

E-Newsletter Winter 2010 Edition January 5, 2011

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WSSPC HEADLINE NEWS

DEADLINES!

January 15, 2011

2010 Policy Recommendation Implementation Survey due to WSSPC office.

February 1, 2011

2011 Awards in Excellence Nominations due in WSSPC office.

February 28, 2011

Comments on 2011 Draft Policy Recommendations due to WSSPC Office.

March 20, 2011

Last day to secure your room at The Grove Hotel in Boise, Idaho at the Government rate of \$77 plus tax for the the 2011 WSSPC Annual Meeting and National Earthquake Program Managers Meeting.

SAVE THE DATES!!!!

April 4, 2011

WSSPC Annual Meeting and Awards in Excellence Banquet*
The Grove Hotel, Boise, Idaho

Registration for the 2011 WSSPC Awards in Excellence banquet is now open. The registration form is available at the WSSPC website at <http://wsspc.org/programs/current.shtml>. Cost is \$35. Completed registration forms and payments are due to the WSSPC office by **March 20, 2011**. Check, Visa and Master Card payments will be accepted.

April 5-6, 2011

National Earthquake Program Managers Meeting*
The Grove Hotel, Boise, Idaho

Registration for the 2011 National Earthquake Program Managers Meeting is now open. Cost is \$175. The registration form is available at the WSSPC website at <http://wsspc.org/programs/managers.shtml>. Completed registration forms and payments are due to the WSSPC office by **March 20, 2010**. Check, Visa and Master Card payments will be accepted.

April 7, 2011

Optional Field Trip—National Earthquake Program Managers Meeting *
The Grove Hotel, Boise, Idaho

Details will be posted to the WSSPC website at <http://wsspc.org/programs/managers.shtml> as they become available.

***Accommodations**

Government rate rooms at \$77 at Boise's only 4-star hotel may be reserved on a first-come, first-served basis by calling 1-888-961-5000 and providing the group name of "WSSPC National Earthquake Program Managers". The cut-off date for reserving a room at the \$77 rate is **March 20, 2011**. Additional information on both meetings will be forthcoming.

WSSPC NEWS

ShakeOut 2010

On October 21, 2010 at 10:21 a.m., participants in the ShakeOut exercises in California, Guam and Nevada practiced the drop, cover and hold earthquake drill. The numbers of participants are still being tallied, but as of December 20, 2010, California had 7.9 million participants (up 1 million from 2009!!), Guam had 38,000, and Nevada 110,000.

The exercise is designed to bring widespread awareness to the earthquake threat, and educate those in earthquake-prone areas on how to protect themselves during an earthquake.

British Columbia, Canada and Oregon will be participating in ShakeOut drills January 26, 2011.

For more information on the ShakeOut program, visit www.shakeout.org.

California

California Earthquake & Tsunami Communications and Outreach Plan

California Emergency Management Agency (Cal EMA) convened a workgroup of representatives from earthquake/tsunami readiness agencies, local organizations, the social sciences, schools, and the media to develop an earthquake and tsunami communications strategy, a framework designed to promote synchronizing California's earthquake and tsunami readiness public outreach efforts and to support the effectiveness of such initiatives.

The workgroup set out to develop a communications strategy that will help develop consistent messages, identify communication and outreach approaches and tactics, coordinate efforts, and guide communications initiatives over the next five years. Although focused on earthquake and tsunami, the result of such an effort is also intended to support all-hazard preparedness. The workgroup decided to base its central decisions, recommendations and strategies on the social science evidence, while simultaneously implementing innovative communications techniques, particularly in the social media arena.

The product, *California Earthquake & Tsunami Communications and Outreach Plan*, focuses on key recommendations that are to be implemented through a three-phased approach. Phase I emphasizes the preliminary development of the stakeholder alliance. The primary focus of Phase II is outreach to the public and

Phase III emphasizes identifying and resolving gaps in public outreach efforts resulting from Phase I-II.

To download the *California Earthquake & Tsunami Communications and Outreach Plan*, visit http://www.earthquakecountry.info/documents/CA_EQ_and_Tsunami_COP_2010.pdf

SCEC M8 Simulation Breaks Records, Promises Faster & More Detailed Earthquake Models

From the SCEC website.

A multi-disciplinary team of researchers presented the world's most advanced earthquake shaking simulation at the Supercomputing 2010 conference held in New Orleans this past November. The "M8" simulation models how the ground will shake in a magnitude 8.0 earthquake on the southern San Andreas Fault. The simulation covers a larger area, in greater detail, than previously possible. Perhaps most importantly, the development of the M8 simulation advances the state-of-the-art in terms of the speed and efficiency at which such calculations can be performed.

The Southern California Earthquake Center (SCEC) at the University of Southern California was the lead coordinator in the project. San Diego Supercomputer Center researchers provided the high-performance computing and scientific visualization expertise for the simulation. Scientific details of the earthquake were developed by scientists at San Diego State University (SDSU). Ohio State University researchers were also part of the collaborative effort to improve the efficiency of the software involved.

The SCEC M8 simulation represents the latest in earthquake science and in computations at the petascale level, which refers to supercomputers capable of more than one quadrillion calculations per second.

"Petascale simulations such as this one are needed to understand the rupture and wave dynamics of the largest earthquakes, at shaking frequencies required to engineer safe structures," said Thomas Jordan, director of SCEC and Principal Investigator for the project. Unlike previous simulations, which were useful only for modeling how tall structures will behave in earthquakes, the new simulation can be used to understand how a broader range of buildings will respond.

In terms of earthquake science, these simulations can be used to study how earthquake waves travel through structures in the earth's crust and to improve three-dimensional models of such structures.

"Based on our calculations, we are finding that deep sedimentary basins, such as those in the Los Angeles area, are getting larger shaking than are predicted by

the standard methods,” Jordan said. “By improving the predictions, making them more realistic, we can help engineers make new buildings safer.” The simulations are also useful in developing better seismic hazard policies and for improving scenarios used in emergency planning.

As follow-on to the record-setting simulation, Kim Olsen, professor of geological sciences at SDSU and lead seismologist of the study, said the research team plans to analyze potential damage to buildings, including Los Angeles high-rises, due to the simulated ground motions.

For the full press release, please visit www.scec.org/m8/.

To view the simulation, visit <http://visservices.sdsc.edu/projects/scec/m8/1.0/>

Greater Tsunami Risk in Los Angeles & Other Major Cities

Geologists studying the January 12, 2010 Haiti earthquake say the risk of destructive tsunamis is higher than expected in places such as Kingston, Istanbul and Los Angeles.

This latest research suggests even a moderate earthquake on a strike-slip fault can generate tsunamis through submarine landslides, raising the overall tsunami risk in these places.

Within minutes after the M7 Haiti earthquake, a series of tsunami waves, some as high as 9 feet (3 meters), crashed into parts of the shoreline. A few weeks later scientists determined the tsunamis were generated primarily by weak sediment at the shore that collapsed and slid along the seafloor, displacing the overlying water.

For the full write-up, visit www.utexas.edu/news/2010/10/10/tsunami_risk/

Jay Elbettar Appointed to CSSC and Honored for Contributions to Building Safety

Jay Elbettar was recently appointed to the California Seismic Safety Commission (CSSC). Elbettar, Building Director for the city of Newport Beach, California, was also presented the Gerald H. Jones Code Official of the Year Award by the International Code Council. The award is presented for contributions to the code enforcement profession that are meritorious, demonstrating professional abilities and being recognized as an example for all in the code enforcement profession.

For the full press release and information on the other 2010 ICC Award Recipients, visit www.iccsafe.org/newsroom/News%20Releases/NR-11-4-AwardWinners.pdf



From left to right: John LaTorra, International Code Council Board Member, Chair of the Awards Committee ; Jay Elbettar, Building Director, City of Newport Beach California; Ron Lynn, 2009-2010 President of the International Code Council Board of Directors at time of Photo. His current designation is Immediate Past President.

Idaho

New Fault Identified in Central Idaho

Idaho State University (ISU) geosciences professor Glenn Thackray discovered a previously unknown active earthquake fault about 65 miles from Boise while examining a Light Detection and Ranging (LiDAR) image of Idaho’s Sawtooth Range.

"The black line stood out and I thought that it had to be an earthquake fault," Thackray said. "It was long suspected that there was an active fault in the Sawtooths, but without the LIDAR technology it would have been exceptionally hard to find."

Since that time, ISU researchers have been on the ground documenting the fault that is at least 25 miles long. It is located on the eastern edge of the range and comes within about five miles from the town of Stanley. The fault runs along the range from near Stanley Lake to at least as far south as Pettit Lake.

"The reason this discovery is so important is that it is within the heavily visited areas of the Sawtooth National Recreation area, very close to the town of Stanley, and within 65 miles of Idaho’s largest city, Boise, and the most populated area in the state," Thackray said. "We would like to know how big the earthquakes are along this fault and how active it is."

For the full press release, visit <http://geology.com/press-release/idaho-fault-discovery/>

Nevada

NEES@UNR Receives \$12.2 Million from the National Institute of Standards & Technology

Professor Ian Buckle and the NEES@UNR site at the University of Nevada, Reno (UNR) has received a \$12.2 million award from the National Institute of Standards and Technology to expand and customize its facilities housing the NEES shake tables. The new 22,650 sq. ft. lab, to be completed by Fall 2013, will accommodate up to five large-capacity shake tables and allow for experimental configurations that are not possible now in the existing facility.

For the full write-up, visit

<http://nees.org/announcements/neesunrwinsnationalinstituteofstandardsandtechnology-nistaward>

Washington

EMD Director Mullen Elected to National Emergency Management Association Post

Jim Mullen, Washington Emergency Management Division (WEMD) director, was elected to the post of National Emergency Management Association (NEMA) vice president at the organization's fall conference in Little Rock, Arkansas. Mullen, who has served as WEMD director since 2004, will serve a one-year term as vice president before advancing to the NEMA presidency in August 2011.

For the full article, visit

www.washingtonresponder.com/external/content/document/1289/944639/1/Mullen%20Election%20FINAL.pdf

Pacific Northwest

Pacific Northwest Dams Vulnerable to Earthquakes

From page 6 of the November 2010 Natural Hazards Observer

Most dams in the Pacific Northwest are more than 20 years old—built before the explosion in geologic information about the region's earthquake potential, according to several experts. Newly developed data on the Pacific Northwest shows that the region has historically seen magnitude 9.0 quakes, and most of these dams were not built to withstand so powerful a shaking, according to Ivan Wong, the manager of the Seismic Hazards Group of URS Corporation.

U.S. Geological Survey geologist David Atwater told the Association of Dam Safety Officials on September 20, "We have a history of magnitude 9.0 quakes in the Pacific Northwest," although the last quake that large occurred in 1700. The area at risk from a quake in this

region includes Seattle and Portland, and all of the coastal area of Washington, Oregon, and Northern California.

Atwater said, "Most scientists now consider Cascadia to be a region of moderate to high hazards, similar to California. This obviously poses a challenge to dam owners and regulators whose responsibility it is ensure the safety of dams."

There was some hopeful data resulting from the recent M8.8 quake in Chile. The quake struck over a large area—an equivalent length along the coast of the distance between Los Angeles and San Francisco. But retaining walls and dams performed well, with only one earthen dam showing minor distress, according to David Frost, an engineer at Georgia Tech.

The significance of the Chile results to the United States is that prior to the quake, Chile had adopted seismic codes similar to those in use in the United States. "Part of the reason it's relevant to the United States is that it tested the codes we use," Frost said.

For the full write-up, visit the November 2010 Natural Hazards Observer at www.colorado.edu/hazards/o/archives/2010/nov_observerweb.pdf

NATIONAL NEWS

John Filson Receives AGU Flinn Award

On December 15, 2010 at an American Geophysical Union (AGU) honor ceremony, John R. Filson of the U.S. Geological Survey was awarded the AGU Edward A. Flinn III Award. The Award is presented annually to an "individual who personifies the Union's motto 'unselfish cooperation in research' through their facilitating, coordinating, and implementing activities."

For more information on this award, visit www.agu.org/about/honors/union/flinn

November 2010 NEHRP ACEHR Meeting Materials

Meeting materials and presentations from the November 9-10, 2010 National Earthquake Hazard Reduction Program (NEHRP) Advisory Committee on Earthquake Hazards Reduction (ACEHR) meeting are now available at www.nehrp.gov/committees/nov_2010.htm.

Seismic Safety Receives Stimulus Funding

From the November 2010 NEHRP Seismic Waves

Three National Earthquake Hazards Reduction Program (NEHRP) agencies—the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the U.S. Geological Survey (USGS)—have enabled and targeted American Recovery and Reinvestment Act (ARRA) support for earthquake risk reduction.

In late 2009 and early 2010, USGS allocated \$29.5 million of ARRA funding toward modernizing existing urban, regional, national, and global seismic and geodetic networks operated by the agency and its partners. A key source of data from outside the United States is the Global Seismographic Network (GSN), which is maintained by USGS and the NSF-supported Incorporated Research Institutions for Seismology (IRIS). USGS allocated a portion of its ARRA funding to an ongoing effort to upgrade GSN monitoring equipment. NSF has also devoted \$5 million of ARRA funds to this effort and together, these allocations will allow the completion of the current GSN modernization effort over the next few years.

In January 2010, NIST awarded three ARRA-funded grants for research related to earthquakes. The three earthquake projects were among five funded proposals pertaining to physical infrastructure. The projects will be completed within 3 years at a total cost of about \$2.9 million.

During 2009 and 2010, NSF's Engineering and Geosciences Directorates awarded 43 ARRA-funded grants totaling \$14.5 million to 33 U.S. universities for research directly related to the earthquake risk reduction goals of NEHRP.

For the full article, visit <http://nehrp.gov/pdf/SeismicWavesNov10.pdf>

Public-Private Partnerships to Increase Disaster Resilience

From the FEMA Website.

As part of its ongoing efforts to cultivate public-private partnerships at the state and local level, the Federal Emergency Management Agency (FEMA) recently launched a new web page for state and local officials and their private sector partners to provide them with resources and the opportunity to share practices and ideas. The goal of the new page is to build a national resource that will benefit emergency management professionals and their constituents in communities nationwide.

The new Public-Private Partnerships page, www.fema.gov/privatesector/ppp.shtm, is just the latest of FEMA's many initiatives to engage the private sector in the nation's preparedness, response, and recovery. The page provides templates and models of successful programs around the country. These partnerships include regional, state and city examples.

"Public-private partnerships are an important tool in increasing preparedness and keeping communities safe," said FEMA Administrator Craig Fugate. "No matter how much those of us in government do to prepare, we will only be successful if we engage the private sector as part of the team. By utilizing their established supply networks and services, we can get information and supplies to people quickly and effectively before, during, and after a disaster."

For the full write-up, visit www.fema.gov/news/newsrelease.fema?id=52628.

FEMA Administrator Fugate Urges Emergency Managers to Prepare for Worst and Consider the Entire Community While Planning for a Disaster

In October 2010 while attending the National Emergency Management Association's annual conference, the Federal Emergency Management Agency (FEMA) Administrator, Craig Fugate, urged state emergency managers from across the country to incorporate the needs and capabilities of the entire community, including children and people with disabilities, when planning for disaster response and recovery. In addition, Fugate also challenged participants to plan for worst case scenarios that go beyond the capabilities of government solutions, scenarios which he refers to as "Maximum of Maximums."

"Historically in emergency management we have only planned for what our capabilities can handle or only looked at what we can do to respond as government," said Fugate. "But what we really need to be doing is planning for disasters that go beyond our capabilities. That's why we have to look beyond our government-centric approach and see what outside resources we can bring to the table. We need to better engage our volunteer and non-profit partners, work with the private sector, and most importantly involve the public. And through all this planning we can't lose focus on the communities we serve. We have to remember: It's not about process, it's about the products; it's not about the incident, it's about the individual."

For the full press release, visit <http://www.fema.gov/news/newsrelease.fema?id=53048>

FEMA Administrator Fugate Speaks at TEDMED

October 28, 2010, Federal Emergency Management Agency (FEMA) Administrator Craig Fugate took the stage at the 2010 TEDMED Conference in San Diego, California to announce a new public challenge to come up with creative ideas on how we can prepare communities before disaster strikes. Fugate posed the challenge to the audience as he discussed how responding to disasters takes an entire team, not just the U.S. government, and how we must plan for the entire community before disaster strikes. Fugate, a former volunteer fire-fighter and emergency medical technician, drew parallels between treating a sick patient and responding to a community devastated by a disaster. Although Fugate announced the new challenge at the TEDMED conference, FEMA is encouraging all members of the public to participate and submit their ideas by visiting www.challenge.gov/fema.

TEDMED is part of the TED conference series, which brings together speakers from a wide variety of fields, including business leaders, journalists, entertainment figures, scientists, artists and authors, to share their diverse experiences and how their fields intersect with health and medicine.

For the full press release, visit www.fema.gov/news/newsrelease.fema?id=53135

FEMA and American Red Cross Sign MOA

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) and the American Red Cross signed on October 22, 2010, a Memorandum of Agreement (MOA) that sets the framework for the Red Cross and FEMA to jointly lead the planning and coordination of mass care services, which will strengthen and expand the resources available to help shelter, feed, provide emergency first aid and deliver supplies to survivors of a disaster.

"FEMA is only part of our nation's emergency management team," said FEMA Administrator Craig Fugate. "By partnering with the American Red Cross - another key member of this team -we will be able to coordinate mass care services more effectively and efficiently. Today's signing was an important step forward not just for FEMA and the Red Cross, but for the many Americans who may need shelter, food, first aid and other types of mass care when a disaster strikes."

This co-lead partnership between FEMA and the Red Cross will leverage the resourcing strengths of the federal government and the sheltering, feeding and bulk distribution expertise of the Red Cross.

For the full press-release, visit www.fema.gov/news/newsrelease.fema?id=53086

New U.S. and China Collaboration

Investigating the potential for seismic scientific and engineering research collaboration with China, a group of 19 U.S. researchers and practitioners visited Beijing and Sichuan Province from October 18-22, 2010.

The first day of the three-day China/USA Symposium for the Advancement of Earthquake Sciences and Hazard Mitigation Practices was held in Beijing, consisting of a series of presentations from Chinese and U.S. participants. The next two days were spent in Sichuan Province (in Mianyang City and Beichuan County), understanding the effects of the devastating Wenchuan earthquake of May 12, 2008. The group visited the town of Beichuan (20,000 residents), which has been left as a memorial to the earthquake, and the new Beichuan County town that was built in just two years, in accordance with an innovative master plan.

As a result of the symposium, site visits, and informal meetings, both China and the USA learned significant lessons on such issues as siting, building design, building codes, hazard risk reduction, emergency preparation, and long-term recovery. Important relationships were established that will help in future collaborative efforts.

Summaries of these meetings will be posted at www.eeri.org/site/meetings/us-china-symposium

For the full write-up, visit page 5 of the December 2010 EERI Newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Dec10.pdf

AIPG White Paper: Importance and Future of Geological Surveys

The American Institute of Professional Geologists (AIPG) has released a white paper entitled "Importance and Future Roles of State Geological Surveys", compiled by a committee of AIPG members. Committee members thoroughly researched each geological survey and interviewed State Geologists, concluding that geological surveys "provide cost effective critical functions that greatly enhances each state's economy and environment."

To review the White Paper, visit www.aipg.org/Membership/Role%20of%20State%20Geological%20Surveys%202010-11-30%20final.pdf

PCA/IBHS Building Code for Functional Resilience

From the IBHS website.

The Portland Cement Association (PCA) and the Institute for Business and Home Safety (IBHS) have developed *High Performance Building Requirements for Sustainability 2.0*. The criteria are written in mandatory language that amends and appends the International Code Council *International Building Code* (IBC).

The document includes the concepts in most other sustainability or green standards like energy, water and material resource conservation, and indoor air quality while enhancing disaster resistance and setting more stringent durability requirements.

“Using these requirements will give forward-thinking communities not just more efficient buildings, but more sustainable communities that have the ability to resist and recover from disasters when they occur,” said Wanda D. Edwards, PE, IBHS director of building code development.

For the full press release, visit www.disastersafety.org/newsroom/view.asp?id=13325&Mode=List

Nominations Open for SSA Awards

Seismological Society of America (SSA) members are invited to submit nominations for the following four SSA awards by February 15, 2011:

Harry Fielding Reid Medal

The Harry Fielding Reid Medal of the Seismological Society of America, formerly known simply as “The SSA Medal,” is the Society’s highest honor. It is awarded for outstanding contributions in seismology or earthquake engineering.

Charles F. Richter Early Career Award

The Charles F. Richter Early Career Award honors outstanding contributions to the goals of the Society by a member early in her or his career. A nominee must satisfy the following criteria: 1) Regular or Honorary Member of the Society in good standing, 2) the most recent academic degree must have been awarded no more than six years prior to 18 April of the year that she or he is selected for the award, and 3) not more than 40 years old on 18 April of the year that she or he is selected for the award.

Frank Press Public Service Award

The Frank Press Public Service Award honors any individual, combination of individuals, or any organization that has served the profession of seismology or the advancement of public safety or public information relating to seismology.

SSA Distinguished Service Award

The SSA Distinguished Service Award honors a person who has provided outstanding service to the Society. This award may be given to any person, and any Society member may make the nomination.

For information on how to submit your nominations and a list of past award winners, visit the SSA awards page at www.seismosoc.org/awards.

EARTHQUAKE & TSUNAMI NEWS

Wyoming

Earthquakes in Teton County, Wyoming

Three earthquakes occurred between October 24 and 25, 2010 in northeastern Teton County, Wyoming-- the first and largest triggered a landslide witnessed by a hunter.

The largest of the three, a magnitude 4.4 temblor, took place on October 24th, East of the Red Hills area along the Gros Ventre River. The earthquake was located 20 miles east-northeast of Jackson, and 40 miles west of Dubois at a depth of 3.1 miles.

Two smaller earthquakes occurred very near the quake in the evening hours of October 25th. The first earthquake, M3.9, occurred at 7:24 pm and at 10:12 pm a M3.3 event occurred slightly east of the 3.9 event. The events are most likely tied to recent earthquakes in the Gros Ventre area.

The October 25th M3.3 event marks the 19th earthquake to happen in the area since the beginning of this latest earthquake sequence on August 4th, 2010.

Wyoming State Geological Survey scientists, with the help of the USGS scientists at Golden, Colorado, continue monitoring seismicity in the region. Recently two seismic stations (strong motion accelerometers) have been placed in the area to provide additional strong motion data on seismic events, broadcasting live real-time data.

For the full press release, visit www.wsgs.uwyo.edu/NewsCenter/PressReleases/Oct-26_2010.aspx.

Indonesia

Oct. 25, 2010 Indonesia Earthquake and Tsunami

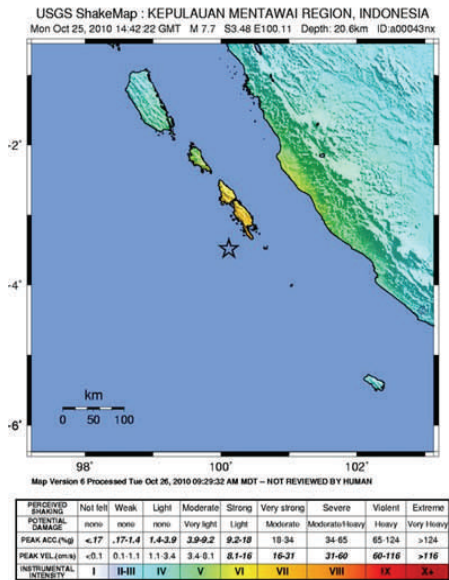
From the December 2010 EERI Newsletter, contributed to EERI by Veronica Cedillos of GeoHazards International and Nick Alexander of Degenkolb Engineers.

On Monday, October 25, 2010, at 9:42 p.m. local time, an M7.7 earthquake struck west of South Pagai, a small island that forms the southern chain of the Mentawai Islands off western Sumatra. The epicenter was 175 miles south of Padang, West Sumatra, Indonesia. According to the USGS, it is likely that this earthquake occurred along the plate interface and was part of a sequence of large earthquakes that have recently occurred along the Sunda megathrust, including the 2004 Indian Ocean earthquake and tsunami and the 2009 Padang earthquake.

Reports indicate that the tsunami wave was up to seven meters in height and arrived as quickly as five minutes after the earthquake. Although a tsunami early warning system installed after the 2004 Indian Ocean tsunami runs along this subduction zone, the warning was not disseminated quickly enough to save villagers on these remote islands. Such warning systems are most effective for people who live hours away from the tsunami source.

According to estimates from the West Sumatra Disaster Management Agency, more than 445 people were killed, 58 people are missing, and 173 people sustained severe injuries. Hundreds of homes, mostly wooden structures, were completely destroyed in 20 villages.

For the full report, visit page 4 of the December 2010 EERI Newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Dec10.pdf



Where the First Wave Arrives in Minutes

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has produced a new publication entitled *Where the First Wave Arrives in Minutes: Indonesian Lessons on Surviving Tsunamis Near Their Source*. This 29-page, full color publication draws on lessons learned from recent Indonesian experiences, and details the causes and consequences of fast-arriving tsunamis.

For more information and download a PDF of this document, visit

http://portal.unesco.org/geography/en/ev.php-URL_ID=13429&URL_DO=DO_TOPIC&URL_SECTION=201.html

New Zealand

Special Report on New Zealand Earthquake

The Earthquake Engineering Research Institute (EERI) has released their special report on the M7.1 Earthquake that struck Darfield (Canterbury), New Zealand on September 4, 2010. The report is a result of research collected by a team comprised of EERI and Pacific Earthquake Engineering and Research Center (PEER) investigators who visited the area from September 8-20, 2010. Topics include Seismicity; Geotechnical Effects and Lifelines; Port; Engineered Structures; Bridges; Schools; Hospitals; Housing and Insurance; Unreinforced Masonry Building Performance; Nonstructural Losses, Multihazards and Impacts on Universities; Response and Recovery; and Issues for Future Safety.

To view the report, visit www.eeri.org/site/images/eeri_newsletter/2010_pdf/EERI_NewZealand_EQRpt-web.pdf

Preliminary Report on New Zealand Earthquake Now Available

The Geo-Engineering Extreme Events Reconnaissance Association (GEER) has released their preliminary report on the geotechnical effects of the September 4, 2010, M7.1 Darfield (New Zealand) earthquake. The report is now available at www.geerassociation.org/GEER_Post_EQ_Reports/Darfield_New_Zealand_2010/Cover_Darfield_2010.html.

Baja California

Baja California Earthquake Report Available

The Earthquake Engineering Research Institute (EERI) reconnaissance report on the April 4, 2010 El Mayor Cucapah, Baja, California earthquake is now available.

The report emphasizes the effects of the earthquake on buildings, transportation infrastructure, water and wastewater treatment systems, nonstructural aspects, some seismological aspects, agriculture, and the initial economic impacts.

This report complements the GEER report (www.geerassociation.org/Post_EQ_Reports.html) that emphasizes all significant seismological, fault rupture, ground motion, tectonic, geologic, and geotechnical aspects of the earthquake.

One of the most significant features of El Mayor Cucapah earthquake was the occurrence of widespread liquefaction over almost the entire Mexicali Valley, Baja California. There was differential settlement of foundations leading to collapse or near collapse of hundreds of houses in Mexicali Valley. Liquefaction damaged extensive lengths of irrigation canals. Agriculture

and consequently local and regional economies are severely affected by this damage.

The report can be downloaded by visiting the clearinghouse site at www.eqclearinghouse.org/20100404-baja and clicking on "EERI Reports and Presentations NOW AVAILABLE."

Hardcopies can be purchased online for \$15 at www.eeri.org/cds_publications/catalog/

Chile

Performance of Confined Masonry in Chile

From the October 2010 EERI Newsletter

The February 27, 2010, Maule, Chile, M8.8 earthquake exposed confined masonry (CM) buildings to ground shaking of various intensities, providing an opportunity to study their seismic performance. CM has been widely used in Chile for housing construction, including low-rise single family dwellings (up to two stories), and medium-rise apartment buildings (three to four stories). By and large, CM buildings performed well in the earthquake. Most single-family dwellings of one and two stories did not experience any damage. The large majority of buildings of three and four stories remained undamaged; however, a few were damaged severely, and two three-story buildings collapsed.

CM walls were built using a variety of units, most prevalent being perforated clay blocks (clay tiles), clay bricks, and hollow concrete blocks.

For the full write-up, visit page 2 of the October 2010 edition of the EERI newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Oct10.pdf

To view a PowerPoint presentation and detailed report containing key observations, visit www.confinedmasonry.org

Earthquake Spectra Call for Papers

EERI's journal *Earthquake Spectra* will be publishing a special issue on the February 2010 Chile Earthquake. Papers are invited on the earth science, engineering, and social and economic sciences aspects of the earthquake and its aftermath. All papers should be submitted online through the *Earthquake Spectra* manuscript submission web page: <http://eqs.peers-pub.com>

All papers to be reviewed must be received by **January 15, 2011**.

For more information, visit page 3 of the October 2010 EERI Newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Oct10.pdf

Haiti & Chile Documentary

NOVA Documentary on Deadly Earthquakes

In 2010 Epic earthquakes all over the planet delivered one of the worst annual death tolls ever recorded. In exclusive coverage, a NOVA camera crew follows a team of US geologists as they first enter Haiti in the immediate aftermath of the January 2010 earthquake. The team hunted for crucial evidence that will help them determine exactly what happened deep underground and what the risks are of a new killer quake.

Barely a month after the Haiti quake, Chile was struck by a quake 100 times more powerful, unleashing a tsunami that put the entire Pacific coast on high alert. In a coastal town devastated by the rushing wave, NOVA follows a team of geologists as they battle aftershocks to measure the displacement caused by the earthquake.

Deadliest Earthquakes- www.pbs.org/nova/earthquake - airs Tuesday, January 11, 2011 at 8:00PM ET/PT on most PBS stations.

You can watch a preview of the show here:

www.youtube.com/user/NOVAonline?feature=mhum#p/u/2/huS7Q1pUqVQ

Haiti

Indexing System Would Help Rebuild Haiti

Civil engineers studying the effects of Haiti's earthquake have concluded that a relatively simple indexing system could be used by officials to quickly decide how to modify existing buildings and construct new ones that would better withstand future quakes.

The system uses a priority index to rank reinforced concrete buildings according to their seismic vulnerability. The indexing system could be used to identify which buildings need to be strengthened and to guide the construction of new structures, said Santiago Pujol, a Purdue assistant professor of civil engineering.

The index is a ratio of the combined cross sectional areas of all of the ground-story columns and walls compared to a building's total usable floor area. "What it tells you is that for a given-size building, the smaller the columns and the fewer the walls between the columns, the more likely the buildings are to have severe damage," said Ayhan Irfanoglu, assistant professor of civil engineering at Purdue. "Its strength is in its simplicity and the ease of measuring it in the field."

Such a system might be the only practical way to make buildings safer in the face of the rapid rebuilding that may be impossible to control using conventional engineering standards.

"It is very easy to implement and wouldn't necessarily require long and costly analyses," Irfanoglu said. "They can do this very quickly."

For the full write-up, visit www.purdue.edu/newsroom/research/2010/101019PujolHaiti.html

Haiti Earthquake Shaking Amplified by Local Landforms

Aftershock recordings captured by seismometers in Port-au-Prince revealed that ground motions were amplified by the relatively young and soft rocks that underlie the valley in which the city is situated.

In Haiti, the zone where high shaking amplification was observed corresponded with a swath of high damage during the January 2010 mainshock. A number of substantial structures in this region collapsed catastrophically, including several United Nations Development Programme offices and several large hotels.

The study underscores the need to consider seismic provisions in the rebuilding effort, and suggests that topographic effects should be considered when detailed hazard zone maps are made for other regions.

For the full write-up, visit www.usgs.gov/newsroom/article.asp?ID=2617

Haiti Quake Risk May Still be High

The fault initially thought to have triggered January's devastating earthquake in Haiti is likely still under considerable strain and continues to pose a significant seismic hazard, according to a study published online in *Nature Geoscience* October 24, 2010.

U.S. Geological Survey geologist Carol Prentice led a team of scientists to Haiti immediately after the earthquake to search for traces of ground rupture and to investigate the geology and paleoseismology of the area.

The team documented evidence of geologically-young ground ruptures on the Enriquillo-Plantain Garden Fault (EPG), which they believe may have formed during earthquakes that struck Haiti in 1751 and 1770. Because the EPG Fault did not rupture the surface in January, as it was originally believed, little, if any, accumulated strain on that fault was released during the quake and the hazard remains high.

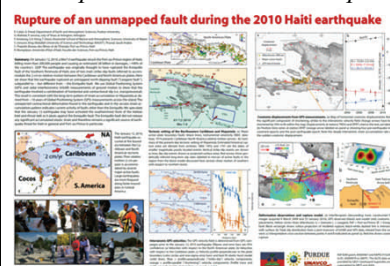
For the full press release, visit www.usgs.gov/newsroom/article.asp?ID=2627

Haiti Workshop on Research Needs

On September 30 and October 1, 2010, EERI convened a workshop with support from the National Science Foundation (NSF). The workshop brought together grantees who received NSF Rapid Response Research (RAPID) awards after the 2010 Haiti earthquake, several Haitian researchers, representatives of the National Earthquake Hazards Reduction Program (NEHRP) agencies, and representatives of several other agencies with an interest in earthquake risk reduction and international programs. Participants identified emerging research needs and explored opportunities for collaboration among researchers in the U.S. and Haiti.

For breakout session write-ups, visit <https://nees.org/collaborate/groups/haitirapidsandresearchworkshop/wiki>.

To view the posters presented by RAPID Award Winners, visit <https://nees.org/groups/haitirapidsandresearchworkshop/wiki/MainPage>



Poster:
Rupture of an Unmapped Fault During the 2010 Haiti Earthquake, by Eric Calais, et. al.

For the workshop report, visit the EERI Haiti earthquake clearinghouse page at www.eqclearinghouse.org/20100112-haiti/haiti-rapids-and-research-needs-workshop

China

Special Issue on 2008 China Quake Available

Volume 100, number 5B of the *Bulletin of the Seismological Society of America*, a special issue dedicated to the May 12, 2008 Earthquake in Wenchuan, China, is now available online at www.bssaonline.org

Guest edited by Yann Klinger, Chen Ji, Zheng-Kang Shen, and William H. Bakun, the issue features over 30 articles on the quake as well as five electronic supplements which are available on the Seismological Society of America website.

Visit the online table of contents for links to article abstracts, full text PDFs and electronic supplements at www2.seismosoc.org/FMPro?-db=bssa_index.fp7&-lay=toc&-format=/bssa_index/toc_disp.html&Volume=100&IssueNumber=5B&-SortField=StartPageNumeric&-Max=all&-find

RESEARCH, RESOURCES & PUBLICATIONS

California

NGDC Develops New Tsunami Inundation Models of San Francisco Bay and Central California

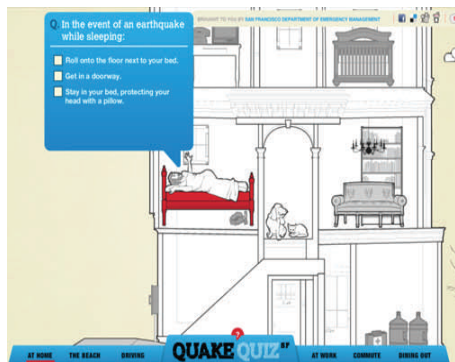
The National Geophysical Data Center (NGDC) has developed four high-resolution coastal digital elevation models (DEMs) of San Francisco Bay and Central California for the Pacific Marine Environmental Laboratory (PMEL). These integrated bathymetric-topographic DEMs are part of an on-going collaboration across NOAA to support the tsunami forecast and warning system being developed by PMEL for the Tsunami Warning Centers. The DEMs were compiled from the best available digital data obtained from U.S. federal, state and local agencies, and will increase the accuracy of NOAA's tsunami modeling efforts in forecasting inundation in the region.

For the full write-up, visit www.ngdc.noaa.gov/nndc/struts/results?eq_1=2010/10&op_3=eq&v_3=N&t=102750&s=3&=10,6,11

San Francisco Quake Quiz

The San Francisco Department of Emergency Management has created an online interactive “Quake Quiz”. The Quiz offers the user six possible locations and situations one might be in when an earthquake strikes: home, the beach, work, driving, commuting, or dining out. Once the user selects the location, a “quake” occurs and the user is prompted to guess the appropriate action to take if a quake were actually occurring in that location. Once the question is successfully answered, various objects are highlighted, providing useful tips when clicked on.

Take the “Quake Quiz” at <http://quakequizzesf.org/>



Screen shot of “At Home” QuakeQuiz webpage.

Alert SF

AlertSF is a text-based notification system for San Francisco's residents and visitors.

AlertSF will send alerts regarding emergencies disrupting vehicular/pedestrian traffic, watches and warnings for tsunamis, flooding, and Citywide post-disaster information to your registered wireless devices and email accounts. Registrants can also sign up to receive English-language automated information feeds and/or alerts targeted to specific areas of the City.

Registration for AlertSF is free. Text message charges may apply depending on your wireless carrier and plan.

For more information on AlertSF, or to register for alerts, visit <https://alerts.org/>

New ABAG Earthquake Website

The Association of Bay Area Governments (ABAG) Earthquake Hazards Program has an updated website, for the nine county San Francisco Bay Area, available at <http://quake.abag.ca.gov/>

Nevada

Preliminary Geologic Map of Searchlight Quadrangle

The Nevada Bureau of Mines and Geology (NBMG) has released *OF10-13—Preliminary Geologic Map of the Searchlight Quadrangle, Clark County, Nevada*, by James E. Faulds, Alan R. Ramelli, and Stephen B. Castor, all of the NBMG. The map may be purchased at www.nbmng.unr.edu/sales/pbsdils.php?sku=OF10-13 or downloaded at www.nbmng.unr.edu/dox/of1013.pdf.

Oregon

Geology of the Upper Grande Ronde River Basin Union County, Oregon

The Oregon Department of Geology and Mineral Industries has released the *Geologic Map of the Upper Grande Ronde River Basin, Union County, Oregon*. The map is available for purchase at www.oregongeology.org/pubs/B/p-B-107.htm

Digital Geologic Map of the Southern Willamette Valley

The Oregon Department of Geology and Mineral Industries has released *Open-File Report O-10-03, Digital Geologic Map of the Southern Willamette Valley, Benton, Lane, Linn, Marion, and Polk Counties, Oregon* by Jason D. McClaughry, Thomas J. Wiley, Mark L. Ferns, and Ian P. Madin.

This geologic map refines the understanding of geologic conditions in the southern Willamette Valley that

control ground water, hydrocarbon and aggregate resources, and landslide and seismic hazards.

For the full press release and information on how to purchase your copy, visit www.oregongeology.org/pubs/nr/press-release-2010-11-05.pdf

LiDAR-based Map of Coos Bay and North Bend, Oregon

The Oregon Department of Geology and Mineral Industries (DOGAMI) has released *Open-File Report O-10-04, LiDAR-based map of Coos Bay and North Bend, Coos County, Oregon*, by Jed T. Roberts, Rudie J. Watzig, and Sarah A. Robinson. More information on the map and how to purchase your copy is available at www.oregongeology.org/pubs/ofr/p-O-10-04.htm

“LiDAR Landscapes” Posters and 2011 Calendar

The Oregon Department of Geology and Mineral Industries (DOGAMI) has released “LiDAR Landscapes”, a 2011 Calendar and series of wall posters of LiDAR images of the Oregon coast.

To view and order posters, visit www.oregongeology.org/pubs/ll/p-posters.htm

To view and order the 2011 calendar, visit www.oregongeology.org/pubs/ll/p-calendar2011.htm



Utah

Keeping Zion National Park Visitors Safe from Geologic Hazards

A new geologic-hazards investigation, published by the Utah Geological Survey, could help Zion National Park (ZNP) keep its 2.5 million annual visitors safe. The results of the investigation will provide the National Park Service (NPS) with geologic-hazard information for future park management.

“One of the nation's scenic jewels, Zion National Park, is also home to a variety of geologic hazards. By supporting this study of geologic hazards in high-use areas of the park, the National Park Service has taken a proac-

tive approach to protecting visitor safety,” says William Lund, UGS Senior Geologist.

The ZNP geologic-hazards study area is a 154-square-mile area that encompasses Zion Canyon, Kolob Canyon, Kolob Terrace, the Zion-Mount Carmel Highway corridor, and all developed and high-use areas of the park. This investigation includes nine 1:24,000-scale geographic information system (GIS)-based maps that show areas subject to flooding, debris flows, rock fall, landslides, surface faulting, liquefaction, collapsible and expansive rocks and soils, and/or soil piping and erosion.

The maps and accompanying text can also be viewed on the UGS website at <http://geology.utah.gov/maps/geohazmap/washington.htm>

For the full press release, visit <http://geology.utah.gov/whatsnew/news/new1010c.htm>

Other Publications

NEHRP Annual Report for FY 2009

The National Earthquake Hazards Program (NEHRP) Annual Report for Fiscal Year 2009 has been released and is available at www.nehrp.gov/pdf/2010NEHRPAnnualReport.pdf

2009 NEHRP Recommended Seismic Provisions

The 2009 edition of the *NEHRP Recommended Seismic Provisions for New Buildings and Other Structures*, FEMA P-750 and FEMA P-750 CD, is now available at no cost from the Publications Warehouse and online from the FEMA Library at www.fema.gov/library/viewRecord.do?id=4103

To order the publication and CD from the FEMA Publications Warehouse, call 1 (800) 480-2520 or fax your request to (240) 699-0525.

NEHRP Seismic Design Technical Brief No. 3

NEHRP Seismic Design Technical Brief No. 3, *Seismic Design of Cast-in-Place Concrete Diaphragms, Chords, and Collectors: A Guide for Practicing Engineers* by Jack P. Moehle, John D. Hooper, Dominic J. Kelly, and Thomas R. Meyer is now available for download at www.nehrp.gov/pdf/nistgcr10-917-4.pdf

NEHRP Seismic Design Technical Brief No. 4

NEHRP Seismic Design Technical Brief No. 4, *Nonlinear Structural Analysis for Seismic Design: A Guide for Practicing Engineers* by Gregory G. Deierlein, Andrei M. Reinhorn, and Michael R. Willford is now available for download at <http://nehrp.gov/pdf/nistgcr10-917-5.pdf>

2010 NEMA Biennial Report

From the NEMA Website

Based on in-depth surveying of state emergency management directors, the National Emergency Management Association (NEMA) 2010 Biennial Report represents the most comprehensive compilation of state emergency management data and information available. First published by NEMA in 1996, the Biennial Report is used by state emergency management directors and their staffs, governors, members of Congress, state legislators, homeland security officers and local emergency managers.

To purchase your copy of the 2010 NEMA Biennial Report, visit www.nemaweb.org/index.php?page=shop.product_details&flypage=flypage.tpl&product_id=1&category_id=1&option=com_virtuemart&Itemid=389

New Model Predicts Economic and Social Impacts of Critical Infrastructure Damage in Disaster

From the Purdue University Website

Eun Ho "Daniel" Oh, a former Purdue doctoral student and current research specialist at the Korea Institute of Construction Technology in Seoul, has created a computer model that predicts how a disaster's impact on critical infrastructure would affect a city's social and economic fabric.

The model simulates how a disaster affects elements such as bridges, roads, municipal water and wastewater treatment services, along with vital economic and social components such as employers, hospitals, schools and churches.

"It can be most effectively used as a planning tool before a disaster because it enables you to put preventative measures in place," said Hastak, who is working with doctoral student Abhijeet Deshmukh. "But it can also be used while the disaster is unfolding to anticipate what will happen next and make decisions about where to evacuate and where to direct disaster relief, as well as after the disaster is over to assess the economic and social impacts."

For the full press release, visit www.purdue.edu/newsroom/research/2010/story-print-deploy-layout_1_8250_8250.html

Proceedings from 2010 9th US National and 10th Canadian Conference on Earthquake Engineering

A printed version of the *Proceedings of the 9th US National and 10th Canadian Conference on Earthquake Engineering* (2010) can be ordered from Curran Associates by visiting www.proceedings.com/09018.html. The proceedings consist of nine softcover volumes and 7,590 pages, with more than 750 papers, organized by

session and containing an author index.

The cost is \$595 plus shipping (ranging from \$26 to \$51 for UPS ground service within the U.S.), plus sales tax (if applicable). EERI members can order the DVD version of the *Proceedings* for \$50 (or \$125 non-members) plus tax (if applicable) and shipping from the EERI Online Store www.eeri.org/cds_publications/catalog. The topics and subtopics can be viewed by clicking on the title in the "New Products" listing.

AGI Glossary of Geology, 5th Edition iPhone App

The American Geological Institute's *Glossary of Geology, 5th Edition*, is now available for the iPhone, iPod Touch, and iPad. The *Glossary of Geology* app brings all 40,000 authoritative definitions of the vocabulary of the geosciences to an easy-to use, searchable, fast, and portable format.

For more information visit the full press release at www.agiweb.org/news/GlossaryApp10.pdf or the Apple iTunes store at <http://itunes.apple.com/us/app/glossary-of-geology/id398194234>

OneGeology

OneGeology is an internet portal to information from the Geological Surveys worldwide. Earth and computer scientists from 116 nations are working together on the project to produce the first digital geological map of the world.

For details on the OneGeology project, visit www.onegeology.org/what_is/home.html

PERI Publications

The Public Entity Risk Institute (PERI) is now offering three PERI disaster recovery products (two books and one DVD) as a bundle for \$65, while supplies last. The bundle includes:

- *Managing for Long-Term Community Recovery in the Aftermath of Disaster*
- *Holistic Disaster Recovery: Ideas for Building Local Sustainability After A Natural Disaster*
- *The Water's Edge: Profits and Policy Behind the Rising Catastrophe of Floods* (DVD)

The bundle is available at www.riskinstitute.org/peri/component/page,shop.product_details/flypage,shop.flypage/product_id,1062/category_id,6/manufacturer_id,0/option,com_virtuemart/Itemid,26/

PERI has also released the 2010 edition of their Resource Catalog, a compendium of publications, reports, manuals, and online resources which have been developed by PERI and other organizations. To download the Catalog, visit www.riskinstitute.org/peri/images/file/ResourceCatalog2010.pdf

National Geographic Video: Tsunami 101



National Geographic has produced and posted to their website "Tsunami 101", a high quality, three-and-a-half minute, informative video on the causes and dangers of tsunamis. The video is available at <http://video.nationalgeographic.com/video/player/environment/environment-natural-disasters/tsunamis/tsunami-101.html>

Earthquake Symposium on Earthquake Disaster and Risk Reduction in U.S. Cities

On December 1, 2010, Miyamoto International, Tower General Contractors and NEES@UCLA, hosted the Earthquake Symposium "Imminent Danger: Earthquake Disaster and Risk Reduction in U.S. Cities". At UCLA, experts from academia, government, and the private sector discussed risk and potential solutions for saving lives and minimizing property damage from a major earthquake.

NEES@UCLA's Principal Investigator, Dr. John Wallace, and Site Operations Manager, Dr. Bob Nigbor, participated in expert panels on "Practical Solutions to Earthquake Disaster Risk Reduction," which featured the recent retrofit of the LAX Theme Building as a case study in high performance earthquake engineering seismic risk reduction, and "How Can We Encourage Increasing LA's Earthquake Resilience?" Other featured speakers included Thomas Heaton, Ph.D., Geophysics, Director of the Earthquake Engineering Research Laboratory, California Institute of Technology, discussing "What Earthquake Science Tells Us about LA's Risk," and Jerry Nickelsburg, Senior Economist, UCLA Anderson Forecast, focusing on "The Economic Impact of a Major Earthquake."

The webcast, presentations and other materials are available at www.eqsymposium.com

For the full write-up, visit <http://nees.org/announcements/imminentdangerearthquakedisasterandriskreductioninuscities>

Tsunami Symposium Report Now Available

A one-day symposium titled "Enhancing Tsunami Warning Along North America's Northwest Coast: Reaching the Last Mile" was organized and held on June 8, 2010 at the Institute of Ocean Sciences near Sidney, British Columbia. The Symposium was designed to encourage discussion between experts and stakeholders about emergency communication systems, to identify strengths and weaknesses of current systems, and to improve applications of these systems.

The final report is now available at www.crew.org/wordpress/wp-content/uploads/TsunamiSymposiumReport1.pdf

Cement Deep-Soil Mixing

Professor K.K. "Muralee" Muraleetharan, School of Civil Engineering and Environmental Science, University of Oklahoma, and his team, which includes engineers from Iowa State, San Jose State University, UCLA, UC Davis, Earth Mechanics, Inc. and Advanced GeoSolutions, are studying a technique called "cement deep-soil mixing", which strengthens clay soil to improve the performance of bridge pilings. The research project is a first step in a long-term process of understanding and improving the seismic behavior of pile foundations in soft clays. For structures undergoing seismic retrofit with pile foundations in weak soils, improving soils may be the only option.

Testing began in mid-October to determine if movement in the soil around iron piles that support bridge stations in earthquake zones may be controlled by adding certain amounts of cement.

The write-up is available at <http://nees.org/announcements/researcherkkmuraleemuraleetharanandteamreceiving-muchpressonstudy>

NEESHub OpenSees

OpenSees is a software framework for developing applications to simulate the performance of structural and geotechnical systems subjected to earthquakes. The latest version of OpenSees, Version 2.2.2, is now available for execution on the NEEShub. Use of this powerful tool on the NEEShub is free and may offer significant advantages in terms of execution speed, especially when repetitive runs or large models are considered.

OpenSees is available in the NEEShub through the OpenSees Laboratory tool <http://nees.org/resources/openseeslab>.

For more information, including instructional materials, visit <http://nees.org/announcements/neeshubtoolsopenseesintheclouds>

CONFERENCES, WORKSHOPS AND EVENTS

NEES-EERI Webinar Series

Date: January 14, 2011

Location: Web Based

The Earthquake Engineering Research Institute (EERI) is teaming with the George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) to host a new webinar series entitled “Reducing Earthquake Losses: From Research to Practice.” The webinar series will focus on the outcomes of NEES research and their significance to engineering design and construction. The content of the webinars is designed to appeal to both practitioners and researchers. Webinars will be available to attendees at no cost, and available both live and archived on www.nees.org. Attendees can also earn Continuing Education Units for a small fee.

The first webinar of the series, “Performance-Based Seismic Design of Mid-Rise Light-Frame Wood Buildings,” to be held 11:30 a.m. – 1:00 p.m. PST on January 14, 2011, will summarize key findings of the NEES-Wood project, suggested design approaches, and code implications forthcoming.

For more details, visit page 2 of the December 2010 EERI news at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Dec10.pdf

Benefit/Cost Analysis Forum on Community Seismic Mitigation Projects

Date: January 19, 2011

Location: Portland, Oregon

A Benefit/Cost Analysis Forum is being held January 19, 2011 from 1:00p.m.-4:00p.m. at the University of Oregon Portland Campus. The forum will begin with economists Ed MacMullan and Bryce Ward teaching the basics of benefit/cost analysis, followed by a panel discussion with federal, state and local government representatives on the challenges and opportunities around developing benefit/cost analysis for seismic mitigation projects.

The forum is sponsored by the Cascadia Region Earthquake Workgroup (CREW) and University of Oregon’s Partnership for Disaster Resilience (OPDR). This event is free of charge, but space is limited. For those unable to attend the event in person, you can join the forum via webcast at www.surveymonkey.com/s/crew-bca

For more information, visit www.crew.org/wordpress/wp-content/uploads/CREW_BCA_Forum_011911_FNL1.pdf

2011 NTHMP Annual Meeting

Dates: February 1-2, 2011

Location: Portland, Oregon

The 2011 National Tsunami Hazard Mitigation Program (NTHMP) Annual Meeting will be held February 1-2, 2011 in Portland, Oregon at the Oregon Doubletree Hotel. The agenda, hotel information, and driving directions are available at <http://nthmp.tsunami.gov/2011annualmeeting/index.html>

EERI Pre-Annual Meeting TCLEE Workshop

Date: February 9, 2011

Location: La Jolla, California

On February 9, 2011 at the Hyatt Regency in La Jolla, California, participants in the 2011 EERI Annual Meeting have the option to attend the all-day “Workshop on Challenges and Opportunities for Lifeline Systems Engineering,” sponsored by the American Society of Civil Engineers Technical Council on Lifeline Earthquake Engineering (TCLEE), at a cost of \$50 in addition to the regular Annual Meeting registration fee. The TCLEE workshop consists of three sessions with presentations by academic and practitioner experts on the topics of (1) lessons learned from the 2010 earthquakes in Chile, Haiti, Baja California, and New Zealand; (2) the challenges with lifeline system interdependencies; and (3) the current landscape of guidelines and codes for retrofit and design. There will be ample time for discussions to identify future emphases in research and implementation efforts.

For more information and to register for the TCLEE Workshop, visit www.eeri.org/registration/TCLEE_workshop.php

EERI 2011 Annual Meeting

Dates: February 9-12, 2011

Location: La Jolla, California

The Earthquake Engineering Research Institute (EERI) 2011 Annual Meeting planning committee, chaired by Jorge Meneses of Kleinfelder, Inc., is in the final stages of developing this year’s meeting program. The meeting, themed “Earthquakes without Borders,” will discuss the extent and effects of earthquakes on the built environment with an emphasis on San Diego cross-border issues. The meeting will be held February 9-12 at the Hyatt Regency Hotel in La Jolla, California.

A panel discussion will kick off the meeting by addressing cross-border issues based on recent experiences with the El Mayor-Cucapah earthquake and the San Diego wildfires, as well as border problems after 9/11. The discussion will encompass seismic risk, collaborative research needs, and policy and emergency response plans in the event of an earthquake that hits the region of southern California and Baja California. A subse-

quent session will identify and present methods to mitigate the region's tsunami risk.

Other sessions will focus on integrating research and practice; the interpretation, selection, and modification of strong motion records; and lessons learned from the major earthquakes of 2010.

For more information, visit the EERI website at www.eeri.org, or view the October 2010 newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Oct10.pdf

New Madrid Bicentennial Events

Dates: Starts February 11, 2011

Locations: Various

The New Madrid Bicentennial Events will begin February 11, 2011 with the Bicentennial Kickoff. Events will be held in 2011 and 2012 throughout the central United States observing the 200th Anniversary of the great 1811 and 1812 New Madrid earthquakes that forever changed the mid-western landscape. These quakes were felt across the U.S. and as far south as the Gulf of Mexico, and as far north as Canada. Organizations from across the United States will participate in the bicentennial events, which range from conferences, workshops, public outreach events, multi-state earthquake exercises, field trips, and more.

For information on the New Madrid Bicentennial Events, visit <http://newmadrid2011.org>

Past Events

Designing a Resilient America

Professionals from the public and private sectors convened in Washington, D.C. the first week in December 2010 to focus on promoting and enhancing the resilience of buildings and infrastructure. On December 1, coinciding with the second day of the event, President Barack Obama proclaimed December Critical Infrastructure Protection Month, showing his commitment to delivering the necessary information, tools and resources to areas where critical infrastructure exists in order to maintain and enhance its security and resilience.

Designing for a Resilient America: A Stakeholder Summit on High Performance Resilient Buildings and Related Infrastructure, held at the American Institute of Architects Headquarters, brought federal agencies, private industry, academia, state and local officials, and professional and trade organizations together to develop recommendations for buildings and related infrastructure.

For the full press release, visit www.nibs.org/index.php/nibs/newsevents/news/Entry/resiliencysummit

Mark Your Calendars!!

January 14, 2011

NEES-EERI Webinar: "Reducing Earthquake Losses: From Research to Practice"

www.eeri.org/site/images/eeri_newsletter/2010_pdf/Dec10.pdf

January 19, 2011

CREW Benefit/Cost Forum

White Stag Building, Portland, Oregon

www.crew.org/wordpress/wp-content/uploads/CREW-Winter-Quarterly-Agenda-011911_Final-1.pdf

January 20, 2011

CREW Quarterly Meeting

White Stag Building, Portland, Oregon

www.crew.org/wordpress/wp-content/uploads/CREW-Winter-Quarterly-Agenda-011911_Final-1.pdf

January 26, 2011

British Columbia, Canada ShakeOut

www.shakeout.org/bc

January 26, 2011

Oregon ShakeOut

www.shakeout.org/oregon

February 1-2, 2011

National Tsunami Hazard Mitigation Program Annual Meeting, Oregon Double Tree Hotel, Portland, Oregon

<http://nthmp.tsunami.gov/2011annualmeeting/index.html>

February 9, 2011

Technical Council on Lifeline Earthquake Engineering Workshop, Hyatt Regency La Jolla at Aventine, La Jolla, California

www.eeri.org/registration/TCLÉE_workshop.php

February 9-12, 2011

Earthquake Engineering Research Institute 63rd Annual Meeting, Hyatt Regency La Jolla at Aventine, La Jolla, California

www.eeri.org/site/meetings/2011-annual-meeting

February 11, 2011

New Madrid Bicentennial Kick-Off

<http://newmadrid2011.org/>

March 2011 (TBD)

WSSPC Board of Directors Meeting, Washington, D.C.

March 13-17, 2011

American Association of State Geologists Spring Liaison, Washington, D.C.

March 20-25, 2011

National Emergency Management Association Mid Year Conference, Hilton Alexandria Mark Center, Alexandria, Virginia

www.nemaweb.org/?2068

April 4, 2011

WSSPC Annual Meeting and Awards in Excellence Banquet, The Grove Hotel, Boise, Idaho
www.wsspc.org/programs/current.shtml

April 5-6, 2011

National Earthquake Program Managers Meeting, The Grove Hotel, Boise, Idaho, David Jackson, Coordinator
djackson@bhs.idaho.gov
www.wsspc.org/programs/managers.shtml

April 7, 2011

Optional Field Trip—National Earthquake Program Managers Meeting, The Grove Hotel, Boise, Idaho
 David Jackson, Coordinator djackson@bhs.idaho.gov
www.wsspc.org/programs/managers.shtml

April 11-13, 2011

American Society of Civil Engineers International Conference on Risk Analysis and Management and ISUMA 2011 Fifth International Symposium on Uncertainty Modeling and Analysis, University College Inn & Conference Center, University of Maryland, Hyattsville, Maryland
<http://content.asce.org/conferences/icvram2011/index.html>

April 13-15, 2011

Seismological Society of America Annual Meeting, Memphis, Tennessee
www.seismosoc.org/meetings/meeting_cal.php

April 26-27, 2011

Partnerships in Emergency Preparedness Annual Conference: Experiencing Partnerships, Greater Tacoma Convention and Trade Center, Tacoma, Washington

April 28, 2011

Great Central U.S. ShakeOut
www.shakeout.org/centralus/faq/index.html

June 12-16, 2011

Association of American State Geologists Annual Meeting, Dubuque, Iowa
http://www.stategeologists.org/upcoming_meetings.php?id=38

June 19-22, 2011

2011 World Conference on Disaster Management
 Metro Convention Center, Toronto, Canada

August 12-16, 2011

National Emergency Management Association Annual Conference, Marriott Des Moines, Des Moines, Iowa
www.nemaweb.org/?2068

August 23-26, 2011

4th Annual International Association of Seismology and Physics of the Earth's Interior (IASPEI) International Symposium: Effects of Surface Geology on Seismic Motion, University of California, Santa Barbara, California

September 19-24, 2011

Association of Environmental & Engineering Geologists 54th Annual Meeting, Hilton Anchorage, Anchorage, Alaska
www.aegweb.org/files/public/2011_Annual_Meeting_Brochure.pdf

September 21-24, 2011

Structural Engineers Association of California 2011 Annual Convention
 JW Marriott, Las Vegas Resort & Spa, Las Vegas, Nevada
<http://seaoc.org/>

October 9-12, 2011

Geological Society of America Annual Meeting & Exposition
 Minneapolis, Minnesota
www.geosociety.org/meetings/2011/index.htm

November 12-17, 2011

International Association of Emergency Management Annual Conference and EMEX 2011
 Rio All-Suites Hotel, Las Vegas, Nevada
www.iaem.com/events/annual/intro.htm

November 13-17, 2010

International Association of Emergency Managers 59th Annual Conference & EMEX 2011, Rio All-Suites Hotel, Las Vegas, Nevada

2012**March 2012**

National Emergency Management Association Mid Year Conference, Hilton Alexandria Mark Center, Alexandria, VA

April 9-11, 2012

Partners in Emergency Preparedness Annual Conference

April 23-27, 2012

National Earthquake Conference, Memphis Marriott Downtown, Memphis, Tennessee

Request for Newsletter Submissions

If you have a newsworthy item for the next eNewsletter, please forward it to Amy Lewis, Program Manager at: alewis@wsspc.org