Jill Ann Marshall: Curriculum Vitae **28 October 2015**
Department of Earth and Planetary Sciences *Phone (510) 282-0512*
307 McCone Hall *Email: jmarshall@berkeley..edu*
University of California, Berkeley *Web http://tinyurl.com/JillAMarshall*
Berkeley, CA, 94720-4767, USA

EDUCATION

Ph.D.	2015	**University of Oregon**, Geosciences Dissertation topic: *Lithologic, climatic, and biotic vs. abiotic controls on erosion and landscape evolution.* Research advisor: Dr. Joshua J. Roering
M.S.	2009	**San Francisco State University**, Geosciences Thesis title: *Lithologic, topographic and climatic controls on grain size distribution of hillslope sediments*. Research advisor: Dr. Leonard S. Sklar
B. S.	1995	**California State University Hayward**, Earth and Environmental Sciences Areas of Concentration: Hydrology, Environmental Geology

EMPLOYMENT

2015-present	National Science Foundation Postdoctoral Fellow, University of CA, Berkeley, CA
2010 – 2015	Graduate Teaching & Research Fellow, University of Oregon, Eugene OR
2000 - 2009	Geomorphologist/Engineering Geologist, California Water Quality Control Board, Oakland CA, (variable time)
2000 - 2005	River Science Coordinator, California Bay Delta Program (CALFED) Science Program, Sacramento CA (variable time)
1999 - 2000	Fluvial Geomorphologist, Urban Creeks Council, Berkeley CA
1994 - 1999	Engineering Geologist/Environmental Specialist, California Water Quality Control Board, Oakland CA

SELECTED HONORS AND AWARDS

2015	National Science Foundation EAR Postdoctoral Research Fellow, 2015-2017
2015	Thayer Geomorphology Award, Department of Geological Sciences, University of Oregon
2014	Service Award, Department of Geological Sciences, University of Oregon
2012	Critical Zone Observatory International Scholar, NSF-International Programs-Europe
2009	Weiser Scholarship, Department of Geosciences, University of Oregon
2008	SFSU Graduate Student Representative to CSU-wide research competition
2007	National Center for Airborne Laser Mapping, Graduate Student Seed LiDAR
2007	Outstanding Student Presentation Award, American Geophysical Union Fall Meeting
2007	National Fish and Wildlife Foundation, Budweiser Conservation Scholarship

PEER-REVIEWED PUBLICATIONS

Marshall, J. A., J.J. Roering, P.J. Bartlein, D.G. Gavin, D.E. Granger, A.W. Rempel, S. Praskievicz, T.C. Hales, (*in press*), Seeing frost for the trees: Did climate increase erosion in unglaciated landscapes during the Late Pleistocene? *Science Advances.*

Harpold, A.A., **J.A. Marshall,** S.W. Lyon, T.B. Barnhart, B.A. Fisher, M. Donovan, K. M. Brubaker, . . . N. West. (2015) Laser vision: lidar as a transformative tool to advance critical zone science: Hydrology and Earth System Sciences, v. 19, p. 2881–2897, doi: 10.5194/hess-19-2881-2015.

Marshall, J.A., and J.J. Roering (2014), Diagenetic variation in the Oregon Coast Range: Implications for rock strength, soil production, hillslope form, and landscape evolution, *Journal of Geophysical Research - Earth Surface*, 119, 1395–1417, doi: 10.1002/2013JF003004.

Roering, J.J., B.H. Mackey, **J.A. Marshall**, K. Sweeney, A.M. Booth, N. Deligne, A.M. Handwerger, and C. Cerovski-Darriau, (2013), 'You are HERE': Connecting the dots with airborne lidar for geomorphic fieldwork, *Geomorphology*, 2012 Binghamton Symposium, "The Field Tradition in Geomorphology", doi: 10.10106/j.geomorph.2013.04.009.

Marshall, J.A. and L.S. Sklar (2012), Mining soil databases for landscape-scale patterns in the abundance and size distribution of hillslope rock fragments, *Earth Surface Processes and Landforms, 37(3), 287-300,* doi: 10.1002/esp.2241.

Roering, J**., J. Marshall,** A.M. Booth, M. Mort, and Q. Jin (2010), Evidence for biotic controls on topography and soil production, *Earth and Planetary Science Letters, v. 298,* p. 183-190, doi: 10.1016/j.epsl.2010.07.040.
(Awarded the G.K. Gilbert Award for Excellence in Geomorphic Research, American Assoc. of Geographers, 2011)

CHAPTERS IN BOOKS

Marshall, J. A., P. DeVries, and N. Milner (2008), *Spawning habitat remediation as part of national and regional scale programs to recover declining salmonid populations*.(pp 275 – 300), *in* Salmon spawning habitat in rivers: physical controls, biological responses and approaches to remediation, edited by P. DeVries and D. Sears, American Fisheries Society, Symposium 65. Bethesda, MD.

OTHER PUBLICATIONS

Harpold, A.A., S.W. Lyon, and **J.A. Marshall**. Using lidar to advance critical zone science. Meeting Notes. Eos. October 2014

Marshall J. (2003)*, Moving from the past into the future: a functional approach for protecting California streams*. *in* P.M. Faber (ed.) California riparian systems: Processes and floodplain management, ecology, and restoration (pp. 158-162). Riparian Habitat and Floodplains Conference Proceedings, Riparian Habitat Joint Venture, Sacramento

SELECTED CONFERENCE ABSTRACTS

Marshall, J. A., J.J. Roering, P. J. Bartlein, S. Praskievicz, D. C. Gavin, T. C. Hales, D.E. Granger (2014), Does Temperature (Rather Than Precipitation) Dictate the Geomorphic Legacy of Glacial Intervals in Unglaciated Mid-Latitude Terrains?**,** *Eos*, American Geophysical Union Fall Meeting, San Francisco, Abstract EP14B-08.

Marshall, J. A., J.J. Roering, D.E. Granger, D. C. Gavin (2013), A 50-ky record of climate, ecosystem, and erosion rate change in the Oregon Coast Range, *Eos* ,American Geophysical Union Fall Meeting, San Francisco, Abstract EP41C-0807.

Marshall, J. A., J.J. Roering, S. Praskievicz; T. C. Hales, D. C. Gavin, P. J. Bartlein, (2012), Temperature Controls On Sediment Production In The Oregon Coast Range - Abiotic Frost-Cracking Processes Vs. Biotic-Dominated Processes Over The Last 40 Ka, *Eos,* American Geophysical Union Fall Meeting, San Francisco, Abstract EP44C-02

Cerovski-Darriau, C., **J. A. Marshall**, J. J., (2012), Roering, Shake, rattle and roll - tectonic and lithologic controls on sediment production in the Oregon Coast Range, GeoPRISMS Earthscope Planning Workshop for the Cascadia Primary Site.

Marshall, J. A., J.J. Roering, R.J. Dorsey, (2011), Geomorphic implications of resistant bedrock in the 'uniform' sandstone beds of the Tyee Formation, Oregon Coast Range, *Eos,* American Geophysical Union Fall Meeting, San Francisco, Abstract EP34C-0699.

Marshall, J. A, and J.J. Roering, (2010), Erosion rates, stochasticity, and abiotic vs. biotic bedrock to soil production mechanisms in the Oregon Coast Range, *Eos,* American Geophysical Union Fall Meeting, Abstract EP21B-0749.

Marshall, J. A., L.S. Sklar, C.S. Riebe, (2010), Effects of Elevation, climate and erosion on hillslope rock fragment distribution and abundance in diverse settings, Goldschmidt Conference, Abstract 14b/257

Marshall, J. A., M. Attal, L.S. Sklar, C.S. Riebe, M.D, Hurst, S.M. Mudd, K. Yoo, (2009), The effect of erosion rate on hillslope rock fragment production: implications for supply of bedload material to channels, *Eos,* American Geophysical Union Fall Meeting, San Francisco, Abstract EP51B-0594.

Riebe, C.S., **J.A. Marshall,** L.S. Sklar, D.E. Granger, (2008), Characterizing sediment supply to rivers: effects of lithology, climate, weathering and erosion on rock-fragment abundance in granitic, hillslope soils, *Eos,* American Geophysical Union Fall Meeting, Abstract H43F-1071.

Marshall, J.A. and L.S. Sklar, (2007), Mining soil survey databases to explore lithologic, climatic and topographic controls on hillslope production of bedload-sized rock fragments, *Eos,* American Geophysical Union Fall Meeting, San Francisco, Abstract H41D-0758.

Sklar, L.S., N.J. Finnegan and **J.A. Marshall**, (2007), Climatic, tectonic and lithologic controls on the size distribution of sediments supplied to channels: implications for transient evolution of bedrock river profiles, *Eos,* American Geophysical Union Fall Meeting, San Francisco, Abstract H41D-0757.

Marshall J.A., (2004), Adaptive Management, Interdisciplinary Science and Restoring Large-Scale Riverine Habitats: A California Perspective, *River Management Society* 2004 Symposium, Tahoe City, CA

Marshall J.A., (2003), If you build it, will they come? Lessons learned and a look into the future of restoration design, *American Fisheries Society*, Spawning Habitat Symposium, Quebec City, Canada.

INVIATED TALKS

2015: Oregon State University, NSF Science Across Virtual Institutes Workshop: Exploring Four Critical Puzzles about Trees, Water, and Soil: A Vision for Research (Pennsylvania State University), East Bay Science Café (Albany, CA)

2013: Siuslaw Watershed Council (Blachly, OR)

2012: Siuslaw Watershed Council (Blachly, OR)

TEACHING

COURSES DESIGNED AND TAUGHT AT THE UNIVERSITY OF OREGON

BioEcoClimoGeo-ology- exploring the interplay between life and physical processes (600-level)
12 graduate student cross-disciplinary seminar course drawing on the combined expertise of upper level graduate students from a broad range of disciplines including ecology, hydrology, paleoclimatology, anthropology and geomorphology. Coordinated and led discussion sections and a weekend retreat designed to progress from understanding the tools and quantitative frameworks within each discipline, to reviewing and identifying cross-discipline critical uncertainties, to developing integrative, tractable research questions.

Hydrogeology (Lab Component) (300-level)
20+ undergraduate course complimenting the lecture component. Developed the complete course curriculum including building both simple and complex physical groundwater models and developing a series of laboratory exercises that alternated between physical and computer simulations with quantitative components covering simple groundwater flow paths, aquifer and aquitard characteristics to more complex contaminant transport.

COURSES AS A TEACHING ASSISTANT AT THE UNIVERSITY OF OREGON

Introduction to Geology, Environmental Geology of Oregon (non-major survey class), Geology of the Pacific Northwest (upper-level non-major class), Hydrogeology (upper-level major class, responsible for developing complete lab component including a mix of physical and computer models), Hillslope Geomorphology (upper- and graduate-level course) Environmental Data Analysis (upper- and graduate-level statistics course)

SHORT COURSES

The Next Generation of LiDAR Analysis For Critical Zone Research – Scaling Approaches (Stockholm University, April 2014)

NSF Community Workshop: The Next Generation of LiDAR Analysis for Critical Zone Research (Boulder, Colorado, May 2014)

SELECTED WORKSHOPS and SPECIALIZED COURSES

2015 Sino-US Critical Zone Workshop, China
2013 NCED Summer Institute on Earth-System Dynamics, Minneapolis, MN
2013 SoilTrEC Workshop Land-Use Practice And Sustainable Use Of Soil, Iceland
2012 GeoPRISMS EarthScope Planning Workshop for the Cascadia Primary Site, Portland, OR
2008 SoilCritZone Workshop, a joint NSF/ SoilTrEC Workshop workshop, Crete, Greece
2008 Studying Earth Surface Processes with High-Resolution Topographic Data Workshop, Boulder, CO
2008 UNAVCO Short Course Processing and Analysis of GeoEarthscope and Other Community LiDAR Topography Datasets, Tempe, AZ

SYNERGISTIC and PROFESSIONAL ACTIVITIES

Serve on the Critical Zone Graduate Research Group Executive Board (2013-present). As a group, we identified the Critical Zone Observatory datasets that are currently most useful for cross-site research and produced a white paper on cross-CZO research potential http://criticalzone.org/national/publications/pub/grg-cross-site-white-paper-graduate-research-group-white-paper-cross-czo-re/.

Mentored six undergraduate students while at the University of Oregon. Two of the students were summer interns from community colleges selected for the UCORE Program (Undergraduate Catalytic Outreach and Research Experiences). Under my guidance, they spent the summer developing and testing hypotheses on individual projects, analyzed data and presented their research to peers and advisors. The program is directed towards ensuring future success in STEM programs when the students transfer to a 4-year university. I also mentored two UO students conducting research on topics ranging from fluvial geomorphology to bio-geomorphology.

Reviewer: Journal of Geophysical Research, Earth Surface Process and Landforms, NSF - Geomorphology and Land-use Dynamics

Convener, Earth and Planetary Surface Processes, American Geophysical Union,

2015 Mechanistic underpinnings of damage, disruption, and downslope transport of rock and regolith, with Katy Barnhart, T.C. Hales and Greg Stock

2014 From rock to rolling regolith: Advances in hillslope geomorphology, with Ken Ferrier and Kristin Sweeney

2012 Rock to sediment: Biotic, lithologic, and climatic controls on regolith production, mixing and transport, with Kyungsoo Yoo and Jean L. Dixon

PROFESSIONAL SOCIETIES

American Geophysical Union
Geological Society of America