

## Arjun M. Heimsath

School of Earth and Space Exploration (SESE), Arizona State University (ASU)  
Tempe, AZ 85287-1404

Arjun.Heimsath@asu.edu

[www.public.asu.edu/~aheimsat](http://www.public.asu.edu/~aheimsat)

### Education

B.S.	1989	Yale College (Honors, Mechanical Engineering)
M.S.	1993	Yale University, School of Forestry and Environmental Studies
Ph.D.	1999	University of California, Berkeley (Geology)

### Relevant Positions

2014-Present	Professor, School of Earth and Space Exploration, ASU
2010-Present	Sr. Sustainability Scientist, School of Sustainability, ASU
2007-Present	Associate Professor, School of Earth and Space Exploration, ASU
2000-2007	Assistant Professor, Dartmouth College
1999-2000	NSF Post-doctoral Fellow, ANU, OSL for sediment transport rates
1989-1991	Water Development Engineer, US Peace Corps, Kenya

### Select Academic Honors

2013	Blaustein Visiting Professor, Stanford University.
2007-2008	Guggenheim Fellowship: Soil Erosion and Sustainability
2006	Crosby Distinguished Lectureship, Massachusetts Institute of Technology
2004	Dartmouth College Junior Faculty Fellowship
2004	Presidential Early Career Award for Scientists and Engineers (PECASE)
2003-2007	NSF CAREER Award (5 yr) for research on Geomorphic Transport Laws
2001-2002	Jan De Ploey Prize for contributions to Process Geomorphology
1999-2000	NSF Post-doc Fellow (2 yr) for research on sediment transport rates
1995-1998	NASA Graduate Student Fellowship in Global Change Research
1994-1995	Switzer Environmental Graduate Fellowship

### 5 Recent Products Related to the Present Proposal (\* denotes Student or post-doc author)

- Heimsath, A.M.**, DiBiase, R.A.\*, and Whipple, K.X., 2012. Soil production limits and the transition to bedrock dominated landscapes. *Nature Geosciences*, **5**: 210-214.
- Heimsath A.M.**, 2012. Quantifying processes governing soil-mantled hillslope evolution. In Lin, H. (ed.) "Hydropedology: Integration of Soil Science and Hydrology", Academy Press, Elsevier B.V. p. 205-242; ISBN: 9780123869418.
- DiBiase, R.A.\*, **Heimsath, A.M.**, and Whipple, K.X., 2012. Hillslope response to tectonic forcing in threshold landscapes. *Earth Surface Processes and Landforms*. DOI 10.1002/esp.3205.
- Dixon, J.L.\*, Hartshorn, A.S.\*, **Heimsath, A.M.**, DiBiase, R.A.\*, and Whipple, K.X., 2012. Chemical weathering response to tectonic forcing: A soils perspective from the San Gabriel Mountains, California. *Earth and Planetary Science Letters*, **323-324**: 40-49.
- Stang, D.J.\*, Rhodes, E.J., and **Heimsath, A.M.**, 2012. Assessing soil mixing processes and rates using a portable OSL-IRSL reader: Preliminary determinations. *Quaternary Geochronology*, **10**: 314-319.

### 5 Additional Recent Related Products (\* denotes Student or post-doc author)

- Heimsath, A.M.** and Jungers, M.C.\*, 2013. Mountain and Hillslope Geomorphology: Processes, Transport, Deposition, and Landforms: Quantifying Creep. Pp 138-151 in Shroder, J., Marston, R., Stoffel, M. (Eds.), Treatise on Geomorphology: Academic Press, San Diego, CA, vol. 7.

- Heimsath, A.M.**, Chappell, J., and Fifield, K., 2010. Eroding Australia: Rates and processes from Bega Valley to Arnhem Land. Geological Society, London, Special Publications; **346**: 225-241.
- Heimsath, A.M.**, Hancock, G.R., and Fink, D., 2009. The ‘humped’ soil production function: Eroding Arnhem Land, Australia. *Earth Surface Processes and Landforms*. **34**: 1674-1684.
- DiBiase, R.A., Whipple, K.X., **Heimsath, A.M.**, and Ouimet, W.B., 2010. Landscape form and millennial erosion rates in the San Gabriel Mountains, CA. *Earth and Planetary Science Letters*, **289**: 134-144.
- Dixon, J.L.\* , **Heimsath, A.M.**, Kaste, J.M.\* , and Amundson, R., 2009. Climate driven processes of hillslope weathering. *Geology*. **37**: 975-978.

### **Collaborations within the last 48 months**

Kelin Whipple, Kip Hodges, Everett Shock, Enrique Vivoni, Curtis Marean, Kostalena Michelaki and Michael Barton (ASU); Mike Lamb (CalTech); William E. Dietrich, Kunihiko Nishiizumi, Ronald Amundson, Dave Shuster (UCB) Doug Burbank; Oliver Chadwick (UCSB), Robert C. Finkel (Lawrence Livermore Nat'l Lab) John Chappell (ANU); Garry Willgoose; Greg Hancock (Univ. of Newcastle); Eric Kirby (Penn State); Kyungsoo Yoo (UMN); Greg Balco (Berkeley Geochronology Center)

**Post-Doc collaborator:** John Chappell, Australian National University

**Ph.D. advisor:** William E. Dietrich, University of California, Berkeley

**M.S. advisor:** Paul K. Barten, Yale University

### **Past PhD Students and Post-Docs**

Jongmin Byuan (post-doc, now at University of Korea); Anthony Hartshorn (post-doc, now at Montana State U.); Veerle Vanacker (Post-doc, now at UCL Belgium); Roman DiBiase (PhD, now at Caltech); Jean Dixon (PhD, now at Montana State U.); James Kaste (PhD, now at William & Mary); Ben Burke (PhD, now at Noble Energy); Kristen Cook (PhD, now at NTU); Cameron Wobus (PhD, now consulting); Kyungsoo Yoo (PhD, now at UMn).

### **5 Examples of synergistic activities**

- \* Coordinating the Climate Change Consortium at ASU.
- \* Associate Editor (4 yrs), *Earth Surface Processes and Landforms*.
- \* Writing/distributing free software for digital elevation model generation from photographs.
- \* Methodological refinement of short-lived isotopes used for sediment tracers (using <sup>241</sup>Am).
- \* Advising National Parks (California) and Mines (Australia) on erosional processes, with significant input into natural resource stewardship management plans.
- \* Chairing and organizing special sessions for AGU & EGS; organizing committee, National Academy of Sciences, Frontiers of Science symposia.