

The Great
California
**Shake
Out**

Engaging Individuals and Organizations
in a Common Vision for Resiliency

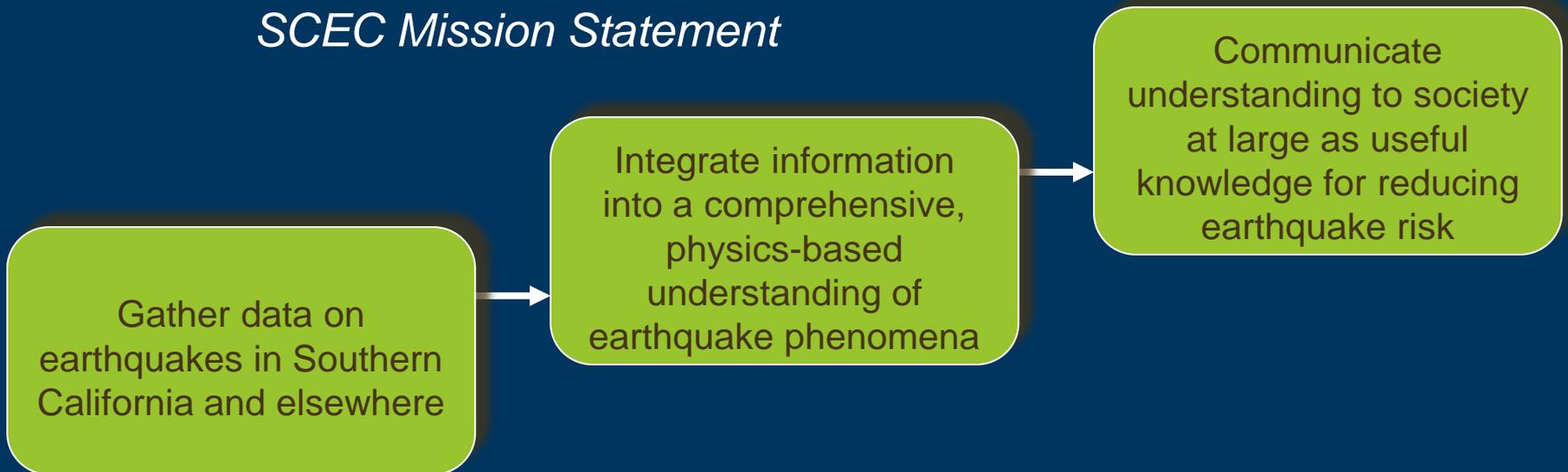
Southern California Earthquake Center



an NSF + USGS center

- Involves 600+ scientists at 65 institutions worldwide. Headquartered at USC.
- Focuses on earthquake system science using Southern California as a natural laboratory
- Translates basic research into practical products for earthquake risk reduction

SCEC Mission Statement

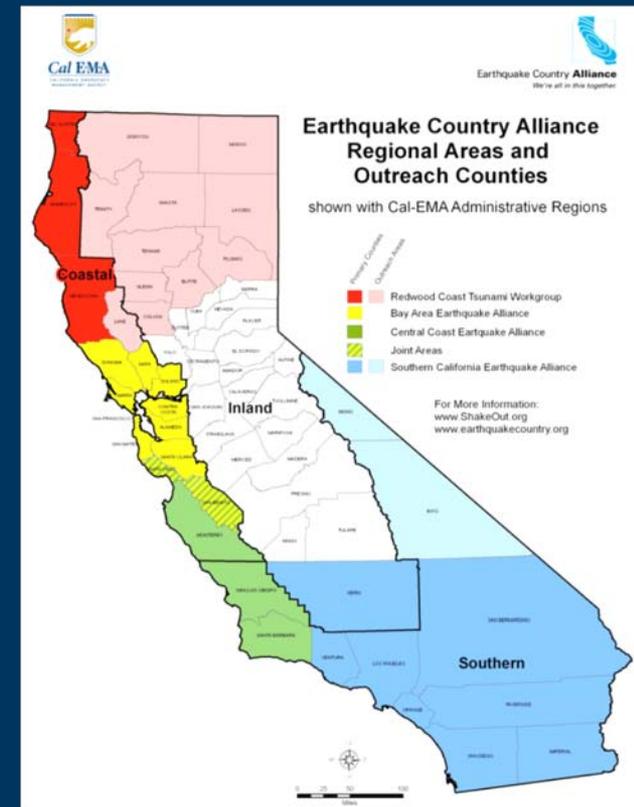


Earthquake Country Alliance

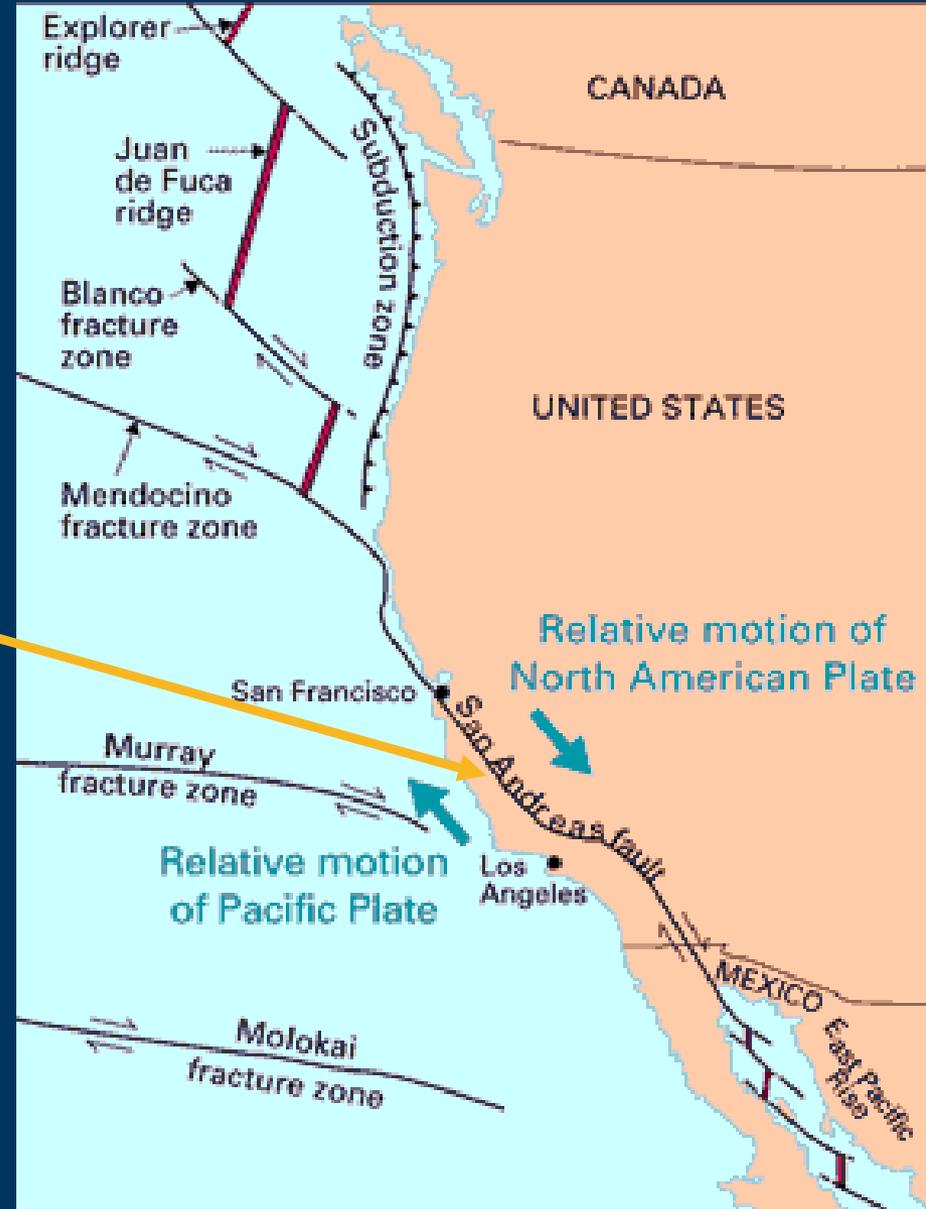
- New statewide effort to:
 - Bring together earthquake education and preparedness experts and advocates
 - Develop materials and activities with consistent messaging
 - Coordinate the ShakeOut
- Mission is to foster a culture of earthquake and tsunami readiness in California
- www.earthquakecountry.org

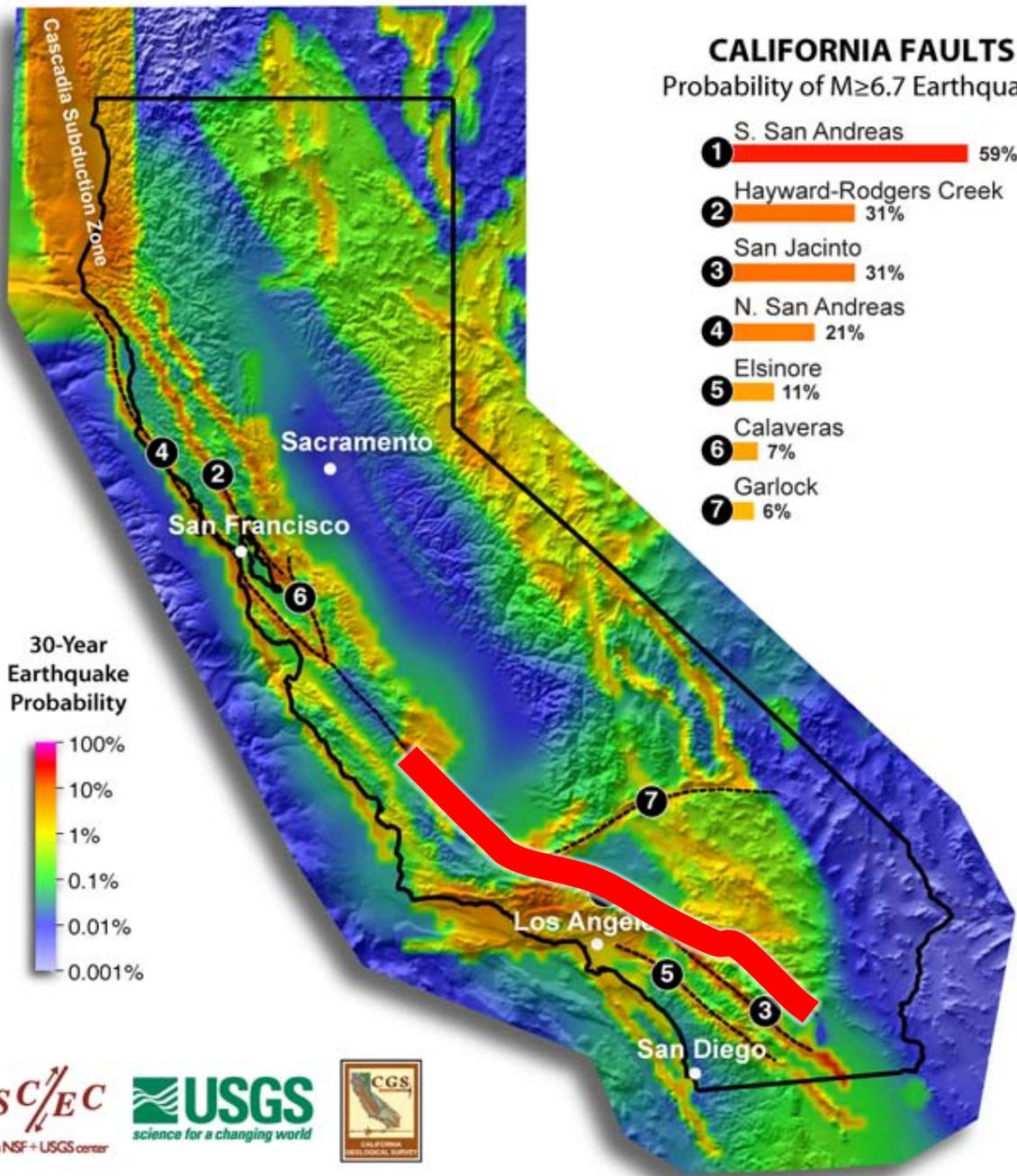


Earthquake Country **Alliance**
We're all in this together.



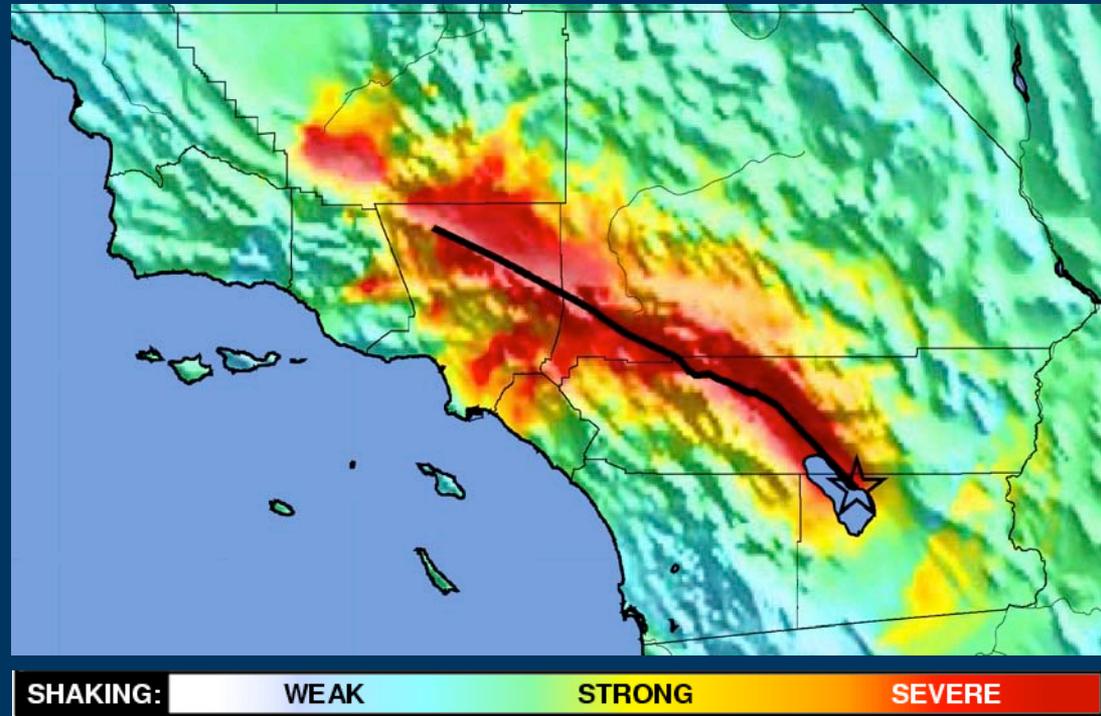
The San Andreas - it's all our fault





A Possible “Big One”

- 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 realistic **scenario** of what will happen.



How the ground will shake



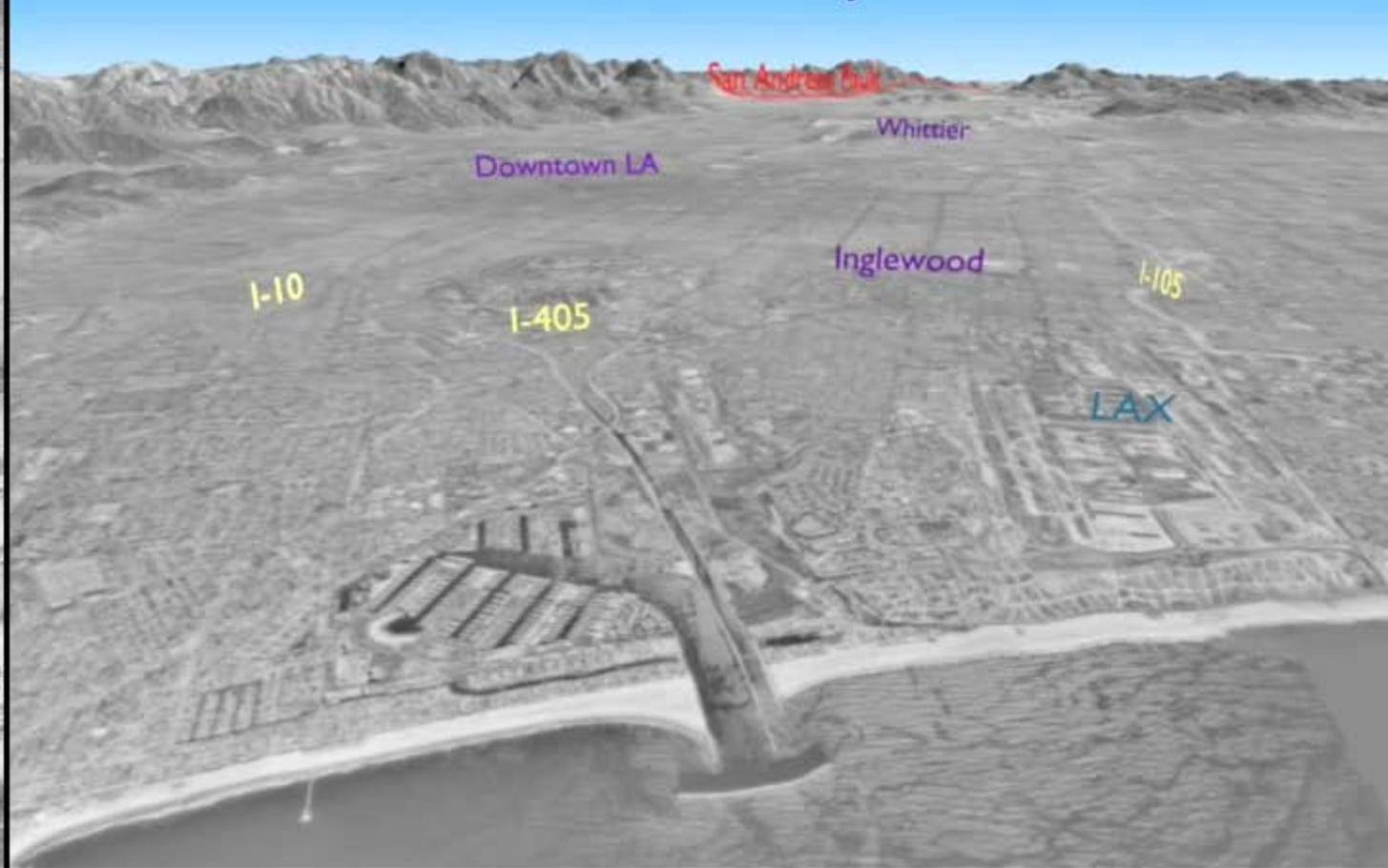
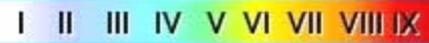
M7.8 Scenario Earthquake

1000x exaggeration

Time = 000.0 s

Marina del Rey

Shaking Intensity (MMI)



ShakeOut Scenario “Disaster Equation”

Widespread Strong Ground Shaking
+ Shaking of Long Duration =

300,000 buildings significantly damaged

Widespread infrastructure damage

\$213 billion damages

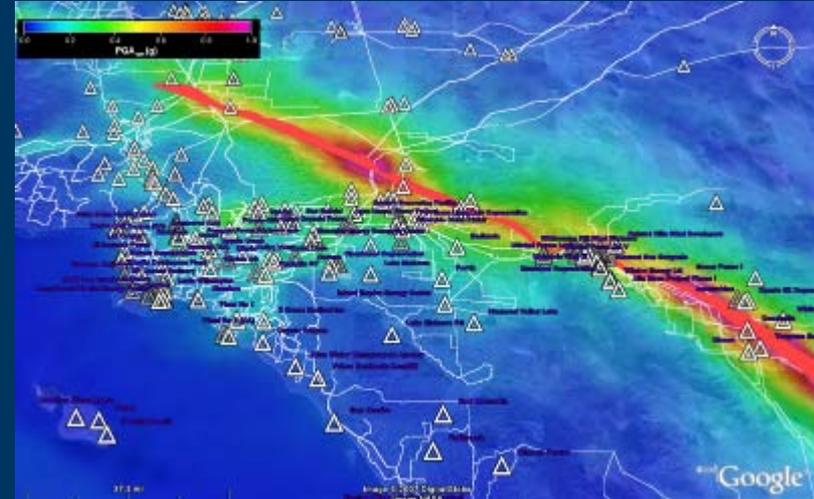
270,000 displaced persons

50,000 injuries

1,800 deaths

Lifeline Disruptions

- Water system damage is critical
 - Many homes and businesses without water for 1 week...
 - ... some for as long as 6 months
- Electricity and gas outages widespread
 - Even in hardest hit areas, 90% of service restored in days
- Phone Systems Overwhelmed
 - Cell towers unregulated so damaged
 - Fault offsets internet lines
 - All service out for first day; most restored within 2 weeks



Transmission lines & power plants



1971 San Fernando Earthquake

Fire Following Earthquake

- Earthquakes cause fire disasters
 - Numerous simultaneous ignitions
 - Degraded fire-resistive building features
 - Reduced pressure in water mains
 - Saturated communications
 - Traffic impacts
 - More fires than firefighting capabilities...
- Study findings
 - 1,600 ignitions requiring a fire engine
 - 1,200 exceed capability of 1st engine
 - Northern Orange County & LA Basin: conflagrations destroy 100s of blocks
 - 200 million square feet burnt
 - ~ 1.5% of total building stock
 - No Santa Ana winds... *not worst case*

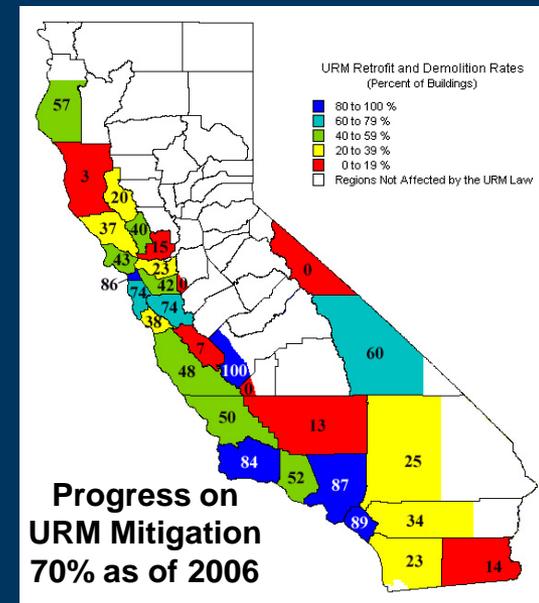


Fire risk greatest in areas with strong shaking and densely-packed wood buildings; many such areas in LA Basin and northern OR Counties

In the ShakeOut Scenario, Fires *double* casualties and losses.

Why it is not even worse

- Protections in the Built Environment
 - Inherently rugged construction
 - Steadily improving building codes
 - Highly trained and licensed engineers and contractors
 - Good code enforcement
- Mitigation Works
 - Enormous effort to upgrade highway bridges
 - Extensive seismic work done by electric power utilities
- Planning/Legislation
 - The Field Act
 - Unreinforced Masonry (URM) retrofit laws
- Not the Worst Case
 - Not the biggest or most urban-centric earthquake
 - No Santa Ana winds



What we do now,
before the earthquake,
will determine
what our lives are like after

Don't Wait for the Quake!

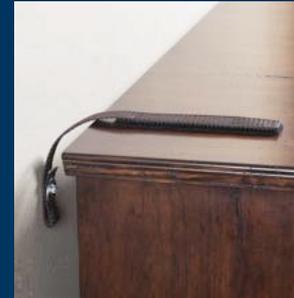
More can and must be done...

- ...at every level
 - individual, neighborhood, organization, government
 - home, school, business, faith group
 - tenant and landlord, employee and owner
- ...before, during, and after
 - BEFORE will have the most impact
- ...by each and all of us
 - if we want to reduce losses and recover quickly
 - We're ALL in this together!

Key Preparedness Actions

At home, work, and school:

- Consider what would happen in a big earthquake, and what you can do now to reduce damage and recover quickly.
- Practice “Drop, Cover, and Hold On”
- Secure Your Space
 - Top heavy furniture
 - Water heaters
 - TVs & electronics
 - Vulnerable structures
 - Etc.
- Store More Water
 - 1 gallon per person per day for at least 3 days and *ideally* for 2 weeks
- Have a Fire Extinguisher(s)
 - Everyone must know proper use



What Leads to People Getting Prepared?

(Research by Mileti, Bourque, and others)

- They see and hear consistent, frequent, multi-media, and multi-source information about what to do
 - “Sell” earthquake preparedness like Coca Cola sells Coke.
- They see others like themselves getting prepared
 - “Monkey See, Monkey Do”
- They talk about preparedness with people they know
 - And then think it’s their idea
- Focus on consequences and how to avoid them
 - Don’t just scare people!

The ShakeOut puts these findings into practice

ShakeOut Goals

- Participation of millions of people
 - The ShakeOut is our chance to practice how to protect ourselves during earthquakes, and to get prepared at work, school, and home.
 - Earthquake Country Alliance Associates develop local efforts
 - Register at www.ShakeOut.org/register
 - Shift the culture in California about earthquakes
 - Get people talking with each other about earthquakes and preparedness
 - Come together around a common vision for a resilient California
 - Significant increase in earthquake readiness at all levels
 - Family, community, school, business, and government readiness
- 

2008: The Great Southern California ShakeOut

- November 12-16, 2008
- A week of special events to inspire southern Californians to get ready for big earthquakes
- Regional earthquake drill on Nov. 13
- 5.47 million participants: schools, businesses, communities, governments, families....
- Goal was to get people talking... and then to take action!



Shake
Out

2009: The Great California ShakeOut!

- October 15, 2009
- **Statewide** earthquake drill for all residents, businesses, schools, organizations... everyone!
- **6.9 million participated**
- Now will be annual, on the third Thursday of October
- Learn more at ShakeOut.org

The Great
California
**Shake
Out**TM





Welcome to the new ShakeOut statewide website!

LANGUAGE: ENGLISH

SEARCH:

GO

Be a Part of the ShakeOut
Register Now!
Log in

Home

The Drill

Why Participate?

News and Events

Resources

ShakeOut Partners

Contact Us

PARTICIPANTS

The following agreed to be listed on this website when they registered. If you have registered, use the access code sent to you to return and update your information (and give permission for us to list you here).

PARTICIPANTS (2009) FOR SAN DIEGO COUNTY: SCHOOLS/DISTRICTS

Select a county...

There are 53 schools/districts registered in [San Diego County](#) for ShakeOut 2009, with a total of 366949 participants.

The following registrants agreed to be listed on this website when they registered. [View all groups.](#)

Only districts that have registered are listed in bold.

No district listed:

[Bonita Learning Academy](#), Chula Vista
[CDA Finney](#), San Diego
[Christ Church Day School](#), Coronado
[Escondido Christian Preschool](#), Escondido
[Escondido Christian Preschool](#), Escondido
[Faith Lutheran Church & Schools](#), Vista
[Fallbrook Presbyterian Preschool](#), Fallbrook
[Fletcher Hills Presbyterian Preschool](#), El Cajon
[Horizon Elementary School](#), San Diego
[Immanuel Lutheran Children's Learning Center](#), Oceanside
[Incarnation Lutheran Preschool](#), Poway
[Light and Life Christian](#), Escondido
[Maranatha Christian Schools](#), San Diego
[Mira Mesa Christian School](#), San Diego
[Montessori Discovery School](#), Santee
[Mountain Peak Charter School](#), Vista
[San Carlos United Methodist Preschool](#), San Diego
[St. Michael Academy](#), San Diego
[Tecate Christian School](#), Tecate
[Tecate Christian School](#), Tecate
[Borrego Springs Unified](#), borrego springs
[Cajon Valley Union School District](#), El Cajon
[Carlsbad Unified School District](#), Carlsbad
[Chula Vista Elementary School District](#), Chula Vista
[Mae Feaster Elementary Charter School](#), Chula Vista
[Dehesa School District](#), El Cajon
 Diocese of San Diego
[Saint John the Evangelist School](#), Encinitas
[St Martin of Tours Academy](#), La Mesa
[St. Pius X School](#), Chula Vista
[Encinitas Union School District](#), Encinitas
[Escondido Union School District](#), Escondido
[Grossmont Union High School District](#), La Mesa
[Jamul-Duizura Union School District](#), Jamul
[Julian Union Elementary School District](#)
[Julian Charter School Pine Valley Academy](#), Pine Valley
[Lemon Grove School District](#), Lemon Grove
[Mountain Empire Unified School District](#)
[Clover Flat Elementary School](#), Boulevard
 na
[Santa Sophia Academy Preschool](#), Spring Valley
[National School District](#), National City
[El Toyon School](#), National City

Key ShakeOut Components

- Multi-level *ShakeOut Drill Manuals* for key groups
- School drill resources, take home materials, class curricula
- *ECA Associates* throughout the state (220+ and growing)
- *ECA EPIcenter* partners (Museums, libraries, parks, and other venues)
- Presentations by speaker's bureaus
- *Preparedness Now* movie (So. Cal.)
- *Drill Broadcasts* (audio and video 2-minute narrated instructions with sound effects, in English and Spanish)
- Radio, TV, and print advertising and PSAs (supported by sponsors)
- Comprehensive news media resources and coordination

Resources for people and organizations to participate in the drill, to get prepared, and to share the ShakeOut

ShakeOut Flyers, Web Banners, etc.

Get Ready to Shake Out.

10.15.09
Register Now at www.shakeout.org

The Great California Shake Out



Shake Out The Great California Shake Out Annual Statewide Earthquake Drill

Businesses
Get Ready to ShakeOut!

Register today at ShakeOut.org

HOW TO PARTICIPATE

Here are a few suggestions for what businesses can do to participate in the ShakeOut. More information and resources can be found at ShakeOut.org/businesses.

Plan Your Drill:

- Register at www.ShakeOut.org/businesses to be counted in the ShakeOut. Get great graphics, drill notes.
- Have a "Drop, Cover, and Hold On" drill at 10:15 a.m. on October 15. You can also simulate other aspects of your emergency plan.
- Choose what you learned and make improvements.

Get Prepared for Earthquakes:

- Check your emergency supplies and equipment, make sure they are accessible and functional.
- Ask employees to inspect facilities for items that might fall and cause injury and secure them.
- Encourage employees to receive at-home, on-site, or in-office training for drills.

Share the ShakeOut:

- Encourage employees to ask their friends, families and neighbors to register.
- Ask colleagues at other businesses to participate.
- Posters, flyers, and other materials for promoting the ShakeOut are at www.ShakeOut.org/resources.
- Share your experience at www.ShakeOut.org/2009.

Drop! Cover! Hold On!

As a registered ShakeOut participant you will:

- Learn what you can do to get prepared.
- Receive ShakeOut news and other earthquake information.
- Be counted in the largest earthquake drill ever.
- Get an example that motivates others to participate.

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USGS S&C CEM CEA FEMA

What will YOU be doing at 10:15 a.m. on THURSDAY OCTOBER 15, 2009?

The Great California Shake Out!!

Join millions of Californians who will Drop, Cover and Hold On!

Why? Earthquakes can shake the state at any time, and this is our chance to practice what to do to be safe.

Learn more at Shakeout.org

The Great California Shake Out

Shake Out. October 15, 2009

Don't Freak Out.

The Great California Shake Out

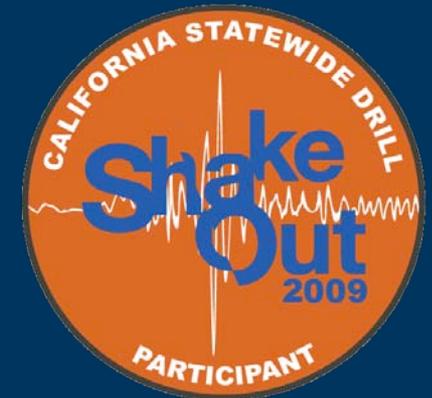
www.shakeout.org

Putting down roots in earthquake country

Southern California Fall 2009 edition

Includes the Great Shake Out 2009

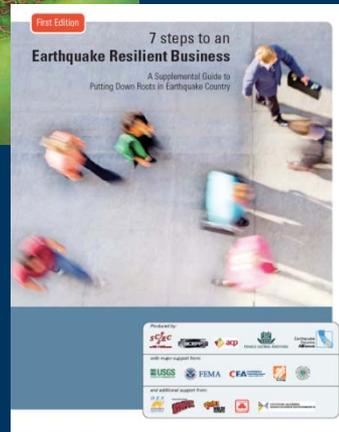
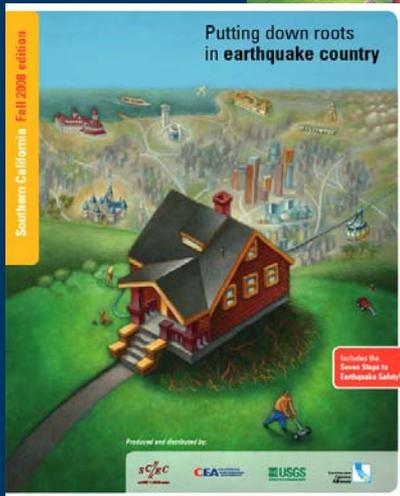
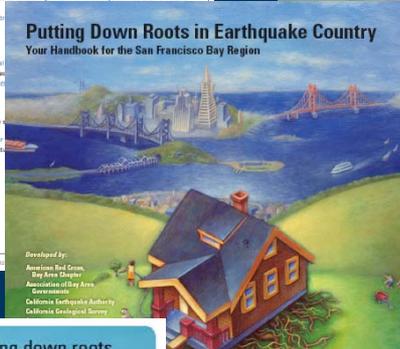
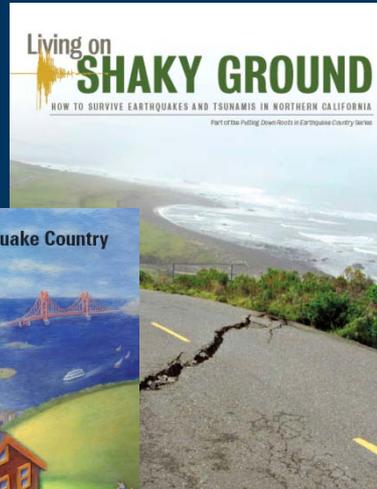
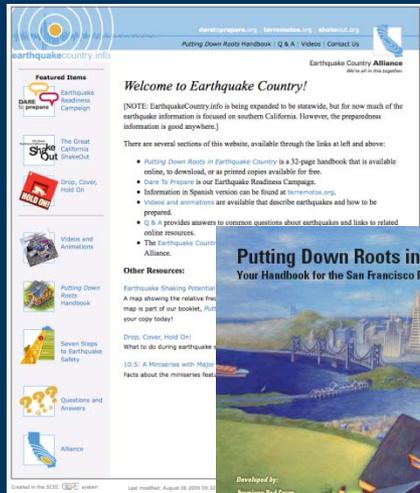
Produced and Distributed by S&C CEA USGS



Join Us October 15, 2009 **Register Now at** www.shakeout.org
for the Largest Earthquake Drill in U.S. History.

The Great California Shake Out

Preparedness Resources



- www.earthquakecountry.org
- *Putting Down Roots in Earthquake Country*
 - Includes “Seven Steps to Earthquake Safety”
 - Online to read, download, or order free printed copies
 - So. Cal. English & Spanish
 - Bay Area (also multi-language special versions)
- *North Coast: Living on Shaky Ground* (similar content)
- *7 Steps to an Earthquake Resilient Business*



DROP!

COVER!

HOLD ON!

Protect Yourself. Spread The Word.



Earthquake Country Alliance
We're all in this together.

earthquakecountry.info



PLAY BEAT THE QUAKE

Test your earthquake knowledge and skill right now!

VERSION ESPAÑOL



¡AGÁCHESE!

¡CÚBRASE!

¡AGÁRRESE!

Protégete. Divulga La Palabra.



Earthquake Country Alliance
Esta nos afecta a todas.

www.terremotos.org



DERROTA EL TEMBLOR

¡Pon a prueba tu conocimiento de terremotos y habilidad ahora mismo!

ENGLISH VERSION

Play *Beat The Quake!* (dropcoverholdon.org)

BEAT THE QUAKE

PROGRESS METER



▶ Be Prepared



Earthquake Country **Alliance**
We're all in *this* together.



Facebook.com/greatshakeout

The Great California ShakeOut

Wall Info Photos Discussions Events +

What's on your mind?

Attach: Share

Edit Page Promote with an Ad Suggest to Friends Remove from My Page's Favorites

At 10:21 a.m. on October 21, 2010, join millions of Californians in the largest earthquake drill ever!

Information

Founded: 2009

Insights

4.1 Post Quality

16 Interactions This Week

Most Active Countries

United States 10

Insights are visible to page admins only.

Fans

6 of 1,316 fans See All

Martin Jahn Mark Orihuela Grace Hwang

The Great California ShakeOut We want your feedback! As a ShakeOut participant in 2009, we sent an email with a link to a survey about your preparedness, what you did in your drill, and how you think we can improve the 2010 ShakeOut. If you did not receive the email, please visit <http://www.surveymonkey.com/s/SV2HZ7F>.

Thank you for your participation and commitment to earthquake safety!

2009 ShakeOut Survey
www.surveymonkey.com
Thank you for helping us learn more about the October 15th, 2009 Great California ShakeOut! Learning about your experiences may help improve disaster preparedness throughout California. Findings from this survey will be posted on the ShakeOut website at www.shakeout.org. ...

January 24 at 11:38am · Comment · Like · Share

3 people like this.

Benandrew Briggs I am a certified CERT in our County but our County is not listed for this very important event...can you email me information that i can present to my CERT hierarchy so that awareness can be heightened? you have my email already...
January 28 at 2:49pm · Delete · Report

Write a comment...

The Great California ShakeOut There are many things you can do to reduce losses from happening in your home and community. The preparedness theme for ShakeOut 2010 is "Secure Your Space" —strap furniture and large appliances to walls, secure electronics and other objects, and much more. Learn how at: daretoprepare.org.
January 24 at 11:34am · Comment · Unlike

You, Lori Dengler, Kathleen Springer and 3 others like this.

Write a comment...

The Great California ShakeOut January 21st was the 9 month date to the 2009 Shake Out Drill. Good job everyone!

1,316 fans

Frequent posts about ShakeOut milestones, preparedness recommendations, and other info, with community interaction

Twitter.com/shakeout

twitter Login Join Twitter!

Hey there! **ShakeOut** is using Twitter.
Twitter is a free service that lets you keep in touch with people through the exchange of quick, frequent answers to one simple question: What's happening? **Join today** to start receiving ShakeOut's tweets.

Join today!
Already using Twitter from your phone? [Click here.](#)

ShakeOut
The Great California ShakeOut
Name California ShakeOut
Location California
Web <http://ShakeOut.org>
Bio The Official Twitter of the Great California ShakeOut, the largest earthquake drill ever!

524 following 787 followers 43 listed

Tweets 234
Favorites
Following

View all...
RSS feed of ShakeOut's tweets

We want your feedback! As a ShakeOut participant in 2009, we sent an email with a link to a survey about your... <http://bit.ly/5jUXWI>
11:39 AM Jan 24th from Facebook

There are many things you can do to reduce losses from happening in your home and community. The preparedness theme... <http://bit.ly/4GmKb1>
11:34 AM Jan 24th from Facebook

January 21st was the 9 month date to the 2010 ShakeOut Drill on October 21, at 10:21 a.m, and registration on the... <http://bit.ly/4vcCKC>
11:33 AM Jan 24th from Facebook

Our thoughts are with the good people of Haiti and relief and rescue workers this week. <http://bit.ly/6azcRy>
10:14 AM Jan 14th from Facebook

The Vial of L.I.F.E. (Lifesaving Information For Emergencies) is a program which allows you to provide medical... <http://bit.ly/3151rj>
8:16 AM Nov 3rd, 2009 from Facebook

Check out the USGS earthquake map for the US to see the latest events; you can click on CA to zoom in... <http://bit.ly/3151rj>

787 followers
Following 524

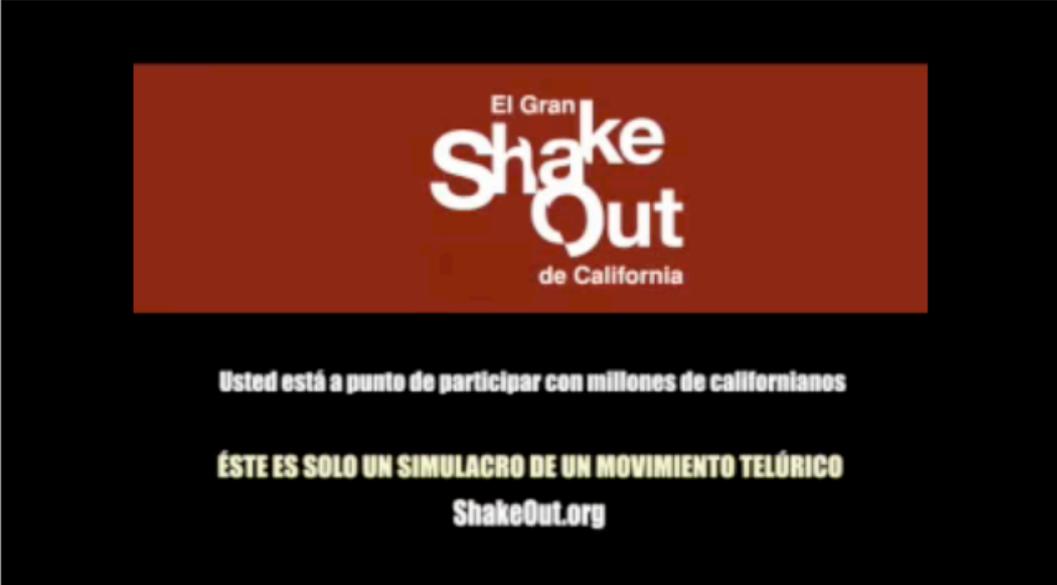
234 tweets in
2009

Similar tweets
about ShakeOut
milestones,
preparedness
recommendations,
etc.

Key is re-tweets

youtube.com/CaliforniaShakeOut

CaliforniaShakeOut's Channel [Subscribe](#) [All](#) [Uploads](#) [Favorites](#)  



Usted está a punto de participar con millones de californianos

ÉSTE ES SOLO UN SIMULACRO DE UN MOVIMIENTO TELÚRICO

ShakeOut.org

0:06 / 2:42   

[Info](#) [Comments](#) [Favorite](#) [Share](#) [Playlists](#) [Flag](#)

2009 ShakeOut Drill Broadcast (Spanish, no sound effects) 0 ratings 

From: CaliforniaShakeOut | October 11, 2009 | 684 views

Video to be played at 10:15 a.m. on October 15 as part of the 2009 Great California ShakeOut. This can be downloaded along with audio-only versions at www.shakeout.org/drill/broadcast.

[View comments, related videos, and more](#)

[Search](#)

[Date Added](#) | [Most Viewed](#) | [Top Rated](#)

-  **2009 ShakeOut Drill Broadcast (Spanish, no sound effects)**
684 views - 3 months ago
-  **2009 ShakeOut Drill Broadcast (Spanish, with sound effects)**
184 views - 3 months ago
-  **2009 ShakeOut Drill Broadcast (English, no sound effects)**
1,240 views - 3 months ago
-  **2009 ShakeOut Drill Broadcast (English with sound effects)**
4,591 views - 3 months ago
-  **Domino: Great California ShakeOut Spanish 30-second**
170 views - 4 months ago
-  **Showdown: Great California ShakeOut Spanish 30-second**
151 views - 4 months ago
-  **Domino: Great California ShakeOut English 30-second**
430 views - 4 months ago
-  **Showdown: Great California ShakeOut English 30-second**
NA

ShakeOut Information Areas



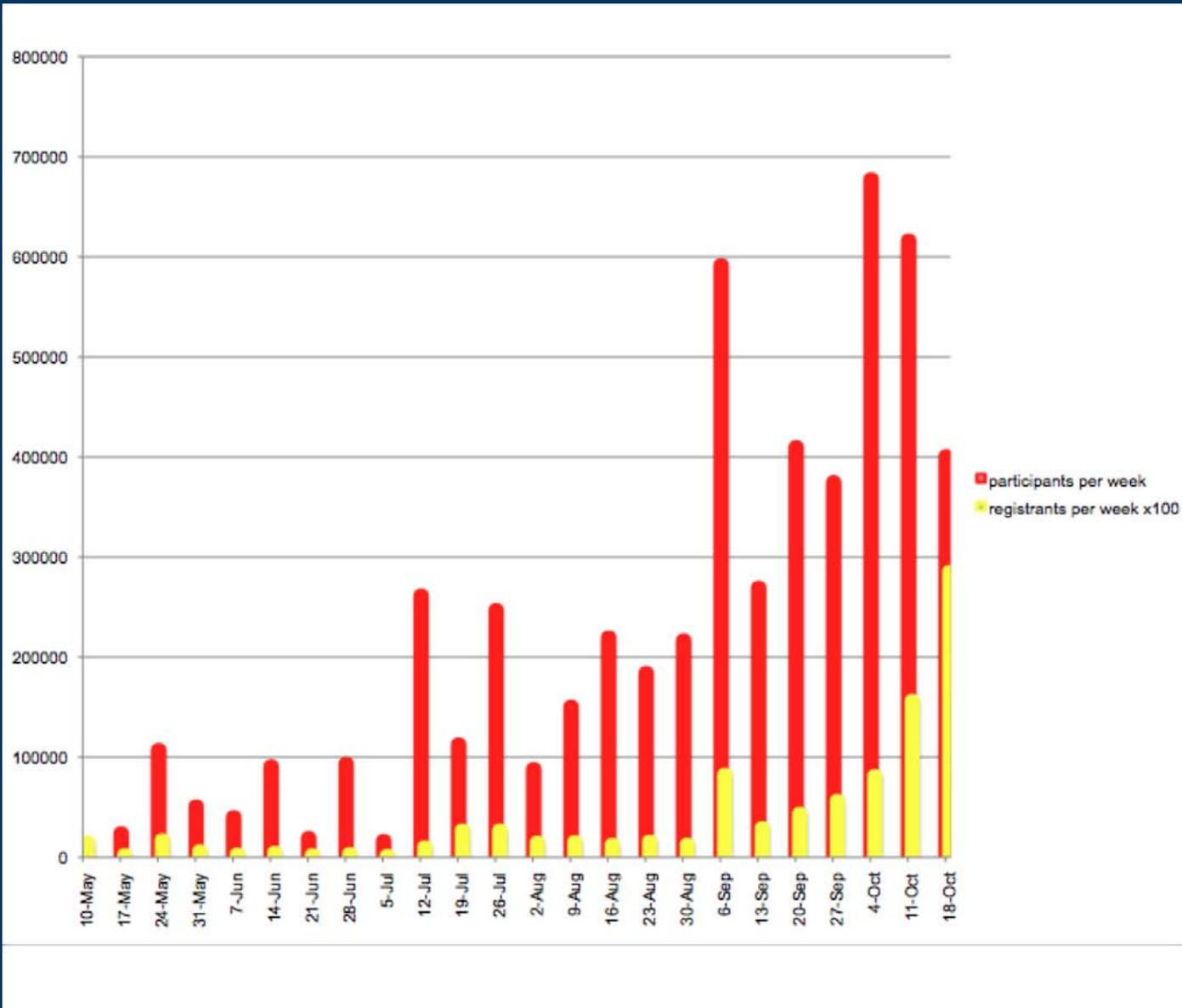
Registrations by Area

North Coast	40,000
Shasta Cascade	10,000
Bay Area	1,017,000
Central Valley (Delta)	175,000
High Sierra	20,000
Inyo-Mono	2,900
Central Valley (South)	168,000
Central Coast	171,000
Southern California (West)	3,550,000
Southern California (East)	1,150,000
San Diego	580,000

Registrations by Category

K-12 School participants	5,010,000
Colleges/College Districts/University participants	998,000
Business participants	233,000
Other organizational participants	295,000
Local government agencies/offices/etc. participants	253,000
State agencies/offices/etc. participants	31,000
Federal agencies/offices participants	63,000
Individual/family participants	16,000

Registrations by Week



2008 vs. 2009 (primary 08 counties)

County	2008	2009	Difference	Percent
San Diego	470188	580243	110055	123
Ventura	81273	99104	17831	122
Kern	107313	120337	13024	112
San Bernardino	502058	543638	41580	108
Riverside	568731	568566	-165	100
Los Angeles	2704527	2621892	-82635	97
Imperial	42995	35267	-7728	82
Orange	896049	705355	-190694	79

St. Maria Goretti
—SCHOOL—

GREAT CA SHAKEOUT DRILL
THURSDAY OCT. 15
ARE YOU READY?







2010 ShakeOut:

October 21, 10:21 a.m.

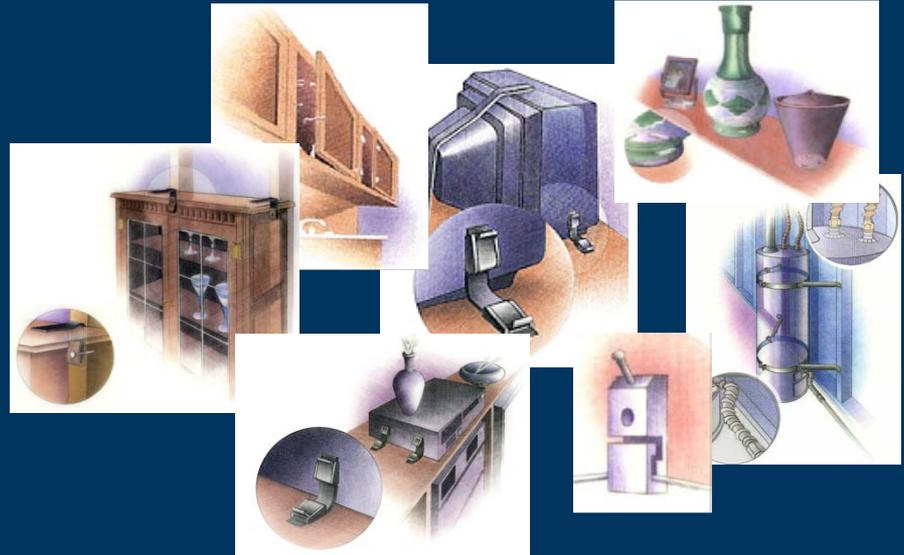
Two Primary Actions

At home, work, and school:

- Secure Your Space

- Top heavy furniture
- Water heaters
- TVs & electronics
- Collectibles, wall art
- Kitchen cabinets
- Etc.

- Coupons?
- How to track? (photos/videos?)
- Goal: 100,000 items secured/moved



- Practice “Drop, Cover, and Hold On” at 10:21 am on 10/21
 - Goal: 10 million participants



Outreach Timeline

NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
Federal/ Regional/ Multi-state (FEMA region, other federal agencies)											
State-level/ ECA Regions (Cal-EMA, State Dept. of Ed., State Legislature, State Associations for lawyers, doctors, Chambers of Commerce, ARC, etc.)											
County-level (County OES, County Depts. of Ed., County BOS, County Chambers of Commerce, VOADs, ARC chapters, etc.)											
City-Level (City OES, School Districts, City Council, City Chambers of Commerce, CERT, etc.)											
Local-level (CBOs, NGOs, local business partners, news media/radio, etc.)											
Individuals (friends, family, etc.)											
<p>OUTREACH TOOLS</p> <p>Internet, email, viral media, news media, posters, flyers, phone, etc.</p> <p>Used appropriately at each level across public, private and non-profit sectors.</p>											

Expand Outreach

- Faith-based organizations
- People with disabilities
- Military involvement
- Connect with First 5 (parents of infants)
- Grocery store partners
- Sports teams
- County level coordination: Association of Counties, county emergency managers, CESA, etc.
- Spanish language outreach
- Registration forms printed in 5 languages, also online forms

2011 and Beyond

- Central U.S. states are planning a ShakeOut drill in April 2011 (as part of Bicentennial of New Madrid earthquakes)
- British Columbia planning a ShakeOut drill in January 2011
- Washington, Oregon, Utah, and Alaska also interested
- Other countries also planning ShakeOut drills: New Zealand, Turkey, and India

For those of you in California

- Register yourself as soon as possible at www.Shakeout.Org, then tell everyone you know that you are participating.
 - Use email, facebook, and twitter links on the ShakeOut webpages.
 - Invite them to register! With your help this will be the largest earthquake drill in U.S. history.
- Agencies and organizations: post flyers in customer areas and on employee bulletin boards, include information in paycheck envelopes, or have articles in newsletters.
 - These materials are all at www.ShakeOut.org/resources.
- Add a link to www.ShakeOut.org on your website
 - ShakeOut web banners are on the resource page.

Thank you!

Mark Benthien
benthien@usc.edu
213-926-1683