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Social Media: A Responsibility and Habit in Emergency Management Communications

by Derrec Becker
Public Information Officer
South Carolina Emergency Management Division

"Social Media" is a buzz phrase that has floated around the emergency management community for several years now. It's either embraced with open arms or the door's shut completely, never to be mentioned in an agency again. To life outside of our professional responsibilities, social media is a fact of life that will continue to become increasingly ingrained in people's everyday routines. Our favorite electronic devices offer connectivity to our sites of choice in one manner or another. Rather than calling your grandmother on the phone, you can post a comment on her profile complete with photos, video, links to websites, etc. You can be as creative as you want to be. Social media continues to grow, even your car can have the capability to sync with your social media profile and in a not-unpleasant voice tell you what your friends' last Tweeted about, or what photos you were last tagged in on Facebook.

Social Media has been the single largest change in personal interaction since telephone, even greater than the internet. There are more than 500 million people using Facebook, more than 200 million people sending over 200 million messages via Twitter, and more than two billion spending at least 15 minutes on YouTube each day. Facebook is the new water cooler, Twitter the modern day news ticker, and it's now an automatic reflex to pull out a phone and record video of an approaching disaster for upload to YouTube. The flow of information is now expected to go both ways instantaneously with the citizens we serve.

For emergency managers and first responders, social media can be a tremendous advantage...

The unique tools each site has to offer are at your disposal right now at no cost. It will allow you to expand your web presence beyond your agencies main website. You can open the doors of your agency like never before by posting whatever content you want the world to know about your agency or an ongoing response, and you can gain situational awareness from those who are experiencing the emergency first-hand.

If you have any doubt, take some time to search Facebook, look at all of the information that's been posted by people who've been directly affected by the flooding along the Mississippi River, the massive

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tornado outbreaks in multiple states, and the ongoing international response to what's resulted from the earthquake in Japan. Chances are you already have. The questions are: have you put yourself in that role? Can you see your agency doing something similar on these social media sites? Many already have.

The Great Central U.S. ShakeOut Earthquake Drill is an excellent example of how to implement social media. States produced their own PSAs for YouTube, posted links from CUSEC and FEMA about earthquake preparedness, re-tweeted the registration figures when hundreds of thousands of people signed up and even streamed video of the drill live to their main websites at 10:15 a.m. on April 28, 2011. These ventures took little time to develop, cost nothing and we all had a little fun educating people about a very real earthquake threat.

For public information officers, social media are added tools in the media relations tool box, to be stored right next to the news release, live interview and the press conference. The difference with these tools called Facebook, Twitter, YouTube and others, is that you retain editorial control right up to the minute it reaches your intended audience, the public you serve. No, this methodology does not have to take a lot of time. You do not have to hire additional staff or commit additional resources. Try simply changing your approach: *Make social media involvement a habit that's part of your normal work routine.*

With very little effort you'll be able to reach the portion of the billions of social media users who need the emergency information only you can provide.

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This image shows the many different types of Social Media outlets, including the most popular ones: networking, publishing and sharing, gaming, and discussions. These medium can play an important role in emergency management public outreach and education, hazard mitigation, and disaster planning and response. Image source FredCavazza.net

A local, one-person office can upload video from a disaster scene with a phone camera. He or she can post updates while sitting in meetings. This is the way the younger generations' brains are wired today, connected to everyone they've ever known all the time discussing the world around them. Traditional attitudes towards privacy and message ownership simply don't exist in their minds. Imagine what the world will be like in just a few years as technology continues to evolve. We must adapt to incorporate it in a professional environment.

For social media to be effective in government there has to be rules. Developing policies and procedures to govern your agency's presence on these sites can determine the level of interaction you want or need. Your policies can be as simple or as complex as you want them to be, but allows them to be applied to new technologies. Facebook probably won't be the most popular site forever (look at what's happened to Myspace.com, recently incorporating connectivity to Facebook, bowing down as a standalone competitor), you can write your policies in a manner that applies to multiple sites and multiple communication avenues. If you're just starting out, keep it simple and always remember to avoid costs at all costs.

When conducting social media training for government officials in my state, a participant almost always says that his or her agency has a complete ban on everything deemed social media; no Facebook, no Twitter, no way. While these rules are becoming less common, they still exist at agencies throughout the nation in all levels of government. The answer is to consider this: you and your agency are already on social media sites. It's guaranteed that you and your work is already being discussed in some form in the social media realm, but you have absolutely no role in how and why you are on them due to rules that may or may not be all that effective to begin with. You have an opportunity to provide a forum for public concern, and you can address those concerns directly.

A policy of avoidance will not be able to survive much longer. A social media presence will be expected, if not demanded, of your agency....

In the twilight minutes of the twentieth century and for several hours into this one, those in the media industry often talked about 'convergence'; a concept in which print, radio and television media forms would be molded into one, most likely through the internet. Convergence happened. The next evolution of this theory has been social media, and it's all happened as in "all of the above" alongside the morning paper, the 6 p.m. news, and the afternoon radio call-in show. It's been very interesting to see how traditional media have worked social media sites into their offerings. They, too, have been able to engage their audiences like never before.

There has been a fundamental shift in peoples' media consumption habits. Facebook has served as a medium to begin civil war, Twitter has been a means for people lost in a massive disaster to let their family know they survived, and YouTube has been a venue to show the entire world scenes that you could have only witnessed individually before. We are in an era where Betty White can host Saturday Night Live thanks to a Facebook campaign, and Lady Gaga can topple Oprah Winfrey as top media mogul thanks to Twitter. The possibilities are seemingly endless and simple to attain for those of us who are focused on saving as many lives as possible.

Derrec Becker is a Public Information Officer for the South Carolina Emergency Management Division. He routinely hosts media relations training for first responders and government at large, including social media workshops. You can find Derrec on Twitter by viewing his profile @DerrecBecker

Around the Region

The Great Central U.S. ShakeOut™

Following on the success of the 2011 Great Central U.S. ShakeOut, CUSEC and our Member States are currently planning for another Drop, Cover and Hold-On drill to be conducted on ***February 7, 2012 at 10:15 a.m.***. This date marks the two-hundreth anniversary of the last of the three major New Madrid earthquakes that occurred in the winter of 1811/1812. According to the U.S. Geological Survey (USGS), this earthquake, believed to be at least a M7.5 or greater, and was the most devastating of all three quakes, destroying the town of New Madrid, Missouri and forming Reelfoot Lake in northwest Tennessee.

In the month of April in 2011, nearly three million people took part in the first and largest earthquake preparedness drill in central U.S. history. The ShakeOut was a multi-state drill where participants simultaneously practiced the recommended action to take during an earthquake:

- ***DROP*** *to ground*
- *Take* ***COVER*** *by getting under a sturdy desk or table, and*
- ***HOLD ON*** *to it until the shaking stops*

Joined by those as far away as London, England, San Paulo, Brazil, Bogor, Indonesia and Anchorage, Alaska, many communities throughout the states of Alabama, Arkansas, Georgia, Illinois, Indiana, Kentucky, Mississippi, Missouri, Oklahoma, South Carolina and Tennessee participated in this earthquake-focused educational campaign. Across the states, ShakeOut activities included a multitude of events and drills at:

- Individual Homes
- Neighborhoods
- Schools
- Local Government Offices
- Police and Fire Stations
- Hospitals
- Businesses
- Community Centers and Churches

With scientists estimating that there is a 25-40 percent probability of a damaging earthquake occurring in the central U.S. within the next 50 years, the Great Central US ShakeOut is not just about participating in a drill. It is method of getting communities thinking about, and taking action to reduce their vulnerabilities to earthquakes.

"WHAT WE DO NOW, BEFORE THE NEXT BIG EARTHQUAKE, WILL DETERMINE WHAT OUR LIVES ARE LIKE AFTERWARDS..."

For those interested in participating in the 2012 Great Central U.S. ShakeOut, stay tuned for messages announcing that registration is open. Registration is expected to open in September 2011, during National Preparedness Month.

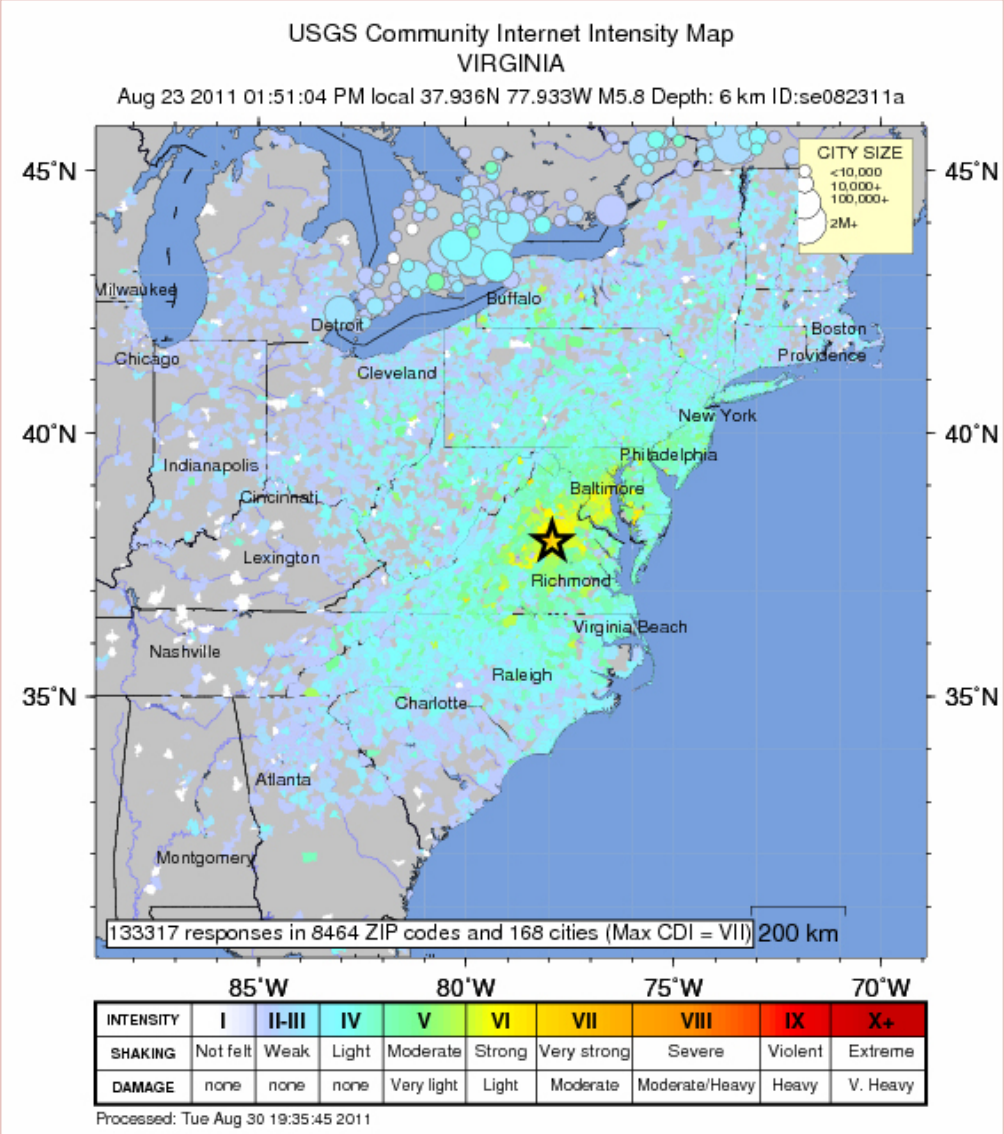
All information regarding the ShakeOut, including drill resources (manuals, broadcasts, checklists, etc.) and report on the 2011 ShakeOut, will be posted on the ShakeOut website, ***www.shakeout.org/centralus***

August 23, 2011 M5.8 Earthquake ~ Mineral, Virginia

On August 23, 2011 at approximately 1:51PM local time, a moderate M5.8 earthquake struck near Mineral, in the CUSEC Associate State of Virginia. The earthquake was felt over the entire length of the eastern seaboard, as far south as Florida. The majority of damage occurred from central Virginia to southern Maryland including the Washington D.C. area. Minor damage reported in parts of Delaware, southeastern Pennsylvania and southern New Jersey. Felt in Boston, Bumpass, Kent Store, Louisa, Mineral, Rhoadsville and Summerduck. Felt strongly in much of central Virginia and southern Maryland. Felt throughout the eastern US from central Georgia to central Maine and west to Detroit, Michigan and Chicago, Illinois. Felt in many parts of southeastern Canada from Montreal to Windsor. In all, more than 133,000 people reported feeling the earthquake on the USGS website. While there were considerable earthquake related damages, fortunately, there were no fatalities in this event.

"More than 133, 000 people reported feeling the earthquake on the USGS website"

The earthquake occurred as reverse faulting on a north or northeast-striking plane within a previously recognized seismic zone, the "Central Virginia Seismic Zone." The Central Virginia Seismic Zone has produced small and moderate earthquakes since at least the 18th century. The previous largest historical shock from the Central Virginia Seismic Zone occurred in 1875. The 1875 earthquake shook bricks from chimneys, broke plaster and windows, and overturned furniture at several locations. A magnitude 4.5 earthquake on December 9, 2003 also produced minor damage.



The map to the left is a "Community Internet Intensity" map showing how the August 23, 2011 Virginia earthquake was felt by the public. Intensity maps help scientists understand how earthquakes affect different areas, and how earthquake waves travel in different types of geology.

This earthquake, coming just days before Hurricane Irene made landfall, was the largest quake to strike the east coast in several years.

New Madrid Bicentennial Continues

Since the official kick-off the New Madrid Bicentennial in February, central U.S. residents are becoming more aware about the region's earthquake hazard and how pre-disaster preparation is the key in not allowing an earthquake to become catastrophic. In partnership with state emergency management officials, representatives from CUSEC, FEMA and the Insurance Institute of Business and Home Safety (IBHS) conducted a first-ever Earthquake Outreach Tour— a series of townhall meetings designed to bring community residents and local business members into a forum to learn about earthquakes, mitigation and other earthquake related topics.

During this week-long tour, residents of Arkansas, Tennessee, Kentucky, Illinois and Missouri received information about the nature of earthquakes in the entire region and earthquake history information specific to their state. Residents also received tips on how to create an earthquake resistant environment and how home and business owners can affordably prepare their structures for earthquakes. Representatives from various organizations including governmental and non-governmental agencies and academic institutions gathered together for the 18th annual "Earthquakes Mean Business" seminar— an outreach event for the geoscience, engineering, and preparedness communities and is especially for business and government decision-makers. This day-long event was filled with presentations and breakout sessions for participants to stay abreast on current events and issues concerning the region's earthquake hazard and ways to mitigate loss of property and life. Bicentennial organizers saw successful participation from communities across the region in the Great Central U.S. ShakeOut, see page 4 for more information.

Various governmental organizations across the region— including CUSEC— took part in the National Level (Earthquake) Exercise of 2011 in which participants took the opportunity test their emergency response operation capabilities and to re-enforce solid working relationships within the emergency management community, as detailed in the next article. Also this past quarter, CUSEC representatives have participated in variety of townhall meetings, seminars, training summits and preparedness forums. These events continued to increase public awareness of them of the causes and consequences of a major earthquake in the central U.S. and assisted in community pre-disaster preparations.

Now being several months into this year-long observance, bicentennial organizers continue to plan more events, two being the National Earthquake Conference and the unveiling of the St. Jude Dream Home. The Dream Home, a St. Jude Children's Hospital fund-raising effort, is a home slated to be built to be "Fortified for Safer Living" standards, a construction design program by the Insurance Institute for Business and Home Safety (IBHS). This partnership between St. Jude, CUSEC, and IBHS is an effort to showcase cost effective types of earthquake and disaster mitigation.

Both events are scheduled for April of 2012. You can keep up with upcoming bicentennial activities and events at: *www.newmadrid2011.org*

CUSEC Participates in NLE 2011

CUSEC's direct role in exercises and "real world" events is usually limited since its purposes are primarily pre-disaster preparedness and information, and does not serve as an operational organization like our Member State Emergency Management Agencies. However, during the week of NLE 2011, CUSEC did employ its amateur radio capabilities to send information updates to the state Emergency Operations Centers (EOC's), serve as net control for a voice net the second day of the exercise, and to help drive play in one of the member-states.

In 2008, CUSEC gained a station license through the Army's Military Auxiliary Radio System, or MARS. Even before then, CUSEC had conducted exercises with the Shelby County office for the Amateur Radio Emergency Service, or ARES. MARS, which has

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RECENT CENTRAL U.S. EARTHQUAKE ACTIVITY

DATE	LOCATION	MAGNITUDE
5/7/11	Greenbrier, AR	3.1
5/19/11	Luther, OK	2.6
5/19/11	Grandin, MO	2.5
5/21/11	Choctaw, OK	2.6
5/26/11	Dell, AR	2.5
5/28/11	Stonewall, OK	2.8
6/5/11	West Salem, OH	3.0
6/7/11	Potosi, MO	3.9
6/21/11	Greenbrier, AR	2.5
7/15/11	Greenbrier, AR	2.8
7/27/11	Guy, AR	2.6
8/7/11	Dallas, TX	2.6
8/11/11	Jasper, AR	2.5
8/18/11	Alex, OK	3.0
8/23/11	Mineral, VA	5.9

IF YOU FEEL AN EARTHQUAKE, REMEMBER TO: DROP, COVER, & HOLD ON FOR MAXIMUM SAFETY

Visit http://www.dropcoverholdon.org to learn more ~ Image Courtesy Southern California Earthquake Center

DID YOU FEEL IT?

If you recently felt an earthquake, remember to go to the USGS website and log your experience on the "Did You Feel It?" webpage. The information you provide helps scientists understand how the ground shakes at different locations and helps show the wide reaching effects of earthquakes. Visit - *http://earthquake.usgs.gov/dyfi* for more info

USGS
science for a changing world

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versions in all three major US services, uses amateur radio operators, often called hams, but these operators employ their own frequency bands separate from the regular amateur bands, and use military radio procedures.

"We primarily changed because of the increased capability in MARS of being able to send emails via radio through the Winlink system," said Jim Wilkinson, CUSEC's Executive Director. "This capability will help us greatly in a real earthquake if geologists and other scientists contact us with information gathered from the field that needs to be sent to the states to improve situational awareness." He added that the MARS station license (CUSEC's call sign is AAN4CEQ), along with the simplicity of sending an email, allows any employee of CUSEC to send information to State EOC's and other sites with a minimum of training.

CUSEC has equipment on-site in a sort of radio shack desk in the back offices at their headquarters in Memphis. This includes a multi-band radio with the required physical alterations to participate in MARS, power systems, an auto-tuner, and the specially-designed modem which enables the site to use the Winlink2000 system. A laptop is connected to the modem, and special software formats the emails to be sent either to similarly-equipped radios or to regular email addresses. Additionally, a long-wire antenna is permanently installed on the property, although storms a week before brought down the antenna, requiring repairs "just-in-time."

In addition to sending status updates from CUSEC, as well as establishing contact with USGS and other agencies outside the multi-state region involved in the exercise, messages were sent to drive play for the Arkansas Geological Survey. The AGS had employees stationed at Arkansas' EOC during the exercise, as they would in a real New Madrid event, and the messages were sent to the EOC, then forwarded to that survey representative.

Finally, CUSEC, through it's work with it's own CUSEC Communications Officers' Working Group, helped organize a CUSEC MARS voice net on Tuesday afternoons leading up to and during the exercise. Pat Lane, Army MARS Emergency Coordinator, was instrumental in arranging with MARS to borrow frequencies normally used by FEMA Region 4 out of Atlanta for the net. Participants in this net came from the CUSEC states and regional offices as well as other MARS operators who support these offices. Lane conducted most of the nets leading up to the exercise, though CUSEC did play net control on May 17.

Missouri VA Hospital Tests Emergency Response in NLE 2011

Local officials from the John J. Pershing VA Hospital in Poplar Bluff, Missouri put their medical center response plans and patient care measures to the test during the week of May 16. As a participant in the National Level (Earthquake) Exercise of 2011, hospital officials not only followed the FEMA catastrophic earthquake scenario, but also simulated various other challenges for themselves. One challenge involved the activation of a decontamination team to address an asbestos situation in a local school that totally collapsed. Hospital staff set up a special cleaning station where volunteer children were washed and rinsed, and their "contaminated" clothing was bagged for disposal. In an article written by Angela Smith, with John J. Pershing VA Hospital, another VA employee and industrial hygienist, James Vail made the following quoted statement as an explanation for the purpose for the simulated decontamination exercise.

"Right after September 11, officials wanted hospitals to have decontamination units," he said. "Our team members must be well-trained and have to practice, so we staged this exercise in conjunction with the simulated earthquake this week."

Participants from the VA Hospital in Poplar Bluff, Missouri take a group photo during the NLE2011. Photo courtesy the VA Hospital

Member State Spotlight

Missouri Department of Natural Resources Division of Geology and Land Survey

The Division of Geology and Land Survey (DGLS), a section within the Missouri Department of Natural Resources (MoDNR), has investigated and reported on the state's geological resources since 1853. Headquartered in Rolla, this agency conducts more than 500 geologic site investigations a year for various purposes. DGLS uses the information from its investigations to create geologic maps of bedrock and unconsolidated materials as well as develop maps that identify areas vulnerable to geologic hazards, such as earthquakes. These maps help DGLS' staff geologists to help define regional earthquake hazards to assure proper design and safe development in areas prone to earthquake damage. MoDNR is credited as being one of the founding surveys of the CUSEC Association of State Geologists, and the DGLS' section outreach efforts include:

- company website information for the general public to learn more about the survey
- free self-guided tours through the MoDNR museum to give visitors the opportunity to get hands-on knowledge about earthquakes in the state
- dozens of publications such as earthquake brochures, geologic maps and magazines
- sponsoring video contests to allow school students to show what they know about earthquake preparedness
- participation in activities such as the Great Central US ShakeOut and the 2011 National Level Exercise (NLE 2001)

Joe Gillam is a registered geologist who joined MoDNR in 1995 and has led the Division of Geology and Land Survey since 2008. Along with many other duties, he represents the state in understanding earthquake hazards related to the New Madrid Seismic Zone (NMSZ), and is the chairman of the Association of CUSEC State Geologists. Prior to his appointment to division director and state geologist, Gillam served as the department's Geological Survey Program Director and Chief of the Environmental Assistance Unit. He is a Missouri native, and received his Bachelor of Science Degree in Geology from Missouri State University in 1992.

For more information about the Missouri Department of Natural Resources visit *www.dnr.mo.gov/geology*

Associate Member State Spotlight

Louisiana Geological Survey

The Louisiana Geological Survey (LGS) was founded in 1934 by the Act 131 of the Louisiana Legislature. It is the premier geological research institution for the state, and is housed on the campus of Louisiana State University. LGS' main goals are to: encourage economic development of the state's natural resources, protect Louisiana and its residents from natural, geological and environmental hazards, and to insure effective transfer of geological and oil and gas information. The survey is divided into the following six departments:

- Administrative Personnel - manages day-to-day operations at the survey
- Basin Research - performs research into nature and occurrence of oil, gas and coal in the state
- Cartographic - prepares maps and geographic information systems (GIS) for the survey
- Coastal - performs research into to issues related to coastal processes, management and restoration
- Geologic Mapping - conducts investigations of the surface geology of Louisiana and renders the results in map format
- Water and Environmental - studies the properties of the state's aquifers to gain a better understanding of the hydrologic systems of Louisiana

LGS' educational outreach activities include: an informational website, face-to face time with survey

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staff members to address questions and concerns, plus, publications such as brochures, field-trip guides, maps, and more. Chacko John, Ph.D was appointed LGS' director in 1997. To learn more about the Louisiana Geological Survey, visit *www.lgs.lsu.edu*

A SEMA Success Story: Volunteer Inspectors Activated for 2011 Joplin Tornado

by Ed Gray

Missouri SEMA, Retired

Steve Besemer, Missouri Earthquake Program Manager, for State Emergency Management Agency (SEMA), in his operational capacity and at the request of Governor Jeremiah 'Jay' Nixon, activated Missouri's SAVE Volunteer Engineer and Architect Inspection Program to deploy to Joplin, Missouri after the 22 May 2011 Category EF-5 tornado that damaged or destroyed over 7,000 structures and cost the lives of over 150 Missouri citizens. SAVE is the acronym for a volunteer based post-disaster building inspection program called "Structural Assessment and Visual Evaluation". It was initially formed as a support to the Missouri earthquake program, and is now used as an all hazards resource.

The SAVE Coalition deployed 62 inspectors to supplement the efforts of the City of Joplin to review and inspect buildings for habitability in the post-disaster area. They inspected over 6,300 structures to determine if they were still livable (Green tagged), needed some repair/or limited use (Yellow tagged) and were not safe to use and/or enter (Red tagged). The inspectors were deployed from all areas of the State of Missouri. They were deployed for four and half days and were considered by the responder community as a local asset. It was estimated that they supplied over $100,000 of volunteer support with no costs to the State or Local taxpayers.

The SAVE Coalition is coordinated by a Board of Volunteer Architects and Engineers representing the American Institute of Architects (AIA), Missouri Society of Professional Engineers (MSPE), American Society of Professional Engineers (ASPE), Structural Engineers Association of Kansas and Missouri (SEAKM), and Council of Engineering Companies (Missouri). Support from the Society of American Military Engineers, Earthquake Engineering Research Institute, and CUSEC have been instrumental in training the volunteers over the last twenty years.

The program originated in California under the direction of the Federal Emergency Management Agency, the

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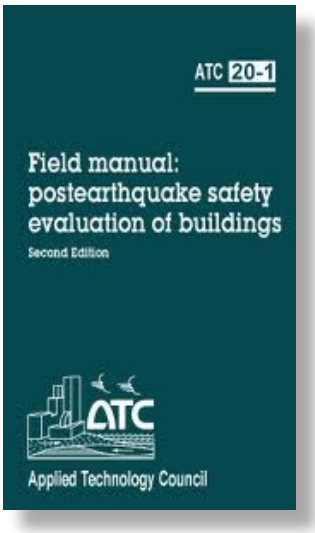
UPCOMING CONFERENCES, TRAINING, WORKSHOPS, ETC.

WHEN	WHAT	WHERE
September 2011	*National Preparedness Month*	*Nationwide*
September 6-8, 2011	*Illinois EMA Conference*	*Springfield, IL*
September 7, 2011	*WSO Safety Conference*	*Jonesboro, AR*
September 8, 2011	*Be Ready Day*	*Troy, AL*
September 20-22, 2011	*National Recovery Tabletop Exercise*	*TBD*
September 29-30, 2011	*CUSEC Board Meeting*	*Washington,DC*
October 4-6, 2011	*NEMA Fall Meeting*	*Austin, TX*
October 16-18, 2011	*Eastern Seismological Soc. of America*	*Little Rock, AR*
November 2-4, 2011	*Earthquake Insight Field Trip*	*St. Louis, MO*
November 12-13, 2011	*Illinois Earthscope Workshop*	*Normal, IL*
November 17-18, 2011	*IBHS Annual Conference*	*Tampa, FL*
February 7, 2012	*The Great Central U.S. ShakeOut*	*CUSEC States*
April 10-14, 2012	*EERI Annual Mtg/National EQ Conference*	*Memphis, TN*



ATC 20-1

The ATC 20-1 Program was the first post-earthquake saefety evaluation training used in the SAVE building inspection program. The course is still offered throughout the central United States, including workshops hosted by CUSEC, our Member States, and FEMA.

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California Office of Emergency Services and the Applied Technology Council as an earthquake specific tool. Missouri and its neighboring States as members of CUSEC, borrowed the California system for post-earthquake damage assessment and started intensive training efforts in the Central United States. More than 4,000 volunteer architects, engineers, building department inspectors and emergency management professionals have taken this course (ATC-20). Many of the Missouri trainers received their training through National Earthquake Technical Advisory Contracts with the authors of the original manuals. The program has subsequently transformed into an 'all-hazard' inspection program. Missouri has used it for inspecting riverine flooding, tornadoes and sub-terrain (cavern) collapse, in conjunction with a request from Kansas (through FEMA Region VII). The program in Missouri is authorized under Revised Statute of Missouri Chapter 44.023. Missouri has been training volunteers in this program for over 15 years.

The SAVE Board has reviewed in an after-action meeting some of the positives and negatives for this deployment. One positive was the City of Joplin, designated their own people to accompany the inspectors. Because the area was so devastated, many residents were not immediately available, and having a local on the team calmed a lot of people about the mission of the SAVE inspectors. One negative, were the inspection signs themselves...they did not have an adhesive backing so it was difficult in some instances to 1). find an appropriate piece to place the placard, and 2). difficulty in standing on rubble and trying to hold a sign and tear off tape and place it on the placard and structure at the same time.

Overall, all those involved in the SAVE Coalition operation in Joplin have indicated it was a rewarding experience. City officials noted that the work of the SAVE volunteers significantly aided them in getting the disaster recovery process started. There have been many players in making this program strong and a valuable asset to the Missouri response effort. Over the years, FEMA and CUSEC have given this program valuable support and will continue in near term to make it effective throughout the Central United States.

CUSEC Saddened by Loss of Former Board Member John White, Jr.

CUSEC is saddened by the sudden loss of one our former Board Members, John White. Mr. White passed away at the age of 60 in early August 2011. He served as the Director of the Tennessee Emergency Management Agency from 1994 until he retired in 2003.

While Director of TEMA, Mr. White served on the CUSEC Board of Directors, and held position of Chairman several times. The entire CUSEC Board of Directors and staff offer our deepest sympathies to the White family.

NMSZ Catastrophic Planning Project Update

National Focus Turns Towards Recovery from Catastrophic Events

by Mike Calvert, CUSEC Planner

Based on combined New Madrid Seismic Zone (NMSZ) and Wabash Valley Seismic Zone (WVSZ) earthquakes, the National Level Exercise (NLE) 2011 was the first NLE focused on a natural disaster scenario. The response portion of the exercise took place in May. A Recovery portion will be held separately in September 2011. This coincides with the CUSEC

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Board of Directors' new Long Term Recovery planning priority and also ties in with the White House Long Term Recovery Working Group, which is developing a National Disaster Recovery Framework (NDRF) to complement the National Response Framework. This article addresses two recovery events which occurred recently and upcoming in September: NLE 2011 National Recovery Seminar, held July 19; NLE 2011 Private Industry Working Group's Power Grid and Communications Workshop, held August 3-4; and the NLE 2011 National Recovery Table Top Exercise (NRTTX), scheduled for September 27-29. It concludes with some Recovery lessons learned from a literature review and how they apply to the Central U.S.

The July 19 NLE 2011 National Recovery Seminar focused on key recovery considerations following a catastrophic earthquake. Participants included NLE 11 exercise players, "Whole Community" stakeholders, and NRTTX planners. The seminar included briefings and facilitated discussion sessions. For many, it was their first exposure to the Central U.S. earthquake threat. A broad range of presenters shared valuable information; and participants left with a much better understanding of the recovery challenges following a catastrophic Central U.S. earthquake.

The NLE 2011 Private Industry Working Group's Power Grid and Communications Workshop met August 3-4. Many at the national level were not aware of the impact of a major NMSZ earthquake on the national power grid or communications systems. Consequently, this workshop was to educate the national energy and communications communities as well as private sector stakeholders, and to help prepare them for the NRTTX. Public and private utilities were involved, but the primary focus was national policy issues and gaps. The workshop was very informative, and the interactions between players were extremely beneficial. Some of the results of the workshop will be factored into the September NRTTX scenario.

The National Recovery Table Top Exercise portion of NLE 2011 will be held September 27-29. It will be limited to selected State, Federal, private, and volunteer organizations. This will be the first opportunity to use the draft National Disaster Recovery Framework (NDRF) during a large-scale, multi-state catastrophic disaster exercise. Participants will examine recovery processes and priorities after a catastrophic earthquake; assess economic impact; and coordinate/implement recovery and relief plans to assure that individuals, families, businesses, and communities are provided with appropriate levels and types of relief with minimal delay. They will also look at overall requirements and limitations of the national recovery effort in the aftermath of catastrophic Central U.S. earthquakes. It will be challenging to simulate how catastrophic this event could be. If participants can begin to understand its potentially devastating impact on the nation, it will be well worth the time and effort spent to plan and hold this national level table top exercise.

Finally, some brief thoughts on recovery issues to consider as the CUSEC states begin to focus on Long Term Recovery… First, in addition to devastating a multi-state area, a sequencing of seismic events similar to those of 1811-1812 could have a much larger impact ouside the CUSEC states. This includes interrupting power production and distribution for the northeastern sector of the U.S. and major disruption to the national transportation system, to include our highway, air, rail, pipeline, and inland waterway systems. Major transportation arteries cross the NMSZ north to south and east to west. Hundreds of millions of tons of cargo are carried annually by barge on the Mississippi River, Ohio River, and Tennessee-Tombigbee Waterway. Earthquake damage to the transportation infrastructure could take years to remove and rebuild, crippling our distribution system and overloading alternate routes or transportation modes. Distribution of relief and recovery supplies could be extremely difficult. Countless numbers could be left homeless and jobless in the Central U.S., but many outside the area could be unable to work because of earthquake-caused power and fuel outages or distribution issues.

Second, unlike hurricanes, tornadoes, floods or other disasters, subsequent earthquakes and related aftershocks will occur in the days, weeks and months after a major NMSZ earthquake. Since earthquakes and aftershocks are "no-notice," we cannot prepare or evacuate in the days or hours before they hit. Events as powerful as the initial December 1811 NMSZ earthquake occurred in the same area in January and February of 1812. Large aftershocks will disrupt or stop initial recovery, and will cause response and some recovery activities to start over. Aftershocks may

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destroy buildings and infrastructure already weakened by previous shaking. The fear of aftershocks may force some to evacuate after an earthquake, and keep them from returning for months.

Third, short-term recovery must begin quickly in order to stabilize the communities. A small business generally goes out of business and will not return if it cannot reopen within six weeks. Small business is the lifeline of a local economy. There are many factors working against recovery from a NMSZ earthquake; the damage and destruction to the power grid and other infrastructure will slow the distribution of food, water, and resources needed to recover. We're looking at an affected area much larger than Katrina and potentially more catastrophic than any other non-military event on U.S. soil.

Fourth, local governments may be unable to govern and make difficult post-earthquake recovery decisions as a result of the earthquake's impact. Those in the highest risk area need to decide in advance how they would want their communities to look post-event, what building codes and land use ordinances need to be in place, and under what circumstances buildings and homes can be condemned and demolished. Many local and state governments are kept busy with current issues and have no time to prepare for an earthquake when they've never felt one. What they need are examples of "best practice" pre-disaster laws and ordinances and some incentives to tailor them to their local situation and put them "on the books." Otherwise, fundamental decisions that will shape the future of the community will be made in the post-earthquake confusion and emotion.

Finally, urban planners, housing officials, building officials, redevelopment authorities, utility operators, public works officials and many others must become engaged in pre-disaster earthquake recovery planning. Organizations with the expertise and mandate to plan, manage, and direct Recovery are typically not involved in Response (Emergency Management) programs until after the event. Those who plan for and respond to disasters are not the same as those who must plan for and rebuild/recover afterwards. Hopefully, the National Disaster Recovery Framework, the seminar and workshop mentioned, and the NRTTX will help us to better understand the breadth and depth of Recovery from a catastrophic earthquake.

Most of what is mentioned here applies to other catastrophic events, not just NMSZ earthquakes. The recovery issues and many others will be beyond the scope of the Emergency Management community and National Response Framework. Recovery requires a much broader range of disciplines as well as significant pre-disaster jurisdictional/statutory decisions and actions.

CUSEC Transitions

CUSEC Exercise/Training Officer, Paul Hogue, recently took a position as the new Exercise and Training Coordinator of the National Emergency Management Association (NEMA). Hogue brought extensive experience in emergency management to CUSEC. As the organization's Exercise/Training Officer, Hogue revitalized older earthquake training courses, such as Disaster Medicine 101. He also developed new training curriculum to support the earthquake programs within CUSEC, and worked to coordinate exercise related activities in the CUSEC Member States.

He received his official Technician Class HAM operator's license and represented CUSEC in the National Level (Earthquake) Exercise of 2011. He also played an active role in several CUSEC working groups and associations. In his new role as NEMA Exercise and Training Officer, Hogue will help to develop a training curriculum for NEMA and its member-states to support their Emergency Management Assistance Compact (EMAC) missions, develop exercises for use by the states to test the deployment of resources using EMAC, and help integrate EMAC into state, multi state, and national-level exercises.

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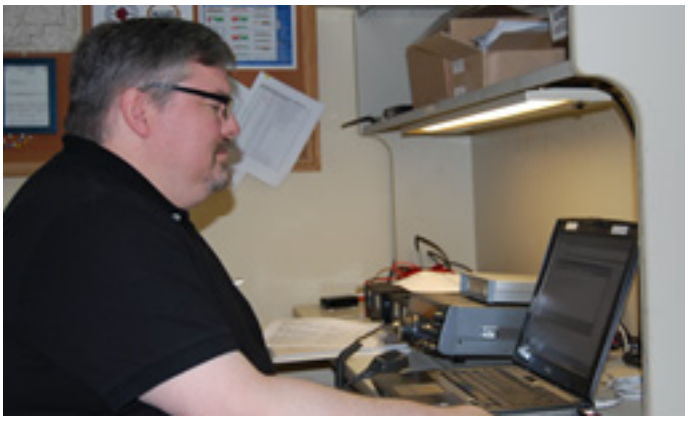

Paul Hogue testing CUSEC communication capabilities during the NLE2011

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Additionally, 2011 has been a year of several transitions within the CUSEC Earthquake Program Managers working group. During the summer, Suzanne Lewis of Mississippi Emergency Management Agency and Steve Oglesby of the Kentucky Division of Emergency Management moved to different positions within their agencies. Also, at the Arkansas Dept. of Emergency Management, both Terry Gray, former State Hazard Mitigation Officer and Myra Jane Biggers, former Earthquake Program Manager recently retired.

CUSEC would like to wish Gray, Hogue, Lewis, Oglesby, and Biggers the best of luck in their recent transitions and new positions. We would like to welcome David Davis, Kentucky, Donna Gray, Mississippi, and Katy Wilson, Arkansas into the CUSEC Earthquake Program Managers working group.

Other News

NEHRP Newsletter Highlights the NMSZ and the Bicentennial

In the first of two articles about the New Madrid Seismic Zone (NMSZ), the National Earthquake Hazards Program Reduction (NEHRP) newsletter "Seismic Waves" May 2011 edition highlights various topics addressed in Memphis in a November 2010 meeting of the Advisory Committee on Earthquake Hazards Reduction (ACEHR). With activities for the 200th anniversary of the 1811/1812 New Madrid earthquakes in full swing, the New Madrid Bicentennial has attracted questions concerning present seismic hazards and risks in the NMSZ as well as hazard preparedness and risk mitigation in the region. Topics discussed in the November 2010 ACEHR meeting included:

- concerns about the earthquake hazard from seismic design professionals and scientists
- discussions about the level of hazard posed by future large earthquakes in the NMSZ
- the advancing and promoting of modern building codes and standards
- discussions on how bicentennial events held for central U.S. residents can help in regional planning for earthquake resilience

You can read the entire article entitled "Hazards, Risks, and Opportunities in the Nation's Heartland" at

www.nehrp.gov/pdf/SeismicWavesMay11.pdf

RECENT CUSEC GEOCACHE COMMENTS

Geocaching, a high-tech treasure hunting game, is played throughout the world by people who try to locate hidden containers with GPS devices and then log their experiences, or "finds" online. In 2007, CUSEC placed our first earthquake geocache at our headquarters. Since then, we have placed earthquake-themed geocaches in seven of eight Member States. The caches are visited regularly, with hundreds of visits during the spring and summer months. To date, more than 1,300 geocachers have found the CUSEC geocaches. Some comments from our cache visitors this quarter include -

- *AR - "Took an earthquake risk reduction pamphlet it might come in handly"*
- *IL - "Thanks for placing these informative and educational caches around the area"*
- *IN - "This was an awesome cache"*
- *KY - "Now I know how to survive the "big one"!"*
- *MO - "I've always wanted to visit New Madrid for the earthquake history, this area was also fascinating"*
- *MS - "We have found other What's Shaking caches in TN, KY, and IL. They are always fun"*
- *TN - "Really appreciated the educational information that was contained inside"*

Earthquake Insight Field Trip Planned for November 2011

by Phyllis Steckel
Registered Geologist

The next Earthquake Insight Field Trip will be held on November 2-4, 2011. This annual outreach event, hosted by the US Geological Survey, which will start and end in St. Louis, Mo. Field trip participants will learn about the earthquake history of the central US and current exposures to earthquake hazards in this area.

It is especially for non-scientists, such as business leaders, elected officials, media, finance and equity professionals, risk managers, portfolio managers, lenders, and business continuity planners. The field trip will be led by geoscientists, engineers, and emergency planners who are active in current research and private state-of-the-practice.

The field-trip route will include earthquake-related sites in Missouri, Illinois, and Indiana. Stops will be made that show field evidence of the region's geologic history; at a few historic structures damaged in the 1811-12 New Madrid earthquakes; and at structures damaged in the 2008 Mt. Carmel, Ill., earthquake. The group will also see engineered solutions that minimize earthquake risk to certain structures as well as current earthquake research in progress. There will also be discussion of several industries that have concentrated exposure to earthquake risk in the central US.

Much of the value of past Earthquake Insight Field Trips was from the candid, one-on-one discussions between earthquake professionals and field-trip participants, who have mostly been from private-sector leadership.

Past participants have represented State Farm Companies, Pfizer, FM Global, the Missouri State Senate, Wal-Mart, Chubb, AON, AG Edwards, ABC/Disney, General Reinsurance, Time-Warner, Dillard's, Odyssey Re, The Republic Group, Shelter Insurance, Edward Jones, St. Paul/Travelers, Enbridge, Swiss Re, and many others.

For more information or to register, please contact Phyllis Steckel at *psteckel@charter.net* or 636-239-4013 as soon as possible. Due to logistical constraints, the group is strictly limited to 30 participants. Registration cost for the field trip is $550. Like every other past Earthquake Insight Field Trip, this one also will be a sell-out.

The final report of the first Earthquake Insight Field Trip, which was in 2005, is posted at *http://earthquake.usgs.gov/research/external/reports/05HQGR0014.pdf*. The route and content of each field trip since then has been unique.

FEMA E-74 Now Available

The Federal Emergency Management Agency (FEMA) is pleased to announce that Reducing the Risks of Non-structural Earthquake Damage—A Practical Guide, Fourth Edition, FEMA E-74, is now available online and from the FEMA Library. FEMA E-74 is designed primarily for online use and includes a significant amount of new information since the publication of the third edition of FEMA 74 in 1994.

The non-structural portions of a building, such as interior walls, ceilings, utilities, fixtures, and contents, can account for up to 75 to 80 percent of a building's total cost. The recent earthquakes in Chile, New Zealand, and Japan have once again provided many examples of buildings that performed well structurally but still suffered significant non-structural damage and were rendered unusable for long periods of time. Given the importance of non-structural building components, it is critical to raise awareness of non-structural risks, the costly consequences of non-structural failures, and opportunities to limit future losses.

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Most losses and injuries in moderately sized earthquakes (M5-6.0) are caused from improperly braced non-structural elements of a building. Non-structural elements include components of a building that do not support foundation, wall, flooring, or roof systems. Photo courtesy mceer.buffalo.edu

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FEMA E-74 explains the sources of non-structural earthquake damage in simple terms and provides methods for reducing potential risks. The Guide is intended for non-technical audiences, including building owners, facility managers, maintenance personnel, store or office managers, corporate or agency department heads, and homeowners. FEMA E-74 includes more than 70 examples of different non-structural components, complete with photos of actual damage and details illustrating correct mitigation and installation measures. The new web format of FEMA E-74 makes it simple to browse and to print out details and sections of interest.

The new Guide includes information on non-structural components, their behavior in earthquakes, and the consequences of damage; survey and assessment procedures for non-structural components in existing buildings; information on non-structural hazard reduction programs for existing buildings and new construction; and detailed illustrations of possible earthquake damage and mitigation measures for a wide variety of non-structural components. The Appendices include a sample Specification; a Responsibility Matrix; an Inventory Form; Non-structural Earthquake Hazards Checklists; Non-structural Risk Ratings; a List of Resources; a Glossary; and References.

FEMA is also currently developing FEMA E-74 training courses for presentation in person as well as via the internet or CD-ROM. For more information on these and other training courses, visit the National Earthquake Technical Assistance Program (NETAP).

To view or download other NEHRP publications and products or to sign up for updates on earthquake risk mitigation publications, news, and events, visit the FEMA Earthquake Publications and Tools webpage at

www.fema.gov/hazard/earthquake .

The New Message: Quarterly Update on the New Madrid Earthquake Scenarios

by Greg Hempen, URS Corporation

The Executive Committee for the New Madrid Earthquake Scenarios (NMES) is working to define current areas of focus. The project is proposed to be a web-based document. The report's intent is to provide useful information in preparing for earthquakes and responding to many levels of various disasters. There will also be links to websites of others that provide important information on earthquake issues, mitigation and other existing scenarios. The Scenarios are plural, because different regional towns and cities will be assessed by the study.

The locations of the Scenarios have been resolved as Madison & Jackson Counties, IL, Vanderburgh County (Evansville), IN, McCracken County, KY, St. Louis City & County and Scott County, MO, and Shelby County (Memphis), TN. The ground motions for impact assessments are being obtained for those locations. Files are being sought from other scenarios to make proper comparisons to our scenarios' assessments.

The NMES will use the loss-estimation program, Hazards US (HAZUS) (software created by FEMA to estimate losses from various natural hazards including earthquakes), to develop the "likely earthquakes impacts" upon the chosen study communities. Such loss estimates will be major study findings for the NMES. The described impacts will allow the general public and businesses to understand the likely disruptions from an earthquake that are possible in their lifetimes. Communities and businesses may prepare for many of the disruptions through the use of already existing guidelines and recommendations.

The Heartland HAZUS Users Group will be evaluating the loss estimation for our selected scenario communities. The assessment from "likely earthquakes impacts" will begin with the assembly of files from another scenario and the specified ground motions. The ground motions for our scenarios' locations will be produced by Dr. Chris Cramer, University of Memphis, and will have the concurrence of the USGS.

For more information on the NMES:

Greg Hempen, NMES Project Manager
URS Corporation, greg_hempen@urscorp.com

Bob Bauer, NMES Assistant Project Manager
Illinois Geological Survey, bauer@isgs.illinois.edu

DATES TO MARK

200th Anniversary of the 1811-1812 New Madrid Seismic Zone Earthquakes In 2011-2012, there will be events held throughout the central United States observing the 200th anniversary of the great 1811-1812 New Madrid earthquakes. Many organizations will participate in the events, which will include national conferences, earthquake exercises, public outreach events, and more. For more information visit - *www.newmadrid2011.org*.

The Great Central U.S. ShakeOut will be held on February 7, 2012, the 200th Anniversary of the last of the New Madrid earthquakes of 1811/12. The ShakeOut is an open to the public, earthquake drill. It is designed to get the public engaged in earthquake readiness activities and increase the understanding of earthquake hazards in the central U.S. To learn more about the ShakeOut, visit *shakeout.org/centralus*

The 2012 National Earthquake Conference will be held in Memphis, Tennessee on April 10-14, 2012. This conference will provide national attention to earthquake hazard risk reduction and incorporate learning from historic earthquakes to protect us from future hazards. In the near future, a conference website will be established at - *www.earthquakeconference.org*.

The Central United States Earthquake Consortium is a not-for-profit corporation established as a partnership with the Federal government and the eight Member States: Alabama, Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee; and ten Associate Member States: Georgia, Iowa, Kansas, Louisiana, South Carolina, North Carolina, Ohio, Oklahoma, Nebraska and Virginia. The Federal Emergency Management Agency provides the basic funding for the organization.

CUSEC's purpose is to help reduce deaths, injuries, damage to property and economic losses resulting from earthquakes occurring in the central United States. Basic program goals include: improving public awareness and education, mitigating the effects of earthquakes, coordinating multi-state planning for preparedness, response and recovery, and encouraging research in all aspects of earthquake hazard reduction.

STAFF

Jim Wilkinson	**Executive Director**
Peggy Young	**Associate Director**
Brian Blake	**Program Coordinator**
Jennifer Brumley	**Administrative Assistant**
Mike Calvert	**Emergency Planner**
Alisa Nave	**Public Outreach Coordinator**
Gwen Nixon	**Accounting**

CUSEC Phone Number:	**(901) 544-3570**
Toll Free	**(800) 824-5817**
Fax	**(901) 544-0544**
Email	**cusec@cusec.org**
Website	**www.cusec.org**

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