Get Your Home Ready for Earthquakes

presented by

FEMA

May 30, 2013 - 10:00AM CDT

Overview

- Earthquake Hazard & Safety Information
- Reducing Earthquake Risks in the Home & Business
- Earthquake Insurance Considerations
- Earthquake Resources

International Earthquake Reminders

- 2003 - Bam Iran
- 2004 - Indian Ocean
- 2008 - Sichuan China

- Haiti Earthquake
  - January 12, 2010
  - M7.0
  - 230k lives lost
  - 1M homeless
  - 250k + buildings collapsed

Image Source: Marcello Casal Jr, WikiMedia

Christ Church, New Zealand

M6.3 - February 22, 2011

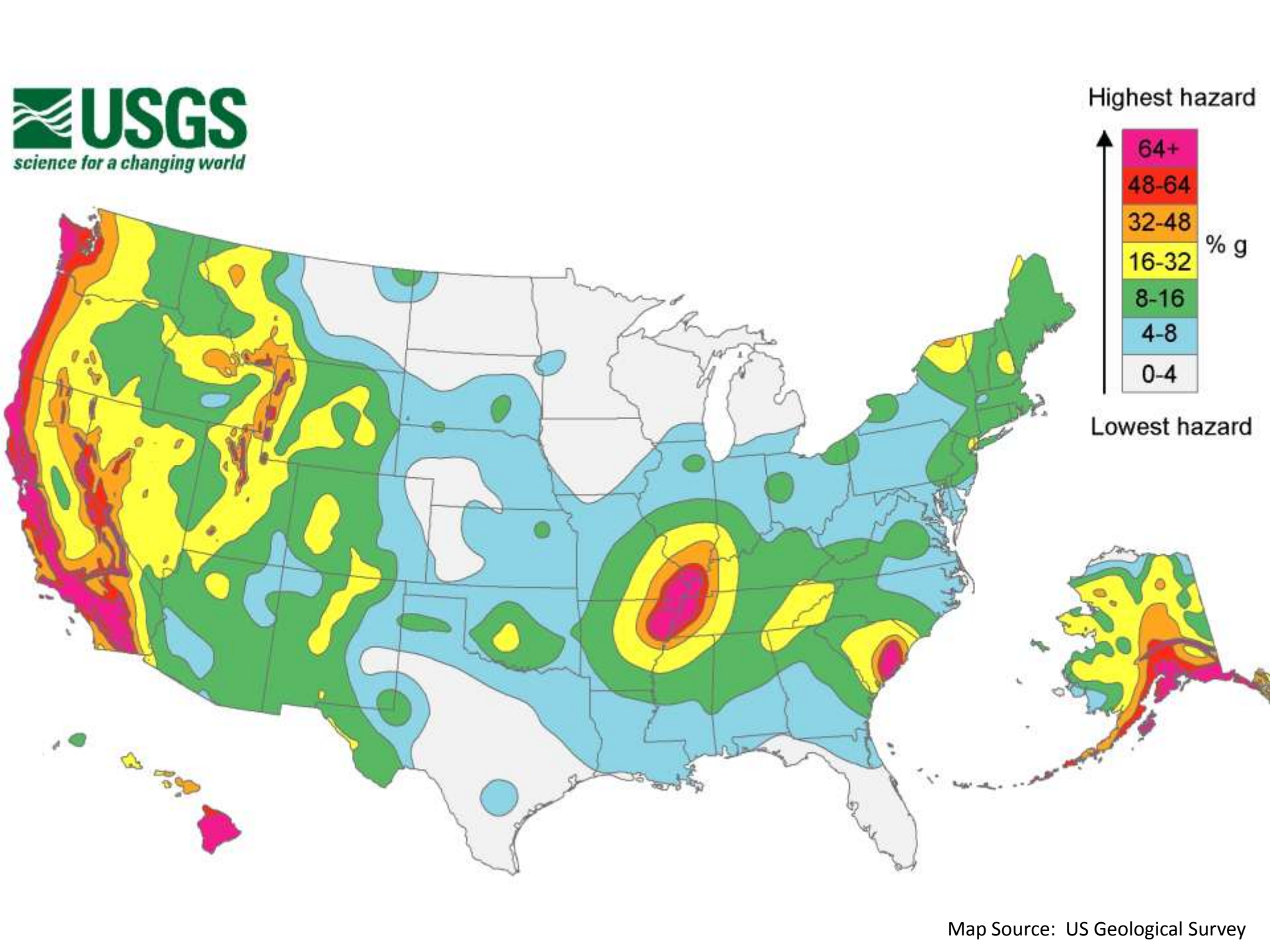
Image Source: Reuters

Tōhoku Earthquake and Tsunami

- March 11, 2011
- M9.0
- Duration of Shaking

- 15,000 Fatalities
- 4M without Power
- 1.5M without Water
- $300B in Damages

Image Source: Reuters



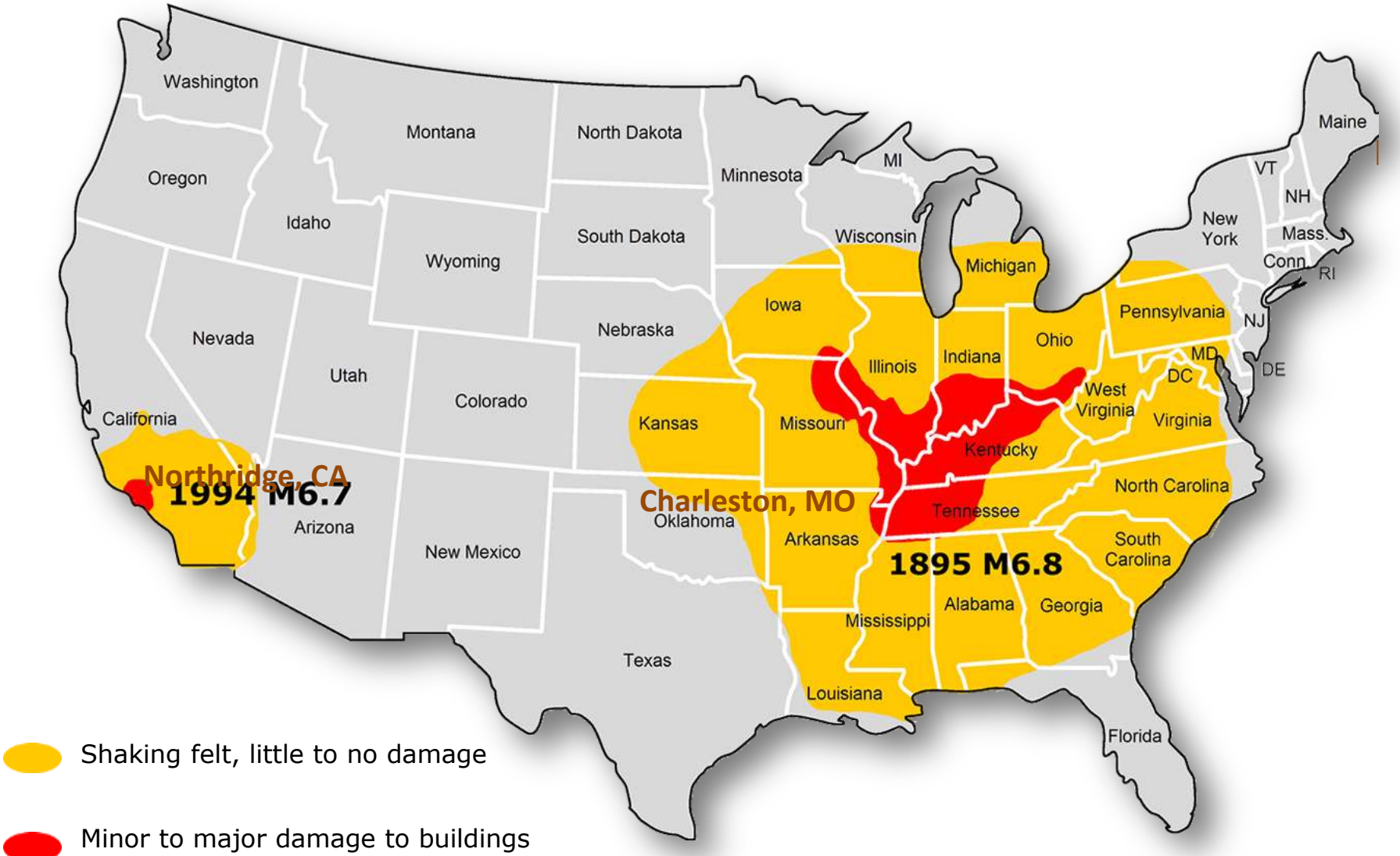
Map Source: US Geological Survey

The Earthquakes of 1811-12

- Winter of 1811-12
- M7-8.0
- Thousands of Aftershocks

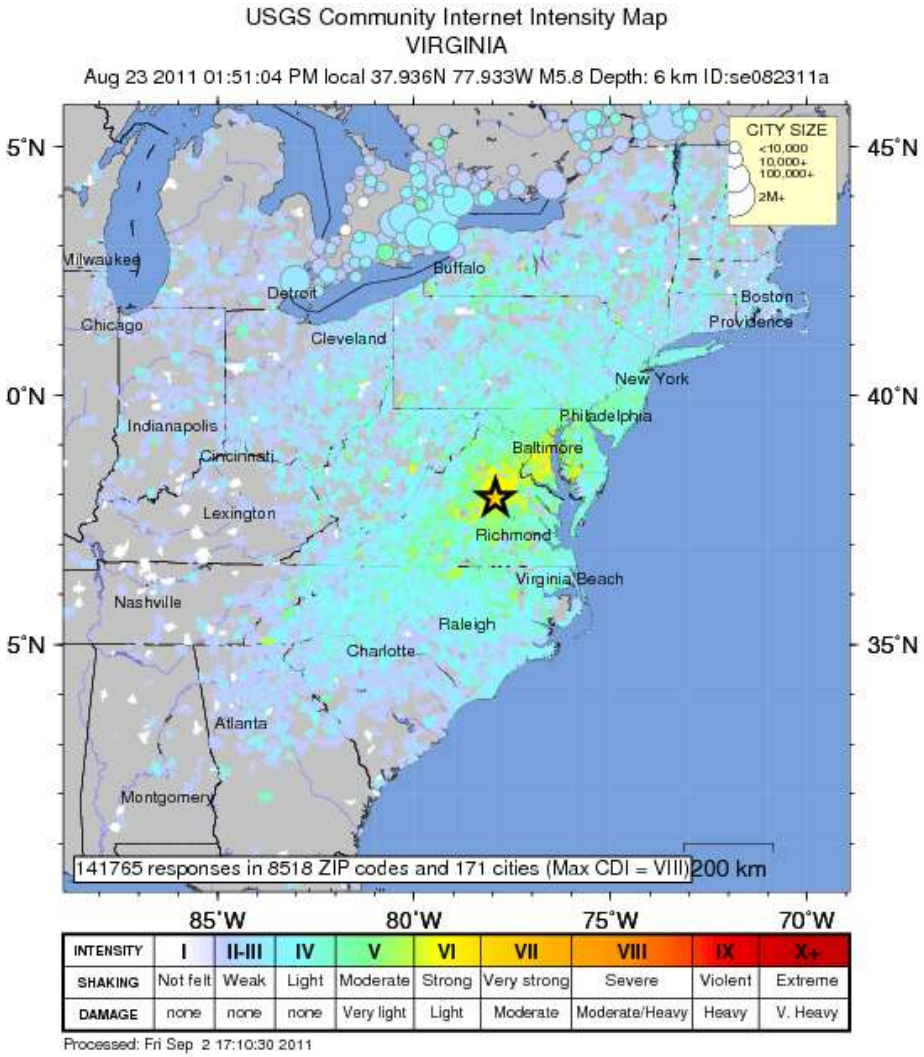
- 25-40% probability of a damaging earthquake

Central U.S. vs. California Earthquakes



Map Source: US Geological Survey

Mineral, VA Earthquake



- 8/23/2011
- M5.8
- Felt over the entire eastern seaboard
- 148,000 + felt reports
- Maximum Intensity VII
- Largest earthquake in 50+ years in the region

Map Source: US Geological Survey

How an Earthquake can Impact You

- Serious Injury or death
- Loss of home or damage to contents
- Loss of power, water, communications
- Disrupts transportation of goods & services
- Business Interruption

Do You Know How To:

How to Protect Yourself During an Earthquake

- **Drop** to the floor
- Take **Cover**
- **Hold On** to it firmly
  - If inside, stay inside!
  - If outside, stay outside!

Image Source: Southern California Earthquake Center

Are you Ready to ShakeOut?

The ShakeOut is an annual multi-state earthquake drill where millions of people practice…

ShakeOut Goals

- Participation of “Whole Community”
- Shift the culture about earthquake preparedness
- Significant increase in earthquake readiness

Why Participate?

- Practice *is* essential
- Offers a time to take proactive steps towards preparedness
- Identify areas for improvement

Images Courtesy: shakeout.org/centralus

Where is the ShakeOut?

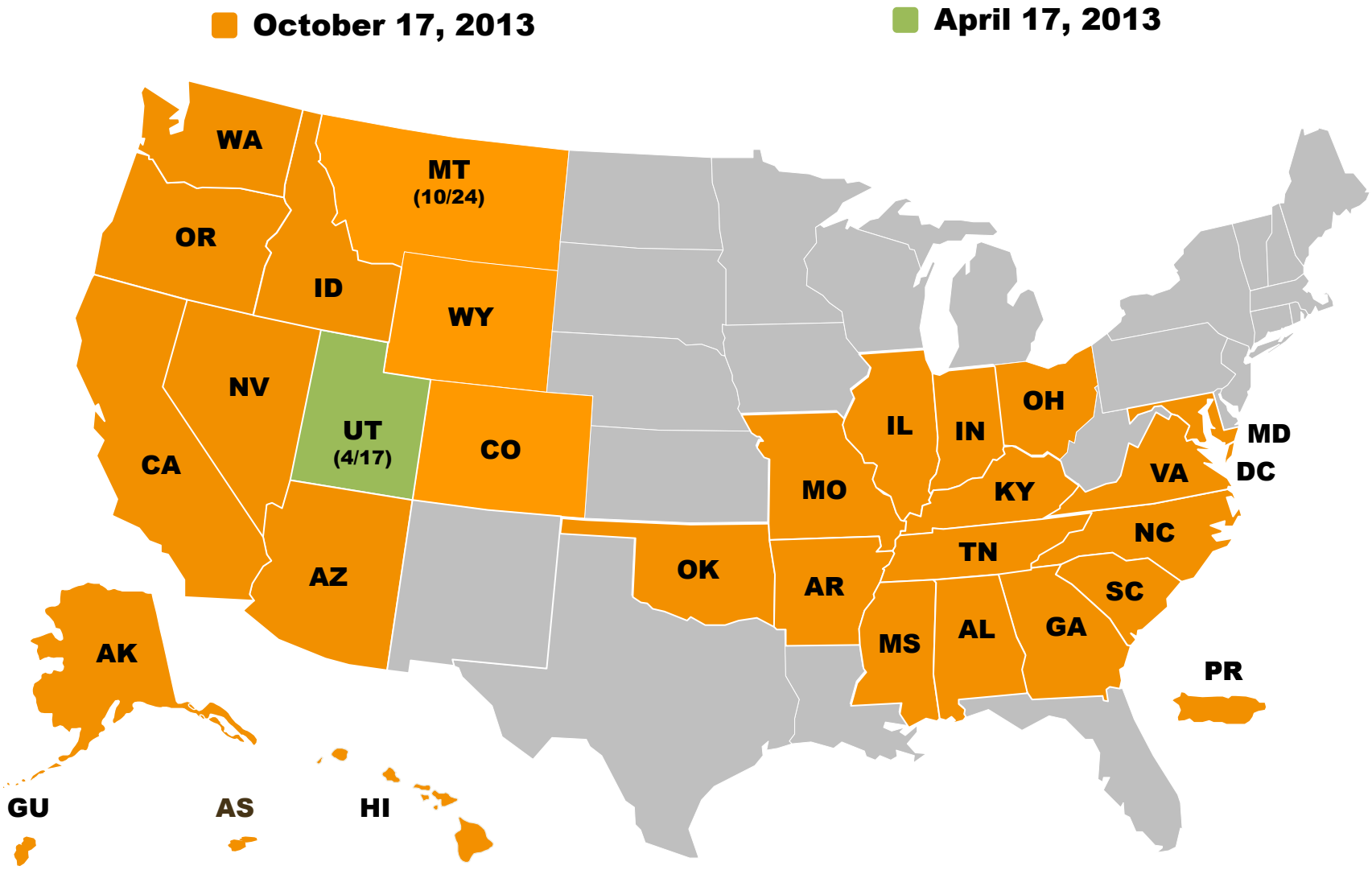


Image Source: Southern California Earthquake Center

The Great Central U.S. ShakeOut™

What we do now,

before the next damaging earthquake,

will determine

what our lives are like after…

2013 Great ShakeOut

October 17, 2013 @ 10:17AM (local)

www.shakeout.org

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The Great Central U.S. ShakeOut™

Securing Your Home & Your Business Against Earthquake Damage

Insurance Institute for Business & Home Safety®

Central United States Earthquake Consortium

FEMA

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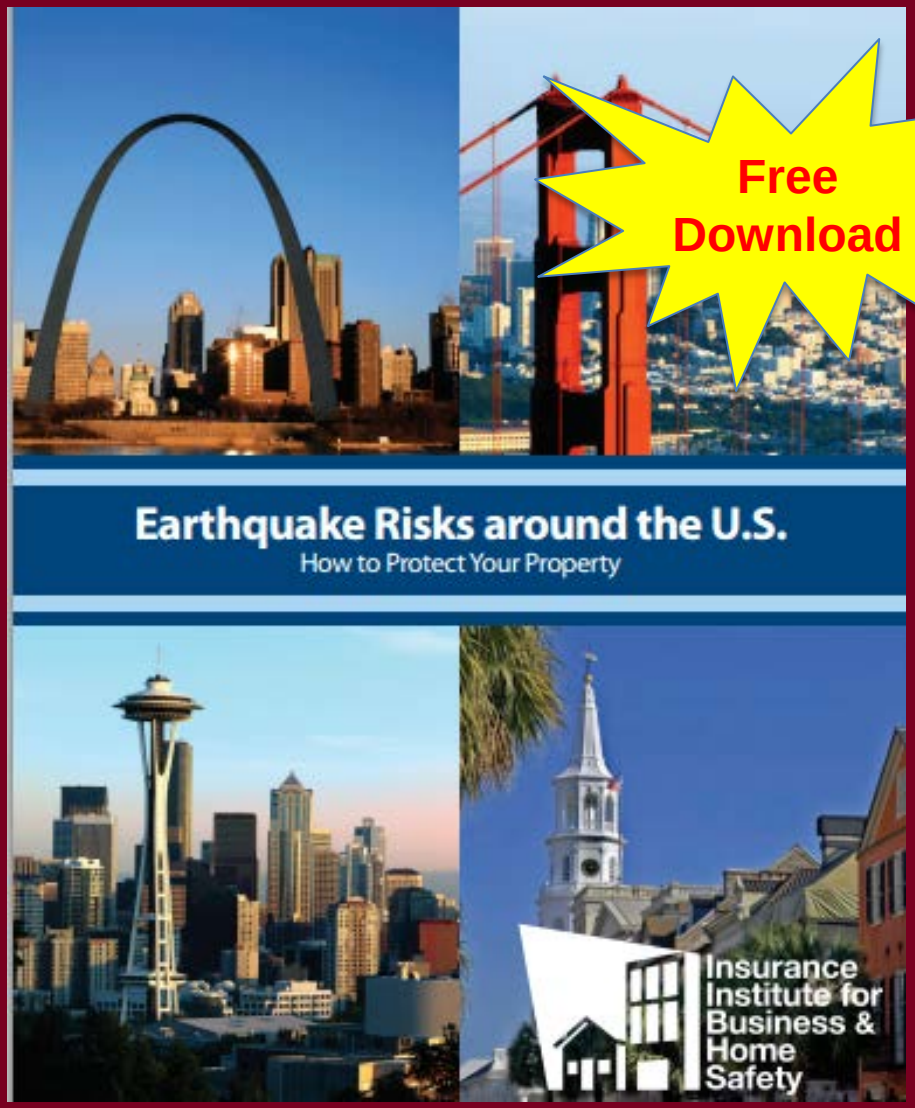
Reducing Earthquake Risks



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www.DisasterSafety.org/earthquake

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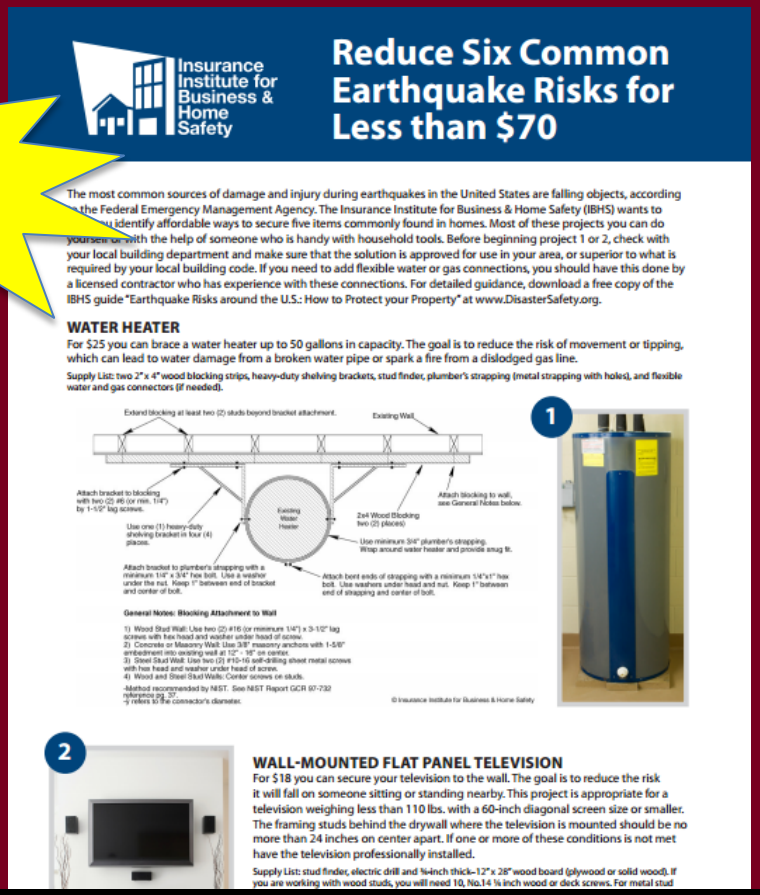
Maximizing *Your* Budget While Reducing Earthquake Risks

Free Download



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Reduce Six Common Earthquake Risks for Less than $70

The most common sources of damage and injury during earthquakes in the United States are falling objects, according to the Federal Emergency Management Agency. The Insurance Institute for Business & Home Safety (IBHS) wants to help you identify affordable ways to secure five items commonly found in homes. Most of these projects you can do yourself with the help of someone who is handy with household tools. Before beginning project 1 or 2, check with your local building department and make sure that the solution is approved for use in your area, or superior to what is required by your local building code. If you need to add flexible water or gas connections, you should have this done by a licensed contractor who has experience with these connections. For detailed guidance, download a free copy of the IBHS guide "Earthquake Risks around the U.S.: How to Protect your Property" at www.DisasterSafety.org.

WATER HEATER

For $25 you can brace a water heater up to 50 gallons in capacity. The goal is to reduce the risk of movement or tipping, which can lead to water damage from a broken water pipe or spark a fire from a dislodged gas line.

Supply List: two 2" x 4" wood blocking strips, heavy-duty shelving brackets, stud finder, plumber's strapping (metal strapping with holes), and flexible water and gas connectors (if needed).

WALL-MOUNTED FLAT PANEL TELEVISION

For $18 you can secure your television to the wall. The goal is to reduce the risk it will fall on someone sitting or standing nearby. This project is appropriate for a television weighing less than 110 lbs. with a 60-inch diagonal screen size or smaller. The framing studs behind the drywall where the television is mounted should be no more than 24 inches on center apart. If one or more of these conditions is not met have the television professionally installed.

Supply List: stud finder, electric drill and ¼-inch thick–12" x 28" wood board (plywood or solid wood). If you are working with wood studs, you will need 10, No.14 ¾ inch wood or deck screws. For metal stud

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U.S. Department of Homeland Security — FEMA

www.DisasterSafety.org/earthquake

The Great Central U.S. ShakeOut™

WATER HEATER:

For $25, brace a water heater up to 50 gallons in capacity

- **Goal:** Reduce the risk of movement or tipping, which can lead to water damage from a broken water pipe or spark a fire from a dislodged gas line.
- **Supply List:** two 2” x 4” wood blocking strips, heavy-duty shelving brackets, stud finder, plumber’s strapping (metal strapping with holes), and flexible water and gas connectors (if needed).

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U.S. Department of Homeland Security — FEMA

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FLAT PANEL TELEVISION:
For $18, secure a television to the wall.

- **Goal:** Reduce the risk of TV falling on someone sitting or standing nearby.
- Note: This project is appropriate for a television weighing less than 110 lbs. with a 60-inch diagonal screen size or smaller.
- **Supply List:** stud finder, electric drill and ¾-inch thick–12” x 28” wood board (plywood or solid wood).

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BOOKCASES:
For $8, secure a bookcase and its contents.

- **Goal:** Prevent tipping over and spilling of contents, which can block exits and cause injuries and damage.

- **Supply List:** Stud finder, L- or Z-brackets, fasteners, plastic anchors for masonry walls, electric drill, screwdriver, wood, plastic or metal strips for shelf edges and heavy-duty Velcro® or museum gel/wax.

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WALL HANGINGS:
For $6, secure up to three pictures, mirrors and other wall hangings.

- **Goal:** Prevent these objects, which may have sharp edges or be heavy, from falling and injuring anyone nearby or causing damage.
- **Supply list:** stud finder, screwdriver, electric drill, screw-eyes, heavy picture wire and pliers.

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CABINET DOORS AND DRAWERS:
For $3, keep six doors or drawers from opening in an earthquake.

- **Goal:** Prevent contents, which may be heavy or fragile, from spilling out.

- **Supply list:** Door or drawer latches, screwdriver or adhesive.

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FLUORESCENT LIGHTS:
For $3, use plastic sleeves to keep fluorescent lights in place.

- **Goal:** Prevent lights from spreading glass shards if light is dislodged during an earthquake.
- Note: This project is appropriate for straight tube fluorescents.
- **Supply List: Two plastic sleeves of appropriate length for hanging straight tube lights.**

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Business Continuity Planning Tool

Free Download

www.disastersafety.org/open-for-business

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OFB-EZ Toolkit Will Help You:

1. Identify the business activities that are essential for continued operation during a disruption;
2. Deal with risks your organization faces; and
3. Create an easy-to-use recovery plan tailored to your business, giving you confidence if the worst occurs.

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Mobile Disaster Planning

Free in iTunes App Store

Search "Your Plan"

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Insurance Institute for Business & Home Safety®

Thank you.

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U.S. Department of Homeland Security

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INSURANCE INFORMATION INSTITUTE

DON'T BE AT FAULT: BUY EARTHQUAKE INSURANCE

Get Your Home Ready Webinar

Loretta Worters, Vice President ♦ Insurance Information Institute ♦
110 William Street ♦ New York, NY 10038 ♦212-346-5545 ♦Twitter: @LWorters

Who We Are and What We Do
The I.I.I. Mission

- The mission of the Insurance Information Institute is to build public understanding of insurance—what it does and how it works. This is done primarily through the media as well as direct consumer outreach/education.
- We are dedicated to making sure the media covers our business fairly and accurately.
- We also assist our member companies with their communications, information, research and planning needs. Members can tap into a wide variety of resources and benefits.

Who We Are and What We Do

To fulfill its mission, the I.I.I. plays three key roles:

1. The I.I.I. is the go-to source for insurance information, educating the public on how insurance works by serving as the media's basic source of record on insurance concerns.
2. We serve as the industry's public voice, devoting special attention to issues of critical importance to the industry.
3. And, we are an information resource for the industry, conducting research and analysis, assisting members with their research needs and helping national and state industry groups to communicate more effectively with the public.

The I.I.I. website (www.iii.org) consists of two primary areas:

1. A public area providing insurance related information for consumers and the media.
2. A separate, password-protected area to serve the needs of member companies.

Who We Are and What We Do
Educational Outreach and Content Sharing

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- The I.I.I. conducts a great deal of its consumer outreach/education through the media—both through direct interviews with our Communications staff and information gathered by the media from the website.

- However, we are able to distribute our information even more widely through content sharing agreements—with a variety of outlets, from the Yahoo! Autos portal, and the AOL Latino website, to individual agents and brokers who use our content on small agency sites, or in newsletters to their customers, to state trade organizations, and groups like the AAA that regularly include our articles and releases in their magazines and mailing.

- This makes the I.I.I. website a key information *and* content sharing portal.

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Earthquake Insurance

Earthquake Insurance -Facts

- According to the U.S. Geological Survey, earthquakes pose a significant risk to 75 million Americans in 39 states. In fact, from 1975-1995 there were only **four states that did not have any earthquakes**. They were: Florida, Iowa, North Dakota, and Wisconsin.

- Earthquakes are always happening somewhere. Magnitude 2 and smaller earthquakes occur several hundred times a day world wide. Major earthquakes, greater than magnitude 7, happen more than once per month.“Great earthquakes”, magnitude 8 and higher, occur about once a year.

Earthquake Insurance -Facts

- Although 90 percent of Americans live in areas considered seismically active, few people opt for earthquake insurance.

- Even in California, only about 12 percent of homeowners hold the coverage and yet the southern California area has about 10,000 earthquakes annually. Most of them are so small that they are not felt. Only several hundred are greater than magnitude 3.0, and only about 15-20 are greater than magnitude 4.0, but that doesn't convince people to buy the coverage.

Earthquake Insurance: Do You Need it?

- Earthquakes are *not* covered under standard U.S. homeowners or business insurance policies. Coverage is usually available for earthquake damage in the form of a supplemental policy to homeowners or business insurance.

- Without earthquake insurance, you will have to finance all the losses to your home and possessions by yourself or rely on the federal government for assistance.

- To help you decide whether or not you need earthquake insurance, first ask yourself this question: How much of a financial investment could I stand to lose if a major earthquake were to damage or destroy my home and possessions?

Earthquake Insurance: Do you Need It?

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CONSIDER THE FOLLOWING:

- The likelihood of an earthquake occurring in your area.
- Is your home close to an active fault?
- What is the nature of the ground under the dwelling? For example, you're at higher risk if the soil is sandy or loose or if you live on a fill area.
- Is your home a single-story, two-story or multi-level?
- Are the walls and foundations properly braced?
- Is your home of wood-frame construction, stone or brick?
- The age of your home. Older homes are at higher risks for damages

Earthquake Insurance: Do you Need It?

If you ultimately decide to purchase earthquake insurance, remember that you should buy enough to cover the costs of totally rebuilding your home.

The amount of insurance you buy should be based on replacement and reconstruction costs, not the fair market value of your property and possessions.

Your premiums will depend on where you live (premiums vary according to your location in a seismic zone) and the type of home you have (wood frame or brick).

Earthquake Insurance: How it Works

- Earthquake insurance provides protection from the shaking and cracking that can destroy buildings and personal possessions.

- Coverage for other kinds of damage that may result from earthquakes, such as fire and water damage due to burst gas and water pipes, is provided by standard homeowners and business insurance policies in most states.

- Cars and other vehicles are covered for earthquake damage by comprehensive insurance, which is optional and also provides protection against flood and hurricane damage as well as theft.

Earthquake Insurance: How it Works

- Earthquake insurance policies often carry a deductible, generally in the form of a percentage rather than a dollar amount.

- Deductibles can range anywhere from 2 percent to 20 percent of the replacement value of the structure. This means that if it costs $100,000 to rebuild a home and the policy had a 2 percent deductible, the policyholder would be responsible for paying the first $2,000. Deductibles are higher in states where earthquake risk is highest, such as California, Washington and Oregon.

Earthquake Insurance: How it Works

- **Personal Possessions**: With earthquake coverage, contents are typically covered only to a set dollar amount. To some degree, that's logical – your sofas and beds are unlikely to be destroyed in a quake as theyu are in a fire. However if your big-screen television and computers are broken in a quake, the coverage is unlikely to reimburse you for the damage, unless you opt for increased contents coverage

- **Exclusions:** A typical quake policy does not cover the loss of landscaping, pools, fences and separate structures (including garages) and is likely to exclude claims for broken chandeliers, crystal and china.

Earthquake Insurance: How it Works

- **Loss of Use:** A standard homeowner's policy will pay to put you up in alternate lodgings if you're forced to move because your home has been damaged in an insured disaster. Typically insurers limit this coverage to 20% of the dwelling limits or base it on a set amount of time, such as 12 to 24 months following the disaster. Loss-of-use limits in quake coverage are far more restrictive. Usually, the loss of use coverage is set at a dollar amount that can be as low as $1,500.

- In California, homeowners can also secure coverage from the California Earthquake Authority (CEA), a privately funded, publicly managed organization. The CEA offers homeowners dwelling coverage deductibles of either 10 or 15 percent. The CEA coverage limit is the insured value of the home as stated on the companion homeowners insurance policy.

Why Don’t People Buy Earthquake Insurance?

- Earthquake insurance is costly, particularly in high-risk areas. For example, it would cost about $4,300 a year for earthquake insurance for a two-story wood-frame house in the San Francisco Bay area with an insured value of $750,000. That's with a 10 percent deductible and $25,000 in contents coverage.

- The decision to forgo earthquake insurance isn’t as much to do with cost but with psychology and biology.

- Human beings are hardwired to believe in their heart and soul that disasters don't happen and won't happen to them. They are willing to roll the dice.

Why Don't People Buy Earthquake Insurance?

- ***Most Americans Don't Understand The True Risk Of Damage*** You might think that people actually experiencing earthquakes would take a different view. They do - but not for long! In the aftermath of the San Francisco earthquake in 1989 homeowners rushed to buy earthquake insurance. But experience shows that after a year, maybe two, interest falls off again and customers often don't renew the earthquake insurance they have in place.

Why Don't People Buy Earthquake Insurance?

- ***People Outside of California Don't Understand The Damage From An Earthquake***

Homeowners who have never seen anything worse than the damage from a serious storm or a hurricane think they can handle that risk. The worst that can happen, they believe, is that a roof is blown off and things get wet. They simply have no experience with the massive devastation that follows a major earthquake.

Why Don’t People Buy Earthquake Insurance?

- People on the eastern seaboard have been further lulled by the experience in California. Most people think that San Francisco came through the earthquake in pretty good shape. That’s a city, however, that many years ago enacted building codes to make sure that its construction will survive earthquakes.

What an Earthquake Could Mean

- According to a new study by earthquake scientists, the chance of a 6.7 magnitude temblor during the next 30 years is 97 percent in Southern California and 93 percent in Northern California.

- A lack of earthquake coverage isn't just California's problem. With its economy among the top 10 largest in the *world*, California's uninsured property losses after an earthquake would send shock waves throughout the country.

- Meanwhile, efforts such as the Great California ShakeOut, an annual statewide earthquake drill based on a scenario of a 7.8 magnitude earthquake on the San Andreas Fault, are raising awareness.

Things You Can Do to Keep Earthquake Insurance Costs Down

- When purchasing a home, think about the materials it is made with and the impact on insurance. Wood homes, which tend to absorb shock more than brick or stucco, might be less costly to insure against quakes.
- You often can get discounts if you strap down your water heater, meet new building codes for quake safety
- A high deductible means you absorb more of the cost if there was an earthquake, but you pay less for insurance.
- One-story homes are less costly to insure than multiple-story housing.

Don’t Be at Fault: Buy Earthquake Insurance

- Unlike other disasters such as hurricanes, there are no seasons or warnings for earthquakes. They can happen almost anywhere at anytime.
- This destruction, with no insurance and a mortgage, would be debilitating. Ask yourself this: Are you in a financial position to accept that kind of risk?
- Everyone, no matter where they live, should have a disaster recovery plan which includes securing the right type and amount of insurance, including earthquake insurance.

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www.iii.org

Thank you for your time and your attention!





Earthquake Hazard & Mitigation Resources

FEMA

H. E. "Gene" Longenecker, III
FEMA Region IV Earthquake Program
Thursday, May 30, 2013

FEMA

- http://www.dropcoverholdon.org/

FEMA

- http://www.shakeout.org/

Links

- www.fema.gov/earthquake
  - Many resources for wide variety of audiences
  - Links to other NEHRP partners
  - What to do before, during, and after earthquakes

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Links

- www.fema.gov/earthquake
  - FEMA Earthquake Hazard Reduction Publications
  - Training and Upcoming Events
  - Grant Programs
  - Federal, State, and Local Contacts
  - Information for
    - Individuals, families, teachers, kids, communities
    - Businesses
    - Program managers, and much more!

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QuakeSmart

- http://www.fema.gov/quakesmart
  - Three-step mitigation process:
    - 1) Identify your risk
    - 2) Make a plan
    - 3) Take action
  - Easy steps to take to reduce potential vulnerabilities and damages from earthquakes for business decisions and disaster planning

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Building Codes

- www.fema.gov/earthquake/building-codes
  - NEHRP Recommended Seismic Provisions for New Buildings and Other Structures (FEMA P-750)
  - Earthquake Resistant Design Concepts (FEMA P-749)
  - How to make buildings safer

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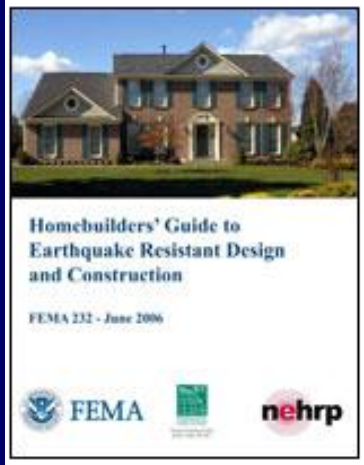
Publications

Resource Record Details

Homebuilders' Guide to Earthquake-Resistant Design and Construction

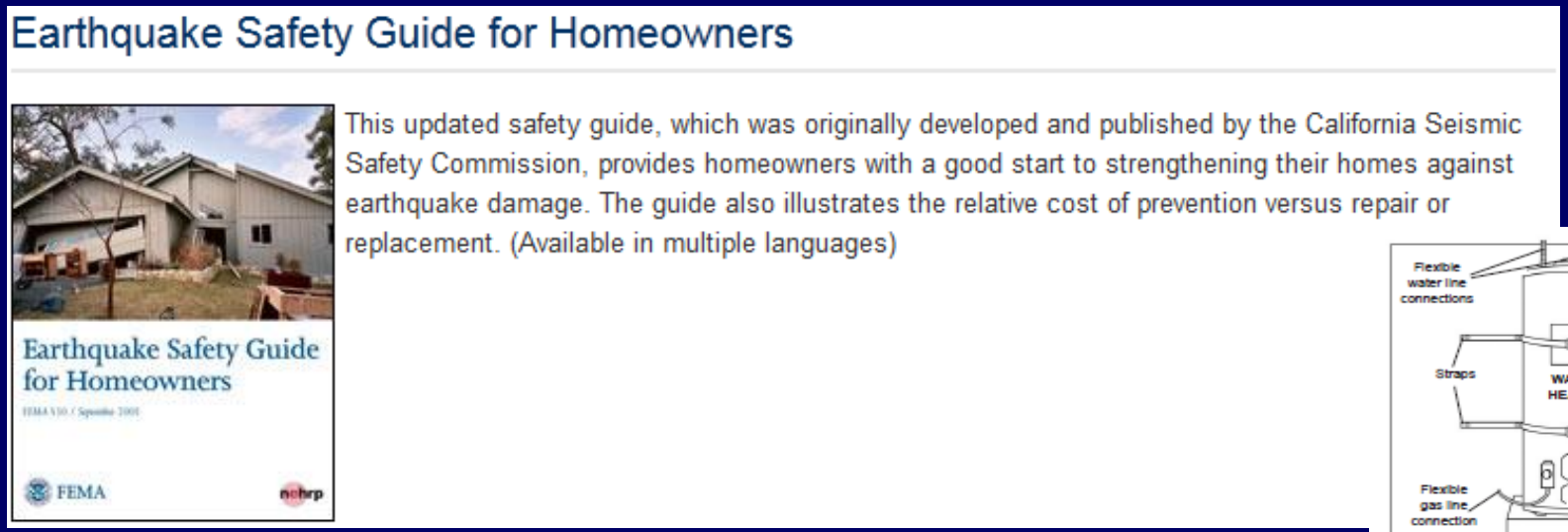


This guide replaces the Home Builder's Guide to Seismic Resistant Construction and all earlier versions of FEMA 232. It presents seismic design and construction guidance for one- and two-family light frame residential structures that can be utilized by homebuilders, homeowners, and other non-engineers, and provides supplemental information to the 2003 edition of the International Residential Code. Includes background information on the principles of seismic resistance and how earthquake forces impact conventional residential construction and more detailed information on architectural considerations. Discussions of masonry and stone elements, examples of typical floor plans for earthquake resistant one- and two-story homes, excerpts of seismic requirements from building codes, and checklists for home builders are included. The guide also presents a series of "above code recommendations" and low cost measures that would increase the performance of the building and help keep it functional after an earthquake.

- FEMA 232: Home Builder's Guide to Seismic Resistant Construction
  - http://www.fema.gov/library/viewRecord.do?id=2103

FEMA

Publications



- **FEMA 530: Earthquake Safety Guide for Homeowners**
  - How to strengthen homes and reduce EQ damage
  - *Cheap, easy solutions for your home!*
  - http://www.fema.gov/library/viewRecord.do?id=1449

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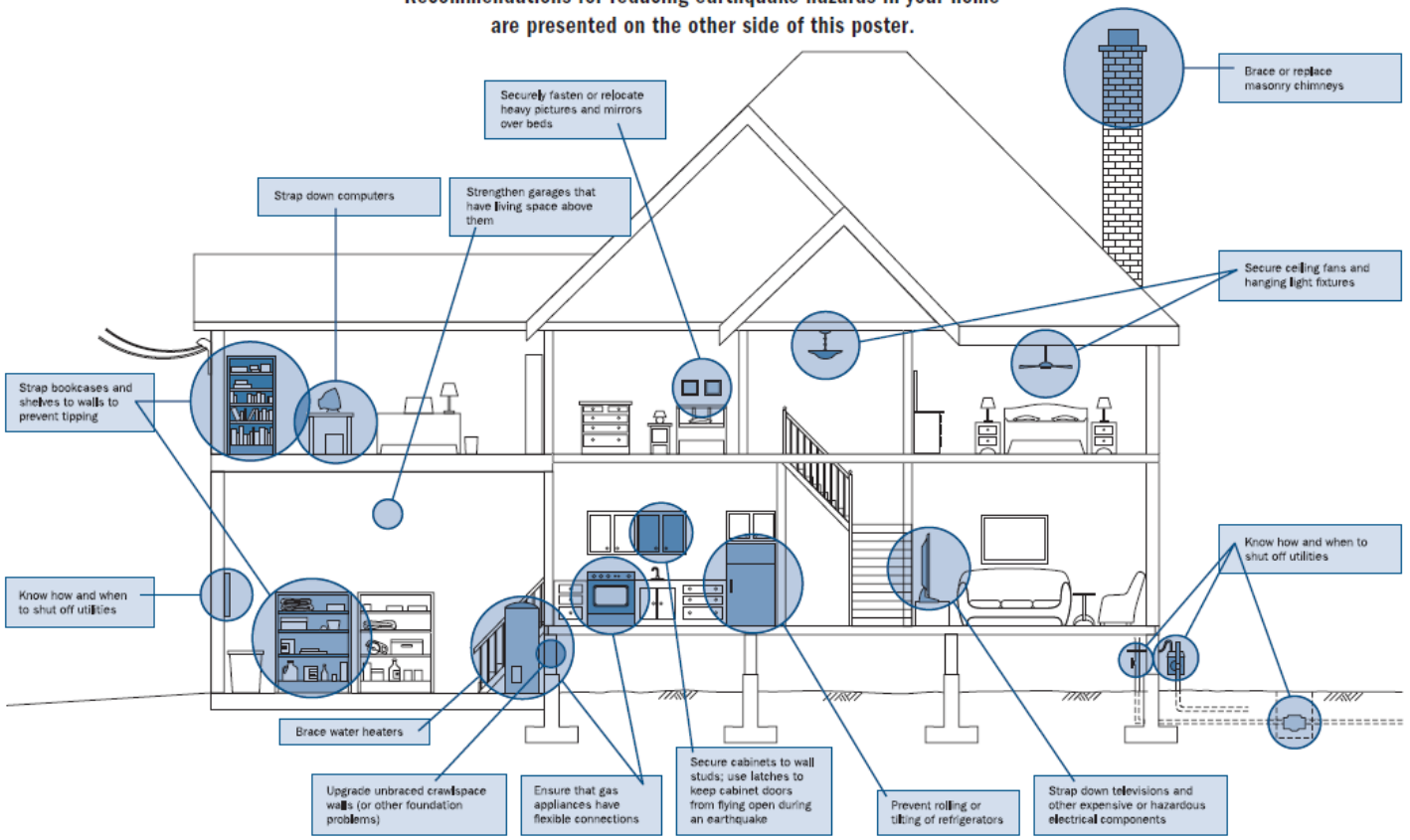
Earthquake Home Hazard Hunt

FEMA 528 9/2005

Recommendations for reducing earthquake hazards in your home are presented on the other side of this poster.



FEMA

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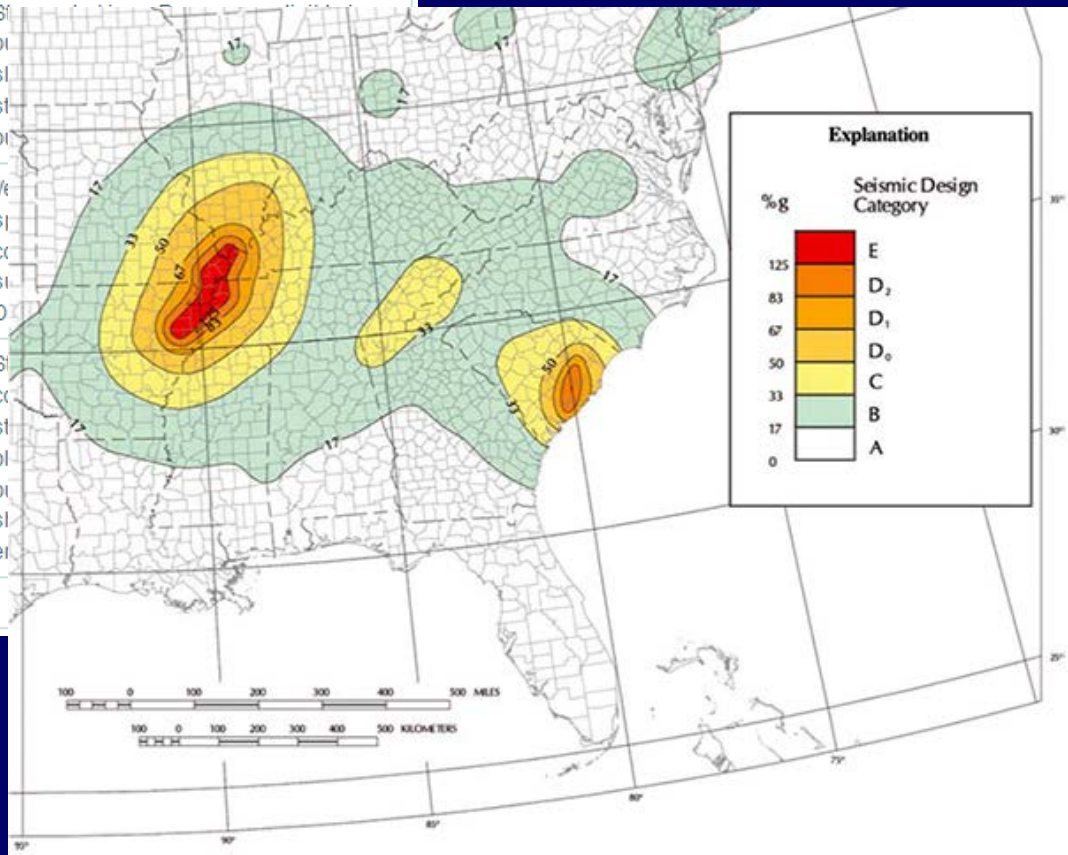
FEMA • http://www.fema.gov/library/viewRecord.do?id=1666

Earthquake Hazard Maps

SDC	MAP COLOR	EARTHQUAKE HAZARD	POTENTIAL EFFECTS OF SHAKING*
A	White	Very small probability of experiencing damaging earthquake effects.	
B	Gray	Could experience shaking of moderate intensity.	Moderate shaking—Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
C	Yellow	Could experience strong shaking.	
D0	Light brown	Could experience very strong shaking (the darker the color, the stronger the shaking).	
D1	Darker brown		
D2	Darkest brown		
E	Red	Near major active faults capable of producing the most intense shaking.	

* Abbreviated descriptions from The Modified Mercalli Intensity Scale.



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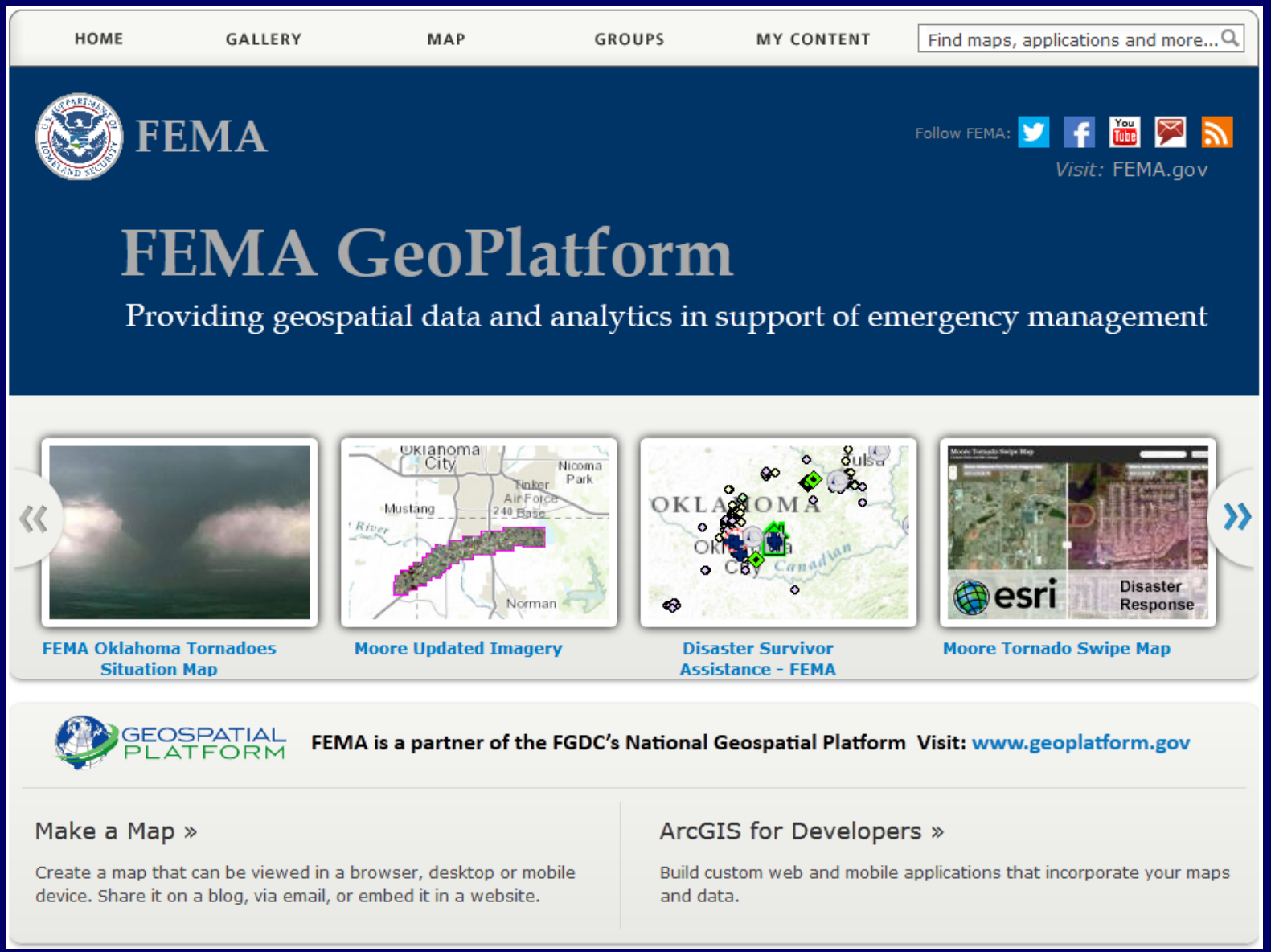

FEMA

- http://fema.maps.arcgis.com/home/

Links

- FEMA Seismic Hazard Maps
  - http://www.fema.gov/earthquake/earthquake-hazard-maps
- USGS Seismic Design Maps & Tools
  - http://earthquake.usgs.gov/hazards/designmaps/usdesign.php
- National Earthquake Hazards Reduction Program
  - http://www.nehrp.gov/
- Building Codes Toolkit for Property Owners
  - http://www.fema.gov/earthquake-publications/building-codes-toolkit-0
- NETAP
  - http://www.fema.gov/earthquake-training/national-earthquake-technical-assistance-program

FEMA

Questions?

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FEMA Region IV Earthquake Program Manager
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FEMA