# Thursday Tips – Get Ready to ShakeOut

October 12, 2023







1

#### Welcome!

- This webinar is being recorded.
- Put questions in the Q & A box throughout presentations
- If you cannot hear the audio, please ensure your volume is turned up and your audio is connected.
- Click 'live transcript' if you would like to enable closed captioning in the webinar. Click the link in chat box if you want it to show in separate window.



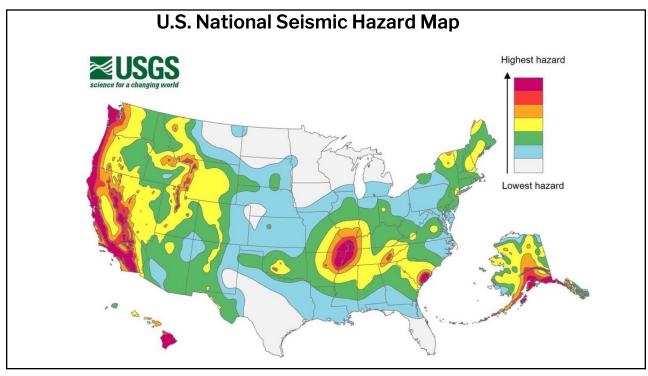
- An ASL interpreter is present. They will be spotlit throughout, but you can also pin them to your screen
- A recording of the webinar, slides and resources will be shared at EarthquakeCountry.org/shakeout23 by tomorrow afternoon.

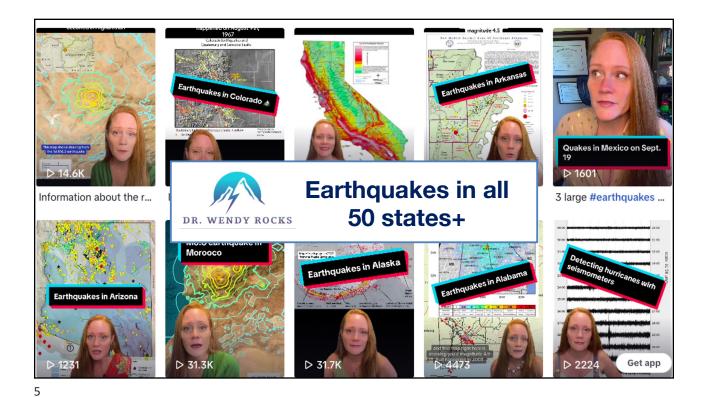


# Earthquake Hazards Across the U.S.

# **Dr. Wendy Bohon**

drwendyrocks.com







## **Earthquake Concerns**

- Can happen anywhere without warning
- Secondary concerns

Tsunamis

Landslides/avalanches

Fires

Structural collapses

Power outages

The list goes on...



Magnitude 6.8 Nisqually Earthquake - February 28, 2001 About 400 injuries related to quake Approximately \$305M insured losses and \$2B worth of damage in WA

Federal Emergency Management Agency

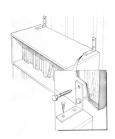
5

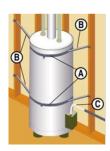
7

### **Prepare for Earthquakes**

- Practice drop, cover, and hold on
- Complete a home hazard hunt
- Have an emergency plan and build a kit
- Secure items at home and work
- Be informed of secondary hazards

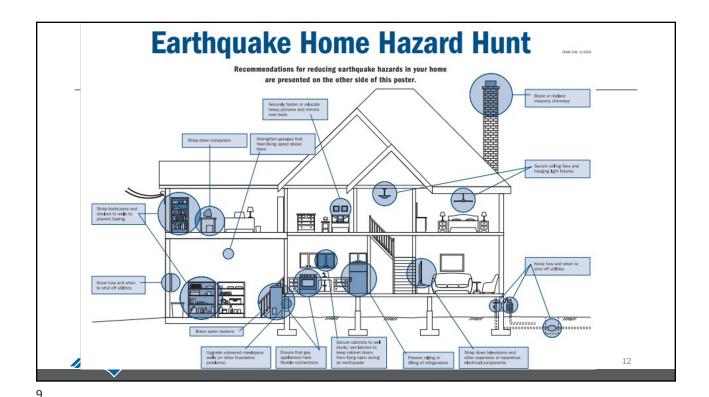






Prevent this:





Ilyssa Plumer
FEMA Region 10

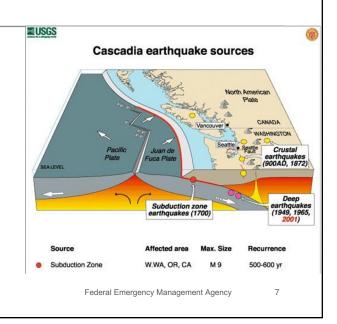


11

#### Cascadia Subduction Zone

#### Magnitude 9.0 lasting up to 5 minutes

- Aftershocks could exceed 7.0
- Tsunamis could be 30-40 feet high in some areas
- Liquefaction in many areas along I-5 Corridor
- Landslides and avalanches
- Significant damage to infrastructure and large scale fires
- Widespread power and communication outages



# What do you do in an Earthquake?

Federal Emergency Management Agency

8

13

# What do you do in an Earthquake?



Federal Emergency Management Agency

# What do you do in an Earthquake?



If in a vehicle, pull over and stop.



If in bed, stay there.



If outdoors, stay outdoors.



Do not get in a doorway.



Do not rui outside.

Federal Emergency Management Agency

C

15



R10 Webinar Recordings
<a href="https://fema.connectsolutionscom/r10communityprep/">https://fema.connectsolutionscom/r10communityprep/</a>

Contact Our Region 10 Team at: FEMA-R10-CommunityPrep@fema.dhs.gov

Subscribe to our monthly bulletin to know about upcoming events!







R10 Newsletter Subscription https://bit.ly/3ef8650



A recording of the webinar, slides and resources will be shared at **EarthquakeCountry.org/shakeout23** by tomorrow afternoon.

Questions? info@shakeout.org

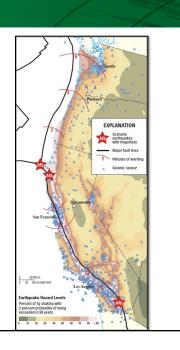
17

# Earthquake Early Warning & ShakeOut

Margaret Vinci Caltech/ShakeAlert



- Ability to provide a few seconds of warning before shaking arrives at your location
- ShakeAlert™ is the name of the West Coast Earthquake Early Warning System (EEW)
- Developed by USGS, Caltech, UC Berkeley, University of Washington and University of Oregon and run by USGS
- Public alerting to get into a safe place & trigger automated actions to prevent damage before shaking
- ShakeAlert™ is not earthquake prediction; the earthquake has already started
- Earthquake Notification is NOT early warning



# **Shake** Plert Because seconds matter.



## Benefits of ShakeAlert/ShakeOut Participation:

#### ShakeOut is an opportunity to:

- To practice DCHO and other appropriate ways to take protective actions to develop muscle memory
- Bring awareness of the availability of ShakeAlert Earthquake Early Warning
- Test your EQ plan & Earthquake Early Warning System at your facility or individually, if you already have it OR download a USGS authorized EEW **Apps**



#### MyShake

Cal OES/UC Berkeley partnership QuakeAlertUSA Early Warning Labs

**SDemergency** 

ShakeReadySD



#### **PUSHED ALERTS**

**WEA** (wireless emergency alerts) (M5+ MMI 4) Google android Phones (Cal OES partnership)

21

# Shake ⚠ lert Because seconds matter.



#### **Available Audio Resources to Start Your Drill:**

#### ShakeAlert/ShakeOut Audio Message:

Audio ShakeAlert ShakeOut Drill - Google Drive:

#### https://shorturl.at/agJNR

For those who do not have the EEW system yet but want to start their drill using the ShakeAlert/ShakeOut audio



•

# **Drill your resiliency!!**





Great ShakeOut Earthquake Drills 10/19/23



















ShakeAlert.org ShakeOut.org

23

# Great Washington ShakeOut

## **Hollie Stark**

Preparedness and Outreach Program Manager Washington State Emergency Management Division





# Q&A

A recording of the webinar, slides and resources will be shared at **EarthquakeCountry.org/shakeout23** by tomorrow afternoon.

Questions? info@shakeout.org

27



#### **Mark Benthien**

Director for Communication, Education, and Outreach Southern California Earthquake Center @ USC ECA Executive Director





# **Southern California Earthquake Center** (SCEC.org)

Federally-funded (NSF/USGS/DOE/FEMA/NASA) geoscience research center based at the **Univ. of Southern California** involving 1000+ scientists and students at more than 90 institutions across the country and worldwide

SCEC's Communication, Education, and Outreach Program manages:

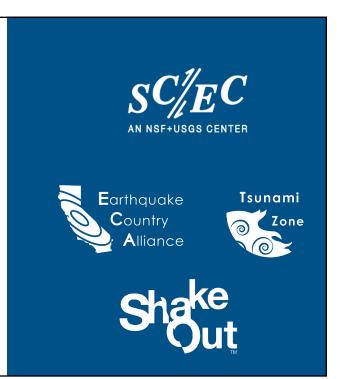
**Great ShakeOut Earthquake Drills (ShakeOut.org)** 

#### **Earthquake Country Alliance**

(EarthquakeCountry.org; California statewide public-private-grassroots partnership)

TsunamiZone.org (regional tsunami exercises)

Geoscience Internships & career development programs



29

# **Great ShakeOut Earthquake Drills**

- Annual opportunity for schools, organizations, and families practice earthquake safety and other aspects of their emergency plans
- Created by ECA in So. Calif. (2008); statewide 2009; with FEMA NEHRP funding SCEC added other regions (all US states/territories involved since 2015)
- 2023 International ShakeOut Day:October 19 (but you can drill on any day)

So far: **50.1 million** worldwide; **17.5 million** U.S. (will keep increasing)

• Learn more and register: **ShakeOut.org** 





#### **ShakeOut Goals**

# **Shift the culture about earthquakes and preparedness**













31

### Social Science Research Basis for ShakeOut

#### **People Get Motivated to Prepare When:**



- They see and hear consistent information about what to do frequently, in many forms, and from many sources
- They see others like themselves getting prepared
- They talk about preparedness with people they know
- They learn potential consequences, and how to avoid them

Based on research results of Mileti, D., Wood, M., Bourque, L., and others

ShakeOut puts these findings into practice

### **ShakeOut Goals**

**Increase earthquake** resilience at all levels











33

# Seven Steps To Earthquake Safety

1. Secure **Your Space** 

2. Plan To Be Safe 3. Organize **Supplies** 

4. Minimize Financial Hardship

BEFORE



7. Reconnect

5. Drop, Cover, and Hold On

6. Improve Safety

**AFTER** 

and Restore

DURING



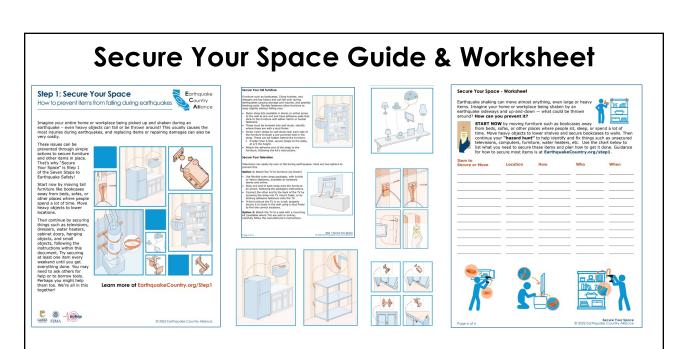






**EarthquakeCountry.org/sevensteps** 

**Terremotos.org/sietepasos** 



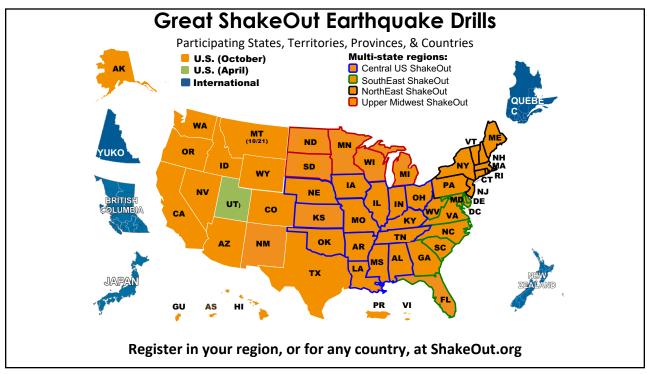
# EarthquakeCountry.org/step1



## **ShakeOut Goals**

# **Encourage people worldwide** to practice earthquake safety





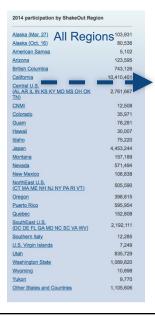
### **Benefits of Registering**



- Be counted in the world's largest earthquake drill
- Be updated with news and safety tips
- Be listed with other participants
- · Be an **example** that motivates others
- Have peace of mind that you have taken action and helped others
- Be better prepared to survive and recover!

39

## **Example Statistics and Participant List**



```
Category
                                           Participants
               California
Total:
                                           10,410,401
Individuals/Families
                                                11,941
Childcare and Pre-Schools
                                                50.111
                                             6,366,514
K-12 Schools and Districts
                                             1,954,438
Colleges and Universities
Local Government
State Government
                                               149.993
Federal Government (Including Military)
                                              221,009
Tribes/Rancherias
                                                 3,402
Hotels and Other Lodgings
Healthcare
                                               185,402
                                                17,445
Senior Facilities/Communities
Disability/AFN Organizations
                                                 9,727
Non-Profit Organizations
                                                82,167
Neighborhood Groups
                                                30,737
Preparedness Organizations
                                                13,498
Faith-based Organizations
                                               166,366
Museums, Libraries, Parks, etc.
                                                 8,407
Volunteer/Service Clubs
                                                  258
Youth Organizations
                                                 1,993
Animal Shelter/Service Providers
Agriculture/Livestock
Volunteer Radio Groups
                                                  931
Science/Engineering Organizations
                                                 5.096
                                                13,671
Media Organizations
Other
```



# Why Drop, Cover, and Hold On?

- Strong consensus for many years, based on data for how people are injured, and experience of Urban Search and Rescue firefighters
- · Prevents being thrown to the ground
- Reduces injury from falling or flying items...
  including structural elements and exterior façades
  (brick, glass, etc.)
- Increases chance of surviving collapse



Classroom in Calexico, Ca April 2010 M7.2

DROP!





EarthquakeCountry.org/step5
ShakeOut.org/dropcoverholdon

41

# **Know How to Protect Yourself**

In most situations and building types:



**Drop** on to your hands and knees, where you are



See **EarthquakeCountry.org/step5** for advice for a variety of settings

# **Know How to Protect Yourself**

In *most* situations and building types:



Cover your head and neck with one arm and hand

- If a sturdy table or desk is nearby, crawl underneath it for shelter
- If no table/desk, crawl against a wall or next to low furniture for sideways protection



See EarthquakeCountry.org/step5 for advice for a variety of settings

In *most* situations and building types:



Hold On to your shelter until shaking stops

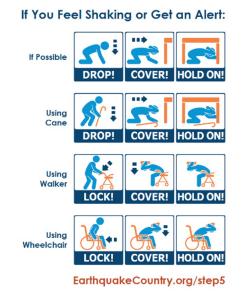
- Be ready to move with your shelter
- If not under a shelter, hold on to your head/neck with both arms and hands



See EarthquakeCountry.org/step5 for advice for a variety of settings

# **Adapt to Your Situation**

- Don't drop down, if you can't get back up
- Practice your preferred method with others who assist you
- EarthquakeCountry.org/accessibility



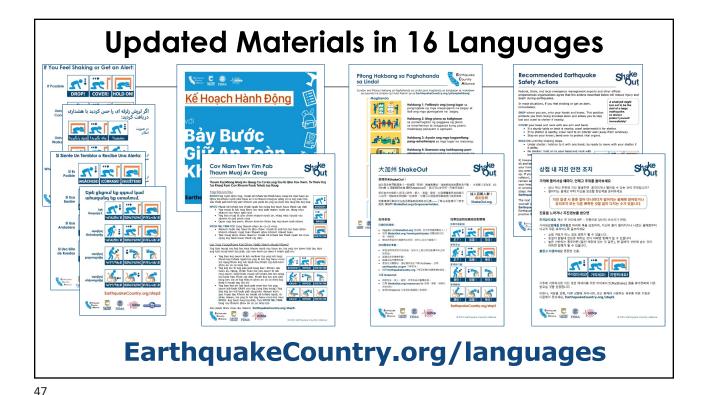
45

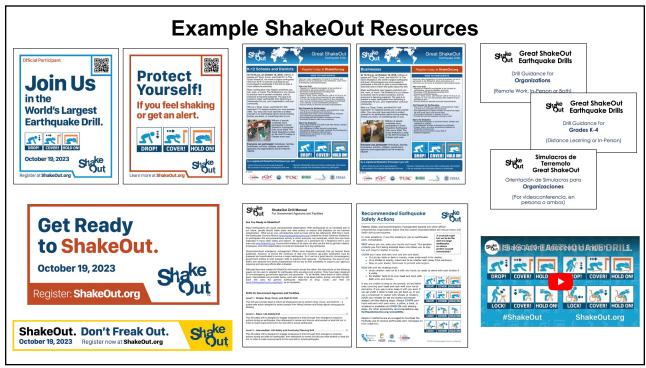
# Earthquake Safety Video Series





- Separate short (1-8 min) videos:
  - indoors, nearby table/desk
  - indoors, no table/desk
  - theater/stadium
  - near the shore
  - in a car
  - in bed
  - · for users of mobility devices/aids
- View full videos at Youtube.com/greatshakeout
- Download full videos at ShakeOut.org/messaging







- Social media messaging
- #ShakeOut
- News release templates
- Downloadable earthquake safety videos
- Video Conference backgrounds
- Animated GIFs and more!















49

# **Options for Government Agency Participation**

- Options for:
  - · holding a ShakeOut Drill
  - · coordinating participation
  - · promoting ShakeOut
- Examples of government organized ShakeOut drills

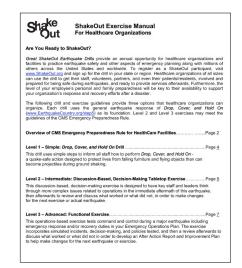
**ShakeOut.org/resources** 



# **Healthcare ShakeOut Resources**

- ShakeOut Manual for Healthcare Organizations
- CMS Emergency Preparedness Rule Requirements FAQ
- · Links to annual webinars
- Other resources for planning and promoting your drill/exercise

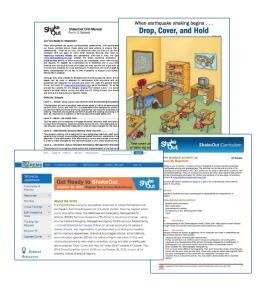
**ShakeOut.org/healthcare** 



51

# School ShakeOut Resources

- ShakeOut Drill Planning Resources for Schools
- School Preparedness Information
- ShakeOut Educational Resources
- REMS TA Center Links



**ShakeOut.org/schools** 

Federal Emergency Management Agency





**RocketRules.org/earthquake** (videos & more)

53

# Connect with ShakeOut

- ShakeOut.org
- ShakeOut.org/espanol
- info@shakeout.org
- Twitter.com/shakeout
- Facebook.com/greatshakeout
- Instagram.com/greatshakeout





A recording of the webinar, slides and resources will be shared at **EarthquakeCountry.org/shakeout23** 

Questions? info@shakeout.org