RICH D. KOEHLER, Ph.D., P.G.
Professor, Associate Director
Nevada Bureau of Mines and Geology
Mackay School of Earth Science and Engineering
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CUMMULATIVE RESUME

EDUCATION

University of Nevada Reno, NV, Ph.D. 2009
Humboldt State University, Humboldt, CA: *M.S*., Environmental Systems (Geology), 1997
University of California, Santa Cruz, CA: *B.A.,* Earth Science, 1992

DISSERTATION

Late Pleistocene regional extension rate derived from earthquake geology of late Quaternary faults across Great Basin, Nevada between 38.5^{0} and 40^{0}N latitude, University of Nevada Reno, Reno, Nevada, 242 p. (committee: S.G. Wesnousky, J.G. Anderson, C. Kreemer, T. Bullard, R. Siddharthan).

MASTERS THESIS

Terrace formation, drainage adjustment, and tectonic geomorphology of the Van Duzen/North Fork Eel Rivers headwater region, northern California, Humboldt State University, CA. (committee: Gary Carver, Harvey Kelsey, Bud Burke).

PROFESSIONAL EXPERIENCE

Director of the Center for Neotectonic Studies, 2025-date
University of Nevada, Reno, Mackay School of Earth Sciences and Engineering, and Nevada Bureau of Mines and Geology, Assistant Professor, 2015-2020, Associate Professor, 2020-2025, Professor, 2025-date
Associate Director, Nevada Bureau of Mines and Geology, 2025-date
Koehler Geohazards, LLC, Founder and Principal Geologist, 2015-2025
University of Alaska, Fairbanks, Geology and Geophysics Dept., Affiliate Faculty, 2011-2015
Humboldt State University, Adjunct Faculty, 2009-date
State of Alaska, Dept. of Geological and Geophysical Surveys, Earthquake Geologist 2009-2015
Center for Neotectonic Studies, University of Nevada, Reno, Research Assistant, 2004-2009
William Lettis & Associates, Inc., Walnut Creek, CA, Project Geologist, 1999-2004
US Geological Survey, project paleoseismologist, 10 trenches, Puget Sound, Wa, 1998-2003
Natural Resources Management Corporation, Eureka, CA, Staff Geologist, 1998-1999
Louisiana-Pacific Corporation, Calpella, CA, Watershed Geomorphologist, 1997
Humboldt State University, Humboldt, CA, Research Assistant, 1994-1997
USDA Forest Service, Cave Exploration Team, Prince of Wales and Dall Islands, Alaska, 1993
Gary Griggs Consulting, field geologist, Santa Cruz, Ca, 1991-1992

RESEARCH INTERESTS AND REPRESENTATIVE EXPERIENCE

My work is focused on earthquake geology, Quaternary geology, paleoseismology, geomorphology, and engineering geology. I have experience evaluating regional neotectonics, as well as paleoseismic histories on individual faults, and use a variety of techniques including air photo and lidar interpretation,

Quaternary geomorphic mapping, soil stratigraphy, trenching, and geochronology to assess geohazards in a wide variety of terrains.

I have conducted paleoseismic studies funded by the U.S. Geological Survey (NEHRP) and the National Science Foundation (NSF) throughout the western U.S. including faults in California, New Mexico, Washington, Alaska, and Nevada. My international experience includes projects in Turkey, Taiwan, Guatemala, Guinea, Jamaica, Haiti, and Kyrgystan. I have also conducted geologic studies for large infrastructure projects including: (1) potential dam sites in the northern Sacramento Valley, California for the California Department of Water Resources; (2) Pacific Gas and Electric Company's Diablo Canyon Nuclear Power Plant, San Luis Obispo, California; (3) Entergy Potomac's Grand Gulf nuclear power plant expansion in Mississippi; (4) Baku-Tbilisi-Ceyhan (BTC) crude oil pipeline, Turkey and (5) multiple proposed natural gas pipelines in Alaska. Additionally, I participated in the Senior Seismic Hazard Advisory Committee (SSHAC) for Arizona Public Service's (APS) workshop #2 for the Palo Verde Nuclear Generating Station.

In my current position, my work is focused on; (1) researching active faults and Quaternary geology in the Great Basin and surrounding region to better characterize seismic hazards, (2) conducting quadrangle scale mapping in Nevada; and (3) assessing geologic hazards for a variety of infrastructure projects.

TEACHING INTERESTS

Active Tectonics, Geologic hazards, Engineering Geology/Geomorphology, Photo/imagery/lidar Interpretation, Topics in Paleoseismology, Field methods, Quaternary Stratigraphy

TEACHING EXPERIENCE

Neotectonics and Quaternary Mapping (GEOL 737), Fall 2025
Field Geology (GEOL 450), University of Nevada, Reno, Spring semester 2017-2025
Mapping faults from geomorphology (GEOL 701J) University of Nevada, Reno in conjunction with ASU Fall 2020, Spring 2022.
Summer Field Geology (GEOL 451), Quaternary section, University of Nevada, Reno, Summer 2020, 2019, 2018, 2017, and 2016.
Earthquake Engineering (GE 479), two lectures, UNR Spring 2019
Advanced Geology-Paleoseismic trenching (GEOL701j), UNR, Fall 2018
Special Problems/Independent Study (GEOL 495), University of Nevada, Reno, Spring 2018
Special Problems/Independent Study (GEOL 495), University of Nevada, Reno, Fall 2017
Introductory Field Geology (GEOL 260), University of Nevada, Reno, Spring 2016
Lecturer, Osher Lifelong Learning (OLLI), University of Alaska, Fairbanks, "Alaska's 1964 Earthquake" class: Fall (2013)
Instructor (U. of West Indies): Spring 2009, One day field Neotectonics course, Jamaica
Field Trip Leader (HSU): Spring 2008, Quaternary Tectonics of Nevada
Teaching Assistant (HSU): Summer 2007, Field Camp, Quaternary Section
Teaching Assistant (UNR): Spring 2007, Introductory Geology
Teaching Assistant (HSU): Summer 2006, Field Camp, Quaternary Section
Teaching Assistant (UNR): Spring 2006 and Spring 2007 Photo Geology
Teaching Assistant (UNR): Fall 2006, Quaternary Field Mapping
Instructor (UNR): Spring 2005, Introductory Geology
Teaching Assistant (HSU): Fall 1996, Geomorphology
Teaching Assistant (HSU): Summer 1995 and 1996, Field Camp

GRANT PROPOSALS

- USGS Cooperative Landslide Hazard and Assessment Program. Quantifying Landslide Hazard in Nevada: A Statewide Inventory, Pre-Fire Debris-Flow Assessment, and Rapid-Response System. PI Koehler, Co-PI McCoy. $282,638 (submitted 2026).
- Nevada Bureau of Mines and Geology FY2026 Statemap Proposal, USGS Cooperative Mapping Program, 09/2026-09/2028, Total budget $798,188 (Koehler $37,044) (submitted 2026).
- USGS Earthquake Hazards Program. Paleoseismic investigation of the central Calaveras fault at Coyote Ranch and the fingerprints of creeping faults. Co-PI's Rowe and Koehler. ~$69,647 (submitted 2026).
- USGS Earthquake Hazards Program. Fault mapping and subsurface geometry of major faults in urban Reno, Nevada. Co-PI's Rowe, Koehler, Pretell, and Kratt. ~$92,096 (submitted 2026).
- Statewide California Earthquake Center (SCEC). SiERRa-TAG, Sierra Earthquake Risk Reduction Technical Action Group. PI-Koehler, Co-PI-Rowe, Co-PI-Mason. $34,000. (submitted 2026).
- US Department of Energy (EOE), EPSCoR program. Developing a DOE partnership to inform geothermal potential of blind systems by constraining Quaternary fault slip behavior in northern Nevada. Co-PI's Koehler and Sion. Pre-proposal submittal to DRI March 18 2026 ($982,354, approx. $224,417 for Koehler). Not advanced to final submission by DRI.
- US Department of Energy. Optimized Prospecting for established new development options and opportunities regionally (OPEN DOOR). Co-PIs Faulds and Lindsey, Koehler Participant. $4.2M, ~3 mo. (~$67k) for Koehler. (submitted spring 2025, not funded)
- ConocoPhillips Artic Science and and Engineering Endowment Award. Earthquake hazard in southcentral Alaska posed by the Castle Mountain fault. Collaborative research with Nicolas Harrichhausen (U. of Alaska Anchorage) and Rob Witter (USGS) (awarded ~200k, 20 days of field support for Koehler)
- Statewide California Earthquake Center (SCEC). Fault architecture, geomorphic expression, and mineralogy of the Northern Calaveras Fault. Co-PI with Christie Rowe ($36k) (awarded 2025).
- USGS Earthquake Hazards Program. Seismic sources and ground shaking in the Reno basin. Co-PI with D. Trugman and S. Wesnousky ($99,078) (awarded 2025).
- 2024- Nevada Agency for Nuclear Projects. Assessment of legacy fault studies and archiving of perishable data, Yucca Mountain, Nevada: Prioritization of previous study sites and curating a comprehensive data collection for future seismic hazard studies. ($400,000).
- Bureau of Land Management. Characterization and monitoring in thermal areas in Black Rock Desert- High Rock Canyon Emigrant Trails NCA. Took over as PI after departure of Carolina Munoz-Saez to administer budget and coordinate graduate student logistics. ($39,734).
- 2024- US Geological Survey, STATEMAP, Project 2: mapping in Reno-Carson Urban area ($195k) and Project 4: Quaternary fault mapping in the Walker Lane ($32k). Part of larger STATEMAP grant ($54k for Koehler, total $600,551).
- 2023- US Geological Survey, STATEMAP, Project 2, Quaternary mapping of the Upsal Hogsback quadrangle ($159,045k) and Project 4, Refined fault mapping on lidar datasets of the Bonham Ranch and Dry Valley fault systems ($31k). Part of larger STATEMAP grant ($61k for Koehler, total $457k).
- 2022- Lidar fault mapping support for Orogen Royalties Callaghan Property, funded by Renaissance Exploration, Inc. ($16,504).
- 2022- US Geological Survey, STATEMAP, Project 5, Quaternary fault mapping of the Bonham Ranch and Dry Valley-Smoke Creek Ranch fault zones in the Sheepshead Spring, Sand Pass, Red

Rock Canyon, and Parker Canyon 7.5' quadrangles, 1:24,000 scale ($53,948, Koehler $32k) and Project 2, Geologic maps of the Bedell Flat and Spanish Springs Peak 7.5' quadrangles, 1:24,000 scale ($121,926, Koehler ~50k). Part of larger STATEMAP proposal (total $691,000).

- 2021- US Geological Survey, NEHRP, Defining slip rates using ^{10}Be surface exposure dating for the Polaris and Truckee faults near Truckee, California. Collaborative with North Carolina State University (L. Owen; P. Figueiredo) and Oxford University (I. Pierce) ($54,000).
- 2021- Southern California Earthquake Center (SCEC), Dating prior earthquakes along faults of the 2019 Ridgecrest sequence. Research Collaboration UNR and Arizona State University (~$25,000).
- 2021- StateMAP, Geologic mapping in Reno-Carson City urban area: Bedell Flat. Spanish Springs Peak. Como, and Parran 7.5' quadrangles ($188,894, Koehler 23 days, $61,000), part of larger StateMAP proposal, total amount of grant $518,767.
- 2020- Nevada Department of Emergency Management, Earthquake Direct State Assistance Grant, Documentation of the M6.5 Monte Cristo earthquake: Impacts and lessons learned for Nevada, Koehler 10 days ($68,540).
- 2020- US Geological Survey, NEHRP, Liquefaction susceptibility mapping in the Reno-Sparks metropolitan area, Nevada ($52,362).
- 2020- US Department of Energy, **IN**novative **G**eothermal **E**xploration through **N**ovel **I**nvestigations **O**f **U**ndiscovered **S**ystems (INGENIOUS). PI Ayling, multiple contributing partners, Koehler, 3 months (Lead compilation, mapping, and attribution of Quaternary faults and earthquake data) ($10M).
- 2020- US Geological Survey, STATEMAP Proposal, Geologic mapping in Reno-Carson City urban area: north half of the Verdi 7.5' quadrangle ($28,644), part of larger StateMap proposal, total amount of grant $299,974.
- 2020- Nevada Office of Nuclear Projects, Assessment of previous seismic hazard studies, Yucca Mountain, Nevada: Scoping report on applications of new technologies to reduce critical data gaps ($100,000).
- 2020- Southern California Earthquake Center (SCEC), Trenching the causative faults of the 2019 Ridgecrest sequence,Collaborative proposal with ASU, ($41,000).
- 2019- Southern California Earthquake Center (SCEC), Rapid proposal to date deposits and evaluate paleoearthquakes along the July 5, 2019 Ridgecrest earthquake rupture, ($2000 field support)
- Mission Support and Test Services, LLC: Site-Directed Research and Development (SDRD projects FY 2020: Invited Proposal, Geothermal Play Fairway Analysis of the NNSS: Using an Innovative GIS-Based Data Integration and Geostatistical Methodology to Assess the Geothermal Energy Potential of the NNSS, Koehler 25 days, ($19,107) not awarded.
- 2019- Department of Energy, Regional Carbon Sequestration Partnership Grant, Multi-state partnership to evaluate carbon storage potential in geologic basins in Nevada, total grant, $233,521, 14 days for Koehler ($17,520) not awarded.
- 2020- US Geological Survey, NEHRP, Paleoseismic trenching investigation of the Dog Valley fault ($68,687).
- 2019- US Geological Survey, NEHRP, Fault trace mapping and paleoseismic investigation of earthquake history and recurrence along the Bonham Ranch fault zone, north of Reno, Nevada, ($65,597).
- 2019- Nevada Department of Emergency Management, Earthquake Direct State Assistance Grant, Development of a Nevada specific post-earthquake technical clearinghouse web site and operations plan ($45k).
- 2019- US Geological Survey, STATEMAP, New geologic mapping in the Verdi quadrangle, part of larger StateMAP proposal award ($54,800), Koehler 30% ($25,971), total award $157,631.

- 2018- US Geological Survey, NEHRP, Nevada Quaternary fault database: A new publically accessible web-based resource ($58,490).
- 2018- US Geological Survey, STATEMAP, New geologic mapping in Reno-Carson City urban area: Granite Peak 7.5' quadrangle ($53,728) and Washoe City 7.5' quadrangle ($53,795), part of larger NBMG, StateMAP proposal.
- 2017- UNR/DRI Joint Postdoc Competition, Climatic, tectonic,and geochronologic studies of alluvial fans within the western Basin and Range province, Nevada, (50k/annum, 2 years) not awarded.
- 2017- US Geological Survey, NEHRP, New lidar mapping and paleoseismic characterization of the Petersen Mountain fault zone, north of Reno, Nevada ($62,683).
- 2017- US Geological Survey, NEHRP, Development of an earthquake chronology and recurrence data for the southern Warm Springs Valley fault – using high resolution lidar and trenching, Washoe County, Nevada ($40,526)
- 2018- US Geological Survey, NEHRP, 2018 Working Group on Nevada Seismic Hazards ($22,452).
- 2017- Fault trenching research project, Barrick Goldstrike, awarded March 2017 ($25,000)
- 2017- NSF, Investigating the temporal continuity of slip rates distributed across the Great Basin, USA, and the relationship of active faults to the evolution of tectonic deformation ($272,000) not awarded.
- 2017- US Geological Survey, STATEMAP, Granite Peak quadrangle, part of larger grant, Koehler ~10%, ($299 k)
- 2016- Paleoseismic characterization of the Petersen Mountain fault zone, north of Reno, Nevada ($70,089) not awarded.
- 2014/2015- Geologic hazards study, ASAP natural gas pipeline, Phases 4 and 5 ($170 k)
- 2014- Fault characterization and Geologic Hazards of the Yukon Crossing Area ($630 k)
- 2014- Technical review of fault crossings Donlin Gold Gas line ($25k)
- 2013- Geologic hazards study, ASAP natural gas pipeline, Phase 3 ($400 k)
- 2013- Technical Review of Lake Clark fault zone for the Pebble Partnership ($15 k)
- 2012- Geologic hazards study along gas pipeline Livengood to Anchorage, Phase 2 ($202 k)
- 2011- Technical Review of Susitna-Watana hydroelectric Project, Alaska ($30 k)
- 2011- Geologic hazards along gas pipeline and lidar, Phase 1, Anchorage to Livengood ($556 k)
- 2004- US Geological Survey, NEHRP, San Gregorio fault study ($80,000)
- 2003- US Geological Survey, NEHRP, San Andreas fault study ($44,000)
- 2002- California Department of Forestry and Fire Protection, Noyo River sediment study ($40,000)
- 2002- US Geological Survey, NEHRP, Pillar Point Marsh paleoseismic study ($40,000)

AWARDS

2009 Top Student Presenter, Seismological Society of America
2008 Outstanding Student Paper Award, American Geophysical Union
2007 Geological Society of Nevada, Student poster competition winner
2006 Jonathan O. Davis Scholarship, Desert Research Institute
2005 Geological Society of America, student research grant
2005 Geological Society of America, Outstanding student research award
1997 Northern California Geological Society, student research grant

AFFILIATIONS AND REGISTRATION

California Professional Geologist, # 7615
Geological Society of America

American Geophysical Union
Seismological Society of America
Friends of the Pleistocene

STUDENT ADVISEMENT

Saige Howard – M.S. committee member, U. of Nevada, Reno (expected 2027)
Lauren Berrien - M.S. thesis committee, U. of Alaska Anchorage (expected 2027)
Marco Francescone – Ph.D. thesis committee, U. of Cheti-Pescara, Italy (2026)
Maya Gross – M.S. primary advisor, U. of Nevada, Reno (expected 2027)
Ryan Rutherford – M.S. primary advisor, U. of Nevada, Reno (expected 2027)
Dana Marino - M.S. committee member, U. of Nevada, Reno (expected 2027)
Maggie Duncan – Ph.D. thesis committee member, U. of Nevada, Reno (expected 2026)
Hannah Martin – Ph.D. thesis committee, U. of Nevada, Reno (expected 2029)
Carter Dills – M.S. thesis committee, U. of Nevada, Reno (expected 2026)
Rachel Micander – M.S. primary advisor, U. of Nevada, Reno (2025)
Anne Patton – Ph.D. thesis committee, U. of Nevada, Reno (expected 2027)
James McNeil – Ph.D. primary advisor, U. of Nevada, Reno (2024)
Coni De Masi – Ph.D. primary advisor, U. of Nevada, Reno (2022)
Kyle Smith - Ph.D. committee, U. of Alaska, Fairbanks (2020)
Colin Chupik – M.S. thesis primary advisor, U. of Nevada, Reno (2019)
Ian Pierce – Ph.D. thesis committee, U. of Nevada, Reno (2019), LOA supervisor NBMG (2019-2021)
Tabor Reedy – M.S. thesis committee, U. of Nevada, Reno (2018)
James Hengesh - Ph.D. thesis examiner, U.of Western Australia (2018)
Dylan Carstens - undergraduate independent study (GEOL 495, Spring 2018)
Erin Warnock – undergraduate independent study (GEOL 495, Fall 2017)
Beau Whitney - Ph.D. thesis examiner, U. of Western Australia (2015)
Eric Hutton - M.S. thesis committee, U. of Alaska, Fairbanks (2014)
Rachel Frohman - M.S. thesis committee, U. of Alaska, Fairbanks (2014)
Paul Sundberg - B.S thesis committee, Humboldt State University (2009)

SYNERGISTIC ACTIVITIES

2026	Expert review panel for CRESCENT Community fault modelm northeastern California Region. With US Geological Survey.
2026	Proposal review panel (NEHRP grants), State Hazard Mitigation preparedness grants.
2026	Session convenor, Seismological Society of America annual meeting 2026.
2024	Co-leader, Earth Science Week field trip, NBMG
2024-date	Committee member, subject matter expert on earthquakes, Nevada Hazard Mitigation Working Group, Nevada Department of Emergency Management (NDEM).
2023-2024	Proposal reviewer for the Icelandic Research Fund (NSF equivalent in Iceland)
2023	Organizing committee, short course chair, GSA Cordilleran meeting, Reno, NV
2022	Session chair, GSA Cordilleran meeting, Las Vegas, NV
2022	Organizing committee, Basin and Range Earthquake Summit (BRES)
2021-date	Associate member, American Association of State Geologists (AASG)
2021	Advisor, City of Reno, Regional Emergency Operations Center
2021	Co-leader, NBMG Earth Science Week field trip
2021	Organizing committee/session chair, GSA Cordilleran meeting, Reno, NV
2021	Participant, USGS workshop to develop earthquake response and data collection apps
2021	Organizing committee, Basin and Range Earthquake Working Group, Salt Lake City, UT
2020-2021	National Seismic Hazards Map reviewer, USGS, evaluation of Quaternary fault sources

2020	Proposal reviewer, ACS Petroleum Research Fund
2020-2022	Organizer and field trip leader for American Association of State Geologists meeting
2019	Participant, Idaho scenario earthquake virtual clearinghouse exercise
2017	USGS NEHRP proposal review panel member, Central and Eastern US
2016-date	Member, Basin and Range Province Earthquake Working Group (BRPEWG)
2016	Organizer, UNR Lidar data short course by Ramon Arrowsmith (ASU)
2016	Session convener, Seismological Society of America annual meeting, Reno, NV
2016	Field trip leader, NBMG Advisory Board Meeting, Rainbow Mountain earthquake rupture
2016	Scientific review and organization committee for the 7th International INQUA workshop on Paleoseismology, Active Tectonics, and Archaeoseismology (PATA days), Colorado
2015	Chair, Alaska's Next Big Earthquake workshop, Fairbanks, AK
2015	Field Trip co-leader, NBMG, 1915 Pleasant Valley Earthquake Centennial field trip
2015	Testimony in the Alaska Senate State Affairs Committee for HB 35 to establish Great Alaska Earthquake Remembrance Day.
2015-2020	Western States Seismic Policy Council (WSSPC), Chair, Basin and Range Committee
2015-2017	Nevada Earthquake Safety Council (NESC)
2015-date	Member, Geotechnical Extreme Events Reconnaissance (GEER)
2014	Editor, field trip guidebook, 50th anniversary of the Mw9.2 Alaska earthquake, IGCP 588
2014	Program Committee member, Seismological Society of America annual meeting
2014	Organizer, 10th National Conference on earthquake Engineering, Anchorage, AK
2013-2015	Western States Seismic Policy Council (WSSPC), Alaska representative
2013	USGS NEHRP proposal review panel member, Pacific Northwest/Alaska
2010-2015	Member, Alaska Tsunami Mapping Team, National Tsunami Hazard Mitigation Program
2010-2015	Alaska Seismic Hazards Safety Commission, Commission member and vice-chair
2009	Participant, Global Earthquake Model, (GEM) Faulted Earth workshop
2009	Participant, active faulting in the Northern Walker Lane workshop, Reno, NV
2007	Participant, Nevada Quaternary Faults Working Group, Reno, NV
2004	Participant, Bay Area Fault Working Group, Walnut Creek, CA

Departmental and University Service

2025	Search committee chair, NBMG CREG Center Director position
2024-2025	NBMG personnel review committee
2024	Search committee for Associate Dean in the College of Science
2024	Participation in Mackay Director mission and role statement meetings
2024	Search committee member, NBMG Geologic Mapping Program Manager Position
2023-2024	Search Committee member, NBMG geologic mapping positions (2)
2017-2025	DGSE undergraduate curriculum committee
2023-2025	Participation in interviews for Director, Research Scientist, and Data Manager positions, Great Basin Center for Geothermal Energy
2021-2022	NBMG personnel review committee
2021-2022	NBMG tenure and promotion committee
2021	Participation in interviews for NBMG Geologic Mapping Specialist
2019	Participation in search for DGSE department chair position
2019	Search committee member for NBMG business manager position
2019	Search committee member for NBMG field geologist position
2019	NBMG booth for Nevada legislative session, UNR day
2019	Search Committee member, NBMG Economic Geology position
2018	Search committee chair, NBMG digital curator position
2016	Search committee member, NBMG tectonics position

2015 Participation in interviews for DGSE petrology position

Training

2022 Internet security awareness training, UNR
2021 Mentoring Mentors seminar, UNR
2021 Preventing Harassment & Discrimination, UNR
2018 Effective Teaching Practices: cohort G, UNR
2017 Implicit Bias/Search Chair and Committee Training, UNR
2017 Planning and writing successful grant proposals workshop, UNR
2013 Communicating with policy makers workshop, WSSPC
2011 Emergency Management Institute, Introduction to Incident Command System ICS-100
2010 Wilderness First Aid, 8 hour course, Safety Ed
2009-2015 Firearms Instruction/Bear safety training, DGGS
2005 Excellence In Teaching Program, UNR
2003 Seismic Hazards Analysis Workshop, Association of Engineering Geologists
2002 Engineering Geology for Timber Harvesting, Wildland Management, and Watershed Restoration Workshop, Association of Engineering Geologists

MANUSCRIPT and MAP REVIEWS

Reviewed papers published in the Journal of Structural Geology, Tectonics, Tectonophysics, Seismological Research Letters, Bulletin of the Seismological Society of America, The Seismic Record, Geomorphology, Canadian Journal of Earth Sciences, Geosphere, Remote Sensing, International Journal of Earth Sciences, Quaternary Science Reviews, Journal of Geophysical Research – Solid Earth, Journal of Cold Regions Engineering, Geological Society of America Bulletin, AGU books, Environmental and Engineering Geoscience, and Paleoenvironment, and Turkish Journal of Earth Sciences. Additional review work includes reports from the Alaska Division of Geological & Geophysical Surveys, geologic maps from the Nevada Bureau of Mines and Geology, Open File Reports from the U.S. Geological Survey, and a technical volume from the California Seismic Safety Commission.

POST EARTHQUAKE INVESTIGATIONS

2026 M5.7 Silver Springs earthquake, Nevada. Participation in reconnaissance mapping with NSL.
2024 M5.8 Parker Butte earthquake, Nevada. NBMG field coordinator, collaboration with NSL.
2023 M7.8 and M7.5 Kahramanmaras earthquake sequence, Turkey. GEER surface fault rupture team.
2020 M6.5 Monte Cristo Mountains earthquake, Nevada. Field coordinator, surface rupture team, collaboration with USGS and CGS.
2019 Mw6.4 and Mw7.1 Ridgecrest earthquakes, southern California. Surface rupture team, collaboration with USGS, CGS, and GEER.
2018 M7.0 Anchorage Alaska earthquake. Rapid response co-team leader (GEER), collaboration with USGS.
2010 M7 Port-au-Prince, Haiti earthquake. NSF rapid response team, collaboration with GEER.
2008 M6 Wells Nevada earthquake. UNR rapid response team, collaboration with Utah Geological Survey.
2000 M7.6 Chi-Chi, Taiwan earthquake. Surface rupture and engineering response team, collaboration with Pacific Gas & Electric Co.
1992 M7.3 Landers, California earthquake. Reconnaissance with University of California, Santa Cruz, field camp.

PUBLICATIONS

*Indicates student working under my advisement

Koehler, R.D., Stirling, M., and Sion, B. (2026). Paleoseismology of the Buffalo Valley, Buena Vista, and southern Shoshone faults, central Basin and Range, Nevada, USA. Seismica, 5(1). doi: 10.26443/seismica.v5i1.2648.

*Pierce, I., Williams, A., Koehler, R.D., Arrowsmith, R., and Rodriguez, K., (accepted 2026), Paleoseismic history of the causative faults of the 2019 Ridgecrest, California earthquake sequence. Seismica.

Zuckerman, M., Scott, C.P., Arrowsmith, J.R., Adam, R.N., Madugo, C., **Koehler, R.D.**, Kottke, A., AbramsonWard, H., Gath, E., Gonzalez, T., Gray, B., Kozaci, O., Rockwell, T.K., Austi T.J., King, T., Micander, R., Leuchter, E.M., Pierce, I., Aleander E., Gourdeau, A., Laly, M. Ogilviem I., Rothman S.D., Vlaha, D., Yound, E.K, Prush, V., Rowe, C., Johnson, B.M., and Schwarz, M.F.G. (accepted 2026), The impact of mapper experience and data on the quality of geomorphic fault mapping, Seismica.

Scott, C., Arrowsmith, J.R., Prasath, R. Madugo, C., Kottke, A., Zuckerman, M., Adam, R., **Koehler, R.D.**, and Thompson, S., (2026), Fault location uncertainty in rupture hazard assessment, Proceeding of the 13th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Portland, OR, July 13-17, 2026.

Koehler, R.D., Rowe, C. D., Vlaha, D.R., Masoch, S., Wagoner, N., Jiang, Y., Trugman, D.T., Bogolub, K., Hammond, W.C., Crandall-Bear, A., Kratt, C., Dohm, K., and Vlcan, J. (2025), The 09 December 2024 M5.7 Parker Butte Earthquake: Orthogonal surface fracturing and associated ground disturbances near Yerington, Nevada, central Walker Lane, Seismica, v. 4, no. 2. doi: 10.26443/seismica.v4i2.1702

Bogolub, K., Trugman, D.T., Jiang, Y., Hammond, W., Smith, K., **Koehler, R.D.**, and Rowe, C. (2025), The M5.7 Parker Butte earthquake near Yerington, Nevada: Anatomy of a dual-plane rupture in the Walker Lane from high-precision relocated earthquakes, InSAR, GPS, and strong motion data. Seismological Research Letters, XX, 1-13. doi: 10.1785/0220250203

Yildrim, C., Ozan, O., Akay, S.S., Sarikaya, M.A., Karatas, M., Gedik, Y., Kozaci, O., Altunel, E., Clahan, K., and **Koehler, R.D.**, (2025), Coseismic deformation and slip-distribution for February 6, 2023, Elbistan (Kahramanmaraş) earthquake (Mw7.6), Turkiye, Journal of Geophysical Research: Solid Earth, 130, e2025JB031452. doi: 10.1029/2025JB031452.

*Travers, A., **Koehler, R.D.**, Pierce, I., Marshall, N., Rahimdinov, E., and Walker, R.T. (submitted 2026), Paleoseismology of the Kokonadyr-Tegerek Adyr thrust fault, Kyrgyzstan, and implications for seismic hazard in the south Issyk-Kul region.

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Koehler, R.D., K.I. Kelson, G. Mathhews, 2001, Sediment Storage and Transport in the South Fork Noyo River Watershed, Jackson State Demonstration Forest, Final Technical Report to California Department of Forestry and Fire Protection.

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Koehler, R.D., J.M., Sowers, F. Mileham, and C. Tipple-Golec, 2000, An Assessment of Trails, Watercourses, Soils, and Redwood Forest Health in Joaquin Miller Park, Oakland, California, with Recommendations for Management, Report to City of Oakland, Department of Parks and Recreation, pp. 30, appendix 29 p.

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Koehler, R.D. and S. Brown (Natural Resource Management, Corp.), 1998, Stitz Creek Sediment Source Assessment and Sediment Reduction Recommendations, Report to The Pacific Lumber Company, pp. 28, 10 maps.

Surfleet, C., **R.D. Koehler**, T, Daugherety, A. Nadig, 1998, Garcia River Watershed Analysis, Report to Louisiana-Pacific Corporation, pp. 160.

Carver, G, **R.D. Koehler** and C.F. Narwold, 1995, Archeoseismology of Afognak Island, Alaska, Report to Afognak Native Corporation.

INVITED PRESENTATIONS

Basin and Range Earthquake Working Group (BRPEWG), Earthquake geology highlights from NBMG and NSL, presented at Basin and Range Earthquake Working Group (BRPEWG), Salt Lake City, UT., February 10, 2026.

Basin and Range Earthquake Working Group (BRPEWG), Research highlights from the Nevada Bureau of Mines and Geology and Nevada Seismological Laboratory. Co-presented with Christie Rowe at Utah Geological Survey, Salt Lake City, February 11, 2025.

Basin and Range Earthquake Working Group (BRPEWG), Earthquake geology updates from Nevada: Reno area and central Nevada, presented at, Utah Geological Survey, February 6, 2024.

Nevada Seismological Laboratory "Shaker" dinner, Reducing exposure to seismic risk: pre- and post-earthquake, Tamarack Casino Ballroon, Dec. 3, 2024.

U.S. Department of State International Visitor Leadership Program meeting with the Kazakhstan contingent, Earthquake hazard research and mitigation efforts at the Nevada Bureau of Mines and Geology, University of Nevada, Reno, August 23, 2024.

Kansas Geological Society seminar series**,** Geological observations of the February 06, 2023 Kahramanmaraş, Türkiye earthquakes, presented remotely, October 11, 2023.

Seismological Society of America annual meeting workshop for 'Optimizing Seismic Hazard Assessments for Improved Policy Decision Making, Compliance and individual safety actions in Puerto Rico and the U.S. Virgin Islands**:** Seismic hazards policy recommendations from the Western States Seismic Policy Council and Alaska Seismic Hazards Safety Commission: Successes and challenges in local and state government, San Juan, Puerto Rico, April 17, 2023.

Nevada Seismological Laboratory brown bag seminar, Reconnaissance geological observations of the February 06, 2023 Kahramanmaraş, Türkiye earthquakes, March 28, 2023.

U.S. Department of State geothermal capacity-building project workshop with the Peruvian Geological Survey: Quaternary hazards and fault trenching in NV/CA, August 22, 2022.

114th annual meeting of the American Association of State Geologists (AASG): Characterizing distributed deformation across the northern Walker Lane, California and Nevada, June 13, 2022.

Southern California Earthquake Center (SCEC) workshop on Coordinating Post-Earthquake Field Data Collection: Perspectives on post-earthquake reconnaissance studies: Ridgecrest and Monte Cristo Range earthquakes, January 12, 2022.

Earthquake Engineering Research Institute (EERI) northern California chapter meeting: Clearinghouse operations and surface effects of the 8 July 2021 M6.0 Antelope Valley earthquake, Dec. 9, 2021.

Arctic Seismic Resiliency Workshop, Anchorage, AK: Rapid Earthquake Reconnaissance: Helping to better understand the distribution of hazards and improving resiliency, September, 20-23, 2021.

Basin and Range Earthquake Working Group (BREWG) meeting: Summary of the 15 May 2020, M 6.5 Monte Cristo, Nevada Earthquake, virtually, Feb. 9, 2021.

Basin and Range Earthquake Working Group (BREWG) meeting: The earthquake hazards program at NBMG, an update of recent research, virtually, Feb. 9, 2021.

Geological Society of Nevada speaker series, Reno, NV: Rapid response to the M6.5 Monte Cristo, Nevada earthquake, the largest earthquake in Nevada in 65 years, June 16, 2020.

National Earthquake conference, San Diego, CA: Future research directions in earthquake engineering: Insights from field evaluation of the 2018 Anchorage Alaska earthquake, March 5, 2020.

National Earthquake conference, San Diego, CA: Rapid reconnaissance and geologic effects of the 2019 Ridgecrest earthquake sequence, lightning talk, March 4, 2020.

Basin and Range Province Earthquake Working Group meeting, Salt Lake City, Utah: The Earthquake Hazards Program at NBMG, February 5, 2020

Nevada-Utah Earthquake Summit, Reno, NV: Scientific response to the 2019 Ridgecrest, California earthquake sequence, Oct. 16, 2019

Association for Engineering Geology, Las Vegas meeting: The 2019 M6.4 and M7.1 Ridgecrest, California earthquakes and implications for Nevada, Oct., 11, 2019.

Basin and Range Province Earthquake Working Group meeting, Salt Lake City, Utah: The Earthquake Hazards Program at NBMG, February 6, 2019

Association of Engineering Geology (AEG), Great Basin Chapter dinner, Reno, NV: Characterization of fault slip rates in the North Valleys area of Reno, NV: application of new lidar data and ongoing studies, October 18, 2018.

Utah Quaternary fault parameters working group, Salt Lake City, UT: Progress towards an updated Nevada seismic Hazards Model, February 14, 2018.

Basin and Range Province earthquake working group (BRPEWG) meeting, Salt Lake City, UT: Nevada presentation on technical issues facing the Basin and Range province, February 15, 2018.

Working Group on Nevada Seismic Hazards Workshop, Reno, Nevada: Efforts to better characterize the seismic potential of faults in the North Valleys region, Reno, Nevada, February 5, 2018.

CARIUSA STEM Workgroup, Kingston, Jamaica: A Quaternary fault database for Jamaica: Implications for seismic hazard assessment, March 13, 2017.

University of Nevada, Reno, Geography Department spring colloquium: Assessing geologic hazards along a 900-km-long natural gas pipeline, Alaska: Evolving landscapes in big country, Mar. 8, 2017.

Utah Quaternary fault parameters working group, Salt Lake City, UT: Updating Quaternary fault parameters for the Reno and Las Vegas Areas, Nevada, February 8, 2017.

Nevada Earthquake Safety Council meeting, Las Vegas, NV: Preparation for earthquake early warning in Alaska: a potential path forward for Nevada, November 2, 2016

Nevada Bureau of Mines and Geology annual open house: Unravelling the earthquake history along the most exiting road in America, Quaternary Faults and Paleoearthquakes in Central Nevada, Oct. 15, 2016.

Lions Club luncheon: Nevada's earthquake hazards: Historical and Pre-Historical Earthquakes, Sept 27, 2016.

Earthquake Economic Resiliency Forum for the greater Reno/Sparks, Carson, Tahoe and Truckee region, Eldorado Resort Casino: Historical Earthquakes in the Nevada-California border region, 2016, April 19, 2016.

Chico State University geology seminar series: Far-field plate boundary deformation: paleoseismic perspectives from Nevada and Alaska, February 16, 2016

Informational meeting on tsunamis for emergency managers in the communities of Hoonah and Gastavus, Alaska: Tsunami hazards in southeast Alaska from local and distant sources, December 1, 2014.

Western State Seismic Policy Council, annual awards luncheon: Seismic hazards field investigations in Alaska, July, 21, 2014.

Tsunami Operations Workshop, Alaska Division of Homeland Security and Emergency Management, Kodiak, Alaska: Tsunami hazards in Alaska 50 years after the 1964 Great Alaska Earthquake, February 11-12, 2014.

Informational meeting on tsunamis for emergency managers in the community of Sitka, Alaska: Local and distant tsunami hazards and paleotsunami reconnaissance, November 2, 2013.

Institute of Electrical and Electronics Engineers lecture series, University of Alaska, Fairbanks: Application of LiDAR to geohazard characterization in Alaska, October 24, 2013.

Osher Lifelong Learning Institute, University of Alaska, Fairbanks: Subduction zone paleoseismology and tsunami studies in Alaska (50 years after 1964), September 30, 2013.

University of Alaska Fairbanks geology seminar series: Paleoseismology of the Castle Mountain, Denali, and Pass Creek faults, Alaska, March 22, 2013.

Tsunami Operations Workshop, Federal Emergency management Agency, Cordova, Alaska: Paleotsunami research in the Aleutians, October 30, 2012.

Tsunami Operations Workshop, Federal Emergency Management Agency, Sitka, Alaska: The Fairweather fault and recently glaciated terrain: Potential sources for local tsunamis in Southeast Alaska, September 13, 2011.

Association of Engineering Geology (AEG) student chapter meeting, University of Alaska, Fairbanks: The 2010 Port au Prince, Haiti earthquake: preventable consequences and lasting effects, February 24, 2011.

University of Alaska, Fairbanks geology seminar series: Neotectonic adventures in Alaska: The moletrack from yo-yo's to pingos, November 12, 2010.

Alaska Mining Association breakfast meeting, Fairbanks, AK: Seismic hazards in Alaska: Lessons learned from recent destructive earthquakes in Haiti and Chile, March 26, 2010.

Alaska Geological Society: Field observations of the 12 January 2010 Port Au Prince Haiti earthquake and implications for seismic hazards in Alaska, April 16, 2010.

22nd Biennial Fairbanks Alaska Mining conference, Artic International Mining Symposium: The Enriquillo-Plantain Garden fault, Haiti: Implications for seismic hazards in Alaska, March 11, 2010.

Alaska Seismic Safety Commission: The 2010 Port Au Prince, Haiti earthquake: Links between the globally missing earthquake, and seismic hazard assessment in Alaska, March 4, 2010.

U.S. Geological Survey, GHSC Seminar Series, Golden Colorado: Ten days in Haiti: Recconnaissance evaluation of the Port Au Prince 12 January 2010 earthquake, Feb. 24, 2010.

RADIO INTERVIEWS, PRESS RELEASES, AND ARTICLES RELATED TO MY WORK

Seismological Society of America press release associated with annual meeting (April, 2025), How Well Do Mapped Tectonic Faults Predict the Location of Surface Rupture in the Next Earthquake? https://www.seismosoc.org/news/how-well-do-mapped-tectonic-faults-predict-the-location-of-surface-rupture-in-the-next-earthquake/

Nevada Today article (September 6, 2023), Amidst the rubble, Turkey's earthquake scars reveal important information, https://www.unr.edu/nevada-today/news/2023/turkey-

earthquakes?utm_source=newsletter090723&utm_medium=email&utm_content=turkey&utm_campaign=NevadaWeekly

Southern California Earthquake Center (SCEC), newsletter article, Remote teaching collaboration on mapping active faults for probabilistic fault displacement hazard, December 15, 2020. https://www.scec.org/article/638

Southern California Earthquake Center (SCEC), newsletter article, In the trenches – Paleoseismic studies of the 2019 Ridgecrest ruptures, December 15, 2020, https://www.scec.org/article/637

GSA Today, a write up on our virtual 2020 Summer Field Geology course (GEOL451) as recounted by student Quentin Burgess, November 2020. https://www.geosociety.org/gsatoday/archive/30/11/flip/files/basic-html/page30.html

KSNV-Las Vegas, interviewed for television segment on the 2019 Ridgecrest, CA earthquakes and ongoing aftershock activity, October 30, 2020. https://news3lv.com/news/local/special-report-could-seismic-shifts-trigger-faults-around-las-vegas

Las Vegas Review Journal article (July 6, 2020), Earthquakes in Las Vegas? The answer lies in the Walker Lane, https://www.reviewjournal.com/local/local-las-vegas/earthquakes-in-las-vegas-the-answer-lies-in-walker-lane-2068321/

Nevada Today article (June 1, 2020), Monte Cristo earthquake fault still active with 6,500 aftershocks, https://www.unr.edu/nevada-today/news/2020/monte-cristo-earthquake

Nevada Today article (February 20, 2020), Finding Faults: How the burgeoning Walker Lane may split the American West, https://www.unr.edu/nevada-today/stories/walker-lane?utm_source=newsletter021320&utm_medium=email&utm_content=walker&utm_campaign=NevadaWeekly

Nevada Today article (June 17, 2019), Seismic Nevada: Sequence of 60 earthquakes in Sun Valley, Washoe Valley, College of Science leads effort to monitor, research, assess earthquake hazards, https://www.unr.edu/nevada-today/news/2019/earthquakes-in-nevada

Wired magazine article on the northern Walker Lane (May 2019), Move over, San Andreas: There's an ominous new fault in town, https://www.wired.com/story/walker-lane-move-over-san-andreas-fault/

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Sierras eastern front long overdue for large earthquake, 2016, Associated Press, SFGate 4/19,16 Evidence of historic tsunamis found in Aleutian Islands, WSSPC spring newsletter, 2016

Unknown tsunami trigger hides along a creeping Aleutian fault, EOS, v. 97, No. 8, 4/15/2016

On Remote Island, surprise of large tsunamis, Humboldt State Now magazine, March 18, 2016, http://now.humboldt.edu/news/on-remote-islands-surprise-evidence-of-big-tsunamis/

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Raven Radio, KCAW, FM 90.1, New map shows likely tsunami flood zones, November 21, 2013, http://www.kcaw.org/2013/11/21/new-map-shows-likely-tsunami-flood-zones/

KUAC, FM 89.9, Earthquake Map, Dan Bross reports, http://fm.kuac.org/post/earthquake-map

Fairbanks Daily News Miner, March 14, 2010, Alaska Geologist Returns from Haiti Earthquake Zone, http://www.newsminer.com/features/sundays/alaska_science_forum/alaska-geologist-returns-from-haiti-earthquake-zone/article_8c091d19-d37f-540e-b1a3-60ad665fd4c3.html

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RedOrbit, February 24, 2010, rapid Response Science Missions Assess Potential for Another Major Haiti Earthquake, http://www.redorbit.com/news/science/1827642/rapid_response_science_missions_assess_potential_for_another_major_haiti/?source=r_science

Nevada Today, June 2, 2009, Geology Doctoral Student Receives Top Honor, http://www.unr.edu/nevada-today/news/2009/geology-doctoral-student-receives-top-honor

SFGate, October 13, 2003, solving a geological puzzle/coast Range between S.F. and Mendocino has long baffled experts, http://www.sfgate.com/bayarea/article/Solving-a-geological-puzzle-Coast-Range-between-2582915.php

ANNUAL REPORTS

Faulds and NBMG team, 2022, Geologic Hazards section, Biennial Report of the Nevada Bureau of Mines and Geology 2020-2021.

Faulds and NBMG team, 2021, Geologic Hazards section, Biennial Report of the Nevada Bureau of Mines and Geology 2018-2019.

Faulds, J.E., and NBMG team, 2019, Geologic Hazards section, Biennial Report of the Nevada Bureau of Mines and Geology 2016-2017, NBMG, Open-File Report 18-8, 52 p.

Alaska Seismic Hazards Safety Commission, 2014, Report to the Governor and State Legislature.

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Stevens, D.S.P., Combellick, R.A., Hubbard, T.D., Koehler, R.D., and Wolken, G.J., 2011, Engineering Geology FY11 project descriptions, in DGGS Staff, Alaska Division of Geological & Geophysical Surveys Annual Report: Alaska Division of Geological & Geophysical Surveys Annual Report 2010-C, p. 54-66.

POLICY RECOMMENDATIONS

Written by committee as part of duties associated with Western States Seismic Policy Council, WSSPC (member and chair of Basin and Range committee) and with the Alaska Seismic Hazards Safety Commission, ASHSC (member and vice-chair).

WSSPC, 2021a, Resilience of lifeline and infrastructure and services, WSSPC PR 2021-5.

WSSPC, 2021b, Definitions of recency of surface faulting for the Basin and Range Province, WSSPC PR2021-6.

WSSPC, 2021c, Identification and mitigation on non-ductile buildings, WSSPC PR 2021-4.

WSSPC, 2020a, Identification and mitigation of unreinforced masonry structures, WSSPC PR 2020-4.

WSSPC, 2020b, Seismic design and construction of new schools, WSSPC PR 2020-8.

WSSPC, 2019, Post-earthquake technical clearinghouses. WSSPC PR 19-3.

WSSPC, 2017a, Earthquake monitoring networks, WSSPC PR 17-3

WSSPC, 2017b, Earthquake early warning systems, WSSPC PR 17-7

Koehler, R.D. and ASHSC, 2016, The benefits of enhanced earthquake monitoring and potential earthquake early warning in Alaska, A stakeholder survey, prepared for the Office of Governor Bill Walker.

ASHSC, 2014, Earthquake-response and investigation guide, ASHSC PR 2014-1.
ASHSC, 2014, Guide to performing a concept-level earthquake scenario study in Alaska.
Consortium of USGS, DGGS, ASHSC, DHS&EM, NOAA, 2013, Are you prepared for the next big earthquake in Alaska.
ASHSC, 2012, Development of a post-earthquake technical clearinghouse web site for Alaska, ASHSC PR 2012-1.
ASHSC, 2011, Development of an earthquake research program, ASHSC PR 2011-1.
ASHSC, 2011, Identification and mitigation prioritization of seismically vulnerable buildings, ASHSC PR 2011-3.
ASHSC, 2010a, Allocation of funds for seismic risk mitigation of schools, ASHSC PR 2010-2.
ASHSC, 2010b, Appropriation of resources necessary to identify school facilities at risk from earthquakes, ASHSC PR 2021-1.

ABSTRACTS

*indicates student working under RDK

Nowak, T., Dura, T., Engelhart, S., Briggs, R., Witter, R., **Koehler, R.D.**, and Haeussler, P., 2026, Reconstructing spatial and temporal megathrust rupture history using stratigraphy and microfossils at Sitknak Island, AK. Presented at the Alaska Geological Society Technical Conference, April 17-18, 2026, University of Alaska Fairbanks.

Koehler, R.D., Gross, M., and Rutherford, R., 2026, Quaternary geologic and fault mapping to inform future paleoseismic characterization at Yucca Mountain, Nevada. Presented at the Seismological Society of America annual meeting, Pasadena, CA, April 14-18, 2026.

Koehler, R.D., 2026, Evaluation of complex transtensional fault systems distributed between Lake Almanor and Madeline, northeastern California. Presented at the Seismological Society of America annual meeting, Pasadena, CA, April 14-18, 2026.

*Martin, H., Rowe, C., **Koehler, R.D.**, and Travers, A., 2026, Geology and Geomorphology of the central Calaveras fault. Presented at the Seismological Society of America annual meeting, Pasadena, CA, April 14-18, 2026.

Nowak, T., Dura, T., Engelhart, S., Briggs, R., Witter, R. **Koehler, R.D.**, and Haeussler, P., 2026, Microfossil evidence for late-Holocene rupture history and paleoelevation change at Sitkinak island, AK. Presented at the Seismological Society of America annual meeting, Pasadena, CA, April 14-18, 2026.

*Dills, C.W., Trugman, D.T., **Koehler, R.D.**, Rodrigues, K.D. and Wesnousky, S.G., 2026, Improving Reno earthquake hazard assessment through ground-motion model comparisons and a paleoseismic study. Presented at the Seismological Society of America annual meeting, Pasadena, CA, April 14-18, 2026.

*Marino, D., Rowe, C., **Koehler, R.D.**, Bogolub, K.R., Cashman, P.H., Pretell, R., and Wasnousky, S.G., 2026, Earthquake hazard and geomorphic mapping in the Reno urban area. Presented at the Seismological Society of America annual meeting, Pasadena, CA, April 14-18, 2026.

*Berrien, L., Harrichhausen, N., **Koehler, R.D.**, Witter, R., and Munk, J., 2026, Resolving the deformation style and slip behavior of the Castle Mountain fault, southcentral Alaska. Presented at the European Geophysical Union annual meeting, May 3-8, 2026.

Nowak, T., Dura, T., Engelhart, S., Briggs, R., Witter, R. Koehler, R.D., and Haeussler, P., 2025, Reconstructing vertical deformation using stratigrtaphy and microfossils to infer megathrust rupture history on Sitkinak Island, Alaska, presented at the American Geophysical Union annual meeting, New Orleans, LA, Dec. 15-19, 2025.

Scott, C., Prasath, R., Arrowsmith, R., Madugo, C., Givler, R., Thompson, S., Koehler, R.D., and Kottke, A., 2025, A GIS-based tool for assessing and visualizing well-informed uncertainty on mapped fault location, presented at the Statewide California Earthquake Center (SCEC) annual meeting, Sept., 2025.

Marino D., Rowe C., Koehler, R.D., Bobolub, K., Martin, H., Trugman, D.T., Louie, J., Cashman, C., and Seylabi, E., 2025, Earthquake Hazard in the Reno-Tahoe-Carson City area, presented at the Statewide California Earthquake Center (SCEC) annual meeting, Sept., 2025.

*Dills, C., Trugman, D., **Koehler, R.D.**, Rodrigues, K., and Wesnousky, S., 2025, New insights into Reno earthquake hazards using ground motion analysis and OSL dating on soil from the Mt. Rose fault, presented at the American Geophysical Union (AGU) fall meeting, New Orleans, LA, December 15-19, 2025.

Nowak, T., Dura, T., Engelhart, S., Briggs, R., Witter, R., **Koehler, R.D.**, and Haeussler, P., 2025, Reconstructing spatial and temporal rupture history using stratigraphy and microfossils at Sitkinak Island, AK, presented at the American Geophysical Union (AGU) fall meeting, New Orleans, LA, December 15-19, 2025.

Koehler, R.D., Faulds, J.E., and Vlcan, J., 2025, Assessment of legacy fault studies and new geological mapping: Towards improving seismic hazard models at Yucca Mountain, Nevada, presented at the Seismological Society of America Annual meeting, Baltimore, MD, April 15-17, 2025.

Bemis, S., and **Koehler, R.D.**, 2025, Current state of paleoearthquake data for the Alaska Range, presented at the Seismological Society of America Annual meeting, Baltimore, MD, April 15-17, 2025.

Bogolub, K. et al., 2025, Analysis of the magnitude 5.7 Parker Butte earthquake near Yerington Nevada, using high precision relocation, InSAR, GPS, and strong motion data, presented at the Seismological Society of America Annual meeting, Baltimore, MD, April 15-17, 2025.

Nowak, T., Dura, T., Engelhart, S., and **Koehler, R.D.**, 2025Reconstructing vertical deformation on Sitkinak Island, AK using stratigraphy and microfossils to infer megathrust rupture history, presented at the Seismological Society of America Annual meeting, Baltimore, MD, April 15-17, 2025.

*Martin, H., Rowe, C., and **Koehler, R.D.**, 2025, Geomorphic characterization of fault creep in the San Francisco Bay Area, California, presented at the Seismological Society of America Annual meeting, Baltimore, MD, April 15-17, 2025.

Zuckerman, M., Scott, C., Arrowsmith, R., Adam, R., Madugo, C., **Koehler, R.D.**, and Kottke, A., 2025, Variability in the location of mapped fault traces based on geomorphic mapping of remote-sensing datasets from 23 mappers, presented at the European Geosciences Union annual meeting, Vienna, Austria, April 27-May 2, 2025.

Yıldırım, C., Özcan, O., Sami Akay, S., Akif Sarıkaya, M., Karataş, M., Gedik, Y., Kozacı, Ö., Altunel, E., Clahan, K., and **Koehler, R.D.**, 2025, High-Resolution Co-seismic Surface Displacement Distribution for February 6, 2023, Elbistan (Kahramanmaras) Earthquake, Turkiye, presented at the European Geosciences Union annual meeting, Vienna, Austria, April 27-May 2, 2025.

Koehler R.D. and Stirling, M.W., 2024, Characterization of slip rates across the Buffalo Valley, Buena Vista Valley, and southern Shoshone faults, central Nevada, presented at the Seismological Society of America Annual meeting, Anchorage, Alaska, April 29-May 3, 2024.

Zellman, M.S., Duckworth, C.W., **Koehler, R.D.**, Zaleski, M.P., Ostenaa, D.A., Hornsby, K.T., Whelan, N., Rittenour, T., Hidy, A.J., Zimmerman, S.R., and Maxwell, D., 2024, Confirmation of late Quaternary surface faulting and preliminary slip rates for the Iditarod-Nixon Fork fault and the Boss Creek and Holitna sections of the Denali fault in southwest Alaska, presented at the Seismological Society of America Annual meeting, Anchorage, Alaska, April 29-May 3, 2024.

Pierce, I., **Koehler, R.D.**, Owen, L., Wesnousky, S. G., 2024, Conjugate Strike-Slip Faulting in the Truckee, California Basin, Northern Walker Lane, presented at the Seismological Society of America Annual meeting, Anchorage, Alaska, April 29-May 3, 2024.

Summers, G.F., Engelhart, S.E., Woodroffe, S.A., Witter, R.C., Briggs, RW., Dura, T., and **Koehler, R.D.**, 2024, Assessing late Holocene rupture variability at Sitkinak Island, Alaska, presented at International Geoscience Programme Council (IGCP), 9th, Paris, September 2024**.**

Zuckerman, M., Scott, C., Arrowsmith, R., Adam, R., Madugo, C., **Koehler, R.D.**, and Kottke, A. 2023, Comparison of mapped fault locations from 23 mappers based on geomorphic mapping from remote

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Travers, A., Walker, R., Pierce, I., Marshall, N., and **Koehler, R.D.**, 2023, Paleoseismology of the Kokonadyr-Tegerek Adyr thrust fault, Kyrgyzstan, and implications for seismic hazard in the south Issyk-Kul Region, presented at the Southern California Earthquake Center (SCEC) annual meeting, Palm Springs, CA, Sept. 10-12, 2023.

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Adam, R., Scott, C., Arrowsmith, R., Reano, D., Madugo, C., **Koehler, R.D.**, Zuckerman M., Gray, B., Kozaci, O., Gonzalez, T., AbramsonWard, H., Rockwell, T., Gath, E., Kottke, A., and Luechter, 2023, Assessing a systematic geomorphic mapping approach to improve confidence in fault mapping and rupture prediction, presented at the Southern California Earthquake Center (SCEC) annual meeting, Palm Springs, CA, Sept. 10-12, 2023.

Koehler, R.D., 2023, Assessment of slow slipping faults: Recent examples from the northern Walker Lane, California and Nevada, presented at the Association of Engineering Geologists (AEG) 66th annual meeting, Portland, OR, September 19-24, 2023.

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Koehler, R.D., Reger, R.D., and Frohman, R.A., 2012, The Castle Mountain fault, south-central Alaska: New lidar-based observations on the sense of slip, Eos Trans. AGU, Fall Meet. Suppl., Abstract #S53D-2530.

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Koehler, R.D., Kelson, K.I., Matthews, G., Kang, K.H., and A.D. Barron, 2002, The Role of Stored Historic Sediment in Short-term Sediment Production, South Fork Noyo River, Jackson State Demonstration Forest, California, Geological Society of America Abstracts with Programs, Cordilleran Section meeting, Vol. 34, No. 5.

Koehler, R.D. and K.I. Kelson, 2002, Paleoseismic Assessment of the Northern Tijeras- Canoncito Fault System, Central New Mexico, Geological Society of America Abstracts with Programs, Rocky Mountain Section Meeting, Vol. 33, No. 4.

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Koehler, R.D., 1997, Quaternary history of the Van Duzen River headwaters along the northern portion of the Lake Mountain fault zone, northern California [abs.]: Geological Society of America Abstracts with Programs, Cordilleran Section meeting, v. 29, p. 42.

Carver, G.A., Peterson, D.D., Garrison, C.E., and **Koehler, R.D.**, 1996, Paleotsunamic evidence of subduction earthquakes from northern California [abs.]: Geologic Society of America Abstracts with Programs, Annual Meeting Cordilleran Section, v. 28, p. 54.

SENIOR TECHNICAL REVIEW

- NREL. Scientific reviewer for quality of AI generated fault traces in comparison to existing databases for geothermal modeling (2025).
- Pacific Gas & Electric Co. (PG&E). Expert review panel for revised Seismic Source Characterization report for PG&E's hydro distribution system (2021).
- Nevada Office of Nuclear Projects. Technical review of paleoseismic studies related the proposed Yucca Mountain nuclear waste repository to assess new technologies to reduce critical data gaps (2020).
- BGC Engineering, Inc. (BGC). Senior technical review of seismic hazard investigation of the Tailing Storage Facility for the Donlin Gold Project, Nova Gold and Barrack (2019).
- US Bureau of Reclamation. Field review of four paleoseismic trenches along the Gales Creek fault, Oregon (2018).
- Pacific Gas & Electric Co. (PG&E). Field review of potential fault lineaments in the vicinity of Scott Dam, California. With Rockwell Consulting (2018).
- California Department of Water Resources (DWR). Office review of fault lineament mapping north of Frenchman Reservoir. With Infra-Terra, Inc. (2018).
- Michael Baker International. Evaluation and review of FERC comments related to natural gas pipeline route pipeline, Alaksa. Report # AK LNG RFI-465 Resource Report 06 (September, 2017).

- Pacific Gas & Electric Co. (PG&E). Review of seismic source model related to PG&E's hydro distribution system and earthquake hazards program (October, 2017).
- Lettis Consultants International, Inc. Review of probabilistic seismic hazards assessment source model for Jamaica LNG project (July, 2017).
- Golder & Associates. Provided senior technical review for seismic source characterization prepared for the Clear Air Force base north of Healy Alaska (2015).
- Susitna-Watana Hydroelectric Project, Crustal Seismic Source Evaluation, AEA11-022, for Alaska Energy Authority (Feb. 2015).
- Alaska LNG, FERC documents, Draft Resource report No. 1 (Project Description) and No. 6 (Geologic Resources), Docket No. PF14-21-000 (2015)
- Susitna-Watana Hydroelectric Project (FERC No. 14241) Initial Study Report, Geomorphology section, Geology and Soils section, and Site-specific seismic hazard study section (October, 2014).
- Copper River Basin Best Interest Finding report, for State of Alaska Division of Oil & Gas (July, 2014).
- Preliminary Geohazard Assessment for Potential Power Plant Sites Mount Spurr, Alaska, for Hattenburg Dilley & Linnell, LLC and ORMAT Nevada, Inc. (Feb 2014).
- West Susitna Access Reconnaissance Study, West Susitna Access to resource Development, Transportation Analysis Report, for the Alaska Department of Transportation and Public Facilities and Shannon & Wilson, Inc., Sisyphus Consulting (December 2013).
- Senior Seismic Hazard Analysis Committee (SSHAC) member, Arizona Public Service's (APS) workshop #2 for the Palo Verde Nuclear Generating Station Sept 24 & 25, 2013.
- Susitna-Watana hydroelectric project, NTP 16, technical Memorandum No. 13, v0.0 (2013), for Alaska Energy Authority, Fugro Consultants, Inc, and MWH Americas.
- Susitna-Watana hydroelectric project, NTP 11 Seismic Studies, Technical Memorandum No. 8, v0, Lineament Mapping and Analyses for the Susitna-Watana Dam site Area (2012) and field review of fault lineament mapping (2013).
- Alaska Energy Authority, alternative energy grants, 30-40 grants per year (2010-2014).
- Point Thompson Project Final Environmental Impact Statement related to draft permit application from Exxon Mobil Corporation to develop a pipeline to the Point Thompson oil field (2012).
- Environmental Protection Agency report "An assessment of potential mining impacts on salmon ecosystems of Bristol Bay, Alaska, Volume 1. Performed for State of Alaska Office of Project Management and Permitting (2012).
- Pebble Partnership, LLC.'s seismic study related to the Pebble mine, Environmental Baseline Document, and assessment of data (lidar, orthophotgraphs) pertinent to the western extent of the Lake Clark fault (2012).
- Alaska Pipeline Project, Draft Resource report 6-Rev0, Geologic Resources, FERC Docket No. PF09-11-000, USAG-UR-SGREG-000009, Prepared by TransCanada and Exxon Mobil (2011).
- Donlin Gold Project, Natural Gas Pipeline, Plan of Development (2011).
- Shell oil's Chukchi Sea Exploration Plan for the Bureau of Ocean and Energy Management BOEM and Alaska DNR (2011).
- Lake and Peninsula Borough, Alaska, coastal management program (2011).
- Seismic hazards characterization (PSHA) for the Susitna-Watana Hydroelectric dam project southcentral Alaska including technical advisement to Fugro Consultants, Inc. (2011).
- Seismic hazards issues related to proposed natural gas storage facility in Kenai, Alaska, DNR, DGGS (2010)
- Seismic hazards issues related to proposed Hydroelectric power facilities in Alaska, 35 proposals in all regions of the state, DNR, DGGS (2009-2011)
- Field review of paleoseismic trenches excavated by TransCanada Alaska Company, LLC, Foothills Pipe Lines (North B.C.) Ltd., and Foothills Pipe Lines (South Yukon) Ltd. Trenches located along the

Bear Creek lineament and Dot "T" Johnson faults within proposed natural gas pipeline corridor, DNR, DGGS (2010).

- Field review of paleoseismic trench excavated across a suspected tectonic lineament near Lake Iliamna, southwest Alaska in the vicinity of the proposed Pebble Mine project. Represented State of Alaska mining, land, and water, large projects permitting department (2010).
- Preliminary fault investigation for residential housing development along the Mount Rose fault, Reno, NV. Client: Marvin Davis & Associates (2008).
- Assisted with the technical review of the Baja LNG terminal seismic hazards report. Evaluated paleoseismic techniques used to evaluate fault activity. AT WLA, Client: Shell Global Solutions (2004).
- Technical review of multiple Environmental Impact Reports (Geology, Soils, and Seismicity sections) prepared for housing sub-divisions in Pittsburg, Ca. At WLA, Client: Adams, Broadwell, Joseph, & Cardozo Attorneys at Law (2002).
- Technical review of field drilling and grading operations for the City of Vallejo, at the Sky Valley housing development. Confirmed the existence of landslide planes and approved keyway depths for landslide hazard mitigation. At WLA, Client: City of Vallejo (2001-2002).

GEOLOGIC, SEISMIC, AND FAULT HAZARD INVESTIGATIONS

- BGC Engineering, Inc. (BGC). Field investigation and assessment of active faults for development of the seismic source model to be used in probabilistic seismic hazard assessment for mine tailings storage facility, Donlin Gold Project, Nova Gold and Barrack (2023).
- California Department of Water Resources. Oroville Dam Spillway Repair (LCI-8) project. Geologic mapping of rock and soil exposures, geotechnical data collection within construction excavations, and paleoseismic trenching. Collaborative work with Infra-Terra, Inc., and Lettis Consultants International (2017).
- Alyeska Pipeline Services Corporation. Provided geological services including advising, field reconnaissance, peer review, and oversight for geotechnical and geohazard assessments for Alyeska's aboveground Integrity Management Program associated with the Trans-Alaska Pipeline System (TAPS) (2014-2015).
- Worley Parsons, ExxonMobil Alaska LNG LCC and Partners – AK LNG Project. The AKLNG Project is a FERC Section 3 LNG export facility that includes project segments for treatment, delivery, and transportation of natural gas from the Alaska North Slope along an 800 mile route to the LNG plant and marine terminal. Duties include field evaluation of active faults and disseminating results of the field program to project engineers. Collaborative work between Koehler Geohazards, LLC, PaleoEarthquake International, LLC., and Carver Geologic LLC (2013-2016).
- Fault crossing evaluation for the Donlin Gold natural gas pipeline. Focus on the western Denali fault. With Michael Baker, Inc and Interface Geohazard consulting, LLC. (2014).
- Seismic hazards assessment along the Trans Alaska Pipeline System (TAPS) at the Salcha River seismic zone. With Carver Geologic, LLC and Alyeska Pipeline Services Company (2013).
- Alaska Gasline Development Corporation - Alaska Stand Alone Pipeline and Bullet Line natural gas pipeline projects. Fault crossing and geologic hazard assessment, Anchorage to Prudhoe Bay, Alaska. Coordinated project from conception, lidar and data review, helicopter field reconnaissance. Collaborative work between DGGS and Alaska Gasline Development Corp. (2011-2015).
- TransCanada/Exxon Mobil – Alaska Pipeline Project (APP). Seismic hazards studies along natural gas pipeline corridor, Prudoe Bay to the Canadian border, geologic mapping and paleoseismic trenching along active faults, verification and delineation of geologic hazards at fault crossings, Collaborative work with DGGS, TransCanada Alaska company LLC (TC Alaska) and ExxonMobil Alaska (2009-11).

- Seismotectonics of Liberia, West Africa, contribution to probabilistic seismic hazard assessment (PSHA) for rail transport route for the Rio Tinto Simandou Iron Ore Project, Liberia (2009) Subconsultant to Lahontan GeoSciences and Scott Wilson Associates.
- Geologic hazard evaluation for hydroelectric canals associated with PG&E's Manton system near Redding, CA including the Armstrong, Al Smith, Keswick, Lake Grace, Shingle Creek, Baldwin, Mill Seat Bipass, Digger feeder, Cross Country, Eagle Canyon, Coleman, Instep, South Battle and Loomis Mills canals. Client: PG&E. Work in conjunction with Piedmont Geosciences. (2008).
- Seismotectonics of Guinea, Developed seismotectonic model for probabilistic seismic hazard assessment (PSHA) for rail transport route and port facility associated with the Rio Tinto Simandou Iron Ore Project, Guinea, West Africa. (2008). Subconsultant to Lahontan GeoSciences and Scott Wilson Associates.
- Fault investigation including setback recommendations for proposed remodel of the Barber Residence, 3372 Nambe Dr., Arrow Creek subdivision, Reno, NV. (2008) Client: Wood Rodgers & Associates.
- Fault investigation of 180 acre parcel near Lemmon Drive/Highway 395, Reno, NV for proposed Walmart development. Client: Wood Rodgers Consultants, Inc. (2008).
- Geologic hazard evaluation for hydroelectric canals in the vicinity of Auburn, CA including Drum, Chalk Bluff, Upper Wise, Lower Wise, Fiddler Green, and South canals. Client: PG&E. Work in conjunction with Piedmont Geosciences. (2007-2008).
- Fault investigation for Spring Creek development, Elko, Nevada. Client: Wood Rodgers Consultants, Inc. (2006)
- Fault trenching investigation for the Baku-Tbilisi-Ceyhan (BTC) crude oil pipeline project, Turkey. Investigation conducted to verify fault locations, width of zone of deformation, style of deformation, earthquake magnitude, and amount and direction of displacement, and to provide fault crossing design validation. Faults evaluated included North Anatolian fault, Ezurum East fault, Ezurum West fault, and Deliler fault. At WLA, client: Botas (2004).
- Office-based analyses for the Congo River natural gas pipeline crossing project, Angola including literature search and review, bathimetric interpretation of canyon landforms, and longitudinal profiles. At WLA, client: Shell Global Solutions (2004).
- Geologic hazards assessment in support of an Environmental Impact Report for the Lawson's Landing development, Dillon Beach, Marin County, CA. At WLA, client: EDAW, Inc. (2003).
- Fault rupture hazard investigation for the proposed Telacu senior housing project along the San Jacinto fault in San Bernadino, California. At WLA, client: Geotechnologies, Inc. (2003).
- Geologic, seismic, and geotechnical studies for Entergy Potomac's Grand Gulf nuclear power plant expansion, Mississippi. Performed detailed geologic mapping within the 1-km, 5-mile, and 25-mile radius study areas. Compiled a seismic source model for the Central United States to update Electric Power Research Institute (EPRI) seismic source and ground motion models to be used in early site permitting. At WLA (2002-2003).
- Fault location assessment for the proposed development of the Portola Valley Town Center Project (PVTCP), Portola Valley, California. The assessment included exploratory trenching (10 trenches) to investigate the location and geometry of the Woodside trace of the San Andreas fault, 14 borings with continuous core sampling, and surveying. At WLA (2001, 2002, and 2003).
- Surface fault rupture hazard study for the Sandy Creek detention basin along the Antioch fault, Antioch, California. At WLA (2002)
- Liquefaction hazard assessment for the El Portal school, San Pablo, California. Study included logging of 4 boreholes. At WLA (2002).
- Rock fracture and fault location study for the Altamont Landfill, Livermore, California. Study assessed fault control of groundwater flow. At WLA, client: Waste Management (2002)
- Seismic hazard evaluation for the Haifa LPG facility, Haifa, Isreal. Work included air photo mapping of fault lineaments and fault strip map compilation. At WLA (2002).

- Fault rupture hazard investigation for the General Mills Yoplait Colombo plant involving trenching the Avalon-Compton segment of the Newport-Inglewood fault. At WLA (2002).
- Geologic and geotechnical hazard evaluation of the Ralston Penstock, a component of Placer County Water Agency's Middle Fork Project. This project consisted of a field reconnaissance of the penstock, and preparation of a rock fall hazard strip map along the penstock alignment. At WLA (2001).
- Fault rupture hazard investigation for the proposed new development at the Eden Church, Hayward, California. Trenches were documented for the presence or absence of active faults capable of producing surface rupture. At WLA (2001).
- Fault rupture hazard investigation for the new pro shop and locker room expansion for the Mira Vista Country Club, El Cerritto, California. Trenches were documented for the presence or absence of active faults capable of producing surface rupture. At WLA (2001).
- Fault rupture hazard investigation for a proposed development at 10025 Foothill Road, Sunol, California. Aerial Photography interpretation and field reconnaissance were used to construct a Quaternary geology site map. Exploratory trenching was used to document the absence of active fault traces in the vicinity of the building footprint. At WLA (2000).
- Fault rupture hazard investigation for the new Alameda County Sheriffs facility, San Leandro, California. Trenches were documented for the presence or absence of active faults capable of producing surface rupture. At WLA (2000-2002).
- Site Geotechnical Characterization (SGC) for the PG&E Diablo Canyon Nuclear Power Plant, San Luis Obispo, California. This work included geologic mapping, trenching, rock fracture analysis, continuous core drilling, downhole geophysical data acquisition, and report preparation. This information will be used to assess the feasibility of licensing and constructing an interim dry cask storage facility for spent fuel rod assemblies. At WLA (2000-2001).
- Fault rupture hazard investigation for the Juvenile Hall facility, San Leandro, California. Seventeen exploratory trenches were documented for the presence or absence of active faults capable of producing surface rupture. At WLA (2000).
- Geotechnical investigation including drilling, test pit description, and construction monitoring for the Turtle Bay Pedestrian Bridge, Redding, California. At WLA (2000).
- Geotechnical investigation including trenching and drilling to identify the margin of the Blakemont landslide at the proposed development on 7952 Terrace Drive, El Cerritto, California. At WLA (2001).
- Seismic source study for the California Department of Water Resources. This study evaluated the earthquake hazard for potential dam sites in the northern Sacramento Valley, California. At WLA (1999).