

# Stanford

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## George Hilley

Associate Professor of Geological Sciences

### Bio

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#### ACADEMIC APPOINTMENTS

- Associate Professor, Geological Sciences

#### ADMINISTRATIVE APPOINTMENTS

- Postdoctoral Researcher, Universitaet Potsdam, (2001-2002)
- Postdoctoral Research Fellow, Universitaet Potsdam, (2002-2003)
- Postdoctoral Research Associate, University of California, Berkeley, (2003-2004)
- Assistant Professor, Stanford University, (2005-2011)
- Associate Professor, Stanford University, (2011- present)

#### HONORS AND AWARDS

- Postdoctoral Research Fellow, Alexander von Humboldt Fellowship, Universitaet Potsdam (2001-2002)
- Terman Fellow, Stanford University (2006-present)
- Outstanding Reviewer Citation - JGR Earth Surface, American Geophysical Union (2006)
- School of Earth Sciences Award for Excellence in Teaching, Stanford University (2009)
- Walter J. Gores Award for Excellence in Teaching, Stanford University (2012)
- AGU Outstanding Reviewer Citation - Tectonics, American Geophysical Union (2013)
- AGU Outstanding Reviewer Citation - GRL, American Geophysical Union (2013)

#### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Associate Editor, Basin Research (2014 - present)
- Associate Editor, Tectonics, American Geophysical Union (2014 - present)
- Member, Vice Provost for Online Learning Advisory Board, Stanford University (2014 - present)
- SES Teaching Task Force, School of Earth Sciences, Stanford University (2014 - present)
- Distinguished Lecturer, School of Earth Sciences, Stanford University (2013 - 2014)
- Invited Speaker, University of California, Berkeley (2013 - 2013)
- Associate Editor, Lithosphere (2012 - present)
- Member, Undergraduate Curriculum Committee, Stanford University (2010 - 2011)
- Lecturer, Intel International Science and Engineering Fair Stanford Orientation, Stanford University (2010 - 2010)
- Lecturer, New Student Orientation, Stanford University (2010 - 2010)

- de facto GES representative to proposed Hazards Initiative, Stanford University (2009 - 2011)
- Invited Keynote Speaker, Long-Range Science Goals for Geodesy Community Workshop (2009 - 2009)
- Invited Speaker, San Jose State University (2009 - 2009)
- Invited Speaker, United States Geological Survey, Menlo Park, CA (2009 - 2009)
- Invited Speaker, Peninsula Geological Society (2009 - 2009)
- Invited Keynote Speaker, Deformation Mechanisms, Rheology and Tectonics Meeting, Milano, Italy (2008 - 2008)
- Member, School of Earth Sciences Council, Stanford University (2008 - 2008)
- Invited Speaker, University of California, Santa Cruz (2007 - 2007)
- Member, Computational Seismology Search Committee, Department of Geophysics, Stanford University (2007 - 2007)
- Program Committee Member, Earthscope Annual National Meeting, National Science Foundation (2007 - 2007)
- Member, Graduate Student Admissions Committee, Stanford University (2006 - 2011)
- Member, Steering Committee, National Center for Airborne Laser Mapping (2005 - 2007)
- Invited Speaker, University of California, Los Angeles (2005 - 2005)
- Steering Committee Member, National Center for Airborne Laser Mapping (2004 - 2008)
- Invited Speaker, Department of Geological Sciences, University of Oregon (2004 - 2004)
- Invited Speaker, Department of Earth Sciences, University of Southern California (2004 - 2004)
- Invited Speaker, Berkeley Seismology Laboratory, University of California, Berkeley (2004 - 2004)
- Invited Speaker - Department of Geological and Environmental Sciences, Stanford University (2004 - 2004)
- Invited Speaker, Department of Geoscience, University of Nevada, Las Vegas (2004 - 2004)
- Invited Speaker, Berkeley Seismology Laboratory, University of California, Berkeley (2003 - 2003)
- Invited Speaker, Department of Geology, University of California, Davis (2003 - 2003)
- Invited Speaker, Department of Earth and Atmospheric Sciences, Cornell University (2003 - 2003)
- Invited Speaker, International Quality Network (IQN) Paleoseismology Workshop, Potsdam, Germany (2002 - 2002)
- Invited Speaker, Geology Department Colloquium, University of South Florida (2002 - 2002)
- Invited Speaker, United States Geological Survey Earthquake Hazards Seminar (2001 - 2001)

## PROFESSIONAL EDUCATION

- Ph.D., Arizona State University , Geology (2001)
- B.S., Stanford University , Geological and Environmental Sciences (1996)

## LINKS

- Stanford Tectonic Geomorphology Laboratory (STGL): <http://pangea.stanford.edu/research/tectonicgeomorph>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

#### Research

I study the landscape's response to active faulting and folding of the Earth's crust. My students and I use a wide range of tools to study these processes, such as geologic and geomorphic field studies, and numerical models of tectonic and erosional processes. My research spans a broad range of time and spatial scales, from the development of mountain ranges over millions of years through the development of small landforms and watersheds over 10s-100s of thousands of years. For example, at the scale of entire mountain belts, I study how deformation and erosion within the Andes may be coupled, providing a link between deep earth and atmospheric processes. At the other extreme, I study how active uplift along the San Andreas Fault affects the short-term development of small, ~4-km-long landforms. Finally,

I have recently become interested in studying large, slow-moving landslides in urbanized areas (and the hazards they pose) using remote sensing methods such as Synthetic Aperture Radar Interferometry.

#### Teaching

I teach both graduate and undergraduate classes and seminars on the development of mountain belts in tectonically active areas. These courses use both classic field examples, as well as local field excursions in the Santa Cruz Mountains as guides to understanding how active faulting may produce steep topography.

#### Professional Activities

Terman Fellow, 2006-present; Steering Committee, National Center for Airborne Laser Mapping, 2005- present; Program Committee, NSF-Earthscope Annual Meeting; Alexander von Humboldt Fellow, 2001-02

## Teaching

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### COURSES

#### 2018-19

- Geomorphology: GEOLSCI 112 (Spr)
- Landscapes and Tectonics of the San Francisco Bay Area: EARTH 42, GEOLSCI 42 (Aut)
- Our National Parks: EARTH 114A, EARTH 14, GEOLSCI 114A, GEOLSCI 14 (Win)

#### 2017-18

- Disasters, Decisions, Development in Sustainable Urban Systems: ESS 118, ESS 218, GEOPHYS 118X, GEOPHYS 218X, GS 118, GS 218, POLISCI 224A, PUBLPOL 118 (Aut)
- Disasters, Decisions, Development in Sustainable Urban Systems (CEE): CEE 124X, CEE 224X (Aut)
- Landscapes and Tectonics of the San Francisco Bay Area: EARTH 42, GS 42 (Aut)
- Our National Parks: EARTH 114A, EARTH 14, GS 114A, GS 14 (Win)

#### 2016-17

- Our National Parks: EARTH 114A, EARTH 14, GS 114A, GS 14 (Win)

#### 2015-16

- Analysis of Landforms: GS 312 (Win)
- Interpretation of Tectonically Active Landscapes: GS 311 (Aut)
- Landscapes and Tectonics of the San Francisco Bay Area: GS 42N (Aut)
- Modeling of Landforms: GS 313 (Spr)
- Our National Parks: EARTH 14, GS 14 (Win)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Danielle Shulaker

#### Doctoral Dissertation Advisor (AC)

Robert Sare

#### Doctoral (Program)

Curtis Baden, Aaron Steelquist

## Publications

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### PUBLICATIONS

- **Millennial-scale denudation rates of the Santa Lucia Mountains, California: Implications for landscape evolution in steep, high-relief, coastal mountain ranges** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*  
Young, H. H., Hilley, G. E.  
2018; 130 (11-12): 1809–24
- **Adding a community partner to service learning may elevate learning but not necessarily service** *INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION*  
Suckale, J., Saiyed, Z., Hilley, G., Alvisyahrin, T., Muhari, A., Zoback, M., Truebe, S.  
2018; 28: 80–87
- **Weak bedrock allows north-south elongation of channels in semi-arid landscapes** *EARTH AND PLANETARY SCIENCE LETTERS*  
Johnstone, S. A., Finnegan, N. J., Hilley, G. E.  
2017; 478: 150–58
- **Encouraging Earthquake-Resistant Construction: A Randomized Controlled Trial in Nepal** *EARTHQUAKE SPECTRA*  
Sanquini, A. M., Thapaliya, S. M., Wood, M. M., Baiocchi, M., Hilley, G. E.  
2016; 32 (4): 1975-1988
- **Benchmarking analogue models of brittle thrust wedges** *JOURNAL OF STRUCTURAL GEOLOGY*  
Schreurs, G., Buiter, S. J., Boutelier, J., Burberry, C., Callot, J., Cavozi, C., Cerca, M., Chen, J., Cristallini, E., Cruden, A. R., Cruz, L., Daniel, J. -, Da Poian, et al  
2016; 92: 116-139
- **Rate-weakening friction characterizes both slow sliding and catastrophic failure of landslides** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Handwerker, A. L., Rempel, A. W., Skarbek, R. M., Roering, J. J., Hilley, G. E.  
2016; 113 (37): 10281-10286
- **The chemical, mechanical, and hydrological evolution of weathering granitoid** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*  
Goodfellow, B. W., Hilley, G. E., Webb, S. M., Sklar, L. S., Moon, S., Olson, C. A.  
2016; 121 (8): 1410-1435
- **High spatio-temporal resolution observations of crater lake temperatures at Kawah Ijen volcano, East Java, Indonesia** *BULLETIN OF VOLCANOLOGY*  
Lewicki, J. L., Caudron, C., van Hinsberg, V. J., Hilley, G. E.  
2016; 78 (8)
- **A unified framework for modeling landscape evolution by discrete flows** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*  
Shelef, E., Hilley, G. E.  
2016; 121 (5): 816-842
- **Integrated thermal infrared imaging and structure-from-motion photogrammetry to map apparent temperature and radiant hydrothermal heat flux at Mammoth Mountain, CA, USA** *JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH*  
Lewis, A., Hilley, G. E., Lewicki, J. L.  
2015; 303: 16-24
- **Simulating depth-averaged, one-dimensional turbidity current dynamics using natural topographies** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*  
Traer, M. M., Fildani, A., McHargue, T., Hilley, G. E.  
2015; 120 (8): 1485-1500
- **Recent topographic evolution and erosion of the deglaciated Washington Cascades inferred from a stochastic landscape evolution model** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*  
Moon, S., Shelef, E., Hilley, G. E.  
2015; 120 (5): 856-876
- **Lithologic control on the form of soil-mantled hillslopes** *GEOLOGY*  
Johnstone, S. A., Hilley, G. E.

2015; 43 (1): 83-86

- **Influence of attenuated lithosphere and sediment loading on flexure of the deep-water Magallanes retroarc foreland basin, Southern Andes** *TECTONICS*  
Fosdick, J. C., Graham, S. A., Hilley, G. E.  
2014; 33 (12): 2505-2525
- **Multi-scale observations of the variability of magmatic CO<sub>2</sub> emissions, Mammoth Mountain, CA, USA** *JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH*  
Lewicki, J. L., Hilley, G. E.  
2014; 284: 1-15
- **Symmetry, randomness, and process in the structure of branched channel networks** *GEOPHYSICAL RESEARCH LETTERS*  
Shelef, E., Hilley, G. E.  
2014; 41 (10): 3485-3493
- **Crustal migration of CO<sub>2</sub>-rich magmatic fluids recorded by tree-ring radiocarbon and seismicity at Mammoth Mountain, CA, USA** *EARTH AND PLANETARY SCIENCE LETTERS*  
Lewicki, J. L., Hilley, G. E., Shelly, D. R., King, J. C., McGeehin, J. P., Mangan, M., EVANS, W. C.  
2014; 390: 52-58
- **New estimates of silicate weathering rates and their uncertainties in global rivers** *Geochimica et Cosmochimica Acta*  
Moon, S., Chamberlain, C. P., Hilley, G. E.  
2014
- **Impact of flow routing on catchment area calculations, slope estimates, and numerical simulations of landscape development** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*  
Shelef, E., Hilley, G. E.  
2013; 118 (4): 2105-2123
- **Depth and character of rock weathering across a basaltic- hosted climosequence on Hawaii** *INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS*  
Goodfellow, B. W., Chadwick, O. A., Hilley, G. E.  
2013; 41 (11): 381-398
- **Hillslopes Record the Growth and Decay of Landscapes** *SCIENCE*  
Hurst, M. D., Mudd, S. M., Attal, M., Hilley, G.  
2013; 341 (6148): 868-871
- **Restraining bend tectonics in the Santa Cruz Mountains, California, imaged using Be-10 concentrations in river sands** *GEOLOGY*  
Gudmundsdottir, M. H., Blisniuk, K., Ebert, Y., Levine, N. M., Rood, D. H., Wilson, A., Hilley, G. E.  
2013; 41 (8): 843-846
- **Geologic CO<sub>2</sub> input into groundwater and the atmosphere, Soda Springs, ID, USA** *CHEMICAL GEOLOGY*  
Lewicki, J. L., Hilley, G. E., Dobeck, L., McLing, T. L., Kennedy, B. M., Bill, M., Marino, B. D.  
2013; 339: 61-70
- **Multitemporal ALSM change detection, sediment delivery, and process mapping at an active earthflow** *EARTH SURFACE PROCESSES AND LANDFORMS*  
DeLong, S. B., Prentice, C. S., Hilley, G. E., Ebert, Y.  
2012; 37 (3): 262-272
- **Eddy covariance network design for mapping and quantification of surface CO<sub>2</sub> leakage fluxes** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*  
Lewicki, J. L., Hilley, G. E.  
2012; 7: 137-144
- **The sensitivity of turbidity currents to mass and momentum exchanges between these underflows and their surroundings** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*  
Traer, M. M., Hilley, G. E., Fildani, A., McHargue, T.  
2012; 117
- **Eddy covariance imaging of diffuse volcanic CO<sub>2</sub> emissions at Mammoth Mountain, CA, USA** *BULLETIN OF VOLCANOLOGY*

- Lewicki, J. L., Hilley, G. E., Dobeck, L., Marino, B. D.  
2012; 74 (1): 135-141
- **Structural, geomorphic, and depositional characteristics of contiguous and broken foreland basins: examples from the eastern flanks of the central Andes in Bolivia and NW Argentina** *Recent Advances in Tectonics of Sedimentary Basins*  
Strecker, M. R., Hilley, G. E., Bookhagen, B., Sobel, E. R.  
edited by Busby, C., Azor, A.  
Wiley-Blackwell.2012
  - **Climatic control of denudation in the deglaciated landscape of the Washington Cascades** *NATURE GEOSCIENCE*  
Moon, S., Chamberlain, C. P., Blisniuk, K., Levine, N., Rood, D. H., Hilley, G. E.  
2011; 4 (7): 469-473
  - **Terrestrial source to deep-sea sink sediment budgets at high and low sea levels: Insights from tectonically active Southern California** *GEOLOGY*  
Covault, J. A., Romans, B. W., Graham, S. A., Fildani, A., Hilley, G. E.  
2011; 39 (7): 619-622
  - **Vadose zone controls on weathering intensity and depth: Observations from grussic saprolites** *APPLIED GEOCHEMISTRY*  
Goodfellow, B. W., Hilley, G. E., Schulz, M. S.  
2011; 26: S36-S39
  - **Erosional control of the kinematics of the Aconcagua fold-and-thrust belt from numerical simulations and physical experiments** *GEOLOGY*  
Cruz, L., Malinski, J., Hernandez, M., Take, A., Hilley, G.  
2011; 39 (5): 439-442
  - **Constraints on the late Quaternary glaciations in Tibet from cosmogenic exposure ages of moraine surfaces** *QUATERNARY SCIENCE REVIEWS*  
Chevalier, M., Hilley, G., Tapponnier, P., Van Der Woerd, J., Jing Liu-Zeng, L. Z., Finkel, R. C., Ryerson, F. J., Li, H., Liu, X.  
2011; 30 (5-6): 528-554
  - **Linking chronosequences with the rest of the world: predicting soil phosphorus content in denuding landscapes** *BIOGEOCHEMISTRY*  
Porder, S., Hilley, G. E.  
2011; 102 (1-3): 153-166
  - **Links between topography, erosion, rheological heterogeneity, and deformation in contractional settings: Insights from the central Andes** *TECTONOPHYSICS*  
Hilley, G. E., Coutand, I.  
2010; 495 (1-2): 78-92
  - **Erosional control of the kinematics and geometry of fold-and-thrust belts imaged in a physical and numerical sandbox** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Cruz, L., MALINSKI, J., Wilson, A., Take, W. A., Hilley, G.  
2010; 115
  - **Fault zone structure from topography: Signatures of an echelon fault slip at Mustang Ridge on the San Andreas Fault, Monterey County, California** *TECTONICS*  
DeLong, S. B., Hilley, G. E., Rymer, M. J., Prentice, C.  
2010; 29
  - **Erosion, Geological History, and Indigenous Agriculture: A Tale of Two Valleys** *ECOSYSTEMS*  
Vitousek, P. M., Chadwick, O. A., Hilley, G., Kirch, P. V., Ladefoged, T. N.  
2010; 13 (5): 782-793
  - **A TEST OF INITIATION OF SUBMARINE LEVEED CHANNELS BY DEPOSITION ALONE** *JOURNAL OF SEDIMENTARY RESEARCH*  
Rowland, J. C., Hilley, G. E., Fildani, A.  
2010; 80 (7-8): 710-727
  - **Competition between erosion and reaction kinetics in controlling silicate-weathering rates** *EARTH AND PLANETARY SCIENCE LETTERS*  
Hilley, G. E., CHAMBERLAIN, C. P., Moon, S., Porder, S., Willett, S. D.  
2010; 293 (1-2): 191-199
  - **Dynamics of CO<sub>2</sub> fluxes and concentrations during a shallow subsurface CO<sub>2</sub> release** *ENVIRONMENTAL EARTH SCIENCES*

- Lewicki, J. L., Hilley, G. E., Dobeck, L., Spangler, L.  
2010; 60 (2): 285-297
- **Morphologic dating of fault scarps using airborne laser swath mapping (ALSM) data** *GEOPHYSICAL RESEARCH LETTERS*  
Hilley, G. E., DeLong, S., Prentice, C., Blisniuk, K., Arrowsmith, J.  
2010; 37
  - **Structural geometry of Raplee Ridge monocline and thrust fault imaged using inverse Boundary Element Modeling and ALSM data** *JOURNAL OF STRUCTURAL GEOLOGY*  
Hilley, G. E., Mynatt, I., Pollard, D. D.  
2010; 32 (1): 45-58
  - **Eddy covariance mapping and quantification of surface CO<sub>2</sub> leakage fluxes** *GEOPHYSICAL RESEARCH LETTERS*  
Lewicki, J. L., Hilley, G. E.  
2009; 36
  - **Does the topographic distribution of the central Andean Puna Plateau result from climatic or geodynamic processes?** *GEOLOGY*  
Strecker, M. R., Alonso, R., Bookhagen, B., Carrapa, B., Coutand, I., Hain, M. P., Hilley, G. E., Mortimer, E., Schoenbohm, L., Sobel, E. R.  
2009; 37 (7): 643-646
  - **Eddy covariance observations of surface leakage during shallow subsurface CO<sub>2</sub> releases** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*  
Lewicki, J. L., Hilley, G. E., Fischer, M. L., Pan, L., Oldenburg, C. M., Dobeck, L., Spangler, L.  
2009; 114
  - **Earthquake-cycle deformation and fault slip rates in northern Tibet** *GEOLOGY*  
Hilley, G. E., Johnson, K. M., Wang, M., Shen, Z., Buergermann, R.  
2009; 37 (1): 31-34
  - **Detection of CO<sub>2</sub> leakage by eddy covariance during the ZERT project's CO<sub>2</sub> release experiments** *9th International Conference on Greenhouse Gas Control Technologies*  
Lewicki, J. L., Hilley, G. E., Fischer, M. L., Pan, L., Oldenburg, C. M., Dobeck, L., Spangler, L.  
ELSEVIER SCIENCE BV.2009: 2301-6
  - **Does the topographic distribution of the central Andean Plateau result from climatic or geodynamic processes?** *Geology*  
Strecker, M. R., Alonso, R., Bookhagen, B., Carrapa, B., Coutand, I., Hain, M. P., Hilley, G. E., Mortimer, E., Schoenbohm, L., , Sobel, E. R.  
2009; 37: 643-646
  - **A framework for predicting global silicate weathering and CO<sub>2</sub> drawdown rates over geologic time-scales** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Hilley, G. E., Porder, S.  
2008; 105 (44): 16855-16859
  - **Geomorphic response to uplift along the Dragon's Back pressure ridge, Carrizo Plain, California** *GEOLOGY*  
Hilley, G. E., Arrowsmith, J. R.  
2008; 36 (5): 367-370
  - **Six-week time series of eddy covariance CO<sub>2</sub> flux at Mammoth Mountain, California: Performance evaluation and role of meteorological forcing** *JOURNAL OF VOLCANOLOGY AND GEOTHERMAL RESEARCH*  
Lewicki, J. L., Fischer, M. L., Hilley, G. E.  
2008; 171 (3-4): 178-190
  - **Deducing paleoearthquake timing and recurrence from paleoseismic data, part II: Analysis of paleoseismic excavation data and earthquake behavior along the central and southern San Andreas fault** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*  
Hilley, G. E., Young, J. J.  
2008; 98 (1): 407-439
  - **Deducing paleoearthquake timing and recurrence from paleoseismic data, part I: Evaluation of new Bayesian Markov-Chain Monte Carlo simulation methods applied to excavations with continuous peat growth** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*  
Hilley, G. E., Young, J. J.  
2008; 98 (1): 383-406

- **The relationship between tectonic uplift and chemical weathering rates in the Washington cascades: Field measurements and model predictions** *AMERICAN JOURNAL OF SCIENCE*  
Hren, M. T., Hilley, G. E., Chamberlain, G. P.  
2007; 307 (9): 1041-1063
- **Inferring fault characteristics using fold geometry constrained by airborne laser swath mapping at Raplee Ridge, Utah** *GEOPHYSICAL RESEARCH LETTERS*  
Mynatt, I., Hilley, G. E., Pollard, D. D.  
2007; 34 (16)
- **Influence of lithosphere viscosity structure on estimates of fault slip rate in the Mojave region of the San Andreas fault system** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Johnson, K. M., Hilley, G. E., Buergermann, R.  
2007; 112 (B7)
- **Chemical weathering, mass loss, and dust inputs across a climate by time matrix in the Hawaiian Islands** *EARTH AND PLANETARY SCIENCE LETTERS*  
Porder, S., Hilley, G. E., Chadwick, O. A.  
2007; 258 (3-4): 414-427
- **Major ion chemistry of the Yarlung Tsangpo-Brahmaputra river: Chemical weathering, erosion, and CO<sub>2</sub> consumption in the southern Tibetan plateau and eastern syntaxis of the Himalaya** *GEOCHIMICA ET COSMOCHIMICA ACTA*  
Hren, M. T., Chamberlain, C. P., Hilley, G. E., Blisniuk, P. M., Bookhagen, B.  
2007; 71 (12): 2907-2935
- **Dynamic coupling of volcanic CO<sub>2</sub> flow and wind at the Horseshoe Lake tree kill, Mammoth Mountain, California** *GEOPHYSICAL RESEARCH LETTERS*  
Lewicki, J. L., Hilley, G. E., Tosha, T., Aoyagi, R., Yamamoto, K., Benson, S. M.  
2007; 34 (3)
- **Uplift, erosion, and phosphorus limitation in terrestrial ecosystems** *ECOSYSTEMS*  
Porder, S., Vitousek, P. M., Chadwick, O. A., Chamberlain, C. P., Hilley, G. E.  
2007; 10 (1): 158-170
- **Tectonics and climate of the southern central Andes** *ANNUAL REVIEW OF EARTH AND PLANETARY SCIENCES*  
Strecker, M. R., Alonso, R. N., Bookhagen, B., Carrapa, B., Hilley, G. E., Sobel, E. R., Trauth, M. H.  
2007; 35: 747-787
- **Resolving vertical tectonics in the San Francisco Bay Area from permanent scatterer InSAR and GPS analysis** *GEOLOGY*  
Burgmann, R., Hilley, G., Ferretti, A., Novali, F.  
2006; 34 (3): 221-224
- **Tectonics, climate, and landscape evolution of the southern Central Andes: The Argentine Puna Plateau and adjacent Regions between 22 and 28°S lat, in The Andes—Active Subduction Orogeny** *Frontiers in Earth Sciences*  
Alonso, R. N., Carrapa, B., Coutand, I., Haschke, M., Hilley, G. E., Schoenbohm, L., Sobel, E. R., Trauth, M. H., Villanueva, A.,  
edited by Oncken, O., Chong, G., Franz, G., Giese, P., Götze, et al.  
Springer Verlag, Berlin.2006: 265—283
- **Mechanics and erosion of basement-cored uplift provinces** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Hilley, G. E., Blisniuk, P. M., Strecker, M. R.  
2005; 110 (B12)
- **An improved strategy to detect CO<sub>2</sub> leakage for verification of geologic carbon sequestration** *GEOPHYSICAL RESEARCH LETTERS*  
Lewicki, J. L., Hilley, G. E., Oldenburg, C. M.  
2005; 32 (19)
- **Processes of oscillatory basin filling and excavation in a tectonically active orogen: Quebrada del Toro Basin, NW Argentina (vol 117, pg 887, 2005)** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*  
Hilley, G. E., Strecker, M. R.  
2005; 117 (9-10): 1367-1367
- **Oligocene range uplift and development of plateau morphology in the southern central Andes** *TECTONICS*  
Carrapa, B., Adelman, D., Hilley, G. E., Mortimer, E., Sobel, E. R., Strecker, M. R.



2005; 24 (4)

- **Interseismic coupling and asperity distribution along the Kamchatka subduction zone** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Burgmann, R., Kogan, M. G., Steblov, G. M., Hilley, G., Levin, V. E., Apel, E.  
2005; 110 (B7)
- **Processes of oscillatory basin filling and excavation in a tectonically active orogen: Quebrada del Toro Basin, NW Argentina** *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*  
Hilley, G. E., Strecker, M. R.  
2005; 117 (7-8): 887-901
- **Bayesian inference of plastosphere viscosities near the Kunlun Fault, northern Tibet** *GEOPHYSICAL RESEARCH LETTERS*  
Hilley, G. E., Burgmann, R., Zhang, P. Z., Molnar, P.  
2005; 32 (1)
- **Dynamics of slow-moving landslides from permanent scatterer analysis** *SCIENCE*  
Hilley, G. E., Burgmann, R., Ferretti, A., Novali, F., Rocca, F.  
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