



an NSF + USGS center

*Southern
California
Earthquake
Center*

Communication, Education and Outreach

Mark Benthien

Director for CEO

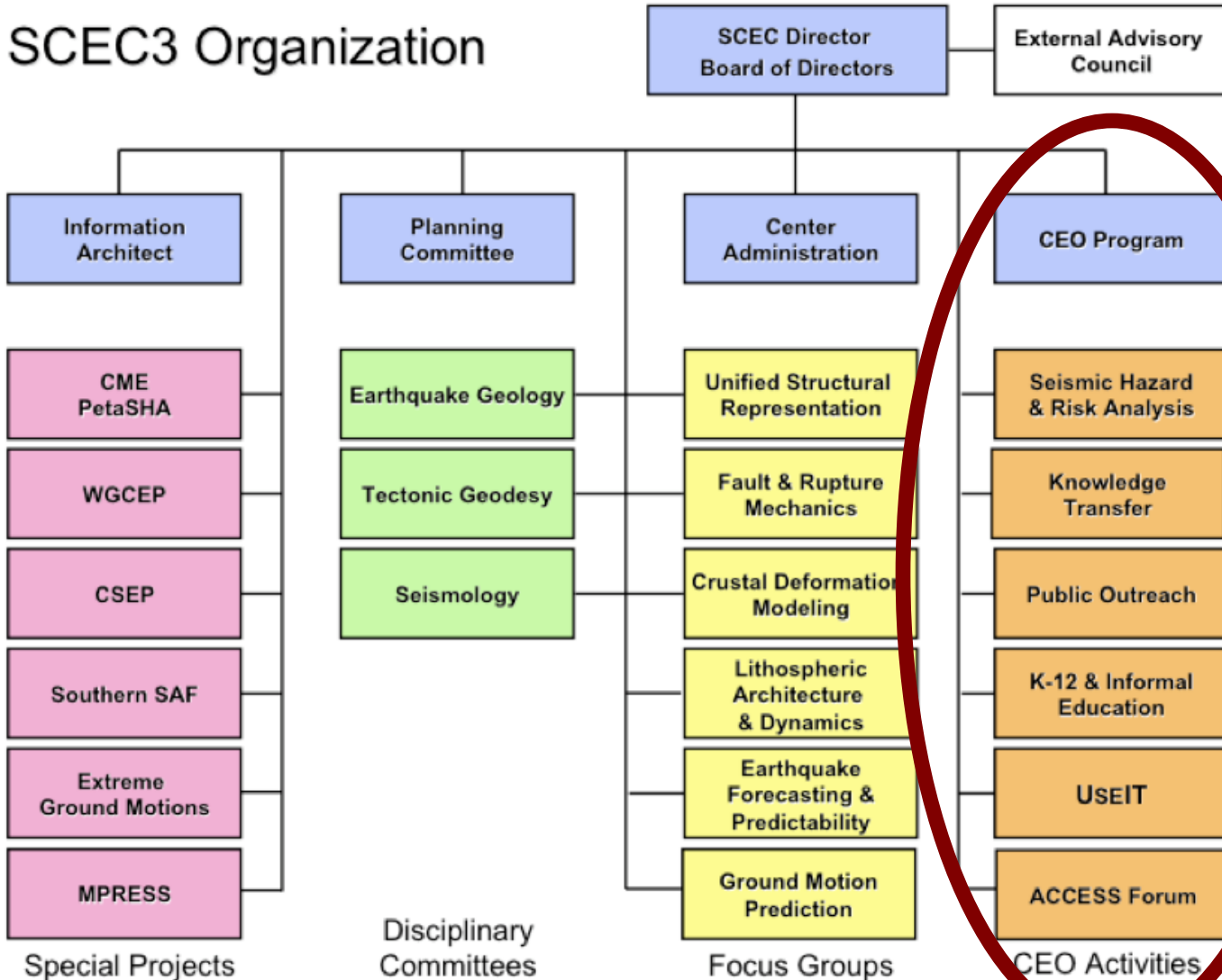
September 2008

- Integration of SCEC science projects within CEO activities
 - Communication of results of individual projects (*SCEC Nuggets*, fact sheets, etc.)
 - Include more variety of science results within CEO activities/products (teacher workshops, *Roots*, workshops for practicing engineers, government officials, etc.)
- Partnerships with other organizations
 - *Earthquake Country Alliance* (General public science education and preparedness)
 - *Earthquake Education Environment* (science education experts and organizations)
 - SEAOSC and other practicing engineers
 - Local government agencies and consultants
- Involvement of students in research / increase diversity in Geosciences
 - Summer undergraduate interns
 - Year-round engagement
 - New Cyberinfrastructure initiatives (*ACCESS* program, etc.)
 - High school student opportunities

- Reproducible *framework* activities: expanding SCEC's reach beyond southern California, and to new audiences
 - *Putting Down Roots in Earthquake Country* (English and Spanish; other US areas and perhaps internationally)
 - Teacher workshops
 - College-level earthquake course materials and activities
 - *Earthquake Education Environment* (revamped *Electronic Encyclopedia of Earthquakes* with Wikipedia partnership)
 - Museum displays
- Regional earthquake preparedness advocacy
 - *Dare to Prepare* campaign: “Secure Your Space” focus
 - Earthquake science education opportunity
- Evaluation of key activities and products
 - Tracking of outcomes, not just outputs (focus more on achieving goals, not just developing products)
 - CEO Research: learn and communicate what works

CEO Focus Areas

SCEC3 Organization



- Headquarters Staff
 - Mark Benthien, associate director of CEO
 - John Marquis, digital products manager
 - Bob de Groot, education programs manager
- Consultants
 - Paul Somerville (URS), Seismic Hazard & Risk Analysis
 - Ines Pearce, Dare to Prepare campaign / ShakeOut
 - Liz Wojdak, ShakeOut
 - Sohini Sinha, ShakeOut
- Students
 - Adam Byers, web specialist
 - Gema Venegas , education specialist
 - Christina Gotuaco, education specialist
 - Andre Mor, science writer
 - Alex Wilk, science writer
 - Viri Martino, Spanish outreach specialist
 - Sharon Yeung, outreach specialist
 - Jenny Gruen, Roots distribution & USC ShakeOut
 - Warren Yamashita, CERT & Scouting ShakeOut coordination

- Technical Products and Programs
 - Trainings for use of SCEC resources
 - Workshops for two-way information exchange with insurers, engineers, local government regulators, etc.
 - Technical publications
 - In Southern California and in other regions



- Local Government Partnerships
 - Improve use of SCEC research in policy, development, regulation, mitigation, and response planning.
 - Connected City of LA, EERI Concrete Coalition, and Building Owners to address non-ductile concrete buildings in the City.
 - SEAOSC partnership for vulnerable buildings public brochures
 - So. Cal. HAZUS Users Group
 - Earthquakes and Megacities Initiative (Los Angeles)



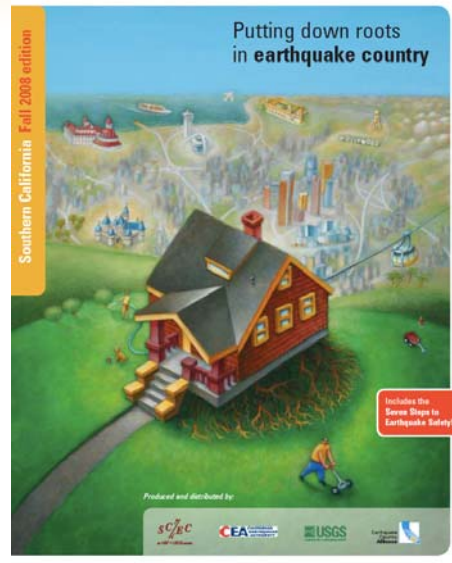
- *SCEC Associates Program*
 - Partnerships with business and industry to support their needs and involve them in SCEC (advisory role, financial support)
 - Insurers, utilities, transportation, companies with large facilities in So. Cal., etc.
 - Facilitated access to information, special workshops, etc.

Putting Down Roots in Earthquake Country

- So Cal: Over 3.3 million copies printed since 2004 (major funding from CEA)
 - Fall 2008 version includes ShakOut scenario and other updates
 - 1.3 million in April 9, 2006 LA Times
 - Available at home improvement stores
 - First Spanish version in March, 2006
 - 500,000 copies of Spanish Version distributed in May, 2007 in Hoy newspaper; 410,000 more in La Opinion newspaper in September, 2007

- Bay Area version produced by USGS (with many partners)
 - Over 2.3 million copies printed
 - Abbreviated “Seven Steps” version produced in early 2007 in English/Spanish (640,000) and English/Chinese/Korean/Vietnamese (360,000)

- “North Coast” version- update of “On Shaky Ground” will include Seven Steps
- Business supplement to Roots now available (*Seven Steps to and Earthquake Resistant Business*)
- View, download, and order printed copies at www.earthquakecountry.info/roots



- Public-private partnership of leading earthquake professionals, emergency managers, government officials, business and community leaders, and others.
- Partners include SCEC, USGS, the Southern California Association of Governments, County of Los Angeles, California Geological Survey, Caltech, UCLA, FEMA, California Office of Emergency Services, California Earthquake Authority, American Red Cross, and many others.
- **Mission**
The Earthquake Country Alliance unites leaders in government, disaster response, science, business, media, education and local communities to:
 - inspire responsibility for community earthquake safety and recovery;
 - increase awareness, preparedness, mitigation;
 - improve response and recovery planning;
 - reduce losses in future earthquakes.

We're All in This Together

The Great
Southern California
**Shake
Out**

www.ShakeOut.org

The Great Southern California ShakeOut

- November 12-16, 2008
- A week of special events that will inspire southern Californians to get ready for big earthquakes
- Features a region-wide earthquake drill on Nov. 13
 - millions of participants: schools, families, community groups, business, etc.
- Los Angeles International Earthquake Conference
- Public Rally/Festival in downtown Los Angeles
- More at www.ShakeOut.org



Shake
Out




ShakeOut Goals

- Participation of at least 5 million people in the ShakeOut Drill
 - School, Business, and Community Organization recruitment efforts will have several million people participate
 - Everyone is encouraged to “spread the word” to promote people participating in the ShakeOut!
 - Register at www.ShakeOut.org (2.7 million currently registered)
- Shift the culture in southern California about earthquakes
 - We must all take greater responsibility for readiness
 - We all need to talk about earthquakes and preparedness more often
- Significant increase in earthquake readiness at all levels

The Great Southern California

Shake Out



HOME

THE DRILL

THE SCENARIO

REGISTER / LOGIN

WHAT YOU CAN DO

CALENDAR

RESOURCES

NEWS MEDIA

SPONSORS

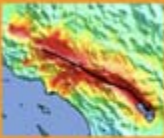
SUPPORTERS

ORGANIZERS

CONTACT US

The Great Southern California ShakeOut

At 10 a.m. on November 13, join millions of people throughout Southern California in the *ShakeOut Drill*, the largest earthquake preparedness activity in U.S. history! Please [register](#) today.



The Great Southern California ShakeOut also includes other events to help us get ready for big earthquakes.

[En español](#)
Information in other languages

5.2 Million and Counting!

Time until the ShakeOut Drill:
1 day 0:00:00

[Register Here](#)

What You Can Do:

Instructions for [Individuals and Families](#), [Neighborhood Groups](#), [CERT Groups](#), [Schools](#), [Scouting Groups](#), [Colleges and Universities](#), [Businesses](#), [Non-Profit Organizations](#), [Faith-Based Groups](#), [Medical Centers](#), [Local Governments](#), and [Museums](#).

[Frequently Asked Questions](#)

[Why "Drop, Cover, and Hold On" is recommended.](#)

[Tell a friend about ShakeOut!](#)

[Participant Login](#)

Resources for participants and news media

- The [What You Can Do](#) section includes simple suggestions as well as detailed drill scripts for certain groups.
- NEW! [Audio and Video "Drill Broadcast" recordings](#) have been created in English and Spanish to provide instructions during your drill (Video versions have text captions).
- NEW! ["Preparedness Now"](#) compelling new film that depicts what will happen in a "big one," and other videos.
- NEW! [Technical Drill Resources](#) including a simulated GISN Display, ShakeMaps, and more.
- NEW! [News Media Resources](#) including contacts, visuals, media advisories and releases, and more.

Main Activities

[ShakeOut Drill](#) (November 13)

[Golden Guardian 2008](#) (November 13-18)





[International Earthquake Conference](#) (November 12-14)



[After Shock Multi-player Simulation](#) (Starts 10:02 a.m. Nov. 13)

[Los Angeles Earthquake: Get Ready Rally](#) (November 14)

[Take One More Step](#) (November 14-16)

Major Sponsors

En español

[Information in other languages](#)

5.2 Million and Counting!

Time until the ShakeOut Drill:
1 day 0:00:00

[Register Here](#)

What happens at 10:02 is up to you...

Sign up and see how well you would survive.



Protect Yourself. Spread The Word.

The Great
Southern California

Shake
Out

Everybody drops on 11.13.08

At 10 a.m. on November 13, join millions of Southern Californians in the largest Drop, Cover, Hold On drill in U.S. history!

▶ LEARN HOW TO PARTICIPATE



PLAY BEAT THE QUAKE

Test your earthquake knowledge and skill right now!

VERS

DOWNLOAD WALLPAPER: 12



DROP!



COVER!



HOLD ON!

Protect Yourself. Spread The Word.

The Great
Southern California

Shake
Out

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PLAY BEAT THE QUAKE

Test your earthquake knowledge and skill right now!

ION ESPAÑOL

280 x 1024 1024 x 768 800 x 600



¡AGÁCHESE!



¡CÚBRASE!



¡AGÁRRESE!

Protégete. Divulga La Palabra.

El Gran
Shake
Out
del Sur de California

Todos se agachan en 11.13.08

¡A las 10 a.m. el 13 de Noviembre, únete a millones de residentes del sur de California en el simulacro Agacharse, Cubrirse, y Agarrarse más grande en la historia estadounidense!

▶ APRENDE A CÓMO PARTICIPAR



DERROTA EL TEMBLOR

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

ENGLISH VERSION

BAJAR IMAGEN: 1280 x 1024 1024 x 768 800 x 600

Beat the Quake!

DERROTA EL TEMBLOR



▶ Prepárate



NIVEL DE PROGRESO



Beat the Quake!

DERROTA EL TEMBLOR

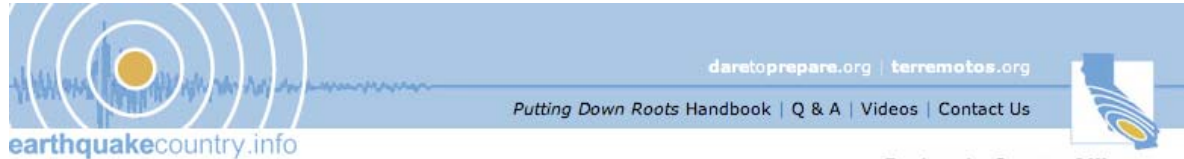


▶ Prepárate



NIVEL DE PROGRESO





earthquakecountry.info

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

Featured Item



Earthquake
Readiness
Campaign



Videos and
Animations



Putting Down
Roots
Handbook



Questions and
Answers



Alliance

Welcome to Earthquake Country!

Earthquakes are as Southern Californian as waves at the beach and traffic on the freeways. We have learned to surf the waves and navigate the freeways, and we are learning how to reduce the losses from earthquakes. We are constructing buildings that will not collapse and bridges that will sway, not break. On a personal level, we are securing belongings and water heaters to keep them from being damaged or causing injury. We are creating disaster plans and supply kits. We are making sure our homes are properly secured to their foundations. We are practicing "drop, cover, and hold on" and learning what to do after earthquakes.

There are several sections of this website, available through the links at left and above. [Dare To Prepare](#) is our 2007 Earthquake Readiness Campaign; the Spanish-language version (*¡Prepárate Hoy!*) can be found at [terremotos.org](#). [Earthquake Country – Los Angeles](#) is a streaming video, also available for download, that looks at the science behind earthquakes in southern California and how to secure your space. [Putting Down Roots in Earthquake Country](#) is a 32-page handbook that is available online, to download, or as printed copies available for free. [Q & A](#) provides answers to common questions about earthquakes and links to related online resources. The [Earthquake Country Alliance](#) section describes the goals and composition of the Alliance.

Other Resources:

[Earthquake Shaking Potential in Southern California](#)

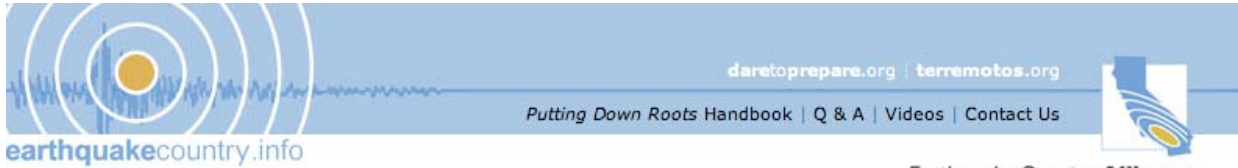
A map showing the relative frequency of strong earthquake shaking in southern California. This map is part of our booklet, [Putting Down Roots in Earthquake Country](#) -- download or order your copy today!

[Drop, Cover, Hold On!](#)

What to do during earthquake shaking... and what not to do.

[10.5: A Miniseries with Major Errors](#) - Aired Sat. 3/17 at 7PM (Pacific Time) on SciFi

Facts about the miniseries featuring an *impossible* magnitude 10.5 earthquake in California



earthquakecountry.info

Putting Down Roots Handbook | Q & A | Videos | Contact Us

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



Earthquake
Country —
Los Angeles

1. Introduction
2. Plate Tectonics
3. San Andreas Fault
4. Strike-Slip Faults
5. Thrust Faults
6. Northridge Earthquake
7. Seismic Waves
8. Reducing Your Losses
9. Conclusion
10. Credits

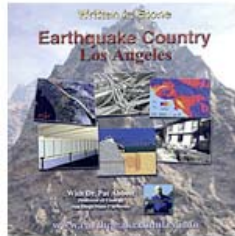
Complete Movie



Earthquake
Science and
Safety

Earthquake Terminology And
Science
Preparing For An Earthquake
Surviving An Earthquake
After An Earthquake

Videos



Earthquake Country — Los Angeles

Dr. Pat Abbott explains how earthquakes have shaped the scenery and the character of the greater Los Angeles area. Topics include how and why earthquakes happen, how mountains and valleys have formed as a result, how the ground will shake in large earthquakes, and why this shaking is so destructive to buildings. Dr. Abbott also shows how to evaluate your home for earthquake safety and explains how to reduce the devastating effects of earthquakes.



Public Service Announcements (PSAs)

Produced by Elisa Ruffino for *Designmatters* at
Art Center College of Design

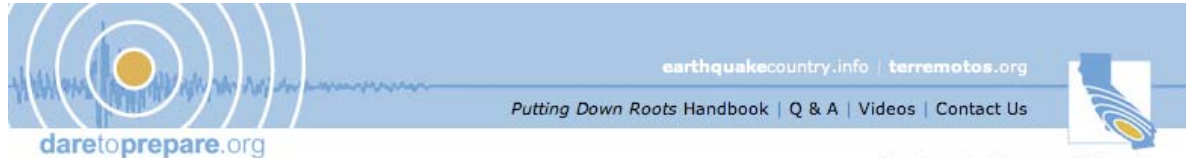


Earthquake Science and Safety

With *Tom Jordan*, who explains the science behind earthquakes and their causes and *Mark Benthien*, who discusses how to prepare, survive and rebuild your home and life after the next 'big one'. Produced by *VideoJug*.

Art Center
College
Of Design

Videojug.com



[Why Prepare Now?](#)

[Secure Your Stuff](#)

[Secure Your Building](#)

[En español](#)

[Featured Resources](#)

[Calendar](#)

[News](#)

[Campaign Overview](#)

[Contact Us!](#)



Dare to Prepare

Earthquake professionals, business and community leaders, emergency managers, and others have joined together to organize Dare to Prepare, an earthquake readiness campaign to raise [earthquake awareness](#) and encourage earthquake readiness in southern California. The campaign is supported with funding from federal, state, and local partners.

Acknowledging that "Shift Happens," the main message of the Dare to Prepare campaign is that if you "[Secure Your Space](#)" you can protect yourself, your family, and your property. Secure your space by strapping [top-heavy furniture](#) and [appliances](#) to walls, adding latches to [kitchen cabinets](#), and securing [TVs and other heavy objects](#) that can topple and cause serious injuries. [Homes and other buildings](#) should be retrofitted if necessary.

These and other actions will greatly reduce your risk of damage or injury, and limit your need for community resources after the next earthquake.

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

"Secure Your Space," includes two of the "Seven Steps to Earthquake Safety."



Featured Items:

[Victoria Beckham in Big Shaker on NBC](#)

[Public Service Announcement Videos](#)

[Campaign Promotes Earthquake Preparedness with Free Guide](#)

[New Program Helps Residents Prepare for Major Tremor](#)

[Overdue and unprepared for the Big One \(Los Angeles Times\)](#)

[The Really Big One \(Los Angeles Times\)](#)



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



¡Prepárate
Hoy!

Hay que prepararse
ahora

Mitos y realidades

Recursos informativos
sobre seguridad contra
terremotos

Los siete pasos de
seguridad contra
terremotos

¡Contáctenos!



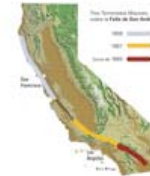
Terremotos
Recientes

¡Prepárate Hoy!

Los residentes de habla hispana del sur de California encontrarán aquí información científica sobre los terremotos y consejos prácticos sobre cómo prepararse, como parte de la campaña "Dare to Prepare". Esta campaña está uniendo a la comunidad del sur de California para "hablar de nuestras fallas" y prepararnos juntos antes de futuros terremotos.

Este sitio se actualizará con información adicional a lo largo del 2007 – ¡visítelo con frecuencia para obtener más consejos prácticos!

¿Por qué ahora? Hace 150 años del último gran terremoto de San Andrés en el sur de California – un terremoto con una magnitud de 7.9 que sacudió a toda la región. Según estudios recientes, los científicos están esperando un terremoto de magnitud 7.0 o más en la parte sur de la falla de San Andrés. Un terremoto fuerte en el sur de la falla de San Andrés podría causar muchos daños a nuestros hogares y pertenencias, ocasionando lesiones serias y, quizá, hasta la muerte.



[Imagen más grande](#)

Aunque nadie puede controlar cómo se sentirá un terremoto, los residentes del sur de California pueden tomar acciones inmediatas para evitar daños considerables sujetando los objetos en sus hogares antes de que el siguiente terremoto ocurra.

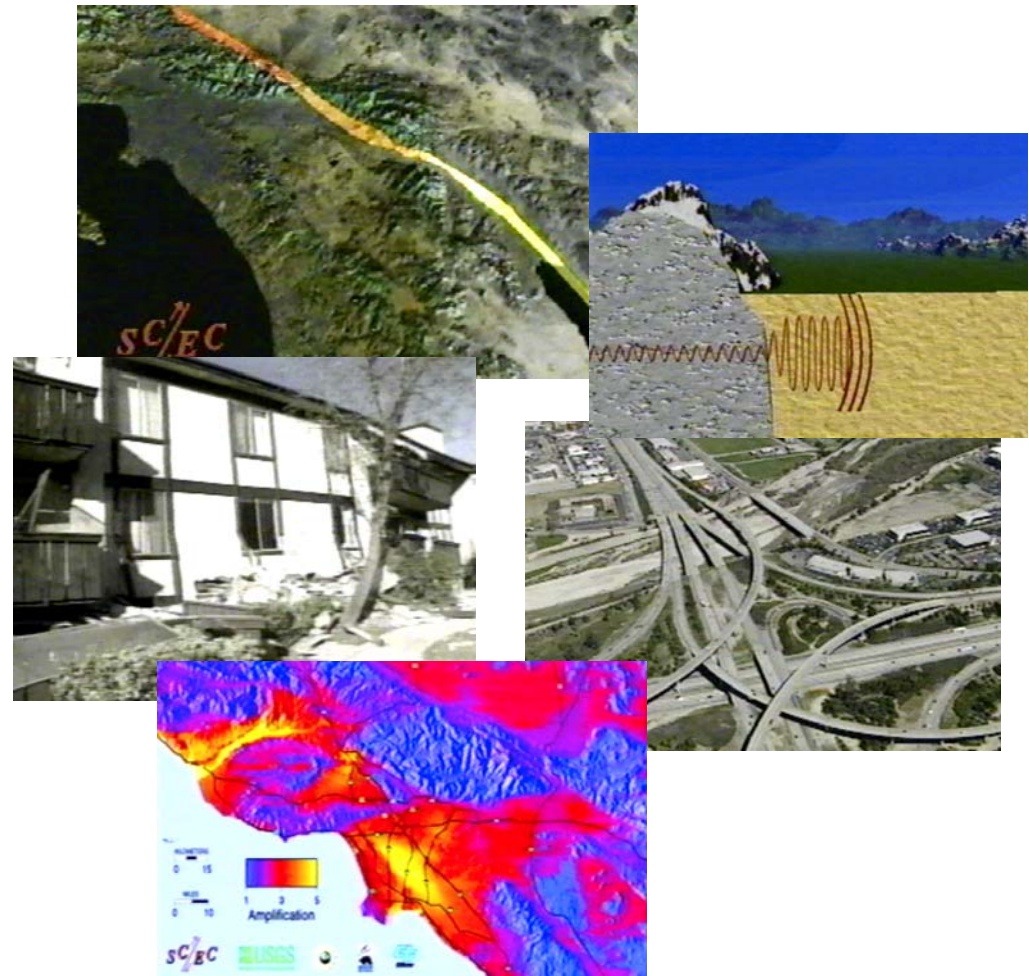
Estas acciones son parte de "Los siete pasos de seguridad contra terremotos" descritos en el cuadernillo "Echando Raíces en Tierra de Terremotos". Siguiendo estos siete pasos, estará más seguro antes, durante y después de un terremoto.



"Mitos y realidades" es una compilación de mitos comunes acerca de los terremotos, las realidades y lo que usted puede hacer para hacer frente a

Earthquake Country – Los Angeles

- 27-minute video and DVD
- Sections:
 - Plate tectonics
 - San Andreas fault
 - Strike slip faults
 - Thrust faults
 - Northridge Earthquake
 - Seismic Waves
 - Reducing Your Losses
- English and Spanish subtitles
- Available with additional materials in a SCEC-developed kit for schools and a kit for community groups
- Ask for your copy



- Information about SCEC, earthquake research, technical and educational resources, etc.: www.scec.org

- Completely database structured: many people can edit and create pages, including group leaders, and design can be revised site-wide quite easily.

The screenshot shows the SCEC website homepage with the following sections:

- Navigation:** Site Map | Contact Us | SCEC Search
- Header:** SCEC Southern California Earthquake Center, an NSF+USGS center
- Main Menu:** About SCEC, Major Projects & Research, Technical Resources, Education & Preparedness
- Technical Products and Publications:**
 - SCEC develops and maintains a variety of publications, software, databases, visualizations, and other resources useful for earth scientists, engineers, government agencies, news media, teachers, students, and the general public.
 - Links: Bibliography of SCEC-funded research publications, Databases, Maps, and other resources, SCEC Community Modeling Environment, OpenSHA software, Animations and Movies, SCEC Publications Catalog.
 - Note: More information is on the main page of this section.
- Quick Links:** Recent Earthquake Information, 2008 Summer Internships, Earthquake Basics, Dare to Prepare: Secure Your Space!, Putting Down Roots in Earthquake Country Handbook, SCEC Documents, SCEC News Archive, Calendar/Maps to SCEC, Contact Us.
- Featured Items:**
 - SCEC Hosts a Booth at the California Science Education Conference
 - New! English and Spanish Editions of "Putting Down Roots in Earthquake Country"
 - SCEC Informs Local Teachers about California Earthquakes
 - Significant National Computing Resources Allocated for Advanced Earthquake Research
- Calendar:**
 - Jan. 31-Feb. 2: Joint Fault System History/SoSAFE Workshop
 - Feb. 3-4: SCEC Board Meeting
 - Feb. 15: Intern Application Priority Deadline
 - Mar. 10-12: 2008 Science Plan/RFP Released
 - Apr. 16-18: SSA Annual Meeting
 - Apr. 22-26: 2008 National Earthquake Conference
 - May 11-16: ACES Workshop
 - June 9-10: SCEC Leadership Retreat
- Page-Footer:** Created in the SCEC system, © 2008 SCEC Southern California Earthquake Center, Privacy Policy and Accessibility Policy

Informal Education Partnerships

- ShakeZone: Fingerprints Youth Museum – Hemet
 - Opened in 2001, renovated in 2006
 - Exhibit based on Putting Down Roots in Earthquake Country
- Cal State Los Angeles Physical Science Building
 - Earthquake Information Display (opens July 2008)
- San Bernardino County Museum – Redlands
 - Living on the Edge exhibit - currently open
 - Hall of Geological Wonders - opening 2009
- Developing Partnerships:
 - California Science Center
 - Griffith Observatory - (programming)
 - Kidspac Children’s Museum - (programming)
 - EarthScope Interpreter Program - SAF Workshop
 - ShakeOut “EPIcenters” – all locations



- Curricula Development and Advocacy Strand
 - *Earthquake Education Environment* lesson plans and standards alignment
 - Lesson plans for use during earthquake drills
 - School district partnerships
 - Plate Tectonics “puzzle” model kits
 - *Earthquake Country – Los Angeles* multi-disciplinary lesson plan
 - *Seismic Sleuths*
 - Use of *Putting Down Roots* in schools
- Teacher Professional Development Strand
 - SCEC Earthquake workshops (UCSD, *ShakeZone*, LAUSD, SCEC Annual Meeting, etc.)
 - Science Education Collaborative workshops (USC Partner Schools)
 - Earthquake education workshops at education conferences (NSTA, CSTA, GLATSA)
 - Earthquake education workshops with other scientific organizations/societies (AGU - GIFT, SIO, and IRIS)

Earthquake Education Network

- A developing partnership interested in engaging a broad audience (with an emphasis on grades 6 - 14) about earthquakes and closely related topics in earth science.
- Possible Products/Projects:
 - Collaboration in regional educator workshops (e.g. USGS, SIO, SDSU, USC workshop)
 - Tools and resources to bring cutting-edge SCEC science to the classroom including special tutorials at the annual meeting
 - Promote earth science as a whole and advocate for changes in the K - 14 earth science curriculum.
 - Review UseIT educational games and identify priorities for development
 - SCEC-wide E&O highlights section for the website



2008 Internship Programs Overview

Three Internship Programs
for freshman through masters students

16 SURE*

19 USEIT

2 ACCESS-G

*Mentors needed for 2009:
email degroot@usc.edu