes Expos

- Screenings for large groups
- May include panel discussion before the film with local leaders, scientists, engineers, etc.
- After viewing the film, attendees can immediately take actions at a *Seven Steps to Earthquake Safety* resource/information fair where they can:
 - register for CERT and other trainings
 - receive free or low-cost disaster supplies and earthquake safety fasteners
 - learn about earthquake insurance and retrofitting
 - sign up for alerts
 - experience an earthquake simulator
- **Learn more and schedule a discussion at [QuakeHeroes.org](https://www.quakeheroes.org)! (also [trailers](#))**



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Quake Heroes Events

- YMCA Westchester Quake Heroes Expo (Dec 1)
- Cal State Northridge (Feb 3)
- Coachella Valley (March 30)
- Washington DC, Dept. of State (April 2-4)
- Venice Neighborhood (June 29)
- Gardena (August 10)
- Santa Clara County: (August 24 & September 21)
- Walt Disney Studios (September)
- Long Beach (September 21)
- Laguna Woods (September)
- Chino (September/October)
- Berkeley Lab/City (September)
- County of San Bernardino (Oct. 17)
- Many more in the works!



COACHELLA VALLEY
QUAKE HEROES
EXPO

SATURDAY, MARCH 30
9AM - 1PM

Register to Attend at
EarthquakeCountry.org/CVexpo

Rancho Mirage
 Public Library

Watch an inspiring film based on true stories!
 Discounts on earthquake preparedness supplies!

Ride an earthquake simulator!
 Sign up for safety trainings!

CVDPN COACHELLA VALLEY SC/EC Watch Trailers ROMASCOPE

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Loma Prieta Earthquake 35th Anniversary

October 17, 2024
 (2024 International ShakeOut Day!)

What is being planned?
 What could be planned - before?
 What could be planned - on Oct. 17?
 What could be planned - after? How long?

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Great ShakeOut Earthquake Drills

- Annual opportunity for schools, organizations, and families to practice earthquake safety and other aspects of their emergency plans
- 2024 International ShakeOut Day: **October 17**
- Learn more and register: ShakeOut.org
- How to participate, guides, etc.: ShakeOut.org/howtoparticipate

Shake Out™



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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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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
- info@earthquakecountry.org



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