

Eric Kirby

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Employment History:

Academic Appointments

2020 – Professor – University of North Carolina, Chapel Hill
2013 – 2020: R.S. Yeats Chair in Earthquake Geology and Active Tectonics, Oregon State University
2017 – 2020: Professor – Oregon State University
2013 – 2017: Associate Professor – Oregon State University
2008 – 2013: Associate Professor – The Pennsylvania State University
2002 – 2008: Assistant Professor – The Pennsylvania State University
2001 – 2002: NSF Postdoctoral Fellow – UCSB (Dr. Douglas W. Burbank)

Administrative Appointments

2021 – Chair – Department of Earth, Marine and Environmental Sciences, UNC
2017 – 2020: Associate Dean for Academic Programs, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University

Visiting Appointments:

2014 – Guest Professor – China Earthquake Administration, Beijing
2016 – Adjunct Faculty – Dalhousie University
2010 – 2011: Humboldt Fellow – University of Potsdam, Germany

Education:

B.A. 1992 Geology Hamilton College (with honors, Magna Cum Laude)
M.S. 1994 Geology University of New Mexico (with distinction)
Ph.D. 2001 Geology Massachusetts Institute of Technology (Advisors: B.C. Burchfiel, Kelin X Whipple)

Research Experience:

My research seeks to elucidate the interplay between climate, erosion, and tectonics during the growth and decay of mountain ranges. The scope of current research interests include: 1) evolution active fault systems and the records of past earthquakes; 2) the evolution of topography along convergent margins, 3) fluvial adjustment to spatial and temporal variations in rock uplift; 4) the coupling between mantle flow, surface deformation and surface processes; 5) the growth of the Tibetan Plateau and its connections to climate; and 6) the coupling among hydrology, soil erosion, and landscape evolution. In pursuit of these questions, I have:

Directed and led over 30 field expeditions Central Asia, Tibet, SE Asia, North America, and Japan.

Secured and managed ~ \$4.9 M in external funding (NSF, NASA, USGS, DOD, NOAA).

Published >90 peer-reviewed manuscripts and book chapters (Google Scholar H-index 46).

Advised 4 postdoctoral researchers, 8 Ph.D. students, 13 M.S. students, and 10 B.S. student theses.

Co-supervised research by 12 foreign scholars.

Recent and Key Publications:

*Tian, Q., Kirby, E., Zheng, W., Zhang, H., Liang, H., Li, Z., Wang, W., Li, T., Zhang, Y., Xi, B., and Zhang, P., 2021, Late Quaternary variations in paleoerosion rates in the Qilian Shan revealed by ^{10}Be in fluvial terraces: *Geomorphology*, v. 386.

*West, N., Kirby, E., Nyblade, A., and Brantley, S., 2019, Climate preconditions the Critical Zone: Elucidating the role of subsurface fractures in the evolution of asymmetric topography: *Earth and Planetary Science Letters*, v. 513, pp. 197-205.

*Shi, X., Kirby, E., Furlong, K.P., Meng, K., Robinson, R., Lu, H., and Wang, E., 2017, Rapid and punctuated Late Holocene recession of Siling Co, central Tibet: *Quaternary Science Reviews*, v. 172, p.15-31.

- Zhang, H., **Kirby, E.**, Pitlick, J., Anderson, R.S., and Zhang, P., 2017, Transient geomorphic response to base level fall in the northeastern Tibetan Plateau: *Journal of Geophysical Research – Earth Surface*, v. 122, p. 546-572.
- *Shi, X., **Kirby, E.**, Lu, H., Robinson, R., Furlong, K.P., and Wang, E., 2014, Holocene slip rate along the Gyaring Co Fault, central Tibet: *Geophysical Research Letters*, v. 41, p. 5829 – 5837.
- *West, N., **Kirby, E.**, Bierman, P.R., and Clarke, B.A., 2014, Aspect-dependent variations in regolith creep revealed by meteoric ¹⁰Be: *Geology*, v.42, p. 507 - 510.
- Kirby, E.** and Whipple, K. X, 2012, Expression of active tectonics in erosional landscapes: *Journal of Structural Geology*, v. 44, p. 54-75.
- Wang, E., **Kirby, E.**, Furlong, K., van Soest, M., Xu, G., Shi, X., Kamp, P., and Hodges, K., 2012, Two-phase growth of high topography in eastern Tibet during the Cenozoic: *Nature Geoscience*, v. 5, p. 640-645.
- Hu, X., **Kirby, E.**, Pan, B., Granger, D., and Su, H., 2011, Cosmogenic burial ages reveal sediment reservoir dynamics along the Yellow River, China: *Geology*, v. 39, no. 9, p. 839-842.
- *Harkins, N., **Kirby, E.**, Heimsath, A., Robinson, R., and Reiser, U., Transient fluvial incision in the headwaters of the Yellow River, northeastern Tibet, China: *Journal of Geophysical Research, Earth Surface*, 112, F03S04, doi:10.1029/2006JF000570.
- *Numelin, T., **Kirby, E.**, Walker, J.D., and Didericksen, B., 2007, Late Pleistocene slip on a low-angle normal fault, Searles Valley, California: *Geosphere*, 3, pg. 163-176, doi: 10.1130/GES00052.1.
- Kirby, E.**, Harkins, N., Wang, E., and Burbank, D., 2007, Slip rate gradients on the eastern Kunlun Fault: *Tectonics*, 26, TC2010, doi:10.1029/2006TC002033.
- *Duvall, A., **Kirby, E.**, and Burbank, D., Tectonic and lithologic controls on channel profiles and processes in coastal California: *Journal of Geophysical Research: Earth Surface*, v. 109, F03002, doi:10.1029/2003JF000086.
- Kirby, E.** and Whipple, K.X., 2001, Quantifying differential rock-uplift rates via stream profile analysis: *Geology*, v. 29, pp. 415-418.
- Whipple, K.X., **Kirby, E.** and Brocklehurst, S.H., 1999, Geomorphic limits to climatically induced increases in topographic relief: *Nature*, v. 401, pp. 39-43.
- * denotes student author

Honors and Awards:

Fellow, Geological Society of America: 2014
 Alexander Von Humboldt Research Fellow: 2010 – 2013
 NSF Earth Sciences Postdoctoral Fellow: 2001 – 2002
 Phi Beta Kappa, 1992
 Sigma Xi, 1992

Memberships:

American Geophysical Union
 Geological Society of America
 Seismological Society of America
 National Association of Geoscience Teachers