



We develop seismic policies and share information to promote programs intended to reduce earthquake related losses.



A non-profit earthquake consortium for the western states

Spring 2020 e-Newsletter

Western States Seismic Policy Council

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In This Issue

WSSPC News 1-4
Mitigation 5-6
Resilience and Recovery 6
Research 7-9
Publications 10
People 10

WSSPC NEWS

WSSPC COVID-19 Update

Based state and federal recommendations and guidance, the WSSPC Office at 801 K Street, Sacramento, CA is temporarily closed. Work continues remotely. Should you need to reach WSSPC please use the **mwall@wsspc.org** email address. The office phone number is also set up to forward calls. Regular work hours will be maintained.

Let's all take care of ourselves and others. Please be well.

- **WSSPC 2021 Polices up for review have been provided the assigned committees.** The public view of the drafts are on our WSSPC website at: <https://www.wsspc.org/public-policy/2020-wsspc-draft-policy-recommendations/> . We ask that the committees finish their first review before September 30, 2020 so they can be collated and provided to the WSSPC Board of Directors prior to the Fall Board Meeting.
- **The WSSPC 2020 Policy Recommendation Implementation Survey responses have been received.** We received responses from 11 of our 18 states and territory members. Responses are being collated and will be publish on our website this month.
- **The 2020 FALL WSSPC Board meeting will be held in Salt Lake City, UT.** This is pending current conditions returning to “near normal.” Specific dates and location are to be determined and will be provided at a later time.
- **WSSPC Social Media Outreach** is increasing. If we haven't “followed” your organization in either Twitter or Facebook, please let us know. We also ask that you follow us. Let's support each other in getting our messages out. If you have a targeted audience you want to reach or a message you wish to get out, please let us know.
- **WSSPC and CUSEC are partnering up.** There's been a lot of interest by our member states in some of the tools the Central US Earthquake Consortia has been developing, specifically their Regional Information Sharing Platform (RISP) and building safety assessment survey tool. At the Spring Board Meeting the WSSPC Board voted in favor of WSSPC and CUSEC completing a Memorandum of Agreement targeting the sharing of resources with the intent to provide these tools to member states participating in the Wasatch 2021 and Cascadia Rising 2022 exercises.

Upcoming Meetings and Conference!

(Note—Based on current conditions and social distancing requirements, WSSPC will not be posting in-person meetings unless we are relatively certain they will be happening.)

February 7 through 10, 2021: San Fernando Earthquake Conference – 50 years of Lifeline Engineering (Lifelines2021), focusing on “Understanding, Improving & Operationalizing Hazard Resilience for Lifeline Systems.” Location to be at University of California, Los Angeles, California USA. For more information see: https://samueli.ucla.edu/lifelines2021/?utm_campaign=ird-20200325-CFA-Extended-Deadline&utm_medium=email&utm_source=Eloqua

Date—TBD: 2021 National Earthquake Program Manager meeting. Location TBD.

Thank You 2020 WSSPC Affiliate Members

WSSPC welcomes all members of the professional community who share the common goal of reducing losses from earthquakes.

Government

City of Las Vegas Building and Safety
Clark County Building and Fire Prevention

Non-Profit

Applied Technology Council
California Earthquake Authority

Remember, It's Never Too Late to Join WSSPC as an Affiliate Member

Your benefits will include:

- Recognition of your support with a link on the WSSPC website to your organization
- The opportunity to participate on WSSPC Committees and provide input to policy recommendations
- Quarterly E-Newsletters and Monthly Bulletins
- Opportunities to exhibit and sponsor activities in coordination with any WSSPC events

Thanks one last time to our 2019 Affiliate Members! Your support of WSSPC is very much appreciated.

There are so many ways to stay connected!

Online- www.wsspc.org
Twitter- [@WSSPC](https://twitter.com/WSSPC)
Facebook- www.facebook.com/WSSPC

NEWS

The WSSPC 2020 National Award in Excellence winner for Mitigation is the Coastal Hospital Resilience Project implemented by the Oregon Health Authority (OHA), Public Health Division, Health Security Preparedness and Response (HSPR) , Office of the Governor

Project premise: Recognizing that hospitals provide critical services in their communities every day and are especially needed to provide medical services after major disasters. This project addressed the issue that hospitals are not prepared to provide medical services after a major Cascadia earthquake and accompanying tsunami.

The key focus activities for this this project were to:

- 1) assess the level of disaster preparedness of all eleven hospitals located along Oregon's coast,
- 2) elevate the awareness of the importance to prepare for a magnitude 9 Cascadia earthquake and accompanying tsunami to coastal hospital leadership, and
- 3) provide technical assistance to coastal hospitals on resilience planning so hospitals will be able to be locally self-sufficient for 3 weeks to provide post-disaster medical services.

In completing the project, OHA:

- 1) assessed the preparedness levels of 11 coastal hospitals and determined that they are prepared for typical winter storms but

not prepared for a Cascadia earthquake and tsunami. This publication summarizes the assessment findings: *Oregon Coastal Hospitals Preparing for Cascadia, DOGAMI report O-18-03*, http://www.oregongeology.org/pubs/ofr/O-18-03_report.pdf

2) elevated to hospital leadership the importance of preparing for Cascadia earthquakes and tsunamis. This publication summarizes the first event that gathered leadership from the 11 coastal hospitals: *Summary report on the Oregon Coastal Hospital Special Leadership Event, DOGAMI Report O-19-01*, <https://www.oregongeology.org/pubs/ofr/p-O-19-01.htm>, and includes six hospital resilience planning maps. Results from an earthquake risk analyses was shared with hospital leadership as a means to describe the need for coastal hospitals to be self-sufficient for 3 weeks: *Pilot study on hospitals, water systems, transportation and interdependencies, DOGAMI report O-17-01*, www.oregongeology.org/pubs/ofr/O-17-01.pdf

3) provided technical assistance, including individualized on-site support to each of the eleven hospitals. This publication, developed with the support from the Cascadia Region Earthquake Workgroup (CREW), includes guidance specifically developed for the coastal hospitals: *Resilience guidance for Oregon hospitals, DOGAMI Report O-19-02*, www.oregongeology.org/pubs/ofr/p-O-19-02.htm.

Congratulations!

**WSSPC 2020 National Award
Winner for Outreach is the Alaska
Native Geoscience Learning
Experience (ANGLE)
Administered by Alaska Pacific
University, University of Alaska
Anchorage, and Central
Washington University**

Project Premise: The ANGLE project is to “improve geohazard resiliency in Alaska.” with an overarching goal to help build stronger Alaskan communities that can more effectively prepare for, survive, and recover from disasters by forming an action-oriented learning community.

The project implementation components included but were not limited to:

- Providing professional development workshops for a diverse range of educators, and providing geoscience learning opportunities directly to students that participate in the Alaska Native Science and Engineering Program (ANSEP) middle school academies.
- Involving a broad range of stakeholders in the initial design process (more than 15 organizations wrote letters of collaboration on the grant),
- Developing/curating a collection of 30 teaching resources related to earthquakes, tsunamis, and volcanoes. It has drawn on a variety of resources from previous projects including Teachers on the Leading Edge,

Cascadia EarthScope
Earthquake and Tsunami Education
Program, IRIS, UNAVCO, USGS
(including the ShakeAlert Project),
AND modified or developed new
teaching resources as needed to suit
Alaska geology and constituents.

- Submitted all the collected resources to the National Association of Geoscience Teachers (NAGT), for review through the NAGT peer review process. The resources are the backbone of the educational programming for other ANGLE activities. (see: https://serc.carleton.edu/ANGLE/educational_materials/index.html)
- ANGLE holds a Share-A-Thon; a 1-day event in which previous participants become the presenters as they showcase the activities they have undertaken with their learners and communities.
- Working with some of the most vulnerable populations through the ANSEP academies to address a unique challenge found in rural Alaskan communities

Note—Even after ANGLE’s current funding is over, the resources will continue to be used by the Anchorage School District and thus has direct impact on the science curriculum for more than half the state’s students.

Congratulations!

The WSSPC Award for Leadership was given to Peter McDonough, PE of the Utah State Seismic Commission and former Chair of the WSSPC Board of Directors

Congratulations!

The Great Utah ShakeOut is this Month

The 2020 Utah ShakeOut Day is on April 16, 2020. For more information see:

<https://www.shakeout.org/utah/>

Map Your Neighborhood

Much recent work has gone into the “Map Your Neighborhood” efforts wherein community/social network connections are emphasized and strengthened in an effort to increase local resiliency and individuals’ capacity to care for themselves during an event.

One effort in Utah has gone on-line in support of portions of Slat Lake City, UT. The organization defines its neighborhood in both physical and communication definitions. More information can be found at: <https://utahresiliencemap.org/>

Nevada Resilience Advisory Committee Report for 2019 Annual Report^{continued}

The *State of Nevada Resilience Advisory Committee Annual Report 2019* has been published and is available on-line. From the report, “One significant piece of activity from the Committee’s work this past year resulted in a set of seismic risk recommendations for the state. During a series of meetings, Dr. Craig dePolo, Research Geologist within the University of Nevada, Reno, Nevada Bureau of Mines and Geology, guided the members through discussions about Nevada’s earthquake risk, history, and mitigation efforts. A compilation of recommendations from the discussions were approved at the January 2020 Committee meeting. The final seismic risk recommendations report is included as an addendum to this report for reference and consideration.”

The report can be located at: [https://dem.nv.gov/uploadedFiles/demnv.gov/content/DEM/NRAC%20annual%20report%202019\(1\).pdf](https://dem.nv.gov/uploadedFiles/demnv.gov/content/DEM/NRAC%20annual%20report%202019(1).pdf).

RESILIENCE AND RECOVERY

An Oregon Legislative Proposal to increase Social and Infrastructure Resilience

Oregon proposes Senate Bill 1537 recommending a \$12.7 million investment to build infrastructure, improve citizen awareness and education, and work to ensure that more Oregon families are supplied for an eventual Cascadia subduction earthquake and other large-scale natural disasters.

Four key points within the bill are:

- **Two-Week Readiness:** Educational and outreach efforts to take steps towards ensuring Oregonians are prepared with a two-week supply of non-perishable food and water after a natural disaster, as well as identifying staging bases in communities across Oregon to distribute critical resources.
- **Earthquake Early Warning System:** An earthquake early warning system, also known as ShakeAlert, will give Oregonians precious seconds in the event of an earthquake. Oregon is the only state on the west coast without the system.
- **Dam Safety:** Conduct safety assessments on high-risk dams to prioritize critical seismic investments and upgrades.
- **Update the Oregon Resilience Plan and Coastal Plan:** Updating the plan

will strengthen coordination and response with state, local, tribal, and underserved communities. The current plan is over a decade old.

The Senate Bill text can be found at: <https://olis.oregonlegislature.gov/liz/2020R1/Downloads/MeasureDocument/SB1537>

Gov. Kate Brown's testimony to the Oregon Senate Committee on General Government and Emergency Preparedness in support of the bill can be found at: <https://drive.google.com/file/d/1ufjdL4DDnLckHnrcp5nvPs0AzrHtO9Vt/view>

Business Continuity Planning Resources

COVID-19 has required most, if not all of us, all to review and implement our respective Business Continuity or Continuity of Operation Plan (COOP). There are **free resources** to share with private and non-profit partners.

Specifically:

- FEMA *Emergency Preparedness Resources for Businesses* at: <https://www.fema.gov/media-library/resources/-documents/collections/357>
- Ready.gov's *Business Continuity Planning Suite* at: <https://www.ready.gov/business-continuity-planning-suite>

RESEARCH

Seismometers Within Cities: A Tool to Connect Earth Sciences and Society

(From the introduction) “The high degree of human activities in urban environments results in a large level of background vibrations that often mask the arrival of seismic waves originated by earthquakes. Therefore, classical seismology, based on the identification of such waves, is difficult to achieve in urban environments. Most of the seismic recordings within cities are focused on refining the hazard maps used for risk assessment, typically using techniques as the microtremor horizontal to vertical spectral ratio to obtain the characteristic frequency of each site and hence characterize the subsoil. With the emergence of monitoring techniques based on the interpretation of the vibrations recorded in absence of earthquakes (Campillo and Paul, 2003), often referred as ambient noise, seismic records in noisy environments as cities have gained scientific interest, although the applicability of these methods in urban areas remains an open question.”

Article located at: <https://www.frontiersin.org/articles/10.3389/feart.2020.00009/full>

Urban Seismology in Megacities: the Los Angeles BASIN Experiment

(From the article) “The Basin Amplification Seismic INvestigation (BASIN) project was started in 2017. It is a multicomponent earthquake hazard project between LSU, Caltech, Harvard, Cal Poly Pomona and SDSU that focuses on characterizing the amplification of seismic waves as they travel through sedimentary basins. Our goal is to first map the structure of the basins in the Los Angeles area, and to integrate the basins’ structure into computer simulations of ground motion. As part of the BASIN project, we have deployed 744 nodal seismometers along 10 densely-spaced seismic profiles in the greater Los Angeles area. Our deployment teams were comprised of ~60 volunteers. I will present project results, and practical information on our seismic experiment and the community involvement of Los Angeles area residents.”

Article and video by Dr. Patricia Persaud from Louisiana State University is located at: <https://insidehpc.com/2020/03/urban-seismology-in-megacities-the-los-angeles-basin-experiment/>

EERI Releases Updated White Paper on Functional Recovery

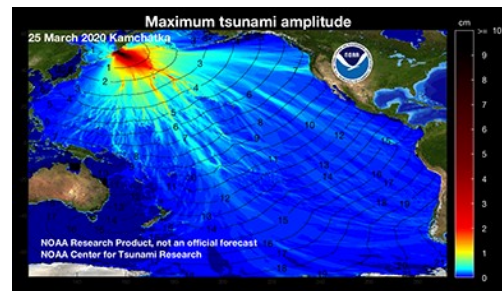
On December 9, 2019, EERI released an updated white paper on functional recovery superseding the July 24, 2019 white paper. The article can be found at: <https://www.eeri.org/2019/12/eeri-releases-updated-functional-recovery-white-paper/>

Key change was the addition of a second part which explores options for legislatures and government agencies at the federal, state, and local level to develop and/or implement functional recovery policies. From the article, “The paper will inform a new NIST-FEMA working group mandated by recent national legislation and others considering new functional recovery standards and practices.”

Within the paper there’s discussion specific to: “interdependencies between at least five physical systems that comprise the built environment” and “four sets of linked but largely independent issues” for each building and/or infrastructure system. The updated white paper is available at: <https://www.eeri.org/wp-content/uploads/EERI-Functional-Recovery-Conceptual-Framework-White-Paper-201912.pdf>.

Kuril Islands Tsunami, March 25, 2020

From the NOAA Center for Tsunami Research Main Event Page: “The graphics display preliminary modeling analysis, showing qualitative and quantitative information about the tsunami, including tsunami wave interaction with ocean floor bathymetric features, and neighboring coastlines.”



Page located at: <https://nctr.pmel.noaa.gov/kuril20200325/>

Propagation animation can be found at: <https://www.youtube.com/watch?v=CvOUZt-XmBU&feature=youtu.be>

PUBLICATIONS

(In the works) **Disaster Recovery Guide for Planning Practitioners**

- “APA is developing a post-disaster recovery guidebook for local planners, in partnership with Texas A&M University. The project builds on the seminal Planning Advisory Service (PAS) report, [*Planning for Post-Disaster Recovery: Next Generation*](#).”

(source: <https://www.planning.org/nationalcenters/hazards/recoveryguide/>)

(In the works) **Building Coastal Resilience Through Infrastructure Planning.**

Primary goals for the project are to:

- Identify and develop tools, techniques, and guidance documents that can be used by practitioners involved in the capital improvement process.
- Improve and enhance community capacity to incorporate data, research, and information related to coastal hazards and extreme weather into capital improvement planning.
- Implement resilience and adaptation measures in coastal infrastructure and public buildings.
- Understand and quantify the costs associated with the replacement, protection, or improvement of public buildings and infrastructure when coastal hazards and extreme weather are taken into account.

(source: <https://www.planning.org/research/coastalresilience/>)

3D Geologic Framework for Use with the U.S. Geological Survey National Crustal Model, Phase 1—Western United States

- The USGS framework is presented to improve seismic hazard assessment
- “The framework is based on 1:250,000 to 1:1,000,000-scale state geologic maps and depths of multiple subsurface unit boundaries. The geology at or near the Earth’s surface is based on published maps with modifications to remove discontinuities across state borders.”

(source: <https://pubs.er.usgs.gov/publication/ofr20191081>)

PEOPLE AND TRANSITIONS

Arrivals:

- If you are aware of any new people or people changing positions, please let WSSPC know. Thank you

Departures:

- **Lara Brodetsky** left WSSPC in November 2020.