

## CURRICULUM VITAE

**Cornelis W. Kreemer**  
***Research Associate Professor***

### ADDRESS

Nevada Bureau of Mines and Geology  
University of Nevada, Reno  
Reno, Nevada 89557-0178

Work tel/fax: (775) 682-8780 / (775) 784-1709  
email/www: kreemer@unr.edu / <http://geodesy.unr.edu/cornekreemer.html>

### EDUCATION

- 2001 Ph.D., Earth and Space Sciences, State University of New York, Stony Brook  
Thesis: *"A global strain rate model"*  
Advisor: *W. Holt*
- 1997 M.S., Geophysics, Utrecht University, The Netherlands  
Thesis: *"Plate boundary deformation in the Explorer region"*  
Advisor: *R. Govers*

### RESEARCH INTERESTS

Crustal deformation, Application of space-geodesy in tectonics and geodynamics, Global plate kinematics and dynamics, Lithospheric dynamics, GPS time-series analysis, Earthquake statistics, Reference frames and absolute plate motion, Natural hazards, Seismic cycle

### PROFESSIONAL EXPERIENCE

- 2010-Present Research Scientist / Research Associate Professor, *Nevada Bureau of Mines and Geology, and Seismological Laboratory, University of Nevada, Reno*
- 2016 Visiting Professor, *Faculty of Earth Sciences, Utrecht University, The Netherlands*
- 2005-2010 Research Scientist / Research Assistant Professor, *Nevada Bureau of Mines and Geology, and Seismological Laboratory, University of Nevada, Reno*
- 2004-2005 Postdoctoral Fellow, *Nevada Bureau of Mines and Geology, University of Nevada, Reno*
- 2002-2004 Postdoctoral Fellow, *Chaire de Géodynamique, Collège de France, Aix en Provence / Paris*

2001-2002	Postdoctoral Fellow, <i>Laboratoire de Géologie, École Normale Supérieure, Paris, France</i>
1998-2001	Graduate Research Assistant, <i>Department of Geosciences, SUNY Stony Brook</i>
1997-1998	Graduate Teaching Assistant, <i>Department of Geosciences, SUNY Stony Brook</i>
1996	Research Scholar, <i>Geodynamics Lab, Penn State University, College Park, PA</i>

## AWARDS AND HONORS

2016	<i>Visiting Professorship, Royal Dutch Academy of Sciences</i>
2013-2014	<i>EarthScope Speaker</i>
2011	<i>Mackay Faculty Achievement Award, University of Nevada, Reno</i>
2010	<i>Geodesy Section Award, American Geophysical Union</i>
2008	<i>Travel Award, 3<sup>rd</sup> World Stress Map Conference, Potsdam, Germany</i>
2005	<i>Travel Award, UNAVCO-IRIS Joint Workshop, Stevenson, Washington</i>
2005	<i>Travel Award, EarthScope National Meeting, Santa Ana Pueblo, New Mexico</i>
1999	<i>Travel Award, GPS99 meeting, Tsukuba, Japan</i>
1998	<i>Excellence in Teaching Award, SUNY - Stony Brook</i>

## PROFESSIONAL SERVICE

2014-2016	<i>Member – Editorial Board “Lithosphere”</i>
2013-2014	<i>Chair - Geodetic Data Services Advisory Committee, UNAVCO</i>
2011-Present	<i>Committee Member - Global Crustal Deformation Working Group, IAG</i>
2009-2012	<i>Committee Member - UNAVCO Facility Advisory Committee</i>
2008-Present	<i>Committee Member - Regional Dense Velocity Fields Working Group, IAG</i>
2007-2010	<i>Committee Member - Plate Boundary Observatory Data Working Group</i>
2009-2010	<i>Co-Chair/Organizer - AGU Fall Meeting Natural Hazards Section</i>
2005-2009	<i>Co-Chair - Task Force VII of the International Lithosphere Program: 'Temporal and Spatial Changes of Stress and Strain'</i>
2006	<i>Convener - Special Session: 'Short and long-term strain accumulation and transients,' AGU Fall Meeting</i>
2004	<i>Convener - Special Session: 'Integrated studies of lithosphere-mantle interaction and lithospheric deformation,' AGU Fall Meeting</i>
2004	<i>Convener - Special Session: 'New advances in global plate kinematics and dynamics from space geodesy,' AGU/CGU Joint Assembly</i>

- 2001            *Co-Chair* - Special Session: 'Recent Tectonics, Kinematics and Dynamics of Southeast Asian Margins,' AGU Spring Meeting
- 1998            *Co-Chair* - Special Session: 'The March 25, 1998, Antarctica Earthquake, ( $M_w = 8.1$ ),' AGU Fall Meeting
- 2001-Present    *Peer Reviewer*    AGU Books; Bulletin de la Société Géologique de France; Earth and Planetary Science Letters; Earth Planets Space; Geochemistry, Geophysics, Geosystems; Geophysical Journal International; Geophysical Research Letters; Journal of Asian Earth Sciences, Journal of Geodesy; Journal of Geodynamics; Journal of Geophysical Research; Journal of Seismology; Natural Hazards; Nature Geoscience; New Zealand Journal of Geology and Geophysics; Tectonics; Tectonophysics; Terra Nova; NASA SENH; NSF-EarthScope; NSF-Geophysics; NSF-Tectonics; NSF-Office of International Science and Engineering, German Council of Science and Humanities

### UNIVERSITY SERVICE

- 2014-Present    *Committee Member* - NSL Personnel Committee (UNR)
- 2014-Present    *Committee Member* - Graduate Admissions Committee, Department of Geological Sciences and Engineering, University of Nevada, Reno
- 2012-Present    *Committee Member* - Graduate Council, University of Nevada, Reno
- 2011-2012       *Committee Member* - NBMG Personnel Committee (UNR)
- 2006-2011       *Organizer* - Mackay Seminar Series (UNR)
- 2007              *Committee Member* - NBMG Space Committee

### PROFESSIONAL SOCIETIES

American Geophysical Union; Geological Society of America; Southern California Earthquake Center; European Geophysical Union; Seismological Society of America

### INVITED LECTURES (excluding talks for which abstracts were published)

- 2015              California Institute of Technology (Pasadena, CA), University of Grenoble (France)
- 2014              University of Houston (Houston, TX), West Chester University (West Chester, PA), Northern Arizona University (Flagstaff, AZ), Association of Engineering and Environmental Geologists, Great Basin Chapter (Reno, NV)
- 2013              GFZ (Potsdam, Germany), ITC-Twente University (Enschede, The Netherlands), Strain-Mapping Workshop (Leeds, UK), University of Nevada (Reno, NV), Grand Staircase Escalante National Monument (Kanab, UT), Delft Technical University (The Netherlands), Miami University (Miami, FL)

- 2012 GNS Science (Wellington, New Zealand), EarthScope/Earthcube Workshop (Phoenix, AZ)
- 2011 ETH (Zürich, Switzerland), Nevada Petroleum Society (Reno, NV), Grand Staircase Escalante National Monument (Escalante, UT)
- 2010 U.S. Geological Survey (Golden, CO)
- 2009 University of Luxembourg (Luxembourg); USGS Walker Lane Workshop (Reno, NV); UNAVCO Western United States Velocity Field Workshop (Boulder, CO); EarthScope Velocity Field Workshop (Boise, ID)
- 2008 Université Rennes 1 (Rennes, France), Collège de France (Saint-Maximin La Sainte-Baume, France)
- 2006 University of Nevada (Las Vegas, NV); USGS Seismic Hazard Workshop (Reno, NV)
- 2004 Collège de France, (Paris, France); Shell Philippines Exploration Offices (Alabang, Philippines)
- 2003 University of Montpellier (Montpellier, France); Conseil Scientifique du Groupement de Recherche G2 - Géodésie-Géophysique (Paris, France); Institute of Geophysics, ETH (Zürich, Switzerland); Bullard Laboratories, Cambridge University (Cambridge, U.K.); Collège de France, (Paris, France)
- 2002 Université de Bretagne Occidentale (Brest, France); Géosciences Azur (Villefranche-sur-Mer, France); Laboratoire de Géologie, Ecole normale supérieure (Paris, France)
- 2001 Vening Meinesz School of Geodynamics, Utrecht University (Utrecht, The Netherlands); Institute of Geophysics, ETH (Zürich, Switzerland)
- 1996 Geodynamics Laboratory, Penn State University (State College, PA)

## TEACHING AND INSTRUCTION

- 2016 *Instructor* - 'GPH333: 'Plate Tectonics and Earth Physics' (UNR)
- 2015 *Instructor* - 'GPH333: 'Plate Tectonics and Earth Physics' (UNR)
- 2014 *Instructor* - 'GEOL701h: 'Geodynamics Seminar' (UNR)
- 2013 *Instructor* - 'GEOL701h: 'Geodynamics Seminar' (UNR)  
*Guest Lecturer* - 'GPH455/655: Geophysics and Geodynamics' (UNR)
- 2012 *Guest Lecturer* - 'GPH455/655: Geophysics and Geodynamics' (UNR)
- 2009 *Guest Lecturer* - 'GEOL333: Structure, Tectonics, and Earth Physics II' (UNR)
- 2008 *Instructor* - 'Using GPS Data to Study Crustal Deformation, Earthquakes, and Volcanism Workshop' (Las Vegas, NV); and 'EarthScope Basin and Range Interpretive Workshop' (Reno, NV)

- 2007      *Guest Lecturer* - 'GEOL332: Structure, Tectonics, and Earth Physics I' (UNR); 'GEOL730: Advanced Geology of Nevada and Basin and Range' (UNR); 'GEOL697: Graduate Seminar' (UNR)
- 2006      *Guest Lecturer* – 'GEOG210: Exploring, measuring, and mapping planet earth'; 'GEOL730: Advanced Geology of Nevada and Basin and Range'; 'GEOL697: Graduate Seminar' (UNR)
- 2005      *Guest Lecturer* – 'GEOG210: Exploring, measuring, and mapping planet earth' (UNR)
- 2001      *Instructor* - 'Seismology Project for Women in Science and Engineering (WISE)' (Stony Brook)
- 1997-1998      *Teaching Assistant* - Structural Geology; Geophysics; Natural Hazards (Stony Brook)
- 1996      *Teaching Assistant* - 'Algebra II (Complex numbers & Fourier Series/ Transforms)' (Utrecht University)

## STUDENTS ADVISED

Meredith Kraner (M.S., University of Nevada, in process)  
 Yang Zhang (M.S., University of Nevada, 2014)  
 Xiaohui Zhou (Ph.D., Wuhan University, 2011)

## GRADUATE STUDENT COMMITTEE MEMBER (other than for students advised)

R. Chacko (M.S., University of Nevada , 2015)  
 J. Bormann (Ph.D., University of Nevada , 2013)  
 Sumant Jha (M.S., University of Nevada, 2010)  
 R. Koehler (Ph.D., University of Nevada, 2009)  
 J. Legrand (Ph.D., Observatoire de Paris, France, 2007)

## POSTDOCTORAL FELLOWS ADVISED

E. Klein (2010 – 2012)  
 Sunil P.S. (2011 – 2012)

## FIELD EXPERIENCE

- 2004-Present      *Crew Member/Organizer*, GPS field campaigns involving construction and occupation of 350+ site network, Nevada, California, Arizona, and Utah
- 1996      *Crew Member*, 10-day scientific cruise of seismic data acquisition, offshore Vancouver Island

**RESEARCH GRANTS** (\* as Principal Investigator)

- 2016-2019 GPS Imaging of Solid Earth's Flex and Flow; **NASA-ESI** [\$416,950]
- 2016-2018 \* Collaborative Research: Using GPS to Unravel the Long-Term Kinematics and Dynamics of the American Southwest from an Ever-Changing Deformation Field; **NSF-EarthScope** [\$246,500] with R. Bennett (University of Arizona)
- 2016-2017 \* Effect of Loading-Induced Horizontal Deformation on the Community Geodetic Model; **SCEC** [\$20,140] with Y. Fialko (UC San Diego)
- 2014-2017 \* Poroelastic Tomography by Adjoint Inverse Modeling of Data from Seismology, Geodesy, and Hydrology; **DOE Subcontract through the University of Wisconsin-Madison** [\$65,154] part of \$3M total grant
- 2014-2017 Plug-and-Play GPS for Earth Scientists: Providing Immediate Access to Low-Latency Geodetic Products for Rapid Modeling and Analysis of Natural Hazards; **NASA-ACCESS** [\$164,436] with UNAVCO
- 2010-2016 \* Collaborative Research: Geodetic Constraints on the Kinematics of the Colorado Plateau and its Western and Southern Margin; **NSF-EarthScope** [\$285,505] with R. Bennett (University of Arizona)
- 2014-2015 \* Global Geodetic Strain Rate Model Continuation; **Global Earthquake Model Foundation** [\$15,083]
- 2013-2014 \* Geodetic Constraints on the Deformation and Fault Slip Rates in the Greater Las Vegas Area; **USGS-NEHRP** [\$54,971]
- 2013-2014 \* GPS Support Brady Geothermal Field; **Temple University Subcontract** [\$15,702]
- 2011-2012 Using GPS to Measure the Slip Rate on the Honey Lake fault, California; **USGS-NEHRP** [\$77,982]
- 2010-2012 \* Global Geodetic Strain Rate Model; **Global Earthquake Model Foundation** [\$144,900]
- 2010-2012 \* Discovery and Delivery of Space Geodetic Data Products from Distributed Archives; **NASA-ACCESS** [\$154,728] with UNAVCO
- 2009-2013 \* Improving the Spatial and Temporal Resolution of Strain Rate Models of Continental Deformation; **NSF-Geophysics** [\$280,580] + REU Supplement [\$7,500]
- 2009-2012 \* Collaborative Research: Thermal Contraction, Oceanic Intraplate Deformation, and Plate Circuit Closure; **NSF-Marine Geology & Geophysics** [\$92,041] with R. Gordon (Rice University)
- 2010-2011 \* Detecting Transient Deformation Signals in GPS time-series II; **SCEC** [\$19,999]
- 2009-2010 Time-dependent modeling of seismic moment release in San Andreas Fault – Great Basin System; **SCEC** [\$24,967]

- 2009-2010 \* Detecting Transient Deformation Signals in GPS time-series; **SCEC** [\$18,951]
- 2008-2011 Geodetic Imaging of Earth's Surface Deformation Using Integrated InSAR and GPS Observations; **NASA-EarthScope** [\$362,871]
- 2008-2009 \* Geodetic Constraints on the Slip Rate of the Mohawk Valley Fault Zone, California; **USGS-NEHRP** [\$64,222]
- 2008-2009 Modeling of Seismic Moment Release in San Andreas Fault-Great Basin System: Combination of Seismological and Geodetic Approaches; **SCEC** [\$20,000]
- 2007-2009 Integrated Geologic and Geodetic Study of Strain Accumulation and Release in the northern Walker Lane; **NSF-Tectonics/EarthScope** [\$334,853]
- 2007-2009 Development of Real-Time Tsunami Warning Systems Using Continuous GPS; **NASA-ESI** [\$393,920]
- 2006-2009 Quasi-Block Modeling of Walker Lane Belt Tectonic Deformation, Using Geodetic and Geologic Data to Constrain System Complexity and Time-Variable Behavior; **NSF-Tectonics** [\$236,779]
- 2007 Estimating Seismic Hazard in the Basin and Range Province Using Horizontal GPS Data: Collaborative Research between the University of Nevada, Reno and the USGS; **USGS-NEHRP** [\$66,891]
- 2006-2007 System Design for a GPS Component of Real-Time Earthquake Source Determination and Tsunami Warning Systems: Collaborative Research Between UNR and Northwestern University; **USGS-NEHRP** [\$80,484]
- 2005-2006 Targeting of Potential Geothermal Resources in the Great Basin from Regional to Basin-Scale Relationships between Geodetic Strain and Geological Structures; **DOE-Great Basin Center for Geothermal Energy** [\$236,779]
- 2005-2006 Strain State Analysis Through Deep Electrical Anisotropy Mapping: An Alternative Tool for Identifying the Orientation of Critically Stressed Fractures for EGS Projects; **DOE-Great Basin Center for Geothermal Energy** [\$297,375]
- 2005-2010 Revival of Grass-Roots Geothermal Exploration in the Great Basin – A New Approach to Assessing Geothermal Potential Using a Geographic Information System parts IV and V; **DOE-Great Basin Center for Geothermal Energy** [\$299,932]

## CONSULTANCY

- 2013 Lettis Consultancy International, Seismic Hazard Evaluation Palo Verde Nuclear Power Plant, AZ (Twice)
- 2011 Fugro Consultants, Seismic Hazard Evaluation Proposed Blue Mountain Nuclear Power Plant, UT

## LANGUAGE

Fluent in Dutch and English; Intermediate in French, and German

## PUBLICATIONS

(reprints of most can be found at <http://geodesy.unr.edu/cornekreemer/research.htm>)

### In Preparation

- Kreemer, C., and Zaliapin, I.  
**On the Uncertainty in the Seismic-to-Geodetic Moment Ratio**  
*Bulletin of the Seismological Society of America*, in preparation.
- Kreemer, C., Hammond, W.C., and Blewitt, G.  
**Plate-scale deformation of North America inferred from GPS data**  
*Geophysical Journal International*, in preparation

### In Review/Revision

- Zaliapin, I., and Kreemer, C.  
**Systematic fluctuations in the global seismic moment release**  
*Geophysical Research Letters*, in revision.

### Peer-Reviewed Articles and Book Chapters

#### 2016

- Bormann, J.M., Hammond, W.C., Kreemer, C., and Blewitt, G.  
**Accommodation of missing shear strain in the Central Walker Lane, western North America: Constraints from dense GPS measurements**  
*Earth and Planetary Science Letters*, v. 440, p. 169-177, doi:10.1016/j.epsl.2016.01.015, 2016
- Blewitt, G., Kreemer, C., Hammond, W.C., and Gazeaux, J.  
**MIDAS robust trend estimator for accurate GPS station velocities without step detection**  
*Journal of Geophysical Research - Solid Earth*, v. 121, p. 2054-2068, doi:10.1002/2015JB012552.

#### 2015

- Bird, P., Jackson, D.D., Kagan, Y.Y., Kreemer, C., and Stein, R.S.  
**GEAR1: a Global Earthquake Activity Rate model constructed from geodetic strain rates and smoothed seismicity**  
*Bulletin of the Seismological Society of America*, v. 106, p. 2538-2554, 2015.
- Keiding, M., Kreemer, C., Lindholm, C.D., Gradmann, S., Olesen, O., and Kierulf, H.P.  
**A comparison of strain rates and seismicity for Fennoscandia: Depth dependency of deformation from glacial isostatic adjustment**  
*Geophysical Journal International*, v. 202, p. 1021-1028, doi: 10.1093/gji/ggv207, 2015.
- Bird, P. and Kreemer, C.  
**Revised tectonic forecast of global shallow seismicity based on version 2.1 of the Global Strain Rate Map**  
*Bulletin of the Seismological Society of America*, v. 106, p. 152-166, doi: 10.1785/0120140129, 2015.



## 2014

- Kreemer, C., and Gordon, R.G.  
**Pacific plate deformation from horizontal thermal contraction**  
*Geology*, v. 42(10), p. 847-850, doi:10.1130/G35874.1, 2014
- Kreemer, C., Blewitt, G., and Klein, E.C.  
**A geodetic plate motion and global geodetic strain rate model**  
*Geochemistry, Geophysics, Geosystems*, v. 15, p. 3849-3889, doi:10.1002/2014GC005407, 2014
- Zheng, L., Gordon, R.G., and Kreemer, C.  
**Absolute plate velocities from seismic anisotropy: Importance of correlated errors**  
*Journal of Geophysical Research*, v. 119, p. 7336–7352 , doi:10.1002/2013JB010902, 2014
- Hammond, W.C., Blewitt, G., and Kreemer, C.  
**Steady contemporary deformation of the central Basin and Range Province, western United States**  
*Journal of Geophysical Research*, v. 119, p. 5235-5253, doi:10.1002/2014JB011145, 2014.
- Collilieux, X., Altamimi, Z., Argus, D.F., Boucher, C., Dermanis, A., Haines, B.J., Herring, T.A., Kreemer, C., Lemoine, F.G., Ma, C., MacMillan, D.S., Mäkinen, J., Métivier, L., Ries, J.C., Teferle, F.N., and Wu, X.  
**External evaluation of the Terrestrial Reference Frame: report of the task force of the IAG sub-commission 1.2**  
in *Proceedings of the IAG General Assembly*, eds. C. Rizos and P. Willis, pp. 197-202, v. 139, International Association of Geodesy Symposia, Springer Berlin Heidelberg, doi:10.1007/978-3-642-37222-3\_2

## 2013

- Blewitt, G., Kreemer, C., Hammond, W.C., and Goldfarb, J.  
**Terrestrial reference frame NA12 for crustal deformation studies in North America**  
*Journal of Geodynamics*, v. 72, p. 11-23, 2013.

## 2012

- Hammond, W.C., Blewitt, G., Li, Z., Plag, H.-P., and Kreemer, C.  
**Space geodetic imaging of mountain uplift: Sierra Nevada, western U.S.**  
*Geology*, v. 40, p. 667-670, 2012.
- Del Pardo, C., Smith-Konter, B.R., Serpa, L.F., Kreemer, C., Blewitt, G., and Hammond, W.C.  
**Interseismic deformation and geologic evolution of the Death Valley Fault Zone**  
*Journal of Geophysical Research*, v. 117, B06404, doi:10.1029/2011JB008552, 2012.
- Wesnousky, S.G., Bormann, J.M., Kreemer, C., Hammond, W.C., and Brune, J.N.  
**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, doi:10.1016/j.epsl.2012.02.018, 2012.

## 2011

- Argus, D.F., Blewitt, G., Peltier, W.R., and Kreemer, C.  
**Rise of the Ellsworth mountains and parts of the East Antarctic coast observed with GPS**  
*Geophysical Research Letters*, v. 38, L16303, doi:10.1029/2011GL048025, 2011.

- Hammond, W.C., Blewitt, G., Kreemer, C., Murray-Moleda, J.R., and Svarc, J.L.  
**GPS constraints before and during the 21 February 2008 Wells, Nevada M6.0 earthquake**  
in *The 21 February 2008 Mw 6.0 Wells earthquake*, Nevada Earthquake Special Publication, NBMG Special Publication 36, C. dePolo and DD Lapointe eds., 2011.
- Hammond, W.C., Blewitt, G., and Kreemer, C.  
**Block modeling of crustal deformation of the Northern Walker Lane and Basin and Range from the MAGNET GPS velocities**  
*Journal of Geophysical Research*, v. 116, B04402, doi:10.1029/2010JB007817, 2011.

## 2010

- Kreemer, C., Blewitt, G., and Bennett, R.A.  
**Present-day motion and deformation of the Colorado Plateau**  
*Geophysical Research Letters*, v. 37, L10311, doi:10.1029/2010GL043374, 2010.
- Le Pichon, X., and Kreemer, C.  
**The Miocene to Present kinematic evolution of the eastern Mediterranean and Middle East and its implications for dynamics**  
*Annual Review of Earth and Planetary Sciences*, v. 38, p. 323-351, 2010.
- Bird, P., Kreemer, C., and Holt, W.E.  
**A long-term forecast of shallow seismicity based on the global strain rate map**  
*Seismological Research Letters*, v. 81, p. 184-194, 2010.
- Kreemer, C., Blewitt, G., and Hammond, W.C.  
**Evidence for an active shear zone in southern Nevada linking the Wasatch Fault to the Eastern California Shear Zone**  
*Geology*, v. 38, p. 475-478, 2010.
- Hammond, W.C., Kreemer, C., Blewitt, G., and Plag, H.-P.  
**Effect of viscoelastic relaxation on estimates of interseismic crustal strain accumulation at Yucca Mountain, Nevada**  
*Geophysical Research Letters*, v. 37, L06307, doi:10.1029/2010GL042795, 2010.
- Flesch, L.M., and Kreemer, C.  
**Gravitational potential energy and regional stress and strain rate fields for continental plateaus: Examples from the central Andes and Colorado Plateau**  
*Tectonophysics*, doi:10.1016/j.tecto.2009.07.014, v. 482, p 182-192, 2010.

## 2009

- Kreemer, C.  
**Absolute plate motions constrained by shear wave splitting orientations with implications for hot spot motions and mantle flow**  
*Journal of Geophysical Research*, v. 114, B10405, doi:10.1029/2009JB006416, 2009.
- Sahagian, D., Alsdorf, D., Davis, P., Houser, P., Kreemer, C., Melack, J., Pearlman, M., Plag, H.-P., Poli, P., Reid, S., Rodell, M., and Thomas, R.  
**Earth observation: Serving the needs of an increasingly global society**  
in *The Global Geodetic Observing System: Meeting the Requirements of a Global Society on a Changing Planet in 2020*, eds. H.-P. Plag and M. Pearlman, p. 153-196, Springer Berlin, 2009.
- Blewitt, G., Hammond, W.C., and Kreemer, C.

**Geodetic constraints on contemporary deformation in the northern Walker Lane: 1. Semi-permanent GPS strategy**

in *Late Cenozoic Structure and Evolution of the Great Basin - Sierra Nevada Transition*, eds. J.S. Oldow, and P.H. Cashman, Geological Society of America Special Volume 447, p. 1-15, 2009.

- Kreemer, C., Blewitt, G., and, Hammond, W.C.  
**Geodetic constraints on contemporary deformation in the northern Walker Lane: 2. Velocity and strain rate tensor analysis**  
 in *Late Cenozoic Structure and Evolution of the Great Basin - Sierra Nevada Transition*, eds. J.S. Oldow, and P.H. Cashman, Geological Society of America Special Volume 447, p. 17-31, 2009.
- Hammond, W.C., Kreemer, C., and Blewitt, G.  
**Geodetic constraints on contemporary deformation in the northern Walker Lane: 3. Central Nevada seismic belt postseismic relaxation**  
 in *Late Cenozoic Structure and Evolution of the Great Basin - Sierra Nevada Transition*, eds. J.S. Oldow, and P.H. Cashman, Geological Society of America Special Volume 447, p. 33-54, 2009.
- Blewitt, G., Hammond, W.C., Kreemer, C., Plag, H.-P., Stein, S., and Okal, E.  
**GPS for real-time earthquake source determination and tsunami warning systems**  
*Journal of Geodesy*, v. 83, p. 335-343, 2009.

**2007**

- Kreemer, C., and Hammond, W.C.  
**Geodetic constraints on areal changes in the Pacific-North America plate boundary zone: What controls Basin and Range extension?**  
*Geology*, v. 35, p. 943-946, 2007.

**2006**

- Kreemer, C., Lavallée, D., Blewitt, G., and Holt, W.E.  
**On the stability of a geodetic no-net-rotation frame and its implication for the International Terrestrial Reference Frame**  
*Geophysical Research Letters*, 33, L17306, doi:10.1029/2006GL027058, 2006.
- Blewitt, G., Kreemer, C., Hammond, W.C., Plag, H.-P., Stein, S., and Okal, E.  
**Rapid determination of earthquake magnitude using GPS for tsunami warning systems**  
*Geophysical Research Letters*, 33, L11309, doi:10.1029/2006GL026145, 2006.
- Kreemer, C., Blewitt, G., and Maerten, F.  
**Co- and postseismic deformation of the 28 March 2005 Nias  $M_w$  8.7 earthquake from continuous GPS data**  
*Geophysical Research Letters*, v. 33, L07307, doi:10.1029/2005GL025566, 2006.
- Kreemer, C., Blewitt, G., Hammond, W.C., and Plag, H.-P.  
**Global deformation from the Great 2004 Sumatra-Andaman Earthquake observed by GPS: Implications for rupture process and global reference frame**  
*Earth Planets Space*, v. 58, p. 141-148, 2006.
- Pancha, A., Anderson, J.G., and Kreemer, C.  
**Comparison of seismic and geodetic scalar moment rates across the Basin and Range province**  
*Bulletin Seismological Society of America*, v. 96, p. 11-32, 2006.

## 2005

- Chamot-Rooke, N., Rabaute, A., and Kreemer, C.  
**Western Mediterranean Ridge mud belt correlates with active shear strain at the prism-backstop contact**  
*Geology*, v. 33, p. 861–864, 2005.
- Holt, W.E., Kreemer, C., Haines, A.J., Estey, L., Meertens, C., Blewitt, G., and Lavallée, D.  
**Project helps constrain continental dynamics and seismic hazards**  
*Eos, Transactions American Geophysical Union*, v. 86, p. 383, 387, 2005.
- Le Pichon, X., Kreemer, C., and Chamot-Rooke, N.  
**Asymmetry in elastic properties and the evolution of large continental strike-slip faults**  
*Journal Geophysical Research*, v.110, B03405, doi:10.1029/2004JB003343, 2005.

## 2004

- Kreemer, C., and Chamot-Rooke, N.  
**Contemporary kinematics of the southern Aegean and the Mediterranean Ridge**  
*Geophysical Journal International*, v. 157, p. 1377–1392, 2004.
- Kreemer, C., Chamot-Rooke, N., and Le Pichon, X.  
**Constraints on the evolution and vertical coherency of deformation in the Northern Aegean from a comparison of geodetic, geologic, and seismologic data**  
*Earth Planetary Science Letters*, v. 225, p. 329–346, 2004.

## 2003

- Kreemer, C., Holt, W.E., and Haines, A.J.  
**An integrated global model of present-day plate motions and plate boundary deformation**  
*Geophysical Journal International*, v. 154, p. 8–34, 2003.

## 2002

- Kreemer, C., Holt, W.E., and Haines, A.J.  
**The global moment rate distribution within plate boundary zones**  
in *Plate Boundary Zones, Geodynamics Series*, eds. S. Stein, and J.T. Freymueller, v. 30, p. 173–190, doi:10/1029/030GD10, AGU, Washington, D.C., 2002.

## 2001

- Kreemer, C., and Holt, W.E.  
**A no-net-rotation model of present-day surface motions**  
*Geophysical Research Letters*, v. 28, p. 4407–4410, 2001.

## 2000

- Kreemer, C., Haines, J., Holt, W.E., Blewitt, G., and Lavallée, D.  
**On the determination of a global strain rate model**  
*Earth Planets Space*, v. 52, p. 765–770, 2000.
- Kreemer, C., and Holt, W.E.

**What caused the March 25, 1998 Antarctic plate earthquake?; Inferences from regional stress and strain rate fields**

*Geophysical Research Letters*, v. 27, p. 2297–2300, 2000.

- Kreemer, C., Holt, W.E., Goes, S., and Govers, R.  
**Active deformation in eastern Indonesia and the Philippines from GPS and seismicity data**  
*Journal Geophysical Research*, v. 105, p. 663–680, 2000.

1998

- Kreemer, C., Govers, R., Furlong, K.P., and Holt, W.E.  
**Plate boundary deformation between the Pacific and North America in the Explorer region**  
*Tectonophysics*, v. 293, p. 225–238, 1998.

**Peer-Reviewed Maps**

- Kreemer, C., Hammond, W.C., Blewitt, G., Austin, A.A., and Bennett, R.A.  
**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, 2012.
- Coolbaugh, M., Zehner, R., Kreemer, C., Blackwell, D., Oppliger, G., Sawatzky, D., Blewitt, G., Pancha, A., Richards, M., Helm-Clark, C., Shevenell, L., Raines, G., Johnson, G., Minor, T., and Boyd, T.  
**Geothermal potential map of the Great Basin, western United States**  
*Nevada Bureau of Mines and Geology Map 151*, 2005.

**Peer-Reviewed Symposium Proceedings**

- Faulds, J.E., Hinz, N., Coolbaugh, M., Shevenell, L.A., Siler, D.L., dePolo, C.M., Hammond, W.C., Kreemer, C., Oppliger, G., Wannamaker, P.E., Queen, J.H., and Visser, C.F.  
**Integrated geologic and geophysical approach for establishing geothermal play fairways and discovering blind geothermal systems in the Great Basin region, western USA: A progress report**  
*Geothermal Resources Council Transactions*, v. 39, 691-700, 2015.
- Shevenell, L., Coolbaugh, M., Hinz, N., Stelling, P., Melosh, G., Cumming, W., and Kreemer, C.  
**Preliminary ranking of geothermal potential in the Cascade and Aleutians and volcanic arcs, part I: Data collection**  
*Geothermal Resources Council Transactions*, v. 39, 771-784, 2015.
- Coolbaugh, M., Shevenell, L., Hinz, N., Stelling, P., Melosh, G., Cumming, W., Kreemer, C., and Willmarth, M.  
**Preliminary ranking of geothermal potential in the Cascade and Aleutians and volcanic arcs, part III: Regional data review and modeling**  
*Geothermal Resources Council Transactions*, v. 39, 677-699, 2015.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Dawson, J., Dietrich, R., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, R., Kreemer, C., Lavallée, D., Legrand, J., Sánchez, L., Sella, G., Shen, Z., Santamaría-Gómez, A., and Wöppelmann, G.  
**IAG WG SC1.3 on regional dense velocity fields: First results and steps ahead**

in *Reference Frames for Applications in Geosciences*, eds. Z. Altamimi, X. Collilieux, IAG Symposia Series, v. 138, p. 137-145, 2013.

- Faulds, J.E., Hinz, N., Kreemer, C. and Coolbaugh, M.  
**Regional patterns of geothermal activity in the western USA: correlations with strain rates**  
*Geothermal Resources Council Transactions*, v. 36, 897-902, 2012.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Dawson, J., Dietrich, R., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, R., Kreemer, C., Lavallée, D., Legrand, J., Sánchez, L., Sella, G., Shen, Z., Santamaría-Gómez, A., and Wöppelmann, G.  
**A dense global velocity field based on GNSS observations: Preliminary results**  
in *Geodesy for Planet Earth*, eds. S. Kenyon et al., IAG Symposia Series, v. 136, p. 19-26, 2012.
- Hammond, W.C, Kreemer, C., and Blewitt, G.  
**Exploring the relationship between geothermal resources and geodetically inferred faults slip rates in the Great Basin**  
*Geothermal Resources Council Transactions*, v. 31, p. 391-395, 2007.
- Plag, H. P., Blewitt, G., Kreemer, C., and Hammond, W. C.  
**Solid Earth deformations induced by the Sumatra earthquakes**  
in *Dynamic Planet -- Monitoring and Understanding a Dynamic Planet*, eds. P. Tregoning, C. Rizos, IAG Symposia Series, v. 130, p. 549-556, 2006.
- Kreemer, C., Blewitt, G., and Hammond, W.C.  
**Using geodesy to explore correlations between crustal deformation characteristics and geothermal resources**  
*Geothermal Resources Council Transactions*, v. 30, p. 441-446, 2006.
- Coolbaugh, M., Zehner, R., Kreemer, C., Blackwell, D., and Oppliger, G.  
**A map of geothermal potential for the Great Basin, USA: Recognition of multiple geothermal environments**  
*Geothermal Resources Council Transactions*, v. 29, p. 223–228, 2005.
- Blewitt, G., Hammond, W.C., and Kreemer, C.  
**Relating geothermal resources to Great Basin tectonics using GPS**  
*Geothermal Resources Council Transactions*, v. 29, p. 331–336, 2005.
- Coolbaugh, M.F., Zehner, R.E., Raines, G.L., Oppliger, G.L., and Kreemer, C.  
**Regional prediction of geothermal systems in the Great Basin, USA using weights of evidence and logistic regression in a Geographic Information System (GIS)**  
in *GIS and Spatial Analysis, International Association of Mathematical Geology Annual Conference Proceedings*, eds. Q. Cheng, Q. and G. Bonham-Carter, p. 505–510, 2005.
- Blewitt, G., Coolbaugh, M., Holt, W., Kreemer, C., Davis, J., and Bennett, R.  
**Targeting of potential geothermal resources in the Great Basin from regional relationships between geodetic strain and geological structures**  
*Geothermal Resources Council Transactions*, v. 26, p. 523–526, 2002.

### **Other Publications**

- Ali, S.T., Davatzes, N.C., Drakos, P.S., Feigl, K.L., Foxall, W., Kreemer, C., Mellors, R.J., Wang, H.F., and Zemach, E., **InSAR measurements and numerical models of deformation at Brady Hot Springs geothermal field (Nevada), 1997-2013**, in *Proceedings, Thirty-Ninth Workshop on Geothermal Reservoir Engineering*, Stanford University, Stanford, California, February 24-26, 2014

- Kreemer, C.  
**Plate Boundary Observatory Data: Deformation of the Wasatch Fault System**  
*EartScope inSights Newsletter*, Spring 2013, p. 3, 2013.
- Plag, H.-P., Blewitt, G., Hammond, W., Kreemer, C., and Bar-Sever, Y.  
**Rapid GPS-based determination of earthquake displacement field and magnitude for tsunami propagation modeling and warning**  
In *Proceedings of the 2010 IEEE International Geoscience and Remote Sensing Symposium*, IEEE, ISBN 978-1-4244-9564-1, pp. 3039-3042, 2010.
- Hammond, W.C., Li, Z., Plag, H.-P., Kreemer, C., and Blewitt, G.  
**Integrated InSAR and GPS Studies of crustal deformation in the western Great Basin, western United States**  
*International Archives of the Photogrammetry, Remote Sensing and Spatial Information Science*, v. XXXVIII, Part 8, ISSN 1682-1777, ISPRS-Technical Commission VIII Symposium, Kyoto Japan, 2010
- Bormann, J. Hammond, B., Kreemer, C., and Wesnousky, S.  
**EarthScope targets the Walker Lane**  
*EartScope onSite Newsletter*, Fall 2009, p. 4, 2009.
- Kreemer, C., Hammond, W.C., Blewitt, G., and Plag, H.-P.  
**Strain-rate model of contemporary deformation in California and the Great Basin**  
*One pager solicited by UNAVCO Inc.*, 2009.
- Hammond, W.C., Blewitt, G., Kreemer, C., and Plag, H.-P.  
**Building on EarthScope success: measurement of Basin and Range tectonic deformation**  
*One pager solicited by EarthScope*, 2009.
- Chamot-Rooke, N., Barrier, E., Kreemer, C., and Le Pichon, X.  
**Utilisation des données GPS pour la réalisation de la carte géodynamique de Méditerranée**  
*Géochronique*, v. 94, p. 31-32, 2005.
- Meertens, C.M., Estey, L., Kreemer, C., and Holt, W.  
**Interactive web interface to the global strain rate map project**  
<http://www.world-strain-map.org>, 2004.

**Conference and Symposia Abstracts/Presentations** (since 2005; 24 invited as 1<sup>st</sup> author)

- Hammond, W.C, Blewitt, G., and Kreemer, C., 2015, GPS imaging of solid Earth's flex and flow: A new paradigm, Abstract G21C-06, Fall Meeting, AGU, San Francisco.
- Blewitt, G., Hammond, W.C, and Kreemer, C., 2015, GPS imaging of Sierra Nevada uplift, Abstract U22A-01, Fall Meeting, AGU, San Francisco.
- Blewitt, G., Hammond, W.C, Kreemer, C., and Altamimi, Z., 2015, Independent assessment of ITRF site velocities using GPS imaging, Abstract G33C-07, Fall Meeting, AGU, San Francisco.
- Stamps, D.S., Bangerth, W., Hager, B., Kreemer, C., and Saria, E., 2015, Kinematics and dynamics of observed along-rift surface motions in the East African Rift System, Abstract T44C-08, Fall Meeting, AGU, San Francisco.
- Tamisiea, M., Williams, S., Hughes, C., Bingley, R., Blewitt, G., Hammond, W., and Kreemer, C., 2015, Multiple geodetic observations for identifying glacial isostatic adjustment and the causes for sea-level change, Abstract G53A-08, Fall Meeting, AGU, San Francisco.
- Kreemer, C., Blewitt, G., Stamps, D.S., and Saria, E., 2015. Plate tectonics 2.0: Using GPS to refine global crustal kinematics and rewrite textbooks, Abstract T13A-2960, Fall Meeting, AGU, San Francisco.

- Meertens, C., Boler, F., Wier, S., Blewitt, G., Hammond, W., and Kreemer, C., 2015, Plug and Play GPS for Earth scientists: providing immediate access to low-latency geodetic products for rapid modeling and analysis of natural hazards, Abstract G11B-0983, Fall Meeting, AGU, San Francisco.
- Gordon, R., and Kreemer, C., 2015, Shrinking of the Cocos and Nazca plates due to horizontal thermal contraction and implications for plate non-rigidity and the non-closure of the Pacific-Cocos-Nazca plate motion circuit, Abstract G23C-01, Fall Meeting, AGU, San Francisco.
- Feigl, K., Ali, S., Akerly, J., Baluyut, E., Cardiff, M., Davatzes, N., Foxall, W., Fratta, D., Kreemer, C., Mellors, R., Lopeman, J., Spielman, P., and Wang, H., 2015, Time-dependent deformation at Brady Hot Springs geothermal field (Nevada) measured with Interferometric Synthetic Aperture Radar and modeled with multiple working hypotheses of coupled behavior, Abstract T13E-02, Fall Meeting, AGU, San Francisco.
- Kreemer, C., Blewitt, G., and Hammond, W.C., 2015, Harnessing the GPS data explosions for geophysics, Big Data Conference, UNR.
- Hammond, W.C., Blewitt, G., and Kreemer, C., 2015, GPS imaging of solid Earth flex-and-flow from vertical motions from EarthScope networks, EarthScope National Meeting, Stowe, Vermont.
- Keiding, M., Kreemer, C., Lindholm, C.D., Gradmann, S., Olesen, O., and Kierulf, H.P., 2015, Decoupling of the strain at the surface and at seismogenic depth due to glacial isostatic adjustment, Geophysical Research Abstracts, v. 17, Abstract EGU2015-5076.
- Kreemer, C., Zheng, L., and Gordon, R.G., 2015, Absolute plate velocities from seismic anisotropy, Geophysical Research Abstracts, v. 17, Abstract EGU2015-7431. **INVITED**
- Hammond, W.C., Kreemer, C., Bormann, J., and Blewitt, G., 2015, Fault slip rates in the western Great Basin from geodetic and geologic data, Basin and Range Province Seismic Hazards Summit III, Salt Lake City.
- Kreemer, C., Blewitt, G., Hammond, W.C., Broermann, J., and Bennett, R.A., 2015, The Geodetic strain rate field for the Colorado Plateau and the southern Basin and Range, Basin and Range Province Seismic Hazards Summit III, Salt Lake City. **INVITED**
- Hammond, W.C., Kreemer, C., Blewitt, G., Broermann, J., and Bennett, R.A., 2014, Geodetic constraints on fault slip rates and seismic hazard in the greater Las Vegas area, Abstract T33E-05, Fall Meeting, AGU, San Francisco.
- Gordon, R.G., Zheng, L., and Kreemer, C., 2014, Absolute plate velocities from seismic anisotropy: Importance of correlated errors, Abstract DI21B-05, Fall Meeting, AGU, San Francisco.
- Blewitt, G., Kreemer, C., and Hammond, W.C., 2014, Robust, automatic GPS station velocities and velocity time series, Abstract G23B-0489, Fall Meeting, AGU, San Francisco.
- Hammond, W.C., Kreemer, C., and Blewitt, G., 2014, Co- and postseismic slip on the West Napa Fault seen with GPS after the south Napa earthquake of August 24, 2014, Abstract S33F-4907, Fall Meeting, AGU, San Francisco.
- Cronin, V.S., Resor, P.G., Pratt-Sitaula, B., Hammond, W.C., Kreemer, C., Olds, S.E., and West, N.W., 2014, Curricular module for introductory geophysics or structural geology courses to quantify crustal strain using EarthScope PBO GPS velocities, UNAVCO Science Workshop, Broomfield, CO.
- Goldfarb, J.M., Blewitt, G., Hammond, W.C., Bennett, R.A., and Kreemer, C., 2014, What fraction of common-mode errors which have been mitigated in the NA12 datum are artifacts of GPS data processing?, UNAVCO Science Workshop, Broomfield, CO.
- Hammond, W.C., Blewitt, G., Kreemer, C., Johnson, K., and Weldon, R., 2014, Vertical crustal motion across southern California fault systems from GPS and InSAR, UNAVCO Science Workshop, Broomfield, CO.
- Zhang, Y., Kreemer, C., Hammond, W.C., and Blewitt, G., 2014, Inversion of GPS data for afterslip in viscoelastic Earth media for the 2011 Mw=9.0 Tohoku earthquake, UNAVCO Science Workshop, Broomfield, CO.
- Hammond, W.C., Johnson, K., Blewitt, G., Kreemer, C., Weldon, R., and Burgette, R., 2014, GPS and InSAR constraints on vertical tectonic motion improve the estimate of slip rate of the San Andreas Fault in southern California, Geophysical Research Abstracts, v. 16, Abstract EGU2014-7652.



- Zhang, Y., Kreemer, C., Hammond, W.C., and Blewitt, G., 2014, Inversion of GPS data for afterslip in viscoelastic Earth media for the 2011 Mw=9.0 Tohoku earthquake, Geophysical Research Abstracts, v. 16, Abstract EGU2014-8540.
- Ali, S.T., Davatzes, N.C., Drakos, P.S., Feigl, K.L., Foxall, W., Kreemer, C., Mellors, R.J., Wang, H.F., and E. Zemach, E., 2014, InSAR measurements and numerical models of deformation at Brady Hot Springs geothermal field (Nevada), 1997-2013, Thirty-Ninth Workshop on Geothermal Reservoir Engineering, Stanford University, Stanford, California
- Bird, P., Kreemer, C., Kagan, Y.Y., and Jackson, D.D., 2013, Global earthquake activity rate models based on version 2 of the Global Strain Rate Map, Abstract S13C-03, Fall Meeting, AGU, San Francisco.
- 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, AGU, San Francisco.
- Blewitt, G., Hammond, W.C., and Kreemer, C., 2013, EarthScope's plate boundary observatory as the mother of invention, Abstract S24A-01, Fall Meeting, AGU, San Francisco.
- 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 G43B-0929, Fall Meeting, AGU, San Francisco.
- Ali, S.T., Davatzes, N.C., Mellors, R.J., Foxall, W., Drakos, P.S., Zemach, E., Kreemer, C., Wang, H., and Feigl, K., 2013, InSAR measurements and numerical models of deformation at Brady Hot Springs geothermal field (Nevada), 1995-2012, Abstract G33D-05, Fall Meeting, AGU, San Francisco.
- Ozeren, M.S., Klein, E.C., and Kreemer, C., 2013, Using statistical seismicity constraints in geodetic inversions of crustal kinematics: Examples from the Aegean region, Abstract G41A-0908, Fall Meeting, AGU, San Francisco.
- Holland, A.A., Broermann, J., Bennett, R.A., Kreemer, C., and Blewitt, G., 2013, Crustal kinematics of the Colorado Plateau from GPS geodesy, Abstract G41A-0917, Fall Meeting, AGU, San Francisco.
- Kreemer, C., Blewitt, G., Klein, E., Shen, Z., Wang, M., Estey, L., and Wier, S., 2013, A new global geodetic strain rate model, Abstract G43C-03, Fall Meeting, AGU, San Francisco.
- 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, AGU, San Francisco.
- Zheng, L., Gordon, R.G., and Kreemer, C., 2013, Correlated errors in seismic anisotropy data and implications for current absolute plate motion, Abstract T51E-2515, Fall Meeting, AGU, San Francisco.
- Hammond, W.C., Bormann, J., Blewitt, G., and Kreemer, C., 2013, Walker Lane and western Basin and Range transtension and rotation rates from GPS observations, continuum and block models, Paper No. 85-7, GSA Annual Meeting, Denver.
- Kreemer, C., 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, Rome, Italy.
- Blewitt, G., Plag, H.-P., Bar-Sever, Y., Kreemer, C., Hammond, W., 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, v. 15, Abstract EGU2013-13362.
- Kreemer, C., Blewitt, G., Hammond, W.C., Broermann, J., and Bennett, R.A., 2013, Improved seismic hazard assessment for the Colorado Plateau region from new geodetic data, SSA Annual Meeting, Salt Lake City.
- Bormann, J.M., Hammond, W.C., Kreemer, C., Blewitt, G., 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, SSA Annual Meeting, Salt Lake City.
- Hammond, W.C., Kreemer, C., and Blewitt, G., 2013, Seismic hazard in the eastern Nevada and western Utah Basin and Range from GPS measurements, SSA Annual Meeting, Salt Lake City.
- Blewitt, G., Kreemer, C., and Goldfarb, J.M., 2012, Reference frame NA12 for studies of continental deformation in North America, Abstract G52C-02, Fall Meeting, AGU, San Francisco.

- Zhang, Y., Kreemer, C., 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, Fall Meeting, AGU, San Francisco.
- Kreemer, C., Klein, E.C., Blewitt, G., Shen, Z.-K., Wang, M., Chamot-Rooke, N., and Rabaute, A., 2012, A new global geodetic strain rate model, Abstract G43B-0920, Fall Meeting, AGU, San Francisco.
- Cronin, V.S., Resor, P.G., Hammond, W.C., Kreemer, C., Olds, S.E., Pratt-Sitaula, B., and West, N.W., 2012, Developing a curricular module for introductory geophysics or structural geology courses to quantify crustal strain using EarthScope PBO GPS velocities, Abstract ED41B-0681, Fall Meeting, AGU, San Francisco.
- Faulds, J.E., Hinz, N., and Kreemer, C., 2012, Tectonic and structural controls of geothermal activity in the Great Basin Region, western USA, Abstract V24A-01, Fall Meeting, AGU, San Francisco.
- Bormann, J.M., Hammond, W.C., Kreemer, C., 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, Fall Meeting, AGU, San Francisco.
- Faulds, J.E., Hinz, N., and Kreemer, C., 2012, Structural and tectonic controls of geothermal activity in the Great Basin Region, western USA, New Zealand Geothermal Workshop.
- Resor, P.G., Cronin, V.S., Hammond, W.C., Kreemer, C., Olds, S.E., Pratt-Sitaula, B., and West, N.W., 2012, Using Earthscope plate boundary observatory GPS velocities to introduce strain to undergraduate structural geology students, Paper No. 65-5, GSA Annual Meeting, Charlotte.
- Zheng, L., Gordon, R.G., Kreemer, C., and Argus, D.F., 2012, Current absolute plate motion from seismic anisotropy, Paper No. 24-1, GSA Annual Meeting, Charlotte.
- Kreemer, C., Hammond, W.C., Blewitt, G., Austin, 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, Abstract EGU2012-6785.
- Blewitt, G., Kreemer, C., Goldfarb, J., Plag, H.-P., and Hammond, W.C., 2012, Global spatial filtering (GSF) of GNSS coordinates to capture small transient signals, Geophysical Research Abstracts, v. 14, Abstract EGU2012-6887.
- Kreemer, C., Hammond, W.C., Blewitt, G., Austin, A.A., and Bennett, R.A., 2012 A geodetic strain rate model for the Pacific-North American plate boundary, western United States, UNAVCO Science Workshop.
- Hammond, W.C., Bormann, J.M., Kreemer, C., and Blewitt, G., 2012, Measuring long-term motion of the Sierra Nevada/Great Valley microplate with GPS: Effect of earthquake cycle transients, UNAVCO Science Workshop.
- Wesnousky, S.G., Kreemer, C., Hammond, W.C., Bormann, J.M., and Brune, J.N., 2011, Neotectonics, geodesy and seismic hazard in the northern Walker Lane, Abstract S12A-02, Fall Meeting, AGU, San Francisco.
- Kreemer, C., and Blewitt, G., 2011, Apparent strain and plate motion changes due to GPS common-mode errors, Abstract G14A-01, Fall Meeting, AGU, San Francisco.
- Sunil, P.S., Kreemer, C., and Blewitt, G., 2011, Deformation in northeast India and Indo-Burmese Arc derived from GPS and earthquake data, Abstract G14A-05, Fall Meeting, AGU, San Francisco.
- Argus, D.F., Blewitt, G., Peltier, W.R., and Kreemer, C., 2011, Rise of the Ellsworth mountains and parts of the East Antarctic coast observed by GPS, Abstract G23B-07, Fall Meeting, AGU, San Francisco.
- Zhang, Y., Kreemer, C., and Blewitt, G., 2011, Characterizing postseismic decay of several earthquakes in the western U.S. From GPS time-series, Abstract T23C-2410, Fall Meeting, AGU, San Francisco.
- Plag, H.-P., Kreemer, C., Blewitt, G., and Hammond, W.C., 2011, Using empirical orthogonal functions to quantify and predict small global and regional common modes of the global geodetic reference frame, Abstract G31B-0965, Fall Meeting, AGU, San Francisco.
- Blewitt, G., Kreemer, C., Goldfarb, J.M., Plag, H.-P., and Hammond, W.C., 2011, Chasing small signals using Global Spatial Filtering (GSF) of GNSS coordinates, Abstract G31B-0967, Fall Meeting, AGU, San Francisco.

- Hammond, W.C., Blewitt, G., and Kreemer, C., 2011, Using GPS to separate transient and steady extension in the Basin and Range province, western United States, Abstract G43C-04, Fall Meeting, AGU, San Francisco. **INVITED**
- Bormann, J.M., Hammond, W.C., Kreemer, C., Wesnousky, S.G., and Blewitt, G., 2011, Resolving the discrepancy between geodetic and geologic estimates of fault slip rates in the central Walker Lane: A block modeling approach, Abstract G53C-04, Fall Meeting, AGU, San Francisco.
- Hammond, W.C., Blewitt, G., Li, Z., Plag, H.-P., and Kreemer, C., 2011, EarthScope plate boundary observatory reveals active uplift of the Sierra Nevada, western United States, GSA Annual Meeting, Minneapolis, Paper No. 143-07.
- Hammond, W.C., Blewitt, G., Li, Z., Plag, H.-P., and Kreemer, C., 2011, Geodetic imaging, seismic hazard and mountain building across the Sierra Nevada/Great Basin transition using InSAR and GPS, Fringe 2011 Workshop, Frascati, Italy.
- Flesch, L.M. Kreemer, C., and Gilbert, H., 2011, The Colorado Plateau: Integration of geophysical observations through dynamic modeling, EarthScope National Meeting, Austin, TX, **INVITED**.
- Hammond, W.C., Blewitt, G., Li, Z., Plag, H.-P., and Kreemer, C., 2011, EarthScope Plate Boundary Observatory reveals uplift of the Sierra Nevada, EarthScope National Meeting, Austin, TX.
- Zhang, Y., Kreemer, C., and Blewitt, G., GPS postseismic surface displacements of Mw 7.2 El Mayor - Cucapah earthquake, Mexico, 2010, EarthScope National Meeting, Austin, TX.
- Kreemer, C. and Klein, E.C., 2011, High-resolution strain rate models for the American Southwest and Alaska, EarthScope National Meeting, Austin, TX.
- Kreemer, C., Broermann, J., and Bennett, R.A., New GPS network to measure the motion and deformation of the Colorado Plateau, EarthScope National Meeting, Austin, TX.
- Li, Z., Hammond, W.C., Blewitt, G., Kreemer, C., and Plag, H.-P., 2011, InSAR and GPS time series analysis: Crustal deformation of the southern Walker Lane, western Great Basin, United States, Geophysical Research Abstracts, v. 13, Abstract EGU2011-3037.
- Blewitt, G., Plag, H.-P., Hammond, W.C., and Kreemer, C., 2011, A constantly growing, up-to-date, on-line, homogeneous set of GPS time series for global and regional geodetic studies, 2011, EarthScope National Meeting, Austin, TX.
- Bormann, J.M., Hammond, W.C., and Kreemer, C., 2011, Using EarthScope and MAGNET GPS to determine the slip rate on the Honey Lake Fault, northern Walker Lane, California, 2011, EarthScope National Meeting, Austin, TX.
- Samão, N., Chamot-Rooke, N., Rabaute, A., and Kreemer, C., 2011, Relative convergence of the Nubia Plate towards the Eurasia Plate: The case of the lack of seismicity in the Algerian-Tyrrhenian Trough, Geophysical Research Abstracts, v. 13, Abstract EGU2011-9981.
- Blewitt, G., and Kreemer, C., 2011, Fast network solutions using precise point positioning with ambiguity resolution for all geodetic GPS stations in the world, Geophysical Research Abstracts, v. 13, Abstract EGU2011-12570, **INVITED**.
- Kreemer, C., and Husson, L., 2010, Present-day net-rotation constrained by crustal stress and mantle anisotropy orientations, Abstract GP24A-05, 2010 Fall Meeting, AGU, San Francisco, **INVITED**.
- Holland, A.A., Bennett, R.A., Kreemer, C., Baker, R., Anderson, K.E., and Lytle, W.E., 2010, Strain rate field for Arizona and the Colorado Plateau estimated using campaign and continuous GPS velocities, Abstract T14C-07, 2010 Fall Meeting, AGU, San Francisco.
- Kreemer, C., Blewitt, G., and Bennett, R.A., 2010, Present-day crustal deformation in the Intermountain West measured by GPS, Abstract T42C-01, 2010 Fall Meeting, AGU, San Francisco, **INVITED**.
- Boler, F.M., Blewitt, G., Kreemer, C., Bock, Y., Noll, C.E., McWhirter, J., Jamason, P., and Squibb, M., 2010, Geodetic seamless archive centers modernization - Information technology for exploiting the data explosion, Abstract G23B-0827, 2010 Fall Meeting, AGU, San Francisco.
- Li, Z., Hammond, W.C., Blewitt, G., Kreemer, C., and Plag, H.-P., 2010, InSAR and GPS time series analysis: Crustal deformation in the Yucca Mountain, Nevada region, Abstract G13B-07, 2010 Fall Meeting, AGU, San Francisco.

- Zheng, L., Gordon, R.G., Argus, D., DeMets, C., and Kreemer, C., 2010, Current plate motion relative to the hotspots and to the mantle, Abstract GP24A-07, 2010 Fall Meeting, AGU, San Francisco.
- Blewitt, G., and Kreemer, C., 2010, A system to produce precise global GPS network solutions for all geodetic GPS stations in the world, Abstract G22A-02, 2010 Fall Meeting, AGU, San Francisco.
- McWhirter, J., Boler, F.M., Bock, Y., Jamason, P., Squibb, M., Noll, C.E., Blewitt, G., and Kreemer, C., 2010, The geodetic seamless archive centers service layer: A system architecture for federating geodesy data repositories, Abstract IN11B-1085, 2010 Fall Meeting, AGU, San Francisco.
- Bormann, J.M., Hammond, W.C., Kreemer, C., Blewitt, G., and Wesnousky, S.G., 2010, Crustal deformation of the central Walker Lane from GPS velocities: Block rotations and slip rates, Abstract T33A-2214, 2010 Fall Meeting, AGU, San Francisco.
- Hammond, W.C., Blewitt, G., Li, Z., Kreemer, C., and Plag, H.-P., 2010, GPS and InSAR observations of active mountain growth across the Sierra Nevada/Great Basin transition, Abstract T42C-03, 2010 Fall Meeting, AGU, San Francisco.
- Kreemer, C., Blewitt, G., and Bennett, 2010, Present-day crustal deformation across the Colorado Plateau and Rio Grande Rift measured by GPS, Geological Society of America Annual Meeting, Denver, CO, Abstract 98-4, **INVITED**.
- Hammond, W.C., Kreemer, C., Blewitt, G., 2010, Using geodesy to reveal deformation partitioning and to probe the lower crust beneath the northern Walker Lane, Geological Society of America Annual Meeting, Denver, CO, Abstract 49-9, **INVITED**.
- Hammond, W.C., Blewitt, G., Plag, H.-P., and Kreemer, C., 2010, Towards geodetic observation of active mountain growth in the Sierra Nevada/Great Basin transition, IGCP 565 Workshop 3: Separating Hydrological and Tectonic Signals in Geodetic Observations, Reno, NV.
- Blewitt, G., Kreemer, C., Hammond, W.C., and Plag, H.-P., 2010, Separating tectonic, magmatic, hydrological, and landslide signals in GPS measurements near Lake Tahoe, Nevada-California, IGCP 565 Workshop 3: Separating Hydrological and Tectonic Signals in Geodetic Observations, Reno, NV, **INVITED**.
- Sandwell, D., Becker, T., Bird, P., Bormann, J., Freed, A., Hackl, M., Meade, B., Holt, W., Hooks, B., Kedar, S., Kreemer, C., McCaffrey, R., Parsons, T., Pollitz, F., Shen, Z-K., Smith-Konter, B., Tape, C., and Zeng, Y., 2010, Comparison of 16 strain rate maps for southern California, SCEC Annual Meeting, p. 271.
- Plag, H.-P., Blewitt, G., Hammond, W.C., Kreemer, C., and Bar-Sever, Y., 2010, Rapid GPS-based determination of earthquake displacement field and magnitude for tsunami propagation modeling and warning, IAGARSS 2010, Honolulu, HI.
- Blewitt, G., Bar-Sever, Y., Gross, R.S., Hammond, W.C., Hsu, V., Hudnut, K.W., Khachikyan, R., Kreemer, C., Meyer, R., Plag, H.-P., Simons, M., Song, Y., and Webb, F., 2010, A GPS real-time earthquake and tsunami (GREAT) alert system, IGS Workshop, Newcastle upon Tyne, UK, **INVITED**.
- Boler, F.M., Noll, C., Bock, Y., Blewitt, G., and Kreemer, C., 2010, Discovery and delivery of space geodetic data from distributed archives, IGS Workshop, Newcastle upon Tyne, UK.
- Plag, H.-P., Blewitt, G., Hammond, W.C., and Kreemer, C., 2010, The Global Earth Observation System of Systems (GEOSS): Building the link from global to local in the southwest United States, Nevada Geographic Information Society Conference, Las Vegas, NV, **INVITED**.
- Kreemer, C., and Husson, L., 2010, Strong correlation between stress orientations and absolute plate motions constrained by seismic anisotropy, Geophysical Research Abstracts, v. 12, Abstract EGU2010-13104.
- Kreemer, C., Gordon, R.G., and Mishra, J.K., 2010, The effect of horizontal thermal contraction on oceanic intraplate deformation: Examples for the Pacific, Geophysical Research Abstracts, v. 12, Abstract EGU2010-13918.
- Zheng, L., **Gordon**, R.G., Kreemer, C., DeMets, C., and Argus, D.F., 2010, Current plate motions relative to the hotspots consistent with the MORVEL global set of plate relative angular velocities, Geophysical Research Abstracts, v. 12, Abstract EGU2010-14191.

- Hammond, W.C., Bormann, J., Jha, S., Blewitt, G., and Kreemer, C., 2010, Block models of Walker Lane and Great Basin tectonic deformation, slip rates and seismic cycle effects, Workshop on Incorporating Geodetic Surface Deformation Data into UCERF3, Pomona, CA, **INVITED**.
- Kreemer, C., and Hammond, W.C., 2010, Strain map of California and Nevada, results and issues for future versions, Workshop on Incorporating Geodetic Surface Deformation Data into UCERF3, Pomona, CA, **INVITED**.
- Boler, F.M., Meertens, C.M., Kreemer, C., and Blewitt, G., 2010, Research enabled through eighteen years of geodesy data sharing by the UNAVCO data center, UNAVCO Science Workshop, Boulder, CO.
- Hammond, W.C., Blewitt, G., Kreemer, C., and Plag, H.-P., 2010, Block modeling in the vertical dimension constrained by three-component GPS measurements, UNAVCO Science Workshop, Boulder, CO.
- Hammond, W.C., Blewitt, G., Kreemer, C., Bormann, J., and Jha, S., 2010, Highlights of geodetic measurement of the rifting of continental lithosphere in the Walker Lane, Western Great Basin, United States, MARGINS Successor Workshop, San Antonio, TX.
- Boler, F.M., Meertens, C.M., Kreemer, C., and Blewitt, G., 2009, Research enabled through eighteen years of geodesy data sharing by the UNAVCO data center, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract U51C-0023.
- Bird, P., Kreemer, C., and Holt, W.E., 2009, A long-term forecast of shallow seismicity based on the global strain rate map, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract U41D-08.
- Bormann, J.M., Hammond, W.C., Kreemer, C., Blewitt, G., and Wesnousky, S., 2009, GPS constraints on shear accommodation in the northern Walker Lane, western Nevada, USA, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract G33B-0651.
- Jha, S., Hammond, W.C., Kreemer, C., and Blewitt, G., 2009, New GPS constraints on Owens Valley fault slip rates, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract G23D-07.
- Kreemer, C., Hammond, W.C., and Blewitt, G., 2009, Geodetic constraints on the rigidity and eastern boundary of the Sierra Nevada micro-plate, from Mohawk Valley to Southern Walker Lane, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract G23D-06.
- Hammond, W.C., Blewitt, G., Plag, H.-P., Kreemer, C., and Li, Z., 2009, Effects of the troposphere on GPS and InSAR point target analysis for measurement of crustal deformation and vertical motion near Yucca Mountain, Nevada, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract G23A-0666.
- Bar-Sever, Y., Blewitt, G., Gross, R.S., Hammond, W.C., Hsu, V., Hudnut, K.W., Khachikyan, R., Kreemer, C., Meyer, R., Plag, H.-P., Simons, M., Sundström, J., Song, Y., and Webb, F., 2009, A GPS real time earthquake and tsunami (GREAT) alert system, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract G21A-02, **INVITED**.
- Zhou, X., and Kreemer, C., 2009, Are the plates still rigid?: A case study of GPS time-series noise in Australia, *Eos Trans. AGU*, 90(53), Fall Meet. Suppl., Abstract G33B-063.
- Bird, P., Kreemer, C., and Holt, W.E., 2009, A long-term forecast of shallow seismicity based on the global strain rate map, SCEC Annual Meeting, p. 221.
- Zaliapin, I., Kreemer, C., Anderson, J.G., and Pancha, A., 2009, Modeling seismic moment release: Toward resolving the seismic moment deficit paradox, SCEC Annual Meeting, p. 272.
- Zaliapin, I., and Kreemer, C., 2009, Transient detection: A multiscale trend analysis approach, Southern California Earthquake Center Workshop on Transient Anomalous Strain Detection: Blind Test Results and Future Planning, Palm Springs, CA.
- Sandwell, D. Becker, T.W., Bird, P., Fialko, Y., Freed, A., Holt, W.E., Kreemer, C., Loveless, J., Meade, B., McCaffrey, R., Pollitz, F., Smith-Konter, B., and Zeng, Y., 2009, Comparison of strain-rate maps of western North America, SCEC Annual Meeting, p. 278.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Dawson, J., Dietrich, R., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, R., Kreemer, C., Lavallée, D., Legrand, J., Sánchez, L., Sella, G., Shen, Z., and Wöppelmann, G., 2009, A dense global velocity field based on GNSS observations: Preliminary results, Geodesy for a Global Planet, IAG Scientific Assembly, Buenos Aires.

- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Dawson, J., Dietrich, R., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, R., Kreemer, C., Lavallée, D., Legrand, J., Sánchez, L., Sella, G., Shen, Z., and Wöppelmann, G., 2009, Progress of the IAG SC1.3 Working Group in providing a dense global velocity field based on GNSS observations, EUREF 2009 Symposium, Florence, Italy.
- Hammond, W.C., Blewitt, G., and Kreemer, C., 2009, Strain partitioning in the northern Walker Lane and western Basin and Range from GPS measurements, *Eos Trans. AGU*, 90(22), Jt. Assem. Suppl., Abstract G12A-06.
- Blewitt, G., Hammond, W.C., Kreemer, C., and Plag, H.-P., 2009, The 2008 Mogul, Nevada earthquake swarm: Geodetic evidence for largely aseismic afterslip equivalent to ~Mw 5.0, EarthScope National Meeting, Boise, ID.
- Bormann, J.M., Kreemer, C., Hammond, W.C., and Wesnousky, S.G., 2009, Geodetic constraints on shear accommodation through en-echelon basin development in the Walker Lane, Western Nevada, USA, EarthScope National Meeting, Boise, ID.
- Hammond, W.C., Blewitt, G., and Kreemer, C., 2009, Deformation of the eastern Nevada Basin and Range Province measured with continuous GPS, EarthScope National Meeting, Boise, ID.
- Kreemer, C., Blewitt, G., Hammond, W.C., and Plag, H.-P., 2009, A high-resolution strain rate tensor model for the western U.S., EarthScope National Meeting, Boise, ID, **INVITED**.
- Sandwell, D. Bird, P., Freed, A., Kreemer, C., Parsons, T., Smith-Konter, B., and Wdowinski, S., 2009, Comparison of strain-rate maps of western North America, EarthScope National Meeting, Boise, ID.
- Zhou, X., and Kreemer, C., 2009, Statistical analysis of GPS velocities in western U.S. and Asia: Block-like or continuum deformation?, EarthScope National Meeting, Boise, ID.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Dawson, J., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, R., Kreemer, C., Lavallée, D., Legrand, J., Sánchez, L., Sella, G., and Wöppelmann, G., 2009, Progress of IAG SC1.3 Working Group in providing a dense global velocity field based on GNSS observations, Geophysical Research Abstracts, v 11, Abstract EGU2009-4253.
- Plag, H.-P., Kreemer, C., Hammond, W.C., and Blewitt, G., 2009, A fingerprint method for the rapid determination of earthquake displacement fields in support of tsunami early warning, Geophysical Research Abstracts, v. 11, Abstract EGU2009-11299.
- Zaliapin, Y., Torres, R., Kreemer, C., Pancha, A., and Anderson, J.G., 2009, Modeling seismic moment release: A step toward resolving the seismic moment deficit paradox, 6<sup>th</sup> International workshop on Statistical Seismology, Lake Tahoe, CA.
- Kreemer, C., Blewitt, G., Hammond, W.C., and Bennett, R.A., 2009, Constraints from GPS and earthquake focal mechanisms on the active deformation near the Colorado Plateau/Basin and Range transition, *Seismological Research Letters*, v. 80(2), p. 369.
- Wesnousky, S., Bormann, J.M., Kreemer, C., Hammond, W.C., and Brune, J.N., 2009, Problems in integrating neotectonics and geodesy to assess seismic hazard in the northern Walker Lane, *Seismological Research Letters*, v. 80(2), p. 370.
- Kreemer, C., Torres, R., Zaliapin, Y., Pancha, A., and Anderson, J.G., 2009, Statistics and correlations of seismic and tectonic moment rate in California and the Great Basin, *Seismological Research Letters*, v. 80(2), p. 326.
- Blewitt, G., Bell, J., Hammond, W.C., Kreemer, C., Plag, H.-P., and DePolo, C., 2008, GPS and InSAR monitoring of the Mogul Swarm: Evidence for mainly aseismic fault creep, with implications for seismic hazard, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract S53C-03, **INVITED**.
- Hammond, W.C., Blewitt, G., and Kreemer, C., 2008, GPS Constraints on eastern Nevada Basin and Range crustal deformation before and during the February 21, 2008 M6.0 Wells, NV earthquake, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract S51B-1747.
- Jha, S., Hammond, W.C., Kreemer, C., and Blewitt, G., 2008. Constraints from GPS on block kinematics of the transition between the southern Walker Lane and the Basin and Range Province, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract G21A-0662.

- Blewitt, G., Kreemer, C., Hammond, W.C., and Plag, H.-P., 2008, GPS velocity and strain rate fields in the Great Basin and California, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract G21A-0658.
- Kreemer, C., Blewitt, G., Hammond, W.C., and Bennett, R.A., 2008, Geodetic constraints on strain transfer between the Colorado Plateau and the Basin and Range Province, southwestern United States, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract G34A-06, **INVITED**.
- Holt, W.E., Ghosh, A., Wen, L., Haines, J., Kreemer, C., and Flesch, L.M., 2008, Lithosphere-mantle coupling: constraints from the World Stress Map, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract T11C-1890.
- Kreemer, C., A hotspot-independent absolute plate motion model with implications for mantle flow and hotspot motions, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract DI52-08.
- Torres, R., Zaliapin, I., Kreemer, C., Pancha, A., and Anderson, J.G., 2008, Statistics and correlations of seismic and tectonic moment rate in California and the Great Basin, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract NG23A-1128.
- Wesnousky, S.G., Bormann, J., Kreemer, C., and Hammond, W.C., 2008, Neotectonic and geodetic observations bearing on the structural development of the Walker Lane, western Nevada, USA, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract G21A-0660.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Fernandes, R., Govind, R., Kenyeres, A., King, B., Kreemer, C., Lavallée, D., Legrand, J., Moore, M., Sánchez, L., Sella, G., and Woppelmann, G., 2008, IGS Working Group "Regional Dense Velocity Fields": Objectives and work plan, *Eos Trans. AGU*, v. 89(53), Fall Meet. Suppl., Abstract G33B-0689.
- Kreemer, C., and Flesch, L.M., 2008, Gravitational potential energy and regional stress and strain rate fields for continental plateaus: Examples from the central Andes and Colorado Plateau, Third World Stress Conference, Potsdam, Germany, p.61.
- Hammond, W.C., Blewitt, G., and Kreemer, C., 2008, Contemporary deformation of the Basin and Range lithosphere from GPS Observations, and what they imply for continental dynamics, Geological Society of America Annual Meeting, Houston, TX, Abstract 263-3, **INVITED**.
- Wesnousky, S.G., Hammond, W.C., Kreemer, C., and Bormann, J.M., 2008, Structural development of the Walker Lane: Neotectonics and geodesy, Geological Society of America Annual Meeting, Houston, TX, Abstract 233-5.
- Kreemer, C., Torres, R., Zaliapin, I., Pancha, A., and Anderson, J.G., 2008, Detailed seismic and tectonic moment rate distribution in California and the Great Basin, SCEC Annual Meeting, Palm Springs, CA., Proceedings and Abstracts, v. 28, p.208.
- Plag, H.-P., Kreemer, C., and Hammond, W.C., 2008, Using global absolute gravity observations to constrain the tie between the origin of ITRF and the center of mass of the Earth system, *GGEO 2008*, Crete, 2008.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Fernandes, R., Govind, R., Herring, T., Kenyeres, A., King, B., Kreemer, C., Lavallée, D., Legrand, J., Moore, M., Sánchez, L., Sella, G., and Woppelmann, G., 2008, Towards the Provision of Regional Dense Velocity Fields in a Global Reference Frame, WGENER 2008 General Assembly, Darmstadt, Belgium.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Fernandes, R., Govind, R., Kenyeres, A., King, B., Kreemer, C., Lavallée, D., Legrand, J., Sánchez, L., and Sella, G., 2008, Objectives and Challenges of the IAG Working Group "Regional Dense Velocity Fields", EUREF 2008 Symposium, Brussels, Belgium.
- Bruyninx, C., Altamimi, Z., Becker, M., Craymer, M., Combrinck, L., Combrink, A., Fernandes, R., Govind, R., Kenyeres, A., King, B., Kreemer, C., Lavallée, D., Legrand, J., Sánchez, L., and Sella, G., 2008, IAG Working Group "Regional Dense Velocity Fields": Objectives and future plans, IGS Analysis Center Workshop, Miami Beach, Florida.
- Hammond, W.C., Kreemer, C., and Blewitt, G., 2008, Geodetic vs. geologic measures of fault slip rates in the northern Walker Lane, Basin and Range Province, western United States, *Eos Trans. AGU*, v. 89(23), Jt. Assem. Suppl., Abstract G31A-02.

- Kreemer, C., Hammond, W.C., and Blewitt, G., 2008, GPS velocity constraints on the kinematics of active tectonics in greater southern Nevada, Cordilleran and Rocky Mountain Section Joint Meeting, Geological Society of America Abstracts with Programs, v. 40(1), p. 73, **INVITED**.
- Anderson, J.G., Price, J.G., Taylor, W.J., Smith, K., Anoooshehpour, R., Biasi, G.P., DePolo, C.M., DePolo, D.M., Kreemer, C., and Louie, J.N., 2008, Seismic hazards in southern Nevada: The gap between the present and a state-of -the-art evaluation, Cordilleran and Rocky Mountain Section Joint Meeting, Geological Society of America Abstracts with Programs, v. 40(1), p. 61, **INVITED**.
- Hammond, W.C., Blewitt, G., Kreemer, C., and Plag, H.-P., 2008, Walker Lane tectonic deformation and fault slip rates constrained by GPS data, UNAVCO Science Workshop, Boulder, CO.
- Blewitt, G., Kreemer, C., Hammond, W.C., Plag, H.-P., Stein, S., Okal, E., Bar-Sever, Y., Gross, R., Hsu, V., Hudnut, K., Simons, M., Song, T., and Webb, F., 2008, Toward real-time GPS for tsunami warning systems and post-earthquake damage assessment and emergency response, UNAVCO Science Workshop, Boulder, CO., **INVITED**.
- Kreemer, C., and Blewitt, G., 2007, Finding and defining the edges of stable North America: Reference frame effects versus real tectonics, Eos Trans. AGU, v. 88(52), Fall Meet. Suppl., Abstract G51B-500, **INVITED**.
- Blewitt, G., and Kreemer, C., 2007, Mega-network GPS solutions: producing a consistent, global-scale, and high-resolution view of plate tectonic stability, rotation, and deformation., Eos Trans. AGU, v. 88(52), Fall Meet. Suppl., Abstract G51B-501.
- Hammond, W.C., Plag, H.-P., Blewitt, G., and Kreemer, C., 2007, Postseismic Relaxation at the Central Nevada Seismic Belt observed in vertical GPS time series, Eos Trans., AGU, v. 88(52), Fall Meet. Suppl., Abstract G52A-04, **INVITED**.
- Blewitt, G., Kreemer, C., Hammond, W.C., and Plag, H.-P., 2007, Realizing the potential of GGOS for geohazard prediction and early warning, GEO Workshop, Frascati, Italy, **INVITED**.
- Blewitt, G., Kreemer, C., Hammond, W.C., Plag, H.-P., Stein, S., Okal, E., Bar-Sever, Y., Gross, R., Hsu, V., Hudnut, K., Simons, M., Song, T., and Webb, F., 2007, Toward real-time GPS for tsunami warning systems and post-earthquake damage assessment and emergency response, International Geohazards Week Workshop, Frascati, Italy, **INVITED**.
- Blewitt, G., Kreemer, C., Hammond, W. C., Plag, H.-P., 2007, Real-time GPS design considerations for prediction and early warning, with application to tsunami warning systems and post-earthquake rapid response, Central Washington University, Ellensburg, WA, Abstracts of the Real Time GPS Workshop.
- Plag, H.-P., Hammond, W.C., Kreemer, C., and Blewitt, G., Integrating point positioning and image geodesy: Mutual benefits and requirements, DESDynI Workshop, Orlando.
- Blewitt, G., Kreemer, C., Hammond, W.C., and Plag, H.-P., 2007, Toward broadband exploration of tectonic-magmatic interactions: Demonstration of self-consistent, "all-in-one" rapid analysis of GPS mega-networks using the ambizap algorithm, XXIV IUGG General Assembly, Perugia, Italy.
- Plag, H.-P, Kreemer, C., and Hammond, W.C, 2007, Collocated GPS and absolute gravity measurements help to tie the geometric reference frame to the center of mass of the Earth system, XXIV IUGG General Assembly, Perugia, Italy.
- Kreemer, C., Hammond, W.C., and Blewitt, G., 2007, New constraints on the motion and boundaries of the Sierra Nevada block and Colorado Plateau from continuous GPS velocities, XXIV IUGG General Assembly, Perugia, Italy.
- Kreemer, C., Hammond, W.C., and Plag, H.-P., 2007, Detection of postseismic relaxation from the 1999 Hector Mine earthquake in southern Basin and Range GPS time series, Eos Trans. AGU, 88(23), Joint Assembly Supplement, Abstract G42A-03, **INVITED**.
- Hammond, W.C., Kreemer, C., and Blewitt, G., 2007, Block modeling of crustal deformation in the northern Walker Lane, western Basin and Range, to improve estimates of seismic hazard, Eos Trans. AGU, 88(23), Joint Assembly Supplement, Abstract G43G-07.
- Hammond, W.C., Plag, H.-P., Kreemer, C., and Blewitt, G., 2007, Postseismic relaxation from remote earthquakes observed in non-linearity of southern Basin and Range/Yucca mountain GPS time series, Seismological Research Letters, v. 78, no. 2, p. 299.



- Su, F., Kreemer, C., and Zeng, Y., 2007, Seismic hazard estimation based on GPS observations in the Basin and Range, *Seismological Research Letters*, v. 78, no. 2, p. 281.
- Zeng, Y., Zhen, Z.-K., and Kreemer, C., 2007, Western US crustal strain rate map based on GPS observations, *Seismological Research Letters*, v. 78, no. 2, p. 286.
- Plag, H.-P., Hammond, W.C., and Kreemer, C., 2007, Combination of GPS-derived vertical motion with absolute gravity changes constrain the tie between reference frame origin and Earth center of mass, p. 154, EarthScope National Meeting, Monterey, CA.
- Plag, H.-P., Kreemer, C., Hammond, W.C., and Blewitt, G., 2007, Vertical motion observed with GPS: What can we learn about regional geophysical signals, Earth structure, and rheology?, p. 155, EarthScope National Meeting, Monterey, CA.
- Hammond, W.C., Kreemer, C., and Blewitt, G., 2007, The Walker Lane: How complex is it? Geodetic and geologic strain in the western Basin and Range using enhanced block-modeling algorithms, p. 76, EarthScope National Meeting, Monterey, CA.
- Kreemer, C., 2007, Continuous GPS velocities in the Intermountain-West: New constraints on the motion of the Colorado Plateau, p. 108, EarthScope National Meeting, Monterey, CA.
- Blewitt, G., Kreemer, C., Hammond, W., Plag, H.-P., Stein, S., and Okal, E., 2006, Rapid determination of earthquake magnitude using GPS for tsunami warning systems, *Great Earthquake Tsunami Sources: Empiricism and Beyond Empiricism*, Tsunami Sources Workshop, Menlo Park.
- Kreemer, C., Lavallée, D.A., Blewitt, G., and Holt, W.E., 2006, On the stability of a geodetic no-net rotation reference frame, effects of frame translation, and implications for the ITRF, *Eos Trans. AGU*, 87(52), Fall Meeting Suppl., Abstract G33C-04, **INVITED**.
- Hammond, W. C., Li, Z., Plag, H.-P., Blewitt, G., and Kreemer, C., 2006, Results of InSAR and GPS measurement of tectonic deformation near the Eastern California Shear Zone and Yucca Mountain, Nevada, *Eos Trans. AGU*, 87(52), Fall Meeting Suppl., Abstract G53D-0931.
- Kreemer, C., Hammond, W.C., and Blewitt, G., 2006, On the motion and geometry of the Sierra Nevada – Great Valley micro-plate: Implications for Walker Lane tectonics, *Eos Trans. AGU*, 87(52), Fall Meeting Suppl., Abstract G42A-05, **INVITED**.
- Plag, H.-P., Hammond, W.C., Blewitt, G., Kreemer, C., and Li, Z., 2006, Vertical motion observed with GPS and InSAR in the Nevada Basin and Range: What can we learn about geophysical signals, Earth structure, and rheology?, *Eos Trans. AGU*, 87(52), Fall Meeting Suppl., Abstract G21A-06.
- Blewitt, G., Kreemer, C., Hammond, W.C., Plag, H.-P., Stein, S., and Okal, E., 2006, Rapid determination of earthquake magnitude using GPS for tsunami warning systems: An opportunity for IGS to make a difference, p. O15, The 6<sup>th</sup> Joint Meeting of the UJNR Panel on Earthquake Research, Tokushima, Japan, **INVITED**.
- Silver, P.G., Hahn, B.C., Kreemer, C., Holt, W.E. and Haines, A.J., 2006, Convergent margins, growing and shrinking continents, and the Wilson Cycle, *GSA Abstracts with Programs*, v. 38(7), Abstract 114655.
- Kreemer, C., Lavallée, D.A., Blewitt, G., and Holt, W.E., 2006, Constraining no-net rotation of the Terrestrial Reference Frame, GRF2007, Abstract 77, Munich, Germany.
- Kreemer, C., Blewitt, G., and Hammond, W.C., 2006, Using geodesy to explore correlations between crustal deformation characteristics and geothermal resources, p.20, Geothermal Resources Council Annual Meeting, San Diego.
- Blewitt, G., Kreemer, C., Hammond, W., Plag, H.-P., Stein, S., and Okal, E., 2006, Rapid determination of earthquake magnitude using GPS for tsunami warning systems: An opportunity for IGS to make a difference, IGS Workshop "The International GNSS Service (IGS): Perspectives and Visions for 2010 and beyond", Darmstadt, Germany.
- Blewitt, G., Kreemer, C., Hammond, W., Plag, H.-P., Stein, S., and Okal, E., 2006, Rapid determination of earthquake magnitude using GPS for tsunami warning systems: Required accuracy of real-time GPS satellite orbits, 36<sup>th</sup> COSPAR Scientific Assembly, Abstract COSPAR2006-A-03310.

- Blewitt, G., Kreemer, C., Hammond, W.C., Plag, H.-P., Stein, S., and Okal, E., 2006, Rapid determination of earthquake magnitude using GPS for tsunami warning systems, *Eos Trans. AGU*, 87(36), West. Pac. Geophys. Meet. Suppl., Abstract U22A-05.
- Blewitt, G., Kreemer, C., Hammond, W., Plag, H.-P., Stein, S., Okal, E., 2006, Rapid determination of earthquake magnitude using GPS for tsunami warning systems, *Geophysical Research Abstracts*, v. 8, Abstract EGU06-A09528.
- Plag, H.-P., and Kreemer, C., 2006, Are post-glacial rebound models consistent with the global space-geodetic secular velocity field ?, *Geophysical Research Abstracts*, v. 8, Abstract EGU06-A09484.
- Kreemer, C., and Plag, H.-P., 2006, Are post-glacial rebound models consistent with the global space-geodetic secular velocity field ?, p. 40, UNAVCO Science Workshop, Denver, Colorado.
- Blewitt, G., Kreemer, C., Hammond, W., Plag, H.-P., Stein, S., and Okal, E., 2006, Rapid determination of earthquake magnitude using GPS for tsunami warning systems, p. 26, UNAVCO Science Workshop, Denver, Colorado.
- Hammond, W.C., Blewitt, G., Kreemer, C., Plag, H.-P., Anderson, J., and Smith, K., 2006, Recent seismicity and surface deformation at Lake Tahoe: An update on lower crustal magma movement, p. 33, UNAVCO Science Workshop, Denver, Colorado.
- Kreemer, C., Blewitt, G., Hammond, W.C., and Plag, H.-P., 2005, Constraints on postseismic deformation processes after the December 2004 and March 2005 Sumatra earthquakes from continuous GPS observations, *Eos Trans. AGU*, v. 86(52), Fall Meet. Suppl., Abstract U11A-0825.
- Blewitt, G., Hammond, W.C., Kreemer, C., and Plag, H.-P., 2005, Nevada Earthquake Response GPS Network (NEARNET), *Eos Trans. AGU*, v. 86(52), Fall Meet. Suppl., Abstract G11A-1182.
- Coolbaugh, M.F., Blewitt, G., Faulds, J.E., and Kreemer, C., 2005, Regional and local controls on the distribution of geothermal systems in the Great Basin, western United States, *Eos Trans. AGU*, v. 86(52), Fall Meet. Suppl., Abstract T22A-01.
- Plag, H.-P., Blewitt, G., Kreemer, C., and Hammond, W.C., 2005, Sumatra earthquakes induced solid earth deformations detected with GPS: co-seismic displacements, normal modes, tsunami induced loading, and post-seismic deformations, *Dynamic Planet 2005*, p. 75.
- Plag, H.-P., Kreemer, C., and Kierulf, H., 2005, An attempt to separate rigid plate motion from intra-plate deformation in order to improve the secular velocity model for reference frames, *Dynamic Planet 2005*, p. 226.
- Silver, P.G., Hahn, B.C., Kreemer, C., Holt, W.E., and Haines, A.J., 2005, Tectonic reduction of continental area: Implications for continental evolution, *Geological Society of America Abstracts with Programs*, v. 37, no.7, Abstract 94049.
- Hammond, W.C., Blewitt, G., and Kreemer, C., 2005, Secular deformation of the westernmost Basin and Range as inferred from MAGNET and other GPS networks, *Geological Society of America Abstracts with Programs*, v. 37, no.7, Abstract 96564.
- Blewitt, G., Kreemer, C., Plag, H.-P., and Hammond, W.C., 2005, GPS strong motion at various time scales from the Great Sumatra earthquakes: Clues to puzzling phenomena, UNAVCO-IRIS Joint Workshop, Stevenson, Washington.
- Blewitt, G., Plag, H.-P., Kreemer, C., Hammond, W.C., and Titov, V., 2005, Effects of the Mw 9.0 Sumatra earthquake and tsunami on Earth's shape, *Eos Trans. AGU*, v. 86, no. 18, Jt. Ass. Suppl., Abstract U52A-01.
- Kreemer, C., and Hammond, W.C., 2005, Using a geodetic strain rate model for western North America to improve our understanding of the driving forces behind Basin and Range extension, *Eos Trans. AGU*, v. 86(18), Jt. Ass. Suppl., Abstract G23C-05, **INVITED**.
- Hammond, W.C., and Kreemer, C., 2005, Anomalous geodetic dilatation at the Central Nevada Seismic Belt: Inferring secular and transient contributions, *Eos Trans. AGU*, v. 86(18), Jt. Ass. Suppl., Abstract G23C-04.
- Hammond, W.C., and Kreemer, C., 2005, Using geodetic data to estimate seismic hazard in the western Great Basin, *Seismological Research Letters*, v. 76, no. 2, p. 239.

- Hammond, W.C., Blewitt, G., and Kreemer, C., 2005, Geodetic constraints on the rate and style of contemporary deformation in the northern Walker Lane, *Seismological Research Letters*, v. 76, no. 2, p. 244.
- Blewitt, G., Plag, H.-P., Kreemer, C. and Hammond, W.C., 2005, Effects of the  $M_w$  9.0 Sumatra earthquake and tsunami on Earth's shape, *Seismological Research Letters*, v. 76, no. 2, p. 218.
- Kreemer, C., Blewitt, G., Plag, H.-P., and Holt, W.E., 2005, On the stability of the No-Net-Rotation frame realization, *Geophysical Research Abstracts*, v. 7, Abstract EGU05-A-10006, **INVITED**.
- Plag, H.-P., Kreemer, C., and Kierulf, H.P., 2005, Improved determination of rigid plate motion by incorporating intraplate deformation models, *Geophysical Research Abstracts*, v. 7, Abstract EGU05-A-10068.
- Plag H.-P., Blewitt, G., Kreemer, C., Hammond, W.C., and Titov, V., 2005, Effects of the  $M_w$  9.0 Sumatra earthquake and tsunami on Earth's shape, *Geophysical Research Abstracts*, v. 7, Abstract EGU05-A-10129.
- Kreemer, C., and Hammond, W.C., 2005, Using a geodetic strain rate model for the western United States to improve our understanding of the driving forces in continental extension zones, *Geophysical Research Abstracts*, v. 7, Abstract EGU05-A-10323, **INVITED**.
- Kreemer, C., Hammond, W.C., and Blewitt, G., 2005, Kinematic modeling of the Walker Lane using GPS velocities and geologic observations, p. 98, Penrose Conference, Mammoth Lakes, California.
- Kreemer, C., Hammond, W.C., and Blewitt, G., 2005, A pre-PBO strain rate model for the Great Basin, p.172, EarthScope National Meeting, Santa Ana Pueblo, New Mexico.
- Hammond, W.C., Kreemer, C., and Blewitt, G., 2005, Understanding Northwest Basin and Range tectonics, from the Northern Walker Lane to the Central Nevada Seismic Belt, using EarthScope data, p.138, EarthScope National Meeting, Santa Ana Pueblo, New Mexico.
- Aurelio, M.A., Bacolcol, T., Punongbayan, J.T., and Kreemer, C., 2005, Seismotectonics of the west-central Philippines: Mechanism of active faults from recent GPS measurements and earthquakes, International Symposium on Active Faulting, Hokudan, Japan.

*Forty more abstracts published prior to 2005, including three invited.*