



E-Newsletter Fall 2010 Edition September 29, 2010

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WSSPC HEADLINE NEWS

DEADLINES!

The **Friday, October 15, 2010** deadline for **2011 WSSPC Awards in Excellence Nominations, 2010 State Agency Earthquake Program Reports**, and any proposed comments and revisions to the **2011 Draft WSSPC Policy Recommendations** is quickly approaching! Please be sure to have all relevant materials to the WSSPC office on or before **October 15**.

For more information on the WSSPC Awards in Excellence Program, and to download a 2010 WSSPC Awards in Excellence nomination form, visit <http://wsspc.org/awards/nominations.shtml>.

Last year's State Agency Earthquake Program Reports are posted to the WSSPC website at <http://wsspc.org/resources/state.shtml>.

To review the 2011 Draft WSSPC Policy Recommendations, visit <http://wsspc.org/policy/drafts.shtml>.

WSSPC Earthquake Early Warning Session Presentation Videos Posted

Presentations from the Saturday, July 10, 2010 WSSPC Earthquake Early Warning Session have been posted to the WSSPC website. You will need Adobe Flash to view these videos, which is available as a free download at the Adobe site. Depending on your browser, you may have the ability to download these videos directly from our website. Please feel free to do so, but note that these are very large files that may take a while to download. For a brief description of the session, visit <http://wsspc.org/Events/2010ac/EEW.pdf>. The presentations can be accessed at the WSSPC homepage, or by clicking on the presentation links in italics below.

*Introduction by Dr. James Goltz and
Presentation by Dr. David Applegate*

Presentation by Dr. Dennis Mileti

Presentation by David Zocchetti, J.D.

Presentation by Dr. Yukio Fujinawa

Closing Remarks



Dr. James Goltz, Earthquake and Tsunami Program Manager, California Emergency Management Agency



Left to Right: David Zocchetti, J.D., Chief Counsel and Director of Legislative Affairs, California Emergency Management Agency; Dr. Dennis Mileti, Former Director, Natural Hazards Center and Professor of Sociology (Emeritus), University of Colorado, Boulder; Dr. David Applegate, Senior Advisor for Earthquakes and Geologic Hazards, U.S. Geological Survey



Dr. Yukio Fujinawa, Senior Managing Director, Real-Time Earthquake Information Consortium, Japan

WSSPC NEWS

WSSPC Member News

Vicki McConnell and Lee Allison 2010 Recipients of AASG Presidential Awards

WSSPC Board Member Vicki McConnell, Oregon State Geologist, Oregon Department of Geology and Mineral Industries, and Lee Allison, State Geologist and Director of the Arizona Geological Survey were awarded 2010 Association of American State Geologists (AASG) Presidential Awards. The awards were announced and presented at the AASG Annual Meeting to recognize extraordinary service to the objectives of AASG by active members of the AASG community, during the preceding year.

Jon Price to Receive 2010 GSA Public Service Award

Jon Price, past WSSPC Board Chair, Nevada State Geologist, and Director of the Nevada Bureau of Mines and Geology, will be presented the 2010 Geological Society of America (GSA) Public Service Award at the GSA Annual Meeting in Denver, Colorado October 30, 2010. The award, established in 1998 in honor of Eugene and Carolyn Shoemaker, is given each year to recognize contributions that enhance the public understanding of earth sciences or serve decision makers in applying earth-science information to public affairs and policy.

“As state geologist in earthquake-prone Nevada, as a leader in the Western States Seismic Policy Council, and through his roles on federal committees, he has helped plant the seeds of a sustainable system of public guidance, warning and mitigation in order to reduce loss of life and property from the impact of natural hazards,” said Jeffrey Rubin, emergency manager with Tualatin Valley Fire & Rescue of Oregon.

For the full write-up, visit www.unr.edu/news/templates/details.aspx?articleid=5503&zoneid=14

Changes in Membership

Maiclaire Bolton has left her position with the British Columbia Provincial Emergency Program and is now working with RMS in San Francisco. Kelli Kryzanowski, Manager, Integrated Planning, will be the interim WSSPC Representative for BC Provincial Emergency Program until Maiclaire’s position is filled.

Carrie Chitty has left her position at the Wyoming Office of Homeland Security as All-Hazards Analyst and has taken another position with the State of

Wyoming. Mr. Kim Johnson, Emergency Preparedness Specialist, will be the interim WSSPC Representative for Wyoming OHS until the All-Hazards Analyst position is filled.

Ron Ridgway has left his position with the Arizona Division of Emergency Management. Anthony Cox of the Hazard Assessment Unit replaces him as WSSPC Representative.

July 2010 WSSPC Meetings Summaries

Basin and Range Province Committee Meeting

The Basin and Range Province (BRP) Committee held their 2010 meeting on July 9 at the Omni Interlocken Resort in Broomfield, Colorado.

The Committee reaffirmed the need for a future Rural Earthquake Summit, which it hopes to hold by the end of 2012.

In response to WSSPC Policy Recommendation (PR) 07-3 *Post-Earthquake Technical Clearinghouse* (readopted July 9, 2010 by the WSSPC Board as Policy Recommendation 10-3), the Utah Geological Survey (UGS) presented a draft proposal to the BRP Committee to develop a virtual post-earthquake technical clearinghouse template that can be loaded on a DVD and distributed to WSSPC members. Members can then upload the virtual clearinghouse to their servers where it will be available for quick response to future earthquakes in their jurisdictions. The template would provide a common format among WSSPC members making it easier for out-of-area earthquake responders to use the system. Currently, the UGS is looking into options for funding the necessary software upgrades to their template prior to releasing a draft version for BRP Committee’s review.

The next update of the U.S. Geological Survey National Seismic Hazard Maps is scheduled for 2013, and the USGS has approached the BRP Committee to determine its interest in organizing the third Basin and Range Province Seismic Hazard Summit (BRPSHS III). The purpose is to again evaluate the state-of-the-art in Basin and Range Province seismic-hazard studies/analyses and to surface BRP issues relevant to the 2013 upgrade of the National Seismic Hazard Maps. The Summit would be followed by a meeting of Basin and Range Province Earthquake Working Group II to consider those issues and provide recommendations to the USGS. The BRP Committee is anticipating BRPSHS III will be held May 2011 at the earliest.

WSSPC Engineering, Construction and Building Codes Committee Meeting

The WSSPC Engineering, Construction and Building Codes Committee met on Friday, July 9, 2010 at the Omni Interlocken Resort in Broomfield, Colorado.

The Committee unanimously supported WSSPC Policies 10-4, *Seismic Provisions in the 2009 International Building Code*, and 10-7, *Seismic Design of New Schools*, as recommendations to the WSSPC Board of Directors. WSSPC Policy 10-8, *Identification and Potential Mitigation of Seismically Vulnerable School Buildings*, was unanimously supported to go forward to the WSSPC Board.

A subcommittee was formed with Yumei Wang, Peter McDonough and Robert Anderson to create a draft Policy Recommendation on lifelines. Another subcommittee of Rob Jackson and Robert Anderson would continue to look at language to possibly refine further Policy Recommendations 10-7 and 10-8 with regard to new schools.

Vertical tsunami refuge structures were discussed in the context of both new structures and bolstering existing vertical structures in tsunami areas. The group is supportive of the concept of developing standards for the construction of vertical refuge structures, without mandating their use.

The group voiced general concern with the construction quality within the U.S., particularly those areas which do not adopt the International Building Code pursuant to WSSPC Policy 10-4, *Seismic Provisions in the 2009 International Building Code*, and counties and cities that are exempt from building codes by state law or self-ruling local jurisdiction. Possible incentives for code adoption were discussed.

WSSPC Tsunami Hazard Mitigation Committee Meeting

The WSSPC Tsunami Hazard Mitigation Committee met on Friday, July 9, 2010 at the Omni Interlocken Resort in Broomfield, Colorado. Committee members from Alaska, California, Hawaii, Oregon and Washington were in attendance. The Committee reviewed 2010 WSSPC Policy Recommendations 10-1 & 10-2, *Rapid Tsunami Identification and Evacuation Notification*. After much discussion, the group amended the Recommendation and approved the Recommendation as amended to be moved forward for approval by the WSSPC Board.

Each Committee member gave a brief summary of their state's current tsunami hazard mitigation projects, which included tsunami inundation mapping and modeling; updating public alert systems, signage, and evacuation

routes; emergency management training; and tsunami drills.

Tsunami mitigation and preparedness were generally the key topics of the meeting, with committee members emphasizing the need for community-specific tsunami education programs, alerts and signage. The group placed importance on mitigation and planning, but added the significance of post-tsunami planning, addressing issues such as preparations for the restoration of communication infrastructure, refugee housing, sanitation and drinking water.

The next WSSPC Tsunami Hazards Mitigation Committee meeting will be held at the 2011 WSSPC Annual Conference. Dates and location are to be determined.

July 2010 WSSPC Seismic Councils and Commissions Meeting

The Seismic Councils and Commissions Meeting was held Saturday, July 10, 2010 at the Omni Interlocken Resort in Broomfield, Colorado. The meeting was facilitated by John Aho of the Alaska Seismic Hazards Safety Commission, and attended by WSSPC Members from Alaska, California, Colorado, Guam, Hawaii, Nevada, Oregon, Utah and Washington. Attendees gave reports on the activities of their state's Seismic Commission or Council. Generally, the Councils/Commissions have been focused on policy, mitigation and preparedness, public outreach and education, and the seismic vulnerability of structures. The group expressed interest in increased communication and information flow amongst the Councils/Commissions, and is currently working on ways to make that happen.

Glen Pomeroy, CEO of California Earthquake Authority, gave a presentation on the importance of reinsurance to the earthquake insurance industry.

Community News

California Post-Earthquake Clearinghouse Group Meets

The California Post-Earthquake Clearinghouse met September 22, 2010 in Oakland at CalEMA's Coastal Region headquarters. Led by Anne Rosinski of the California Geological Survey, the purpose of the meeting was to reach out to groups which may have an interest in participating in a post-earthquake clearinghouse and to update everyone on the activities of the Overflight, Outreach and Education, and Information and Technology Committees. Fred Turner of the California Seismic Safety Commission discussed the operations of the clearinghouse for the M7.1 September 3, 2010 New Zealand earthquake and some of the lessons learned

from that experience. The Outreach and Education Committee produced a flyer intended to be used to educate groups on the purpose of the clearinghouse. It is posted on the WSSPC website at www.wsspc.org/resources/ClearinghouseFiles/2010EQClearinghouseflyer.pdf.

A link to the California clearinghouse website is accessible from the Clearinghouse page of the WSSPC website: www.wsspc.org/resources/clearinghouse.shtml.

\$1M to WA State College for Seismic Retrofits

From the FEMA website.

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) has obligated \$1,092,347 in Hazard Mitigation Grant Program (HMGP) funding to the state of Washington for seismic retrofitting of the Evergreen State College's Dormitory Residence Hall A.

The dormitory houses 173 students during the school year, as well as the college's Residential and Dining Services administration. During summer months, Resident Hall A is host to conference participants and summer programs.

According to FEMA Regional Administrator Ken Murphy, the seismic retrofit project will bring the facility up to current seismic code. "At ten stories, Residence Hall A is the tallest building on campus," said Murphy. "This seismic reinforcement will enhance occupant safety in the event of a moderate-to-strong earthquake."

"It's very satisfying when projects of this nature get funded," said Jim Mullen, director of the Washington Emergency Management Division (WEMD). "We are number two among the states in earthquake risk, and this work is one more step toward enhancing life safety for our citizens."

For the full press release, visit <http://www.fema.gov/news/newsrelease.fema?id=52626>

The Resilient Washington State Initiative

Stacy Bartoletti, President and Chief Operating Officer, Degenkolb Engineers, Resilient State Chair

John Schelling, Earthquake Program Manager, Washington State Emergency Management Division

In early 2010, the Washington State Seismic Safety Committee (SSC) initiated a project to study and prepare a policy paper with the purpose of providing a framework for improving Washington's resilience when damaging earthquakes occur. Such a framework includes identifying effective seismic mitigation policies and recommendations for legislation and policy changes to improve and enhance statewide seismic safe-

ty. The document will be used to facilitate long-term implementation of seismic risk reduction policies across the state with the goal of making the state truly resilient in a 50-year time frame.

To complete this ambitious effort, the SSC kicked off the project with a one-day workshop on September 17, 2010 at the University of Washington and brought together stakeholders from various federal, state, and local/tribal organizations as well as key leaders in private industry, finance and banking, structural engineering, geology, land use planning, and lifeline operators to name a few. Subcommittees will be established from the workshop participants and will help with the effort during the next 12 months. These key experts will evaluate the current condition of buildings & infrastructure in the state relative to earthquake resilience; develop targets for a desired level of performance; develop target timeframes for the restoration of services; prepare recommendations for statewide action to achieve desired targets and present those recommendations in a clear and concise document for decision makers.

The Resilient Washington State Initiative was inspired by a similar effort undertaken for the City of San Francisco by the San Francisco Planning and Urban Research Association (SPUR). The final SPUR documents for the Resilient City project in San Francisco can be found at www.spur.org/resilient_city. Unlike the SPUR document, the Resilient Washington State Initiative will be focused on statewide impacts.

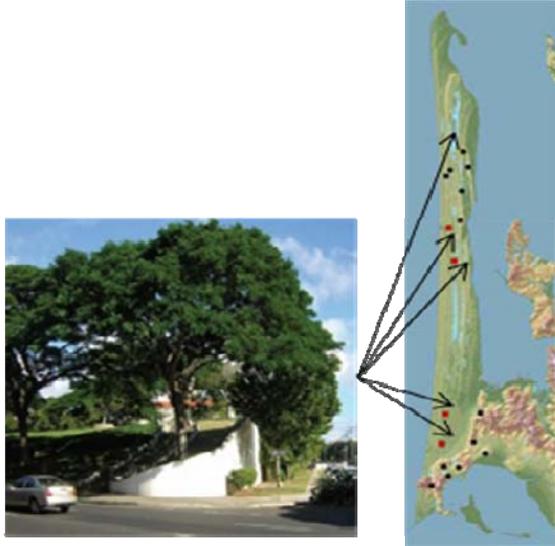
Resilient Washington State Initiative Team Members:

Stacy Bartoletti, Degenkolb Engineers (Chair); Dave Norman, Washington Department of Natural Resources; John Schelling, Washington State Emergency Management; Tim Walsh, Washington Department of Natural Resources; Tamra Biasco, Federal Emergency Management Agency; Scott Miles, Western Washington University



Tsunami Vertical Evacuation Strategy under Development along the Washington Coast

By Christopher Scott, Jeana Wisser, and John Schelling¹



When most of us think about tsunami evacuation, we envision those blue and white signs strategically placed along coastal roads, directing motorists to high ground. Those signs are a good method of informing people where to go in order to escape a tsunami and educating the public about the threat that we face along the coast. But what happens if the tsunami is the direct result of a local subduction zone earthquake that has damaged or blocked roadways to such an extent that evacuation on that route is impossible? What happens if high ground is too far away for people to get to on foot before the tsunami arrives? Over the past several months, it has been the job of students and faculty of the University of Washington, in cooperation with the Washington State Departments of Emergency Management and Natural Resources, Pacific County, the United States Geological Survey, and the National Oceanic and Atmospheric Administration, to develop strategies designed to address these types of questions. This effort is based on the principles outlined in the new FEMA Publication 646 *“Guidelines for Design of Structures for Vertical Evacuation from Tsunamis.”*

Working under a grant from the National Tsunami Hazard Mitigation Program, Robert Freitag of the University of Washington’s Hazard Mitigation Institute and Dr. Omar El-Anwar from the College of Built Environments have been leading a group of graduate students in developing vertical evacuation strategies for coastal areas of Pacific County. The project is aimed at developing viable, publically acceptable, and effective evacuation strategies through a strongly inclusive ‘bottom up’ approach to the public process. These strategies will then

allow the state and counties to be ahead of the curve in terms of public buy-in when funds become available to construct tsunami vertical evacuation safe havens. The project team and coastal residents are currently looking at three basic types of vertical evacuation structures, which include earthen berms similar to those seen in various locations in Japan, evacuation towers, and large public elevated buildings such as parking structures.

The modeled tsunami created by the scenario earthquake is assumed to reach the western shore of the Long Beach peninsula within 40 minutes after cessation of shaking. Although the modeling predicts a 40-minute window of time between cessation of ground shaking and the tsunami’s arrival, the project team is developing strategies using a window of 25 minutes. This duration was selected in order to allow time needed for post-event orientation and to increase the margin of safety. Additionally, the team utilized walking speed research by Dr. Harry Yeh of Oregon State University, which allowed the development of travel times representing distances that different age groups would likely be able to cover in the short timeframe.

In addition to the hazard model, a preliminary community profile is developed in order to begin understanding the demographics, urban form, and the strengths, weaknesses, opportunities, and threats stemming from the area’s human population and built environment. Once the preliminary profiles are created, a six-phased, public strategy process follows. To date, this process has been used in four at-risk communities along the Pacific County coast; Ilwaco, Long Beach, Ocean Park (and other areas of the north peninsula), and Tokeland. The results from all four communities are currently being compiled into a single document and will be presented during a countywide public meeting later this year. Following production of this report, the project will continue in Grays Harbor County and beyond over the next three years.

Throughout this entire project, feedback from the public has been overwhelmingly positive. Residents of the affected communities have been extraordinarily receptive to the concepts of vertical evacuation and each community meeting has been exceptionally productive. In fact, many residents expressed the feeling that this new evacuation strategy gave them a sense of hope; the feeling that there was something practical that they could do instead of just accepting the risk with a sense of despair. It is just this kind of public excitement and buy-in that makes great projects happen as well as helps save lives.

¹ Christopher Scott and Jeana Wisser are University of Washington Master of Urban Planning graduate students and were research assistants involved with this Tsunami Safe Haven Project. Other students include Amanda Engstfeld, Katherine Killebrew and Patricia Linn DeMarco. John Schelling is the Earthquake/Volcano/Tsunami Program Manager for the State of Washington Emergency Management Division.

NATIONAL and INTERNATIONAL NEWS

September is National Preparedness Month

From the FEMA website.

Federal Emergency Management Agency (FEMA) Administrator Craig Fugate kicked off the seventh annual National Preparedness Month on September 1, 2010, joining local Washington, D.C. officials and students from Ferebree-Hope Elementary School at the Serve DC Commander Ready event to talk about the importance of family and community emergency preparedness.

National Preparedness Month is led by FEMA's Ready Campaign in partnership with Citizen Corps and The Advertising Council, and is a nationwide effort encouraging individuals, families, businesses and communities to work together and take action to prepare for emergencies. National Preparedness Month is supported by a coalition of public, private and non-profit organizations that help spread the preparedness message.

For more information on the Ready Campaign and Citizen Corps, visit www.Ready.gov and www.CitizenCorps.gov. To read the full press release, visit www.fema.gov/news/newsrelease.fema?id=52558

FEMA Administrator Fugate Addresses National Commission on Children and Disasters

From the FEMA website.

Federal Emergency Management Agency (FEMA) Administrator Craig Fugate addressed the National Commission on Children and Disasters public meeting on August 23, 2010, on how FEMA is coordinating with state and local governments, as well as with the private sector and non-profit organizations, to integrate the needs of children in planning for disaster response and recovery.

"Children are a part of every community, but too often in the past they've been left out of emergency planning or thought of only after the initial plan has been written," said Fugate. "It's critical that emergency managers plan for the whole community, not just the easy part, and fully integrate children, the elderly, and people with disabilities into all planning and coordination efforts.

For the full press release, visit <http://www.fema.gov/news/newsrelease.fema?id=52432>

ECOSOC Event Briefing: Resilient Cities

From the UNISDR Website

The joint United Nations International Strategy for Disaster Reduction (UNISDR), UN Human Settlements Program (UN-HABITAT) and the International Federa-

tion of Red Cross (IFRC) side event on "Resilient Cities: Disaster Risk Reduction in an Urbanizing World" was held on the occasion of the 2010 UN Environmental and Social Council (ECOSOC) Humanitarian segment on July 13, 2010.

The event discussed current initiatives related to urban risk reduction, in particular in Port-au-Prince, Tijuana and Kathmandu. Eminent speakers from Haiti, Mexico and Nepal highlighted the importance of reducing risk in the urban context.

UN-HABITAT and IFRC are implementing the Risk Identification and Risk Mapping project in cities while UNISDR has just recently launched the global campaign on Resilient Cities, which is mobilizing both local and international actors to increase resilience of cities around the world. 57 cities, including District of North Vancouver, British Columbia, were signed up at the time of the event and another 70 are in the process of doing so.

For the full press release, visit <http://www.unisdr.org/news/v.php?id=14620>

USGS PAGER System Earthquake Alerts to Include Estimated Economic Loss and Casualty Information

Submitted by Dr. David Wald, U.S. Geological Survey, Golden, CO

Estimated economic loss and casualty information will now be included in earthquake alerts sent out by the U.S. Geological Survey (USGS) following significant earthquakes worldwide via the PAGER system. PAGER (Prompt Assessment of Global Earthquakes for Response) rapidly assesses earthquake impacts by estimating the shaking distribution, the number of people and settlements exposed to severe shaking, and now, with the latest release, provides estimates of the likely ranges of fatalities and economic losses.

Estimated losses trigger an appropriate color-coded alert which, based on past events, suggests a level of response: no response needed (green); local/regional (yellow), national (orange) or international (red). Earlier PAGER system exposure estimates have been widely used; now with alerts based on loss estimates they can be further utilized by emergency responders, government and aid officials, and the public to understand the scope of the potential disaster and to develop the best response. For domestic earthquakes, the USGS collaborated with FEMA using both past earthquakes and scenarios to ensure that these thresholds correspond to appropriate action levels.

PAGER results are generally available within 30 minutes of a significant earthquake, shortly after the location and magnitude of the event are determined. PAGER also provides important supplementary information, including comments describing the dominant

types of vulnerable buildings in the region, fatality reports from previous nearby earthquakes, and a summary of regionally-specific information concerning the potential for secondary hazards, such as earthquake-induced landslides, tsunami, and liquefaction.

Products of the PAGER system are available at <http://earthquake.usgs.gov/> as well as under the individual earthquake Web pages at that site under the “Maps” tab. For PAGER Facts Sheets see <http://pubs.usgs.gov/fs/2010/3036/> or contact David Wald (wald@usgs.gov) for hardcopies, or for more information on the system.

EARTHQUAKE & TSUNAMI NEWS

Earthquakes

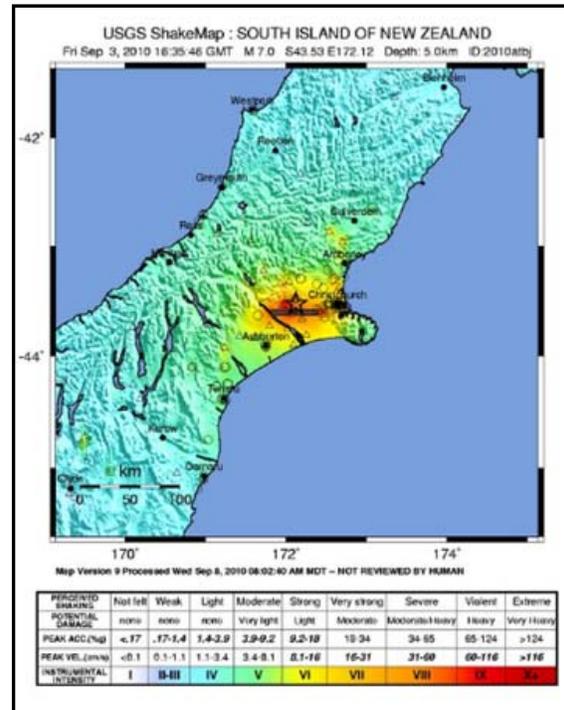
M7.0 New Zealand Earthquake

On September 3, 2010 a M7.0 earthquake struck South Island, New Zealand as a result of strike-slip faulting within the crust of the Pacific plate, near the eastern foothills of the Southern Alps at the western edge of the Canterbury Plains. The earthquake occurred approximately 50 km to the west-northwest of Christchurch, the largest population center in the region. Two people were seriously injured, and six bridges and multiple buildings were damaged in Christchurch. The earthquake, though removed from the plate boundary itself, likely reflects right-lateral motion on one of a number of regional faults related to the overall relative motion of these plates and may be related to the overall southern propagation of the Marlborough fault system in recent geologic time.

For US Geological Survey information on the quake, visit <http://earthquake.usgs.gov/earthquakes/recenteqsww/Quakes/us2010atbj.php#details>.

The Earthquake Engineering Research Institute has established a Clearinghouse for the New Zealand quake at <http://eqclearinghouse.org/20100903-christchurch/>.

Images of URM damage caused by the New Zealand quake are available at http://news.nationalgeographic.com/news/2010/09/photogalleries/100903-new-zealand-earthquake-christchurch-pictures/#/christchurch-new-zealand-earthquake-rubble_25583_600x450.jpg



USGS ShakeMap of the M7.0 New Zealand Earthquake

Codes Credited with Minimizing New Zealand Quake Damage

From the Engineering News Record website http://enr.ecnext.com/coms2/article_inen100908NZQuakeCodes

Seismic experts credit the development and enforcement of seismic provisions of national building codes with dramatically reducing the impact of the most damaging earthquake to hit New Zealand in nearly 70 years. The magnitude-7.1 temblor that struck Christchurch, the second- largest city, at 4:36 a.m. on Sept. 4 caused no significant damage to major buildings. Low-rise unreinforced masonry buildings, not engineered to resist quakes, sustained the most extensive damage. Water and sewer lines bedded in soft alluvium were stressed and pipe-joint displacement occurred, disrupting service. By nightfall, two-thirds of the city had water.

M6.9 Marianas Region Earthquake

A M6.9 Earthquake struck 230 miles west-south-west of Hagatna, Guam and 275 miles west-south-west of Rota, Northern Marianas Islands on Saturday, August 14, 2010 local time. For more information and maps of this event, visit the USGS website at <http://earthquake.usgs.gov/earthquakes/recenteqsww/Quakes/us2010zxcf.php#maps>

Earthquake activity in Teton County, Wyoming

A M3.3 earthquake occurred on August 7, 2010 in east-central Teton County, Wyoming. There were no immediate reports of injury or damage. According to information received by the Wyoming Geological Survey (WGS), the earthquake was near the Red Hills along the Gros Ventre River, in the same area as other recent earthquakes. Six earthquakes ranging from M2.5 to M4.8 took place in a four-day period beginning August 4.

The WSGS, in collaboration with the USGS, continues to monitor the seismicity of the area in real time through a temporary strong-motion accelerometer.

“A second accelerometer is being installed to gather more data. Data collected will provide scientists continued understanding of the local seismicity,” said WSGS Acting Director and State Geologist Wallace Ulrich.

For the full press release, visit

http://www.wsgs.uwyo.edu/NewsCenter/PressReleases/Aug9_2010.aspx

Videos from the EERI El Mayor Briefing

June 30, 2010 the Earthquake Engineering Research Institute's (EERI) new San Diego Chapter organized a Panel Discussion on the M7.2, El Mayor-Cucapah Earthquake. Six panelists who served as members of the EERI and Geo-engineering Extreme Events Reconnaissance (GEER) Association reconnaissance missions presented and discussed the geology, fault rupture and geotechnical aspects, and the effects of the earthquake on buildings, bridges, and water and waste water systems. Video of the briefing has been uploaded and is available for viewing at www.eeri.org/site/news/latest-news/936-videos-from-the-el-mayor-cucapah-earthquake-briefing-held-in-san-diego

Tonga Earthquake Revealed as Three Quakes

The September 29, 2009 M8.1 earthquake and resulting tsunami that killed 192 people last year in Samoa, American Samoa and Tonga was actually one of three large earthquakes.

The M8.1 quake concealed and triggered two major M7.8 quakes. "When we looked at the data, it turned out it wasn't just one great earthquake, but three large earthquakes that happened within two minutes of one another. The two quakes that were hidden were responsible for some of the damage and tsunami waves," said Keith Koper, director of the University of Utah Seismograph Stations.

It is the first known case of a large "normal" fault earthquake (the M8.1 quake) occurring on a sea-floor tectonic plate, then triggering major "thrust" quakes (the M7.8

quakes) in the "subduction zone" where the oceanic plate is diving or "subducting" beneath a continental plate of Earth's crust.

The National Science Foundation (NSF) and the U.S. Geological Survey funded the research, which was led by seismologist Thorne Lay of the University of California at Santa Cruz.

For the full write-up, visit

http://www.nsf.gov/news/news_summ.jsp?cntn_id=117514

Haiti Quake Reveals Previously Unknown Fault

By Sid Perkins, Web Edition, ScienceNews

Scientists have determined that the January 12, 2010 Haitian earthquake occurred on a previously unrecognized fault zone. The newly discovered, unnamed fault is informally known as the Léogane Fault, after one of the Haitian cities that sits directly atop it, study leader Eric Calais told *Science News*.

Just after the magnitude-7 temblor struck, scientists presumed that the epicenter of the quake was located on the well-known Enriquillo fault, says Calais, a geophysicist at Purdue University in West Lafayette, Indiana. In fact, Calais notes, he and his colleagues published a paper in 2008 suggesting that the Enriquillo fault, which runs east-west through a long valley south of Port-au-Prince, Haiti, was ripe for a M7.2 quake.

But data collected after the quake didn't jibe with the notion of an Enriquillo-spawned quake, Calais reported August 10 at a geophysics conference called the Meeting of the Americas. For one thing, the edges of that fault are vertical and the two sides slide past each other horizontally, but comparisons of space-based images taken before and after the quake revealed that the area north of the fault had been forced substantially upward, as well as southward, during the event. During a post-quake field survey along the coastline west of Port-au-Prince, scientists also found that formerly submerged corals died when the quake lifted them above the tides by as much as 60 centimeters.

“This is part of a whole system of faults that we hadn't recognized before,” Calais notes. The fault had escaped detection largely because Haiti has no network of seismometers, and the neighboring Dominican Republic has only a few such instruments.

For the full article, visit [www.sciencenews.org/view/generic/id/62027/title/](http://www.sciencenews.org/view/generic/id/62027/title/Haiti_quake_reveals_previously_unknown_fault)

[Haiti_quake_reveals_previously_unknown_fault](http://www.sciencenews.org/view/generic/id/62027/title/Haiti_quake_reveals_previously_unknown_fault)

Eric Calais explains these findings in a video featured on the AGU YouTube website at www.youtube.com/user/AGUvideos#p/u/6/HOT4AaczZnK

American Red Cross Haiti Update

This past July, the American Red Cross Haiti Assistance Program released *Six Months after the Earthquake, Building for the Future*, a report on the progress made and challenges ahead in their post-earthquake humanitarian efforts in Haiti, including providing food and shelter, health services, sanitation and drinking water, and disaster preparedness training. To view the report, visit

www.redcross.org/www-files/Documents/pdf/international/Haiti/HaitiEarthquake_SixMonthReport.pdf



Tsunamis

U.S. and Canada Agencies Sign Historic MOU

From the NGDC website.

The National Geophysical Data Center (NGDC), together with the National Oceanic and Atmospheric Administration's (NOAA) Pacific Marine Environmental Laboratory (PMEL), has signed an official Memorandum of Understanding with the Canadian Hydrographic Service (CHS) specifying the sharing of ocean depth data for use in the NOAA Tsunami Program in order to enhance tsunami forecast models and warnings issued by the West Coast Alaska Tsunami Warning Center. British Columbia will benefit directly from enhanced tsunami forecast models and warnings with the incorporation of these data. NGDC and PMEL may produce products from the Canadian data, provided the underlying data cannot be reverse engineered or extracted from the product. Products meeting these criteria and produced by NOAA will be in the public domain and may be freely used by others. This agreement also stipulates that NOAA and CHS will collaborate on related technical and research issues.

For more information, contact Lisa.A.Taylor@noaa.gov

RESEARCH, RESOURCES & PUBLICATIONS

WSSPC Member Research, Publications & Resources

Alaska

Alaska DGGs PIR 2010-1

The Alaska Department of Geological and Geophysical Surveys (DGGs) has released *Active and potentially active faults in or near the Alaska Highway corridor, Dot Lake to Tetlin Junction, Alaska: Preliminary Interpretive Report PIR 2010-1*. The scope of this project includes identification of active faults and characterization of seismic hazards. During the 2008 field season the active fault studies were focused on the central part of the corridor between Dot Lake and Tetlin Junction. Field studies included helicopter and fixed-wing air reconnaissance augmented by interpretation of stereo air photos, remotely sensed images, ground reconnaissance, and field mapping.

For more information and to order a copy of the report, visit www.dggs.dnr.state.ak.us/pubs/pubs?reqtype=citation&ID=21121

Arizona

Arizona State Map Summary: 1993-2010

The Arizona Geological Survey has released *Summary of STATEMAP Geologic Mapping Program in Arizona dating from 1993-2010*. The summary includes project titles, the fiscal year of the project, and federal and state funding amounts for each.

To view the summary, visit www.azgs.state.az.us/Resources/Arizona%20STATEMAP%20fact%20sheet%202010.pdf

Geologic and Natural History Tour

The Arizona Geological Survey and Nevada Bureau of Mines and Geology have released *A Geologic and Natural History Tour through Nevada and Arizona along U.S. Highway 93, with GPS coordinates*.

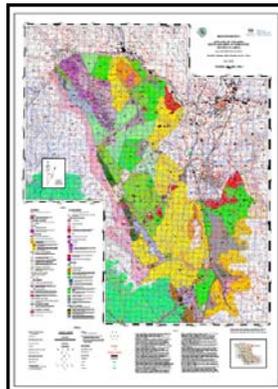
The 175-page book includes a 163-mile road log from Wickenburg, Arizona to the Nevada/Idaho border with GPS coordinates.

For information on how to order, visit http://www.azgs.state.az.us/images/ad_dte19.jpg

British Columbia

British Columbia Geoscience Map 2010-4

The British Columbia Geological Survey has released *Geoscience Map 2010-4: Geology of the Area South and West of Princeton, British Columbia*. The map area stretches from the Copper Mountain and Wolfe Creek area southwest to East Gate and the boundary of Manning Park and northwest to the Tulameen River.



For more information, and to download a copy of the map, visit

<http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/Maps/GeoscienceMaps/Pages/2010-4.aspx>

California

California Post-Earthquake Clearinghouse

California's Post-Earthquake Clearinghouse was established by Governor Reagan's Executive Order after the 1971 San Fernando earthquake. Its purpose is to provide disaster response managers and the scientific and engineering communities with prompt information on ground failures, structural damage, and other impacts from major earthquakes.

Meetings are held regularly and the Management Group maintains an Operations Plan posted on the clearinghouse website at:

www.eqclearinghouse.org/CA

A flyer describing the California Earthquake Clearinghouse in more detail is available here:

www.wsspc.org/resources/ClearinghouseFiles/2010EQClearinghouseflyer.pdf



Building Resiliency to Limit the Disaster: Hayward Fault Earthquake Initiative

The Northern California Chapter of the Earthquake Engineering Research Institute (EERI) Board of Directors has announced the completion of Phase 1 of the *Building Resiliency to Limit the Disaster: Hayward Fault Earthquake Initiative*. The purpose of the project is to involve key risk owners, including city governments, businesses and residents, in an evaluation of the consequences of a Hayward Fault earthquake and promote risk reduction by building resiliency.

Phase 1 of the project is a "Regional consequence evaluation of the forecasted Magnitude 7.0 Hayward fault earthquake," an effort also thought of as updating EERI's 1996 Hayward Fault Scenario document. This phase of the project includes technological advances in monitoring fault creep; continued identification and characterization of the Hayward fault; significant advancements in public safety including seismic improvement projects for BART, Caltrans, Port of Oakland, EBMUD, and the University of California; passage of SB1953 requiring that hospitals meet earthquake life safety performance levels by 2013 and full code by 2030; and progress on the strengthening of residential soft story buildings in many East Bay cities.

According to Phase 1 findings, more than \$250 billion in building damage, mostly to uninsured properties, is expected. While progress has been made since 1996 in the nine Bay Area counties, particularly at the public level, the region remains vulnerable to life safety and economic threats.

This 2010 update of the 1996 Hayward Fault Scenario will be web-based and available as a link from the **EERI** website at www.eeri.org. A supplemental Power-Point presentation will be available for use by EERI members.

Idaho

New Idaho Maps Released

The Idaho Geological Survey has developed National Earthquake Hazard Reduction Program (NEHRP) Site Class Maps and Liquefaction Susceptibility Maps for the Idaho Falls-Rexburg Area of Idaho.

To view the NEHRP Site Class maps, visit <http://129.101.67.129/DrawOnePage.asp?PageID=235>.

To view the Liquefaction Susceptibility Maps, visit <http://129.101.67.129/DrawOnePage.asp?PageID=236>.

Nevada

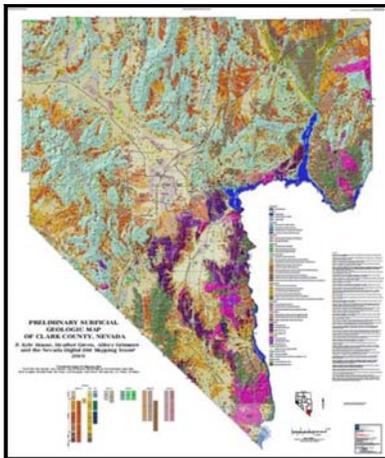
Preliminary Surficial Geologic Map of Clark County, Nevada

From the NBMG website.

The Nevada Bureau of Mines and Geology (NBMG) has released OF10-7 – Preliminary Surficial Geologic Map of Clark County, Nevada. This map is the only county-wide surficial geologic map with more than a few units ever to be produced by NBMG (it covers 20,000 sq. km).

Since this open-file report was released on July 13, 2010, the following features have been added to both the paper map and the online version: cities, towns, highway numbers, Township and Range, and UTM grids.

For more information and to purchase the map, visit <http://nbgm.posterous.com/new-at-nbgm-of10-7-preliminary-surficial-geol>



Utah

Utah Report of Investigation 269

The Utah Geological Survey has released Report of Investigation 269, Technical Reports for 2002-2009 Geologic Hazards Program. This document was compiled by Ashley H. Elliott, and presents the Geologic Hazards Program's 63 Technical Reports completed from 2002 to 2009. The reports are grouped into two categories, geologic-hazard reports and reviews of geologic/geotechnical reports. Each report identifies the author(s) and requesting agency.

Minor editing has been performed for clarity and conformity, but no attempt has been made to upgrade the original graphics.

To download the report, visit <http://geology.utah.gov/online/ri/ri-269.pdf>

Other Research, Publications & Resources

New Info on San Andreas Earthquake Risk

By Rong-Gong Lin II, Los Angeles Times

After several years of field studies in the Carrizo Plain area, about 100 miles northwest of Los Angeles, researchers have found that earthquakes along the San Andreas Fault have occurred far more often than previously believed.

To reach the new conclusion, scientists dug trenches deep into the Carrizo Plain. They used carbon dating and LiDAR to find signs of earth movements. They were able to detect earthquakes dating back to the 15th century, creating a far more complete record than had previously been known.

The finding adds weight to the view of many seismologists that the San Andreas has been in a quiet period and that a major rupture is possible.

The study was conducted by scientists at UC Irvine and Arizona State University.

For the full article, visit

<http://articles.latimes.com/2010/aug/21/local/la-me-earthquake-fault-20100821/2>

New View of Tectonic Plates

From the California Institute of Technology Website

Computational scientists and geophysicists at the University of Texas at Austin and the California Institute of Technology (Caltech) have developed new computer algorithms that for the first time allow for the simultaneous modeling of the earth's mantle flow, large-scale tectonic plate motions, and the behavior of individual fault zones, to produce an unprecedented view of plate tectonics and the forces that drive it.

With the new algorithms, the scientists were able to simulate global mantle flow and how it manifests as plate tectonics and the motion of individual faults.

One surprising result from the model relates to the energy released from plates in earthquake zones. "It had been thought that the majority of energy associated with plate tectonics is released when plates bend, but it turns out that's much less important than previously thought. Instead, we found that much of the energy dissipation occurs in the earth's deep interior. We never saw this when we looked on smaller scales," says Michael Gurnis, the John E. and Hazel S. Smits Professor of Geophysics, director of the Caltech Seismological Laboratory.

For the full press release, visit

http://media.caltech.edu/press_releases/13375

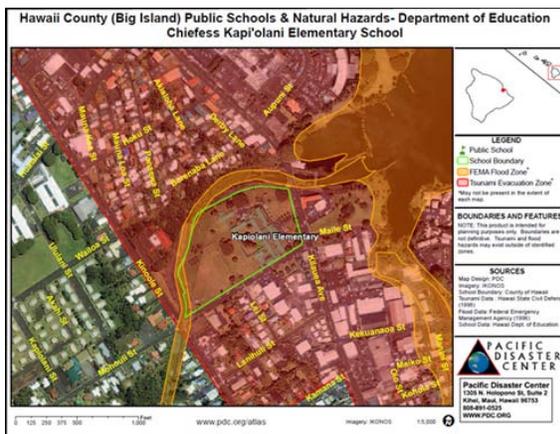
NEES 2010-2014 Strategic Plan

The George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) has released its 2010-2014 Strategic Plan, which is available at http://nees.org/site/announcements/strategic_plan_2010-2014.pdf

PDC Mapping Hawaii Schools

On August 16, 2010, the Pacific Disaster Center (PDC) delivered 247 individual maps covering 295 schools to the Hawaii Department of Education (DOE), each of them depicting the natural hazard environment of a single school site (sometimes more than one school). The maps were provided in a digital format for incorporation into school emergency planning documents. Earlier, PDC also produced and distributed large-scale, poster-size maps of the state's four counties showing all the schools in relation to both natural hazards and emergency services, including police stations, fire stations and medical facilities.

To read the full write-up, visit <http://www.pdc.org/PDCNewsWebArticles/2010/DOE/maps.htm>.



Inundation Maps at Kaua'i County Website

The County of Kaua'i has made tsunami inundation maps available on their homepage. Also available on their homepage is Tsunami Zone Map Viewer, which allows visitors to plug in their address or choose a point of interest, then redirects to the Tsunami Hazard Map at the NOAA site, indicating the location entered in relation to the inundation area.

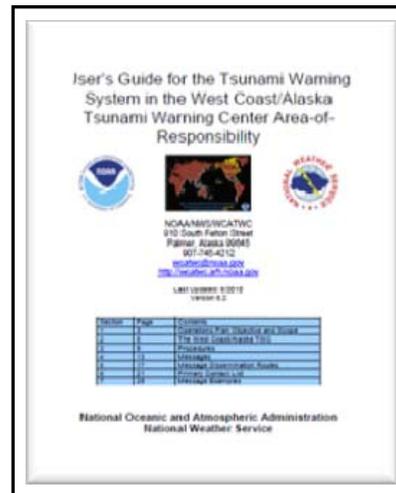
To view these resources, visit www.kauai.gov/Government/Departments/CivilDefenseAgency/tabid/90/Default.aspx

WCATWC Tsunami Warning System Users Guide

From the User's Guide

The purpose of the Operations Plan for the West Coast/Alaska Tsunami Warning Center (WCATWC) is to provide warning recipients in the area-of-responsibility (AOR = Canadian coastal regions, Puerto Rico and the Virgin Islands, and the ocean coasts of all U.S. states except Hawaii) a document which summarizes the tsunami warning system, tsunami warning and informational messages, and message dissemination throughout the AOR.

To download a copy of this document, visit <http://wcatwc.arh.noaa.gov/ops/opsmanual.pdf>.



Marin Tsunami Video

The Marin County Office of Emergency Services and the U.S. Geological Survey have produced "Marin Tsunami," an informative video that emphasizes the tsunami threat to Marin County, California, and highlights what several West Marin communities are doing to prepare.

To view the video, visit <http://vimeo.com/7480713>

ABAG Hazard Mitigation Plan Updates

The Association of Bay Area Governments has posted 2010 updates to its Local Hazard Mitigation Plan (LHMP) at <http://quake.abag.ca.gov/mitigation/>. The updated LHMP has been submitted to the California Emergency Management Agency (CalEMA) and FEMA for review.

AGI GeoRef Database

The American Geological Institute (AGI) has just released GeoRef Preview Database. This database is comprised of references to recent geoscience publications. The Preview data is in process for inclusion in GeoRef,

where it will be stored once it has been indexed and edited. New references are added to the Preview Database and edited references are moved into GeoRef every weekend.

For more information, and free access to the GeoRef Preview Database, visit <http://www.agiweb.org/georef/onlinedb/preview.html>

Hazard Mitigation: Integrating Best Practices into Planning

Author: James C. Schwab
Publisher: APA Planning Advisory Service, 2010
ISBN 978-1-932364-84-2

The American Planning Association's new Planning Advisory Service report, *Hazard Mitigation: Integrating Best Practices into Planning*, identifies how communities become more resilient and safer from the impacts of natural and manmade disasters.

The report emphasizes integrating hazard planning into comprehensive and other local plans; coordinating hazard planning efforts with various stakeholders such as emergency managers, planners elected and appointed officials and public works employees, increasing community resiliency to reduce its vulnerability to disasters; and using planning implementation tools to achieve hazard mitigation goals.

The report also highlights disaster mitigation and hazard planning best practices from six localities around the country, including Roseville and Berkeley, California, and Morgan County, Utah.

For more information and to order your copy, visit <http://www.planning.org/apastore/Search/Default.aspx?p=4068>

PERI Resource Catalog

The Public Entity Risk Institute (PERI) has released the 2010 edition of the PERI Resource Catalog, a compilation of reports, publications, manuals, and online resources that have been developed by PERI and other organizations. The Catalog is available at www.riskinstitute.org/peri/images/file/ResourceCatalog2010.pdf.

Tsunami Symposium Materials

Session materials from the June 8, 2010 Tsunami Symposium in Sidney, British Columbia are now available. The symposium had three primary objectives: to bring experts and key stakeholder groups together to build relationships, share knowledge and encourage long term thinking about coastal public warning and emergency communication systems; to identify strengths and weaknesses of current and 'next-generation' emergency communication options; and, to improve applications of

these systems through generating a series of new pilot projects.

The symposium included 35 participants representing a broad cross-section of the tsunami warning community-of-interest within British Columbia, Washington, Oregon and Alaska. Invitees include representatives from rural and remote communities and regional districts, First Nations, provincial, state and federal programs, industry and public health.

To download the materials, visit <http://www.sfu.ca/tsunami/?q=node/16>

Understanding Risk Forum Videos

A forum on "Understanding Risk: Innovation in Disaster Risk Assessment" was held at The World Bank, June 1-6, 2010, in Washington, D.C., sponsored by the Global Facility for Disaster Reduction and Recovery and the Knowledge Strategy Group, in partnership with the Global Earthquake Model and the United Nations International Strategy for Disaster Reduction.

The forum addressed the issues of defining, measuring, and managing risk, and explored best practices in areas ranging from open source risk modeling to community-based risk assessments. New approaches were emphasized, focusing on technological developments and the benefits of inclusive partnerships.

For more information on the Forum, visit page 6 of the August edition of the EERI newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Aug10.pdf

To view videos of the presentations, visit <http://community.understandrisk.org/page/presentations-1>

SEAOC Guidelines for Owners

The Structural Engineers Association of California (SEAOC) has developed guidelines that encourage commercial building owners to take preventive steps to avert possible damage to their structures from a major earthquake in their area.

According to SEAOC's president, Bill Warren, "By following some simple steps in these guidelines, California commercial building owners will help minimize damage to their buildings -- and economic losses to tenants' businesses -- when a significant quake occurs in their region."

For more information, and to download the Guidelines, visit www.seaoc.org/pdfs/general/2010EarthquakePR.pdf

CONFERENCES, WORKSHOPS AND EVENTS

FLASH Annual Meeting

Dates: October 6-8, 2010

Location: Orlando, Florida

The Federal Alliance for Home Safety (FLASH) will be holding its Annual Meeting “Where Safety and Sustainability Meet” October 6-8, 2010 at the Hilton Orlando Bonnet Creek in Orlando, Florida. Dr. Sandra K. Knight, Deputy Federal Insurance and Mitigation Administrator for Mitigation at the Federal Emergency Management Agency will speak Friday, October 8, 2010 at the closing session. Dr. Knight brings a fresh perspective on disaster mitigation and how green energy and safety can integrate for the ultimate in sustainable structures. For more information, visit www.flash.org.

International Day for Disaster Reduction

Date: October 13, 2010

Locations: Various

The International Day for Disaster Reduction is October 13, 2010. The United Nations International Strategy for Disaster Reduction (UNISDR) Making Cities Resilient campaign encourages all partners, National Platforms for Disaster Reduction and cities to use the International Day for Disaster Reduction to raise awareness on how to build resilience to disasters, and to publicize how your community, town, city or province is advancing in getting ready. Please send your plans for the International Day for Disaster Reduction to isdrcampaign@un.org. UNISDR will post your plans and experience reports on the website.

For more information on the Making Cities Resilient campaign, visit www.unisdr.org/english/campaigns/campaign2010-2011/

Great California ShakeOut

Date: October 21, 2010

Location: California

The Great California ShakeOut is a day of special events featuring the largest earthquake drill ever, organized to inspire Californians to get ready for big earthquakes, and to prevent disasters from becoming catastrophes. What we do now, before a big earthquake, will determine what our lives will be like afterwards. The ShakeOut drill will occur in houses, businesses, and public spaces alike throughout California at 10:21 a.m. on October 21, 2010.

Free registration at www.ShakeOut.org/register will pledge an individual's or group's participation in this

important preparedness event. Participants will receive information on how to prepare for the inevitable major earthquake in the region and what actions to take during and after the shaking.

Nevada will join California for the Nevada ShakeOut on October 21, 2010. British Columbia and Oregon will hold ShakeOut drills January 26, 2011. In April, 2011, the Central United States will launch its Great Central US ShakeOut, and in 2012 Utah will also launch ShakeOut drills. For more information, visit www.ShakeOut.org.

EERI-FEMA 547 Seminars

Date: October 28, 2010 Location: San Francisco, California

Date: October 29, 2010 Location: Los Angeles, California

Date: November 4, 2010 Location: Seattle, Washington

Date: November 5, 2010 Location: Salt Lake City, Utah

The new EERI-FEMA technical seminar series on FEMA 547, *Techniques for the Seismic Rehabilitation of Existing Buildings*, will provide an overview and examples of practical and effective seismic rehabilitation techniques as well as guidance on commonly used techniques for mitigating specific seismic deficiencies on a range of model building types. Seminar presenters are EERI members and the lead authors of FEMA 547, published in 2006: Bill Holmes (Rutherford & Chekene), Bret Lizundia (Rutherford and Chekene), Jim Malley (Degenkolb Engineers) and Kelly Cobeen (Wiss Janney Elstner).

For registration information and location details, see page 2 of the September edition of the EERI newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Sept10.pdf.

2010 IBHS Annual Conference

Dates: November 16-17, 2010

Location: Tampa, Florida

“FORTIFIED Nation: Strong Structures, Strong Communities” will be held November 16-17, 2010 at the Renaissance International Plaza Hotel in Tampa, Florida. This year, the Institute for Business and Home Safety (IBHS) is pleased to bring its members a comprehensive conference agenda tailored around member inquiries regarding retrofitting for community resilience, how to achieve success in building code development, commercial resilience and the new IBHS Research Center opening in October.

For registration information and to view the tentative agenda, visit <http://disastersafety.org/conference/>

SSA Now Accepting Session Proposals for 2011

The Seismological Society of America is now accepting session proposals for the 2011 SSA meeting in Memphis, Tennessee, April 13-15, 2011.

2011 marks the start of the bicentennial of the remarkable New Madrid earthquakes of 1811-1812 and the arrival of the Transportable Array element of EarthScope's USArray in the region. One focus of the meeting will be the seismotectonics and hazards found in continental interiors with regional emphasis on cratonic North America. Topics of interest may include the stress state of intraplate regions, large scale lithospheric structure from active and passive source experiments, geodetic models for earthquake genesis and glacial rebound, paleoseismicity studies in intraplate source zones, urban earthquake hazards, issues related to siting nuclear or other critical facilities, and emergency management issues associated with intraplate earthquakes. The meeting will also commemorate the bicentennial of the New Madrid earthquakes. Sessions that explore these earthquakes and related issues are particularly encouraged.

Sessions are encouraged from across the broad fields of earthquake science, geotechnical and earthquake engineering and seismology.

SSA strongly encourages the seismological community at large to help make this an extraordinary SSA meeting by organizing sessions related to these topics or to other cutting-edge research, methodology, and technology developments in seismology.

The deadline for session proposal submission is **October 1, 2010**. For full information see: <http://www.seismosoc.org/meetings/2011/specialsessions.php>

EERI 2011 Annual Meeting Call for Poster Abstracts

Dates: February 9-12, 2011
Location: La Jolla, California

The 2011 EERI Annual Meeting will address the extent and effects of earthquakes on the built environment with an emphasis on cross-border issues. In addition to dealing with international EERI involvement and promoting international collaboration, the meeting will discuss reducing the gap between research and practice and will stimulate discussions of current issues in the practice of earthquake engineering. The meeting will be held

February 9-12, 2011 at the Hyatt Regency La Jolla, just north of San Diego, California.

Individuals interested in participating in one of the 2011 Annual Meeting poster sessions are invited to e-mail abstracts, not exceeding two pages in length, to the organizing committee by **December 1, 2010**, in care of Juliane Lane, juliane@eeri.org. Presenters will be noti-

fied in early January of acceptance. Please note, abstracts must be submitted in final form.

For more information on the conference, and detailed instructions on submitting a poster abstract, see the September 2010 edition of the EERI newsletter at www.eeri.org/site/images/eeri_newsletter/2010_pdf/Sept10.pdf.



2012 National Earthquake Conference Planning

Dates: April 23-27, 2012

Location: Memphis, Tennessee

Planning is well underway for the 2012 National Earthquake Conference April 23-27, 2012 at the Memphis Marriott Downtown in Memphis, Tennessee. The Central U.S. Earthquake Consortium (CUSEC) is leading the Steering Committee composed of the Executive Directors of CUSEC, Northeast States Emergency Consortium (NESEC), Cascadia Region Earthquake Workgroup (CREW), Earthquake Engineering Research Institute (EERI), WSSPC, and representatives from the International Code Council (ICC), FEMA and the USGS. The theme for the conference is: *Historic Earthquakes: Learning from the Past to Protect the Future*. Dates and hotel information and future program progress will be posted on the conference website at www.earthquakeconference.org as it becomes available.

Mark Your Calendar!!

2010

October 1-31, 2010

Idaho Earthquake Preparedness Month

October 4-5, 2010

USGS Workshop on the Applications of Precarious Rocks and Related Fragile Geological Features to US National Hazard Maps, University of Nevada, Reno

October 6-8, 2010

Federal Alliance for Safe Homes Annual Conference, Hilton Orlando Bonnet Creek in Orlando, Florida
www.flash.org

October 8-9, 2010

George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) and Pacific Earthquake Engineering Research Center (PEER) Joint Annual Conference: Quake Summit 2010, San Francisco Marriott Union Square, San Francisco, California
<http://quakesummit2010.org/>

October 13, 2010

United Nations International Strategy for Disaster Reduction
International Day for Disaster Reduction

October 17-21, 2010

National Emergency Management Association Annual Conference, Peabody Hotel Little Rock, Little Rock, Arkansas
<http://www.nemaweb.org/?2068>

October 21, 2010

California ShakeOut, California State-wide Event
www.shakeout.org/

October 21, 2010

Nevada ShakeOut, Nevada State-wide Event
www.shakeout.org/nevada/

October 23, 2010

Applied Technology Council Meeting, New York, New York

October 28, 2010

EERI-FEMA Technical Seminar on FEMA 547, Sir Francis Drake Hotel, San Francisco, California

October 29, 2010

EERI-FEMA Technical Seminar on FEMA 547, Los Angeles Airport Marriott Hotel, Los Angeles, California

October 30-November 4, 2010

International Association of Emergency Managers 58th Annual Conference & EMEX 2010, Hilton Palacio del Rio & Henry B. Gonzalez Convention Center, San Antonio, Texas
<http://www.iaem.com/events/annual/intro.htm>

October 31-November 3, 2010

Geological Society of America Annual Meeting, Hyatt Regency Denver at Colorado Convention Center, Denver, Colorado
<http://www.geosociety.org/meetings/2010/index.htm>

November 2, 2010

Association of American State Geologists Mid-Year Meeting, Hyatt Regency Denver at Colorado Convention Center, Mineral Hall C, Denver, Colorado

November 4, 2010

EERI-FEMA Technical Seminar on FEMA 547, Red Lion Hotel, Seattle, Washington

November 5, 2010

EERI-FEMA Technical Seminar on FEMA 547, Hilton Salt Lake City Center, Salt Lake City, Utah

November 9-10, 2010

NEHRP Advisory Committee on Earthquake Hazards Reduction Meeting, Fishbowl Room, University of Memphis, FedEx Institute of Technology

November 16-17, 2010

Institute for Business and Home Safety Annual Conference, Renaissance International Plaza Hotel, Tampa, Florida
<http://disastersafety.org/conference>

November 17, 2010

WSSPC Board of Directors Meeting, Sacramento, California

November 17, 2010

Nevada Earthquake Safety Council Meeting, Las Vegas, Nevada

December 9, 2010

California Seismic Safety Commission Meeting, Sacramento, California

December 13-17, 2010

American Geophysical Union Fall Meeting, Moscone Convention Center, San Francisco, California
www.agu.org/meetings/fm10/

2011**TBD**

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

January 26, 2011

British Columbia, Canada ShakeOut
www.shakeout.org/bc

January 26, 2011

Oregon ShakeOut
www.shakeout.org/oregon

February 1, 2011

New Madrid Bicentennial Kick-Off
<http://newmadrid2011.org/>

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

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 2011 (TBD)

National Earthquake Program Managers Meeting, Boise, Idaho, David Jackson, Coordinator
djackson@bhs.idaho.gov

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

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 Phys-
ics 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](http://www.aegweb.org/files/public/2011_Annual_Meeting_Brochure.pdf)

October 9-12, 2011

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

November 13-17, 2010

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

2012

TBD

Association of American State Geologists Annual Meeting,
Texas

March 2012

**National Emergency Management Association Mid Year Con-
ference,** 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

November 4-7, 2012

Geological Society of America Annual Meeting, Charlotte,
North Carolina
www.stategeologists.org/upcoming_meetings.php?id=39

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