

2026 Northern California Earthquake Hazards Workshop

February 10 – February 12, 2026

USGS, virtual from Moffett Field, California

Pacific Standard Time (UTC-8)

Day 1, Tuesday, February 10

9:30-9:45 a.m. **Welcoming Remarks**

Christine Goulet, Earthquake Science Center Director (USGS)

Sarah Minson, Northern California Earthquake Hazards Program Coordinator (USGS)

John Grindle, Workshop Format (Grin Events)

9:45 a.m.-12:15 p.m. **I went to the reading of the will and all I got was this stress field: the effects of inheritance on seismic hazard**

Speakers [15 min each]:

Gene Humphreys (University of Oregon) *The tectonic history of California and how it lives on today*

Bob McPherson (Cal Poly Humboldt) *Intraplate Gorda earthquakes along inherited weak zones*

Kevin Furlong (Penn State) *Deciphering Crustal Structure in Northern California - Active Processes and Earthquake Implications*

David Shelly (USGS) *Low-Frequency Earthquakes Track the Motion of a Captured Slab Fragment at the Mendocino Triple Junction*

Discussion: 20 min

7th Inning Stretch: 5 min

Josie Nevitt (USGS) *Earthquake rupture arrest due to lithologically inherited depth-dependent frictional stability*

Michele Cooke (University of Massachusetts) *The impact of pre-existing weaknesses on strike-slip fault evolution: rupture maps from the 2019 Ridgecrest earthquake inspire scaled-physical experiments*

Zach Smith (UC Berkeley) *How Mechanical Anisotropy Shapes Fault System Evolution and Seismic Hazards over Multiple Earthquake Cycles*

Discussion: 20 min

Moderators: **Belle Philibosian** (USGS), **Alba Rodriguez Padilla** (Utah State University)

12:15-1:15 p.m. **Break**

1:15-2:15 p.m. **Thunder Talks I** [3 min each]

Moderator: **Grace Parker** (USGS)

Aparna Raman (Texas Tech University), **Andrea Donnellan** (Purdue University), **Roger Bilham** (University of Colorado), **Stephen DeLong** (USGS), **Christie Rowe** (UNR), **Emil Ma** (The College Preparatory School), **Catherine Hanagan** (USGS), **Belle Philibosian** (USGS), **Tyler Ladinsky** (CGS), **Patrick Williams** (SDSU), **Danielle Madugo** (CGS), **Charles Trexler** (USGS), **Dana Marino** (UNR), **Chelsea Scott** (ASU)

2:15-2:30 p.m. **Break**

2:30-4:00 p.m. **Before, during, and after the earthquake: the latest in retrofits, loss modeling, and recovery**

Speakers [15 min each]:

David Bonowitz (David Bonowitz, S.E.) *An update on the state of seismic retrofit programs in the Bay Area*

John W. van de Lindt (Colorado State University) *Understanding the True Costs of Earthquakes to Vulnerable Communities using IN-CORE*

Selim Gunay (University of California, Berkeley) *Quantifying System Level Earthquake Early Warning Benefits Using UCERF3 Rupture Scenarios*

Ryan Kersting (Buehler) *Development of NEHRP functional recovery provisions (to support community resilience)*

Discussion: 30 min

Moderators: **Alan Poulos** (USGS), **Sharyl Rabinovici** (Sharyl Rabinovici Consulting)

4:00 p.m. **Adjourn day 1**

Day 2, Wednesday, February 11

9:30-10:30 a.m. **Thunder Talks II** [3 min each]

Welcome to the U.S. Geological Survey. We serve the Nation by providing reliable scientific information. The USGS strives to provide a diverse, inclusive, and respectful environment because it is essential to the integrity of our organization and our science. If anything fails to exemplify these ideals, please alert an organizer for immediate assistance.

Moderator: **Grace Parker** (USGS)

Susan Hough (USGS), **Thomas Lee** (University of Hawai'i at Hilo), **Fabia Terra** (UC Berkeley), **Anushka Rajasekhar** (UC Berkeley), **Tara Nye** (USGS), **Ken Hudson** (Hudson Geotechnics), **Mitchell Craig** (Cal State East Bay), **Rufus Catchings** (USGS), **Chukwuebuka C. Nweke** (USC), **Andrew Michael** (USGS), **David Shelly** (USGS), **Andrea Llenos** (USGS), **Jay Tung** (Texas Tech University), **Ole Kaven** (USGS), **Rob Skoumal** (USGS), **Theresa Sawi** (USGS)

10:30-10:45 a.m. **Break**

10:45-11:30 a.m. **What's happening? – News and events in northern California earthquake research**

Speakers [5 min each]:

Sara McBride (SSC) *California Seismic Safety Commission update*

Ayse Hortacsu (ATC) / **Robb Moss** (EERI) *EERI Learning From Earthquakes update*

Harold Tobin (UW) *CRESCENT update*

Ahmed Elbanna (SCEC) *SCEC update*

Albert Kottke / **Chris Madugo** (PG&E) *PG&E update*

Jill Franks (USGS) *External awards update*

Discussion: 15 min

Moderator: **Anne Wein** (USGS)

11:30 a.m.-12:30 p.m. **Break**

12:30-1:30 p.m. **Thunder Talks III** [3 min each]

Moderator: **Grace Parker** (USGS)

Sara Beth Cebry (USGS), **Julian Lozos** (Cal State Northridge), **Elizabeth Madden** (SJSU), **Evan Marschall** (SIO UCSD), **Jessica Hawthorne** (University of Oxford), **Kelian Dascher-Cousineau** (Utah State University), **Binhao Wang** (USC), **John Rundle** (UC Davis), **Vera Schulte-Pelkum** (University of Colorado Boulder), **Brandon Shuck** (Louisiana State University), **Clara Yoon** (USGS), **Vicki Langenheim** (USGS), **Jared Peacock** (USGS), **Taka'aki Taira** (UC Berkeley), **Travis Alongi** (USGS), **Volkan Sevilgen** (Temblor)

1:30-1:45 p.m. **Break**

1:45-3:30 p.m. **Surf's up: tsunamis in San Francisco Bay and the West Coast**

Speakers [15 min each]:

Nathan Wood (USGS) *National assessment of population exposure, evacuation potential, and average annualized losses in the U.S. to earthquake-generated tsunami threats*

Summer Ohlendorf (NTWC) *A Look Inside NOAA Tsunami Event Response*

Angel Ruiz-Angulo (University of Iceland) *SWOT Satellite Altimetry Observations and Source Model for the Tsunami from the 2025 M8.8 Kamchatka Earthquake*

Pat Lynett (USC) *Observations of the 2025 Kamchatka Tsunami in California*

Jay Patton (CGS) *Tsunami Hazards of the San Francisco Bay Area*

Discussion: 30 min

Moderators: **SeanPaul La Selle** (USGS), **Stephanie Ross** (USGS)

3:30-3:45 p.m. **Break**

3:45-5:00 p.m. **That which was is already done, and that which is destined to be, already was: models of rupture recurrence**

Speakers [15 min each]:

Mike Oskin (UC Davis) *Earthquake-cycle modality revealed by paleoseismic inter-event time distributions*

Leah Salditch (Guy Carpenter) *Modelling Long-Term Fault Memory*

Luca Dal Zilio (Earth Observatory of Singapore) *Rupture across fault stepovers: What physics-based models tell us about seismic hazard*

Discussion: 30 min

Moderators: **Kelian Dascher-Cousineau** (Utah State University), **Morgan Page** (USGS)

5:00 p.m. **Adjourn day 2**

Day 3, Thursday, February 12

9:30-10:30 a.m. **Doing it for ourselves: community-led disaster preparedness and recovery**

Speakers [15 min each]:

Serra Rea (California Foundation for Independent Living Centers) *Disability on Shaky Ground: Peer-Led Disability Community Emergency Preparedness*

Daniel Homsey (DGH Consulting) *Now more than ever, we need community*

Daniel Aldrich (Northeastern University) *A City of Two Tales: Examining Organizational Networks in Disaster-Affected Communities*

Discussion: 15 min

Moderators: **Dana Brechwald** (San Francisco Bay Conservation & Development Commission),
Alessandra Jerolleman (Loyola New Orleans College of Law)

10:30-10:45 a.m. **Break**

10:45 a.m.-12:15 p.m. **Every Sunday it brooded and lay on the floor, inconveniently close to the drawing-room door: Alquist-Priolo zones and inconvenient fault locations**

Speakers [15 min each]:

Austin Elliott (Geologist at large) *New evidence of creep on the urban Concord fault*

Robert Sickler (USGS) *Seismic imaging of range front faults, on the San Francisco Peninsula, in the city of San Carlos*

Judy Zachariasen (CGS) *How are faults added to and removed from the Quaternary Fault Database and Alquist-Priolo Zones?*

Danielle Mieler (City of Alameda) *Addressing sea level rise and liquefaction in areas of bay fill*

Discussion: 30 min

Moderators: **Tim Dawson** (CGS), **Keith Knudsen** (USGS)

12:15-1:15 p.m. **Break**

1:15-2:00 p.m. **Thunder Talks IV** [3 min each]

Moderator: **Grace Parker** (USGS)

Danielle Lindsay (Earth Sciences New Zealand), **Greg Crawford** (Ontario Tech University), **Don Hoirup** (CA DWR), **Elizabeth Grant** (CA DWR), **Andreas Plesch** (Harvard University), **Scott Marshall** (Appalachian State University), **Evan Reis** (Safehub), **Michael Barall** (USGS), **Dave Croker** (USGS)

2:00-2:15 p.m. **Break**

2:15-3:45 p.m. **Who's there? An earthquake?: a roundtable discussion on communicating about earthquakes**

Speakers: **Brian Hackney** (CBS5/KPIX), **Jack Lee** (San Francisco Chronicle), **Paul Rogers** (San Jose Mercury News), **Steven Sobieszczyk** (Department of the Interior), **Ross Stein** (Temblor), **Monika Stoeffl** (California Resiliency Alliance)

Total time: 90 min

Moderators: **Max Schneider** (USGS), **Mark Benthien** (SCEC)

3:45 p.m. **Concluding Remarks**

4:00 p.m. **Adjourn**

Thunder Talks I

Aparna Raman (Texas Tech University) *InSAR Observations of Surface Deformation at the Geysers*

Andrea Donnellan (Purdue University) *Applying Topography and Deformation to Understanding Northern California Earthquakes*

Roger Bilham (University of Colorado) *Triggered slip: Insights from the Hayward and Anatolian faults*

Stephen DeLong (USGS) *Update on Status of Fault Creep Monitoring using the Alignment Array Network in Northern California*

Christie Rowe (UNR) *Upcoming SCEC Workshop on Fault Creep / Alignment Arrays (nor-central CA)*

Emil Ma (The College Preparatory School) *Variations in Background Creep Rates Before and After Creep Events on the San Andreas Fault*

Catherine Hanagan (USGS) *Updated High-Resolution Displacements Along the Creeping Central San Andreas Fault from Repeat LiDAR*

Belle Philibosian (USGS) *Expression of the creeping San Andreas Fault at the Topo Creek site*

Tyler Ladinsky (CGS) *Paleoseismic Data of the San Gregorio Fault from Pillar Point Bluff, Preliminary Observations and Implications*

Patrick Williams (SDSU) *Update of North Hayward - Rodger's Creek Full Rupture Evidence from San Pablo Creek*

Danielle Madugo (CGS) *Preliminary A-P mapping of the Concord Fault*

Charles Trexler (USGS) *Paleoseismic Investigation of Quaternary Faulting in the southwest Montezuma Hills, Sacramento – San Joaquin Delta*

Dana Marino (UNR) *Walker Lane Seismic Hazard in the Reno-Sparks Urban Area*

Chelsea Scott (ASU) *How Well Do Mapped Tectonic Faults Predict the Location of Surface Rupture in the Next Earthquake?*

Thunder Talks II

Susan Hough (USGS) *Did They Feel It? Legacy macroseismic data illuminates the 1957 Daly City Earthquake*

Thomas Lee (University of Hawai'i at Hilo) *Legacy Data Reanalysis: the 1957 San Francisco Earthquake*

Fabia Terra (UC Berkeley) *ShakeMap Comparisons of Multiple Agencies in NorCal*

Anushka Rajasekhar (UC Berkeley) *Understanding the Mendocino Fracture Zone: Evaluating Ground Motion Variability over the Last Two Decades*

Tara Nye (USGS) *Observations and Implications of Attenuation in the San Francisco Bay Area*

Ken Hudson (Hudson Geotechnics) *Ground Motion Path and Site Response Bias in the Santa Barbara Region*

Mitchell Craig (Cal State East Bay) *Near Surface S-wave Velocity Measurement and Site Classification at 46 Sites in the East Bay and Delta*

Rufus Catchings (USGS) *Variations in Ground Shaking Near the Hayward Fault*

Chukwuebuka C. Nweke (USC) *Validating Physics-Based Earthquake Simulations Using Observed Response Metrics*

Andrew Michael (USGS) *seismicat: an R Package for Seismicity Catalog Analysis*

David Shelly (USGS) *Fault Structure and Migration of the 2025 San Ramon Swarm*

Andrea Llenos (USGS) *It's Always Swarmy in San Ramon: How Regional Swarms Can Inform Earthquake Forecasts*

Jay Tung (Texas Tech University) *Potential Poroelastic Coupling Between the Geysers Geothermal Production and Seismicity/Creep Distribution over the Maacama Fault and Northern Rodgers Creek Fault*

Ole Kaven (USGS) *Diffuse seismicity at the Geysers Geothermal Field following the 2014 M6 Napa earthquake*

Rob Skoumal (USGS) *Improving Focal Mechanisms with S/P Amplitude Ratios from Distributed Acoustic Sensing*

Theresa Sawi (USGS) *Beamforming Out-Of-Network Earthquakes with Small DAS Arrays*

Thunder Talks III

Sara Beth Cebry (USGS) *Transient Strain and Electrical Conductivity due to Fault Formation in Laboratory Stepovers*

Julian Lozos (Cal State Northridge) *Where and When Does Aseismic Creep Stop Rupture Propagation? Twice as Many Simulations as Last Year!*

Elizabeth Madden (SJSU) *Numerical Modeling of Long Term Slip and Short Term Rupture Dynamics on Bay Area Faults*

Evan Marschall (SIO UCSD) *Utilizing the RSQSim Long-term Earthquake Simulator to Generate a Synthetic Earthquake Catalog for the Eastern California Bay Area*

Jessica Hawthorne (University of Oxford) *Simplifying Rupture Models: Towards Physics-Based Earthquake Forecasting*
Kelian Dascher-Cousineau (Utah State University) *Waiting Time Paradox and the Recurrence of Earthquakes*
Binhao Wang (USC) *Quasi-Periodic Repeating Earthquakes May Follow Normal Cubic Scaling Law as Regular Earthquakes*
John Rundle (UC Davis) *Calendar Time Local Earthquake Forecasts: A DIY Method*
Vera Schulte-Pelkum (University of Colorado Boulder) *Imaging of Detachment Faults and Deep Shear under Northern California*
Brandon Shuck (Louisiana State University) *Megathrust Structure of the Southern Cascadia Subduction Zone Revealed by Reprocessed Legacy Active-Source Seismic Data*
Clara Yoon (USGS) *Fault Geometry from 12 Years of Relocated Earthquakes (2013-2025) Near Lake Almanor, Northern California, Reveals a Connection at Depth Between Two Mapped Surface Faults*
Vicki Langenheim (USGS) *Setting of the December 2025 Susanville earthquakes*
Jared Peacock (USGS) *Geophysical Imaging of the Maacama and Bartlett Springs Fault Systems in Relation to the Clear Lake Volcanic Field*
Taka'aki Taira (UC Berkeley) *A Dense Nodal Seismic Experiment Across the Livermore Valley, California*
Travis Alongi (USGS) *Measuring Fault Zone Complexity at Depth*
Volkan Sevilgen (Temblor) *Temblor's alternative view of earthquake occurrence in the Western US*

Thunder Talks IV

Danielle Lindsay (Earth Sciences New Zealand) *Slow-Moving Landslide Triggering Following 2022 Ferndale Earthquake*
Greg Crawford (Ontario Tech University) *Kamchatka 2025 Tsunami Water Levels and Currents Observed at Crescent City and Humboldt Bay, California*
Don Hoirup (CA DWR) *The CA State Water Project - Seismic Program Update*
Elizabeth Grant (CA DWR) *Tracking Faults Around Urban Dams and Their Appurtenant Structures: Del Valle Dam, Livermore, CA*
Andreas Plesch (Harvard University) *SCEC CFM updates*
Scott Marshall (Appalachian State University) *The SCEC Community Velocity Model Explorer*
Evan Reis (Safehub) *Complementing USGS Earthquake Mapping with Networks of Widely Distributed Wireless Sensors*
Michael Barall (USGS) *The Event-Sequence Product*
Dave Croker (USGS) *Gauging Interest in Parkfield*