Mackay School of Earth Sciences and Engineering
College of Science
University of Nevada, Reno

NEVADA BUREAU OF MINES AND GEOLOGY

OPEN-FILE REPORT 14-2

Biennial Report of the Nevada Bureau of Mines and Geology

2014

James E. Faulds
State Geologist and Director

PREPARED FOR

The Board of Regents of the Nevada System of Higher Education

Biennial Report of the Nevada Bureau of Mines and Geology 2014

Contents

Nevada Bureau of Mines and Geology **3**

Mission Statement **4**

History of the Nevada Bureau of Mines and Geology **6**

Publications **7**

2012 Nevada Bureau of Mines and Geology Books, Maps, Bulletins, Special Publications, and Open-File Reports **7**

2013 Nevada Bureau of Mines and Geology Books, Maps, Bulletins, Special Publications, and Open-File Reports **7**

2012 Scientific Journals, Conference Proceedings, Guidebooks, and Other External Reports and Articles **8**

2013 Scientific Journals, Conference Proceedings, Guidebooks, and Other External Reports and Articles **10**

Research Grants that were active in 2012 and 2013 **12**

Presentations, Abstracts, Contract Reports, and Websites in 2012 and 2013 **17**

Honors and Awards (under individual names, both years) **27**

Other Professional Activities - 2012 and 2013 **28**

Suggested citation:
Faulds, J.E., 2014, Biennial Report of the Nevada Bureau of Mines and Geology, 2014: Nevada Bureau of Mines and Geology Open-File Report 14-2, 35 p.

© Copyright 2014 The University of Nevada, Reno. All Rights Reserved.

Nevada Bureau of Mines and Geology

The Nevada Bureau of Mines and Geology (NBMG) is a research and public service unit of the University of Nevada and is the State geological survey. NBMG is part of the Mackay School of Earth Sciences and Engineering within the College of Science at the University of Nevada, Reno.

NBMG scientists conduct research and publish reports on mineral resources, engineering geology, environmental geology, hydrogeology, and geologic mapping. Individuals interested in Nevada geology are encouraged to visit, call, write NBMG, or visit our home page.

http://www.nbmg.unr.edu

Most NBMG scientists (Director and research faculty) and cartographic and administrative staff are located on the **University of Nevada campus**, 775-794-6691.

U.S. Mail:
Nevada Bureau of Mines and Geology
Mail Stop 178
University of Nevada

UPS or Federal Express:
Nevada Bureau of Mines and Geology
University of Nevada / Mail Stop 178
1664 N. Virginia Street
Reno, NV 89557-0178 Reno, NV 89503

Publication Sales and Information Office

(new location on the **campus of the Desert Research Institute**)

Nevada Bureau of Mines and Geology
Great Basin Science Sample and Records Library
2175 Raggio Parkway
Reno, NV 89512

Please contact the Publication Sales Office to purchase NBMG geologic maps and reports and U.S. Geological Survey geologic maps, publications, and topographic maps. Walk-in customers, please note: **The cash register closes at 3:00 p.m.** (Tuesday–Friday).

Phone: (775) 682-8766 (Tuesday–Friday, 8:00 a.m.–3:00 p.m., PST)
E-mail: nbmg@unr.edu
Web: www.nbmg.unr.edu

Please contact the Information Office for information on aerial photographs; cuttings, core, and well records for oil, gas, and geothermal; and general geological information.

Phone: (775) 682-8767 (Tuesday–Friday, 8:00 a.m.–3:00 p.m., PST)
E-mail: nbmg@unr.edu

Mission Statement

The Nevada Bureau of Mines and Geology (NBMG) is a research and public service unit of the University of Nevada and is the state geological survey. NBMG is part of the Mackay School of Earth Sciences and Engineering within the College of Science at the University of Nevada, Reno. NBMG scientists conduct research and publish reports on mineral resources, engineering geology, environmental geology, hydrogeology, and geologic mapping.

Current activities in geologic mapping and mineral resources include detailed geologic mapping and stratigraphic studies in Nevada, comparative studies of bulk-mineable precious-metal deposits, geochemical investigations of mining districts, metallic and industrial mineral resource assessments, igneous petrologic studies, hydrothermal experiments, analysis of geothermal fields, and research on the origin of mineral deposits.

Engineering geology, environmental geology, and hydrogeology projects include investigations of earthquake hazards and related aspects of neotectonics, examination of geological issues involved in disposing nuclear and hazardous wastes, mapping of geomorphic features, radon hazard studies, studies of landslide hazards, geochemical characterization of natural environmental hazards, investigations of the fate of mercury from processing Comstock ores by amalgamation in late 1800s, and investigation of land subsidence, primarily in Las Vegas Valley.

Earth science education projects include writing guidebooks for laymen, teachers, and students; presenting lectures, short courses, and workshops; and assisting with science fairs, curriculum development, and conferences. Geologic and geographic information activities include creating and updating databases on mining districts, active mines and prospects, and geothermal and petroleum exploration and production; implementation and development of statewide geographic information systems and the digital maps needed for these systems; and maintenance of core and cuttings facilities, rock and mineral collections for research, aerial photographic imagery and maps, and extensive files on Nevada geology and resources.

NBMG cooperates with numerous state and federal agencies in conducting research and in providing geologic and resource information. Research results are published as NBMG bulletins, reports, maps, and special publications as well as in federal publications and scientific journals. In addition to addressing the needs for geologic information by conducting research, publishing reports and maps, and creating computer databases, staff members assist the public, industry, and government agencies by answering specific questions regarding Nevada geology and resources and by providing some chemical and mineralogical analyses.

History of the Nevada Bureau of Mines and Geology

The following paragraphs are excerpted from the article "The Nevada Bureau of Mines and Geology" by Joseph V. Tingley. To read the entire article on the history of the Nevada Bureau of Mines and Geology, see the following link on the Nevada Bureau of Mines and Geology website: http://www.nbmg.unr.edu/_docs/HistoryOfNBMG.pdf

On March 20, 1865, during its first session, the Nevada Legislature created the position of state geologist; an act was passed that provided for appointment by the Board of Regents of a State Geologist of Nevada who,

...shall proceed to make a preliminary and superficial geological survey of the mineral regions of the state, ...and to prepare a map, marked and colored in such a manner as to indicate the general geological divisions, as developed in the country examined.

The following year (1866), during the second session of the legislature, an act was passed which created the office of State Mineralogist. The State Mineralogist was to serve under the Board of Regents and was, among other things, to be superintendent of a state mining school; to visit and examine mineral properties within the state; to collect, mark, and catalog mineral specimens; to devise the course of studies at the mining school; to teach at the school; and to collect information concerning the different modes of working mines and reducing ores.
In 1869, the position of State Mineralogist was removed from the control of the Board of Regents and was made an elective office; White was appointed to continue in the position until the general elections of 1870. H.R. Whitehill was elected to the position and took office in January 1871. Whitehill held the job until 1878 when the office was abolished by the Legislature. The reports of the State Mineralogist, issued biennially during the 12-year life of the office, are in some cases the only surviving records of many mining operations in remote parts of the state.

In 1888, a School of Mining was formally organized at the new Reno campus of the University of Nevada with Robert D. Jackson as its first Director. In 1895 the Nevada legislature charged the University with the responsibility of providing an assay service for citizens of the state and the Mining Analytical Laboratory was established. As the first public service division of the University, the laboratory was the organizational predecessor of the Nevada Bureau of Mines and Geology.

In 1929, under Fulton's directorship, the Nevada Bureau of Mines was formed as the second public service division of the University of Nevada. Fulton took personal credit for initiating legislation which led to the formation of the Bureau. In a letter to the President of the University in 1939, Fulton stated:

The mining states of the West all have a Bureau of Mines...The services performed by these Bureaus are of great value to the mining industry and inasmuch as mining is the paramount industry in Nevada, it seemed to me important to have such an agency here. ..I therefore, after discussing the matter with the President [of the university], had a bill introduced in the 34th legislature in 1929 establishing a Bureau of Mines...

Assembly Bill No. 83, approved March 29, 1929, brought the Nevada Bureau of Mines into existence. It was to be under the direction of the Board of Regents of the University and "a competent mining engineer" was to be appointed director. Clearly spelled out in the bill were objectives that Director Fulton must have had in mind. The first listed was:

> To, by questionnaire or otherwise, conduct a thorough mineral survey of the state and to catalog each and every mineral deposit and occurrence, both metallic and nonmetallic of whatsoever nature.. ., and to serve as a bureau of information and exchange on Nevada mining.

This still remains as one of the prime functions of the organization.

The Nevada Bureau of Mines was now set in a form that would carry it through the depression, a world war, and up to its next major transition. The Bureau and the Mining Analytical Laboratory, both public service organizations, along with the teaching departments, made up the Mackay School of Mines.

In 1963, the Bureau moved into offices in the new Scrugham Engineering and Mines Building constructed directly east of the old Mackay School of Mines Building. Dean Scheid, through persistent negotiations with Nevada legislators, had managed to have an entire wing of the new building earmarked for the use of the Nevada Bureau of Mines and the State Analytical Laboratory. The Bureau in 1987 (and presently in 2012) occupies most of the four floors of the mines wing of this building.

Directors and Acting Directors since 1971:

Vernon E. Scheid, 1971–72
John H. Schilling, 1972–87
James L. Hendrix, 1987–88, Acting Director
Harold F. Bonham, Jr., 1993–95, Acting Director
Jonathan G. Price, 1988–1993, and 1995–2012,
Director and State Geologist
James E. Faulds, 2012–present,
Director and State Geologist

Titles, Organizational Directors, and Dates Served in Historical Sequence from 1865–1987:

State Geologist, 1865
(Position not filled)

State Mineralogist, 1866–78
Richard H. Stretch, 1866
A.F. White, 1867–70
H.R. Whitehill, 1871–78

State Analytical Laboratory, 1895–1985
Directors:
Robert D. Jackson, 1895–1899
Charles P. Brown, 1899
George J. Young, 1900–14
Francis Church Lincoln, 1914–24
Walter S. Palmer, 1924–51
Vernon E. Scheid, 1951–72
John H. Schilling, 1973–85

Nevada Bureau of Mines, 1929–71
Directors:
John A. Fulton, 1929–39
Jay A. Carpenter, 1939–51
Vernon E. Scheid, 1951–71

Publications

2012 Nevada Bureau of Mines and Geology Books, Maps, Bulletins, Special Publications, and Open-File Reports

dePolo, C.M. and **Seelye, I.**, 2012, Preliminary erosional impact potential map of the Ute quadrangle, Clark County, Nevada, Nevada Bureau of Mines and Geology Open-File Report 12-4, scale 1:24,000.

dePolo, C.M. and Taylor, W., 2012, Geologic map of the Ute quadrangle, Clark County, Nevada, Nevada Bureau of Mines and Geology, Map 177, scale 1:24,000.

dePolo, C.M., 2012, Damaging earthquakes in Nevada—1840s to 2008, Nevada Bureau of Mines and Geology Special Publication 27, scale 1:24,000.

dePolo, D.M. and **dePolo, C.M.**, 2012, Earthquakes in Nevada—1840s to 2010, Nevada Bureau of Mines and Geology, Map 179, scale 1:24,000.

Faulds, J.E., **Ramelli, A.R.**, **Garside, L.J.**, **Coolbaugh, M.F.**, and **Green, H.L.**, 2012, Preliminary geologic map of the Desert Peak quadrangle, Churchill County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 12-5, scale 1:24,000.

Hinz, N.H., **Faulds, J.E.**, and **Ramelli, A.R.**, 2012, Preliminary geologic map of the north half of the Fourth of July Mountain quadrangle, Clark County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 12-8, scale 1:24,000.

Hinz, N.H., **Faulds, J.E.**, **Ramelli, A.R.**, and Green, H.L., 2012, Preliminary geologic map of the Ireteba Peaks quadrangle, Clark County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 12-9, scale 1:24,000.

Hursh, J., **Mauldin, J.**, **Henry, C.**, and **Hinz, N.**, 2012, Nevada geology calendar 2013.

Kreemer, C.W., **Hammond, W.C.**, **Blewitt, G.**, Holland, A.A., and Bennett, R.A., 2012, A geodetic strain rate model for the Pacific-North American plate boundary, western United States, Nevada Bureau of Mines and Geology Map 178, scale 1:1,500,000.

LaPointe, D.D., **Price, J.G.**, **Faulds, J.E.**, **dePolo, C.M.**, and **Davis, D.A.**, 2012, Tuff all over—exploring faulted volcanic terrain in the Painted Hills, Virginia Mountains, west of Pyramid Lake, Nevada Bureau of Mines and Geology, Educational Series E-52, 29 p.

Lewis, R., Link, P.K., Stanford, L., and **Long, S.**, 2012, Geologic map of Idaho: Idaho Geological Survey Map 9, scale 1:750,000, 18 p.

Long, S.P., **Henry, C.D.**, **Muntean, J.H.**, Edmondo, G.P., and Thomas, R.D., 2012, Preliminary geologic map of the southern Eureka mining district, Eureka and White Pine counties, Nevada: Nevada Bureau of Mines and Geology Open-File Report 12-6, scale 1:24,000, 2 plates.

Price, J.G., **Johnson, G.**, **dePolo, C.M.**, and Carlson, W., 2012, Nevada preliminary assessment of potentially unreinforced masonry buildings in Nevada, Nevada Bureau of Mines and Geology Report 54, 38 p.

Ramelli, A.R., **Henry, C.D.**, and Walker, J.P., 2012, Preliminary revised geologic maps of the Reno urban area, Nevada, Nevada Bureau of Mines and Geology, Open-File Report 11-7.

Shevenell, L., 2012, Geothermal Power—in achieving sustainability: Visions, principles, and practices, A new encyclopedia from Macmillan Reference USA, a part of Cengage Learning.

Shevenell, **L.**, **Price, J.G.**, and **Hess, R.**, 2012, Data tables and graphs of geothermal power production in Nevada, 1985–2011: Nevada Bureau of Mines and Geology Open-File Report 12-3, 19 p.

Shevenell, L., Zehner, R., Price, L., and Wells, L., 2012, Geothermal energy, *in* Muntean, J.L., Davis, D.A., Shevenell, L., Zehner, The Nevada mineral industry 2011: Nevada Bureau of Mines and Geology Special Publication MI-2011, 180 p.

2013 Nevada Bureau of Mines and Geology Books, Maps, Bulletins, Special Publications, and Open-File Reports

Castor, S.B., House, P.K., Hudson, D.M., and **Henry, C.D.**, 2013, Geologic map of the Flowery Peak quadrangle, Storey and Lyon counties, Nevada: Nevada Bureau of Mines and Geology Map 180, scale 1:24,000, 24 p.

Davis, D.A., and **Muntean, J.L.**, 2013, Metals, *in* The Nevada mineral industry 2011: Nevada Bureau of Mines and Geology

Special Publication MI-2011, p. 14–52.
Davis, D.A., and **Muntean, J.L.**, 2013, Other metallic deposits, *in* The Nevada mineral industry 2010: Nevada Bureau of Mines and Geology Special Publication MI-2011, p. 97–102.
dePolo, C.M., 2013, Earthquake mitigation section of the Douglas County hazard mitigation report, Douglas County, 64 p.
dePolo, C.M., 2013, Magnitude values used for M>=6 earthquakes in earthquakes in Nevada: 1840s to 2010, NBMG Map 179: Nevada Bureau of Mines and Geology Open-File Report, 13-7, 6 p.
dePolo, C.M., Taylor, W., **Faulds, J.E.**, 2013, Evidence for high contemporary slip rates along the Eglington fault, Clark County, Nevada, Nevada Bureau of Mines and Geology Open-File Report 13-12, 8 p.
Henry, C.D., **Bell, J.W.**, John, D.A., and Colgan, J.P., 2013, Preliminary geologic map of the West Gate quadrangle, Churchill County, Nevada, Nevada Bureau of Mines and Geology Open-File Report 13-9, scale 1:24,000, 7 p.
Hinz, N.H., **Ramelli, A.R.**, **Faulds, J.E.**, 2013, Preliminary geologic map of the Wabuska quadrangle, Lyon County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 13-8, scale 1:24,000.
Hursh, J., **Mauldin, J.**, **Henry, C.**, and **Hinz, N.**, 2013, Nevada geology calendar 2014.
Muntean, J.L., 2013, Overview, *in* The Nevada mineral industry 2011: Nevada Bureau of Mines and Geology Special Publication MI-2011, p. 3–13.
Muntean, J.L., **Garside, L.J.**, and **Davis, D.A.,** 2013, Nevada mineral and energy resource exploration survey 2011, 22 p.
Price, J.G., **Davis, D.**, **LaPointe, D.D.**, and **dePolo, C.M.**, 2013, Mapping the geology around the Desert Research Institute and Truckee Meadows Community College: Nevada Bureau of Mines and Geology Educational Series E-53, 38 p.
Shevenell, L., 2013, Geothermal Power, *in* Debra Rowe, editor, Achieving sustainability: visions, principles, and practices, —A new encyclopedia from Macmillan Reference USA, a part of Cengage Learning, 10 p.
Shevenell, **L.**, Zehner, R., Price, L., and Wells, L., 2013, Geothermal energy, *in* Muntean, J.L., Davis, D.A., Shevenell, L., Zehner, editors, The Nevada mineral industry 2011: Nevada Bureau of Mines and Geology Special Publication MI-2011, p. 119–137.
Shevenell, **L.**, Zehner, R., Price, L., and Wells, L., 2013, Geothermal energy, *in* Muntean, J.L., Davis, D.A., Shevenell, L., Zehner, editors, The Nevada mineral industry 2012: Nevada Bureau of Mines and Geology Special Publication MI-2012, p. 126–148.

2012 Scientific Journals, Conference Proceedings, Guidebooks, and Other External Reports and Articles

Bell, J.W., Amelung, F., and **Henry, C.D.**, 2012, InSAR analysis of the 2008 Reno-Mogul earthquake swarm—Evidence for westward migration of Walker Lane style dextral faulting: Geophysical Research Letters, v. 39.
Bormann, J., **Hammond, W.C.**, **Kreemer, C.W.**, and **Blewitt, G.**, 2012, Using GPS measurements of active crustal deformation to estimate slip rates on the Honey Lake/Warm Springs and Mohawk Valley fault systems, Northern Walker Lane: Friends of the Pleistocene.
Bruyninx, C., Altamimi, A., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Dawson, J., Dietrich, R., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, R., **Kreemer, C.W.**, Lavalee, D., Legrand, J., Sanchez, L., Sella, G., Shen, Z., Santamaia-Gomez, A., and Woppelman, G., 2012, A dense global velocity field based on GNSS observations: Preliminary results, Geodesy for Planet Earth, IAG Symposia Series, v. 136, p. 19–26.
Cashman, P.H., **Faulds, J.E.**, and **Hinz, N.H.**, 2012, Regional variations in structural controls on geothermal systems in the Great Basin, Geothermal Resources Council Transactions, v. 36, p. 25–30.
Cassel, E.J., Graham, S.A., Chamberlain, C.P., and **Henry, C.D.**, 2012, Early Cenozoic topography, morphology, and tectonics of the northern Sierra Nevada and western Basin and Range: Geosphere, v. 8, p. 229–249.
Corrie, S.L., Kohn, M.J., McQuarrie, N., and **Long, S.P.**, 2012, Flattening the Bhutan Himalaya: Earth and Planetary Science Letters, v. 349–350, p. 67–74.
Cousens, B., **Henry, C.D.**, and Gupta, V., 2012, Distinct mantle sources for Pliocene-Quaternary volcanism beneath the modern Sierra Nevada and adjacent Great Basin, northern California and western Nevada, USA: Geosphere, v. 8, p. 562–580. doi:10.1130/GES00741.1
Cronin, V., Olds, S., Pratt-Situala, B., Resor, P., West, N., **Hammond, W.C.**, and **Kreemer, C.W.**, 2012, Infinitesimal strain analysis using GPS data: Module for structural geology or geophysics course, UNAVCO, Inc., http://www.unavco.org/edu_outreach/resources/gps-strain/majors-gps-strain/majors-gps-strain.html.
Del Pardo, C., Smith-Konter, B.R., Serpa, L.F., **Kreemer, C.W.**, **Blewitt, G.**, and **Hammond, W.C.**, 2012, Interseismic deformation and geologic evolution of the Death Valley Fault Zone, Journal of Geophysical Research/American Geophysical Union, 117:B06404.

Dering, G. and **Faulds, J**., 2012, Structural controls of the Tuscarora geothermal field, Elko County, Nevada: Geothermal Resources Council Transactions, v. 36, p. 41–46. [Won best paper award for session]

Edwards, J., and **Faulds, J.E**., 2012, Preliminary assessment of the structural controls of Neal Hot Springs geothermal field, Malheur County, Oregon: Geothermal Resources Council Transactions, v. 36, p. 891–896. [Won best paper award for session]

Ely, L.L., Brossy, C.C., House, P.K., Safran, E.B., O'Connor, J.E., Champion, D.E., Fenton, C.R., Bondre, N.R., Orem, C.A., Grant, G.E., **Henry, C.D.**, and Turrin, B.D., in press, Owyhee River intracanyon lava flows: Does the river give a dam? Geological Society of America Bulletin, v. 124, p. 1667–1687.

Faulds, J.E., and **Hinz, N.H.**, 2012, Characterizing structural controls of geothermal systems in the northwestern Great Basin, Quarterly Progress Reports submitted to the Great Basin Center for Geothermal Energy.

Faulds, J.E., **dePolo, C.M.**, **Garside, L.**, **Hinz, N.H.**, House, P.K., and **Ramelli, A.R.**, 2012, Clark County geologic mapping project, Quarterly Progress Reports, Bureau of Land Management.

Faulds, J.E., **Hinz, N.H.**, and **Kreemer, C.W.**, 2012, Structural and tectonic controls of geothermal activity in the Basin and Range province, western USA: New Zealand Geothermal Workshop 2012 Proceedings, Auckland, 5 p.

Faulds, J.E., **Hinz, N.H.**, and Moeck, I., 2012, Characterizing structural controls of EGS-candidate and conventional geothermal reservoirs in the Great Basin: Developing successful exploration strategies in extended terranes: Quarterly Progress Reports, U.S. Department of Energy.

Faulds, J.E., **Hinz, N.H.**, and others, 2012, Characterizing structural controls of geothermal systems in the northwestern Great Basin: Quarterly reports submitted to the Great Basin Center for Geothermal Energy.

Faulds, J.E., **Hinz, N.H.**, **Kreemer, C.W.**, and Coolbaugh, M.F., 2012, Regional patterns of geothermal activity in the Great Basin region, western USA: Correlation with strain rates: Geothermal Resources Council Transactions, v. 36, p. 897–902.

Faulds, J.E., House, P.K., **dePolo, C.M.**, **Garside, L.**, **Hinz, N.H.**, and **Ramelli, A.R.**, 2012, Clark County geologic mapping project, Annual Progress Report, Bureau of Land Management.

Faulds, J.E., **Kreemer, C.W.**, **Hinz, N.H.**, and Coolbaugh, M.F., 2012, Regional patterns of geothermal activity in the western USA—correlations with strain rates, Geothernal Resources Council Transactions, v. 36, p. 897–902.

Hammond, W.C., **Blewitt, G.**, Li, Z., **Kreemer, C.W.**, and **Plag, H.P.**, 2012, Contemporary uplift of the Sierra Nevada, western United States, from GPS and InSAR measurements: Geology/Geological Society of America, v. 40, p. 667–670.

Hammond, W.C., **Kreemer, C.W.**, **Blewitt, G.**, and Bormann, J., 2012, GPS Measurement of active crustal deformation of the Lake Tahoe Basin and vicinity: Friends of the Pleistocene Field Trip Guidebook.

Henry, C.D., **Hinz, N.H.**, **Faulds, J.E**., Colgan, J.P., John, D.A., Brooks, E.R., Cassel, E.J., **Garside, L.J.**, **Davis, D.A.**, and **Castor, S.B.**, 2012, Eocene-early Miocene paleotopography of the Sierra Nevada—Great Basin—Nevadaplano based on widespread ash-flow tuffs and paleovalleys: Geosphere, v. 8, p. 1–27.

Kreemer, C., **Hammond, W.C.**, **Blewitt, G.**, Holland, A.A., and Bennett, R.A., 2012, A geodetic strain rate model for the Pacific-North American plate boundary, western United States. Nevada Bureau of Mines and Geology Map 178, scale 1:1,500,000.

Long, S.P., 2012, Magnitudes and spatial patterns of erosional exhumation in the Sevier hinterland, eastern Nevada and western Utah, USA: Insights from a Paleogene paleogeologic map: Geosphere, v. 8, p. 881–901.

Long, S.P., McQuarrie, N., Tobgay, T., Coutand, I., Cooper, F.J., Reiners, P.W., Wartho, J., and Hodges, K.V., 2012, Variable shortening rates in the eastern Himalayan thrust belt, Bhutan—insights from multiple thermochronologic and geochronologic datasets tied to kinematic reconstructions: Tectonics, v. 31, TC5004, 23 p.

Long, S.P., McQuarrie, N., Tobgay, T., Coutand, I., Cooper, F.J., Reiners, P.W., Wartho, J., and Hodges, K.V., 2012, Variable shortening rates in the Bhutan thrust belt—implications for strain partitioning in the eastern Himalayan-Tibetan orogenic system: Eos Transactions, American Geophysical Union 93 (57), Fall Meet. Suppl., Abstract T51F-2661.

McQuarrie, N., **Long, S.P.**, Tobgay, T., Nesbit, J.N., Gehrels, G., and Ducea, M., in press, Documenting basin scale, geometry and provenance through detrital geochemical data—lessons from the Neoproterozoic to Ordovician Lesser, Greater, and Tethyan Himalayan strata of Bhutan: Gondwana Research.

Mencin, D., **Hammond, W.C.**, and Langbein, J., 2012, Applications of real-time GPS for science and hazard monitoring, Community Workshop on Real-Time GPS Position Data Products and Formats: Eos Transactions, American Geophysical Union, v. 93, no. 50, p. 526.

Muntean, J., 2012, Petrographic work aimed at understanding geologic controls on gold recovery at the Lookout Mountain gold deposit: Progress report #1: Report for Timberline Resources Corporation, 19 p.

Reeves, D.M., Pohll, G., Lyles, B., **Faulds, J**., Louie, J., Ehni, B., Kratt, C., Cooper, C., Parashar, R., Pullammanappallil, S., and Noel, D., 2012, Geothermal resource characterization and evaluation at Astor Pass, Nevada: Geothermal Resources Council Transactions, v. 36, p. 1371–1376.

Shevenell, **L.**, 2012, Estimated well costs as a function of depth of geothermal wells drilled in Nevada: Transactions Geothermal Resources Council, 36: 121–128.

Shevenell, L., 2012, The rate of success of geothermal wells drilled in Nevada: Transactions Geothermal Resources Council 36: 129–139.

Shevenell, L., and Fortuna, R., 2012, Geothermal Power (Chap. 11.6), *in* Standard handbook for electrical engineers, 16th edition (H.W. Beaty and D.G. Fink, editors), McGraw-Hill, p. 11.49–11.57.

Shevenell, L., and Zehner, R., 2012, Recent exploration activity in Nevada—Spring 2012: Geothermal Resources Council Bulletin 41, v. 3, p. 29–39.

Shevenell, L., Oppliger, G., **Coolbaugh, M.**, and **Faulds, J**., 2012, Brady's (Nevada) InSAR anomaly evaluated with historical well temperature and pressure data: Geothermal Resources Council Transactions, v. 36, p. 1383–1390.

Shevenell, **L.**, Penfield, R., Zehner, R., Johnson, G., and Coolbaugh, M., 2012, National geothermal data system geochemical data for exploration: Transactions Geothermal Resources Council, v. 36, p. 773–782.

Siler, D., Mayhew, B., and **Faulds, J.E**., 2012, Three-dimensional geologic characterization of geothermal systems: Astor Pass, Nevada, USA: Geothermal Resources Council Transactions, v. 36, p. 783–786. [Won best paper award for session]

Snyder, W., Moore, J., Blackwell, D., Boyd, T., Horne, R., and **Shevenell, L.**, 2012, Building a community-based data network for geothermal energy: 37th Workshop for Geothermal Reservoir Engineering, Stanford University, 9 pgs.

Tibuleac, I. M., Pullammanappallil, S., **Faulds, J**., and **McLachlan, H.**, 2012, Development of a low cost method to estimate the seismic signature of a geothermal field from ambient seismic noise analysis: Geothermal Resources Council Transactions, v. 36, p. 1023–1026.

Tobgay, T., McQuarrie, N., **Long, S.**, Kohn, M., and Corrie, S., 2012, The age and rate of displacement along the Main Central thrust in the western Bhutan Himalaya: Earth and Planetary Science Letters, v. 319–320, p. 146–158.

Wesnousky, S.G., Bormann, J., **Kreemer, C.W.**, **Hammond, W.C.**, and Brune, J.N., 2012, Neotectonics, geodesy and seismic hazard in the northern Walker Lane of western North America—Thirty kilometers of crustal shear and no strike-slip?: Earth and Planetary Science Letters, v. 329–330, p. 133–140.

2013 Scientific Journals, Conference Proceedings, Guidebooks, and Other External Reports and Articles

Anderson, A., Blackwell, D., Chickering, C., Boyd, T., Horne, R., MacKenzie, M., Moore, J., Nickull, D., Richard, S., and **Shevenell, L.A.**, 2013, National Geothermal Data System, Geothermal Data, Community requirements and Information Engineering: Transactions Geothermal Resources Council, v. 37, p. 539–550.

Anderson, A., Blackwell, D., Chickering, C., Boyd, T., Horne, R., MacKenzie, M., Moore, J., Nickull, D., Richard, S., and **Shevenell, L.**, 2013, National Geothermal Data System, Geothermal Data Domain: Assessment of Geothermal Community Data Needs: Stanford, California, Proceedings, Thirty-Eighth Workshop on Geothermal Reservoir Engineering, 14 p.

Anderson, R.B., and **Faulds, J.E**., 2013, Structural controls of the Emerson Pass geothermal system, Washoe County, Nevada: Geothermal Resources Council Transactions, v. 37, p. 453–458.

Anderson, R.B., **Faulds, J.E**., and **Dering, G.M.**, 2013, Preliminary geologic map of the central Lake Range, southern Fox Range, and northern Terraced Hills, Emerson Pass geothermal area, Washoe County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 13-10, 1:24,000 scale, 9 p.

Arehart, G.B., Ressel, M., Carne, R., and **Muntean, J.**, 2013, A comparison of Carlin-type deposits in Nevada and Yukon, *in* Colpron, M., Bissig, T., Rusk, B.G., and Thompson, J.F.H., eds., Society of Economic Geologists, Special Publication 17: Tectonics, Metallogeny, and Discovery: The North American Cordillera and Similar Accretionary Settings, p. 389–401.

Bell, J.W., 2013, InSAR studies in Crescent Valley, Nevada: Final Technical Report submitted to Barrick Gold of North America, 49 p.

Bell, J.W., 2013, Investigation of subsidence at the Amedee geothermal project: Final Technical Report submitted to Lassen Municipal Utility District, 18 p.

Blewitt, G., 2013, A new technique to enhance global GPS accuracy and resolution for earth sciences: NASA Final Report.

Blewitt, G., 2013, Extending GGOS to high frequencies and low latencies: NASA Annual Progress Report.

Blewitt, G., **Kreemer, C.W.**, **Hammond, W.C.**, and **Goldfarb, J.**, 2013, Terrestrial reference frame NA12 for crustal deformation studies in North America: Journal of Geodynamics, v. 72, p. 11–24.

Boler, F., and **Blewitt G.**, 2013, Discovery and delivery of space geodetic data products from distributed archives: NASA Final Report.

Bruyninx, C., Altamimi, A., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Dawson, J., Dietrich, R., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, R., **Kreemer, C.W.**, Lavalee, D., Legrand, J., Sanchez, L., Sella, G., Shen, Z., Santamaia-Gomez, A., and Woppelman, G., 2013, IAG WG SC1.3 on regional dense velocity fields: First results and steps ahead, Reference Frames for Applications in Geosciences: IAG Symposia Series, v. 138, p. 137–145.

Cline, J.S., **Muntean, J.L.**, Gu, X., and Xia, Y., 2013, A comparison of Carlin-type gold deposits: Guizhou Province, Golden Triangle, southwest China, and northern Nevada, USA: Earth Science Frontiers, v. 20, p. 1–18.

Cousens, B. Wetmore, S., and **Henry, C.D.**, 2013, The Pliocene-Quaternary Buffalo Valley volcanic field, Nevada, Post-extension magmatism in the north-central Great Basin, USA: Journal of Volcanology and Geothermal Research, v. 268, p. 17–35.

dePolo, C.M., and **LaPointe, D.D.**, 2013, Nevada collections inventory and metadata for the national catalog: Nevada Bureau of Mines and Geology, 4 p.

dePolo, C.M., Taylor, W.J., and **Faulds, J.E**., 2013, Evidence for high contemporary slip rates along the Eglington fault, Clark County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 13-12, 9 p.

Dering, G.M., and **Faulds, J.E**., 2013, Preliminary geologic map of the Tuscarora geothermal area, Elko County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 13-5, scale 1:24,000, 4 p.

Drakos, P.S., and **Faulds, J.E**., 2013, Preliminary geologic map of the southern Lake Range, Washoe County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 13-11, scale 1:24,000, 5 p.

Faulds, J., **dePolo, C.M.**, **Garside, L.J.**, **Hinz, N.H.**, and **Ramelli, A.R.**, 2013, Clark County geologic mapping project, Final Report: Bureau of Land Management.

Faulds, J.E., **Anderson, R.B.**, **Ramelli, A.R.**, Drakos, P.S., Vice, G.S., **Hinz, N.H.**, **Dering, G.M.**, **Bell, J.W.**, House, P.K., and Ressel, M.W., 2013, Preliminary geologic map of the Pyramid Lake Paiute Reservation, Lyon, Pershing, Storey, and Washoe Counties, Nevada: Nevada Bureau of Mines and Geology unpublished map.

Faulds, J.E., **Hinz, N.H.**, and others, 2013, Characterizing Structural Controls of EGS-Candidate and Conventional Geothermal Reservoirs in the Great Basin, Developing Successful Exploration Strategies in Extended Terranes: Quarterly and annual reports submitted to the Department of Energy.

Faulds, J.E., Hinz, N.H., **Dering, G.M.**, and Drew, S.L., 2013, The hybrid model–the most accommodating structural setting for geothermal power generation in the Great Basin, western USA: Geothermal Resources Council Transactions, v. 37, p. 3–10.

Faulds, J.E., **Hinz, N.H.**, **Dering, G.M.**, and **Drew, S.L.**, 2013, The hybrid model – the most accommodating structural setting for geothermal power generation in the Great Basin, western USA: Geothermal Resources Council Transactions, vol. 37, p. 3–10.

Hammond, W.C., 2013, GPS and InSAR for crustal strain rate near the San Onofre Nuclear Generating Station for the Senior Seismic Hazard Analysis Committee.

Hammond, W.C., and **Bell, J.W.**, 2013, Structural controls on geothermal reservoir deformation at Stillwater, Nevada from InSAR and GPS data: Geothermal Resources Council Transactions, v. 37, p. 11–15.

Hammond, W.C., **Kreemer, C.W.**, and Bormann, J., 2013, Using GPS to estimate slip rates of the Honey Lake/Warm Springs and Mohawk Valley fault zones, Northern Walker Lane: Final Technical Report for NEHRP Award G11AP20023, USGS.

Hazelwood, L.A., Cashman, P.H., and **Faulds, J.E**., 2013, Structural controls on the geothermal system at Gerlach, Washoe County, Nevada: Geothermal Resources Council Transactions, v. 37, p. 463–468.

Henry, C.D., and John, D.A., 2013, Fissure vent and proposed caldera in Gabbs Valley, Nevada: Nevada Petroleum and Geothermal Society Field Trip, 2013, Special Publication: 33-35.

Henry, C.D., and John, D.A., 2013, Magmatism, ash-flow tuffs, and calderas of the ignimbrite flareup in the western Nevada volcanic field, Great Basin, USA: Geosphere, v. 9, p. 951–1008.

Hinz, N.H., **Coolbaugh, M.F.**, and **Faulds, J.E**., 2013, White Pine County renewable energy feasibility study and resource assessment - Geothermal component, submitted to White Pine County as subcontract deliverable on DOE grant.

Hinz, N.H., **Faulds, J.E**., and **Siler, D.L.**, 2013, Developing systematic workflow from field work to quantitative 3D modeling for successful exploration of structurally controlled geothermal systems: Geothermal Resources Council Transactions, v. 37, p. 275–280.

Hinz, N.H., **Ramelli, A.R.**, and **Faulds, J.E**., 2013, Preliminary geologic map of the Wabuska quadrangle, Lyon County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 13-08, scale 1:24,000.

Johnson, K., Bird, P., Zheng, Y., Thatcher, W., Dawson, T., Weldon, R., McCaffrey, R., **Hammond, W.C.**, Bormann, J., and Herring, T., 2013, Geodetically-derived deformation models for UCERF3, report for the Working Group on California Earthquake Probabilities.

Kreemer, C.W., 2013, Plate Boundary Observatory Data: Deformation of the Wasatch Fault System: EarthScope inSights Newsletter.

McQuarrie, N., **Long, S.P.**, Tobgay, T., Nesbit, J.N., Gehrels, G., and Ducea, M., 2013, Documenting basin scale, geometry and provenance through detrital geochemical data: lessons from the Neoproterozoic to Ordovician Lesser, Greater, and Tethyan Himalayan strata of Bhutan: Gondwana Research, v. 23, p. 1491–1510.

McQuarrie, N., Tobgay, T., **Long, S.P.**, Reiners, P.W., and Cosca, M.A., 2013, Variable exhumation rates and variable displacement rates: documenting a recent slowing of Himalayan shortening in western Bhutan: Earth and Planetary Science Letters, v. 385, p. 161–174.

Mencin, D., Meertens, C., and **Hammond, W.C.**, 2013, Community Workshop: Real-Time GPS Position Data Products and Formats: Workshop Report.

Murphy, R.T., and **Faulds, J.E**., 2013, Preliminary geologic map of the north half of the Union Pass quadrangle, Mohave County, Arizona: Arizona Geological Survey Contributed Map CM-13-A.

Ohren, M., Bailey, A., **Hinz, N.H.**, Oppliger, G., Hernandez, J., Rickard, B., and **Dering, G.**, 2013, Akutan geothermal area exploration results and pre-drilling resource model: Geothermal Resources Council Transactions, v. 37, p. 301–308.

Petersen, M.D., Zeng, Y., Haller, K.M., McCaffrey, R., **Hammond, W.C.**, Bird, P., Moschetti, M., and Thatcher, W., 2013, GPS-based Slip Rate Models for the U.S. National Seismic Hazard Maps: U.S. Geological Survey Open-File Report.

Shevenell, L., and Zehner, R., 2013, Geochemical Data Collection and Evaluation as Part of the National Geothermal Data System: Transactions Geothermal Resources Council, v. 37, p. 437–444.

Shevenell, L., and Zehner, R., 2013, Shallow Temperature Surveys at Four Sites in Nevada as part of the National Geothermal Data System: Transactions Geothermal Resources Council, v. 37, p. 31–36.

Siler, D.L., and **Faulds, J.E.**, 2013, Three-dimensional geothermal fairway mapping: Examples from the western Great Basin, USA: Geothermal Resources Council Transactions, v. 37, p. 327–332.

Spencer, J.E., Patchett, P.J., Pearthree, P.A., House, P.K., Sarna-Wojcicki, A.M., Wan, E., Roskowski, J.A., and **Faulds, J.E.**, 2013, Review and analysis of the age and origin of the Pliocene Bouse Formation, lower Colorado River Valley, southwestern USA: Geosphere, v. 9, no. 3.

Research Grants that were active in 2012 and 2013

Barrick Gold of North America, InSAR studies in Crescent Valley NV, 6/13–12/13, $42,341, **Bell, J.W.**

City of Fernley, Structural framework of the Fernley Area: University of Nevada, Reno, 3/12–12/12, $34,231, **Ramelli, A.R.**, and **Faulds, J.E.**

Federal Emergency Management Agency, Earthquake Hazards Reduction FY-2012–2013, University of Nevada, Reno, 9/12–3/14, $53,282, **dePolo, C.M.**, Kent, G., and Smith, K.D.

Federal Emergency Management Agency, Hazard Mitigation Plan Subcommittee, 7/09–7/12, $195,000, **LaPointe, D.D.**, and **Price, J.G.**

Federal Emergency Management Agency, National Earthquake Hazards Reduction Program, Geodetic Constraints on Block Kinematics and Fault Slip Rates in the Greater Las Vegas Area, 1/13–12/13, $54,970, **Hammond, W.C.**, and **Kreemer, C.**

Federal Emergency Management Agency, National Earthquake Hazards Reduction Program, Using GPS to measure the slip rate of the Honey Lake Fault, California, 1/11–12/12, $74,281, **Hammond, W.C.**, and **Kreemer, C.W.**

Federal Emergency Management Agency, National Earthquake Hazards Reduction Program, Using GPS to Measure the Slip Rate of the Honey Lake Fault, California, 1/11–12/12, $77,982, **Kreemer, C.W.**, and **Hammond, W.C.**

Federal Emergency Management Agency, National Earthquake Hazards Reduction Program, Western Great Basin Seismic and Geodetic Network Operations, 2/10–1/15, $312,994, **Hammond, W.C.**, Biasi, G.P., Smith, K.D., and Kent, G.

Federal Emergency Management Agency, Nevada earthquake hazards reduction program, University of Nevada, Reno, 9/11–3/13, $50,228, **dePolo, C.M.**, Kent, G., and Smith, K.D.

German Space Agency, InSAR studies of contemporary crustal deformation in the western Basin and Range using TerraSar-X, 2013, $27,000, **Bell, J.W.**, and **Hammond, W.C.**

Global Earthquake Model, Global Geodetic Strain Rate Model, 9/10–2/13, $144,900, **Kreemer, C.W.**

Global Earthquake Model, Global Geodetic Strain Rate Model, 9/10–1/13, $144,900, **Kreemer, C.W.**

Gold Standard Ventures Corporation, Igneous geology, geochronology, and relation to mineralization, Railroad Mining District, Nevada, $44,896, 7/12–12/13, **Henry, C.D.**

Lassen Municipal Utility District, Investigation of subsidence at the Amedee geothermal project, 11/12–6/13, $24,702, **Bell, J.W.**

MagmaEnergy, Analyzing structural controls of geothermal systems, 9/11–12/14, $40,000, **Faulds, J.E.**

National Aeronautics and Space Administration, A new technique to enhance global GPS accuracy and resolution for earth science, NASA, 7/09–6/13, $181,650, **Blewitt, G.**

National Aeronautics and Space Administration, Discovery and delivery of space geodetic data products from distributed archives, 4/10–12/12, $154,728, **Blewitt, G.**, and **Kreemer, C.**

National Aeronautics and Space Administration, Jet Propulsion Laboratory, Rapid determination of earthquake displacement field based on GPS for tsunami early warning, 3/12–1/14, $170,000, **Plag, H.-P.**, and **Blewitt, G.**

National Aeronautics and Space Administration, Pre-Disaster Mitigation 2012 Cycle-State Plan Update, Nevada Division of Emergency Management, University of Nevada, Reno, 2012–6/14, $45,2971, **dePolo, C.M.**, **Faulds, J.E.**, and **LaPointe, D.D.**

National Aeronautics and Space Administration, ROSES, Extending the Global Geodetic Observing System to High Frequencies and Low Latencies, 2/12–6/15, $362,909**, Hammond, W.C.**, and **Blewitt, G.**

National Aeronautics and Space Administration-EarthScope Geodetic Imaging Component, Geodetic imaging of Earth's surface deformation using integrated InSAR and GPS observations, 1/09–7/12, $405,646, **Hammond, W.C.**, **Blewitt, G.**, **Plag, H.-P.**, and **Kreemer, C.W.**

National Geological Geophysical Data Preservation Project, Nevada Collection and Metadata for the National Catalog, University of Nevada, Reno, 7/13–9/14, $30,345, **dePolo, C.M.**, and **Davis, D.**

National Renewable Energy Laboratory, Research to Locate Concealed Geothermal Systems, 3/09–5/12, $102,348, **Coolbaugh**, **Lechler**, and **Shevenell**.

National Science Foundation EarthScope Program, Real-Time GPS Position Data Products and Formats, 3/12–2/13, $49,918, **Hammond, W.C.**, Mencin, D., and Meertens, C.

National Science Foundation, 2012 Gordon Research Conference on Geochemistry of Mineral Deposits, 6/12–6/13, $20,000, **Muntean, J.L.**

National Science Foundation, Collaborative Research on Fluid Pathways, and Metal Transport and Deposition in Carlin-type Gold Deposits: Insights from the Getchell System, 2006–2012, $162,544, **Muntean, J.L.**, and Cline, J.S.

National Science Foundation, Collaborative Research: Thrust belt response to rapid surface uplift of the Altiplano: A field test of Cordilleran cyclicity in southern Bolivia, 11/12–12/14, $123,000, **Long, S.**, and Horton, B.

National Science Foundation, Did channel flow drive the thermo-mechanical evolution of the eastern Himalaya? A field-based test in northeast Bhutan, 10/12–12/15, $352,645, **Long, S.**, and Gordon, S.

National Science Foundation, Did channel flow drive the thermo-mechanical evolution of the eastern Himalaya? A field-based test in northeast Bhutan, $352,645, 10/12–12/15, **Long, S.**, and Gordon, S.

National Science Foundation, Earthscope, University of Nevada, Reno, Collaborative Research: Geodetic Constraints on the Kinematics of the Colorado Plateau and its Western and Southern Margin, 7/10–6/14, $285,505, **Kreemer, C.W.**, Bennett, R.A., and Eriksson, S.

National Science Foundation, Earthscope, University of Nevada, Reno, Collaborative Research: Geodetic Constraints on the Kinematics of the Colorado Plateau and its western and southern margin, 7/10–6/14, $285,505, **Kreemer, C.W.**, Bennett, R.A., and Eriksson, S.

National Science Foundation, Extending the global geodetic observing system to high frequencies and low latencies, 6/12–6/15, $362,910, **Blewitt, G.**, and **Plag, H.-P.**

National Science Foundation, Fluid pathways and Metal Transport in Carlin-Type Gold Deposits: Insights from the Getchell Deposit, 1/07–6/12, $162,544, **Muntean, J.L.**

National Science Foundation, Geophysics, Improving the Spatial and Temporal Resolution of Strain Rate Models of Continental Deformation, 9/09–9/13, $280,580, **Kreemer, C.W.**

National Science Foundation, Geophysics, Improving the spatial and temporal resolution of strain rate models of continental deformation, 9/09–8/14, $280,580, **Kreemer, C.W.**

National Science Foundation, Gordon Research Conference on Geochemistry of Mineral Deposits, 6/12–6/13, $20,000, **Muntean, J.L.**

National Science Foundation, Marine Geology and Geophysics, Collaborative Research: Thermal Contraction, Oceanic Intraplate Deformation, and Plate Circuit Closure, 9/09-8/12, $92,043, **Kreemer, C.W.**

National Science Foundation, Revealing the nature of contemporary uplift and collapse in the Sierra Nevada-Great Basin System, 2/09–3/12, $474,930, **Blewitt, G.**, **Hammond, W.C.**, and **Plag, H.-P.**

National Science Foundation, Revealing the nature of contemporary uplift and collapse in the Sierra Nevada-Great Basin System, 7/13–6/16, $452,397, **Blewitt, G.**, **Hammond, W.C.**, and **Plag, H.-P.**

National Science Foundation, Revealing the Nature of Contemporary Uplift and Collapse in the Sierra Nevada-Great Basin System (II), 7/13–6/16, $361,665, **Blewitt, G.**, and **Hammond, W.C.**

National Science Foundation, Thrust belt response to rapid surface uplift of the Altiplano, A field test of Cordilleran cyclicity in southern Bolivia, 11/12–12/14, $123,000, **Long, S.**, and Horton, B.

National Science Foundation, Using geodesy to separate transient and steady extension in the Basin and Range Province, 4/11–5/14, $206,086, **Hammond, W.C.**, and **Blewitt, G.**

National Science Foundation, Western United States, Using Geodesy to Separate Transient and Steady Extension in the Basin and Range Province, 6/11–5/13, $206,086, **Hammond, W.C.**, and **Blewitt, G.**

Nevada Department of Emergency Management, Pre-disaster mitigation 2012 cycle, State plan update, 5/12–12/13, $339,728, **Faulds, J.E., dePolo, C.M.**, and **LaPointe, D.D.**

Nevada Division of Emergency Management, Nevada hazard mitigation planning activities, University of Nevada, Reno, 3/12–9/14, $92,607, **dePolo, C.M.**, and **LaPointe, D.D.**

Nevada Division of Minerals, Mineral Resource Databases and Nevada Exploration Survey, University of Nevada, Reno, 7/12–6/13, $150,000, **Muntean, J.L.**

Nevada Division of Minerals, University of Nevada, Reno, Mineral Resource Databases and Nevada Exploration Survey, 7/12–6/13, $150,000, **Muntean, J.L.**

Ormat Technologies Inc., Data synthesis and structural analysis of the Brady's geothermal area, Churchill County, Nevada, 5/11–12/12, $52,053, **Faulds, J.E.**

Ormat Technologies Inc., Data synthesis and structural analysis of the Brady's geothermal area, Churchill County, Nevada: Phase II, 3/13–12/13, $65,300, **Faulds, J.E.**

Queenstake Resources (Yukon-Nevada Gold), Jerritt Canyon, 6/05–12/12, $88,000, **Muntean, J.L.**

Ralph J. Roberts Center for Research in Economic Geology, Annual CREG Donations, 2013, $117,500, **Muntean, J.L.**

Rodeo Creek Gold Inc., Geology and Geochemistry of the Clementine Vein System at the Hollister High-Grade Epithermal Gold-Silver Deposit, 7/12–7/15, $110,633, **Muntean, J.L.**

Rodeo Creek Gold Inc., Geology and geochemistry of the Clementine vein system at the Hollister high-grade epithermal gold-silver deposit, 7/12–7/15, $110,633, **Muntean, J.L.**

Snowstorm Exploration LLC, Snowstorm Research Project, 8/11–6/13, $73,272, **Henry, C.D.**, and **Muntean, J.L.**

Snowstorm Exploration LLC, Snowstorm, 11/11–6/13, $73,272, **Muntean, J.L.**, and **Henry, C.D.**

Southern California Earthquake Center, Inversions for fault slip using geodetic and geologic data for UCERF3: Block modeling using GPS velocities corrected for viscoelastic postseismic relaxation, 2/11–1/12, $20,000, **Hammond, W.C.**

State of Nevada Department of Education, Nevada Earth/Space Science initiative, 5/10–11/13, $527,000, **LaPointe, D.D.**, Crowther, D.T., and Cannon, J.R.

State of Nevada Department of Education, Nevada Earth/Space Science initiative, 5/10–11/13, $527,000, **LaPointe, D.D.**, Crowther, D.T., and Cannon, J.R.

State of Nevada, Division of Minerals, 2012, Funding obtained in four separate grants for maintaining NBMG information office, conducting a survey of company activities and expenditures to determine economic impacts of mineral and geothermal exploration on Nevada, and seed money to initiate collaborative projects with the minerals industry, 7/12–6/14, $300,000, **Faulds, J.E.**

State of Nevada, Division of Minerals, Curation of cuttings and core in GBSSRL, preparing Mineral Industry Reports, and developing mineral resource databases, 7/13–6/14, $100,000, **Faulds, J.E.**

Temple University, GPS Support Brady Geothermal Field, 1/13, $15,702, **Kreemer, C.W.**

Timberline Resources Corporation, Focused geologic mapping and structural analysis in the southern Eureka mining district, testing structural models of mineralization, 11/12–12/14, $23,000, **Long, S.**

Timberline Resources Corporation, Geologic framework of the southern Eureka mining district, 6/12–4/13, $25,000, **Long, S.**, **Muntean, J.**, and **Henry, C.**

Timberline Resources Corporation, South Eureka Mapping Project, $45,000, 10/10–5/13, **Muntean, J.L.**, **Henry, C.D.**, and **Long, S.**

Timberline Resources, Corporation, Focused geologic mapping and structural analysis in the southern Eureka mining district: testing structural models of mineralization, 2013, $39,216, **Long, S.**

Timberline Resources, Corporation, South Eureka mining district mapping project, 1/11–5/13, $23,898, **Long, S.**, **Muntean, J.**, and **Henry, C.**

U.S. Bureau of Land Management, Geologic mapping in southern Nevada, 5/07–12/12, $984,883, **Ramelli, A.R.**, **Faulds, J.E.**, House, P.K., and **dePolo, C.M.**

U.S. Department of Defense/Department of Navy, LiDAR analysis of active faults and geothermal potential on NAS Fallon land, 8/10–5/12, $235,314, **Bell, J.W.**

U.S. Department of Energy Recovery Act, Geothermal technologies program, characterizing structural controls of EGS-candidate and conventional geothermal reservoirs in the Great Basin, developing successful exploration strategies in extended terranes, 3/10–9/13, $935,505, **Faulds, J.E.**

U.S. Department of Energy Recovery Act, Geothermal technologies program, comprehensive evaluation of the geothermal resource potential within the Pyramid Lake Paiute Reservation, 3/10–9/13, $325,000, **Faulds, J.E.,** and John Louie.

U.S. Department of Energy, Arizona Geological Survey, Geothermal data development, acquisition, and maintenance for Nevada, Year 1, Tasks 1–7, 6/10–9/13, $176,917, **Price**, and **Shevenell.**

U.S. Department of Energy, Arizona Geological Survey, Geothermal data development, acquisition, and maintenance for Nevada, Year 2, Tasks 1–7, 5/11–9/13, $194,771, **Price**, and **Shevenell.**

U.S. Department of Energy, Arizona Geological Survey, Geothermal data development, acquisition and maintenance for Nevada: Supplemental funding for drilling new geothermal gradient holes, Task 1–7 Year 3, 5/12–9/13, $194,749, **Shevenell, L.**, and **Johnson, G.**

U.S. Department of Energy, Arizona Geological Survey, Geothermal data development, acquisition and maintenance for Nevada: Supplemental funding for location of new geothermal systems, water sampling, shallow temperature surveys and analysis of acquired data, Tasks 8–11, 6/11–6/13, $254,170, **Shevenell, L.**

U.S. Department of Energy, Arizona Geological Survey, Geothermal data development, acquisition and maintenance for Nevada: Supplemental funding for drilling new geothermal gradient holes, Task 12, 6/11–6/13, $250,000, **Shevenell, L.**

U.S. Department of Energy, Characterization of active faulting and neotectonics at Nevada geothermal sites-Phase I, 11/07–12/12, $56,484, **Bell, J.W.**, and **Ramelli, A.R.**

U.S. Department of Energy, Characterization of active faulting and neotectonics at Nevada geothermal sites-Phase II, 9/09–12/12, $74,456, **Bell, J.W.**, and **Ramelli, A.R.**

U.S. Department of Energy, Characterizing controls on geothermal systems in the northern Great Basin through integrated structural analysis and modeling, 12/07–9/12, $216,568, **Faulds, J.E.**

U.S. Department of Energy, Estimation of the seismic signature and properties of a geothermal field from low-cost ambient seismic noise surveys, part of larger project led by Ileana Tibuleac, UNR Seismological Laboratory, 1/12–12/14, $15,000, **Faulds, J.E.**

U.S. Department of Energy, Geothermal research and outreach at the Great Basin Center for Geothermal Energy, 9/09–12/12, $682,778, **Shevenell, Faulds**, **Bell**, and Biasi.

U.S. Department of Energy, Geothermal seed grant program, reconnaissance InSAR and GPS surface deformation analysis of Salt Wells and Stillwater Geothermal areas, 8/12–9/13, $81,036, **Hammond, W.C.**, and **Bell, J.**

U.S. Department of Energy, Geothermal workforce education, development and retention–plan developed by Shevenell and Scott successfully implemented in the summer of 2011, 2/10–12/12, $995,000, **Shevenell**, Lund, Blackwell, Horne, Moore, and Tester.

U.S. Department of Energy, Identification of hidden, high-enthalpy geothermal systems in extensional regimes through an exploration technology paradigm incorporating magnetotellurics, soil gas geochemistry and structural analysis, 1/12–12/14, $209,900, **Faulds, J.E.**

U.S. Department of Energy, National geothermal database by the geothermal database consortium, Boise State University, 11/09–5/14, $698,240, **Shevenell.**

U.S. Department of Energy, Pattern and timing of active faulting along Nevada geothermal systems, Part 1, 9/06–12/12, $168,430, **Bell, J.W.**, and **Ramelli, A.R.**

U.S. Department of Energy, Reconnaissance InSAR and GPS surface deformation analysis of Salt Wells and Stillwater geothermal areas, 8/12–6/13, $64,829, **Bell, J.W.**, and **Hammond, W.C.**

U.S. Department of Energy, Recovery Act, Geothermal Technologies Program, Comprehensive evaluation of the geothermal resource potential within the Pyramid Lake Paiute Reservation, 3/10–3/13, $325,000, **Faulds, J.E.**, and Louie, J.

U.S. Department of Energy, UNR Seismological Laboratory (Ileana Tibuleac), Estimation of the seismic signature and properties of a geothermal field from low-cost ambient seismic noise surveys, 1/12–12/14, $15,000, **Faulds, J.E.**

U.S. Department of Energy, White Pine County, Geothermal assessment of White Pine County, 10/13–1/14, $15,000, **Faulds, J.E.,** and **Nick Hinz, N.H.**

U.S. Department of Homeland Security, Federal Emergency Management Agency, Hazard Mitigation Plan Subcommittee, 7/09–7/12, $150,364, **LaPointe, D.D.**, and **Price, J.G.**

U.S. Fish and Wildlife Service, Mineral assessment of the Desert National Wildlife Refuge, 2013, $190,000, **Muntean, J.L.**

U.S. Geolgoical Survey, STATEMAP, New Geologic Mapping in Northern Nevada, South Eureka Mining District, 7/11–10/12, $61,213, **Muntean, J.L.**, **Long, S.**, and **Henry, C.D.**

U.S. Geological Survey STATEMAP Program, Geologic mapping of the Mount Rose quadrangle, Washoe County, Nevada, 8/13–7/14, $59,545, **Ramelli, A.R.**, **Hinz, N.H.**, **Bell, J.W.**, and **Faulds, J.E.**

U.S. Geological Survey STATEMAP Program, Geologic mapping of the Wabuska quadrangle, Churchill County, Nevada, 5/12–9/13, $59,921, **Ramelli, A.R.**, and **Hinz, N.H.**

U.S. Geological Survey STATEMAP, Geologic mapping of the Desert Peak quadrangle, Churchill County, Nevada, 5/11–10/12, $36,358, **Ramelli, A.R.**, and **Faulds, J.E.**

U.S. Geological Survey, 2012 Gordon Research Conference on Geochemistry of Mineral Deposits, 6/12–6/13, $10,000, **Muntean, J.L.**

U.S. Geological Survey, EDMAP, Geologic Mapping at the Northern Terminus of the Central Walker Lane: Cumulative Slip and Strain Transfer Mechanisms in an Evolving Transform Plate Boundary (Terrill Mountains 7.5' quadrangle, Nevada), 5/13–5/14, $14,587, **Carlson, C.**, and **Faulds, J.E.**

U.S. Geological Survey, Geologic mapping of the Westgate quadrangle, 5/12–10/13, $39,889, **Bell, J.W.**, and **Henry, C.D.**

U.S. Geological Survey, Gordon Research Conference on Geochemistry of Mineral Deposits, 6/12–6/13, $10,000, **Muntean, J.L.**

U.S. Geological Survey, Mineral resource assessment of northern Nye County, Nevada, 7/09–5/12, $388,312, **Henry, C.D.**, and **Muntean, J.L.**

U.S. Geological Survey, Nevada collection inventory and metadatea for the national catalog, University of Nevada, Reno, 9/12–8/13, $31,000, **dePolo, C.M.**, and **Davis, D.**

U.S. Geological Survey, Northern Grant Range mapping project: evaluating structural models for the Grant Canyon and Bacon Flat oil fields, 8/13–8/14, $39,216, **Long, S.**

U.S. Geological Survey, STATEMAP 2011, Geologic mapping in urban and rural Nevada, 4/11–5/12, $61,212, **Henry, C.D.**, **Long, S.**, and **Muntean, J.L.**

U.S. Geological Survey, Statemap program, Northern Grant Range mapping project: evaluating structural models for the Grant Canyon and Bacon Flat oil fields, 2013, $62,216, **Long, S.**

U.S. Geological Survey, STATEMAP, 2011,Geologic mapping of the Desert Peak quadrangle, Churchill County, Nevada, 5/11–4/12, $37,686, **Faulds, J.E.**

U.S. Geological Survey, STATEMAP, 2012, Geologic mapping in urban and rural Nevada, 5/12–4/13, $184,196, **Henry, C.D.**

U.S. Geological Survey, STATEMAP, 2012, Geologic mapping of the Wabuska quadrangle, Churchill County, Nevada, 5/12–10/13, $59,921, **Hinz, N.H.**, **Faulds, J.E.**, **Bell, J.W.**, **Henry, C.D.**, and **Ramelli, A.R.**

U.S. Geological Survey, STATEMAP, Geologic map of the Mt Rose quadrangle, 4/13–4/14, $59,234, **Bell, J.W.**, **Hinz, N.H.**, and **Ramelli, A.R.**

U.S. Geological Survey, STATEMAP, Geologic mapping in urban and rural Nevada, 8/13–6/14, $123,115, **Henry, C.D.**

U.S. Geological Survey, STATEMAP, Geological mapping of the Mount Rose quadrangle, Washoe County, Nevada, 10/12–8/13, $59,545, **Hinz, N.H.**, **Bell, J.W.**, **Faulds, J.E.**, and **Ramelli, A.R.**

U.S. Geological Survey, STATEMAP, Geological mapping of the Wabuska quadrangle, Churchill County, Nevada, 5/12–8/13, $59,921, **Hinz, N.H.**, **Faulds, J.E.**, **Bell, J.W.**, **Henry, C.D.**, and **Ramelli, A.R.**

U.S. Geological Survey, Trench exploration and seismic hazard characterization of the Kings Canyon fault zone, Carson City, Nevada, University of Nevada, Reno, 3/12–1/14, $58,835, **dePolo, C.M.**

U.S. Geological Survey-National Earthquake Hazards Reduction Program, University of Nevada, Reno, Geodetic constraints on fault slip rates and seismic hazard in the greater Las Vegas area, 4/13–3/14, $54,970, **Kreemer, C.W.**, and **Hammond, W.C.**

University of Nevada, Reno, Office of the Dean of College of Science, University of Nevada, Reno, Funding for purchase of mineral separation equipment, 3/12–8/12, $14,317, **Long, S.**, and Gordon, S.

Wilson Family Foundation, Two new scanning electron microscopes, 2013, $750,000, **Muntean, J.L.**

Presentations, Abstracts, Contract Reports, and Websites in 2012 and 2013

Agustsson, K.S., Gordon, S.M., **Long, S.P.**, Seward, G.G.E., Zieger, K.J., and Penfold, M., 2013, Testing the channel flow model in the eastern Himalaya, eastern Bhutan: insights from preliminary thermobarometric data, Eos Transactions, American Geophysical Union, v. 94, no. 58, Fall Meet. Suppl., Abstract V51B-2651.

Ali, S., Davatzes, N., Mellors, R., Foxall, W., Drakos, P., Zemach, E., **Kreemer, C.W.**, Wang, H., and Feigl, K., 2013, InSAR measurements and numerical models of deformation at Brady Hot Springs geothermal field, 1995–2012, American Geophysical Union, Fall Meeting.

Amos, C., Audet, P., **Hammond, W.C.**, Burgmann, R., Johanson, I.A., and **Blewitt, G.**, 2013, Contemporary vertical uplift and modulation of seismicity due to groundwater removal in the southern San Joaquin Valley of California, Abstract G43A-0955, Fall Meeting, American Geophysical Union, San Francisco, California.

Anderson, R.B., and **Faulds, J.E**., 2012, Structural Setting of the Emerson Pass Geothermal Anomaly, Pyramid Lake Paiute Reservation, Western Nevada: American Geophysical Union Transactions,V13A-2829.

Anderson, R.B., and **Faulds, J.E**., 2013, Structural controls of the Emerson Pass geothermal system, northwestern Nevada: Characterization of a "blind" system: Geological Society of America Abstract with Programs, v. 45, no. 7, p. 827.

Bell, J.W., and Katzenstein, K., 2012, InSAR analysis of aquifer-system response to 20 years of mine de-watering in the Carlin gold trend, north-central Nevada, Washington, DC: American Geophysical Union EOS Transactions.

Bell, J.W., and Katzenstein, K., 2013, Nevada Water Resources Association Annual Meeting, InSAR reveals aquifer-system response to 20 years of mine dewatering in the Carlin gold trend, Nevada Water Resources Association.

Bell, J.W., **Hinz, N.H.**, Caskey, S.J., and Helton, E., 2012, Surficial geologic map of southern Dixie Valley, Great Basin Center for Geothermal Energy.

Bird, P., **Kreemer, C.W.**, Kagan, Y., Jackson, D., 2013, Global earthquake activity rate models based on version 2 of the Global Strain Rate Map, American Geophysical Union, Fall Meeting.

Blackwell, D., Boyd, T., Horne, R., Moore, J., Nickull, D., Richard, S., and **Shevenell L.**, 2013, NGDS Geothermal Data Domain Assessment of Geothermal Community Data Needs, 38th Annual Stanford Geothermal Workshop, Stanford University.

Blewitt, G., 2012, An operational precise point positioning service with ambiguity resolution robust to large random displacements, Abstracts of the 2012 UNAVCO Real Time GPS Workshop, Boulder, Colorado.

Blewitt, G., 2012, Daily 7-parameter transformation files to place GPS solutions in the NA12 reference frame: ftp://gneiss.nbmg.unr.edu/x-files.

Blewitt, G., 2012, GPS data (raw and RINEX format) from UNR's 370-station MAGNET network: http://www.unavco.org.

Blewitt, G., 2012, Next day 24-hour GPS time series for >1,000 stations in the western US: ftp://gneiss.nbmg.unr.edu/rapids.

Blewitt, G., 2012, Next day 5-minute GPS time series for > 4,000 stations in the western US: ftp://gneiss.nbmg.unr.edu/rapids_5min.

Blewitt, G., 2012, QA parameters for > 7,000 stations per day: http://www.unavco.org.

Blewitt, G., 2012, Revealing the Nature of Contemporary Uplift and Collapse in the Sierra Nevada - Great Basin System, National Science Foundation Final Report.

Blewitt, G., 2013, Daily 7-parameter transformation files to place GPS solutions in the NA12 reference frame, ftp://gneiss.nbmg.unr.edu/x-files.

Blewitt, G., 2013, GPS data (raw and RINEX format) from UNR's 370-station MAGNET network, http://www.unavco.org.

Blewitt, G., 2013, GPS time series in ITRF and derivative frames: Trade-offs between precision, frequency, latency, and spatial filter scale, Colloquium presented at ETH-Zurich.

Blewitt, G., 2013, Next day 24-hour GPS time series for >4,000 stations in the western US, ftp://gneiss.nbmg.unr.edu/rapids.

Blewitt, G., 2013, Next day 5-minute GPS time series for > 4,000 stations in the western US, ftp://gneiss.nbmg.unr.edu/rapids_5min.

Blewitt, G., 2013, Observed solid Earth contributions to sea level variations in western US., Extended abstract posted for the GeoSci graduate student seminar, UNR.

Blewitt, G., 2013, QA parameters for > 7,000 stations per day, http://www.unavco.org.

Blewitt, G., 2013, Ultra-rapid (2-hour latency) GPS time series for >2,000 stations in the western US, ftp://gneiss.nbmg.unr.edu/ultracombo.

Blewitt, G., **Hammond, W.C.**, and **Kreemer, C.**, 2013, Earthscope's Plate Boundary Observatory as the mother of invention, Abstract S24A-01, Fall Meeting, American Geophysical Union, San Francisco, California.

Blewitt, G., **Hammond, W.C.**, and **Kreemer, C.W.**, 2013, EarthScope's plate boundary observatory as the mother of invention, American Geophysical Union, Fall Meeting.

Blewitt, G., **Hammond, W.C.**, and Nerem, R.S., 2013, Regional sea level variation: California coastline subsidence, Abstract G33C-02, Fall Meeting, American Geophysical Union, San Francisco, California.

Blewitt, G., **Hammond, W.C.**, and Nerem, S., 2013, Geodetic observations of California coastline subsidence with inference on sea level rise, invited presentation, National Research Council Workshop on Observations of Sea Level Rise and Storminess in California, Irvine, California.

Blewitt, G., **Hammond, W.C.**, and Nerem, S., 2013, Regional sea level variation: California coastal subsidence, American Geophysical Union, Fall Meeting, San Francisco, CA.

Blewitt, G., **Kreemer, C.W.**, and **Goldfarb, J.**, 2012, Reference frame NA12 for studies of continental deformation in North America, AGU Fall Meeting, American Geophysical Union.

Blewitt, G., **Kreemer, C.W.**, and **Hammond, W.C.**, 2013, EarthScope's Plate Boundary Observatory as the mother of invention, American Geophysical Union, Fall Meeting, San Francisco, CA.

Blewitt, G., **Kreemer, C.W.**, **Goldfarb, J.**, Holland, A., **Plag, H.-P.**, and **Hammond, W.C.**, 2012, Global spatial filtering of GNSS coordinates to capture small transient signals, Geophysical Research Abstracts, v. 14, EGU2012-6887-1, EGU General Assembly, European Geophysical Union.

Blewitt, G., **Kreemer, C.W.**, **Goldfarb, J.M.**, 2012, Reference frame NA12 for studies of continental deformation in North America, Abstract G51C-02, presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

Blewitt, G., **Plag, H.-P.**, Bar-Sever, Y., **Kreemer, C.**, **Hammond, W.C.**, and **Goldfarb, J.**, 2013, GPS time series in ITRF and derivative frames: Trade-offs between precision, frequency, latency, and spatial filter scale, Geophysical Research Abstracts Vol. 15, EGU2013-133362-2, European Geophysical Union General Assembly.

Blewitt, G., Public release of UNR's GPS data products, GIPSY user group meeting, NASA JPL, San Francisco.

Blewitt, G., UNR project report, GSAC collaboration meeting, Scripps Institute of Oceanography, UC San Diego, La Jolla.

Bormann, J., **Hammond, W.C.**, **Blewitt, G.**, **Kreemer, C.W.**, and Jha, S., 2013, A synoptic model of fault slip rates in the Eastern California Shear Zone and Walker Lane from GPS velocities for seismic hazard studies, Seismological Society of America, Annual Meeting, Salt Lake City, Utah.

Bormann, J., **Hammond, W.C.**, **Kreemer, C.W.**, and **Blewitt, G.**, 2012, Using GPS measurements of active crustal deformation to estimate slip rates on the Honey Lake/Warm Springs and Mohawk Valley fault systems, Northern Walker Lane, Friends of the Pleistocene Field Trip, 2012, Friends of the Pleistocene Pacific Cell.

Bormann, J., **Hammond, W.C.**, **Kreemer, C.W.**, and **Blewitt, G.**, 2012, Using GPS to measure slip rates on the Mohawk Valley and Honey Lake/Warm Springs fault systems, Northern Walker Lane, SCEC Annual Meeting, Southern California Earthquake Center.

Bormann, J.M., **Hammond, W.C.**, **Kreemer, C.**, **Blewitt, G.**, and S. Jha, 2013, A synoptic model of fault slip rates in the eastern California shear zone and Walker Lane from GPS velocities for seismic hazard studies, Abstract Annual Meeting, Seismological Society of America, Salt Lake City, Utah.

Bormann, J.M., **Hammond, W.C.**, **Kreemer, C.W.**, and **Blewitt, G.**, 2012, Active deformation in the Northern Walker Lane: a detailed geodetic study of the Mohawk Valley and Honey Lake/Warm Springs fault systems, Abstract G22B-03, presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

C.W. Kreemer, 2013, A new global geodetic strain rate model and its imlications for seismic hazard, GFZ Potsdam, GFZ Potsdam.

C.W. Kreemer, 2013, Crustal deformation studies using GPS, ITC-Twente University of Technology.

Calvin, W.M., **Bell, J.W.**, and **Hinz, N.H.**, 2012, Geothermal assessment of NAS Fallon Land: Final Technical Report, Great Basin Center for Geothermal Energy.

Cassel, E.J., Breecker, D., Larson, T., and **Henry, C.D.**, 2013, Measuring and modeling ancient meteoric water in volcanic glass, with application to the paleotopography of the US Cordilleran hinterland: Abstract T43B-2665 presented at 2013 Fall Meeting, American Geophysical Union, San Francisco, CA.

Cassel, E.J., **Henry, C.D.**, and Larson, T.E., 2012, Paleogene topography and drainage morphology across Nevada: Evidence from depositional systems, sediment provenance, and deltaD of ancient waters in volcanic glass: Abstract T31F-05 presented at 2012 Fall Meeting, AGU, San Francisco, California.

Cassel, E.J., Stockli, D.F., **Henry, C.D.**, and Breecker, D.O., 2013, Tectonically driven changes in paleotopography and drainage system evolution in the Cordilleran hinterland, western US, Geological Society of America Abstracts with Programs, v. 45, no. 7, p. 888.

Choe, C.-D., Nerem, R.S., Sheehan, A.F., **Blewitt, G.**, and Murray, M.H., 2012, Horizontal and vertical velocities across the Rio Grande Rift and Southern Rocky Mountains: Abstract G23B-0924, presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

Cline, J.S., **Muntean, J.**, and Longo, A., 2013, Ore deposition in Carlin-type gold deposits: Studies of sample transects from dead rock to high-grade [abs.]: European Current Research on Fluid Inclusions (ECROFI XXII), Antalya, Turkey, p. 120–121.

Cline, J.S., **Muntean, J.**, and Longo, A., 2013, Ore deposition in Carlin-type gold deposits: Studies of sample transects from dead rock to high-grade [abs.]: FUTORES Conference: Future Understanding of Tectonics, Ores, Resources, Environment and Sustainability; EGRU, James Cook University Townsville, Australia, p. 23.

Cline, J.S., **Muntean, J.**, and Longo, A., 2013, Ore deposition in Carlin-type gold deposits: Studies of sample transects from dead rock to high-grade [abs.]: Geological Society of Nevada September 2013 Newsletter, p. 10.

Colgan, J.P., Watts, K.E., **Henry, C.D.**, John, D.A., 2013, Characterizing Geographic Variability in Magma Composition and Eruptive Style During Voluminous Mid-Tertiary Magmatism in the Northern Great Basin Using Zircon U-Pb Geochronology and Phenocryst O Isotopic Data: Abstract V33E-2831, Fall Meeting, American Geophysical Union, San Francisco, CA.

Colgan, J.P., Watts, K.E., John, D.A., **Henry, C.D.**, Coble, M.A., and Vasquez, J.A., 2012, Chemical abrasion SIMS dating of zircon from the Eocene Caetano caldera, Nevada: Abstract V31C-2795 presented at 2012 Fall Meeting, AGU, San Francisco, California.

Cousens, B., and **Henry, C.D.**, 2013, Geochemistry and hazard assessment of Pliocene-Quaternary volcanism beneath the central Sierra Nevada and adjacent Great Basin, northern California and western Nevada, *in* Lowenstern, Jacob B., ed., Abstracts for the October 2012 meeting on Volcanism in the American Southwest, Flagstaff, Arizona: U.S. Geological Survey Open-File Report 2013–1026, p. 8.

Cronin, V., Resor, P., West, N., **Hammond, W.C.**, **Kreemer, C.W.**, Olds, S., and Pratt-Sitaula, B., 2012, Developing a curricular module for introductory geophysics or structural geology courses to quantify crustal strain using EarthScope PBO GPS velocities: N. West, American Geophysical Union Fall Meeting.

dePolo C.M., and **Price, J.G.**, 2012, Earthquake Hazards in Eureka and White Pine Counties: Nevada Hazards Mitigation and Planning Committee meeting.

dePolo, C.M., 2012 Mitigation of fault surface rupture hazard in Nevada: Association of Engineering Geologists Great Basin Chapter meeting.

dePolo, C.M., 2012, A conditionally active category for faults within and near communities in the Basin and Range Province: Annual Meeting of the Association of Environmental and Engineering Geologists.

dePolo, C.M., 2012, Earthquake hazard in Douglas County: Nevada Hazards Mitigation and Planning Committee meeting.

dePolo, C.M., 2012, Earthquake hazards in Henderson, Nevada: Nevada Hazard Mitigation and Planning Committee meeting.

dePolo, C.M., 2012, Earthquakes in Nevada 1840s–2010 and Major Historical Earthquakes in Nevada: Nevada Earthquake Safety Council meeting.

dePolo, C.M., 2012, Foreshocks in Nevada: Nevada Earthquake Safety Council meeting, Nevada Earthquake Safety Council.

dePolo, C.M., 2012, Mitigation strategies for earthquake surface rupture hazard in the Basin and Range Province: Annual Meeting of the Association of Environmental and Engineering Geologists.

dePolo, C.M., 2012, The mitigation of earthquake surface faulting in the Basin and Range Province, perspectives gained from historical earthquakes: Annual Meeting of the Association of Environmental and Engineering Geologists.

dePolo, C.M., 2012, The Nevada Earthquake Safety Council, Twenty years of vision and advocacy for a seismically resistant Nevada: Nevada Earthquake Safety Council meeting.

dePolo, C.M., 2013, A multiple earthquake scenario for Las Vegas, Las Vegas Earthquake Exercise "Rumble Strip:" Nevada Department of Transportation.

dePolo, C.M., 2013, Earthquake Hazards in Humboldt County: Nevada Hazard Mitigation and Planning Committee, Nevada Division of Emergency Management.

dePolo, C.M., 2013, Earthquake Hazards in northern Clark County: Nevada Hazard Mitigation and Planning Committee Meeting, Nevada Division of Emergency Management.

dePolo, C.M., 2013, Earthquake Hazards in Nye and Esmeralda Counties: Nevada Hazard Mitigation and Planning Committee Meeting, Nevada Division of Emergency Management.

dePolo, C.M., 2013, Earthquake Hazards in Washoe County: Nevada Hazard Mitigation and Planning Committee Meeting, Nevada Division of Emergency Management.

dePolo, C.M., 2013, Earthquake Hazards in Washoe County: Washoe County Emergency Preparedness Council, Washoe County Department of Emergency Management.

dePolo, C.M., 2013, Great Basin Science Sample and Records Library: Google Earth Workshop, Nevada Petroleum and Geothermal Society.

dePolo, C.M., 2013, Preparing for Major Earthquakes in Nevada: Nevada Health and Safety Conference, Nevada Division of Risk Assessment.

Dering, G., and **Faulds, J.E**., 2012, Structural controls of the Tuscarora geothermal field, Elko County, Nevada: American Geophysical Union Transactions, V13C-2864.

Dickinson, H., Freed, A., and **Hammond, W.C.**, 2012, Insights into the rheology of the upper mantle in Western Nevada from a combined postseismic and lake unloading study: Fall Meeting, American Geophysical Union.

Donnellan, A., Parker, J., and **Blewitt, G.**, 2013, Geodetic observations of the Salton Trough, southern California associated with the 2010 El Mayor - Cucapah earthquake and the 2012 Brawley earthquake swarm: Abstracts of the Mexican Geophysical Union, Annual UGM Meeting, Puerto Vallarta.

Edwards, J.H., and **Faulds, J.E**., 2012, Structural controls of Neal Hot Springs geothermal field, Malheur County, Oregon: American Geophysical Union Transactions, V13A-2830.

Faulds, J.E., 2012, Ad Hoc discussion of mineral and geothermal resource development in Nevada: Mining Roundtable for Nevada Business Magazine, Reno, Nevada.

Faulds, J.E., 2012, Assessment of structural favorable structural settings of geothermal systems in the Great Basin, Western USA: National Geothermal Academy, Reno, Nevada.

Faulds, J.E., 2012, Characterizing favorable structural settings of geothermal reservoirs in extensional regions, enhancing exploration strategies: University of Edinburgh, Scotland.

Faulds, J.E., 2012, Characterizing structural controls of EGS candidate and conventional geothermal reservoirs in the Great Basin, developing successful exploration strategies in extended terranes: Department of Energy Geothermal Technologies Program 2012 Peer Review, Denver, Colorado, won award for best project.

Faulds, J.E., 2012, Great Basin Center for Geothermal Energy: several papers and presentations shown at http://www.unr.edu/geothermal/meetings_pres.html.

Faulds, J.E., 2012, Keeping Nevada in hot water, strategies for reducing risks in geothermal development: Geothermal Energy Association Summit, Sacramento, California.

Faulds, J.E., 2012, Regional patterns of geothermal activity in the Great Basin region, correlation with strain rates: Geothermal Resources Council Annual Meeting, Reno, Nevada.

Faulds, J.E., 2012, Strategies for developing vast geothermal resources in the Great Basin, congressional briefing luncheon, The Road to the New Energy Economy: Discover Magazine and the National Science Foundation, Washington, DC.

Faulds, J.E., 2012, Structural and tectonic controls of geothermal activity in the Great Basin region, Western USA: Association of Engineering Geologists monthly meeting, Las Vegas, Nevada.

Faulds, J.E., 2012, Structural and tectonic controls of geothermal activity in the Basin and Range Province, Western USA: New Zealand Geothermal Workshop, Auckland, New Zealand.

Faulds, J.E., 2012, Tectonic and structural controls of geothermal activity in the Great Basin region, Western USA: American Geophysical Union annual meeting, San Francisco, California.

Faulds, J.E., 2012, Why is Nevada in hot water?, geothermal activity and development: Mining oversight and advisory committee, Carson City, Nevada.

Faulds, J.E., 2013, Ad Hoc discussion of mineral resource development in Nevada: Mining roundtable for Nevada business magazine, Reno, Nevada.

Faulds, J.E., 2013, Court deposition, case concerning coal resources in Nevada.

Faulds, J.E., 2013, Developing fault systems, evolving plate boundaries, and hot water: University of Auckland, Auckland, New Zealand.

Faulds, J.E., 2013, Fault controls on geothermal activity in the Great Basin region, conventional and EGS systems: Geothermal Energy Association Summit Meeting, Reno, Nevada.

Faulds, J.E., 2013, Geothermal exploration, integrated field and modeling techniques: workshop on geothermal exploration for Geothermal Resources Council Annual Meeting, Las Vegas, Nevada.

Faulds, J.E., 2013, Great Basin Center for Geothermal Energy – several papers and presentations shown at http://www.unr.edu/geothermal/meetings_pres.html.

Faulds, J.E., 2013, Late Miocene to recent evolution of the Walker Lane, An incipient transform fault with growing pains: Geological Society of America Cordilleran Section Meeting, Fresno, California.

Faulds, J.E., 2013, Nevada Bureau of Mines and Geology, Contributions to Exploration: Nevada Mineral Exploration Coalition Meeting, Reno, Nevada.

Faulds, J.E., 2013, Status and recent contributions to geologic mapping in Nevada: National Geographic Information Systems Conference, Reno, Nevada.

Faulds, J.E., 2013, Structural and tectonic controls on geothermal activity in the Great Basin region, conventional and EGS systems: JASON Research Meeting, Department of Energy, La Jolla, California.

Faulds, J.E., 2013, Structural controls on permeability and fluid flow in extensional settings: keynote address, Penrose conference on predicting and detecting natural and induced flow paths for geothermal fluids in deep sedimentary basins, Park City, Utah.

Faulds, J.E., 2013, Structural controls on the Brady's geothermal system, western Nevada, Insights from integrated geologic, geophysical, and 3D characterization: Geological Society of America Annual Meeting, Denver, Colorado.

Faulds, J.E., 2013, Tectonic and structural controls of Great Basin geothermal systems, developing successful exploration strategies: keynote address, U.S. Department of Energy Peer Review Meeting, Denver, Colorado.

Faulds, J.E., 2013, The hybrid model – the most accommodating structural setting for geothermal power generation in the Great Basin, western USA: Geothermal Resources Council Annual Meeting, Las Vegas, Nevada.

Faulds, J.E., 2013, Thick Mio-Pliocene non-marine salt deposits in the southwestern USA, Implications for development of the Colorado River drainage system: Geological Society of America Annual Meeting, Denver, Colorado.

Faulds, J.E., 2013, Why is Nevada in hot water, structural and tectonic controls of geothermal activity in the Great Basin region: Western Washington University, Bellingham, Washington.

Faulds, J.E., Henry, C.D., **Hinz, N.H.**, and **Carlson, C.W.**, 2013, Late Miocene to recent evolution of the Walker Lane—An incipient transform fault with growing pains: Geological Society of America Abstract with Programs, v. 45, no. 6, p. 58.

Faulds, J.E., **Henry, C.D.**, **Hinz, N.H.**, and **Carlson, C.W.**, 2013, Late Miocene to recent evolution of the Walker Lane—An incipient transform fault with growing pains: Geological Society of America Abstract with Programs, 6th ed., v. 45, p. 58.

Faulds, J.E., **Henry, C.D.**, **Hinz, N.H.**, and Carlson, D.W., 2013, Late Miocene to recent evolution of the Walker Lane—An incipient transform fault with kinematic growing pains: Geological Society of America Abstracts with Programs, v. 45, no. 6, p. 58.

Faulds, J.E., **Hinz, N.H.**, and **Kreemer, C.W.**, 2012, Structural and tectonic controls of geothermal activity in the Great Basin Region, western USA: New Zealand Geothermal Workshop.

Faulds, J.E., **Hinz, N.H.**, and **Kreemer, C.W.**, 2012, Tectonic and structural controls of geothermal activity in the Great Basin region, western USA: Eos Transactions American Geophysical Union, V24-01.

Faulds, J.E., **Hinz, N.H.**, Rhodes, G., Hazelwood, L., Kraushaar, S., **Siler, D.**, and **Anderson, R.**, 2012, Structural controls of geothermal activity in the western Great Basin-Part II: GRC Annual Meeting, Two Day Field Trip.

Faulds, J.E., **Hinz, N.H.**, **Siler, D.**, Holly, M., and Greg, D., 2012, Structural controls of geothermal activity in the western Great Basin-Part I: GRC Annual Meeting, Two Day Field Trip.

Faulds, J.E., Hinz, N.H., **Siler, D.L.**, **Coolbaugh, M.F.**, Queen, J.H., and Zemach, E., 2013, Structural controls on the Brady's geothermal system, western Nevada—Insights from integrated geologic, geophysical, and 3D characterization: Geological Society of America Abstract with Programs, v. 45, no. 7, p. 653.

Faulds, J.E., Shaw, T.H., **Hinz, N.H.**, and Perkins, M.E., 2013, Thick Mio-Pliocene non-marine salt deposits in the southwestern USA—Implications for development of the Colorado River drainage system: Geological Society of America Abstract with Programs, v. 45, no. 7, p. 400.

Fingerson, R., Glasmann, J.R., Hausback, B.P., **Henry, C.D.**, Loyd, R., McCrink, T.P., and Wood, J., 2013, Geologic hazards in the early Tertiary sediments of the Sierra Nevada foothills of California: Geological Society of America Abstracts with Programs, v. 45, no. 6, p. 25.

Goldfarb, J., **Hammond, W.C.**, **Blewitt, G.**, and **Plag, H.-P.**, 2012, Automated transient identification and characterization in GNSS time series: Abstracts of the 2012 UNAVCO Science Workshop, Boulder, Colorado.

Hammond, W.C., 2012, A GPS block model for the 2014 USGS National Seismic Hazard Maps: Western US National Seismic Hazard Map GPS Mini-workshop, Hood River, OR.

Hammond, W.C., 2012, Measuring contemporary uplift of the Sierra Nevada Mountains with GPS and InSAR: Tahoe Environmental Research Center.

Hammond, W.C., 2013, A GPS block model for the 2014 USGS National Seismic Hazard Maps: USGS NSHMP Workshop on Western US Geodesy, USGS Earthquake Hazards.

Hammond, W.C., 2013, Combining InSAR and GPS data to quantify surface deformation in active geothermal areas: Industry/University Cooperative Research Center meeting, National Science Foundation.

Hammond, W.C., 2013, Integrating GPS, LiDAR, InSAR, and other geodesy data into undergraduate courses: Geological Society of America, Annual Meeting Short Course, UNAVCO, Inc.

Hammond, W.C., 2013, Nevada geodetic Laboratory data website, http://geodesy.unr.edu/billhammond/gpsnetmap/GPSNetMap.html

Hammond, W.C., 2013, Rocks that melt, flow and explode!: Mt. Lassen field trip, Ms. McMains 6th grade class, Sierra Expeditionary Learning School.

Hammond, W.C., 2013, The UNR MAGNET report: Nevada Earthquake Hazard Reduction Program, Geodetic Networks meeting, US Geological Survey.

Hammond, W.C., 2013, Three reports on GPS and InSAR data analysis: SONGS SSC SSHAC Proponents Meeting workshop #2, Geopentech, Inc.

Hammond, W.C., and **Bell, J.W.**, 2013, Combining GPS and InSAR data to map and quantify reservoir response in active geothermal areas: National Science Foundation, Industry/University Research Collaborative Workshop.

Hammond, W.C., and **Bell, J.W.**, 2013, Structural controls on geothermal reservoir deformation at Stillwater, Nevada from InSAR and GPS data: Geothermal Resources Council Annual Meeting.

Hammond, W.C., and **Bell, J.W.**, 2013, Structural controls on geothermal reservoir deformation at Stillwater, Nevada from InSAR and GPS Data: Geothermal Resources Council, Annual Meeting, Las Vegas, NV.

Hammond, W.C., **Blewitt, G.**, and **Kreemer, C.W.**, 2012, The UNR Report—Developments in GPS geodesy for seismic hazard studies in the western Great Basin: U.S. Geological Survey Geodetic Networks Virtual Workshop.

Hammond, W.C., **Blewitt, G.**, **Kreemer, C.**, Bormann, J., and Wesnousky, S., 2012, What geodesy tells us about earthquake hazard in the Basin and Range Province—Fault-scale to province-scale studies: Annual meeting of the Association of Environmental and Engineering Geologists.

Hammond, W.C., Bormann, J., **Blewitt, G.**, and **Kreemer, C.**, 2013, A province-scale block model of Walker Lane and western Basin and Range crustal deformation constrained by GPS observations: Abstract G43C-08, Fall Meeting, American Geophysical Union, San Francisco, California.

Hammond, W.C., Bormann, J., **Blewitt, G.**, and **Kreemer, C.W.**, 2013, A province-scale block model of Walker Lane and western Basin and Range crustal deformation constrained by GPS observations: American Geophysical Union, Fall Meeting, San Francisco, CA.

Hammond, W.C., Bormann, J., **Blewitt, G.**, and **Kreemer, C.W.**, 2013, Walker Lane and western Basin and Range transtension and rotation rates from GPS observations, continuum and block models: Geological Society of America, Annual Meeting, Denver CO.

Hammond, W.C., Bormann, J., **Blewitt, G.**, and **Kreemer, C.W.**, 2013, A province-scale block model of Walker Lane and western Basin and Range crustal deformation constrained by GPS observations: American Geophysical Union, Fall Meeting.

Hammond, W.C., Bormann, J., **Blewitt, G.**, and **Kreemer, C.W.**, 2013, Walker Lane and western Basin and Range transtension and rotation rates from GPS observations, continuum and block models: Geological Society of America Annual Meeting.

Hammond, W.C., Bormann, J., **Kreemer, C.**, and **Blewitt, G.**, 2012, Measuring long-term motion of the Sierra Nevada/Great Valley microplate with GPS: Effect of earthquake cycle transients, Abstracts of the 2012 UNAVCO Science Workshop, Boulder, Colorado.

Hammond, W.C., Johnson, K.M., Weldon, R.J., **Blewitt, G.**, and Burgette, R.J., 2013, A new look at vertical motion around the San Andreas Fault in southern California from integrated GPS and InSAR measurements: Abstract G41C-02, Fall Meeting, American Geophysical Union, San Francisco, California.

Hammond, W.C., Kreemer, C., and **Blewitt, G.**, 2013, Seismic hazard in the eastern Nevada and western Utah Basin and Range: Abstract, Annual Meeting, Seismological Society of America, Salt Lake City, Utah.

Hammond, W.C., **Kreemer, C.W.**, and **Blewitt, G.**, 2012, Developments in GPS geodesy for seismic hazard studies in the western Great Basin and uplift of the Sierra Nevada: Nevada Earthquake Safety Council, University of Nevada, Reno.

Hammond, W.C., **Kreemer, C.W.**, and **Blewitt, G.**, 2012, Potential contributions of geodesy to monitoring volcanic unrest in the southwest United States: USGS Workshop on Volcanism in the American Southwest, U.S. Geological Survey.

Hammond, W.C., **Kreemer, C.W.**, and **Blewitt, G.**, 2013, Seismic hazard in the eastern Nevada and western Utah Basin and Range from GPS measurements: Seismological Society of America, Annual Meeting, Salt Lake City, Utah.

Hammond, W.C., Kreemer, C.W., Blewitt, G., 2013, Seismic hazard in the eastern Nevada and western Utah Basin and Range from GPS measurements: Seismological Society of America, Annual Meeting.

Hammond, W.C., **Kreemer, C.W.**, **Blewitt, G.**, and Bormann, J., 2012, GPS Measurement of active crustal deformation of the Lake Tahoe Basin and vicinity: Friends of the Pleistocene Field Trip, 2012, Friends of the Pleistocene Pacific Cell.

Hammond, W.C., Mencin, D., and Meertens, C., 2012, Report on Real Time GPS workshop: USGS Geodetic Networks virtual workshop.

Hausback, B., Smith, J., **Henry, C.D.**, Hilton, R.P., McIntosh, W.C., Heizler, M.T., and Noble, D.C., 2012, The High Rock caldera complex, NW Nevada—Geologic mapping, volcanology, geochemistry, and ultra-high precision $^{40}Ar/^{39}Ar$ dating of early Yellowstone hotspot magmatism: Abstract V33B-2856 presented at 2012 Fall Meeting, AGU, San Francisco, California.

Hausback, B.P., Wood, J., **Henry, C.D.**, and McCrink, T.P., 2013, Landslide hazards along the Interstate 80 corridor associated with the early Oligocene sedimentary and volcanic deposits in the Sierra Nevada: Geological Society of America Abstracts with Programs, v. 45, no. 6, p. 25.

Henry, C.D., 2012, Cenozoic far-traveled ignimbrites, paleotopography, and extension in the Great Basin: Peninsular Geological Society, Stanford.

Henry, C.D., 2013, Cenozoic far-traveled ignimbrites—Volumes, paleotopography, and extension in the Great Basin: University of Oregon Department of Geological Sciences.

Henry, C.D., 2013, The Cenozoic ignimbrite flareup in western North America—Distribution, timing, volume, and tectonic relations: University of Oregon Department of Geological Sciences.

Henry, C.D., and Colgan, J.P., 2013, The disparate record of upper-crustal extension and mid-crustal exhumation in and around the Ruby-East Humboldt metamorphic core complex, northeastern Nevada, USA: Geological Society of America Abstracts with Programs, v. 45, no. 7, p. 224.

Henry, C.D., and Cousens, B., 2013, Young volcanism of the Lake Tahoe–Reno–Fallon area, California and Nevada: The geologic record, *in* Lowenstern, Jacob B., ed., Abstracts for the October 2012 meeting on Volcanism in the American Southwest, Flagstaff, Arizona: U.S. Geological Survey Open-File Report 2013–1026, p. 17.

Henry, C.D., and **Faulds, J.E.**, 2013, Ignimbrite-filled paleovalleys—Key markers for the structural development of the Pacific-North American plate boundary: Geological Society of America Abstracts with Programs, v. 45, no. 6, p. 59.

Henry, C.D., **Castor, S.B.**, Starkel, W.A., Ellis, B.S., Wolff, J.A., Heizler, M.T., and McIntosh, W.C., 2012, The McDermitt caldera, NV-OR, USA—Geologic mapping, volcanology, mineralization, and high-precision $^{40}Ar/^{39}Ar$ dating of early Yellowstone hotspot magmatism: Abstract V33B-2850 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3–7 Dec.

Henry, C.D., McIntosh, W.C., McDowell, F.W., Lipman, P.W., and Chapin, C.E., 2012, The Cenozoic ignimbrite flareup in western North America—Distribution, timing, volume, and tectonic relations: Geological Society of America Abstracts with Programs, v. 44, no. 3, p. 21.

Henry, C.D., **Muntean, J.L.**, John, D.A., and Colgan, J.P., 2013, Mesozoic-Cenozoic magmatism and mineralization in the greater Cortez region, Nevada: Geological Society of Nevada, v. 29, no. 3.

Henry, C.D., **Muntean, J.L.**, John, D.A., and Colgan, J.P., 2012, Mesozoic-Cenozoic magmatism and mineralization in the greater Cortez area—An example of NBMG framework studies: Geological Society of Nevada Newsletter, v. 28, no. 3, p. 3.

Hinz, N.H., **Faulds, J.E.**, and **Siler, D.**, 2013, Geothermal exploration in the 21st Century Workshop: Invited, Geothermal Resources Council.

Hinz, N.H., **Faulds, J.E.**, and **Siler, D.L.**, 2013, Exploration of structurally controlled geothermal systems—systematic and integrated workflow from field work to quantitative 3D mapping, modeling, and drill targeting: Geological Society of America Abstract with Programs, 7th ed., v. 45, p. 653.

Hinz, N.H., **Faulds, J.E.**, Moeck, I., Bell, J.W., and Oldow, J., 2012, Energy initiatives task force, Conference, Structural controls of three blind geothermal resources at the Hawthorne Ammunition Depot: Summary of the 2009-2010 HWAD project accomplishments, U.S. Army.

Hinz, N.H., **Siler, D.**, **Faulds, J.E.**, and Mayhew, B., 2012, Digital mapping techniques conference, workflow methodology for 3-Dimensional geologic mapping with examples from structural characterization of geothermal systems: USGS/Illinois State Geological Survey.

Holland, A., Broermann, J., Bennett, R., **Kreemer, C.**, and **Blewitt, G.**, 2013, Crustal kinematics of the Colorado Plateau from GPS geodesy: Abstract G41A-0917, Fall Meeting, American Geophysical Union, San Francisco, California.

John, D.A., Watts, K.E., Hofstra, A.H., Colgan, J.P., **Henry, C.D.**, and Bindeman, I.N., 2013, Stable isotopes of tilted ignimbrite calderas in Nevada: American Geophysical Union, Abstract V33C-2766 presented at 2013 Fall Meeting, AGU, San Francisco, CA.

Johnson, K., **Hammond, W.C.**, Weldon, R.J., **Blewitt, G.**, and Burgette, R., 2013, Modeling to reconcile geodetic estimates of shortening rates and vertical motion in the Western Transverse Ranges: Southern California Earthquake Center, Annual Meeting, Palm Springs, CA.

Kreemer C., **Hammond, W.C.**, **Blewitt, G.**, Holland, A.A., and Bennett, R.A., 2012, A geodetic strain rate model for the Pacific-North American plate boundary, western United States: Geophysical Research Abstracts, v. 14, EGU2012-6785, EGU General Assembly, European Geophysical Union.

Kreemer, C., **Blewitt, G.**, and **Hammond, W.C.**, 2013, The GPS velocity field in the western U.S. and what it tells us about earthquakes, seismic hazard, and driving forces: Abstract S23C-05, Fall Meeting, American Geophysical Union, San Francisco, California.

Kreemer, C., **Blewitt, G.**, **Hammond, W.C.**, Broermann, J., and Bennett, R.A., 2013, Improved seismic hazard assessment of the Colorado Plateau region from new geodetic data: Abstract 13-200, Annual Meeting Seismological Society of America, Salt Lake City, Utah.

Kreemer, C., **Blewitt, G.**, Klein, E.C., Shen, Z.-K., Wang, M., Estey, L., and Wier, S., 2013, A new global geodetic strain rate model: Abstract G43C-03, Fall Meeting, American Geophysical Union, San Francisco, California.

Kreemer, C.W., 2012, Geodetic deformation of the southwestern U.S—Implications for seismic hazard and lithospheric dynamics: GNS Science New Zealand.

Kreemer, C.W., 2012, Global Geodetic Strain Rate Model: GEM Progress Review Meeting, GEM Foundation.

Kreemer, C.W., 2012, GPS data analysis and its use in large-scale crustal deformation modeling: EarthScope-EarthCube, EarthScope National Science Foundation.

Kreemer, C.W., 2012, GPS data and crustal deformation modeling: EarthScope-EarthCube, EarthScope National Science Foundation, Tempe, Arizona.

Kreemer, C.W., 2013, A new global geodetic strain rate model: strain-mapping conference, Leeds University.

Kreemer, C.W., 2013, A new global strain rate model—Implications for earthquake forecasting: University of Miami.

Kreemer, C.W., 2013, GPS Geodesy in Arizona: Palo Verde SSHAC Workshop II, Lettis Consultants International.

Kreemer, C.W., 2013, New GPS-Constrained models of crustal deformation: Statewide, worldwide, University of Nevada, Reno, Department of Geological Sciences and Engineering Seminar.

Kreemer, C.W., 2013, Plate Tectonics 2.0—How GPS revolutionized crustal kinematics and earthquake forecasting: Delft University of Technology.

Kreemer, C.W., 2013, The slow-but-steady deformation of the American West—New insights from GPS geodesy: National Science Foundation, EarthScope, University of Miami.

Kreemer, C.W., 2013, The slow-but-steady deformation of the American West—New insights from GPS geodesy: Grand Staircase Escalante National Monument, National Science Foundation, EarthScope.

Kreemer, C.W., **Blewitt, G.**, and **Hammond, W.C.**, 2012, GPS data and its use in large-scale crustal deformation models: EarthCube End-User Domain Workshop for EarthScope, National Science Foundation.

Kreemer, C.W., **Blewitt, G.**, and **Hammond, W.C.**, 2013, The GPS velocity field in the western U.S. and what it tells us about earthquakes, seismic hazard, and driving forces: American Geophysical Union, Fall Meeting.

Kreemer, C.W., **Blewitt, G.**, **Hammond, W.C.**, Bormann, J., and Bennett, R., 2013, Improved seismic hazard assessment for the Colorado Plateau region from new geodetic data: Seismological Society of America, Annual Meeting, Salt Lake City, Utah.

Kreemer, C.W., **Blewitt, G.**, **Hammond, W.C.**, Broermann, J., and Bennett, R., 2013, Improved seismic hazard assessment for the Colorado Plateau region from new geodetic data: Seismological Society of America, Annual Meeting.

Kreemer, C.W., **Blewitt, G.**, Klein, E., Shen, Z., Wang, M., Estey, L., and Wier, S., 2013, A new global geodetic strain rate model: AGU Fall Meeting.

Kreemer, C.W., **Blewitt, G.**, Klein, E., Shen, Z., Wang, M., Estey, L., and Wier, S., 2013, A new global geodetic strain rate model: VIII Hotine-Marussi Symposium.

Kreemer, C.W., **Hammond, W.C.**, and **Blewitt, G.**, 2013, The GPS velocity field in the Western U.S. and what it tells us about earthquakes, seismic hazard, and driving forces: American Geophysical Union, Fall Meeting, San Francisco, CA.

Kreemer, C.W., **Hammond, W.C.**, **Blewitt, G.**, Holland, A.A., and Bennett, R.A., 2012, Geodetic strain rate model for the Pacific-North American plate boundary, western United States: Abstracts of the 2012 UNAVCO Science Workshop, Boulder, Colorado.

Kreemer, C.W., Klein, E.C., **Blewitt, G.**, Shen, Z., Wang, M., Chamot-Rooke, N.R., and Rabaute, A., 2012, A New Global Geodetic Strain Rate Model: Abstract G43B-0920, presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

LaPointe, D.D., 2012, Crystallography: 29th Annual NMA/NDOM Northern Nevada Earth Science Workshop, Nevada Mining Association/Nevada Division of Minerals.

LaPointe, D.D., 2012, Identifying Minerals and Rocks: Nevada State Museum Docents Training, Nevada State Museum.

LaPointe, D.D., 2012, Mighty Minerals: Nevada Children's Museum Science Saturday, Nevada Children's Museum.

LaPointe, D.D., 2012, Minerals and Uses: 23rd Annual NMA/NDOM Southern Nevada Earth Science Workshop, Nevada Mining Association/ Nevada Division of Minerals.

Long, S., 2012, A summary of the work of the Princeton Group, 2007-2011, part 1: stratigraphy, depositional age constraints, and the new geologic map of Bhutan: Bhutan Department of Geology and Mines.

Long, S., 2012, What can the mid-Tertiary unconformity tell us about deformation and erosion in the Nevadaplano?: University of Nevada, Reno.

Long, S., 2012, What can the mid-Tertiary unconformity tell us about deformation and erosion in the Nevadaplano?: Caltech.

Long, S., McQuarrie, N., Tobgay, T., Coutand, I., Cooper, F., Reiners, P., Wartho, J.-A., and Hodges, K., 2012, Variable shortening rates in the Bhutan thrust belt—Implications for strain partitioning in the eastern Himalayan-Tibetan orogenic

system: American Geophysical Union, 93 57: 1.

Long, S.P., **Henry, C.D.**, **Muntean, J.L.**, Edmondo, G.P., and Cassel, E.J., 2013, Early Cretaceous construction and pre-late Eocene extensional collapse of a structural culmination, Eureka, Nevada—Implications for out-of-sequence deformation in the Sevier hinterland: Geological Society of America Abstracts with Programs, v. 45., no. 7, p. 825.

McLachlan, H.S., and **Faulds, J.E**., 2012, Some new constraints on the stratigraphic and structural setting of the Soda Lake geothermal field, Churchill County, Nevada: American Geophysical Union Transactions, V13A-2817.

Mencin, D., **Hammond, W.C.**, Meertens, C., Langbein, J., and Woodward, B., 2012, UNAVCO's community planning for real-time GPS in EarthScope's Plate Boundary Observatory using IGS products: IGS Workshop, International GNSS Service.

Muntean, J.L., 2012, Carlin-type Deposits: Four lectures in one day as part of a week-long Society of Economic Geologists Short Course on Gold Deposits and Rare Earth Elements, Littleton, Colorado.

Muntean, J.L., 2012, Carlin-type Gold Deposits: A compilation, Society of Economic Geologists Compilation 5 (CD).

Muntean, J.L., 2012, Ferroan carbonates in Carlin-type gold deposits: Real-time Detection of an Important Ore Control by Carbonate Staining: Geologic Society of Nevada, Winnemucca, Nevada.

Muntean, J.L., 2012, Porphyry and high-sulfidation epithermal gold deposits of the Maricunga belt, Chile, Lecture for Society of Economic Geologists field trip, Porphyry and High-Sulfidation Epithermal Gold Deposits of the Maricunga Belt Chile: Copiapo, Chile.

Muntean, J.L., 2013, Carlin-type Gold Deposits in Nevada: Colorado School of Mines Nevada Field Trip, Colorado School of Mines.

Muntean, J.L., 2013, Nevada: One of the World's Premier Metallogenic Provinces, What Makes it Tick?: Nevada Short Course, Vancouver Mining and Exploration Group.

Muntean, J.L., 2013, Overview of Mineral Exploration, Development and Production in Nevada, Mining Developments in Nevada: Opportunties for BNSF Railroad, Nevada Governor's Office for Economic Development.

Muntean, J.L., 2013, Overview of the Activities of the Nevada Bureau of Mines and Geology as they pertain to Mineral Exploration and Mining: Nevada Mining Oversight and Accountability Commission.

Muntean, J.L., and **Johnson, G.**, 2013, 43-101 report map service for mineral properties: http://gisweb.unr.edu/report_43101_1/

Ozeren, M.S., Klein, E.C., and **Kreemer, C.W.**, 2013, Using statistical seismicity constraints in geodetic inversions of crustal kinematics—Examples from the Aegean region: American Geophysical Union, Fall Meeting.

Pancha, A., Pullammanappallil, S., Louie, J.N., **dePolo, C.M.**, 2012, Determination of 2D and 3D velocity structure in and near Reno—Development of the western Basin and Range community velocity model and the Reno-Carson urban hazard map: American Geophysical Union Annual Meeting.

Pancha, A., Pullammanappallili, S., Biasi, G.P., Louie, J.N., **dePolo, C.M.**, 2012, Assessment of site conditions and empirical site response at stations recording near-field extreme ground motions during the 2008 Mogul, Nevada earthquake swarm: Southern California Earthquake Center Annual Conference.

Payne, J., and **Bell, J.W.**, 2012, The Gabbs Valley, Nevada geothermal prospect: Exploring for a potential blind geothermal resource, Washington, DC: American Geophysical Union EOS Transactions.

Plag, H.-P., and **Blewitt, G.**, 2012, Low-latency earthquake displacement fields for tsunami early warning and rapid response support: Abstracts of the IGS Analysis Center Workshop, Olstyn, Poland.

Plag, H.P., **Blewitt, G.**, Bar-Sever, Y., **Hammond, W.C.**, and **Kreemer, C.W.**, 2012, GPS-determined surface displacements and tsunami early warning—Potential, obstacles, and current capabilities: Community Workshop on Real-Time GPS Position Data Products and Formats, UNAVCO, Inc..

Plag, H.-P., **Hammond, W.C.**, and **Blewitt, G.**, 2012, A community geodesy workbench for the integrated modeling and analysis of geodetic observations: Abstracts of the 2012 UNAVCO Science Workshop, Boulder, Colorado.

Puskas, C.M., Phillips, D., Mattioli, G., Meertens, C., Herring, T., Murray, M., Melbourne, T., Boler, F., **Blewitt, G.**, Larson, K., Feaux, K., Hodgkinson, K., Braun, J., and Small, E., 2013, UNAVCO data products from the EarthScope Plate Boundary Observatory, COCONet, and Regional Networks: Abstracts of the 2013 EarthScope National Meeting, Raleigh, North Carolina.

Puskas, C.M., Phillips, D.A., Mattioli, G.S., Meertens, C.M., Herring, T., Murray, M.H., Melbourne, T.I., Boler, F.M., **Blewitt, G.**, Larson, K.M., Feaux, K., Braun, J.J., and Small, E.E., 2012, UNAVCO Enhanced data products for the EarthScope Plate Boundary Observatory, COCONet, and other regional networks: Abstract G23B-0916, presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

Ramelli, A.R., 2012, Neotectonics of the Lake Tahoe, Carson, and Sierra Valleys: Pacific Cell Annual Meeting, Friends of the Pleistocene.

Reeves, D.M., Parashar, R., Pohll, G.M., Cooper, C.A., Lyles, B.F., **Faulds, J.E**., **Siler, D.L.**, Louie, J.N., Ehni, B., Kratt, C., and Noel, D., 2012, Conceptual model evaluation of the Astor Pass Geothermal Field, Western Nevada: American Geophysical Union Transactions,V13A-2810.

Resor, P., Cronin, V., **Hammond, W.C.**, **Kreemer, C.W.**, Olds, S., Pratt-Situala, B., and West, N., 2012, Using EarthScope Plate Boundary Observatory GPS velocities to introduce strain to undergraduate structural geology students: GSA Annual Meeting, Geological Society of America.

Shevenell, L., 2012, Estimated Well Costs as a Function of Depth of Geothermal Wells Drilled in Nevada: Geothermal Resources Council, Reno, NV.

Shevenell, L., 2012, Geothermal development in Nevada—Trends and future: National Geothermal Academy, Reno, NV.

Shevenell, L., 2012, Geothermal power production in Nevada—Warming up to Geothermal Energy: Sunrise Solutions, Reno, NV.

Shevenell, L., 2012, Quarterly progress report on the project updating geothermal databases and web sites: Great Basin Center for Geothermal Energy, January 1–March 31, 6 p.

Shevenell, L., 2012, Quarterly progress report on the project updating geothermal databases and web sites: Great Basin Center for Geothermal Energy, April 1–June 30, 5 p.

Shevenell, L., 2012, Quarterly progress report on the project updating geothermal databases and web sites: Great Basin Center for Geothermal Energy, July 1–September 30, 5 p.

Shevenell, L., 2012, Quarterly progress report to the DOE on the Project: National Geothermal Data System, January 1–March 30, 3 p.

Shevenell, L., 2012, Quarterly progress report to the DOE on the Project: National Geothermal Data System, April 1–June 30, 2012, 4 p.

Shevenell, L., 2012, Quarterly progress report to the DOE on the Project: National Geothermal Data System, July 1–Sept 30, 4 p.

Shevenell, L., 2012, Quarterly progress report to the DOE project: State Geothermal data project through the Arizona Geological Survey, January 1–March 31, 4 p.

Shevenell, L., 2012, Quarterly progress report to the DOE project: State Geothermal data project through the Arizona Geological Survey, April 1–June 30, 5 p.

Shevenell, L., 2012, Quarterly progress report to the DOE project: State Geothermal data project through the Arizona Geological Survey, July 1–Sept 30, 5 p.

Shevenell, L., 2012, Success rate of drilling geothermal wells: African Rift Geothermal Conference, Nairobi, Kenya.

Shevenell, L., 2012, The rate of success of geothermal wells drilled in Nevada: Geothermal Resources Council, Reno, NV.

Shevenell, L., A geochemical database for Nevada geothermal systems continues to be populated and updated and includes geochemistry, state and site location maps, photos, and text summaries of what is known to date at Nevada's geothermal resource areas (http://www.nbmg.unr.edu/geothermal/gthome.htm).

Shevenell, **L.**, and J. Moore, 2012, The domain steering committee activities and achievements: National Geothermal Data System, Stage Gate Peer Review.

Shevenell, **L.**, and **Penfield**, **R.**, 2012, Nevada Bureau of Mines and Geology Web site geochemical database: http://www.nbmg.unr.edu/Geothermal/GeochemDatabase.html

Shevenell, **L.**, and R. Zehner, 2012, Geothermal Activity in Nevada—A Summary: Nevada Petroleum and Geothermal Society, Reno, NV.

Shevenell, **L.**, **Johnson, G.**, and Zehner, R., Nevada Bureau of Mines and Geology Geothermal Web site: http://www.nbmg.unr.edu/Geothermal/index.html

Shevenell, L., Oppliger, G., **Coolbaugh, M.**, and **Faulds, J.**, 2012, Bradys (Nevada) InSAR anomaly evaluated with historical well temperature and pressure data: Geothermal Resources Council, Reno, NV.

Shevenell, L., **Penfield, R.**, Zehner, R., **Johnson, G.**, and **Coolbaugh, M.**, 2012, National geothermal data system geochemical data for exploration: Geothermal Resources Council, Reno, NV.

Siler, D.L., Mayhew, B., and **Faulds, J.E**., 2012, 3D characterization of a Great Basin geothermal system—Astor Pass, Nevada: American Geophysical Union Transactions, V13A-2828.

Simon, A., **Muntean, J.**, and Cline, J., 2012, A magmatic-hydrothermal model for Carlin-type gold deposits: Geological Society of Nevada, September 2012 Newsletter, p. 3.

Starkel, W.A., Wolff, J., Ellis, B.S., **Henry, C.D.**, and Rowe, M.C., 2012, Petrogenesis of the eruptive products at the mid-Miocene McDermitt caldera center, northern Nevada and southern Oregon: Abstract V31C-2807 presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

Sunil, P.S., **Kreemer, C.**, Reddy, C.D., **Blewitt, G.**, Prajapati, S., Ponraj, M., and Amirtharaj, S., 2013, Contemporary kinematics of northeastern Indian plate boundaries revealed by earthquakes and GPS data: Abstract SE18-A002, AOGS 10th Annual Meeting, Brisbane.

Timmermans, A.C., Cousens, B.L., **Henry, C.D.**, 2013, Geochemistry and geochronology of Tertiary mafic magmatism from the north-central Great Basin, Nevada, to the Ancestral Cascade Arc, California: GAC-MAC Annual Meeting, Program with Abstracts, 36, p. 186.

Wannamaker, P.E., **Faulds, J.E**., Kennedy, B.M., **Siler, D.L.**, and Maris, V., 2013, Seeking magmatic, high-enthalpy geothermal sources in the extensional Great Basin, western U.S., using integrative magnetotellurics, isotope geochemistry, and structural geology: Geological Society of America Abstract with Programs, v. 45, no. 7, 652.

Watts, K.E., Colgan, J.P., John, D.A., and **Henry, C.D.**, 2012, Petrologic evolution of the Caetano magmatic system—What can we learn from a dissected, 34 Ma caldera in the northern Great Basin, western USA?: Abstract V43E-06 presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

Watts, K.E., Colgan, J.P., John, D.A., and **Henry, C.D.**, 2013, Dissected caldera provides a window into the linked volcanic-plutonic origins of the 34 Ma Caetano Tuff supereruption, Nevada: Geological Society of America Abstracts with Programs, v. 45, no. 7, p. 691.

Watts, K.E., Colgan, J.P., John, D.A., **Henry, C.D.**, Coble, MA., and Hervig, R.L., 2013, Ion microprobe study of Au and Carlin-type trace metals in rhyolite melt inclusions from Eocene dikes and ash-flow tuff in northern Nevada: American Geophysical Union, Abstract V33B-2741 presented at 2013 Fall Meeting, AGU, San Francisco, CA.

Wesnousky, S.G., Bormann, J., **Kreemer, C.W.**, **Hammond, W.C.**, and Brune, J.N., 2012, Neotectonics, geodesy, and seismic hazard in the northern Walker Lane of western North America—Thirty kilometers of crustal shear and no strike-slip?: Seismological Society of America Annual Meeting, Seismological Society of America.

Zeiger, K.J., Gordon, S.M., **Long, S.P.**, Kylander-Clark, A., Agustsson, K., and Penfold, M., 2013, Testing the driving forces for exhumation of the Greater Himalayan Sequence in northeast Bhutan—Implications of split-stream U-Pb zircon geochronology: Geological Society of America Abstracts with Programs, v. 45., no. 7, p. 797.

Zhang, J.-H., Holt, W.E., and **Blewitt, G.**, 2013, GPS detection of ultra-low-frequency crustal resonance caused by Hurricane Sandy: Abstract G21A-0750, Fall Meeting, American Geophysical Union, San Francisco, California.

Zhang, Y., **Kreemer, C.**, **Hammond, W.C.**, and **Blewitt, G.**, 2013, Evidence for viscoelastic relaxation following the 2011 Mw 9.0 Tohoku earthquake using GPS: Abstract G31C-07, Fall Meeting, American Geophysical Union, San Francisco, California.

Zhang, Y., **Kreemer, C.W.**, and **Blewitt, G.**, 2012, What caused the extensional aftershocks after the 2011 magnitude-9 Tohoku-Oki earthquake?—A GPS analysis of pre-, co- and post-seismic strain: Abstract G43B-0929, presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California.

Zhang, Y., **Kreemer, C.W.**, **Hammond, W.C.**, and **Blewitt, G.**, 2013, Evidence for viscoelastic relaxation following the 2011 Mw 9.0 Tohoku Earthquake using GPS: American Geophysical Union, Fall Meeting San Francisco, CA.

Zhang, Y., **Kreemer, C.W.**, **Hammond, W.C.**, and **Blewitt, G.**, 2013, Evidence for viscoelastic relaxation following the 2011 Mw 9.0 Tohoku earthquake using GPS: American Geophysical Union, Fall Meeting.

Zheng, L., Gordon, R., and **Kreemer, C.W.**, 2013, Correlated errors in seismic anisotropy data and implications for current absolute plate motion: American Geophysical Union, Fall Meeting.

Zheng, L., Gordon, R., **Kreemer, C.W.**, and Argus, D., 2012, Current absolute plate motion from seismic anisotropy: GSA Annual Meeting, Geological Society of America.

Honors and Awards (under individual names, both years)

Faulds, J.E.

Peer Review Excellence Award, 2012, Characterizing Structural Controls of EGS and Conventional Geothermal Reservoirs. Best project out of 100's of evaluated geothermal projects from around the country. Each year, the DOE invests millions of dollars in the geothermal industry, academia, and government labs for work on geothermal energy technology. The annual Peer Review competition showcases these projects. They are measured by four criteria: 1) the impact of the research; 2) the scientific or technical approach of the project; 3) accomplishments and progress; and 4) project management and coordination. Participants then receive a score and feedback in order to determine which project has used funds in the best possible way. Our project received perfect scores in all categories.

Best project, 2012, Department of Energy Geothermal Technologies Program Peer Review, Denver, Colorado.
Elected as Fellow to the Geological Society of America, 2013, Recognized for fundamental work on the tectonics and structural geology of the Basin and Range province and for integrating detailed geologic mapping into nearly all work, with direct applications to earthquake hazards, industrial minerals, metallic ore deposits, and geothermal resources.

Long, S.

Co-recipient, 1st-annual Charles J. Mankin Award, 2013, American Association of State Geologists, 2012 state geologic map of Idaho.

Mauldin, J.

1st place cartography, 2013, A Geodetic Strain Rate Model for the Pacific-North American Plate Boundary, Western United States, Nevada Geographic Information Society.

1st place cartography and layout, 2013, Damaging Earthquakes in Nevada: 1840s to 2010, Nevada Geographic Information Society.

3rd place cartography, 2013, Geologic Map of the Devils Throat quadrangle, Clark County, Nevada, Nevada Geographic Information Society.

Cartography, 2013, A Geodetic Strain Rate Model for the Pacific-North American Plate Boundary, Western United States, ESRI Map Book, Volume 28.

Muntean, J.L.

Chair, 2012, Gordon Conference on the Geochemistry of Mineral Deposits.

Shevenell, L.A.

Selected by the International Atomic Energy Agency to conduct a geothermal assessment of Eritrea, Africa, 2012.
Selected for Advisory Board, American Association of State Geologists, Geothermal Data Project Science, 2012.
Selected for Advisory Panel, government of Rwanda, Energy, Water and Sanitation Authority, to assist in development of geothermal resources in Rwanda, 2013.
Invited Instructor, first African Geothermal Resources Training mission, 2013.
Advisory Board Committee Member, American Association of State Geologists, Geothermal Data Project Science, 2013.
Best paper award for the 2013 Annual Geothermal Resources Council in the Geochemistry Session.

Other Professional Activities - 2012 and 2013

Bell, J.W.

<u>2012</u>

Advised 1 graduate student in support of academic teaching and research. This research consisted of finalizing the geothermal study in Gabbs Valley.
Panel Member, WInSAR, NSF/NASA-supported consortium of Universities utilizing InSAR data in the western U.S.
Expert outreach, seismic hazards, land subsidence, soils, and general engineering geology topics: Washoe County Department of Water Resources, several private geotechnical companies, and multiple homeowners in Incline Village.
Associate Editor, Environmental and Engineering Geoscience journal.
External Grant Reviewer, National Science Foundation.
Invited Manuscript Reviewer: Journal of Geophysical Research; Remote Sensing of the Environment; Applied Earth Observations and Remote Sensing; Utah Geological Survey Special Publication; Engineering Geology.
Teacher, Geomorphology GEOL 441/641, Thesis GEOL 797.

<u>2013</u>

Teacher, Geomorphology GEOL 441/641, Senior Research Project GEOL 497, Geology Field Camp GEOL 451, Advanced Geomorphy GEOL 701, Thesis GEOL 797.
Advisor, 1 graduate student.
Supervisor, 2 M.S. theses.
Supervisor, 1 Senior Research Project.
Consultant for Nevada geotechnical industry, city, county, state, and federal public agencies, and general public, including expert advice in areas of seismic hazards, land subsidence, soils, and general engineering geology topics.
Panel Member, WInSAR, NSF/NASA-supported consortium of Universities utilizing InSAR data in the western US.
Expert witness testimony, Amedee geothermal field.
Committee Member, College of Science LeMay Teaching Award Committee.
Associate Editor, Environmental and Engineering Geoscience.
External Grant Reviewer, National Science Foundation.
Invited Manuscript Reviewer, Environmental and Engineering Geoscience.

Blewitt, G.

2012
Teacher, PHYS 484/684, The Physics and Engineering of GPS.
Elected President, Geodesy Section, American Geophysical Union.
Executive Committee Member, Geodesy Section, American Geophysical Union.
Member, American Geophysical Union Fellows Committee.
Chair, UNAVCO Inc. Membership Committee.
Convener and Chair, Special Session, Geodetic Applications of IGS Products, International GNSS Service Analysis Center Workshop, Olztyn, Poland.
Member, University Research and Grants Committee.
Chair, College of Science Personnel Committee.
Chair, College of Science Ad Hoc Bylaws Committee.
Television interviewee, Fox 11 News, GPS monitoring of earthquakes.
NASA press release, NASA Tests GPS Monitoring System for Big U.S. Earthquakes.
University of Nevada, Reno press release, Technology used for NASA quake monitoring test.
University of Nevada, Reno press release, Uplift of the Sierra Nevada detected by space geodesy.

2013
Teacher, GEOL 701, Advanced Geology-Geodesy: GPS Data Processing Project.
President-Elect, Geodesy Section, American Geophysical Union.
Member, Executive Committee, Geodesy Section, American Geophysical Union.
Chair, Awards Committee, Geodesy Section, American Geophysical Union.
Member, Fellows Committee, Geodesy Section, American Geophysical Union.
Chair, Membership Committee, UNAVCO Inc. Membership Committee.
Convener and Chair, The Bowie Lecture, AGU Fall Meetings.
Convener, Special Plenary Session, Coastal Subsidence and Sea Level Rise, UNAVCO Science Workshop, Interlocken, Colorado.
Editorial Reviewer: European Geophysical Union, International Association of Geodesy.
Invited Manuscript Reviewer: Journal of Geodesy, Geophysical Research Letters, Tectonophysics, International Association of Geodesy Symposia.

dePolo, C.M.

2012
Chair, Nevada Hazard Mitigation Planning Committee.
Member, Nevada Earthquake Safety Council.
Co-leader for the 2012 Earth Sciences Week field trip.
Speaker, Association of Engineering Geologists meeting with public viewing of the trenches in Carson City that included the

city manager, engineer, and several city council members.
Installed rock garden at Great Basin Science Sample and Records Library.

2013
Chair, Nevada Hazard Mitigation and Planning Committee.
Member, Nevada Earthquake Safety Council.
Co-leader for the 2013 Earth Sciences Week field trip.

Faulds, J.E.

2012
Advisor, 7 graduate students.
Interviewee, TV stations, Radio, and newspapers on several topics, including DOE award, oil and gas potential in Nevada, and summer debris flows.
President, Nevada Petroleum and Geothermal Society, served as President from January to June, engineered name change from Nevada Petroleum Society.
Member, Scholarship Committee, Nevada Petroleum and Geothermal Society, February-March.
Geothermal Workshops-Meetings: Ormat to determine the best strategy for enhancing the Brady's geothermal system through hydro-fracturing; U.S. Geothermal to discuss results of new drilling at the San Emidio geothermal field; Gradient Resources to synthesize geologic and geophysical data at the Patua geothermal field; Pyramid Lake geothermal group to discuss geothermal potential of Tribal Lands, particularly in the Astor Pass and Emerson Pass areas; and DOE peer-review meeting in Denver, for which I presented updates of my DOE funded projects.
Teacher, Geology 702O, Geothermal exploration: Applications of structural geology, graduate-level independent study course in geothermal exploration, included field trips to geothermal sites.

2013
Fellow, Geological Society of America.
Advisor, 8 graduate students, including four completed theses, and committee member for 3 additional students.
Examiner, Ph.D. dissertation, Victoria University, New Zealand.
Weather Channel show guest, Secrets of the Earth: Discussed the Fly Ranch Geyser and geothermal activity in an 8-minute segment of the Secrets of the Earth series on the Weather Channel.
Organizer, Iceland geothermal field trip.
Organizer and presenter, geothermal exploration workshop, Geothermal Resources Council Annual Meeting, Las Vegas.
Chair, Nevada Petroleum and Geothermal Society Scholarship committee.
Organizer and host, ExxonMobil Recruiting Visit to UNR.
Panel member, Geothermal Energy Association Summit Meeting, June 27, 2013, Nevada Mineral Exploration Coalition Meeting.
Served on Clean Energy Council of Governor's Workforce.
Chair, Nevada Petroleum and Geothermal Society scholarship committee.

Hammond, W.C.

2012
Teacher, Geology 701, Advanced Geology–Geodesy.
Teacher, Geology 799, Dissertation.
Advisor, 5 graduate students.
Participant, UNAVCO, Inc., developed geodesy-based module for undergraduate structural geology courses, available online, being used at several universities in test mode.
Interviewed scientist, 6th grade student-produced film that was entered in several film festivals and won 1st place in the Yosemite International film festival's education category: Geology of California, 4,500,000,000 Years in the Making, directed by Reenie McMains, Sierra Expeditionary Learning School, Truckee, CA.
Committee Chair, EarthScope Plate Boundary Observatory Advisory Committee.

Committee Member, UNAVCO, Inc.
Co-chair, NSF-funded workshop, Real Time GPS Position Data Products and Formats, Boulder, Colorado.
Committee member, developed a community GPS-based block model that will be incorporated into the 2014 USGS National Probabilistic Seismic Hazard Maps.
Sierra Nevada paper press release interviewee, TV and radio, KGO 810 AM San Francisco, KNPR 88.9 FM Las Vegas, KOLO TV Reno, KFBK Sacramento, appeared in news articles in various outlets inside and outside the United States including MSNBC, ABC, Huffington Post, Scotland Herald, Nevada Silver and Blue magazine.
Manuscript Reviewer, Geophysical Journal International, 2 Papers.
Manuscript Reviewer, Geophysical Research Letters, 3 Papers.
Manuscript Reviewer, Journal of Geophysical Research, 2 Papers.
Manuscript Reviewer, Physics of the Earth and Planetary Interiors, 1 Paper.
Manuscript Reviewer, Journal of Geodesy, 1 Paper.
Research Proposal Reviewer, National Science Foundation, Tectonics and GeoPRISMS programs.

2013
Teacher, GPH 411/611, Geophysical Geodesy.
Teacher, GEOL 799, Dissertation.
Advisor, 1 Ph.D., student; committee primary advisor, 3 Ph.D. students; and committee member, 2 Ph.D. students.
Chair, National Science Foundation, EarthScope Plate Boundary Observatory Advisory Committee.
Panel member, USGS External Research Review, Intermountain West.
Selection committee, Amercian Geophysical Union, Whitten Medal, a Geodesy Section career award.
Author, GPS-based block models, USGS National Seismic Hazard Maps.
Reviewer, 5 manuscripts for top peer reviewed academic journals and 5 National Science Foundation research proposals.
Conference Session Chair, Seismological Society of America 2013 annual meeting.
Session organizer and convener, Intermountain West Earthquake and Volcano Characterization and Related Hazards, Salt Lake City, Utah.

Henry, C.D.

2012
Teacher, Incandescent Canyon part of field camp.
Advisor, 6 graduate students.
Co-leader, field trip Cenozoic tectonics of the northern Great Basin for USGS, Geology, Minerals, Energy, and Geophysics Science Center.
Reviewer, Innumerable for Geosphere, Geology, USGS, Boletin Sociedad Geologica Mexicana, Revista Mexicana de Ciencias Geológicas, and NSF.
Editor, Revista Mexicana de Ciencias Geologicas, Universidad Nacional Autonoma de Mexico (4 Papers).

2013
Reviewer, 2 refereed journal articles.
Co-leader, field trip, Nevada Petroleum and Geothermal Society, Geothermal and petroleum developments in several extensional basins of the central Walker Lane, Nevada.
Co-teacher, GEOL 451, Summer Field Camp.
Committee member, 2 MS and 4 PhD students.
Editorial Board Member for the following journals/granting agencies/publishers: Revista Mexicana de Ciencias Geologicas, Universidad Nacional Autonoma de Mexico, 4 Papers.

Hinz, N.H.

2012

Conference Session Chair, GRC 2012 Annual Meeting.
Reviewer, session of papers, Geothermal Resources Council 2012 Technical Program.

2013

Participant, field trip looking at geothermal systems in Iceland with the Great Basin Center for Geothermal Energy.
Participant, 2 day review session of papers submitted to the Geothermal Resources Council 2013 Technical Program.
Presenter, section of a 2 day pre-meeting workshop at the Geothermal Resources Council Annual Meeting.

Hursh, J.P.

2012
Executive Secretary, Nevada State Board on Geographic Names.

2013
Executive Secretary, Nevada State Board on Geographic Names.

Kreemer, C.W.

2012
Advisor, 2 graduate students.
Advisor, 2 postdoctoral fellows.
Teacher, GEOL 799, Dissertation; GEOL 497, Senior Research Project; GEOL 799, Dissertation.
Guest Lecturer, GEOL455/655.
Teacher, Workshop for EarthScope.
Teacher, Workshop for UNAVCO.
Committee member, Global Crustal Deformation, International Association of Geodesy.
Committee member, UNAVCO Facility Advisory Committee.
Committee member, International Association of Geodesy: Regional Dense Velocity Fields.
Manuscript editorial reviewer, Journal of Geophysical Research, G-cubed, Geophysical Journal International, German Research Council, NSF Postdoctoral Program, National Science Foundation, EarthScope Program.

2013
Advisor, 2 graduate students, 1 graduate student.
Committee, 1 PH.D. student.
Guest lecturer GPH455/655.
Teacher, Geodynamics Seminar, GEOL701h.
Teacher, GEOL 455, Geophysics and Geodynamics; GEOL 799, Dissertation; GEOL 495, Special Problems; GEOL 701, Adv. Geol. Geophysics; GEOL 799, Dissertation.
Chair, UNAVCO Geodetic Data Services Advisory Committee.
Committee member, International Association of Geodesy: Regional Dense Velocity Fields.
Committee member, International Association of Geodesy: Global Crustal Deformation.
Invited Manuscript Reviewer, Journal of Geophysical Research, National Science Foundation, EarthScope Program.

LaPointe, D.D.

2012
Interim Administrator, W.M. Keck Museum.
Editor, Nevada Bureau of Mines and Geology publications.
Board of Directors Member, Geological Society of Nevada Foundation.
Committee Chair, Geological Society of Nevada.
Committee Member, Nevada Mining Association.
K-12 Outreach, Reno Gem and Mineral Society.

Committee Chair, Woman's Auxiliary to the American Institute of Mining, Metallurgical, and Petroleum Engineers.
Teacher, CTL 506R, Topics in Education: 2012 Minerals Education Workshop.
Teacher, EDUC.
ASUN Club Advisor/Mentor, Mackay Rockhounds Student Geology Club.
Designer and installer, earthcache and geocache sites.

2013
Interim Administrator, W.M. Keck Museum.
Editor, Nevada Bureau of Mines and Geology publications.
Board of Directors Member, Geological Society of Nevada Foundation.
Committee Chair, Geological Society of Nevada.
Committee Member, Nevada Mining Association.
K-12 Outreach, Reno Gem and Mineral Society.
Committee Chair, Woman's Auxiliary to the American Institute of Mining, Metallurgical, and Petroleum Engineers.
Designer and installer, earthcache and geocache sites.
Advisor, 1 student worker.
Advisor, 1 student research project.

Long, S.

2012

Teacher, GEOL 701A, Advanced Structural Geology.
Teacher, GEOL 451, Summer Field Camp.
Teacher, GEOL 701G, Advanced Structural Geology.
Director, UNR summer field camp.
Advisor, 2 graduate students.
Thesis committee member, 4 students.
Journal article reviewer: Geology, Tectonics, Journal of Maps.

2013
Director, UNR summer field camp.
Field trip/lab leader with students to Bhutan, Bolivia, Arizona, and California.
Teacher, GEOL 451, Summer Field Camp.
Teacher, GEOL 701, Advanced Structural Geology.
Teacher, GEOL 797, Thesis.
Master's Thesis Committee Member, one student.
Advisor, two M.S. students and one Ph.D. student.
Journal article reviewer: Geology, Tectonics, Journal of Maps.
National Science Foundation proposal reviewer: Tectonics, Geophysics.

Mauldin, J.M.

2012
Executive Secretary, Nevada State Mapping Advisory Committee.
State Representative, National States Geographic Information Council.
Instructor, Western Nevada College in Graphic Communications, GRC144b Page Layout/Typography I, GRC156 Computer Illustration I.

2013
Executive Secretary, Nevada State Mapping Advisory Committee.
State Representative, National States Geographic Information Council.

Muntean, J.L.

2012
Director, Ralph J. Roberts Center for Research in Economic Geology at UNR.
Chair, Gordon Conference on the Geochemistry of Mineral Deposits.
Editorial Board Member, Economic Geology.
Editorial Board Member, Society of Economic Geologists.
Co-leader, Society of Economic Geologists field trip, porphyry and epithermal gold deposits of the Maricunga Belt in the high Andes of northern Chile.
Workshop leader, Carlin-type gold deposits, Society of Economic Geologists' headquarters in Littleton, Colorado.
Teacher, GEOL 495, Independent Study Course.
Teacher, GEOL 451, Geology Summer Field Course.
Guest lecturer, GEOL 471/671 Ore Deposits.
Field trip co-leader, gold and copper mines near Ely and Eureka.
Committee chair, College of Science, UNR, Mousel-Feltner Award for Research Excellence.
Advisor, 2 graduate students.
Master's Thesis committee member, 1 student.

2013
Director, Ralph J. Roberts Center for Research in Economic Geology at UNR.
Supervisor, 4 MS students.
Master's Thesis committee member, 1 student.
Teacher, GEOL 451, Geology Summer Field Course.
Teacher, GEOL 495, Special Problems.
Teacher, GEOL 701, Advanced Mineralogy.
Teacher, GEOL 701R, Field Mapping of Ore Deposit: The Yerington Porphyry Copper System.
Teacher, GEOL 701Y, Field Spectroscopy Applied to Hydrothermal Alteration and Mineral Exploration.
Teacher, GEOL 797, Thesis.
Co-chair, Geological Society of Nevada symposium, technical program.
Journal article reviewer: Geology.
Advisor, Society of Economic Geologists, UNR student chapter.
Grant reviewer, National Science Foundation.
Manuscript Reviewer, Minerallium Deposita and Economic Geology

Ramelli, A.R.

2012
Ad Hoc Reviewer, Paleoseismic trench review.
Invited Manuscript Reviewer, Geologic Map of the Devils Throat quadrangle, Clark County, Nevada.

2013
Advisor, graduate students, Pyramid Lake map compilation.

Shevenell, L.A.

2012

Science Advisory Board Member, American Association of State Geologists, Geothermal Data Project.
Board of Director, Geothermal Resources Council.
Executive Advisory Committee, Geothermal Resources Council.
Site Selection Executive Committee, Geothermal Resources Council.
Annual meeting advisory committee, Geothermal Resources Council.
Technical Standards committee, chair, Geothermal Resources Council.
Foundation committee, Geothermal Resources Council.
Technical program co-chair, Geothermal Resources Council.
Technical Advisory Committee, Geothermal Energy Association.
Terms and Definitions sub-committee, Geothermal Energy Association.
Panel member, New Mexico state EPSCoR proposal on renewable energy, Albuquerque, NM.
Ad Hoc Reviewer: Applied Geochemistry, Geothermal Energy Association, Nevada Bureau of Mines and Geology, Geothermal Resources Council, Department of Energy, American Association of State Geologists.
Invited Manuscript Reviewer: Applied Geochemistry, Geothermal Energy Association, Nevada Bureau of Mine and Geology, Geothermal Resources Council, Department of Energy, American Association of State Geologists.

2013
Science Advisory Board Member, American Association of State Geologists, Geothermal Data Project.
Board of Director, Geothermal Resources Council.
Executive Advisory Committee, Geothermal Resources Council.
Site Selection Executive Committee, Geothermal Resources Council.
Annual meeting advisory committee, Geothermal Resources Council.
Technical Standards committee, chair, Geothermal Resources Council.
Foundation committee, Geothermal Resources Council.
Technical program co-chair, Geothermal Resources Council.
Peer Reviewer, 40 proposals and statements of work, U.S. Department of Energy, geothermal data program, Association of American State Geologists Geothermal.
Reviewer, 16 technical papers, Geothermal Resources Council.
Supervisor, 8 undergraduate students.