

**Emmanuel J. Gabet**  
Associate Professor  
Department of Geology  
San Jose State University

FACULTY POSITIONS

2007 – present Associate Professor, San Jose State University, California  
2007 – 2009 Assistant Professor, San Jose State University, California  
2006 – 2007 Assistant Professor, University of California, Riverside  
2003 – 2006 Assistant Professor, University of Montana, Missoula

EDUCATION

University of California, Santa Barbara  
Ph.D., Geology, 2002

University of California, Berkeley  
M.A., Geography, 1996

University of California, Berkeley  
B.A. with High Honors, Anthropology, 1989

POST-DOCTORAL EXPERIENCE

2002 - 2003 Institute for Crustal Studies, UC Santa Barbara

FELLOWSHIPS

1997-2001 UC Regents Special University Fellowship, UC Santa Barbara  
1993-1994 UC Regents Fellowship, UC Berkeley

GRANTS

2009-2011	NSF	\$99,000
2007	Kearney Foundation	\$37,200
2004-2008	USDA-NRI	\$411,000
2005	NSF-NCED	\$24,000
1998-2001	Wildlife and Water Resources Grant (CA)	\$56,000

AWARDS

2002 G. K. Gilbert Award, UCSB Geological Sciences  
2002 Woodring Graduate Award, UCSB Geological Sciences

PROFESSIONAL MEMBERSHIPS

American Geophysical Union  
Geological Society of America

## EXPERTISE

Erosion, Aeolian processes, Landslides, Runoff, Surface hydrology, Rivers

## SELECTED PUBLICATIONS

- 2014 **Gabet, E.J.**, Fire increases dust production from chaparral soils. *Geomorphology*, accepted pending revision.
- 2014 **Gabet, E.J.**, J.T. Perron, D. Johnson. Biotic origin for Mima mounds supported by numerical model. *Geomorphology*, in press.
- 2013 Riley, K. L., R. Bendick, K.D. Hyde, **E.J. Gabet**. Frequency-magnitude distribution of debris flows compiled from global data, and comparison with post-fire debris flows in the western U.S. *Geomorphology*, 191: 118-128
- 2012 Burbank, D.W., B. Bookhagen, **E.J. Gabet**, J. Putkonen. Modern climate and erosion in the Himalaya. *Comptes Rendues Geosciences*, 344(11/12): 610-626.
- 2012 Constantine, J., M. Schelhaas, **E.J. Gabet**, S.M. Mudd. Limits of windthrow-driven hillslope sediment flux due to varying storm frequency and intensity, *Geomorphology* 175: 66-73.
- 2012 Mudd, S.M., K. Yoo, **E.J. Gabet**. Influence of Chemical Weathering on Hillslope Forms. In *Treatise on Geomorphology*, J.F. Shroder (editor), Vol. 7, p. 56-65. San Diego: Academic Press.
- 2012 **Gabet, E.J.** and M. Mendoza. Particle transport over rough hillslope surfaces by dry ravel: Experiments and simulations with implications for nonlocal sediment flux, *Journal of Geophysical Research*, doi:10.1029/2011JF002229.
- 2011 **Gabet, E.J.** and A. Bookter. Physical, chemical, and hydrological properties of Ponderosa pine ash. *International Journal of Wildland Fire* 20(3): 443-452.
- 2010 **Gabet, E.J.** and S. Mudd. Bedrock erosion by root fracture and tree throw: a coupled bio-geomorphic model to explore the humped soil production function and the persistence of hillslope soils. *Journal of Geophysical Research – Earth Surface*, 115, F04005, doi:10.1029/2009JF001526.
- 2009 **Gabet, E.J.** and S. Mudd. A theoretical model coupling chemical weathering rates with denudation rates. *Geology* 37: 151-154.
- 2008 **Gabet, E.J.** and P. Sternberg. The effects of vegetative ash on infiltration capacity, sediment transport, and the generation of progressively bulked debris flows. *Geomorphology* 10: 666-673.
- 2008 **Gabet, E.J.**, D.W. Burbank, B. Pratt-Sitaula, J. Putkonen, and B. Bookhagen. Modern erosion rates in the High Himalayas of Nepal. *Earth and Planetary Science Letters* 267: 482-494.
- 2008 **Gabet, E.J.** and A. Bookter\*. A morphometric analysis of gullies scoured by post-fire progressively-bulked debris flows in southwest Montana, USA. *Geomorphology* 96(3-4): 298-309.
- 2007 Craddock, W.H., D.W. Burbank, B. Bookhagen, **E.J. Gabet**. Bedrock channel geometry along an orographic precipitation gradient in the upper Marsyandi River valley in central Nepal. *Journal of Geophysical Research* 112, F03007, doi:10.1029/2006JF000589.
- 2007 Naylor, S.\* and **E.J. Gabet**. Valley asymmetry and glacial vs. non-glacial erosion in the Bitterroot Range, Montana, USA. *Geology* 35(4): 375-378.
- 2007 Hoffman, D.\* and **E.J. Gabet**. Effects of sediment pulses on channel morphology in a gravel bed river. *Geological Society of America Bulletin* 119(1-2): 116-125.
- 2006 **Gabet, E.J.** and S. Mudd. The mobilization of debris flows from shallow landslides. *Geomorphology* 74(1-4): 207-218.
- 2005 Niemi, N., M. Oskin, D. Burbank, A. Heimsath, and **E.J. Gabet**. Effects of bedrock landsliding on cosmogenically determined erosion rates. *Earth and Planetary Science Letters* 237(3-4): 480-498.
- 2004 **Gabet, E.J.**, D.W. Burbank, J. Putkonen, B. Pratt-Situala, and T. Ohja. Rainfall thresholds for landsliding in the Himalayas of Nepal. *Geomorphology* 63: 131-143.
- 2004 **Gabet, E.J.**, B. Pratt-Sitaula, and D.W. Burbank. Climatic controls on hillslope angle and relief in

- the Himalayas. *Geology* 32(7): 629-632.
- 2003 **Gabet, E.J.** Post-fire thin debris flows: field observations of sediment transport and numerical modeling. *Earth Surface Processes and Landforms* 28(12): 1341-1348.
- 2003 **Gabet, E.J.** Sediment transport by dry ravel. *Journal of Geophysical Research* 108(B1), 2050, 10.1029/2001JB001686, 2003.
- 2002 **Gabet, E.J.** and T. Dunne. Landslides on coastal sage scrub and grassland hillslopes in a severe El Niño winter: The effects of vegetation conversion on sediment delivery. *Geological Society of America Bulletin* 114(8): 983-990.
- 2001 Zawislanski, P.T., H.S. Mountford, **E.J. Gabet**, A.E. McGrath, and H.C. Wong. Selenium distribution and fluxes in intertidal wetlands, San Francisco Bay, California. *Journal of Environmental Quality* 30: 1080-1091.
- 1998 **Gabet, E.J.** Lateral migration and bank erosion in a saltmarsh tidal channel in the San Francisco Bay, California. *Estuaries* 21(4B): 745-753.

#### CONSULTING WORK

- 2013 Expert witness on a case where negligent land management led to fugitive dust emissions that caused a traffic accident.
- 2010 Investigated the cause of flooding of a building during a rainstorm and determined that the city of Belmont had been at fault for not clearing debris from a culvert underneath a roadway.
- 2009 Expert witness on a slip-and-fall case; demonstrated that runoff from a home could not have flowed to the spot where the claimant had slipped.

#### INVITED TALKS

- 2012 UC Davis
- 2011 San Francisco State University, UC Santa Cruz
- 2010 University of Calgary
- 2009 University of Oregon
- 2008 Association of Engineering Geologists (SF)
- 2007 USGS
- 2006 UT Austin, San Jose State University, UC Riverside, Vanderbilt University
- 2005 UCLA
- 2003 University of Montana, CU Boulder
- 2002 CU Boulder

## BIOGRAPHY

Dr. Gabet received his PhD in Geology from UC Santa Barbara in 2002. His dissertation was an examination of the effects of land-use practices on soil erosion in semi-arid landscapes. For his post-doctoral experience, he investigated the controls on erosion rates in the High Himalayas of Nepal, an effort that took him to the region twice. Since then, he has been a professor at various universities, finally settling down at San Jose State. His research goals in geomorphology include examining the role of fire in accelerating erosion rates, studying the evolution of Sierran landscapes, and documenting the effect of soil heating on dust production.