

The Great  
Central U.S.  
**Shake  
Out**<sup>TM</sup>

***Overview and Final Report***

*prepared by*

**Central U.S. Earthquake Consortium**

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**for information**

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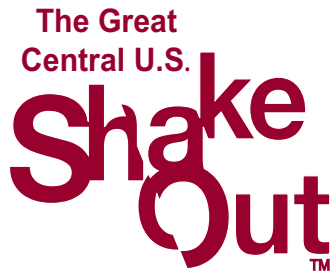
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## ShakeOut Overview



At 10:15a.m. on April 28, 2011, communities throughout the Central United States Earthquake Consortium (CUSEC) Member States (Alabama, Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee) and Associate States of Georgia, Oklahoma, and South Carolina, took part in the largest earthquake preparedness effort in central U.S. history, the Great Central U.S. ShakeOut. With planning taking place since 2008, the ShakeOut was a multi-state earthquake drill where participants simultaneously practiced the recommended action to take during an earthquake: ***Drop, Cover, and Hold On.***

Intended to be a linked activity to the National Level Exercise 2011 (NLE2011) in May of 2011, the ShakeOut was designed as a way for the general public to learn about earthquakes and take specific actions to prepare themselves before the next damaging earthquake strikes. It was promoted through a central website, where people were encouraged to register and pledge their participation to take part in the drill. Participants were asked to use resources on the website (drill manuals and broadcasts, scenarios, and safety information) to help develop their drills. Other ShakeOut promotional collateral (videos, web banners, flyers, etc.) were made available on the website as well.

While participants were encouraged to hold their drills on April 28, it was not a requirement. The Memphis City School district in Memphis, Tennessee took the lead in this preparedness campaign by conducting a district-wide earthquake drill at 10:15 a.m. on Friday, March 11. This drill involved nearly 100,000 participants, and was, by coincidence, just hours after the devastating M9.0 earthquake and tsunami in Japan. Indiana held their ShakeOut drills at 10:15 a.m. on Tuesday, April 19, due to conflicts with statewide school testing schedules. More than 600,000 in the Hoosier State participated in the ShakeOut drill.

Leading up to the ShakeOut, which was scheduled for April 28, there were a number of storms, floods, and devastating tornadoes which caused widespread destruction and killed hundreds of people in several states. Many who originally intended to participate in the ShakeOut were forced to alter their plans because of these real-world disasters. Those who could continue with their drills were encouraged to do so. For those who were able, most drills were held at 10:15 a.m. on Thursday, April 28. There were several media and press conference events held at locations in the states, and in all, more than 3 Million (including those in Indiana) across nearly 10,000 sites were expected to participate in the event.

One of the higher profile media events held in the states was in St. Louis, Missouri at Carnahan High School of the Future. At this event, U.S. Dept. of Homeland Security Secretary Janet Napolitano and U.S. Dept. of Education Secretary Arne Duncan observed students and staff participate in the ShakeOut and held a question and answer session, which was broadcast across the entire school. Also attending the event were Missouri Governor Jay Nixon and U.S. Congressman Russ Carnahan. Each emphasized the importance of preparing for all hazards, even those that we do not face every day.

The Great Central U.S. ShakeOut was modeled after similar efforts in California, where ShakeOut drills have been held annually since 2008. In 2010, more than 7.9 million Californians participated in the ShakeOut. CUSEC worked closely with the Southern California Earthquake Center (SCEC) and the California Earthquake Country Alliance (ECA) to develop the central U.S. ShakeOut effort. The ShakeOut was primarily funded through the Federal Emergency Management Agency, through the National Exercise Division. It was coordinated by CUSEC and its Member and Associate States, the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS) and dozens of other partners throughout the country. Future efforts are currently being planned in the region.

## **ShakeOut History**

### **California and Other Areas (2008-2012) <sup>1</sup>**

The ShakeOut began in 2008 as the Great Southern California ShakeOut, an effort by scientists and emergency managers to inform the public about earthquake preparedness. The ShakeOut was linked closely with an emergency management exercise called "Golden Guardian". It was the largest earthquake drill in U.S. history at the time. A total of 5.4 million participants in eight counties in the southern part of the state, practiced Drop, Cover, and Hold On and other aspects of family, school, and organizational emergency plans. In California, ShakeOut is coordinated by the Earthquake Country Alliance, which is comprised of various individuals and groups involved in earthquake preparedness and outreach in California. The ShakeOut website is developed and maintained by the Southern California Earthquake Center (SCEC), which is based at the University of Southern California.

In 2009, ShakeOut expanded to the entire state of California, divided into 11 areas, and became the Great California ShakeOut. More than 6.9 million Californians participated on October 15th.

Also in 2009, the New Zealand's Great West Coast ShakeOut was held, as the first test of the ShakeOut concept in another region. SCEC replicated the website in partnership with a local school administrator working on a year-long earthquake preparedness project sponsored by New Zealand's Ministry of Civil Defence and Emergency Management. More than 8,000 people participated, out of a mostly rural population of about 30,000.

For its third year, the Great California ShakeOut was held on October 21, 2010 and grew to more than 7.9 million participants. In addition to the California ShakeOut, Nevada (110,000 participants, organized by the Nevada Seismological Laboratory) and Guam (38,000 participants, organized by Guam Homeland Security) joined in the Shakeout with drills held on October 21.

In addition to being the first year for a central U.S. Shakeout, 2011 was the first year of the British Columbia ShakeOut, the largest earthquake drill to ever take place in Canada (470,000 participants). The drill was held on January 26, the anniversary of a 9.0 magnitude earthquake in the Cascadia subduction zone (off the coast of northern California, Oregon, Washington, and British Columbia.) As an initial test,

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<sup>1</sup> Adapted from <http://shakeout.org/history/>

the first Oregon ShakeOut was also held (38,000 participants, with outreach focused primarily in one county). The 2011 California, Nevada, and Guam drills are being held on October 20, 2011 and Utah is holding a drill April 17, 2012.

## **Central U.S. ShakeOut Background**

In November 2008, the CUSEC State Earthquake Program Managers (from the Member State Emergency Management Agencies) were meeting in Tunica, Mississippi to discuss regional earthquake outreach strategies for the New Madrid Bicentennial (NMB), to be held during 2011 and 2012. One of the suggested activities for the NMB was to hold an earthquake drill similar to the Great Southern California ShakeOut. The original idea was to hold a K-12 school earthquake drill in the eight CUSEC States, and hold it on February 7, 2012, the 200<sup>th</sup> anniversary of the last of the 1811-12 New Madrid earthquakes.

In August of 2009, the State Program Managers and Public Information Officers met in Jackson, Tennessee, again to discuss regional efforts and programs. The group was joined by Mark Benthien (Southern California Earthquake Center) and Kate Long (California Emergency Management Agency), who were lead organizers of the California ShakeOut efforts. Benthien and Long took time to share their knowledge and experience from the 2008 Great Southern California ShakeOut. Some key lessons learned from that event were -

- Using consistent messaging/marketing in promotion of the ShakeOut
- Coordinating campaigns and building on existing initiatives
- Empower those who are already prepared to reach out to others
- Using central points for information
- Maintain as a separate event than emergency management exercises

After hearing about the lessons learned from the 2008 ShakeOut, the States decided that they would pursue a similar model to the California ShakeOut. The event would be called the Great Central U.S. ShakeOut, and take place on October 13, 2011, which would be synchronous with the California ShakeOut. This would place it far away enough from the NLE2011 that the two wouldn't compete for resources. It was also decided that CUSEC would be the primary point of coordination for the Central U.S. ShakeOut effort.

In December 2009, the CUSEC Board of Directors decided that the ShakeOut would better serve as a linked event for the NLE 2011, and voted to move the ShakeOut from October 2011 to April 2011. Following this decision, the CUSEC State Earthquake Program Managers settled on April 28, 2011 10:15 a.m. as the official date and time of the ShakeOut. Ultimately though, this date would not work for all states involved. Spring is usually a time where elementary and secondary schools perform statewide standardized tests. In Indiana, the statewide testing dates conflicted with April 28, and Indiana Dept. of Homeland Security worked with the Indiana Dept. of Education to schedule their ShakeOut drill on April 19, 2011.

By September 2010, in time for National Preparedness Month, the Great Central U.S. ShakeOut campaign was officially launched. Promotional activity lasted from September 2010 through April 2011. Originally, the ShakeOut was to be held only in the states of Alabama, Arkansas, Illinois, Indiana,

Kentucky, Mississippi, Missouri, and Tennessee (although participants from any location were encouraged to attend). In November 2010, following a meeting of Earthquake Program Managers in Nashville, Tennessee, the states of Georgia, Oklahoma, and South Carolina decided that they would like to be official ShakeOut participants as well. Eventually, more than three million participants across the eleven states were expected to participate in the ShakeOut, far exceeding the original goal of having at least one million participate in the drill.

## **ShakeOut Objectives**

Based on the August 2009 CUSEC State Earthquake Program Managers and Public Information Officers meeting, several objectives for the ShakeOut were established. Indirectly, these included three similar goals adopted by the organizers of the California ShakeOut:

- To shift the culture about earthquake preparedness
- To have a significant increase of earthquake readiness across all levels
- To include millions of people

These objectives were created not to be measured with concrete certainty at the completion of the ShakeOut, but as a general set of principles that the states could use to increase understanding of the earthquake hazard and participation in the drill. The Great Central U.S. ShakeOut objectives were as follows:

### **1. To save lives and improve disaster preparedness through knowledge transfer**

The recommended protective action to take during earthquake shaking is “Drop, Cover, and Hold On”. This involves dropping to the floor, taking cover under a sturdy object (desk or table), and holding on to it until the earthquake shaking stops. This method is recommended by the Federal Emergency Management Agency, American Red Cross, State Emergency Management, and many other disaster professionals. However, many individuals may not be aware of this recommended action, or believe other methods are safer. This is particularly evident in an area of the country where large earthquakes do not occur frequently. Informal discussions and surveys with the general public reveal there are several other methods that are perceived to be the recommended action. Some of these include:

- Getting inside a doorway
- Moving into a hallway or running outside
- The “Triangle of Life”

In addition to causing general confusion about which method of protection to employ during an earthquake, these other methods have safety concerns as well. Performing the incorrect action during a disaster can mean the difference between safety or injury, and even life and death.

The ShakeOut was designed to provide individuals and groups an opportunity to practice the correct protective action, thus providing a teachable moment through a large-scale, group activity.

It has been seen through previous disasters and by the first response community that people (as individuals and as groups) who have practiced how to perform a certain disaster response action are likely to correctly repeat it in the event of an actual crisis. The purpose of the practice is to arm individuals with knowledge of proper response and to reduce panic in time of crisis. In addition to teaching about “Drop, Cover, and Hold On”, the ShakeOut served as an opportunity for the public to learn about other disaster preparedness methods as well (creating a family disaster plan, securing property to withstand earthquake shaking, gathering supplies for an emergency kit, etc.)

## **2. To develop a “brand” of earthquake outreach and increase brand awareness**

Recent research by social scientists, including Denis Mileti, Michele Wood, and others<sup>2</sup>, suggests that people are motivated to become better prepared for disasters when -

- They see and hear consistent and frequent disaster preparedness information (i.e. the same message from multiple organizations)
- They see others performing disaster preparedness activities
- They talk with others (family, neighbors, co-workers, etc.) about disaster preparedness

The design behind the ShakeOut provided the perfect opportunity to create an earthquake preparedness “brand” in the central U.S. State and local emergency management agencies were provided resources and clear messaging that they were able to give to their communities with little or no modification, providing a consistent stream of information for the general public. For instance, a school may receive a set of guidelines from the State Dept. of Education on best practices for earthquake response and encouragement to participate in the ShakeOut, then go to the ShakeOut website and see similar information and multi-media resources. The same school may also have a safety presentation given to them by State or Local Emergency Management Agency officials, where the students and staff are instructed in correct earthquake response procedures. Finally, the students may take home information to parents, exposing them to correct earthquake information, with ShakeOut branding.

In the past thirty years of earthquake education and outreach efforts in the central U.S., only the ShakeOut has provided the region an opportunity with such positive branding opportunities. There are few campaigns that have provided consistent messaging across all formats, and even fewer that have reached millions of people. In this instance, providing people with a mechanism to join together as individuals, neighbors, and communities has been essential in creating a brand of earthquake awareness, thereby teaching them about disaster preparedness in new ways.

## **3. To improve coordination between local and state entities**

The CUSEC Member States felt the ShakeOut would provide an opportunity to strengthen working relationships with local disaster preparedness groups, while at the same time creating

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<sup>2</sup>Wood, M. M., Mileti, D. S., Kano, M., Kelley, M. M., Regan, R. and Bourque, L. B. (2011), *Communicating Actionable Risk for Terrorism and Other Hazards*. Risk Analysis

opportunities for building new relationships. These groups included Emergency Management, Red Cross Chapters, Volunteers Active in Disaster (VOAD) Groups, School Districts, and others. As developing an earthquake “brand” was an important objective of the ShakeOut, branding would be best carried out between partners who were working closely together. CUSEC and State Emergency Management worked to make ShakeOut materials easy to use, readily available, and customizable. This approach made it easier for ShakeOut partners to distribute and use material, further reinforcing the visibility of the “brand”.

#### 4. To involve the private sector in earthquake preparedness

The central U.S. is home to several Fortune 500 companies, and many who contribute to the global economy. Thousands of small businesses operate in the CUSEC Member States as well. The ShakeOut provided an opportunity for businesses to think about, practice, and refine their own earthquake risk reduction measures. In as much, one important objective was to have private sector involvement and support for the ShakeOut. By engaging businesses and their employees in earthquake safety, ShakeOut organizers hoped to secure another audience and open new doors for the general public to become better prepared for earthquakes.

#### 5. To involve at least 1 million participants

The 2010 California ShakeOut involved nearly 8 million people. With more than 40 million people living in the CUSEC Member States, the central U.S. ShakeOut organizers wanted the drill to involve at least 1 million participants. If the drill were to be a success, it would need to be big and involve many people. The 1 million registered participants benchmark was established to give organizers a way to encourage broad based participation in the drill. One of the key aspects to the ShakeOut process is registration. While not a required element, those who were interested in participating in the ShakeOut were encouraged to sign up on the ShakeOut website. By registering (as an individual, school, organization, etc.) they would be counted and listed with others in their areas. Anecdotal evidence in California ShakeOut efforts showed that more people get interested in the ShakeOut as they see individuals (and organizations) like themselves register on the website. To involve as many participants as possible, organizers hoped to replicate this model in the central U.S.



## ShakeOut Resources

Multiple resources were developed to provide ShakeOut participants support material for holding earthquake drills and learning about earthquake safety. Outlined below are several of the resources which were important to the success of the ShakeOut.

## ShakeOut Website

Vital to the promotion and success of the ShakeOut was a centrally based website, which was found at [www.shakeout.org/centralus](http://www.shakeout.org/centralus). Developed and hosted by the



Southern California Earthquake Center, the website was modeled after the 2010 Great California ShakeOut site. It served as the primary point of entry for all things related to the ShakeOut.

Interested participants were encouraged to visit the website and pledge their participation in the ShakeOut. This was handled through a complex registration form, which allowed for multiple types of registrations, ranging from one person households to schools to businesses or organizations with thousands of people. By completing the registration form, participants were added to the total number of registered participants, and received weekly email updates leading up to the ShakeOut. In all, more than 9,500 registrations were processed, which included more than 3 million total participants. In addition to the participant registration system, other key features of the website included:

- Interactive map showing registration information by state (number of participants, names and categories of participants, etc.)
- Earthquake hazard, mitigation, and safety information
- Supplemental drill materials
- News and ShakeOut events calendar
- Media/Public Relations center

The website also contained pages dedicated to more than twenty different types of participant groups (individuals, schools, businesses, etc.), with information customized to help them hold their drills and learn more about earthquake safety.

## **Drill Manuals**

Drill manuals were developed using templates from the California ShakeOut. These manuals were designed to lead individuals and organizations through the steps of holding an earthquake drill. They were made available for download on the ShakeOut website under the “Resources” section. Manuals were developed for

- K-12 Schools
- Businesses
- Non Profits and Other Organizations
- Government Agencies and Facilities
- People with Disabilities and Other Access and Functional Needs

The drill manuals were tailored for each group, but used the general earthquake response of “Drop, Cover, and Hold On”, as their foundation. To be flexible, the drill manuals had four types of drill scenarios, each with steps to be taken before, during, and after the drill. The manuals were designed to be a starting point, and groups were encouraged to customize them to fit their individual needs. The four levels included –

### **1. Simple: Drop, Cover, and Hold On Drill**

This drill uses simple steps to show participants how to perform Drop, Cover, and Hold On – the recommended action to take during earthquake shaking. It is designed to give participants an

opportunity to practice protecting themselves from falling furniture and objects that may become projectiles during ground shaking.

**2. Basic: Life Safety Drill**

This life safety drill is designed to help participants think through their emergency response actions during the drill, then afterwards to review and discuss what worked and what did not, and make appropriate improvements before the next drill or actual earthquake.

**3. Intermediate: Decision-Making Table Top Drill**

This decision-making drill is designed to have key staff and leaders think through more complex issues related to operations in the immediate aftermath of an earthquake, then afterwards to review and discuss what worked or what did not, and make appropriate improvements in response procedures before the next drill or actual earthquake.

**4. Advanced: Operations Simulation Drill**

This operations drill focuses on crisis action team personnel who are trained and have emergency response and/or recovery duties. The drill incorporates simulated incidents, decision-making, response, and life safety aspects, followed by a review of what worked and what did not, and making appropriate improvements in response procedures before the next earthquake or drill.

To increase participation in the ShakeOut, CUSEC provided 5,500 (500 each) K-12 School Drill Manuals to the participating states. These manuals were distributed by the states to schools in their primary target areas.

## Drill Broadcasts and Multimedia Resources

Drill Broadcasts were developed to be used by participants during their ShakeOut drills. Audio and video broadcasts were made available for download, and participants were encouraged to play the drill over public address systems, closed circuit television, or whatever means they were able (computer, speakers, etc.). There were different versions of the broadcast, including one with earthquake sound effects playing in the background.



Television and radio stations were encouraged to air the drill broadcasts on the date and time of the drill. High-resolution versions of the broadcast were available for television stations to download. The broadcasts were narrated by Mike O’Connell, Communications Director for the Missouri Dept. of Public Safety. The following script was used for the broadcasts:

*This is the Great Central U.S. ShakeOut. You are joining in the largest earthquake drill in this region’s history. We’re practicing now so we’ll know how to protect ourselves during a real earthquake. This is an earthquake drill. Right now, DROP, COVER, AND HOLD ON.*

*Unless you are driving, DROP to the ground now: if you're standing during a large earthquake, the ground might jerk strongly and throw you down. Take COVER under something sturdy to protect yourself from objects being hurled across the room. HOLD ON to it until the shaking stops. If you can't get under something, stay low and protect your head and neck with your arms. Try to stay calm while the ground shakes.*

*Now look around. What objects might fall or be thrown at you in an earthquake, that you should secure in place now?*

*The shaking has stopped and the drill is now over. Calmly get up and remember aftershocks may occur after an earthquake. Visit [ShakeOut.org/centralus](http://ShakeOut.org/centralus) for simple steps to help you survive a damaging earthquake. Thank you for taking part in the Great Central U.S. ShakeOut!*

In addition to the drill broadcasts, a short, descriptive video was produced to promote awareness and increase understanding of the ShakeOut. The video was created by the Central U.S. Earthquake Consortium in partnership with the Missouri Dept. of Safety, who had created a similar earthquake video. The video features Missouri State Emergency Management Agency, Earthquake Program Manager Steve Besemer. In the video Besemer talks with elementary school students in Jefferson City, Missouri about the importance of knowing what to do during an earthquake. For greater exposure, the video was posted on YouTube had nearly 10,000 views.



*Missouri Earthquake Program Manager, Steve Besemer, addresses an elementary class in Jefferson City, Missouri on proper earthquake safety measures*

## **Earthquake Scenarios**

To assist individuals and organizations in planning their ShakeOut drills, CUSEC created several earthquake “scenarios”. The scenarios gave a brief narration of what type of damage may be seen from a large earthquake on the New Madrid or Wabash Valley Seismic Zones. The scenarios included general estimations on earthquake related damage, injuries and fatalities, and infrastructure disruption.

The scenarios were available on the ShakeOut website and participants were encouraged to download them prior to their drill, and use them as a supplement to the drill manuals. Scenarios were created for the following hypothetical earthquake events:

- M6.5 Earthquake along the New Madrid Seismic Zone
- M6.5 Earthquake along the Wabash Valley Seismic Zone
- M6.5 Earthquake generic to any state

## Other Resources

In addition to the Drill Manuals, Broadcasts, and Scenarios, there were several other resources made available to participants on the ShakeOut website. These included flyers, multi-media videos, web banners, sample webpage and promotional scripts, and customized flyers for different types of participation groups. The resources were made available to those interested in helping promote the ShakeOut in their neighborhood, schools, workplace, and community. Leading up to the ShakeOut, registered participants received ShakeOut email updates. The updates featured drill related informational resources and earthquake safety tips from the “Seven Steps to Earthquake Safety”, which was developed by the Southern California Earthquake Center.



## ShakeOut Partnerships and Promotion

### The Role of CUSEC in the ShakeOut

The ShakeOut was coordinated and organized by CUSEC, under the direction of the CUSEC Member States. CUSEC's role was intended to provide the states with a mechanism for organizing this multi-state effort, and included the following activities -

- Facilitating planning meetings and activities with State Emergency Management
- Working with multiple Federal agencies to coordinate promotion and activities
- Website development oversight
- Promotional material development
- Development of support material (manuals, scenarios, broadcasts, multimedia, etc.)

CUSEC also developed several ShakeOut promotional and marketing campaigns to increase awareness and participation in the ShakeOut. These campaigns were regional in nature, and done in conjunction

with the Member States, who conducted their own marketing and outreach efforts. An overview of the CUSEC promotion and marketing efforts for the ShakeOut is as follows.

### **1. Outreach Presentations**

In 2010-2011, CUSEC staff provided more than 35 ShakeOut outreach presentations to more than 2,500 people at events across the central U.S. These events included town-hall/community meetings, webinars, disaster preparedness conferences, civic meetings, professional conferences, press conferences, private sector sponsored training, business continuity seminars, and other similar events. Presentations typically included information on earthquake hazards, mitigation, Drop, Cover, and Hold On and encouraging participation in the ShakeOut.

### **2. Press Release Campaigns**

CUSEC developed and released six press releases leading up to the ShakeOut. The press releases were designed to increase media attention, thereby generating greater public awareness of the event. The press releases were a coordinated campaign through the State Emergency Management Agencies, and were sent to media outlets across the states. Topics included -

- *CUSEC to Spearhead Central U.S. Earthquake Drill; June 2010*
- *Memphis City Schools to Participate in Great Central U.S. ShakeOut; March 2011*
- *Central U.S. TV and Radio Stations: Please transmit "Drill Broadcast" for the Great Central U.S. ShakeOut; March 2011*
- *Registration for the Great Central U.S. ShakeOut Tops One Million; March 2011*
- *Great Central U.S. ShakeOut Less Than One Month Away; April 2011*
- *Central U.S. to ShakeOut in One Week; April 2011*

The press release campaign generated more than 25 media interview requests to CUSEC. Interviews were given to media outlets in all eight CUSEC states as well as outlets in the states of Iowa, Ohio, and Oklahoma. Interviews were also given to the Tokyo Broadcasting Corporation for a report on earthquakes in the U.S. This was a special report that developed after the devastating March 11, 2011 M9.0 earthquake and tsunami in Japan. In addition, several interviews and press conferences were held at ShakeOut day events.

Media interest created by CUSEC, the States, and other ShakeOut partners, helped to generate more than 400 news articles in print and online format. The ShakeOut was featured in several major newspaper, internet, television, and radio outlets across the United States. These outlets included -

- CNN
- Fox News
- MSNBC
- NPR
- PBS
- USA Today
- The White House Blog
- Yahoo! News
- Birmingham News (Birmingham, AL)
- Paragould Daily Press (Jonesboro, AR)
- Atlanta Journal Constitution (Atlanta, GA)
- Chicago Tribune (Chicago, IL)

- Evansville Courier Press (Evansville, IN)
- Paducah Sun (Paducah, KY)
- St. Louis Beacon (St. Louis, MO)
- DeSoto Times (Southaven, MS)
- Tulsa World (Tulsa, OK)
- The State (Columbia, SC)
- Commercial Appeal (Memphis, TN)

### 3. Email Campaigns

In the weeks leading up to the ShakeOut, CUSEC sent out ten mass emails to registered participants of the ShakeOut. These emails were designed to remind participants about the drill, alert them to new and existing resources that might enhance their drills, and give them an opportunity to forward the ShakeOut to their friends, family. A central theme of the email campaign was the inclusion of the “Seven Steps to Earthquake Safety”, which is an earthquake safety program designed by the Southern California Earthquake Center. The program has also been adapted by CUSEC and others around the country as a model for teaching earthquake safety.

### 4. Social Media

In March of 2011 CUSEC launched a concerted Social Media outreach campaign that included Facebook, Twitter, and YouTube. Similar messaging was posted across the different platforms during the campaign. This included the following activities:

#### a. Facebook

CUSEC created a ShakeOut Facebook page at [www.facebook.com/CentralUSShakeOut](http://www.facebook.com/CentralUSShakeOut). The page was used to promote the ShakeOut and provide earthquake related news and information to Facebook users. CUSEC posted approximately 50 messages to the page, which included links to earthquake news, ShakeOut resources, and more. At the conclusion of the ShakeOut, the ShakeOut page had nearly 1,200 “likes”, or people who opted to follow the ShakeOut in their profile. From March through April, there were nearly 80,000 views of the ShakeOut profile page and nearly 600 “likes” and comments on the page.

#### b. Twitter

A ShakeOut Twitter account was created at [@CentUS\\_ShakeOut](https://twitter.com/CentUS_ShakeOut). This was done as a complement to the Facebook page. Eventually, more than 325 Twitter users were following the ShakeOut news feed. Almost 100 Twitter posts promoting the ShakeOut were made from March through April 2011. On the day of the ShakeOut, Twitter users were encouraged to use “#ShakeOut” in their posts to let people know they were participating.

#### c. YouTube

CUSEC also created a YouTube channel/page for the ShakeOut at [www.youtube.com/user/CentralUSShakeOut](http://www.youtube.com/user/CentralUSShakeOut). The channel hosted three different videos which were created for the ShakeOut, one was a general ShakeOut overview video and the other two were video versions of the drill broadcasts. In all, there were more than 12,500 views to the video and broadcasts during the campaign. The videos were cross promoted through email, Facebook, and Twitter, and the ShakeOut website.

## 5. Public Service Announcements

In conjunction with the Center for Earthquake Research and Information (CERI) in Memphis, TN, CUSEC released nearly 300 televised Public Service Announcements (PSAs) in the eight CUSEC Member States during the month of March 2011. The PSAs were developed and produced by CERI to increase earthquake awareness during the New Madrid Bicentennial, and encouraged viewers to visit the ShakeOut website to register to participate in the drill. The PSAs were shown in the following markets:

- Birmingham, AL
- Huntsville, AL
- Jonesboro, AR
- Little Rock, AR
- Carbondale, IL
- Evansville, IN
- Indianapolis, IN
- Lexington, KY
- Louisville, KY
- Paducah, KY / Southern, IL
- St. Louis, MO
- Cape Girardeau, MO
- Grenada, MS
- Greenville, MS
- Jackson, MS
- Jackson, TN
- Memphis, TN
- Nashville, TN

## 6. Direct Mail

In April 2011, CUSEC sent postcards to nearly 20,000 schools in the eight Member CUSEC States. The postcards were sent as reminders (or first impressions) about the ShakeOut to child care centers, pre-schools, and K-12 public and private schools. They encouraged recipients to join other schools in the ShakeOut drill. According to tracking results, the postcards resulted in at least 50,000 additional participants in more than 100 schools.



CUSEC also worked closely before, during, and after the ShakeOut with the Southern California Earthquake Center (SCEC). SCEC is the primary coordinator for ShakeOut efforts across the world. The innovations and leadership provided by SCEC were the building blocks for a successful ShakeOut in the central U.S. Specifically, SCEC helped CUSEC by providing general council and advice on best practices



and outreach methods, templates for drill resource material, training in ShakeOut database systems, and much more. Additionally, the ShakeOut website was developed, hosted, and maintained by SCEC. SCEC also worked closely with many of the Member State and other partner organizations. Much of the success of the ShakeOut was a direct result of CUSEC working closely with Mark Benthien, SCEC Director of Communication, Education, and Outreach. Benthien’s expertise in earthquake public outreach campaigns was instrumental in guiding the success of the ShakeOut.

While primarily coordinated and organized by the CUSEC, the ShakeOut was also promoted through a grass-roots partnership effort across dozens of local, state, and federal agencies, organizations, individuals, and businesses. Critical to the success of the ShakeOut was having local and state ShakeOut “Champions” to promote the effort and gain market presence. The following describes several key stakeholders and their efforts in the campaign.

### **State Emergency Management**

The primary stakeholders of the ShakeOut were the CUSEC Member and Associate State Emergency Management Agencies. They were in charge of coordinating all ShakeOut related activities at the state level. The primary participating states were -

- Alabama Emergency Management Agency
- Arkansas Department of Emergency Management
- Georgia Emergency Management Agency
- Illinois Emergency Management Agency
- Indiana Department of Homeland Security
- Kentucky Division of Emergency Management
- Mississippi Emergency Management Agency
- Missouri State Emergency Management Agency
- Oklahoma Department of Emergency Management
- South Carolina Emergency Management Division
- Tennessee Emergency Management Agency

Although each state had different goals in what they wanted to achieve with the ShakeOut, they held in common the desire to increase public knowledge of earthquakes and earthquake safety. To do this, they held different outreach activities leading up to the ShakeOut. After the ShakeOut was completed, CUSEC informally polled the states to learn more about the types of outreach and activities that occurred.

To learn more about the outreach activities, the poll asked states: “What methods did you use to promote the ShakeOut in your state?” A percentage of activities reported as being performed is as follows -

Activity	% of States that Performed Activity
Traditional Press Releases	100%
Television Advertising or PSA	43



Radio Advertising or PSA	57
Newspaper/Magazine Advertising	28
Direct Mail (Postcards, Flyers, etc.)	28
Internet Advertising	57
Social Media - Facebook	71
Social Media - Twitter	71
Social Media - YouTube	43
Social Media - Other	28
Television Interviews	100
Radio Interviews	71
Newspaper/Internet/Magazine Interviews	100

Other state-led activities included having Governor’s Proclamations signed, press conferences, video documentaries, and more. The State Emergency Management Agencies worked with a variety of partners to coordinate the statewide activities surrounding the ShakeOut. Although they varied by state, according to the poll these partners generally included -

- Office of the Governor
- State Dept. of Education
- State Geological Survey
- State Museum
- Dept. of Public Safety / State Police
- State Dept. of Transportation
- State Fire Marshall Office
- State Library Association
- Association of State Science Teachers
- Local Emergency Management Agencies
- Local Red Cross Chapters
- Local/State Health Departments
- Citizen Corps/C.E.R.T. Chapters
- Seismic Safety Commissions

One poll question asked: “What was one of your biggest success stories as a result of the ShakeOut?” Responses included –

- “(An) event at (a state University) was our highest profile event. The entire campus participated for two days. A variety of activities, including speakers, media buys, fun campus activities, media outreach and a campus wide ShakeOut drill were a part of the event, which was featured in a USA Today article.”
- “By promoting Shakeout within the office, a committee was assigned to develop the program for the office, and (the) event became a Mandatory Drill within the office. By promoting the Shakeout, at least one more university and several large companies participated.”
- “After involving the (State) Department of Education, within two days, the registration went from 60,000 registered to over 150,000.”
- “(Largest Public School District) participating despite being in state testing.”
- “Cooperation with the local school districts in High-Risk counties in (the state)”
- “(High Number of) participants!”

Another poll question asked: “What was one of the biggest challenges you faced when organizing the ShakeOut and what would you do differently in future efforts?” Responses included -

- “Being a first-time event, the biggest one was assembling contact information for schools and other organizations that could potentially participate. Explaining the ShakeOut, why it's important and why they should participate took up much of our time. Now that a lot of these contacts have been established, it should be easier to get the word out in future years.”
- “Apathy, 'it won't happen to me/in my lifetime/area.' Engaging more people earlier”
- “Time to accomplish the promotional task with disaster(s), emergencies and the NLE”
- “Getting people to sign up to participate. In the future, the public awareness campaign would involve television campaign.”
- “Finding partners. Try to involve the ESC's earlier and provide each agency with easy to use materials.”
- “General awareness in (the state). We would schedule it in October, when it makes more historical sense and not next to a huge undertaking like an NLE. Also, the Shakeout didn't help the NLE awareness. Media were confused by the two events. Many thought they were the same thing.”
- “Participation due to actual disasters.”

All states said that they would participate in a ShakeOut effort again (in some capacity) and that they considered the effort to be a success.

### **The Role of FEMA in the ShakeOut**

As part of a linked activity for the National Level Exercise 2011, the ShakeOut was closely tied with several national efforts to increase awareness and preparedness for earthquakes in the central U.S. In as much, the Federal Emergency Management Agency (FEMA) was one of the major supporters of the ShakeOut effort. To link with the NLE, The FEMA National Exercise Division (NED) provided the majority of the funding for the ShakeOut, thus enabling the program to be a success. In addition to the NED, the FEMA offices of National Earthquake Hazards Reduction Program (NEHRP), Individual and Community Preparedness (ICPD), and Office of External Affairs provided program guidance and support for the ShakeOut.

In the years and months leading up to the ShakeOut, FEMA NEHRP Headquarters Staff and Regional Earthquake Program Managers worked directly with CUSEC and the States to develop ShakeOut implementation plans and strategies. FEMA NEHRP also assisted in the promotion of the ShakeOut through the “QuakeSmart” program, which is an outreach initiative designed to increase earthquake mitigation and create partnerships in the private sector. QuakeSmart worked closely with CUSEC to promote the ShakeOut during 2010 National Preparedness Month and also during a multi-state, earthquake themed “Outreach Tour” in February 2011. The Outreach Tour brought earthquake information to several hundred citizens across five states in the New Madrid Seismic Zone.

FEMA NEHRP financially supported the ShakeOut through a program known as “Earthquake Hazards Reduction State Assistance Program”, which is a series of cooperative agreements within the states that have a medium to high seismic risk. This program provides funding to states to engage in earthquake mitigation and outreach activities, supporting a national strategy of earthquake risk reduction.

CUSEC also worked closely with FEMA Individual and Community Preparedness Division (ICPD) to increase ShakeOut awareness and promotion. ICPD worked internally at FEMA to provide visibility to the program and obtain support from FEMA Administrator, Craig Fugate. ICPD hosted several webinars and virtual meetings that specifically promoted the ShakeOut. They also worked to make the ShakeOut visible on “Ready.gov” and the in FEMA Citizens Corps Program. Both programs are responsible for engaging the public in disaster preparedness and education. ICPD created many other opportunities for partnerships, including those in Faith-Based Organizations (FBOs), Volunteers Active in Disaster (VOAD), Community Emergency Response Teams (C.E.R.T), and many other community-based disaster response groups.

Additionally, FEMA ICPD and the U.S. Department of Education (ED) partnered to bring a much higher visibility to the ShakeOut. The States, CUSEC, FEMA and ED worked together to increase school participation and buy-in for the effort. They did this through a multi-faceted outreach to schools in the New Madrid Seismic Zone. Sending joint-letters and emails to schools, holding webinars and press conferences, and performing direct outreach to schools were just some of the activities the two agencies worked on together. After several of the FEMA and ED outreach campaigns to schools in the region, registration numbers increased significantly.

FEMA and ED leadership were able to gain the support for the ShakeOut by U.S. Department of Homeland Security (DHS) Secretary Janet Napolitano and ED Secretary Arne Duncan. The two sent a letter encouraging participation in the ShakeOut to every school in the participating ShakeOut states. This letter highlighted the need for schools to prepare for earthquakes and other disasters. After sending this letter, ShakeOut registrations increased dramatically, which demonstrated the importance of having high-level support. Secretaries Napolitano and Duncan also submitted an Op-ed article to the St. Louis Post Dispatch urging the public to participate in the drill. Finally, they participated in a high level ShakeOut day event at Carnahan High School of the Future in St. Louis, Missouri. This event gave students at one of the top high schools in the St. Louis City School District an opportunity to interact with the nation’s leadership, and provided a forum for the school to highlight their students, programs, and civic curriculum.

Much of the above outreach was done through coordination of the FEMA External Affairs Office. Prior to the special appearance of Secretaries Napolitano and Duncan in St. Louis, FEMA Headquarters and Regional Offices used a variety of methods to promote the ShakeOut. Several press releases were distributed among the media and also posted to [www.fema.gov](http://www.fema.gov). FEMA Headquarters created a blog dedicated for discussions pertaining to the ShakeOut for FEMA website visitors. In addition to participating in the actual drill, FEMA Regions IV, V, VI and VII, offices issued congressional advisories, promoted the ShakeOut in several radio interviews and used social media tools such as Twitter to reach people within and outside of the central U.S. FEMA Regional Offices coordinated with school administrators to present students with earthquake preparedness information and also partnered with the private sector in a roundtable hosted by Home Depot.

## US Geological Survey

The US Geological Survey provided program guidance and financial support for the Great Central U.S. ShakeOut. They have been a major contributor to the development of the original ShakeOut efforts in California and have continued to offer support in the central U.S. effort. CUSEC and the Member States worked closely with the USGS Earthquake Hazards Program to promote the ShakeOut in the region. USGS and CUSEC also worked together on the steering committee of the New Madrid Bicentennial, of which the ShakeOut was one of the primary anchoring events.

In support of the Bicentennial, the USGS produced a series of videos documenting the history and science behind the New Madrid earthquakes of 1811-12. Several of the videos were used on the ShakeOut website. Additionally, the USGS produced a guidebook about the central U.S. earthquake hazard and earthquake safety. This guidebook, "Putting Down Roots in Earthquake Country - Your Handbook for Earthquakes in the Central United States", was featured prominently on the ShakeOut website after its release. The publication also includes the "Seven Steps to Earthquake Safety" and was adapted from another 'Putting Down Roots' document originally created in California by SCEC.

## Who Participated in the ShakeOut?

The ShakeOut website was the primary means for those interested to pledge their family, business, organization, or school to participate in the drill. To register, participants were encouraged to supply a few pieces of information, including the number of participants that would take part in the drill at their home or facility. Upon registering, the participant information would be added to a list with others who had previously registered. This list was broken down on the website into two display modes, by state, and by category. Registration for the ShakeOut opened on August 30, 2010, and was left open until the days following the event. A summary of registrations is as follows -

### ShakeOut Participants by State

State	Participants
Alabama	56,498
Arkansas	164,348
Georgia	437,630
Illinois	257,222
Indiana	595,834
Kentucky	357,833
Mississippi	132,367
Missouri	486,238
Oklahoma	8,685
South Carolina	267,166
Tennessee	280,199
Multiple States	5,925
Other (Outside of Central US)	38,559
<b>Total</b>	<b>3,088,504</b>

## ShakeOut Participants by Category

While the ShakeOut was open to all interested parties, the majority of participants were students, faculty, and staff in public and private schools. Similar results were seen in California ShakeOut efforts. Several of the CUSEC states require earthquake drills each school year. The ShakeOut was marketed as an opportunity for these schools to fulfill this requirement. For those who don't have an annual drill requirement, it provided an opportunity to begin thinking about earthquake preparedness and mitigation, or update their disaster plans. Overall, more than 2.6 million students, faculty and staff were registered to participate in the ShakeOut. This is approximately 25% of the total enrollment in the eleven states participating in the ShakeOut. School registrations by state were as follows:

State	Public School Enrollment <sup>2</sup>	Private School Enrollment <sup>3</sup>	Total State Enrollment	# of Schools/Districts Registered	# of Students Registered for the ShakeOut	Participants as a % of Enrollment
Alabama	745,668	63,380	809,048	76	52,582	6%
Arkansas	478,965	21,280	500,245	236	125,643	25%
Georgia	1,655,792	108,160	1,763,952	354	412,684	23%
Illinois	2,119,707	231,980	2,351,687	443	187,456	8%
Indiana	1,046,147	94,169	1,140,316	479	565,012	50%
Kentucky	670,030	60,312	730,342	204	333,456	46%
Mississippi	491,962	41,253	533,215	60	118,721	22%
Missouri	917,871	99,202	1,017,073	500	367,781	36%
Oklahoma (City)	46,817	5,441	52,258	12	3455	7%
South Carolina	718,113	49,349	767,462	230	246,482	32%
Tennessee	971,950	77,290	1,049,240	245	238,720	23%
<b>Totals</b>	<b>9,863,022</b>	<b>851,816</b>	<b>10,714,838</b>	<b>2,839</b>	<b>2,651,992<sup>4</sup></b>	<b>25%</b>

Other ShakeOut participant categories included:

Category	Registrants <sup>5</sup>	Participants <sup>6</sup>
Individuals/Families	3,602	9,821
Childcare and Pre-School	446	43,869
Colleges/Universities	146	140,200
Local Government	702	52,812
State Government	332	43,538
Federal Government	261	35,399
Tribes	7	262
Businesses	320	46,016
Medical Facilities	413	56,667

<sup>3</sup> Source: The National Center for Education Statistics (NCES); <http://nces.ed.gov>

<sup>4</sup> This figure includes teachers and staff which account for approximately 325,000 participants in public and private schools in the states

<sup>5</sup> Number of people who registered on behalf of themselves, their school, business, etc.

<sup>6</sup> Number of total expected participants, who were listed as participating by a registrant

Science/Engineering Organizations	14	550
Museums, Libraries, Parks, etc.	34	1,461
Non-profit Organizations	396	19,562
Faith-based Organizations	64	2,016
Service/Membership Organizations	4	299
Preparedness Organizations	73	3,477
Communication Groups	44	712
CERT Groups	45	1,492
HOA/Retirement Communities	9	7,852
Neighborhood Groups	5	124
Scouting Groups	17	349
News Media	34	942
Other	108	5,212

### How did people hear about the ShakeOut?

On the ShakeOut registration form, there was a place for registrants to enter where they heard about the drill from. Below is a summary of responses from this registration form field. Note that multiple selections were allowed, so people could select as many sources (or few) as they liked.

Source	Number of Responses
ShakeOut (website, email, other)	1,956
Central U.S. Earthquake Consortium	676
Local Citizen Corps Council	152
Local Emergency Management	1,311
State Emergency Management	1,492
Federal Emergency Management	667
Direct mail (postcard, letter, etc.)	120
My employer (email, flyer, etc.)	1,928
Another organization (email, flyer, etc.)	822
My child or my child's school (email, word of mouth, etc.)	70
Other friends or family (email, word of mouth, etc.)	315
Facebook, Twitter, or blog	293
Television, radio, newspaper, or online news	691
Meeting or preparedness fair	198
Other	1,404

### ShakeOut Drills and Events

Although the ShakeOut drill was scheduled to take place on April 28, 2011, participants were encouraged to hold their drills whenever was most convenient to them. Most indicated that they would participate on April 28<sup>th</sup>, but many also scheduled drills during the weeks and months leading up to the ShakeOut. Below is a recap of three highly publicized ShakeOut events, including the actual ShakeOut day on April 28.

## **Memphis City Schools ShakeOut - March 11, 2011**

Due to scheduling conflicts with April 28, the Memphis City School district planned on holding their drill on March 11, 2011. The district is comprised of over 200 schools spread throughout the city of Memphis. The drill was coordinated through the MCS Office of Security, Safety, and Emergency Management. Information about the ShakeOut was sent to all principals in the district, as were drill manuals and posters. Across the district, more than 110,000 students and more than 7,500 faculty and staff were expected to participate.

Prior to the drill, press releases and media outreach were sent to alert the media to this event. The MCS ShakeOut was the MCS's first attempt to hold a district wide safety drill. In the early morning hours of March 11, news of the magnitude 9.0 earthquake and tsunami off the coast of Honshu, Japan began to break in all major media markets in the U.S. This tragic event greatly increased the visibility of the ShakeOut in the Memphis area, and also in the ShakeOut as a whole.

On the morning of March 11, members of the media, CUSEC, the US Geological Survey, and the Memphis City School administration met at Whitehaven Elementary School to participate in the drill. The Superintendent of the district was present and gave press interviews, underscoring the need to be prepared for earthquakes and other disasters. The guests were split into several classrooms, where brief presentations on earthquakes and earthquake safety were given by CUSEC and USGS representatives. At 10:15a.m., the principal announced to the students that the drill was underway, and played earthquake sound effects over the PA system. During the drill, the school safety team went from room to room and made sure that all teachers and students were correctly performing the drill procedures.

Following the drill, an informal 20 minute press conference was held where district and school officials, and CUSEC and USGS representatives were interviewed by three television reporters and one newspaper reporter. Additionally, FEMA publications and posters were handed out to students, and a CUSEC certificate of appreciation was given to the principal of the school.

## **Indiana ShakeOut - April 19, 2011**

On April 19, 2011, individuals, schools, businesses, and communities across the state of Indiana held ShakeOut drills. The date of April 19 was selected as an alternate to April 28, when most schools in the state would be holding standardized testing. Leading up to the drill, Indiana Department of Homeland Security held several outreach events across the state, followed by media advisories and interviews. By April 19, nearly 600,000 in Indiana were registered to participate in the ShakeOut.

Across the state on April 19, there were several ShakeOut media events held. Television, news, and radio interviews were given in the main media markets to spur interest in the drill. One of the higher profile events was held in Evansville, Indiana, at Tekoppel Elementary School. At this event, several distinguished guests participated in the drill. These guests were from the Indiana Dept. of Homeland Security, Indiana Geological Survey, Indiana Dept. of Transportation, Vanderburgh County EMA, Evansville School District, American Red Cross -Evansville, Federal Emergency Management Agency, and CUSEC.

At the Tekoppel drill, the ShakeOut guests went to several classrooms, ranging from kindergarten to fifth grade, and gave brief presentations on earthquake hazards and disaster preparedness. During the presentations, students were given the opportunity to ask questions of the guests. They received brochures and handouts about earthquake safety and mitigation as part of the presentations. At 10:15a.m. the students practiced Drop, Cover, and Hold, followed by a school evacuation drill. After the building evacuation, the entire student body and school staff re-assembled in the gymnasium for a presentation by Joe Wainscott, Director of the Indiana Dept. of Homeland Security. Director Wainscott discussed the importance of disaster preparedness and how lessons learned in school will be carried through by the children throughout their lives. On behalf of the CUSEC Board of Directors, Director Wainscott presented the principal of the school with a certificate of appreciation for the school's support of the ShakeOut. At the conclusion of the assembly, the Director and Superintendent of the school district held a brief press conference. ShakeOut was featured statewide on various news and media outlets.

### **The Great Central U.S. ShakeOut - April 28, 2011**

Following the April 19 drills in Indiana, the remaining states of Alabama, Arkansas, Georgia, Illinois, Kentucky, Mississippi, Missouri, Oklahoma, South Carolina, and Tennessee held their ShakeOut drills. Leading up to the 28<sup>th</sup>, there were several press conferences, webinars, media advisories, and email campaigns launched to generate interest in the ShakeOut. By April 27<sup>th</sup>, more than 3,000,000 people (including those in Indiana) were registered to participate in the ShakeOut. While most of participants were in the highest earthquake risk areas, there were many who participated in lower risk areas as well.

From April 25<sup>th</sup> to 27<sup>th</sup>, several widespread tornadoes and severe weather events ripped through the states of Alabama, Arkansas, Georgia, Mississippi, and Tennessee. The tornadoes and storms caused widespread death and destruction, with the tornadoes being the fourth most deadly in the nation's history<sup>7</sup>. Nearly 350 people were killed in the events and an estimated \$10 billion in insured losses were incurred. Due to the severity of the events, many communities and stakeholders in these states were deeply affected and unable to participate in the ShakeOut (or any other planned events). It is, and will remain, unknown, how many participants had to cancel their plans because of the real-world disasters. Since earthquakes are no-notice events and disasters tend to occur when they are least expected, CUSEC felt it was important to continue on with the drills in areas unaffected by the storms. Those who were able to do so were encouraged continue on with their plans to participate.

Most of the states organized ShakeOut themed events and press conferences on April 28 to generate awareness in the program. Perhaps the highest profile ShakeOut day event was in St. Louis, Missouri where Homeland Security Secretary Janet Napolitano and Education Secretary Arne Duncan participated at Carnahan High School of the Future. Also present for this event was Missouri Governor Jay Nixon and U.S. Congressman Russ Carnahan. At the event, students of the school were given an earthquake hazards overview by Bill Duley of the Missouri Department of Natural Resources. Students also heard from Missouri State Emergency Management Agency Earthquake Program Manager Steve Besemer on

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<sup>7</sup> According to the National Weather Service - [http://www.srh.noaa.gov/bmx/?n=climo\\_2011torstats](http://www.srh.noaa.gov/bmx/?n=climo_2011torstats)



the importance of earthquake and all-hazard preparedness. Following the discussions on hazard and safety, the entire school (and district) participated in a drop, cover, and hold on drill. The distinguished guests then invited students to ask questions about concerns related to homeland security or the education system in America. Secretary Napolitano noted that “Preparedness is key, and the key to preparedness is our young people” and Secretary Duncan addressed the need for students to take their education seriously, as unskilled labor opportunities are shrinking, while the need for information based employees is increasing. After the Q&A session with the students, the guests held a press conference and discussed a variety of topics including recent disasters, the need to prepare for all hazards, and progress in the education system in Missouri and the United States.

Even with the higher profile events generating the most buzz, there were thousands of less visible ShakeOut drills occurring in the participating states. Drills took place at homes, businesses, schools and universities, government facilities, and many more locations across the country. Some drills involved a just few people, while others involved hundreds of people. The ShakeOut was not confined to the CUSEC states or even the United States. Drills of all sizes occurred in 49 states and Puerto Rico, as well as the countries of Brazil, Chile, Indonesia, Kenya, Thailand, and the United Kingdom, making the ShakeOut an international event.

### **ShakeOut Participant Stories**

Following the ShakeOut, participants were encouraged to share their experiences and photos from their drills on the ShakeOut website. The initial feedback received from participants was overwhelmingly positive, reinforcing the idea that the ShakeOut would provide the public with a new way to learn about earthquake hazards in the central U.S. The feedback also showed that participants found the ShakeOut helped them to identify proper procedures take, ways to make items their home or building more secure, and gaps in earthquake plans. Nearly 75 ShakeOut stories were submitted and almost 100 photos were added to the photo gallery. Below is a sampling of several of the comments left on the ShakeOut website -

#### **Morrilton Elementary School; Morrilton, Arkansas**

*Today, Morrilton Elementary students participated in the first-ever Great (Central U.S) ShakeOut earthquake drill! We are very proud of the preparation that the teachers made to get ready for this historic occasion. We listened to the bell pattern that was created for an earthquake, and some of our classes practiced DROP, COVER, AND HOLD ON even before 10:15, so they would know exactly what to do!*

*Although we have not had major earthquakes in this part of Conway County, our neighbors in northern Conway County--the Lanty Community and Faulkner County have certainly had some "Shaking Up" going on in their places! MES students know what to do if a GREAT SHAKEOUT happens to us! We are prepared!*

### **Habitat for Humanity International; Atlanta, Georgia**

*On Thursday, April 28, Habitat for Humanity staffers in 10 states took part in the Great Central U.S. ShakeOut with an all-day tabletop disaster simulation focused on organizational preparedness and recovery planning for a central U.S. earthquake. The event started with participants practicing “Drop, Cover and Hold On” under conference room tables as the first tremors were announced. The virtual earthquake hit at 7:50a.m., Feb. 12, 2011, measuring 6.9 on the Richter scale, with an epicenter near New Madrid, MO. Throughout the day, FEMA facilitators threw out new details and twists of the scenario to spark conversation and help Habitat identify areas of improvement that can increase its impact in aiding long-term disaster recovery in affected communities.*

### **Computer Services, Inc.; Bloomington, Illinois**

*We had a companywide drill that included centers in Illinois, Indiana, Kentucky, West Virginia, Nebraska, Texas, Missouri, North Carolina, and Oklahoma. We had a earthquake preparedness WebEx exercise on Tuesday, 4/26 to give us some insight into what to expect during the drill today. We used the handouts that were provided on your website and designated a facilitator at each of our 23 centers to read through the drill*

### **Jackson Township Fire Department; Jackson, Indiana**

*On April 19, 2011 at 10:15 am, the Jackson Township Fire Department in Brown County, Indiana participated in (a ShakeOut) drill. Fortunately, our department has been preparing for this event for the past two years, so we were ready. We downloaded the audio file from (the) IDHS website. Immediately, we sprung into action: “Drop! Cover! Hold On!” After the quake, we had no power, cell phones, and our fire radios had no signal. The station building was unsafe also, so we evacuated the building and removed our trucks and supplies outside into an open clearing. Roll call was taken and we started our generators and setup tents. We switched to CB (citizen band) radios and two way point to point radios. A medical triage area was established and a separate citizen area was set up to handle incoming residents from the neighborhood.*

*Later in the day, the department included in the exercise Brownie Troop 115 led by Troop Leader Rachel Brown. As night came we went to a tabletop discussion on what day two would bring and how we could operate for the next 30 days without help. By participating in this event, we discovered several areas in which to improve our plans of preparedness, not only for earthquakes but for other disaster situations.*

### **Northern Kentucky Area Planning Commission; Ft. Mitchell, Kentucky**

*34 Staff members of the Northern Kentucky Area Planning Commission participated in the Great (Central U.S.) ShakeOut. We successfully evacuated the building after the earthquake drill completed. We have evaluated the success of our drill and noted areas that need improvement such as ensuring the shelter area has ample room for people to shelter under and securing*

*objects that could potentially topple over in the event of an earthquake. Thank you for organizing this event.*

**Karri Shulman; Missouri**

*My daughter, my Grandson, and myself, participated in the drill. Wow, we learned that this house is NOT prepared for an earthquake! We saw so many hazards within this house, even the style of the house is not "earthquake friendly". Seems we will be doing quite a bit of work in the coming months, to get us (ready for an earthquake).*

**Fountain View Senior Living; Omaha, Nebraska**

*Thank you so much for giving us the opportunity to participate in the ShakeOut. We take safety very seriously here at Fountain View Senior Living and have monthly drills, annual educational talks with guest speakers from the Center for Preparedness Education, the American Red Cross and the Omaha Metropolitan Medical Response System in our area which includes Long Term Care, Residential and Skilled facilities*

**Deborah Moss; Bristow, Oklahoma**

*My husband and family signed up for the ShakeOut and it was a great success. I was in Sapulpa, with a group that was with the Oklahoma State Department of Health and had mentioned that I would like to participate and they incorporated it into their drill. My daughter had talked to her teacher about and she participated (with) her class at 10:15. It could've been reality yesterday.*

**Saluda County CERT; Saluda, South Carolina**

*The Saluda County CERT Team participated in The Great Central U.S. ShakeOut earthquake drill on Thursday morning, at 10:15a.m., April 28,2011. The seven steps to earthquake safety was the main topic at our CERT training meeting in March 2011. We decided to participate in this drill and that we would note where we were and how we responded. Using the tips we received from the ESP Focus seven steps to earthquake safety we will be better prepared to survive during and after an earthquake disaster. This was a very positive training experience for the Saluda County CERT Team.*

**Gap Creek Elementary School; Knoxville, Tennessee**

*Our teachers and students practiced the routine before the drill. We learned that the things we had thought we should do during an earthquake were not true. We had to relearn the correct (and) safest ways to react to an earthquake. This proved to be a learning experience for all of us.*

*Our local fire department, Seymour Volunteer Fire Department, was with us and helped us before, during, and after the drill. Their presence had a calming effect for our students. The information that we received by participating in this drill will become a part of our School Emergency Handbook.*

## Conclusions and Lessons Learned

In conclusion, the first Great Central U.S. ShakeOut was an overwhelming success, even though challenges of real-world natural disasters caused many to postpone or cancel their involvement in the drill. The primary objectives of increasing earthquake and disaster preparedness, developing a “brand” of earthquake outreach, improving coordination between local and state entities, involving the private sector, and involving at least 1 million participants were all accomplished. Each participating state indicated that the experience was valuable and they would likely participate in future efforts. The initial feedback from ShakeOut participants was extremely positive, and many reported that they appreciated the opportunity to learn about earthquakes in a new way.

While it can be considered a very successful endeavor, several key lessons were learned as a result of the ShakeOut:

- *Determine specific partner groups or points of contact and actively target them, instead of a broad-based outreach approach*
- *Create partnerships and buy-in from key partners at an early stage*
- *Ensure promotional material is generic enough that it can be used in future efforts or by third parties*
- *Ensure the ShakeOut does not interfere with mandatory state standardized testing schedules*
- *Obtaining support from top level officials greatly increases government support, thereby national visibility*
- *Provide clear information on what the ShakeOut is and isn't designed to do to participants*
- *Provide more outreach templates to primary stakeholders*
- *Work closer with states and communities to create ShakeOut day “venues” several months in advance*

CUSEC and the other ShakeOut partners will work to ensure these lessons learned are incorporated into future outreach efforts and campaigns in the region.

## Acknowledgements

In addition to the primary stakeholders of the ShakeOut, CUSEC worked closely with many other partners to increase awareness and participation in the ShakeOut. While some partnerships were already in place, others were created for the first time, or renewed from previous efforts. Numerous individuals, organizations, and government agencies worked countless hours to increase earthquake awareness throughout the weeks and months leading up to the ShakeOut. Without these partners, the ShakeOut would not have been possible. CUSEC would like to thank and acknowledge the following organizations and the thousands of people responsible for working tirelessly to make the ShakeOut a success -

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