

CURRICULUM VITAE

Brian J. Yanites

Department of Earth and Atmospheric Sciences
Indiana University
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Education

2002 B.A. with honors, Earth and Planetary Sciences, Washington University in St. Louis
2005 M.S. Geosciences, University of Arizona
2009 Ph.D. Geological Sciences, University of Colorado

Employment

1999-2002 Undergraduate Research Assistant for Michael Wyssession, Department of Earth and Planetary Sciences, Washington University
2002-2005 Graduate Teaching Assistant, Department of Geosciences, University of Arizona
2003-2005 Student Appointment Hydrologic Technician, United States Geological Survey.
2005-2006 Graduate Teaching Assistant, Department of Geological Sciences, University of Colorado
2006-2009 NDSEG Fellow
2009-2012 Post-Doctoral Research Fellow, University of Michigan and University of Tübingen, Germany
2013-2106 Assistant Professor, Department of Geological Sciences, University of Idaho
2016-present Assistant Professor, Department of Geological Sciences, Indiana University

Publications

- Yanites, B.J. 2018. The dynamics of channel slope, width, and sediment in actively eroding bedrock river systems. *Journal of Geophysical Research: Earth Surface* 123. <https://doi.org/10.1029/2017JF004405>
- Yanites, B.J., Mitchell, N.A., Bregy, J.C., Carlson, G.A., Cataldo, K., Holahan, M., Johnston, G.H., Nelson, A., Valenza, J. and Wanker, M. 2018. Landslides control the spatial and temporal variation of channel width in southern Taiwan: Implications for landscape evolution and cascading hazards in steep, tectonically active landscapes. *Earth Surface Processes and Landforms*. <https://doi.org/10.1002/esp.4353>
- Fremier, A.K., Yanites, B.J. and Yager, E.M. 2018. Sex that moves mountains: The influence of spawning fish on river profiles over geologic timescales. *Geomorphology*, <https://doi.org/10.1016/j.geomorph.2017.09.033>.
- Dhingra, R.D., Barnes, J.W., Yanites, B.J., and Kirk, R.L. 2018. Large catchment area recharges Titan's Ontario Lacus. *Icarus* 299:331-338. <https://doi.org/10.1016/j.icarus.2017.08.009>.
- Yanites, B.J., Becker, J.K., Madritsch, H., Schnellmann, M., and Ehlers, T.A. 2017. Lithologic effects on landscape response to base level changes: a modeling study in the context of the eastern Jura Mountains, Switzerland. *Journal of Geophysical Research: Earth Surface* 122. <https://doi.org/10.1002/2016JF004101>.
- Badgley, C., Smiley, T.M., Davis, E.B., DeSantis, L.R.G., Fox, D.L., Hopkins, S.B., Jezkova, T., Matocq, M.D., Matzke, N., McGuire, J.L., Mulch, A., Riddle, B.R., Roth, V.L., Samuels, J.X., Stromberg, C.A.E., Terry, R., and Yanites, B.J. 2017. Biodiversity and Topographic Complexity: Modern and Geohistorical Perspectives. *Trends in Ecology & Evolution*. 32(3): 211-226. <https://doi.org/10.1016/j.tree.2016.12.010>
- Yanites, B.J. and Ehlers, T.A. 2016. Intermittent glacial sliding velocities explain long-timescale variations in denudation, SW British Columbia., *Earth and Planetary Science Letters*. <https://doi.org/10.1016/j.epsl.2016.06.022>
- Forte, A.M., Yanites, B.J., and Whipple, K.X. 2016. Complexities of landscape evolution during incision through layered stratigraphy with contrasts in rock strength. *Earth Surf. Process. Landforms*. <https://onlinelibrary.wiley.com/doi/abs/10.1002/esp.3947>
- Ehlers, T.A., Szameitat, A., Enkelmann, E., Yanites, B.J., and Woodsworth, G.J. 2015. Identifying spatial variations in glacial catchment erosion with detrital thermochronology, *J. Geophys. Res. Earth Surf.* 120. <https://doi.org/10.1002/2014JF003432>.
- Yanites, B.J. and Kesler, S.E. 2015. A climate signal in exhumation patterns revealed by porphyry copper deposits. *Nature Geoscience* 8(6):462-465.
- Jeffery, M.L., Yanites, B.J., Poulsen, C.J., and Ehlers, T.A. 2014. Vegetation-precipitation controls on Central Andean topography. *J. Geophys. Res. Earth Surf.* 119. <https://dx.doi.org/10.1002/2013JF002919>
- Wilcox, T., Mueller, K., Upton, P., Powell, L.K., Chen, Y.G., Huang, S.T., Yanites, B.J., and Tucker, G. 2013. Structural inheritance and erosional controls on thrust kinematics in western Taiwan. *Geosphere*. <https://doi.org/10.1130/GES00819.1>

- Yanites, B.J.**, Ehlers, T.A., Becker, J.E., Schnellman, M., and Heuberger, S. 2013. High magnitude and rapid incision from river capture: Rhine River, Switzerland. *J. Geophys. Res. Earth Surf.* 118. <https://doi.org/10.1002/jgrf.20056>
- Jeffery, M.L., Ehlers, T.A., **Yanites, B.J.**, and Poulsen, C.J. 2013. Quantifying the role of paleoclimate and Andean Plateau uplift on river incision, *J. Geophys. Res. Earth Surf.* 40. <https://doi.org/10.1002/jgrf.20055>
- Yanites, B.J.**, and Ehlers, T.A. 2012. Global climate and tectonic controls on the denudation of glaciated mountains, *Earth and Planetary Science Letters* 325-326: 63-75. <https://doi.org/10.1016/j.epsl.2012.01.030>
- Yanites, B.J.**, Tucker, G.E., Hsu, H.L., Chen, C.C., Chen, Y.G., Mueller, K.J. 2011. The influence of sediment cover variability on long term incision rates: an example from the Peikang River, central Taiwan, *JGR-Earth Surface* 116: F03016. <https://doi.org/10.1029/2010JF001933>
- Wilcox, T., Mueller, K., Upton, P., Chen, Y.G., Huang, S.-T., **Yanites, B.**, and Tucker, G. 2011. Linking Taiwan's Subcritical Hsueshan Range Topography and Foreland Basin Architecture. *Tectonics* 30: TC4011. <http://doi.org/10.1029/2010TC002825>
- Yanites, B.J.**, and Tucker, G.E. 2010. Controls and limits on bedrock channel geometry, *J. Geophys. Res.*, 115, F04019. <https://doi.org/10.1029/2009JF001601>.
*Highlighted as "Research Spotlight" in EOS: <https://doi.org/10.1029/2011EO050011>
- Yanites, B.J.**, Tucker, G.E., Mueller, K.J., and Chen, Y.G. 2010. How rivers react to large earthquakes: evidence from central Taiwan. *Geology* 38(7): 639-642. <https://doi.org/10.1130/G30883.1>
- Yanites, B.J.**, Tucker, G.E., Mueller, K.J., Chen, Y.G., Wilcox, T., Huang, S.Y., and Shi, K.W. 2010. Incision and channel morphology across active structures along the Peikang River, central Taiwan: Implications for the importance of channel width. *GSA-Bulletin* 122(7-8): 1192-1208. <https://doi.org/10.1130/B30035.1>
- Hsu, H.L., **Yanites, B.J.**, Chen, C.C., and Chen, Y.G. 2010. Bedrock detection using 2D electrical resistivity imaging along the Peikang River, central Taiwan. *Geomorphology* 114(3): 406-414. <https://doi.org/10.1016/j.geomorph.2009.08.004>
- Yanites B.J.**, Tucker, G.E., and Anderson, R.S. 2009. Numerical and analytical models of cosmogenic radionuclide dynamics in landslide-dominated drainage basins. *J. Geophys. Res.* 114: F01007. <https://doi.org/10.1029/2008JF001088>
- Pelletier, J.D., DeLong, S., Al Suwaidi, A.H., Cline, M., Lewis, Y., Psillas, J.L., and **Yanites, B.** 2006. Evolution of the Bonneville shoreline scarp in west-central Utah: Comparison of scarp-analysis methods and implications for the diffusion model of hillslope evolution. *Geomorphology* 74:1-4. <https://doi.org/10.1016/j.geomorph.2005.08.008>
- Yanites B.J.**, Webb, R.H., Griffiths, P.G., and Magirl, C.S. 2006. Debris flow deposition and reworking by the Colorado River in Grand Canyon, Arizona, *Water Resources Research* 42: W11411. <https://doi.org/10.1029/2005WR004847>. *AGU Editor's Choice Article
- Norman, L.M., Gishey, M., Gass, L., **Yanites, B.**, Pfeifer, E., Simms, R., and Ahlbrant, R. 2006. Processed 1938 Aerial Photography for Selected Areas of the Lower Colorado River, Southwestern United States: U.S. Geological Survey Open File Report 2006-1141.

Publications in review or preparation

Sorensen, C.S. and **Yanites, B.J.**, (in revision, *JGR-Earth Surface*) Latitudinal controls on topography: the role of precipitation and fluvial erosion

Larimer, J.E. and **Yanites, B.J.**, (in prep, *Geology*) Late Miocene incision of the Salmon River: Implications for the driving mechanism of topographic evolution of the Inland Northwest.

Funding

Active

NSF, "Collaborative Research: Quantifying Paleotopography and Paleoclimate to Test Geodynamic Models in the Peruvian Andes", 2016-2019, (co-PI, Yanites portion, \$141k, subcontract from U. of Idaho)

DoD-ARO, "Quantifying Rock Strength from River Channel Morphology", July 15, 2015-July 15, 2018. (PI, Funded: \$359,219)

Past

NSF, "Linking erosional and climatic processes in regions of active mountain building", 2013-2016 (PI, Funded: \$162,891.00). No cost extension through 2017

NSF, "Idaho EPSCOR MILES: Quantifying the history of sediment supply to Fernan Lake", Jan., 15, 2015-Aug 31, 2016, (Science-I, \$67,748)

University of Idaho's Office of Research and Economic Development Seed Grant, "Quantifying landscape evolution along the Salmon River, central Idaho", 2013-2014 (PI, \$11,135)

Nagra (National Cooperative for the Disposal of Radioactive Waste), Switzerland, 2010-2012, "Landscape Evolution of Northern Switzerland (LENS)" (Science-I, w/ Todd Ehlers, Funded: 161,800 € University of Tübingen).

National Defense Science and Engineering Graduate (NDSEG) Fellowship, 2006-2009, Annual stipend, tuition, health insurance (Funded: total award: \$120,000).

NSF, East Asia and Pacific Summer Institutes for U.S. Graduate Students, Summer 2006, (Funded: Stipend, airfare to Taiwan).

Invited Lectures

FACET Workshop, Taipei, Taiwan, Spring 2015

Oregon State University, Spring 2015

Boise State University, Fall 2014

Utah State University, Fall 2014

GSA Annual Meeting, Fall 2014

University of Montana, Spring 2014

University of Idaho, Geography, Spring 2014

Eastern Washington University, Spring 2013

Central Washington University, Spring 2013

University of Idaho, Spring 2013

Tulane University, Fall 2011

University of Michigan, Smith Lecture, Fall 2010

AGU Annual Meeting, Fall 2010

Posters and Talks(*)

Weber, R.C., Nahm, A.L., **Yanites, B.J.**, and Scherr, N. 2016. Mass wasting on the moon: implications for seismicity. New Views of the Moon Conference, Houston, TX.

Fisher, D., **Yanites, B.J.**, Duvall, A., and Yeh, E.C. 2015. Subhorizontal stretching, oblique collision, and landscape evolution in the Central Range of Taiwan Abstract T32B-03. Presented at 2015 Fall Meeting, AGU, San Francisco, Calif.

Dhingra, R.D., Barnes, J.W., **Yanites, B.J.**, and Kirk, R.L. 2015. Hydrology-based understanding of Ontario Lacus on the South Pole of Titan, *47th Division for Planetary Sciences*, Accepted for Oral presentation

Larimer, J.E. and **Yanites, B.J.** 2014. Quantifying transient incision to determine the timing and style of baselevel change in central Idaho. *Geological Society of America Abstracts with Programs*. Vol. 46 no. 6, p.729.

***Yanites, B.J.**, 2014. (*INVITED*) From mountains to molehills: Advances in quantifying changes in topography and its implications for habitat fragmentation and connectivity. *Geological Society of America Abstracts with Programs*. Vol. 46 no. 6, p.703.

*Forte, A.M., Whipple, K.X., and **Yanites, B.J.**, 2014. Influence of Rock Strength on Landscape Evolution and Sediment Provenance Records. Abstract EP11C-04. Presented at 2014 Fall Meeting, AGU, San Francisco, Calif.

Larimer, J.E. and **Yanites, B.J.** Quantifying transient incision to determine the timing and style of baselevel change in central Idaho. EP53A-3593, Presented at 2014 Fall Meeting, AGU, San Francisco, Calif.

Sorensen, C. and **Yanites, B.J.** Latitudinal Controls on Topography: The Role of Precipitation and Fluvial Erosion. EP53A-3587, Presented at 2014 Fall Meeting, AGU, San Francisco, Calif.

Yanites, B.J. and Kesler, S.E. 2013. Patterns of orogenic erosion constrained by porphyry copper deposits, *Geological Society of America Abstracts with Programs*. Vol. 45, no. 7, p.548

Yanites, B.J. 2013. Quantifying the role of channel width in transient bedrock river evolution over geologic timescales. Abstract EP33A-0861 presented at 2013 Fall Meeting, AGU, San Francisco, Calif.

*Insel, N., **Yanites, B.J.**, Malone, A., Lowell, T.V., Pierrehumbert, R. 2012. Temperature changes derived from the extent of the tropical Quelccaya ice cap, Peru. Abstract C43E-03 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

*Ehlers, T.A., Enkelmann, E., and **Yanites, B.J.** 2012. Observational and Model Constraints on Glacial Erosion. Abstract EP51F-05 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

- ***Yanites, B.J.**, and Ehlers, T.A. 2012. Influence of variable lithology on landscape evolution. Abstract EP44A-05 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Jeffrey, M.L., Poulsen, C.J., Ehlers, T.A., and **Yanites, B.J.** 2012. Precipitation intensity and vegetation controls on geomorphology of the central Andes. Abstract GC22C-07 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- ***Yanites, B.J.** and Ehlers, T.A. 2011. The Impact of Drainage Reorganization on Cenozoic Topography, Abstract T24C-03 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- ***Yanites, B.J.**, Ehlers, T.A., and Woodsworth, G.J. 2010. Quantifying glacial landscape processes with numerical modeling and thermochronology, Abstract EP52A-02 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.
- Yanites, B.J.** and Ehlers, T.A. 2010. Influence of Glacial-Interglacial Cycles on the Erosion of Orogens, *Geophysical Research Abstracts*, Vol. 12, EGU 2010-9278
- Tucker, G.E. and **Yanites, B.J.** 2010. Lessons from rapidly changing landscapes. Landscapes into Rock, Geolocial Society of London William Smith Meeting.
- ***Yanites, B.J.** and Tucker, G.E., Hsu, H.L., Chen, C.C., Chen Y.G., Mueller, K., Wilcox, T. 2009. Seismically induced changes in bedrock erosional efficiency along the Peikang River, central Taiwan: the role of sediment cover variability in controlling long-term incision rates. *Geophysical Research Abstracts*, Vol. 11, EGU General Assembly, 2009-6263.
- ***Yanites, B.J.**, Tucker, G.E., Hsu, H.L., Chen, C.C., Chen Y.G. Mueller, K., and Wilcox, T. 2008. Variability in hillslope sediment flux modulates bedrock channel incision rates: evidence from the Peikang River, central Taiwan. *Eos Trans., AGU, 89(52)*, Fall Meet. Suppl., Abstract H54D-06.
- Yanites, B.J., Tucker, G.E., Mueller, K., Wilcox, T., Chen, Y. (2007) Structural controls on channel geometry and dynamics in the Peikang River, Central Taiwan. *Eos Trans., AGU, 88(52)*, Fall Meet. Suppl., Abstract H41D-0762.
- ***Yanites, B.J.**, Tucker, G.E., Mueller, K., Wilcox, T., and Chen, Y. 2007. Channel dynamics in a critical wedge: deformation, hydraulic geometry, and stream incision patterns along the Peikang River, Central Taiwan. *Geological Society of America, Abstracts with Programs*, Vol. 39, No. 6, p. 263.
- Upton, P., Mueller, K., Tucker, G., Wilcox, T., and **Yanites, B.** 2006. Do higher erosion rates lead to topographic highs or lows? An example from the Puli Embayment, West-Central Taiwan. *Eos Trans. AGU, 87(52)*, Fall Meet. Suppl., Abstract T24B-07.
- Yanites, B.J.**, Tucker, G.E., and Anderson, R.S. 2006. Estimating basin-averaged erosion rates from cosmogenic nuclide concentrations in sediment from landslide-dominated drainage basins. *Eos Trans. AGU, 87(52)*, Fall Meet. Suppl., Abstract H13E-1442.
- Yanites, B.J.**, Webb, R.H., Griffiths, P.G., and Magirl, C. 2005. Remote Sensing of debris flow deposition and reworking by the Colorado River in Grand Canyon, Arizona. *Eos Trans. AGU, 86(52)*, Fall Meet. Suppl. Abstract H43C-0511
- Norman, L.M., Webb, R.H., Gass, L., **Yanites, B.**, Howard, K., Pfeifer, E., and Beard, L. S. 2004. Geospatial analysis of changes in river-channel position and riparian vegetation of the Lower Colorado River [abs.]: Geological Society of America Denver Annual Meeting, November 7–10,2004, paper no. 218-9.

Synergistic and miscellaneous

University of Idaho

Department Curriculum Committee (2014-2015)

College of Science Faculty Council, Department rep (2014-2016)

U. of Idaho Office of Research and Economic Development Seed Grant Panel (2014)

University of Michigan

Research adviser for J Amelie Chenet-Smith, undergraduate (2011-2012)

Independent study supervisor for Rachel Sorter, Master Student

Organized seminar ‘Climate and geomorphology’, University of Michigan, Spring and Fall 2011

University of Colorado

Graduate student mentor program committee, 2008

Graduate student representative to the graduate curriculum committee, University of Colorado, 2007

Scientific community

Co-organizer of NSF sponsored FACET workshop in Taipei, Taiwan (Spring 2015)

Editorial Board, *Geology*, 2013-2015

Reviewer for: *Journal of Geophysical Research-Earth Surface*, *Geology*, *Earth and Planetary Science Letters*, *GRL (Geophysical Research Letters)*, *Earth Surface Processes and Landforms*, *Geomorphology*, *Quaternary Research*, *Lithosphere*, *Geosphere*, *Tectonics*, *GSA-Bulletin*, *PNAS*, *Nature*, *Nature Geoscience*, and *Science*

Proposal reviews for: NSF: *Geomorphology and Land-Use Dynamics*, *Tectonics*, *Earthscope*, *FESD*, *Hydrologic Sciences*, and *Marine Geology/Geophysics*. *Petroleum Research Fund*. *DFG (German national science organization)*. *DoD-Army Research Office*, *M.J. Murdock Charitable Trust*.

Panel Member, NSF EAPSI, 2014-15

Member and contributor to *Community Surface Dynamics Modeling System (CSDMS)*, *Terrestrial Working Group*

Member of the NESCENT working group on landscape history and mammal evolution

Member AGU, GSA, NAGT

Courses

University of Idaho

[Overall course and instructor rating is shown for classes in which >8 responses are recorded.

Rating is out of 4]

GEOL 101, Fall '13 and '15 [3.4 3.5], [3.4 3.6]

GEOL 335, Spring '14-'15 [3.9, 3.9], [3.7 3.7]

GEOL 504, Recent Geologic History of Idaho

GEOL 501, Advanced Geomorphology

University of Colorado (*instructor of record*)

GEOL 1030 Introduction to Geology 1 Lab (Fall, '05)

GEOL 1030 Introduction to Geology 1 Lab (Spring, '06)

University of Arizona (TA)

GEOS 218 Natural Disasters and Society (Fall '02)

GEOS 212 Oceanography (Spring '03, Fall '04)

GEOS 250 Physical Geology (Fall '03)

NATS 101 Geological Perspective (Spring '04)

GEOS 450/550 Geomorphology (Spring, '05)

Honors/Awards/Scholarships

University of Idaho

College of Science Advisory Board Fellowship, 2015-2018

College of Science Early-career faculty award, 2016

Washington University in St. Louis (undergraduate)

College Honors (Arts and Sciences)

Charles W. Buescher Memorial Scholarship

Assembly Series Committee

Omega Leadership Training

Arts and Sciences Scholar

Hewlett Program in Environmental Sustainability

Golden Key National Honor Society

Ohle Award given to the senior student with the most potential for a career in Earth and Planetary Sciences

University of Arizona (MS)

Bert S. Butler Scholarship, fall semester 2002

Maxwell N. Short, summer 2004

Sulzer Scholarship

Correspondence chair 2004 GeoDaze committee

University of Colorado (PhD)

Longley, Wahlstrom, Warner Graduate Student Award, Spring 2006

John D. Edwards Graduate student award, Spring 2007