June 25, 2016

PAUL R. BIERMAN

Department of Geology and
Rubenstein School of the Environment
and Natural Resources
University of Vermont
Burlington, VT 05405
(802) 656-4411

86 Brookes Avenue
Burlington, VT 05401
(802) 863-3609 (home)
(802) 656-0045 (fax)
(802) 238-6826 (cell)
pbierman@uvm.edu

http://uvm.edu/~pbierman

Research and Teaching Interests

Geomorphology, Geohydrology, Isotope and Low-temperature Geochemistry, Environmental Geology, Glacial Geology, Neotectonics, Surface Processes, Geoeducation, Geohazards, Science Writing, Public Outreach for Science

Academic Training

Ph.D., 1993, Geology, University of Washington, Seattle, WA with A. Gillespie
"*Cosmogenic Isotopes and the Evolution of Granitic Landforms*"
MS, 1990, Geology, University of Washington, Seattle, WA with A. Gillespie
"*Accuracy and Precision of Rock Varnish Cation Ratio Dating*"
BA, 1985, Geology and Environmental Studies, Williams College, Williamstown, MA
"*Deglaciation of Northwestern Massachusetts*," (cum laude and senior thesis)

Professional Experience

2002-present Professor University of Vermont, Geology Department and School of Natural Resources (secondary appointment) – have taught Geomorphology, Geohydrology, Geohazards, Regional Geology, Interdisciplinary Watershed Fieldcamp; Graduate seminars in Surface Processes, Environmental Geology, Neotectonics, Cosmogenic Isotopes, Critical Writing, First year Earth Hazards Seminar and lecture, and Introduction to Graduate Studies, on-line course in Vermont Landscape Change; advise 2 MS and 2 PhD students; direct cosmogenic isotope extraction lab and Landscape Change Program.

2000-2001 Course Designer Norwich University and VISMT, Web-based K-8 Earth Science Curriculum

1999-2002 Associate Professor University of Vermont, School of Natural Resources

1999-2002 Associate Professor University of Vermont, Geology Department

1994-present Faculty Leader, Governor's Institutes of Vermont, Science and Technology

1993-1998 Assistant Professor University of Vermont, Geology Department

1993 Invited Researcher University of Adelaide, Australia -- collaborated with R. Twidale studying granite landforms

1992-1993 Lecturer University of Washington -- developed and taught five-credit course in Geologic Hazards

1989-1992 Research Assistant University of Washington, Geology -- performed fieldwork, chemical, and isotopic analyses as part of MS and Ph.D. theses

1987-1989 Teaching Assistant University of Washington, Geology -- developed and taught laboratories: Introductory Geology, Geomorphology, Quaternary Environments, Hillslope Geomorphology

1985-1987 Hydrogeologist and Project Manager Alliance Technologies, Bedford, MA. --performed hydrologic and geologic fieldwork, interpreted geologic, hydrologic, and water quality data, wrote reports and proposals

1985-1987 Instructor Museum of Science, Boston -- developed and taught programs designed to encourage girls' participation in science

1984-1985 Teaching Assistant Williams College, Geomorphology and Photography

Honors and Accomplishments

Nominated for NSF Presidential Awards for Excellence in Science, Mathematics & Engineering Mentoring, Governors Institute of Vermont, 2011

Nominated as Faculty of the Year, National Society of Collegiate Scholars, 2006

Distinguished Teaching Scholar, Director's Award, National Science Foundation, 2005

Fellow, Center for Research on Vermont, 1998

CAREER award for integration of research and teaching, National Science Foundation, Hydrologic Sciences, 1997

PKAL Member, nominated 1997

National Science Foundation, Waterman Award, nominee, 1997

Donath Medal for Research Achievements as a Young Scientist, Geological Society of America, 1996

National Science Foundation, Presidential Faculty Fellowship nominee, 1995

U.S. Delegate, International Quaternary Union, Berlin, 1995

Faculty Fellowship, University of Washington, 1992

Fuller Fellowship, University of Washington, 1991

Honorable Mention, National Science Foundation Graduate Fellowship, 1987 and 1988

Nominated to Sigma Xi, 1985

Best Student Speaker, Vermont Geological Society Meeting, Middlebury, 1985

Honor and Accomplishments of Graduate Students

Ashley Corbett, NSF DDRI award, 2014
Ashley Corbett, NSF Graduate Fellow, 2009
Jane Duxbury, Association of Women Geoscientists' Chrysalis Scholarship, 2007
Eric Butler, GTF of the Year Award, 2003
Joanna Reuter, NSF Graduate Fellow, 2003
Kyle Nichols, Geological Society of America, Mackin Award, 2002
Kyle Nichols, Jonathon Davis Award, 2002
Sarah Brown, Geological Society of America, Howard Award, 2000
Sara Gran-Mitchell, NSF Graduate Fellow, 1999
Amy Church, Geological Society of America, Howard Award, 1995

Primary University-level Courses Taught

Earth Hazards – A means by which to increase the understanding of science and geologic fundamentals in a survey course for non majors. Structured using best practices for large courses including discussion sections and numerous in-class exercises, videos, and participatory demonstrations to kindle student interest. Enrollment 140 to 240 students.

Geomorphology – Field-based course for scientists at the 2nd- and 3^{d}-year levels that emphasizes understanding processes active on Earth's dynamic surface by collecting field data. Central to the course are semester-long small group research projects including the collection of primary data followed by written and oral presentations. Enrollment 20 to 30 students.

Graduate Seminars – A variety of seminars in which we read and critique papers of interest to Geology students and those in the Field Naturalist, Engineering, SNR, and Plant and Soil Science programs. During the Critical Writing seminar, students review both their own and faculty papers which are *in draft* and have yet to be submitted to journals. Enrollment 5 to 15 students (graduates and honors undergraduates).

Other Training and Skills

Designed and set-up clean lab isotope extraction laboratories for ^{36}Cl, ^{26}Al and ^{10}Be
Experienced operator, accelerator mass spectrometer, scanning electron microscope, electron microprobe, and ICP
LIDAR Processing and Analysis, Geological Society of America Short Course, 2007
Global Positioning Systems, Geological Society of America Short Course, 1996

Ground Water Flow and Contaminant Transport, Geological Society of America Short Course, 1986

Geology Field Camp, University of Montana, Bozeman, 1983

Williams College -- Mystic Seaport Program in Maritime Studies, 1982

Web-based Resources

UVM Landscape Change Program (uvm.edu/landscape) – Since 1999, Bierman has overseen the Landscape Change Program, a public service, on-line archive of over 70,000 images of Vermont as it was and as it is. The program has been continuously supported by the NSF for over a decade and is now supported by the National Endowment for the Humanities and contains extensive resources for researchers and teachers.

UVM Cosmogenic Laboratory (uvm.edu/cosmolab) – For more than a decade, Bierman has maintained an extensive web site for the UVM cosmogenic nuclide laboratory. The web site provides, as a community service, the details of our chemical methods and access to our publications. The web-site provides up to date safety and operating procedures for all who work in the lab. It provides detailed construction documents for use by service personnel.

Key Concepts in Geomorphology (uvm.edu/geomorph/textbook) – This web site is a portal for information related to new style of textbook, Bierman and Montgomery's, *Key Concepts in Geomorphology*. This NSF-supported project includes community authored Case Studies (Vignettes) and extensive community input and review of textbook content.

Imaging Earth's Surface (uvm.edu/geomorph/gallery) – This NSF-supported archive provides for free public use, images of Earth's surface useful for teaching and research. Images are contributed by the community, described, and sorted by topic.

Professional Service

National Science Foundation, GEO Directorate advisory panel, 2013-present.

Field trip leader, GSA annual meeting, Baltimore, MD, 2015, *Kirk Bryan Field Trip: Great Falls (84 participants)*

Member, National Science Foundation, Surface Earth Processes Committee of Visitors, April 2014

Liason, Arctic Sciences, National Science Foundation, Polar Programs Committee of Visitors, September 2013

Invited participant, NSF-sponsored Workshop on Geomorphic Prediction of Landscape Response to Climate and Land Use Change in Tucson, AZ, September 2013

National Science Foundation, Polar Programs advisory panel, 2011-2013.

Theme Session Proposer, Organizer, and Chair, NE GSA, Bretton Woods, 2013

Field trip co-leader, GSA annual meeting, Charlotte, NC, 2012, *Kirk Bryan Field Trip: Piedmont Potpourris: New Perspectives on An Old Landscape (and Some of its Younger Parts)*

Proponent Expert, Thyspunt SSHAC Level 2 Seismic Hazard Workshop, Cape Town South Africa, 2012

Chair, Quaternary Geology and Geomorphology Division, Geological Society of America, 2009-2010.

First Vice-Chair, Quaternary Geology and Geomorphology Division, Geological Society of America, 2008-2009.

Co-convener, Teaching Geomorphology in the 21st Century, Cutting Edge, National Association of Geology Teachers Workshop, October 2007- August, 2008.

Second Vice-Chair, Quaternary Geology and Geomorphology Division, Geological Society of America, 2007-2008.

Session Co-organizer, International Quaternary Union, Cairns Australia, 2007

Contributor and Consultant, 2007, Fleming Museum gallery exhibit, *Burlington and Winooski 1920-2020: The Evolution of our Built Environment*

Workshop Leader, National Science Foundation, *Reconsidering the Textbook*, National Academy of Science, 2006

Field trip leader, Johns Hopkins University, 2006

Field trip leader, Geological Society of America National Meeting, 2006

Pardee session organizer, Geological Society of America National Meeting, 2006

Panelist, National Science Foundation, *Research Experience for Undergraduates*, 2006

Panelist, National Science Foundation, *Course and Curriculum Improvement*, 2005 (Phase I), 2007 (Phase 2 and 3)

Panelist, National Science Foundation, *Geomorphology and Landscape Dynamics* 2004-2006.

Member, Editorial Review Board for the DLESE Community Review System, 2004-2007.

Field trip leader, Geological Society of America Regional Meeting, 2004, *^{10}Be and the incision history of a passive margin river, the Potomac near Great Falls* and *Terraces of the Potomac River at Great Falls*

Theme session organizer, Geological Society of America Regional Meeting, 2004, *Geomorphic process rates on the passive margin* and *New directions in Appalachian Geomorphology*

Theme session organizer, Geological Society of America National Meeting, 2003, *Large Intro Courses That Work: Sharing Exciting and Effective Teaching Strategies*

Panelist, National Science Foundation, *STC Site visit*, Univ. Minnesota, 2001

Editorial Board, *GEOLOGY*, 1999- 2005

Associate Editor, Geological Society of America Bulletin, 1997-2005

Theme session organizer, Geological Society of America Regional Meeting, *Terrestrial Records of Holocene Climate Change*, 2001

Theme session co-organizer, Geological Society of America National Meeting, *Reshaping Glacial Geomorphology,* 2000

Leader, New England Intercollegiate Geologic Conference Fieldtrip, northern Vermont, 1999

Co-leader, Field trip as part of International Conference on Drainage basin Dynamics and Morphology, Jerusalem, Israel, 1999

Symposium Organizer and chair, American Association for Advancement of Science, *Geologic Records of Human Impact,* 1998

Co-leader, New England Intercollegiate Geologic Conference Fieldtrip, Huntington, Vermont, 1997

Instructor, Geological Society of America National Meeting, *Cosmogenic Isotopes and Geomorphology* Short-course, 1994, 1995, 1997; 1999 at Hebrew University, Jerusalem

Symposium Organizer and chair, *Isotopes and Earth Surface Processes*, Geological Society of America National Meeting, 1997

Contributor, Friends of the Pleistocene Fieldtrip, Owens Valley, 1997

Panelist, National Science Foundation, *Water and Watersheds* competition, 1995 and 1999

Session Chair, Geological Society of America National Meeting, 1994

Leader and Organizer, Geological Society of America Fieldtrip, Owens Valley, 1991

Leader, National Association of Geology Teachers Fieldtrip, Williamstown Glacial Geology, 1986

Proposal reviews for Hydrologic Sciences (NSF), Tectonics (NSF), Polar Programs (NSF), Geology (NSF), Petrology (NSF), Equipment and Facilities (NSF), Earth Systems History (NSF), Geology (Australian Research Council), NASA, Army Research Office, Livermore National Laboratory, Los Alamos National Laboratory, National Environmental Research Council (Britain), Research Council of Norway, Canadian Foundation for Climate and Atmospheric Sciences, Dutch Research Council, US Civilian Research and Development Foundation, Melbourne University

Manuscript and book reviews for GEOLOGY, Geological Society of America Bulletin, American Antiquity, Quaternary Research, Quaternary International, Chemical Geology, Freeman Press, GSA Today, Earth Surface Processes and Landforms, Earth and Planetary Science Letters, Geological Society of London, Geophysical Research Letters, Kendall-Hunt, NATURE, SCIENCE, Geomorphology, McGraw Hill, Annals of the Association of American Geographers, Basin Research

Service to the University and Community

Admitted students day presentations, Arts and Sciences, 2014-present

Associate Dean Search Committee, College of Arts and Sciences, 2014-2015
Advisor, Vermont Commons School, senior project, Mr. Ross Hiatt, S. Burlington and Burlington Interstate Highway rephotography, 6 weeks, spring 2013.
Member, Geochemistry Faculty Search Committee, 2012-2013, Geology Department
Leader, *Key Concepts in Geomorphology* textbook project, with international community involvement workshops, textbook creation, and e-media development, 2008-present.
UVM review panel member, Office of the Vice President for Research, Formal Investigation of Research Misconduct, 2012.
Core Science Team member – EPSCoR Complex Systems Initiative, 2007-2009
Vermont Science Initiative, K-8 Teacher trainer, 2006-2011.
Nomination and hosting of Burack Presidential lecturers; David Montgomery (2009); Andrew Revkin (2008); Richard Alley (2005).
Physical Science lead faculty, UVM-NSF NEAGEP initiative (Northeast Alliance for Graduate Education and the Professoriate), 2007-present
Chair, Search Committee, College of Engineering and Mathematics, Ecohydrology, 2008.
Invited Member, Executive committee of the Center for Research on Vermont, 2007-2009.
Invited Member, Provost's Planning Grant Task Force for a Sustainable and Desirable Future, 2007-2008.
Invited Member, planning committee for the 2008 Aiken series, focus on Complex Systems as related to Energy and the Environment, 2007-2008.
Director, EPSCoR Strand, Integrated Research on Water in the Environment, 2005-present.
Teacher Training Workshop, Vermont ESA, 2006
Vermont Environmental Science & Technologies Plan, workshop leader, 2006
Director, Landscape Change Program, 1999-present
Faculty Supervisor, ICP lab and instrument, 2003-present
Coordinator, Oakledge Park public signage project, 2003-2006
Chair, Geology faculty search committee for Geochemist, 2002-2003
Manage and maintain computing laboratories in Geology Department, 1994-2003
Cooperating Scientist, Burlington Public Works, Land use change, 1998-present
Expert Witness, representing Mansfield Avenue neighbors in regard to McAuley Square development, 1999
University Reaccreditation, Session Moderator, *UVM and Its Students*, 1998-1999
Faulty Search Committee, Active Tectonics position, Geology Department, 1998-1999
Building Advisory Committee, Perkins Geology Hall renovation, 1998-present
Teacher Advisor Program, 1998, *Earth Hazards* Class for first year students

Primary mentor to 5 Ph.D. students, 32 MS students, 4 BS theses, 1 MEd, 1 MAT, and 19 undergraduate research projects

Undergraduate Advisor, 10-15 students yearly

Presentations in Admitted Student Visitation Program, 1998

Invited Lecturer, Grant Writing Seminar, Office of Sponsored Programs, 1998

Curriculum Committee, College of Arts and Sciences, 1996-1999

Coordinator, Graduate Program, Geology Department, 1996-1998

Director, Environmental Geology Program, 1994-present

Chairperson, Physical Sciences Division, University Committee on Research and Scholarship, 1997-1998

Member Physical Sciences Division, University Committee on Research and Scholarship, 1995-1998

Liaison and Instructor, Geology Department, Governor's Institute Summer High School Science and Technology Program, 1994-present

Coordinator, external Speaker Series, Geology Department, 1994-1997

Aiken Lecture Series, University Program Committee, 1996

Participant, Undergraduate Connections Program, 1994, 1995, 1998, 1999

Funding, design and implementation of new geology computer teaching facility, 1997

Faculty Search Committee, GIS/Remote Sensing, School of Natural Resources, 1995

Faculty Search Committee, Isotope Geologist, Geology Department, 1994

Research Funding (Internal and External)

Principal Investigator, National Science Foundation, 2016-2019, Collaborative Research: *Constraining the Timing and Rate of Southeastern Laurentide Ice Sheet Thinning During the Last Deglaciation With Cosmogenic Nuclide Dipsticks, $94,240*.

Principal Investigator, National Science Foundation, 2015-2016, Instrumentation and Facilities, *Workshop support - Optimizing the next generation of AMS for measuring 10-Be and 26-Al, $9,720*

Principal Investigator, US Geologic Survey, 2014-2015, *Differential Uplift and Incision of the Yakima River, $24,089*

Principal Investigator, National Science Foundation (Critical Zone Observatory, subcontract), 2014-2018, *Using the Susquehanna - Shale Hills CZO to Project from the Geological Past to the Anthropocene Future*, *$119,985*

Principal Investigator, National Science Foundation, 2013-2016, *Collaborative Research: Canyons of the Southwestern Colorado Plateau: Transient Response to Baselevel Fall or Lithologic Control on River Incision, $25,298*

Principal Investigator, National Science Foundation, 2011-2016, *Deciphering Connections Between Land Management, Soil Erosion, and Sediment Yield in Large River Basins* (collaborative w/A. Henck and D. Rood) $188,942

Principal Investigator, National Science Foundation, *2011-2014, Synchronizing the North American Varve Chronology and the Greenland Ice Core Record Using Meteoric ^{10}Be Flux* (collaborative w/G. Balco, J. Ridge, D. Rood) $125,390

Principal Investigator, National Endowment for the Humanities, 2010-2013, *Interpreting the Interstates – how highways changed Rural America's sense of place,* $200,000

Principal Investigator, National Science Foundation, *Deciphering 6 My of the Greenland Ice Sheet History Using In Situ 10-Be From Marine Sediment Cores,* 2010-2016, $324,613

Principal Investigator, US Geological Survey, *Potomac River Basin Erosion Rates,* 2008-2010, $59,493

Principal Investigator, National Science Foundation, CCLI - Phase I, *Textbook Reconsidered - Creating the Shortbook of Geomorphology,* 2008-2011, $219,665

Principal Investigator, National Science Foundation, Polar Programs, *Detrital cosmochronology of the Greenland Ice Sheet,* 2007-2009, $273,052

Principal Investigator, National Science Foundation, EAR –EHR, *Piloting an Interdisciplinary Watershed Field Camp*, 2006-2008, $151,522

Principal Investigator, National Science Foundation, EAR-HER, *Landscape Change Imagery: preparing a DLESE-ready and easily searchable resource,* 2006-2007, $24,489

Principal Investigator, National Science Foundation, DUE-DTS, *Workshop proposal - Reconsidering the Textbook,* 2006-2007, $99,949

Co-Principle Investigator, US Geological Survey, *Evaluating Quantitative Models of Riverbank Stability,* 2006-2007, $88,114 with 2008 supplement of $50,000.

Principal Investigator, National Science Foundation, DUE, Director's award for Teaching Scholars, *Landscape Imagery: a catalyst for formal and informal science education*, 2005-2009, $306,495

Principal Investigator, National Science Foundation, CCLI-Educational Materials Development, *Bringing Relevance to Earth Science Introductory Curricula through Images Showing Human/Landscape Interaction,* 2005-2007, $75,000

Principal investigator, Lintilhac Foundation, *Images of Vermont Landscape Change*, 2005-2007, $15,000

Principal investigator, National Science Foundation, Geoscience Education, *REU supplement for Landscape Change*, 2004, $13,700

Co- Investigator, National Science Foundation, Geography, *Collaborative Research - Sediment Production and Alluvial Buffering in a Steepland River Basin: Waipaoa river Basin, New Zealand*, 2003-2006, $129,301 (UVM portion)

Principal Investigator, National Science Foundation, Geology, *Eroding the Appalachians,* 2003-2006, $199,856

Principal Investigator, US Army Research Office, Principal Investigator, DEPSCoR Program, *Quantifying Erosion and Sedimentation in Extreme Environments: refining and applying the cosmogenic method for Army-relevant landscape analysis,* 2003-2006, $757,808

Principal Investigator, National Science Foundation, Hydrologic Sciences, 2003-2004, *Cosmogenic Constraints on Sediment Generation and Transport, Namibian Rivers* 2003-2004, $59,539

Principal Investigator, US Army Research Office, Principal Investigator, STIR Program, *Quantifying sediment generation in humid tropical regions using cosmogenic nuclides – A proof of method, 2002*-2003, $26,363

Principal Investigator, National Science Foundation, Geoscience Instrumentation and Facilities, 2002-2004, *Acquisition of ICP for research and research training*, $168,000

Principal Investigator, Lintilhac Foundation, 2002-2003*, Optimizing Residential Green Space Restoration Techniques, Burlington, Vermont*, $5000

Principal Investigator, National Science Foundation, Geoscience Education, 2001–2003. *Looking Forward -- Scaling Up The Digital Image Archive of Landscape Change*, $99,649

Co-Investigator, NSF Polar Programs, 2001-2002*, Deglacial history of eastern Baffin Island*, $17,000

Principal Investigator, NSF Geology, 2001-2004, *Erosion history of the Potomac and Susquehanna Rivers*, $150,000

Principal Investigator, University of Vermont, 2001, Deans fund, *Completion of campus well field*, $1400

Principal Investigator, University of Vermont*,* 2000*, Instructional Incentive Grant for multicultural development of Geohazards class*, $2000

Principal Investigator, USGS, 2000-2002, *Erosion of the Great Smoky Mountains National Park*, $97,000

Principal Investigator, subcontract to University of Washington (NASA funded), 2000, *Preparation of Cosmogenic Isotope Samples,* $50,000

Principal Investigator, University of Argentina, 1999, *10-Be dating of rock-slides*, $3,000

Co-Investigator, NSF Polar Programs, 1999-2000, *Deglacial History of Baffin Island through* ^{26}Al *and* ^{10}Be with T. Davis, Bentley College, $25,000.

Principal Investigator, National Science Foundation, Geoscience Education, *Human-Induced Landscape Change -- A Digital Image Archive Created by Students*, 1999-2001, $74,717

Principal Investigator, US Army Research Office, DEPSCoR, *Understanding rates of change at Earth's dynamic surface*, 1999-2002, $225,000

Principal Investigator, University of Leeds*, Dating glaciation in Greece*, 1998, $1,300

Principal Investigator, University of Vermont*, Instructional Incentive Grant for first year program*, 1998, $1,300

Principal Investigator, USGS, 1998-2000, *Rio Puerco Sediment Transport, New Mexico,* $29,500

Faculty Supervisor, University of Vermont, SUGR grant, 1998, *Dating faults in Israel*, $5,000

Principal Investigator, Union College, 1998, *Dating of Argentinean glaciation*, $4,400

Principal Investigator, University of Argentina, 1998, *10-Be dating of rock-slides*, $2,000

Principal Investigator, Hebrew University, 1997, *36-Cl dating of Galilee fault scarp,* $4,800

Principal Investigator, University of Vermont, *Travel support for Israel collaboration*, 1997, $2,500

Principal Investigator, US Army Research Office, 1997-1999, ASSERT supplement to *Isotopic Method For Determining Erosion Rates,* $50,000

Principal Investigator, University of Vermont and Lintilhac Foundation, 1997-1998, *Geology Computer Laboratory for Instruction*, $144,200

Principal Investigator, University of Vermont, 1997, *Renovation of Cosmogenic Isotope Laboratory*, $73,000

Principal Investigator, NSF Major Research Instrumentation, 1997-1998, *Equipment for Surface Process Studies*, $161,000

Principal Investigator, NSF Hydrologic Sciences CAREER, 1997-2002, *Timing and Distribution of Extreme Hydrologic Events*, $200,563

Principal Investigator, National Geographic Society, 1997-1998, *Quantifying Rates of Rock Weathering in Hyper-arid Southern Africa*, $16,630

Principal Investigator, USGS NEHRP, 1997-1998, *Cosmogenic Estimates of Long term Faulting Rates*, $34,900 with A. Gillespie (University of Washington)

Principal Investigator, subcontract to University of Wisconsin (NSF funded), 1997-1998, *Dating Wisconsin ice retreat,* $16,000

Principal Investigator, NSF Surfaces Processes, 1996-1999, *Geomorphic Process Zones in Large Mountain Ranges*, $50,800 with T. Dunne (UC Santa Barbara)

Principal Investigator, NSF Hydrologic Sciences, 1996-1999, *Sediment Dynamics of Large Drainage Basins*, $115,400 with M. Johnson (Bryn Mawr) and L. Derry (Cornell)

Principal Investigator, USGS, 1996-1997, *Rio Puerco Erosion Rates, New Mexico,* $20,500

Principal Investigator, US Army Research Office, 1996-1999, *Isotopic Method For Determining Erosion Rates,* $216,000 with A. Cassell (UVM)

Principal Investigator, subcontract to University of Washington (NASA funded), 1996, *Preparation of Cosmogenic Isotope Samples,* $32,000

Principal Investigator, USGS, 1995-1997, *Characterizing Ground Water Flow in a Vermont Upland Basin*, $47,500 with Lini, Drake and Wright (UVM)

Co-Investigator, NSF Polar Programs, 1994-1997, *Deglacial History of Baffin Island through ^{26}Al and ^{10}Be* with T. Davis, Bentley College, $162,000

Principal Investigator, University of Vermont, Dean's Fund, 1996, *Development of teaching well-field,* $2000

Principal Investigator, US Army Research Office, STIR program, 1995, *Numerical Validation Of Isotopic Method For Determining Erosion Rates,* $9,666

Principal Investigator, subcontract to University of Washington (NASA funded), 1994, *Preparation of Cosmogenic Isotope Samples,* $14,100

Principal Investigator, NSF Hydrologic Science, 1993-1995, *Estimating Basin-Scale Erosion Rates Using Cosmogenic Isotopes,* $98,988

Principal Investigator, Lintilhac Foundation, *Processes and Timing of Vermont Deglaciation*, 1994-1996, $32,500

Principal Investigator, University of Vermont, Research Advisory Committee, *Graphical Computing Facility*, 1994-1995, $12,800

Principal Investigator, University of Vermont, University Committee on Research and Scholarship, *Chronology of Vermont Deglaciation*, 1994-1995, $4,000

Author and Co-Investigator, NSF Surface Processes, 1990-1992, *Exposure Age Determination Using Cosmogenic Isotopes,* $88,000

Author and Co-Investigator, USGS NEHRP Grants and Renewals (Earthquake Hazards) 1989-1992, *Neotectonic Activity on the Lone Pine Fault,* $57,000

Post Doctoral Associates

Jeremy Shakun, Geology (part time), *Deciphering 6 My of the Greenland Ice Sheet History,* 2010-2013

Devin McPhillips, Geology, *Erosional effects of climate change from single-clast Be-10*, 2011-2013

Ari Matmon, Geology, *Erosion of the Great Smoky Mountains National Park*, 2000-2002

Current Graduate Students

Allison Denn, MS, *Shale Hills CZO sediment generation and movement*

Former Graduate Students

1. Veronica Sosa-Gonzales, Natural Resources Ph.D., *Human induced erosion in three rivers area of China, 2016*
2. Sophie Greene, MS, *Stable beryllium extraction systematics, 2016*
3. Lee Corbett, Natural Resources, Ph.D., *Preservation and sediment cycling beneath "Ghost Glaciers": how cold-based ice dictates arctic landscape evolution,* 2016.
4. Ana Vang, Geology, MS, *The Vermont Interstate Highway system – landscape change,* 2015.
5. Thomas Neilson, Geology MS, *Tracking erosion with sediment associated isotopes in Yunnan, China,* 2015.
6. Benjamin Dejong, Natural Resources, Ph.D., *Informing coastal resource management with geologic records,* 2015
7. Luke Reusser, Natural Resources, Ph.D., *Quantifying human impacts on natural rates of erosion along continental margins,* 2014

8. Alice Nelson, Geology MS, *Using in situ cosmogenic ^{10}Be as a sediment source tracer in Greenland's paraglacial environment,* 2013
9. Veronica Sosa-Gonzales, Natural Resources MS, *Determining long-term erosion rates in Panama: An application of ^{10}Be,* 2012
10. Lee Corbett, Geology MS, *Investigating The timing of deglaciation and the efficiency of subglacial erosion in central-western Greenland with cosmogenic ^{10}Be and ^{26}Al,* 2011
11. Charles Trodick, Geology MS, *In situ and meteoric 10-Be concentrations of fluvial sediment collected from the Potomac River*, 2011
12. Eric Portenga, Geology MS, *Using ^{10}Be to constrain erosion rates of bedrock outcrops globally and in the central Appalachian Mountains*, 2011
13. Joseph Graly, Geology MS, *Interpretation of meteoric ^{10}Be in marginal ice-bound sediment of the Greenland Ice Sheet, West Greenland*, 2010
14. William Hackett, Geology MS, *Changing land use, climate, and hydrology in the Winooski River Basin*, Vermont, 2009
15. Mathew Jungers, Geology MS, *Using cosmogenic nuclides to determine sediment production and transport rates on steep hillslopes in varied tectonic and climatic settings, 2008*
16. Jane Duxbury, Geology MS, *Erosion of the Shenandoah National Park, 2008*
17. Colleen Sullivan, Geology MS, *Erosion of the Blue Ridge Escarpment, 2007*
18. Joanna Reuter, Geology MS, *Erosion rates and patterns inferred from cosmogenic ^{10}Be in the Susquehanna River Basin*, 2005
19. Luke Reusser, Geology MS, *Late Pleistocene bedrock channel incision of the lower Susquehanna River: Holtwood Gorge, Pennsylvania*, 2004
20. Eric Butler, Geology MAT, *Landscape history of Shelburne*, Vermont, 2004
21. Adam Parris, Geology MS, *Holocene paleohydrology in the northeastern United States: a high resolution record of storms and floods*, 2003
22. Erik Clapp, Natural Resources, Ph.D., *Long-term rates of denudation and sediment generation over different spatial scales quantified using in situ produced cosmogenic ^{10}Be and ^{26}Al in sediment and rock*, 2003
23. Kyle Nichols, Natural Resources, Ph.D., *Understanding Desert Piedmonts*, 2002
24. Anders Noren, Geology MS, *Severe storm record in New England lakes*, 2001
25. Karen Jennings, Geology MS, *Depositional histories of New England alluvial fans*, 2001
26. Kyle Nichols, Geology MS, *Investigation of different temporal and spatial scales of sediment generation,* 2000
27. Kris Bryan, Education and Geology, M.Ed., *Vermont Landforms Web page*, 2000
28. Sara Gran, Geology MS, *The displacement history of the Nahef East fault scarp, Israel: a cosmogenic ^{36}Cl approach*, 2000
29. Sarah Brown, Geology MS, *Terrestrial sediment deposition in Ritterbush Pond: Implications for Holocene storm frequency in northern Vermont*, 1999

30. Timothy Whalen, Geology MS, *Post-glacial fluvial terraces in the Winooski River Basin, Vermont*, 1998
31. Kim Marsella, Geology MS, *Timing and extent of glaciation in the Pangnirtung Fjord Region, Baffin Island: Determined using in situ produced cosmogenic ^{10}Be and ^{26}Al*, 1998
32. Amy Church, Geology MS, *Fan deposits in northwestern Vermont: depositional activity and aggradation rates over the last 9,500 years*, 1997
33. Mike Abbott, Geology MS, *Isotopic characterization of groundwater recharge and flow in an upland bedrock aquifer, Vermont*, 1997
34. Lin Li, Geology MS, *Environmental changes inferred from pollen analysis and ^{14}C ages of pond sediments. Green Mountains, Vermont*, 1996
35. Patrick Larsen, Geology MS, *In situ production rates of cosmogenic ^{10}Be and ^{26}Al over the past 21,500 years determined from the terminal moraine of the Laurentide ice sheet, north central New Jersey*, 1995

Undergraduate Thesis Students

Nathan Toke, *Urban storm water hydrology,* 2003.

Lyman Persico, Environmental Science BS with honors*, Tracing painted pebbles in the Mojave desert,* 2002

Darrin Santos, Environmental Science BS with honors, *Channel initiation in the Mojave desert*, 1999

Paul Zehfuss, Geology BS, *Alluvial fans in Vermont as recorder of changes in sedimentation rates due to deforestation,* 1996

Kristine Bryan, Geology BS with honors, *Deglaciation of southern Chittenden County and northern Addison County, Vermont*, 1995

Graduate Student Committees

1. A. J. Rossman, Ph.D., Civil and Environmental Engineering, in progress
2. Lalita Oka, Ph.D., Civil and Environmental Engineering, in progress
3. Alyson Hampsch, MS, in progress
4. Rebecca Harvey, Chemistry PhD, 2016
5. Adrian Bender, Geology, Western Washingtoin University, 2015
6. Victoria Carhart, Chemistry, MS, 2015
7. Julia R. Larouche, Ph.D., Natural Resources, 2015
8. Allan Bacon, Ph.D., Duke University, Soil Science, 2014
9. Jaron Borg, MS, Civil and Environmental Engineering, 2010
10. Kimmie Beal, MS Botany, 2009
11. Alexandru Codilean, University of Glasgow, PhD, 2008
12. Adam Hunt, Chemistry PhD, 2007
13. Ken Oldrid, Geology MS, 2007

14. Tiffany Larsen, Geology MS, 2007
15. Zoe Dokou, Engineering, PhD, 2007
16. Corey Coutu, Geology MS, 2007
17. Daniel Newcomb, Natural Resources MS, 2007
18. Maeve McBride, Civil and Environmental Engineering, 2007
19. Danica Lefever, Civil and Environmental Engineering, MS, 2006
20. Dave Weber, Plant and Soil Science, MS, 2006
21. Charlie Eisman, Botany MS, 2006
22. Elizabeth M. Andre, Historic Preservation, 2006
23. Kelly McCutcheon, SNR MS, 2005
24. Kwaw Andam, Engineering MS, 2003
25. Andrea Lord, Geology MS, 2002
26. Willard Morgan, Field Naturalist MS, 2002
27. Edward Navarre, Chemistry Ph.D., 2002
28. John W. Diebold, Civil Engineering MS, 2001
29. Josh Galster, Geology MS, 2001
30. Todd Menes, Natural Resources MS, 2000
31. Megan O'Reilly Natural Resources MS, 2000
32. Anne Perrault, Natural Resources MS, 2000
33. Alexander Spiliotopoulous, Engineering Ph.D., 1999
34. Adam Brown, Geology MS, 1999
35. Paul Zehfuss, Geology MS, Humboldt State University, 1998
36. Graciela Herrera, Mathematical Sciences, Ph.D. 1998
37. Chad Farrel, Engineering MS, 1998
38. Harold Linnemeyer, Engineering MS, 1997
39. Lisa Windhausen, Natural Resources MS, 1996
40. Theodore Lillys, Engineering MS, 1996
41. Michael Stevens, Field Naturalist MS, 1996
42. Erik Clapp, Geology MS, 1995
43. Heather Weiss, Plant and Soil Science MS, 1995
44. Doug Bechtel, Field Naturalist MS, 1995
45. Lyn Baldwin, Field Naturalist MS, 1995

Independent Undergraduate Research

Parker Forsley, *Gullying erosion of marine and lacustrine sediments in Chittenden County, Vermont*, 2015

Taylor Kravits, *Snow melt prediction, northeastern Vermont*, 2012

Samuel Hellman, *Mid-Atlantic Coastal Plain stratigraphy*, 2012

James M. Taylor, *Photo-documenting changes since the 1927 in Vermont River Channels*, 2008

Emily Reymeyer, *Computer Science and Geography BS, Automated geographic distribution analysis,* 2006

Jehanna Howe, SNR BS, *Riparian zone quality over time,* 2005

Michala Peabody, Geology BS, *Erosion and landsliding related to historic clearcutting in Vermont,* 2005

Elizabeth Stanley-Mann, Geology BA, *Landscape change on the Winooski and White Rivers since the 1927 flood,* 2005

Serena Hollmeyer, Geology BS, Metals content of mine drainage, *2004*

Susan King, Environmental Studies BS (thesis), *Designing an environmental education curriculum for the King Street youth Center after school program,* CALS (committee member) 2003

Keith Musselman, Environmental Science BS, *Precipitation patterns in two paired basins on Mt. Mansfield,* 2003

Megan McGee, Environmental Science BS, *The hydrology of remediating damaged greenspace*, 2003

Jackie Hickerson, Environmental Science BS, *Public environmental outreach related to the hydrology of greenspace*, 2003

Paul Melillo, Environmental Science BS, *Quantifying the hydrologic effects of greenspace loss caused by university students in Burlington*, 2002.

Angela Conlan, Environmental Science BS, *Comparing grain size measurements in lake core*s, 2001

Andrew Bosely, Environmental Science BS, *Lake Morey grain size measurements*, 2001

Jim Kurfis, Geology BS, *Urban hydrology and land-use changes*, 1999-2001

Dan Eurich, Environmental Science BS, *Campus well-field characterization*, 2000

Drew Lamneck, undecided, *Holocene lake histories in New England*, 1999

James Parker, Geology, BA, *UVM campus groundwater quality*, 1997-1998

William Oetjen, Geology and Education BA, *Field Geology Web Page*, 1997-1998

Jeremy Malczhyk, Geology BS, *Vermont Quaternary Web page*, 1997-1998

Christopher Valin, Geology BS, *Northwest Vermont terrace history*, 1996-1997

David Shaw, Geology BS, *River and groundwater interactions*, 1996-1997

Nilah Mazza, Geology BS, *Debris flows and landslides*, 1996-1997

Erin Golec, Geology BA, *Impact of urbanization on stream water quality*, 1994-1995

Parker Hacket, Geology BA, *Weathering zones on Baffin Island*, 1995-1996

Refereed Journal Publications (*graduate student* author, undergraduate author, *post-doc)

Markewich, H. W., Pavich, M. J., Mahan, S. A., Schultz, A.P., Bierman, R., and Aleman-Gonzalez, W. B, (in review, 6/16) Preliminary geochronology for emergent late Pliocene and younger coastal deposits in the lower Savannah

River area, Georgia, USA: Implications for coastal evolution. **Quaternary Science Reviews**

Nichols, K.K., Bierman, P.R., Rood, D. H. (in review , 5/16) Cosmogenic ^{10}Be and sediment budgets reveal a multi-aged Grand Canyon. **GEOLOGY**.

Bierman, P.R., and *Shakun, J. (in revision, 6/14) Cosmogenic ^{10}Be records 10 million years of Greenland Ice Sheet history. **Nature**.

Borg J., Stryker, J. J., Bierman, P. R. and M. Dewoolkar, M. M., (in review, 11/15) Streambank stability assessment using *in situ* monitoring and computer modeling. Earth Surface Processes and Landforms.

Slack, C., Hanson, K., Coppersmith, R., Neveling, J., Bierman, P., Forman, S., and Goedhart, M (in review, 9/15), Paleo-seismic Investigations of the Kango Fault, South Africa: Incorporating temporal and spatial clustering behavior into a seismic source characterization model, **Bulletin of the Seismological Society of America**.

Wohl, E., Bierman, P. R., Montgomery, D. R. (2016) Earth's Dynamic Surface: The Past 50 Years in Geomorphology, chapter of **Geological Society of America Special Paper**, v. 523, 10.1130/2016.2523(01)

*McPhillips, D., Hoke, G. D., Liu-Zeng, J., Bierman, P. R., Rood, D. H. Niedermann, S. (2016) Incision of the Yangtze River Gorge at the First Bend determined by three-nuclide burial dating, **Geophysical Research Letters.**

Bierman, P. R., Davis, P. T., *Corbett, L. B.*, Lifton, N. and Finkel, R. (2015) Cold-based, Laurentide ice covered New England's highest summits during the Last Glacial Maximum, **Geology**. doi:10.1130/G37225.1

Pelletier, J. D. et al. (2015) Forecasting the response of Earth's surface to future climatic and land-use changes: A review of methods and research needs, Earth's Future, 3, doi:10.1002/2014EF000290.

Dickerson, R., Bierman, P. R., and Cocks, G. (2015) Alluvial fan surfaces and an age-related stability for cultural resource preservation: Nevada Test and Training Range, Nellis Air Force Base, Nevada, USA. **Journal of Archaeological Science**. Reports v. 2. P. 551–568doi:10.1016/j.jasrep.2015.05.002

Davis, P. T., Bierman, P. R., *Corbett, L. B.*, Finkel, R. (2015) Cosmogenic exposure age evidence for rapid Laurentide deglaciation of the Katahdin area, west-central Maine, USA, 16 to 15 ka. **Quaternary Science Reviews.**

Ouimet, W., Dethier, D., Bierman, P., Wyshnytsky, C., *Shea, N.* and Rood, D. (2015) Spatial and temporal variations in meteoric ^{10}Be inventories and long term deposition rates, Colorado Front Range: **Quaternary Science Reviews,** v. 109, p. 1-12.

Bierman, P..R., Coppersmith, R., Hanson, K., Neveling, J., *Portenga*, E., Rood, D. (2014) A cosmogenic view of erosion, relief generation, and the age of faulting in southern Africa. **GSA Today**. v. 24, n.9, 10.1130/GSATG206A.1

Bierman, P. R., *Corbett*, L., *Graly*, J., Neumann, T, Lini, A., Crosby, B., and Rood, D., (2014), Preservation of a pre-glacial landscape under the center of the Greenland Ice Sheet, **Science**. 10.1126/science.1249047

Dethier, D.P., Ouimet, W., Bierman, P.R., Rood, D.H., and Balco, G., (2014). Basins and bedrock: Spatial variation in ^{10}Be erosion rates and increasing relief in the southern Rocky Mountains, USA. **Geology**. v. 42, n. 2, 10.1130/G34922.1

Jull, A. J. T., Scott, E. M. and Bierman, P., (2014). The CRONUS-Earth inter-comparison for cosmogenic isotope analysis. **Quaternary Geochronology**. 10.1016/j.quageo.2013.09.003

Balco, G., Soreghan, G. S., Sweet, D.E., Marra, K. R. and Bierman, P.R. (2013). Cosmogenic-nuclide burial ages for Pleistocene sedimentary fill in Unaweep Canyon, Colorado, USA, **Quaternary Geochronology.** p. 149–157. 10.1016/j.quageo.2013.02.002.

Regalla, C., Kirby, E., Fisher, D., and Bierman, P. (2013). Erosional response to active shortening in the Tohoku forearc, NE Honshu, Japan. **Geomorphology**. v. 195, p. 84–98 dx.doi.org/10.1016/j.geomorph.2013.04.029

Miller, S.R., Sak, P.B., Kirby, E., and Bierman, P.R. (2013) Neogene rejuvenation of central Appalachian topography: Evidence for differential rock uplift from stream profiles and erosion rates: **Earth and Planetary Science Letters**, v. 369-370, p. 1-12, doi:10.1016/j.epsl.2013.04.007.

Markewich, H.W., Pavich, M.J, Schultz, A.P., Mahan, S.A., and Bierman, P.R. (2012). Geochronologic evidence for a possible MIS-11 emergent barrier/beach-ridge in southeastern Georgia. **Quaternary Science Reviews.** http://dx.doi.org/10.1016/j.quascirev.2012.10.041

Enzel Y., Amit R., Grodek T., Ayalon A., Lekach J., Porat N., Bierman P., and Blum J. (2012). Chronology and paleoenvironments of depositional landforms and the reevaluation of the Quaternary-scale "Impact of climatic change on an arid watershed: Nahal Yael, Israel", **Geological Society of American Bulletin.**

Lixin J., Ravella, R., Ketchum, B., Bierman, P. R., Heaney, P. White, T., Brantley, S. L. (2010). Mineral weathering and elemental transport during hillslope evolution at the Susquehanna Shale Hills Critical Zone Observatory Geochimica et Cosmochimica Acta. v. 74, p. 3669–3691, doi:10.1016/j.gca.2010.03.036.

Cox, R. Bierman, P., *Jungers*, M., and Rakotondrazafy. M. (2009). Erosion rates and sediment sources in Madagascar inferred from ^{10}Be analysis of lavaka, slope, and river sediment, **Journal of Geology**, v. 117, p. 363–376, DOI:10.1086/598945.

Bierman, P.R., Gould, P., Lamb, J., Norton, S., Massey, C.A., Olson, J., *Reusser*, L., and Ungerleider, J. (2008). Global Climate Change - Motivated High School Students Gain their Voice, **National Association for Gifted Children Journal,** p. 1-9.

Bierman, P.R. (2007). Research Focus - Cosmogenic glacial dating, 20 years and counting, **Geology**, v. 35, n.6, 575-576.

Massey, C.A. and Bierman, P.R. (2007). Teachers and kids dig old photos, **National Association for Gifted Children Journal**, p. 5-6.

Bierman, P. R., Massey, C., and Manduca, C. (2006). Reconsidering the Textbook, **EOS**, v. 87 n. 30, p. 316.

Riihimaki, C.A., Anderson, R.S., Safran, E.B., Dethier, D. P., Finkel, R. and Bierman, P. R. (2006). Longevity and progressive abandonment of the Rocky Flats surface, Front Range, Colorado, **Geomorphology,** v. 78, n. 3-4, p. 265-278.

Briner, J.P., Gosse, J.C., and Bierman, P.R. (2006). Applications of cosmogenic nuclides to Laurentide Ice Sheet history and dynamics. In: Applications of cosmogenic nuclides to the study of Earth surface processes: the practice and the potential (L. Siame, Ed.). **Geological Society of America, Special Paper 215,** p. 29–41, doi: 10.1130/2006.2415(03)

Safran. E., Bierman, P.R., Aalto, R., Dunne, T., Whipple, K., and Caffee, M. (2005). Erosion rates driven by channel network incision in the Bolivian Andes. **Earth Surface Processes and Landforms**. 30(8): 1007

Bierman, P. R., *Reuter*, J. M., Pavich, M., Gellis, A. Caffee, M. W. and Larsen, J., (2005) Using cosmogenic nuclides to contrast rates and scales of sediment production and sediment yield in the semi-arid, arroyo-dominated landscape of the Rio Puerco Basin, New Mexico. **Earth Surface Processes and Landforms**. 30(8): 935

Bierman, P.R., Howe, J., Stanley-Mann, E., Peabody, M., Hilke, J., and Massey, C.A., (2005). Old images record landscape change through time **GSA Today**. V. 15, n. 4, 10:1130/1052-5173(2005)015, p.1 -6

Gellis, A., Pavich, M., Bierman, P.R., *Clapp*, E., Ellwein, A., Aby, S. (2004) Modern sediment yield compared to geologic rates of sediment generation in a semi-arid basin, New Mexico – determining the human impact. **Earth Surface Processes and Landforms**. Volume 29, Issue 11 , Pages 1359 - 1372

Bierman, P. R. and *Nichols*, K.K. (2004) Rock to sediment - Slope to sea with ^{10}Be - Rates of landscape change, **Annual Review of Earth Science**. v. 32. p. 215–255

Colgan, P.M., Bierman, P. R., Mickelson, D. M., and Caffee, M. W. (2002) Variation in glacial erosion near the southern margin of the Laurentide Ice Sheet, south central Wisconsin, USA: implications for cosmogenic dating of glacial terrains. **Geological Society of America Bulletin**, v. 114, no. 12, p. 1581-1591.

Bierman, P. and Caffee, M. (2002) Cosmogenic exposure and erosion history of ancient Australian bedrock landforms. **Geological Society of America Bulletin.** v. 114; no. 7; p. 787–803; review in **Science**, v. 297 issue 5579, p. 159.

Bierman, P. and Caffee, M. (2001) Steady state rates of rock surface erosion and sediment production across the hyperarid Namib desert and the Namibian

escarpment, southern Africa. **American Journal of Science.** v. 301, (4-5), p. 326-358.

Schroeder, P.A., Melear, N.D., Bierman, P.R., Kashgarian, M., and Caffee, M.W., (2001) Apparent gibbsite growth ages for the regolith in the Georgia Piedmont. **Geochimica et Cosmochimica Acta**., 65 (3) p 381-386.

Davis, P.T., Bierman, P.R., *Marsella*, K.A., Caffee, M.W., and Southon, J.R., (1999) Cosmogenic analysis of glacial terrains in the eastern Canadian Arctic: a test for inherited nuclides and the effectiveness of glacial erosion. **Annals of Glaciology**. 28, p. 181-188.

Bierman, P. R., *Marsella*, K. A., Davis, P. T., Patterson, C. and Caffee, M., (1999), Mid-Pleistocene cosmogenic minimum-age limits for pre-Wisconsinan glacial surfaces in southwestern Minnesota and southern Baffin Island -- a multiple nuclide approach. **Geomorphology**, 27, n 1 / 2, p. 25-40 and subsequent comment and reply **Geomorphology** (2001), 39, n. 3–4, p. 255-261.

Bierman, P., Lini, A., Davis, P.T., Southon, J., *Baldwin*, L., *Church*, A. and Zehfuss, P. (1997) Post-glacial ponds and alluvial fans: recorders of Holocene landscape history. **GSA Today**, 7 (10) p. 1-8.

Bierman, P. and Steig, E. (1996) Estimating rates of denudation and sediment transport using cosmogenic isotope abundances in sediment. **Earth Surface Processes and Landforms,** 21, 125-139.

Gillespie, A. R. and Bierman, P. (1995) Precision of terrestrial exposure ages and erosion rates from analysis of in-situ produced cosmogenic isotopes. **Journal of Geophysical Research**, 100, B12, 24637-24649.

Bierman, P., Gillespie, A., Caffee, M. (1995) Cosmogenic Ages for earthquake recurrence intervals and debris-flow fan deposition, Owens Valley, CA. **Science**, 270, 447-450.

Bierman, P. and Turner, J. (1995) ^{10}Be and ^{26}Al evidence for exceptionally low rates of bedrock erosion and the likely existence of pre-Pleistocene landforms. **Quaternary Research,** 44, 378-382 and subsequent comment and reply **Quaternary Research,** 48, 386-389.

Clark, D. H., *Larsen*, P., and Bierman, P. (1995) Improving cosmogenic chronometers. **Quaternary Research,** 44, 367-377.

Bierman, P., Gillespie, A., Caffee, M. and Elmore, D. (1995) Estimating erosion rates and exposure ages with ^{36}Cl produced by neutron activation. **Geochimica et Cosmochimica Acta**, 59, 3779-3798.

Bierman, P. (1994) Using in situ cosmogenic isotopes to estimate rates of landscape evolution: A review from the geomorphic perspective. **Journal of Geophysical Research** (special issue on Tectonics and Topography), 99, B-7, 13,885-13,896.

Bierman, P. R. and Gillespie, A. R. (1994) Evidence suggesting that methods of rock-varnish cation ratio dating are neither comparable nor consistently reliable.

Quaternary Research, 41, 82-90 and subsequent comments and replies **Quaternary Research**, 43, 274-276.

Bierman, P. & Kuehner, S. (1992) Accurate and precise measurement of rock varnish chemistry using SEM/EDS. **Chemical Geology,** 95, 283-297.

Bierman, P. & Gillespie, A. (1991) Range fires: A significant factor in exposure-age determination and geomorphic surface evolution. **Geology**, 19, 641-644 and subsequent comment and reply, **Geology**, 20, 283-285.

Bierman, P. & Gillespie, A. (1991) Accuracy of rock varnish chemical analyses: implications for cation ratio dating. **Geology**, 19, 196-199 and subsequent comments and replies, **Geology**, 20, 469-472.

Bierman, P., Kuehner, S., & Gillespie, A. (1991) Precision of rock varnish chemical analyses and cation-ratio ages. **Geology,** 19, 135-138.

Bierman, P. & Dethier, D. (1986) Lake Bascom and the Deglaciation of Northwestern Massachusetts. **Northeastern Geology**, 8(1/2), 32-43.

Non-Refereed Publications and Reports

Bierman, P., Amidon, W., Balco, G., Briner, J., Fifield, L. K., Hall, B., Larsen, I., Rood, D., Schaefer, J., Southon, J., Steig, E., Stone, J. (2015), Optimizing the next generation of AMS for measuring ^{10}Be and ^{26}Al, report of NSF-sponsored workshop, November 14 and 15, 2014 University of California, Irvine. (http://www.uvm.edu/cosmolab/FINAL_AMS_white_paper_1_25_15.pdf)

Bierman, P.R. Cosmogenic Geochronology, Southern Africa Fault Corridor Investigation (2012), South African Council for Geosciences, 126 pp.

Bierman, P.R. Cosmogenic Geochronology, Southern Africa Southern Coast Marine Terraces (2012), 135 pp.

West, N., Kirby, E., Bierman, P., and Rood, D. (2011) Preliminary estimates of regolith generation and mobility in the Susquehanna Shale Hills Critical Zone Observatory, PA, using meteoric ^{10}Be. Extended abstract for the **9th International Symposium on the Geochemistry of the Earth's Surface,** GES-9, Boulder, CO.

Bierman, P.R., (2007) We can do better, **Burlington Free Press**, My Turn

Gellis, A., Pavich, M., Bierman, P., Ellwein, A., Aby, S., and *Clapp*, E., 2001, Comparison of geomorphic and isotopic measurements for erosion in the Rio Puerco, New Mexico, in Cole, J.C., ed., U. S. Geological Survey Middle Rio Grande basin study; proceedings **Open-File Report - U. S. Geological Survey**, U. S. Geological Survey, Reston, VA, p. 46-47.

Pazzaglia, F.J., Braun, D.D., Pavich, M., Bierman, P., Potter Jr, N., Merritts, D., Walter, R., and Germanoski, D., (2006) Rivers, glaciers, landscape evolution, and active tectonics of the central Appalachians, Pennsylvania and Maryland, *in* Pazzaglia, F.J., ed., Excursions in Geology and History: Field Trips in the Middle

Atlantic States: **Geological Society of America Field Guide** 8: Denver, GSA, p. 169-197.

Bierman, P.R., (2002) Burlington's diminishing green space, **The Sentinel, Preservation Burlington Newsletter**, v. 4, n. 1, p. 4-5

Kurfis, J. and Bierman, P.R. (2002) Residential land use changes and characteristics of land use in a residential neighborhood from 1978-1999, **Report to City of Burlington Code Enforcement Office**, 16 p.

Bierman, P. R. and *Clapp*, E. M. (1996) Estimating geologic age from cosmogenic nuclides; an update. **Science**. 271, p. 1606.

Bierman, P.R., Gillespie, A., Harrington, C., Raymond, R., Reneau, S, McFadden, L., Wells, S. (1992) Throwing rocks, **American Scientist,** 80, p 110-111.

Bierman, P. R. (1990) Groundwater in the Purple Valley, the lingering influence of glacier ice**, A Journal**, Center for Environmental Studies, Williams College, v. 7, p. 13-17.

Refereed Publications with Students or Post-docs as First Authors

Nichols, K.K., Bierman, P.R., Klepeis, K., Peavey, M., McGee, M. and Wright, S. F., (in revision) Dry period long run-out mass movements in glacially conditioned landscapes. **Earth Surface Processes and Landforms**.

Reuter, J., Bierman, P.R., Larsen, J., Pavich, M., and Finkel, R., (in revision) Testing models of Appalachian Mountain geomorphic change with cosmogenic ^{10}Be. **Geology.**

Hackett, W., Bierman, P.R., *Besaw*, L. E., Rizzo, D. M., (in revision). Increasing and cyclical precipitation and runoff in the Winooski River Basin, Northern Vermont. **Journal of Hydrology.**

Hackett, W. and Bierman, P.R. (in revision). Quantifying seventy years of landuse change in the Winooski River Basin, northern Vermont. **Journal of Environmental Management.**

Schildgen, T., Dethier, D., Bierman, P.R., and Caffee, M. (in revision) Cosmogenic age estimates for Pinedale and Bull Lake moraines in Colorado. **Arctic and Alpine Research.**

Portenga, E. W., Bishop, P., Rood, D. H., and Bierman, P. R. (in revision, 10/15) Retrospectively identifying initiation sites of erosion gullies using meteoric ^{10}Be and bulk sediment optically stimulated luminescence, **Earth and Planetary Science Letters**.

Reusser, L., Bierman, P. Rizzo, D. M., and Rood, D. H., (in revision, 12/14) Robustly characterizing landscape-scale erosion with in situ produced ^{10}Be. **Journal of Geophysical Research - Earth Surface**.

McCarthy, J.A., Schoenbohm, L. M., Bierman, P.R., Rood, D., Hidy, A.J. (in revision, 5/15) Late Quaternary Tectonics, Incision, and Landscape Evolution of

the Calchaquí River Catchment, Eastern Cordillera, NW Argentina, **JGR Earth Surface**.

Reuter, J., Bierman, P.R., Larsen, J., Pavich, M., and Finkel, R., (in revision, 2/16) Sediment dynamics in the Susquehanna River Basin inferred from in situ-produced ^{10}Be and contemporary sediment yield**. American Journal of Science.**

Greene, E. S., Bierman, P., Perdrial, N. (in review 5/2016). Towards a better understanding of Beryillium-10 and Beryllium-9 dynamics in river sediments. Geochimica et Cosmochimica Acta.

Portenga, E., Bierman, P.R., *Trodick*, C., *Dejong*, B., *Greene*, S., and Pavich, M. (in review, 4/16). Background rates of erosion and sediment generation in the Potomac River basin, USA, derived using in situ ^{10}Be, meteoric ^{10}Be, and ^{9}Be GSA Bulletin.

Singleton, A. A., Schmidt, A. H., Bierman, P. R., Rood, D., *Neilson*, T. B., *Greene*, E. S., *Bower*, J. A., and Perdrial, N. (in review, 2/16) Effects of grain size, mineralogy, and acid-extractable grain coatings on the distribution of the fallout radionuclides ^{7}Be, ^{10}Be, ^{137}Cs, and ^{210}Pb in river sediment, **Geochimica et Cosmochimica Acta**

Neilson, T.B., Bierman, P.R., Schmidt, A.H., Rood, D. and *Sosa Gonzalez,* V. (in review, 11/15) Background rates of erosion determined using ^{10}Be: contemporary impacts on long-term sediment budget estimates, SW China. **Journal of Geophysical Research - Earth Surface**.

Linari (Sullivan), C.L., Bierman, P.R., Portenga, E., Pavich, M.J., Finkel, R.C., Freeman, S. (in review, 2/16) Erosion and landscape evolution of the Blue Ridge escarpment, southern Appalachian Mountains, **Earth Surface Processes and Landforms**.

Sosa., V., Bierman, P. R., Nichols, K. K., Rood, D. H. (in press, 6/16) Long-term erosion rates of Panamanian drainage basins determined using in situ ^{10}Be. **Geomorphology**.

Sosa, V., Bierman, P. R., Fernandes, N. F., Rood, D. H. (2016) Denudation rates of Brazilian watersheds constrained with cosmogenic ^{10}Be **Geomorphology**. v. 268, p. 54–63, doi:10.1016/j.geomorph.2016.05.024.

Corbett, L., Bierman, P. R., Davis, P.T. (2016) Glacial history and landscape evolution of southern Cumberland Peninsula, Baffin Island, Canada, constrained by cosmogenic ^{10}Be and ^{26}Al , **Geological Society of America Bulletin**.

Corbett, L. B., Bierman, P. R., Rood, D. H., (2016) An approach for optimizing in situ cosmogenic ^{10}Be sample preparation, **Quaternary Geochronology**.

Corbett, L., Bierman, P. R., and Rood, D. H. (2016) Constraining multi-stage exposure-burial scenarios for boulders preserved beneath cold-based glacial ice in Thule, Northwest Greenland. **Earth and Planetary Science Letters**.

Bender, A. M., Amos, C. B., Bierman, P.R., Rood, D. H., Staisch, L., Kelsey, H., Sherrod, B. (2016) Differential uplift and incision of the Yakima River terraces, **Journal of Geophysical Research, Solid Earth.**

Portenga, E. W., Rood, D. H., Bishop, P. and Bierman, P. R. (2016) Isotopic evidence for a mid-Holocene landscape response to Aboriginal burning in southeastern Australia. **Geology**. doi:10.1130/G37257.1

DeJong, B. D., Bierman, P.R., Newell, W. L., Rittenour, T. M., Mahan, S.A., Balco, G., Rood, D. H. (2015), State and fate of mid-Atlantic sea levels from the geologic perspective. **GSA Today.**

Whitney, B. B.**,** Clark, D.**,** Hengesh, J. V., Bierman, P. R. (2015) Paleoseismology of the Mt. Narryer fault zone, Western Australia: a multi-strand intraplate fault system. **Geological Society of America Bulletin.** doi: 10.1130/B31313.1

Reusser, L., Bierman, P.R., and Rood, D. (2015) Quantifying human impacts on rates of erosion and sediment transport at a landscape scale. **Geology**. doi: 10.1130/G36272.1

Pupim, F. do N., P. R. Bierman, M. L. Assine, D. H. Rood, A. Silva, E. R. Merino, (2015). Erosion rates and landscape evolution of the northern border of the Brazilian Pantanal basin from cosmogenic ^{10}Be, **Geomorphology**, v. 234.

Duxbury, J., Bierman, P., Larsen, J., Pavich, M.J., Southworth, S., Miguéns-Rodríguez, M., and Freeman, S. (2015) Erosion rates in and around Shenandoah National Park, VA, determined using analysis of cosmogenic ^{10}Be: **American Journal of Science**.

Corbett, L., Bierman, P.R., *Lasher*, G.E., and Rood, D. (2015). Landscape chronology and glacial history in northwest Greenland. **Quaternary Science Reviews**, p. 57-67, 10.1016/j.quascirev.2014.11.019

Wyshnytzky, C., Ouimet, W.B., McCarthy, J. A., Dethier, D.P, Shroba, R.R., Bierman, P.R. (2015). Meteoric Be-10, clay, and extractable Fe depth profiles in the Colorado Front Range: Implications for soil mixing and slope stability. **Catena**. v. 127, p. 32–45.

Portenga, E., Bierman, P.R., Duncan, C., *Corbett*, L., Kehrwald, N. M. Rood, D. (2015). Erosion rates of the Bhutanese Himalaya determined using in situ-produced ^{10}Be. **Geomorphology**. dx.doi.org/10.1016/j.geomorph.2014.09.027

*McPhillips, D., Bierman, P.R., and Rood, D.R., 2014, Millennial-scale record of landslides in the Andes consistent with earthquake trigger: **Nature Geoscience**, v. 7, p. 925-930. doi:10.1038/ngeo2278.

Foley, F., Turner, S., Rushmer, T., Caulfield, J.T., Bierman, P.R., Daczko, N. R., Robertson, M., and Boyce, A.J. (2014) ^{10}Be, ^{18}O, and radiogenic isotopic constraints on the origin of adakitic signatures: A case study from Solander and Little Solander Islands, New Zealand. **Contributions to Mineralogy and Petrology.** 168:1048, 10.1007/s00410-014-1048-9

Nichols, K. K., Bierman, P. R. and Rood, D. (2014). ^{10}Be constrains the sediment sources and sediment yields to the Great Barrier Reef from the tropical Barron River catchment, Queensland, Australia. Geomorphology, 224, p. 102–110. dx.doi.org/10.1016/j.geomorph.2014.07.019

West, N., Kirby, E., Bierman, P., Clarke, B. (2014) Aspect-dependent variations in regolith creep revealed by meteoric ^{10}Be, **Geology**.

Nelson, A. H., Bierman, P. R., *Shakun, J. D., Rood, D. H. (2014), Using in situ cosmogenic ^{10}Be to identify the source of sediment leaving Greenland. **Earth Surface Processes and Landforms.** DOI: 10.1002/esp.3565

*McPhillips, D., Bierman, P.R., and Rood, D.R. (2013) Landscape response to Pleistocene-Holocene precipitation changes in the Western Cordillera, Peru: ^{10}Be concentrations in modern and terrace sediments, **Journal of Geophysical Research - Earth Surface**. v. 118, n. 4, p. 2488–2499, DOI: 10.1002/2013JF002837.

West, N., Kirby, E., Bierman, P., Slingerland, R., Ma, L., Brantley, S., and Rood, D. (2013). Regolith production and transport at the Susquehanna Shale Hills Critical Zone Observatory, Part 2: Insights from meteoric ^{10}Be. v. 118, n. 3. **JGR Earth Surface.** DOI: 10.1002/jgrf.20121

Vang, A. and Bierman, P., (2013) The cultural legacy of the Vermont Interstate System, in review, **Walloomsack Review**.

Corbett, L. Bierman, P., *Graly*, J., Neumann, T., Rood, D. (2013). Constraining landscape history and glacial erosivity using paired cosmogenic nuclides in Upernavik, Northwest Greenland. **Geological Society of America Bulletin**. v. 125, no. 9-10, 10.1130/B30813.1

Young, N., E. Briner, J., Rood, D., Finkel, R., *Corbett*, L., and Bierman, P. (2013), The Fjord Stade moraines in western Greenland and early Holocene abrupt climate change. **Quaternary Science Reviews**, v. 60, p. 76–90.

Portenga, E.W., Bierman, P. R., Rizzo, D M., Rood, D. H. (2013). Low rates of bedrock outcrop erosion in the central Appalachian Mountains inferred from in situ ^{10}Be. **Geological Society of America Bulletin**. v. 125, n. 1-2, p. 201-215.

Bacon, A. R., Richter, D., Bierman, P. R., and Rood, D. H., (2012) Coupling meteoric ^{10}Be with pedogenic losses of ^{9}Be to improve soil residence time estimates on an ancient North American interfluve. Geology, v. 40; no. 9; p. 1–4; doi:10.1130/G33449.1

Reusser, L. J., *Corbett*, L. B., and P. R. Bierman (2012), Incorporating concept sketching into teaching undergraduate geomorphology. **Journal of Geoscience Education**, v. 60, p 3-9.

West, N., Kirby, E., Bierman, P. R., Rood, D. (2011) Preliminary estimates of regolith generation and mobility in the Susquehanna Shale Hills Critical Zone

Observatory, Pennsylvania, using meteoric ^{10}Be. **Applied Geochemistry.** doi:10.1016/j.apgeochem.2011.03.053

Portenga, E. and Bierman, P. R. (2011). Understanding Earth's eroding surface with ^{10}Be. **GSA Today**, v. 21, n. 8, p. 4-10.

Corbett, L. B., *Young*, N.E., Bierman, P. R., Briner, J. P., Neumann, T.A., *Graly*, J.A, and Rood, D. H. (2011) Paired bedrock and boulder ^{10}Be concentrations resulting from early Holocene ice retreat near Jakobshavn Isfjord, western Greenland **Quaternary Science Reviews,** doi:10.1016/j.quascirev.2011.04.001.

Graly, J., *Reusser*, L., and Bierman, P. R., (2011). Short and long-term delivery rates of meteoric ^{10}Be to terrestrial soils. **Earth and Planetary Science Letters**, v. 302, Issues 3-4, p. 329-336, doi:10.1016/j.epsl.2010.12.02

Reusser, L., *Graly*, J., Bierman, P. R., and Rood, D., (2010). A new approach for constraining long-term meteoric ^{10}Be deposition rates. **Geophysical Research Letters,** v. 37, LXXXXX, doi:10.1029/2010GL044751

Graly, J., Bierman, P. R., Reusser, L., and Pavich, M., (2010) Meteoric ^{10}Be in soil profiles – a global meta-analysis. **Geochimica et Cosmochimica Acta,** doi:10.1016/j.gca.2010.08.036

Pearce, A., Bierman, P. R., Druschel, G.K. , Massey, C., Rizzo, D.M., Watzin, M.C., and Wemple, M.C. (2010) Pitfalls and successes of developing an interdisciplinary watershed field camp**. Journal of Geoscience Education,** v. 58 (3), 213-220.

*Matmon, A., Briner, J., Carver, G., Bierman, P., and Finkel, R, (2010), Moraine chronosequence of the Donnelly Dome region, Alaska: Implications for late Pleistocene glacial history of interior Alaska, **Quaternary Research**. 10.1016/j.yqres.2010.04.007

Besaw, L. E., Rizzo, D. M., Bierman, P. R., and *Hackett*, W. R. (2010). Advances in ungauged streamflow prediction using artificial neural networks. **Journal of Hydrology,** v. 386, p. 27-37, doi:10.1016/j.jhydrol.2010.02.037

Reusser, L. and Bierman, P.R. (2010). Tracking fluvial sand through the Waipaoa River Basin, New Zealand, with meteoric ^{10}Be. **Geology**, 10 v. 38; no. 1; p. 47–50; doi: 10.1130/G30395.

Jungers, M.C., Bierman, P.R., *Matmon, A., Nichols, K., Larsen, J., and Finkel, R. (2009) Tracing hillslope sediment production and transport with in situ and meteoric ^{10}Be: **Journal of Geophysical Research – Earth Surface**, 114 (F04020).

Parris, A.S., Bierman, P.R., *Noren*, A. J., Prins, M., Lini, A. (2009), Holocene paleostorms identified by particle size signatures in lake sediments from the northeastern United States. **Paleolimnology**. DOI 10.1007/s10933-009-9311-1

Hunt, A.L., Larsen, J., Bierman, P.R. and Petrucci, G.A. (2008) Investigation of factors which affect the sensitivity of accelerator mass spectrometry (AMS) for

cosmogenic ^{10}Be and ^{26}Al isotope analysis. **Analytical Chemistry**. 10.1021/ac701742p.

Reusser, L. and Bierman, P. R. (2007) Accuracy assessment of LiDAR-derived DEMs of bedrock river channels: Holtwood Gorge, Susquehanna River. **Geophysical Research Letters**, special section, new perspectives on Earth from laser swath mapping. V. 34, L23S06, doi:10.1029/2007GL031329.

Nichols, K.K., Bierman, P.R., Eppes, M.C., Caffee, M.W., Finkel, R., and Larsen, J. (2007). Timing of surficial process changes down a Mojave Desert piedmont. **Quaternary Research**: v. 68, p. 151-161.

Hunt, A.L., Petrucci, G.A., Bierman, P.R. and Finkel, R.C. (2007) Investigation of metal matrix systems for cosmogenic ^{26}Al analysis by Accelerator Mass Spectrometry **Nuclear Instruments and Methods in Physics Research** Section B: Beam Interactions with Materials and Atoms, B260, p.633–636.

Nichols, K.K., Bierman, P.R., Foniri, W.R., Gillespie, A.R., Caffee, M.W., Finkel, R., (2006), Dates and rates of arid region geomorphic processes revealed by analysis of cosmogenic nuclides, **GSA Today**: v. 16, no. 8, doi: 10.1130/GSAT01608.1, p. 4-11.

Reusser L., Bierman, P., Pavich, M., Larsen, J., and Finkel, R. (2006) An episode of rapid bedrock channel incision during the last glacial cycle, measured with ^{10}Be: **American Journal of Science,** Vol. 306, p. 69-102.

Hunt, A.L., Petrucci, G.A., Bierman, P.R. and Finkel, R.C. (2006) Metal matrices to optimize anion beam currents for accelerator mass spectrometry: **Nuclear Instruments and Methods in Physics Research** Section B: Beam Interactions with Materials and Atoms, v. 243, n. 1, p. 216-222, doi:10.1016/j.nimb.2005.07.220

Nichols, K.K, Bierman, P.R., Eppes, M. C., Finkel, R., Caffee, and Larsen, J., (2005) Late Pleistocene and Holocene history Mojave desert piedmonts, at Chemehuevi mountain and elsewhere, deciphered using ^{10}Be and ^{26}Al. **American Journal of Science.**

Nichols, K.K, Bierman, P.R., Finkel, R., Caffee, and Larsen, J., (2005) Cosmogenically enabled sediment budgeting, **GEOLOGY**. 33: 133-136.

Persico, L., *Nichols*, K, and Bierman, P.R., (2005) Tracking painted pebbles: rates of sediment movement on four Mojave desert piedmont surfaces. **Water Resources Research,** v. 41, W07004, doi:10.1029/2005WR003990, 2005

Reusser, L., Bierman, P.R., Pavich, M., Zen, E., Larsen, J., and Finkel, R. (2004) Rapid Late Pleistocene incision of Atlantic passive-margin river gorges, **SCIENCE**, v. 305, 409-502

*Matmon, A., Bierman, P. R., Larsen, J., Southworth, S., Pavich, M., Finkel, R., and Caffee, M. (2003) Erosion of an Ancient Mountain Range, the Great Smoky

Mountains, North Carolina and Tennessee, **American Journal of Science**. v. 303, n. 9, p. 817-855.

Butler, E., Bierman, P.R., Gadja, R. (2003) Making geoscience interesting and relevant in a large lecture class, **EOS,** vol. 84, n 47, p 517, 522.

Nichols, K.K., Bierman, P.R., Persico, L., Bosley, A., Melillo, P., and Kurfis, J. (2003) Quantifying land use and urban run off changes through service learning hydrology projects. **Journal of Geoscience Education,** v. 51, n. 4, p.365-372.

*Matmon, A., Crouvi, O., Enzel, Y., Bierman, P.R., Larsen, J., Porat, N., Amit, R., and Caffee M. (2003) Complex exposure histories of chert clasts in the late Pleistocene shorelines of Lake Lisan, southern Israel. **Earth Surface Processes and Landforms,** 28, 493–506, 2003.

Briner, J.P., Miller, G.H., Davis, P.T., Caffee, M., Bierman, P., and Finkel, R. (2003) Last Glacial Maximum erratics perched on ancient tors in Arctic Canada: Implications for ice sheet dynamics. **Quaternary Science Reviews.** v. 22, p. 437-444.

*Matmon, A., Bierman, P.R., Larsen, J., Southworth, S., Pavich, M., and Caffee, M., (2003) Temporally and spatially uniform rates of erosion in the southern Appalachian great Smoky Mountains, **Geology.** v. 31; no. 2; p. 155–158

Jennings, K., Bierman, P., and Southon, J. (2003) Timing and style of deposition on humid-temperate fans, Vermont, U.S.A., **Geological Society of America Bulletin,** v. 115, n.2, p.182–199.

Schildgen, T., Dethier, D., Bierman, P.R., and Caffee, M. (2002) ^{26}Al and ^{10}Be dating of late Pleistocene and Holocene fill terraces: a record of glacial and non-glacial fluvial deposition and incision, Colorado Front Range, **Earth Surface Processes and Landforms,** 27, 773-787.

*Matmon, A., Bierman, P.R., and Enzel, Y., (2002) Pattern and tempo of great escarpment erosion, **Geology**, 30, No. 12, p. 1135–1138.

Brown, S. L., Bierman, P.R., Lini, A., Davis, P.T., Southon, J., (2002) Reconstructing lake and drainage basin history using terrestrial sediment layers: analysis of cores from a post-glacial lake in New England. **Journal of Paleo Limnology.** v. 28, n. 2, p. 219-236.

Noren, A., Bierman, P.R., Steig, E., Lini, A., and Southon, J., (2002), Millennial scale storminess variability in the northeastern United States during the Holocene epoch, **NATURE**, v. 419, 821-824.

Clapp, E., Bierman, P.R., and Caffee, M. (2002) Using ^{10}Be and ^{26}Al to determine sediment generation rates and identify sediment source areas in an arid region drainage basin, **Geomorphology**. v.45 (1,2), p. 67-87

Nichols, K. K., P. R. Bierman, R. L. Hooke, E. M. Clapp and M. Caffee (2002) Quantifying sediment transport on desert piedmonts using in situ produced ^{10}Be and ^{26}Al. **Geomorphology.** v. 45 (1,2), p. 89-104

Nichols, K.K, and Bierman, P.R. (2001) Fifty four years of ephemeral channel response to intense military activity at Camp Iron Mountain, Mojave Desert, California, Environmental and Engineering Impacts of Military Operations. **Geological Society of America Reviews of Engineering Geology**, v. XIV. p. 123-136.

Mitchell (Gran), *Matmon, A S., Bierman, P.R., D., Enzel, Y., Caffee, M., and Rizzo, D. (2001) Displacement history of a limestone normal fault scarp northern Israel from cosmogenic ^{36}Cl. **Journal of Geophysical Research.** v. 106 , n. B3 , p. 4247-4265.

Clapp, E., Bierman, P.R., Pavich, M., and Caffee, M. (2001) Rates of sediment supply to arroyos from uplands determined using in situ produced cosmogenic ^{10}Be and ^{26}Al in sediments. **Quaternary Research.** v. 55, n. 2. P. 235-245.

Zehfuss, P. H, Bierman, P.R., Gillespie, A. R., Burke, R. M., and Caffee, M.W. (2001) Slip rates on the Fish Springs fault, Owens Valley, California deduced from cosmogenic ^{10}Be and ^{26}Al and relative weathering of fan surfaces. **Geological Society of America Bulletin**. v. 113 (2), p. 241-255.

Marsella, K., Bierman, P. R., Davis, T., and Caffee, M. (2000) Deglacial dynamics and timing, Pangnirtung Fjord and Kolik Valley, Baffin Island, Canada. **Geological Society of America Bulletin**, v.112, p. 1296-1312.

Clapp, E. M., Bierman, P.R., Schick, A. P. Lekach, J., Enzel, Y., and Caffee, M., (2000) Sediment yield exceeds sediment production in arid region drainage basins, **Geology**. 28, p. 995-998.

Brown, S. L., Bierman, P.R., Lini, A., and Southon, J., (2000) A 10,000 year record of extreme hydrologic events, **Geology**, 28, 335-338.

Abbott, M., Lini, A., Bierman, P., Wright, S., (2000) Delta ^{18}O, delta D and ^{3}H measurements constrain groundwater recharge patterns in an upland fractured bedrock aquifer, Vermont, USA. **Journal of Hydrology.** 228, p. 101-112.

Gran, S. *Nichols*, K., and Bierman, P. R., (1999) Teaching winter using frozen lakes and snowy mountains, **Journal of Geoscience Education.** v. 47, p. 420-427.

Loso, M., Schwartz, H., Wright, S., and Bierman, P. (1998) Morphology, composition, and genesis of a moraine-like feature in the Miller Brook valley, Vermont, **Northeastern Geology and Environmental** Sciences, v. 20 no. 1, 1-10.

Clapp, E., Bierman, P., *Church*, A. B., *Larsen*, P. L., *Schuck*, R. A. and Hanzas, J. P. (1996) Teaching Geohydrology through analysis of groundwater resources and glacial geology, northwestern Vermont. **Journal of Geoscience Education**. 44, 45-51.

Conference Proceedings

Borg, J., Dewoolkar, M.M., and Bierman, P (2012) Assessment of streambank stability – a case study. Proceedings of the **GeoCongress 2013 conference**.

Reuter, J., Bierman, P.R., Pavich, M., Gellis, A., Larsen, J., and Finkel, R., 2003, Long-term sediment-generation rates derived from ^{10}Be in river sediment of the Susquehanna River Basin, In "Channeling through time: Landscape evolution, land use change, and stream restoration in the lower Susquehanna Basin", Merritts, D. Walter, R. and de Wet, A., (eds.), **Southeastern Friends of the Pleistocene Fall 2003 Guidebook**, p. 48-55.

Reusser, L. Bierman, P.R., Pavich, M., *Butler*, E., Larsen, J., and Finkel, R., 2003, Late Pleistocene bedrock channel incision of the lower Susquehanna River: Holtwood Gorge, Pennsylvania. In "Channeling through time: Landscape evolution, land use change, and stream restoration in the lower Susquehanna Basin", Merritts, D. Walter, R. and de Wet, A., (eds.), **Southeastern Friends of the Pleistocene Fall 2003 Guidebook**, p. 41-45.

Gellis, A., Pavich, M., Bierman, P. R., Ellwein, A., Aby, S., and *Clapp*, E., (2001) Comparison of geomorphic and isotopic measurements for erosion in the Rio Puerco, New Mexico, *in* **U.S. Geological Survey Middle Rio Grande Basin Study**, proceedings of the fourth annual workshop, Albuquerque, p. 46-47.

Bierman, P.R., Wright, S., and *Nichols*, K.K., (1999) Slope stability and late Pleistocene/Holocene history, Northwestern Vermont, **New England Intercollegiate Geologic Conference Guidebook**, A-2 p. 1-34.

Clapp, E.M., Bierman, P.R., Caffee, M.W. (1999) Sediment generation and export rates in the Nahal Yael drainage basin, determined from cosmogenic ^{10}Be and ^{26}Al, Negev Desert, southern Israel, in **Drainage Basin dynamics and morphology, conference excursion, Negev Desert**, Lekach, J. and Hassan, M.A, eds., Hebrew University Jerusalem, p. 98-103.

Wright, S. F., *Whalen*, T. N., Zehfuss, P. H., and Bierman, P. R. (1997) Late Pleistocene-Holocene history: Huntington River and Miller Brook valleys, northern Vermont**, New England Intercollegiate Geologic Conference Guidebook,** C4, 1-30.

Bierman, P. and Gillespie, A. (1994, 1995, 1997) Short course notes for "Geomorphic application of cosmogenic isotopes". **Geological Society of America annual meeting**, Seattle, 112 p.

Bierman, P. R. and Harry, K. (1992) Rock varnish cation-ratios may not be a reliable method for dating lithic artifacts: in P. Vandiver, J. Drusik, G. Wheeler and I. Freestone, Materials Issues in Art and Archeology III, **Materials Research Society Proceedings,** Pittsburgh, 165-178.

Bierman, P. R., Gillespie, A. R., Whipple, K. X., & Clark, D. H. (1991) Quaternary geomorphology and geochronology of Owens Valley, California. In M. J. Walawender & B. B. Hanan (Eds.), **Geological excursions in southern California and Mexico, Guidebook, 1991, Geological Society of America annual meeting** (pp. 199-223) Geological Society of America.

Bierman, P., Marler, L., & Martin, B. (1988) Ground water in an upland valley -- the lingering influence of a glacial lake, Williamstown, Massachusetts. **Proceedings of FOCUS conference, New England, National Water Well Association**, 274-298.

Books and Book sections

Bierman, P. and Montgomery, D. (2013). Key Concepts in Geomorphology, W.H. Freeman, ISBN-10: 1429238607. 1st edition. 494 p.

Bierman, P. R. (2013) Sandy: The Superstorm of 2012, Cengage Learning, 29 pp. ISBN-13: 978-1-285-77578-4

Pipkin, B., Trent, D.D., Hazlett, R, and Bierman, P., 2013, Geology and the Environment, 7th edition, Brookes Cole, Belmont, CA, 624 p.

Pipkin, B., Trent, D.D., Hazlett, R, and Bierman, P., 2011, Geology and the Environment, 6th edition, Cengage, Belmont, CA, 507 p.

Pipkin, B., Trent, D.D., Hazlett, R, and Bierman, P., 2008, Geology and the Environment, 5th edition, Thompson, Belmont, CA, 505 p.

Book Chapters (peer reviewed)

Bierman, P., (2015) *The incision history of the Great Falls of the Potomac River—The Kirk Bryan 2015 field trip*, in Brezinski, D.K., Halka, J.P., and Ortt, R.A, Jr., eds., Tripping from the Fall Line. **Geological Society of Field Guide 40**, doi:10.1130/2015.0040(01). p.1-10.

Bierman, P. R., *Geomorphology, Linking Past and Present in* Challenges and Perspectives section, Gregory, K.J and Goudie, A.S. (eds.), (2014) (paperback). The Sage **Handbook of Geomorphology**. Sage Publications, Los Angeles, London, New Delhi, Singapore, p. 571-572.

Bierman, P. R., *Geomorphology, Linking Past and Present in* Challenges and Perspectives section, Gregory, K.J and Goudie, A.S. (eds.), (2011). The Sage **Handbook of Geomorphology**. Sage Publications, Los Angeles, London, New Delhi, Singapore, p. 571-572.

Bierman, P. R., (2010), Clearcutting, Reforestation, and the coming of the Interstate: Vermont's Photographic Record of Landscape Use and Response *in* **Repeat Photography: Methods and Applications in the Geological and Ecological Sciences,** Webb, R. H., Boyer, D.E., and Turner, R.M. (eds.), Cambridge University Press, p. 105-116.

Jennings C.E., Aber J.S., Balco G., Barendregt R., Bierman P.R., Rovey C.W., Roy M., Thorleifson L.H., Mason J.A., (2007). Glaciations: mid-Quaternary in North America. in Elias S.A., ed., **Encyclopedia of Quaternary Science**. Volume 2, pp. 1044-1051.

Nichols, K.K., Bierman, P.R., Finkel, R., and Larsen, J. (2005). Long-term sediment generation rates for the upper Rio Chagres Basin: Evidence from cosmogenic ^{10}Be, in: **The Rio Chagres: A Multidisciplinary Profile of a Tropical**

Watershed. R.S. Harmon (ed.), Springer. p. 297-313.

Bierman, P., Zen, E., Pavich, M. and *Reusser*, L. (2004) The incision history of a passive margin river, the Potomac near Great Falls. **United States Geological Survey Circular** 1264, p. 191-221.

Bierman, P.R., Caffee, M.W., Davis, P.T., *Marsella*, K., Pavich, M., Colgan, P., Mickelson, D., and Larsen, J. (2003) Rates and timing of Earth surface processes from in-situ produced cosmogenic ^{10}Be, in: Beryllium: Mineralogy, Petrology, and Geochemistry, **Reviews in Mineralogy**, v. 50, Ed. E. Grew., p.147-196.

Bierman, P., *Clapp*, E.M., *Nichols*, K.K, Gillespie, A.R., Caffee, M. (2001) Using cosmogenic nuclide measurements in sediments to understand background rates of erosion and sediment transport, *in* **Landscape Erosion and Evolution Modeling**, Harmon, R. S. and Doe, W. W., *eds*., Kluwer/Plenum, New York. p. 89-116.

Bierman, P.R. (2000) Henry's Land, in **The Earth Around Us: Maintaining A Livable Planet**, J. Schniederman, ed., Freeman, p. 47-56.

Bierman, P.R., Albrecht, A., Bothner, M., Brown, E., Bullen, T., Gray, L., Turpin, L., (1998) Weathering, erosion and sedimentation, in, Kendall, C., and McDonnell, J. J., **Isotope Tracers in Catchment Hydrology**, chapter 23, Elsevier, p. 647-678.

Schneider, J. S., and Bierman, P. R., (1997) Surface dating using rock varnish, in, R. E. Taylor and M. Aitken, **Chronometric dating in archaeology**, Chapter 12, Plenum Press, 357-388.

Abstracts

Bierman, P. R., (2015) Using ^{10}Be to decipher the incision history of the Potomac River near Great Falls. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 240-2

Bierman, P. R., *Portenga, E.W*., and Kirby, E. (2015) Mapping erosion of the Appalachian Mountains using cosmogenic ^{10}Be. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 268-7

Bierman, P.R., and Davis, P.T., Corbett, L. B., and Lifton, N. (2015) Old Surfaces at the top of New England's highest peaks suggest weakly erosive ice. **Geological Society of America abstracts with Programs**, NE section meeting, Bretton Woods, NH. Abstract No: 253626

Bierman, P. R., *Corbett, L.,* Shakun, J., and Rood, D., (2014) Cosmogenic Isotopic Tracing of Sediment Generated By the Greenland Ice Sheet, **EOS, Transaction of American Geophysical Union**, Fall meeting, EP33C-3652,

Bierman, P., Fernandes, N., *Sosa-Gonzalez, V*., Rood, D. H., Massey, C. (2014) Cosmogenic 10-Be analysis of debris flow boulders and sediment from Brazil indicates long return times, **Geological Society of America Abstracts with Programs**, abstract no: 247773

Bierman, P.R., (2014) Multi-isotope analysis of Greenlandic outcrops and sediment

indicates erosion and exposure history of the Greenland Ice Sheet. **AMS-13**, pre-meeting workshop, Aix, France.

Bierman, P.R., (2014) 10-Be remote sensing of the ice/rock/regolith interface under the Greenland Ice Sheet, **Joint model-data workshop for the Late Pleistocene evolution of the Greenland and Antarctic ice sheets**, Grenoble, France.

Bierman, P. R., Montgomery, D. R., Massey, C.A., (2013) Key Concepts in Geomorphology - NSF supports community-based creation of a new style of textbook, **EOS Transactions of the American Geophysical Union**, ED23E-01.

Bierman, P. and *Shakun, J., (2013), In situ produced ^{10}Be in marine sediment records 7 million years of Greenland ice sheet erosion in response to changing climate. **Geological Society of American annual meeting.**

Bierman, P., Montgomery, D., and Massey, C., (2013), Key concepts in geomorphology – a future-looking community-based textbook that builds on our past. **Geological Society of American annual meeting.** (2013)

Bierman, P.R., (2013), Quaternary cosmogenic geochronology - rates and dates - past, present, and future. **Geological Society of American annual meeting.**

Bierman, P.R. (2013). Cosmogenic evidence for profound landscape disequilibrium and pre-Pleistocene landscapes in South Africa. **International Association of Geomorphologists Meeting**, Paris

Bierman, P., Rood, D., *Corbett*, L. and *Graly*, J., (2013). The Greenland Ice Sheet erodes its bed some places but not in others. **International Association of Geomorphologists Meeting**, Paris

Bierman, P.R., *Corbett*, A. B., *Graly* J., and Rood D., (2013). Where does sediment in the Greenland Ice Sheet come from? **NE Geological Society of America Abstracts with Programs**, Paper No. 33-5.

Bierman, P., Rood, D., *Corbett*, L., *Nelson*, A. and *Shakun, J. (2013) Using 10-Be in sediment to understand the long-term behavior of the Greenland Ice Sheet, **European Geosciences Union**, EGU2013-8159 EGU2013-8159

Bierman, P.R., Montgomery, D., Massey, C., *Reusser*, L., (2013). A new geomorphology textbook, created in a new way, **NE Geological Society of America Abstracts with Programs**, Paper No. 11-8.

Bierman, P., Rood, D., *Corbett*, L., (2012) High-precision, high-resolution, post-glacial emergence curves for southern Greenland generated with in situ cosmogenic 10-Be. **EOS**, Transactions of the American Geophysical Union.

Bierman, P., Rood, D., *Corbett*, L., and *Graly*, J. (2012) Cosmogenic ^{10}Be views on the basal erosion history of the Greenland Ice Sheet. **International Ice Core Conference,** Toulon, France.

Bierman, P.R., *Corbett*, A. B., *Reusser* L., *Graly* J., Finkel R., Rood D., Hughes, J., Lini, A., and Neumann, T., 2011, Ancient, slowly-eroding soil preserved beneath the summit of the Greenland Ice Sheet. **Geological Society of America**

Abstracts with Programs.

Bierman, P.R., Reusser, L. and *Portenga*, E., 2011, Using ^{10}Be to quantify rates of landscape change in 'dead' Orogens – millennial scale rates of bedrock and basin-scale erosion in the southern and central Appalachian Mountains. **EOS**, Transactions of the American Geophysical Union.

Bierman, P.R., *Corbett*, A. B., *Reusser* L., *Graly* J., Finkel R., Rood D., and Neumann, T., 2011, Erosivity of the Greenland Ice Sheet monitored with in situ and meteoric 10-Be in exposed bedrock and boulders and in ice-carried clasts and silt. **INQUA Conference**, Bern Switzerland.

Bierman, P.R., *Portenga*, E.*, Reusser L., Graly* J., *Corbett*, A. B., *Borg*, J. (2010) Three decades tracing erosion and sediment with cosmogenic nuclides - where do we go next? **Landscapes to Rock**, Geological Society of London.

Bierman, P., *Corbett*, A. B., *Reusser* L., *Graly* J., Finkel R., Rood D. and T. Neumann (2010) River response to Greenland deglaciation monitored with cosmogenic 10-Be: a new way of detecting and quantifying post-glacial emergence. **International Polar Year Conference**, Oslo.

Bierman, P., *Corbett*, A. B., *Reusser* L., *Graly* J., Finkel R., Rood D. and T. Neumann (2010) Quantifying post-glacial emergence at Kangerlussuaq, Greenland using 10-Be dating of bedrock forms exposed by river incision. **Arctic Workshop**, Winter Park, CO.

Bierman, P., *Reusser*, L. J., *Nichols*, K. K., *Matmon, A. and Rood, D., (2009). Where is the sediment coming from and where is it going – a ^{10}Be examination of the northern Queensland escarpment, Australia. **Geological Society of America Abstracts with Programs**. Paper No. 244-39.

Bierman, P. R., *Reusser*, L., and Pavich, M. (2009) New ways of using an old isotopic system – meteoric 10-Be is back and ready to do geomorphology. **Geophysical Research Abstracts**, vol. 11, EGU2009-0, 2009

Bierman, P.R., *Jungers*, M., *Reusser*, L., and Pavich, M., (2008), Look again: meteoric 10-Be Is a useful tracer of hillslope and basin-scale process: **Geological Society of America Abstracts with Programs**, p. 165-6.

Bierman, P., *Reusser*, L., *Sulllivan*, C., *Duxbury*, J., *Jungers*, M., *Reuter*, J. Larsen, J., Pavich, M., and Finkel, R. (2007), A geochronologic glimpse into how ancient mountain ranges erode. **Geological Society of America Abstracts with Programs**.

Bierman, P. R., *Nichols*, K. K., *Sullivan*, C., *Duxbury*, J, and *Matmon, A. (2007) Little influence of grain size on cosmogenic 10-Be concentration in river sediment. **Geological Society of America Abstracts with Programs**.

Bierman, P.R., *Nichols*, K.K., *Matmon, A., Enzel, Y., Larsen, J., Finkel, R. (2007) 10-Be shows that Namibian drainage basins are slowly, steadily and uniformly

eroding, Abstracts of **the International Quaternary Union meeting**, Cairns, Australia, Quaternary International v. 167–168 p. 33.

Bierman, P., Pavich, M., *Reusser*, L., *Matmon, A., *Sullivan*, C., *Duxbury*, J., Larsen, J., Finkel, R., and *Reuter*, J. (2006) Erosion In An Old Decaying Mountain Range – The Appalachians. **Geological Society of America Abstracts with Programs**.

Bierman, P., Massey, C., and Manduca, C. (2006) The Textbook: Dead? Or Alive! **Geological Society of America Abstracts with Programs**.

Bierman, P.R., K.K. *Nichols*, *Jungers*, M., Larsen, J and R. Finkel (2006) More than rates or dates: The power of amalgamation when tracing landscape-scale processes with Be**, Geochimica et Cosmochimica Acta** Volume 70, Issue 18, Supplement 1 , August-September 2006, Page 1

Bierman, P., and Massey, C. (2005) How a modest REU supplement led to a paper in GSA Today, **Geological Society of America Abstracts with Programs**.

Bierman, P., Stanley-Mann, E., Howe, J., Peabody, M., Hilke, J. and Massey, C. (2004) A web-based time machine -- picturing two centuries of landscape change, **Geological Society of America Abstracts with Programs**. 85-14

Bierman, P. and *Nichols*, K., 2004, Oh where, oh where did the sediment go: two decades of tracking desert sand from source to sink with 10-Be, **Geological Society of America Abstracts with Programs,** paper No. 164-9

Bierman, P., Massey, C., and Hilke, J., (2004) The *landscape change program*: a community digital archive of Vermont landscape imagery, **Vermont Geological Society** winter meeting.

Bierman, P.R., *Reusser*, L.J., Pavich, M.J., Zen, E.A., Larsen, J., and Finkel, R. (2004), Great Falls is 30,000 years old - episodic incision along the Potomac River revealed using field mapping and 10-Be analysis, **Geological Society of America Abstracts with Programs**

Bierman, P.R., Pavich, M.J., *Reusser*, L.J., Zen, E.A., Finkel, R., and Larsen, J. (2002) Major, climate-correlative incision of the Potomac River Gorge at Great Falls about 30,000 years ago **Geological Society of America Abstracts with Programs** 34(6)

Bierman, P.R., Pavich, M., Eaton, L.S., Finkel, R., and Larsen, J. (2002) The boulders of Madison County, **Geological Society of America Abstracts with Programs** 34(6)

Bierman, P.R., *Nichols*, K.K, *Clapp*, E., *Matmon, A., Caffee, M., and Finkel, R. (2002) Tracking landscape scale sediment generation and transport using ^{10}Be and ^{26}Al. Abstracts of Goldschmidt Conference, **Geochimica et Cosmochimica Acta. v**. 66. S1, A-77

Bierman, P.R., Pavich, M., Gellis, A., and Caffee, M., (2001) Erosion of the Rio Puerco Basin, New Mexico – First cosmogenic analysis of sediments from the

network of a drainage large basin, **Geological Society of America Abstracts with Programs,** 32(7), A-314 (National)

Bierman, P.R., *Nichols*, K.K., *Clapp*, E.M., and Caffee, M.W. (2000) Comparing geologic rates of change to those occasioned by General George S. Patton, **Annual Meetings Program**, American Society of Agronomy and Soil Science Society of America, 2000 annual meeting, p. 74. (National)

Bierman, P.R., Davis, P.T., and Caffee, M. W. (2000) Old surfaces on New England summits imply thin Laurentide ice, **Geological Society of America Abstracts with Programs**, 31 (7), A-330. (National)

Bierman, P.R., *Brown*, S, *Jennings*, K. and *Noren*, A. (1999) The Holocene record of hillslope erosion in Vermont: five years of chasing paleo-storms and the effects of clear cutting. **New England Intercollegiate Geologic Conference Guidebook.** Pre-meeting workshop. (Local)

Bierman, P., Caffee, M., and *Matmon, A. (1999) Rates of rock surface erosion and sediment production across the hyperarid Namib desert and the great Namibian escarpment, southern Africa, **Geological Society of America Abstracts with Programs**, 31, 7, A-297 (National)

Bierman, P., *Clapp*, E., Caffee, M., and Schroeder, P. (1999) Understanding Earth surface processes with 10-Be (and a little 26-Al), **Geological Society of America Abstracts with Programs**, 31, 7, A-305 (National)

Bierman, P. R., (1999) Traces of the past. **Geological Society of America Abstracts with Programs.**, 31, 7, A-61 (National)

Bierman, P., *Clapp*, E., Massey, C., and, Caffee, M., (1999) Tracing sediment through drainage basins with cosmogenic radionuclides, ^{10}Be and ^{26}Al. **International Conference on Drainage basin Dynamics and Morphology,** Jerusalem, p. 8 (International)

Bierman, P.R., Davis, P. T., *Marsella*, K., Colgan, P., Mickelson, D.M., *Larsen*, P. and Caffee, M. (1998) What do glaciers take away? What do they leave behind? **Geological Society of America Abstracts with Programs**, 30, 7, A-299 (National)

Bierman, P.R., Nies, S., Zehfuss, P, Burke, R., Gillespie, A. and Caffee, M. (1998) 10-Be and 26-Al age estimates for five tectonically offset fan surfaces, Owens Valley, CA. **Geological Society of America Abstracts with Programs**, 30, 7, A-141 (National)

Bierman, P. R. (1998), Catastrophic Results of Colonial Clearcutting:, **American Association for the Advancement of Science** National Meeting, Philadelphia, A-40. (International)

Bierman, P. R., Lini, A., *Brown*, S., Davis, P.T., and Zehfuss, P. (1997) Fans and pond sediments record concurrent episodes of hillslope erosion **Geological Society of America Abstracts with Programs.** 29(7) A-411 (National)

Bierman, P. R. and Caffee, M. (1997) Measuring multiple cosmogenic nuclides: what they tells us about the stability and cover history of bedrock surfaces, **Geological Society of America Abstracts with Programs** 29, 7, A-170 (National)

Bierman, P. R., *Marsella*, K. A., Davis, P. T., and Caffee, M. W. (1996) Old arctic upland bedrock surfaces have complex exposure burial and cosmogenic exposure histories: **EOS**, v. 77, F192-193 (National)

Bierman, P. R., and Caffee, M. (1996) Pre-Pleistocene bare rock landforms of Australia have complex geomorphic and cosmogenic exposure histories: **Geological Society of America Abstracts with Programs**, v. 28 (7), A-306. (National)

Bierman, P. (1996) Cosmogenic clues to the tempo of environmental change, AMSIE '96, **American Association or the Advancement of Science**, p. A-146 (International)

Bierman, P., *Larsen*, P., *Clapp*, E. and Clark, D. (1996) Refining estimates of 10-Be and 26-Al production rates, **Radiocarbon**. v. 38, n. 1, p 149. (International)

Bierman, P. (1995) How fast do rocks erode? New answers from atom counting. **Geological Society of America Abstracts with Programs.** 27, A-44 (National)

Bierman, P. R., Gillespie, A. R. and Caffee, M. (1995) First ^{10}Be , ^{26}Al, and ^{36}Cl age-estimates for earthquake recurrence intervals and debris flow fan deposition, Owens Valley, California. **Geological Society of America Abstracts with Programs** , 27 (7), A-376 (National)

Bierman, P. R. (1995) How quickly does granite erode -- evidence form analyses of in situ produced 10-Be, 26-Al, and 36-Cl. **Terra Nostra**, INQUA, Berlin, 26. (International)

Bierman, P. R. (1995) A new method of estimating basin scale erosion rates -- measurement of in situ produced ^{10}Be and ^{26}Al in sediments: **EOS**, 76, S143. (National)

Bierman, P. and Caffee, M. (1994) Cosmogenic erosion rate estimates for granite landforms; Eyre Peninsula, South Australia. **Geological Society of America Abstracts with Programs**, 26(7), A256. (National)

Bierman, P., Gillespie, A., Caffee, M. (1993) Cosmogenic isotope exposure age estimates for Lone Pine Creek debris-flow fan boulders, southeastern Sierra Nevada, **Geological Society of America Abstracts with Programs,** 25(6), A461. (National)

Bierman, P., Gillespie, A., Caffee, M. and Elmore, D. (1993) Erosion rate and exposure age of granite landforms estimated using ^{36}Cl, **Geological Society of America Abstracts with Programs,** 25(6), A141. (National)

Bierman, P. & Steig, E. (1992) Using cosmogenic isotopes to measure basin-scale rates of erosion. **Geological Society of America Abstracts with Programs**, 24(7), A122. (National)

Bierman, P. & Gillespie, A. (1991) Lowering rates of granitic landforms determined by measurement of in situ produced cosmogenic nuclides. **EOS,** 72(44), 575. (National)

Bierman, P. & Gillespie, A. (1991) The evolution of granitic landforms -- field observations and cosmogenic insights. **Geological Society of America Abstracts with Programs**, 23(5), A89. (National)

Bierman, P. & Gillespie, A. (1990) An independent evaluation of the potential precision and accuracy of rock-varnish cation ratio dates. **Geological Society of America Abstracts with Programs**, 22(7), A270. (National)

Bierman, P. & Gillespie, A. (1990) Range Fire: A dramatic and significant factor in the dating and evolution of geomorphic surfaces. **Geological Society of America Abstracts with Programs**, 22(7), A109. (National)

Bierman, P. & Gillespie, A. (1990) Varnish cation-ratio ages -- How precise can they be? **Geological Society of America Abstracts with Programs,** 22(3), A8. (Cordilleran)

Bierman, P. & Gillespie, A. (1989) Rock varnish, alluvial fans, and tectonism in the southern Owens Valley, CA. **Geological Society of America Abstracts with Programs**, 21(6), A343. (National)

Bierman, P. & Marler, L. (1988) Ground water and a glacial lake--Williamstown, Massachusetts. **Geological Society of America Abstracts with Programs,** 20(1), 7. (Northeastern)

Bierman, P. (1986) Mapping Quaternary geology in disturbed areas-the importance of historical sources. **Geological Society of America Abstracts with Programs**, 18(6), 541. (National)

Bierman, P., & Dethier, D. (1985) The deglaciation of northwestern Massachusetts. **Geological Society of America Abstracts with Programs,** 17(1), 4. (Northeastern)

Abstracts with Current and Former Graduate Students and Post-docs as First Authors

Corbett, L. B., Bierman, P.R., and Rood, D. H., (2015) Constraining multi-stage exposure-burial scenarios for boulders preserved beneath cold-based ice in Thule, northwest Greenland. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 283-8.

Greene, E. S., Bierman, P., Burlington, and Perdrial, N., (2015) Comparing meteoric ^{10}Be, in situ ^{10}Be and native ^{9}Be across three watersheds. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 204-9.

Sosa-Gonzalez, V., Schmidt, A.H., Bierman, P. R., *Neilson, T. B.,* Singleton, A., Qiu, Y., *Bower, J. A.*, and Rood, D.H. (2015) Understanding sediment sourcing and erosion controls from ^{10}Be measurements in fluvial sediments from Yunnan, China. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 82-4.

Denn, A., Bierman, P., West, N. and E. Kirby (2015) Detecting critical zone response to perturbations by climate and base level in central Pennsylvania using in-situ produced 10-Be and 26-Al. **CZO All Hands meeting**, State College, PA.

Corbett, L. B., Bierman, P. R., Neumann, T.A., and *Graly, J.A.,* (2015) Inferring glacial history and subglacial process through analysis of cosmogenic nuclides in

icebound cobbles. EOS. **AGU Fall Meeting.** Abstract C11A-0745.

Corbett, L.B., Bierman, P.R., and Davis, P.T., (2015) Glacial Chronology and Landscape Evolution in Baffin Island, Canada, Constrained by a Compilation of Paired $^{26}Al/^{10}Be$ Analyses. **Geological Society of America abstracts with Programs**, NE section meeting, Bretton Woods, NH. Abstract No: 251934.

DeJong, B., Balco, G., Ridge, J., Rood, D., and Bierman, P.R., (2015) Meteoric ^{10}Be Flux records potentially synchronize North American varved sediments with Greenland Ice. **Geological Society of America abstracts with Programs**, NE section meeting, Bretton Woods, NH. Abstract No: 253004.

Portenga, E. W., Bishop, P., Gore, D. B., Westaway, K. E., Rood, D. H., Bierman, P. R. (2014) The when, what, and how of gully erosion and sediment deposition on the tablelands of New South Wales, Australia, **Geological Society of America Abstracts with Programs**, abstract no: 248917

Darling, A., Whipple, K., *Nichols, K. K.,* Clarke, B., Bierman, P. R.(2014) Rapid cosmogenic nuclide derived erosion rates on the Grand Staircase, southern Utah, USA: strong lithologic control on erosion patterns or an artifact of non-uniform distribution of quartz and cliff-slope topography, **Geological Society of America Abstracts with Programs**, abstract no: 243222

Neilson, T. B., Bierman, P. R., Schmidt, A. H., *Sosa-Gonzalez, V.*, and Rood, D. H. (2014) Impacts of contemporary sediment yield on the use of in situ ^{10}Be in river sediment as a tool for estimating background erosion rates, **Geological Society of America Abstracts with Programs**, abstract no: 248489

Garcia G. G., Fiallo, D., *Neilson, T. B.*, Martin, J., Schmidt, A. H., Bierman, P., *Sosa-Gonzales, V.*, Wei, R., Zhang, C., and Liang, C. (2014) Determining sediment sources and sinks in a small headwater watershed in Yunnan, china using short-lived radionuclides, **Geological Society of America Abstracts with Programs**, abstract no: 249638

Corbett, L. B., Bierman, P. R., Lasher, G. E., and Rood, D. H. (2014) Investigating glacial history and landscape chronology with cosmogenic ^{10}Be and ^{26}Al in Thule, northwestern Greenland, **Geological Society of America Abstracts with Programs**, abstract no: 245940

Nichols, K. K., Bierman, P. R., and Rood, D. H. (2014) Millennial-scale sediment speeds down low-gradient desert piedmonts: new data from the goldstone piedmont, Mojave desert, **Geological Society of America Abstracts with Programs,** abstract no: 248908

*West, N., Kirby, E. and Bierman, P. R. (2014) Aspect-dependent regolith flux revealed by meteoric ^{10}Be, **Geological Society of America Abstracts with Programs**, abstract no: 248027

Sosa-Gonzalez, V., Bierman, P. R., Fernandes, N., Rood, D. H. (2014) Constraining background erosion rates using ^{10}Be in selected Brazilian watersheds,

Geological Society of America Abstracts with Programs, abstract no: 247962

DeJong, B. D., Balco, G., Ridge, J. C., Rood, D.H., Bierman, P.R. (2014) Synchronizing North American varved sediments with Greenland ice using meteoric ^{10}Be flux records, **Geological Society of America Abstracts with Programs**, abstract no, 247790

DeJong, B. D., Bierman, P.R., Newell, W. L., Rittenour, T. M., Mahan, S. A. (2014), State and fate of mid-Atlantic sea levels: geologic evidence from Chesapeake Bay, **Geological Society of America Abstracts with Programs**, abstract no: 245944

DeJong, B.D., Bierman, P. R., Balco, G., and Rood, D. H. (2014), ^{26}Al-^{10}Be isochron burial ages for Plio-Pleistocene river gravels of the Chesapeake Bay region, east – central United States. **AMS-13 conference.**

Bender, A. , Amos, C., Bierman, P., Rood, D., Sorsby, S., Kelsey, H., and Ladinsky, T. (2014) Differential Uplift and Incision of the Yakima River Terraces, **EOS, Transaction of American Geophysical Union,** Fall meeting, T41C-4669

*McPhillips, D., Hoke, G. Liu-Zeng, J., Bierman, P. R., Rood, D.H., (2014) Evolution of the paleolandscape(s) of Yunnan, China: implications from Be-10 erosion rates and river channel morphology, **EOS, Transaction of American Geophysical Union**, Fall meeting, EP24B-06

Nichols, K. and Bierman, P.R., (2014) 10-Be constrains the sediment sources and sediment yields to the Great Barrier Reef from the tropical Barron River catchment, Queensland, Australia **EOS, Transaction of American Geophysical Union**, Fall meeting, , EP13F-05

Sorsby, S. J., Amos, C. B., Bierman, P. R., Hanson, K., Rood, D., Fisher, G. B., and Kelsey, H. (2014), Uplift and incision of the Yakima River canyon from channel planform mapping and cosmogenic ^{10}Be/^{26}Al isochron dating **Cordilleran Section, Geological Society of America Abstracts with Programs.** v. 46, n. 5. #238291.

Sosa-Gonzalez, V., Bierman, P. R., *Nichols*, K.K., (2013). Tropical erosion: the story of Panama. **International Association of Geomorphologists Meeting**, Paris

Portenga, E., Bierman, P.R., Duncan, C. (2013). Rain, water, and ice: driving forces behind rapid erosion in western Bhutan. **International Association of Geomorphologists Meeting**, Paris

Regalla, C., Bierman, P. R., Rood, D., Motoyama, I., and Fisher, D. M., (2013) Using meteoric ^{10}Be to constrain the age and structure of the frontal wedge at the Japan Trench, **EOS Transactions of the American Geophysical Union**, T31F-2582.

McCarthy, J. A., Schoenbohm, L. M., Bierman, P. R., Rood, D. H., (2013) Late Quaternary landscape evolution, climate, and neotectonism along the eastern margin of the Puna Plateau: Pucará Valley, NW Argentina, **EOS Transactions**

of the American Geophysical Union, EP43E-01.

West, N., Kirby, E., Ma, L., Bierman, P.R., (2013) Going Steady: Using multiple isotopes to test the steady-state assumption at the Susquehanna Shale Hills Critical Zone Observatory, **EOS Transactions of the American Geophysical Union**, H54A-03.

Corbett, L., Bierman, P.R., and Rood, D.H., (2013), Optimizing sample preparation for high-precision, low-detection limit analysis of in situ ^{10}Be: strategies and new data. **Geological Society of American annual meeting.**

Shea, N., Ouimet, W. Bierman, P.R., and Rood, D., (2013), Transient hillslopes and the legacy of climate in the Colorado front range. **Geological Society of American annual meeting.**

West, N., Kirby, E., Bierman, P.R., and Clarke, B., (2013), Quantifying aspect control on transport efficiency and mobile regolith flux at the Susquehanna shale hills critical zone observatory. **Geological Society of American annual meeting.**

Darling, A., Whipple, K.X., *Nichols*, K.K, and Bierman, P.R., (2013), Landscape evolution in the Grand Canyon region: insights from erosion rates and tributary stream profiles. **Geological Society of American annual meeting.**

Neilson, T., Schmidt, A. H., *Sosa-Gonzalez*, V., and Rothenberg, M., (2013), Understanding modern landscape behavior using meteoric and in situ ^{10}Be and ^{137}Cs in large river basins, SW China. **Geological Society of American annual meeting.**

DeJong, B. D., Balco, G., Ridge, J.C., Rood, D.H., and Bierman, P.R. (2013) Synchronizing the North American Varve Chronology with Greenland ice core records during the MIS 3-MIS 2 transition using Meteoric ^{10}Be Flux. **European Geosciences Union**, EGU2013-8159 EGU2013.

Vang, A. and Bierman, P.R., (2013). An automated approach to documenting watershed land-use change over time in Vermont. **NE Geological Society of America Abstracts with Programs**, Paper No. 59-12.

Shea, N., Ouimet, W., Dethier, D., Bierman, P., and Rood, D. (2013). Spatial variations in mobile regolith thickness, meteoric ^{10}Be concentration, and sediment storage in the boulder creek critical zone observatory: implications for landscape evolution and hillslope sediment transport. **NE Geological Society of America Abstracts with Programs**, Paper No. 48-3.

DeJong, B.D., Balco, G., Ridge, J.C., Rood, D.H., and Bierman, P.R. (2013) Towards synchronizing the North American varve chronology with Greenland ice core records using meteoric ^{10}Be flux, **NE Geological Society of America Abstracts with Programs**, Paper No. 33-1.

Corbett, L.B., Bierman, P.R., *Graly*, J.A., Neumann, T.A., and Rood, D. (2013) Using cosmogenic nuclides to study subglacial erosion efficiency and landscape history in western Greenland, **NE Geological Society of America Abstracts**

with Programs, Paper No. 33-4.

Nelson, A., Bierman, P., *Shakun, J., Rood, D. (2013) ^{10}Be concentration in Greenland sediment indicates source and exposure history**, NE Geological Society of America Abstracts with Programs**, Paper No. 33-5.

Shea, N., Ouimet, W., Dethier, D., Bierman, P. (2012) Spatial patterns of mobile regolith thickness and meteoric ^{10}Be in the Boulder Creek Critical Zone Observatory, Front Range, Colorado. **EOS**, Transactions of the American Geophysical Union. EP41D-0835.

Darling, A., Whipple, K. X., *Nichols*, K. K. Karlstrom, K. E., Granger, D., and Bierman, P., (2012) Transient incision in layer-cake stratigraphy: cosmogenic rates and dates in the context of Glen Canyon, **RM Geological Society of America Abstracts with Programs**, v. 44, n. 6.

Darling, A., Whipple, K. X., *Nichols*, K. K. and Bierman, P., (2012) Exhumation and landscape evolution along the Colorado River: differentiating the roles of baselevel fall and lithologic heterogeneity, **EOS**, Transactions of the American Geophysical Union. EP51A-0967.

Nelson, A., Bierman, P., *Shakun, J., Rood, D. (2012) ^{10}Be concentration in sediments indicates exposure, erosion, and transportation along the Greenland Ice Sheet margin. **EOS**, Transactions of the American Geophysical Union.

DeJong, B.D., Balco, G., Ridge, J.C., Rood, D.H., and Bierman, P.R. (2012) Synchronizing the North American Varve Chronology with Greenland ice core records using meteoric ^{10}Be flux. **EOS**, Transactions of the American Geophysical Union.

*McPhillips, D., Bierman, P. R., Crocker, T. and Rood, D. H., (2012) Fluvial response to precipitation change: Be-10 in paired terrace and modern stream sediment samples, Pisco River, Peru. **Geological Society of America Abstracts with Programs.**

*McPhillips, D., Bierman, P. R., Sweeney, M. R. and Rood, D. H., (2012) Insight into the processes of erosion derived from single-clast Be-10 measurements, Pisco River, Peru. **EOS**, Transactions of the American Geophysical Union.

Vang, A. and Bierman, P.R. (2012) A river runs through it - the geomorphic impacts of the Vermont interstate highway system. **Geological Society of America Abstracts with Programs, NE sectional meeting.**

Sosa-Gonzales, V., Bierman, P. R., *Nichols*, K. K., and Rood, D. (2011). Determining long term erosion rates in Panama - an application of ^{10}Be, **Geological Society of America Abstracts**, v. 43, No. 5, p. 274

Nichols, K., Webb, R., Bierman, P., and Rood, D. (2011) Measurements of cosmogenic 10-Be reveal rapid response of Grand Canyon tributary hillslopes to Colorado river incision, **Geological Society of America Abstracts with Programs.**

West, N., *Kirby*, E., Bierman, P., and Rood, D. (2011) Constraints on regolith formation and erosion rates at the Susquehanna Shale Hills Critical Zone Observatory, PA, determined using meteoric ^{10}Be. **EOS**, Transactions of the American Geophysical Union.

Corbett, L. B., Bierman, P. R. and *Reusser*, L. J. (2011) Incorporating concept sketching into teaching undergraduate geomorphology, **Geological Society of America Abstracts with Programs** (regional)

Portenga, E., Bierman, P.R., *Trodick*, C., Rood, D. (2010), Low rates of bedrock outcrop erosion in the central Appalachian Mountains, inferred from *in situ* ^{10}Be concentrations, **Geological Society of America Abstracts with Programs.**

Trodick, C., Bierman, P.R., Pavich, M., *Reusser*, L., *Portenga*, E., and Rood, D. (2010), Basin Scale Erosion Rates from the Potomac River Basin using In Situ and Meteoric ^{10}Be. **Geological Society of America Abstracts with Programs.**

Bacon, A.R., Richter, D., Bierman, P.R., and Rood, D. (2010), Stone to soil: elemental flux rates during pedogenesis on the South Carolina Piedmont. **Geological Society of America Abstracts with Programs.**

Corbett, L.B., Bierman, P.R., *Graly*, J.A., Neumann, T.A., Rood, D.H., Finkel, R.C. (2010), Glacial erosion efficiency, early Holocene ice retreat rates, and interglacial exposure: new cosmogenic ^{10}Be data from three sites in western Greenland. **EOS**, Transactions of the American Geophysical Union.

Regalla, C., Kirby, E., Fisher, D., Furlong, K., Bierman, P., and Rood, D. (2010), Exhumational and incisional response to active faulting in the Japanese forearc, northeast Honshu. **EOS**, Transactions of the American Geophysical Union.

West, N., Kirby, E., Bierman, P., Rood, D. (2010), Using meteoric ^{10}Be to track soil erosion and transport within a forested watershed, Susquehanna Shale Hills Critical Zone Observatory, PA. **EOS**, Transactions of the American Geophysical Union.

Graly, J.A., *Corbett*, L.B., Bierman, P.R., Neumann, T.A., Rood, D.H., Finkel, R.C. (2010) Long-term erosion rates and interglacial period subaerial exposure of Western Greenland from meteoric ^{10}Be in ice-bound sediment. **EOS**, Transactions of the American Geophysical Union.

Corbett, L.B., Bierman, P.R., *Graly*, J.A., Neumann, T.A., Rood, D.H., and Finkel, R.C. (2010), Using In Situ cosmogenic ^{10}Be to understand deglaciation timing and glacial erosion efficiency near Jakobshavn Icefjord, Western Greenland. **Geological Society of America Abstracts with Programs.**

Corbett, L.B., Bierman, P. R., *Graly*, J. A., Neumann, T. A., Rood, D. H., Finkel, R. C. (2010) When did the ice leave Upernavik and how much rock did it erode: first *in situ* cosmogenic ^{10}Be measurements of samples from Northwestern Greenland. **International Polar Year Conference**, Oslo.

Corbett, L.B., Bierman, P. R., *Graly*, J. A., Neumann, T. A., Rood, D. H., Finkel, R. C. (2010) In situ cosmogenic ^{10}Be estimates of deglaciation timing and glacial erosion efficiency, Upernavik, Western Greenland, **Arctic Workshop**, Winter Park, CO.

Graly, J., *Corbett*, A. B., Bierman, P., T. Neumann, Lini, A., *Reusser*, L, Finkel, R., Rood, D. (2010) Surface exposure age and erosion rates of sub-ice soils in Western Greenland, **Arctic Workshop**, Winter Park, CO.

Graly, J., *Corbett*, A. B., Bierman, P., T. Neumann, Lini, A., *Reusser*, L, Finkel, R., Rood, D. (2010) High levels of meteoric 10-Be indicate that relict soils are preserved in the western Greenland Ice Sheet. **International Polar Year Conference**, Oslo.

Jungers, M., Bierman, P.R, *Matmon, A., Cox, R., Pavich, M. and Finkel, R. C., (2009) *In Situ*-produced vs. Meteoric ^{10}Be in Hillslope Soils: One Isotope, Two Tracers, Different Stories. **EOS**, Transactions of the American Geophysical Union.

Hackett, W.R., Bierman, P. R., Rizzo, D.M. and *Besaw*, L.E., (2009). Increasing precipitation and runoff interact with land use change over the last 70 years in the Winooski River basin, northern Vermont, **WRCC annual meeting**, Amherst, Massachusetts.

Trodick, C. D. Jr., Bierman, P., Pavich, M., *Reusser*, L. J., and Rood, D., (2009). Meteoric ^{10}Be concentrations in the Potomac River Basin. **Geological Society of America Abstracts with Programs**. Paper No. 244-38.

Smith, L. G., Bierman, P. R., Druschel, G. K., *Pearce*, A., Rizzo, D. M., Wemple, B., and Watzin, M., (2009). An interdisciplinary approach to teaching watershed field science. **Geological Society of America Abstracts with Programs**. Paper No. 113-1.

Reusser, L. J., Bierman, P.R., and Montgomery, D. R., (2009). How we visualize geomorphology – a new approach to textbook figures. **Geological Society of America Abstracts with Programs**. Paper No. 244-48.

Portenga, E. W., Bierman, P. R., and Rizzo, D. M., (2009).A global summary and analysis of exposed bedrock erosion rates estimated using *in situ* ^{10}Be. **Geological Society of America Abstracts with Programs**. Paper No. 244-1.

Hackett, W. R., Bierman, P., Rizzo, D. M., and *Besaw*, L. E. (2009). Increasing precipitation, runoff, forests, and pavement over the last 70 years, the Winooski River Basin, northern Vermont. **Geological Society of America Abstracts with Programs**. Paper No. 8-3.

Graly, J. A., Bierman, P., Neumann, T., *Corbett*, L. B., Lini, A., *Reusser*, L. J., Finkel, R., and Rood, D., (2009). Relict soil entrainment in Pleistocene ice through open-system regelation: latitudinal variation in the western Greenland ice sheet. **Geological Society of America Abstracts with Programs**. Paper No. 244-9.

Corbett, L. B., Bierman, P. R., *Graly*, J. A., Neumann, T. A., Rood, D. H., and Finkel, R. (2009). In situ cosmogenic ^{10}Be estimates of deglaciation timing and glacial erosion efficiency, western Greenland. **Geological Society of America Abstracts with Programs**. Paper No. 244-10.

Hackett, W.R., Bierman, P.R., Rizzo, D.M., and *Besaw*, L.E., 2008, Increasing precipitation and runoff over the last 70 years, the Winooski River Basin, Vermont: **Geological Society of America Abstracts with Programs**, p. 301-1.

Reusser, L., Bierman, P., and Finkel, R., 2008, Estimating pre-disturbance rates of sediment generation and erosion with in situ and meteoric 10-Be: Waipaoa River Basin, New Zealand: **Geological Society of America Abstracts with Programs**, p. 299-7.

Hackett, W.R., Bierman, P. R., Rizzo, D. M., and *Besaw*, L. E. (2008) Analysis of Changing Climate and Hydrology in the Winooski River Basin, Vermont, **EPSCoR annual meeting**. Burlington, VT.

Besaw, L. E., Rizzo, D. M., Bierman, P. R., and *Hacket*, W.R. (2008) Short-term streamflow forecasting with a hierarchal generalized regression neural network: Application in the Winooski River basin, Vermont, **EPSCoR annual meeting.** Burlington, VT.

Pearce, A., Bierman, P., Druschel, G., Massey, C., Rizzo, D., Watzin, M. and Wemple, B. (2008) Teaching a New Generation of Students: Developing an Interdisciplinary Watershed Field Course, **EPSCoR annual meeting.** Burlington, VT.

Borg, J., Dewoolkar, M. and Bierman, P. (2008) Evaluation of streambank stability, **Lake Champlain**, our lake, our future conference, Burlington, VT.

Pearce, A., Bierman, P., Druschel, G., Massey, C., Rizzo, D., Watzin, M. and Wemple, B. (2007) Teaching a New Generation of Students: Developing an Interdisciplinary Watershed Field Course, **Eos. Trans. AGU**

Nichols, K. K., Bierman, P. R., *Matmon, A., Enzel, Y., Larsen, J., And Finkel, R. C. (2007), Namibia: interesting landscapes but monotonous erosion rates, **Geological Society of America Abstracts with Programs.**

Nichols, K. K., and Bierman, P. R., (2007), Scratching beneath the surface: alluvial histories recorded in cosmogenic nuclide depth profiles, **Geological Society of America Abstracts with Programs.**

Sullivan, C., Bierman, P.R., *Reusser*, L., Pavich, M., Larsen, J., and Finkel, R. C. (2007) Cosmogenic erosion rates and landscape evolution of the Blue Ridge Escarpment, southern Appalachian mountains, **Geological Society of America Abstracts with Programs.**

Jungers, M.C., Bierman, P.R., *Matmon, A., *Nichols*, K. K., Larsen, J., and Finkel, R. (2007), Accepting our differences: the power of amalgamation and 10-Be as a

geomorphic tracer for hillslope soil transport. **Geological Society of America Abstracts with Programs.**

Duxbury, J., Bierman, P. R., Pavich, M., Southworth, S., *Matmon, A., Larsen, J. and Finkel, R., (2007), Using cosmogenic isotopes to interpret landscape change in national parks. **Geological Society of America Abstracts with Programs.**

Reusser, L., Bierman, P., Pavich, M., and Finkel, R., (2007) A new approach for estimating background rates of erosion within meteoric 10-Be in river sediment: application to the rapidly eroding Waipaoa Basin, New Zealand. **EOS** (Fall AGU abstract)

Reusser, L., and Bierman, P., (2007) Quantifying Environmental Change Associated with Deforestation, Waipaoa Basin, NZ, Abstracts of **the International Quaternary Union meeting**, Cairns, Australia.

Pearce, A., Bierman, P., Druschel, G., Massey, C., Rizzo, D., Watzin, M. and Wemple, B. (2007) Developing a watershed field course to inspire interdisciplinary learning. **Geological Society of America Abstracts with Programs**

Nichols, K.K., Webb, R., Bierman, P.R., Cleveland, M., Larsen, J., and Finkel, R. (2007) The long and the short of it: millennial-scale and contemporary sediment yields of eastern Grand Canyon, **EOS**. (spring AGU)

Nichols, K.K., Bierman, P.R., (2007) Deconvolving semi-arid landscape histories: Insights from cosmogenic nuclides, Abstracts of **the International Quaternary Union meeting**, Cairns, Australia.

Nichols, K.K., Bierman, P.R., Larsen, J., and Finkel, R. (2006) A ^{10}Be view of tropical erosion: the Rio Chagres, a steady supply of sediment in Panama. **Geological Society of America Abstracts with Programs**

Duxbury, J., Bierman, P.R., Pavich, M., Larsen, J., and Finkel, R. (2006) Be monitoring of erosion rates in the Appalachian Mountains, Shenandoah National Park, Virginia. **Geological Society of America Abstracts with Programs**

Jungers, M., Bierman, P.R., *Matmon, A., Cox, R. Pavich, M., Larsen, J., and Finkel, R. (2006). Tracking soil transport downslope using in situ-produced 10-Be. **Geological Society of America Abstracts with Programs**

Reusser, L., Bierman, P.R., Pavich, M., Larsen, J., and Finkel, R. (2006) Timing, rates, and volumes of bedrock channel incision measured with 10-Be, real-time differential GPS, and LiDAR: Holtwood Gorge, PA. **Geological Society of America Abstracts with Programs**

Sullivan, C., Bierman, P.R., Pavich, M., Larsen, J., and Finkel, R. (2006) Cosmogenically derived erosion rates for the Blue Ridge Escarpment, southern Appalachian Mountains, **Geological Society of America Abstracts with Programs**

Reuter, J., Bierman, P.R., Pavich, M., Larsen, J., and Finkel, R., 2006, 10-Be

estimates of erosion rates in the Susquehanna River Basin: implications for models of Appalachian geomorphology and consideration of rates in a global context, **Geological Society of America Abstracts with Programs**

Hunt, A.L., Petrucci, G.A., Bierman, P.R. Finkel, R.C., (2005) The effect of matrix electron affinity on ion beam currents for BeO analysis, **AMS 10 Conference**, Berkeley, CA

Reuter, J., Bierman, P.R., Pavich, M., (2005) Using GIS to select drainage basins for sampling: An example from a cosmogenic 10-Be study of erosion rates within the Susquehanna River Basin. **NE GSA Abstracts with Programs**

Hunt, A.L., Bierman, P.R., Petrucci, G.A., Finkel, R.C. (2004) Effects of metal mixing matrices on beryllium beam currents, Arran, Scotland, **ESF-IAAMS conference**

Nichols, K. K. and Bierman, P..R., 2004, Using cosmogenic nuclides to decipher desert piedmont surface histories and process rates, **Army Research Office Annual Meeting**, Xyzyxx, CA, Sept 17-19.

Reuter, J., Bierman, P.R., Pavich, M., Larsen, J., and Finkel, R., 2004, Linking 10-Be estimates of erosion rates with landscape variables: compilation and consideration of multiple data sets from around the world. **International Geological Conference.** Florence.

Nichols, K.K, Bierman, P.R., Klepeis, K. and Wright, S.W., 2004, Landslide data fix before non-geologists "fix" the landslide. **Geological Society of America Abstracts with Programs**

Reuter, J., Bierman, P.R., Pavich, M., Gellis, A., Larsen, J., and Finkel, R., 2004, Erosion of the Susquehanna River Basin: assessing relations between ^{10}Be-derived erosion rates and basin characteristics. **Geological Society of America Abstracts with Programs**

Reusser, L., Bierman, P.R., Pavich, M., Larsen, J., and Finkel, R., 2004, Climate-driven bedrock channel incision of the Susquehanna River, Holtwood Gorge, Pennsylvania: regional similarities. **Geological Society of America Abstracts with Programs**

Butler, E. and Bierman, P.R. (2003) Making a mess of lecture: using fun, interactive physical demonstrations in a large lecture setting. **Geological Society of America Abstracts with Programs**. (National)

Nichols, K.K, Bierman, P.R., Eppes, M., and Finkel, R. (2003) The life of desert piedmont sediment: sediment tracing using cosmogenic nuclides. **Geological Society of America Abstracts with Programs**. (National)

Reusser, L., Bierman, P. R., Butler, E., Pavich, M., Finkel, R. (2003) Late Pleistocene bedrock channel incision of the lower Susquehanna river: Holtwood Gorge, Pennsylvania, **Geological Society of America Abstracts with Programs**

Nichols, K.K., Bierman, P., Eppes, M.C. Caffee, M., Finkel, R., and Larsen, J. (2003). The speed and history of piedmont sediment. **XVI Inqua Congress Programs** with Abstracts, p. 140.

Nichols, K.K., Bierman, P.R., Finkel, R., Larsen, J. (2003) Long-Term Erosion and Sedimentation Rates of the Rió Chagres Basin Based on Cosmogenic 10-Be. **International Scientific Symposium The Rio Chagres**: A Multidisciplinary Profile of a Tropical Watershed Abstract Volume.

Nichols, K.K., Bierman, P.R., Persico, L.P., Larsen, J., Caffee, M., and Finkel, R. (2003). U.S. Army impacts on Mojave Desert sediment, past and present. **International Conference on Military Geology and Geography**, West Point, NY, p. 47.

*Matmon, A., Crouvi, O., Enzel, Y., Bierman, P., Larsen, J., Amit, R., Porat, N., and Caffee, M., (2003) Cosmogenic and OSL dating of the late Pleistocene shorelines of Lake Lisan, southern Israel: two different histories, **XVI Inqua Congress Programs** with Abstracts, p. 228.

Nichols, K.K., Bierman, P.R., Larsen, J., and Finkel, R. (2002), Sedimentation of the Panama Canal reservoir: cosmogenic nuclide estimates of background sediment yield, **Geological Society of America Abstracts with Programs** 34(6). (National)

Butler, E. and Bierman, P., (2002), Increasing student involvement in large lecture classes: making geoscience interesting and relevant, **Geological Society of America Abstracts with Programs** 34(6). (National)

Briner, J.P., Miller, G.H., Davis, P.T., Caffee, M., Bierman, P., and Finkel, R. (2002) Last glacial maximum erratics perched on ancient tors in arctic Canada: implications for ice-sheet dynamics, **Geological Society of America Abstracts with Programs** 34(6). (National)

Parris, A. and Bierman, P. (2002) Holocene flood frequency in New England: a particle size approach **Geological Society of America Abstracts with Programs** 34(6). (National)

Lord, A., Lini, A., Toke, N., *Parris*, A., and Bierman, P. (2002) Contrasting evolution of northern New England post-glacial lakes, **Geological Society of America Abstracts with Programs.** (Regional)

Noren, A. J., Bierman, P. R., Steig, E. J., Lini, A., and Southon, J., A (2001) Holocene millennial-scale storm cycle in the northeastern United States. **Eos. Trans. AGU,** 82(47), PP31A-0502.

Nichols, K.K., P.R. Bierman, M. Eppes, R. Hooke, L. Persico, and M. Caffee. (2001). Regular cosmogenic nuclide dosing of sediment down a desert piedmont suggests long-term systematic piedmont behavior. **EOS**. 82(47), Abstract H42D-0392.

Lord, A., Lini, A., Toke, N., *Parris*, A., and Bierman, P. (2001) Post-glacial evolution of northern New England lakes, **Geological Society of America Abstracts with Programs.** 32(7), A-314 (National)

Nichols, K., Bierman, P., Klepeis, K., and Wright, S., (2001) Landslide initiation after drought, 32(7), A-440, **Geological Society of America Abstracts with Programs**. (National)

Parris, A., Bosley, A. *Noren*, A., Bierman, P., Lini, A., *Lord*, A., Conlan, A., and Morgan, L., (2001) Grain by grain: Holocene storms and hillslope erosion in New England. **Geological Society of America Abstracts with Programs.** 32(7), A-314 (National)

*Matmon, A., Bierman, P. R., Southworth, S., Pavich, M., Caffee, M., Finkel, R., (2001) Rates of erosion determined from ^{10}Be analysis of sediments, Great Smoky Mountains, Tennessee and North Carolina, **EOS**, v. 82, no. 47, p. 455.

*Matmon, A., Bierman, P.R., Southworth, S., and Pavich, M., and Caffee, M. (2001) Temporally and spatially uniform rates of erosion in the Great Smoky Mountains, Tennessee and North Carolina, 32(7), A-315, **Geological Society of America Abstracts with Programs.** (National)

Noren, A., Bierman, P., and *Galster*, J. C. (2001) A 13,000-year regional record of Holocene storms from terrigenous lake sediment, Northeastern USA, 33 (1), A-57 **Geological Society of America Abstracts with Programs**, (Regional)

Nichols, K.K., and Bierman, P.R. (2001) Birth and growth processes of the Miller Brook gully, northern Vermont, 33 (1), A-3 **Geological Society of America Abstracts with Programs**, (Regional)

Nichols, K.K., Bierman, P.R., and Caffee, M.W. (2000) The Blackhawk keeps its secrets: landslide dating using in situ 10-Be, **Geological Society of America Abstracts with Programs**, 32 (7), A-400. (National)

Noren, A.J. and Bierman, P.R. (2000) A 13,000-year regional record of Holocene storms from terrigenous lake sediment, northeastern USA, **Geological Society of America Abstracts with Programs**, 32 (7), A-512. (National)

Jennings, K.L. and Bierman, P.R. (2000) Timing of storm-induced depositional events on Vermont alluvial fans, **Geological Society of America Abstracts with Programs**, 32 (7), A-512. (National)

Noren, A., *Jennings*, K., Fredriksen, G., and Janukajtis, F.A., and Bierman, P.R. (1999), Holocene hillslope erosion rates, 1999 data. **New England Intercollegiate Geologic Conference Guidebook.** Pre-meeting workshop.

Gran, S., *Matmon, A., Bierman, P., Enzel, Y., and Caffee, M. (1999) Evidence for rapid, Holocene displacement on the Nahef East normal fault, northern Israel: a cosmogenic Cl-36 approach, **Geological Society of America Abstracts with Programs**, 31 (7), A-301. (National)

Nichols, K.K, Bierman, P.R., Caffee, M. (1999) Revisiting the pediment problem *using* 10-Be and 26-Al; a case study of the Iron and Granite Mountain piedmonts, Mojave desert, California. **Geological Society of America Abstracts with Programs**, 31 (7), A-256. (National)

Jennings, K., Fredriksen, G., *Noren*, A., Bierman, P.R., Characterizing alluvial fan deposits in Vermont and eastern New York, (1999), **Geological Society of America Abstracts with Programs**, 31 (7), A-50. (National)

Noren, A.J., Bierman, P.R., *Galster*, J.C., Lini, A., *Jennings*, K.L., and Janukajtis, F.A., (1999), A regional record of Holocene storms from terrigenous lake sediment, northern New England, **Geological Society of America Abstracts with Programs**, 31 (7), A-51. (National)

Clapp, E., Bierman, P.R., and Caffee, M., (1999), Sediment generation and export rates in the Nahal Yael drainage basin, determined from cosmogenic ^{10}Be and ^{26}Al, Negev desert, southern Israel, **Geological Society of America Abstracts with Programs**, 31 (7), A-256. (National)

Nichols, K.K, Bierman, P.R., Caffee, M. (1999) Long-term sediment dynamics of the Iron and Granite Mountain piedmonts, Mojave Desert, California, U.S.A., **International Conference on Drainage basin Dynamics and Morphology**, Jerusalem, Israel, p. 47. (International)

Gran, S., *Matmon, A., Bierman, P., Enzel, Y., and Caffee, M. (1999) Calculating fault displacement rates , in-situ cosmogenic chlorine-36 concentrations of a limestone normal fault scarp, northern Israel. **International Conference on Drainage basin Dynamics and Morphology**, Jerusalem, Israel, p. 21. (International)

Gran, S., *Matmon, A., Bierman, P., Enzel, Y., and Caffee, M. (1998) Calculating fault displacement rates , in-situ cosmogenic chlorine-36 concentrations of a limestone normal fault scarp, northern Israel. **Geological Society of America Abstracts with Programs**, 30 (7), A-142. (National)

Brown, S., Bierman, P., Mehrtens, C., and Lini, A. (1998) Terrigenous layers in lake cores document fluctuations in New England's Holocene climate. **Geological Society of America Abstracts with Programs,** 30 (7), A-114 (National)

Nichols, K. K. and Bierman, P.R. (1998) Geomorphic response to military training in the Mojave Desert. **Geological Society of America Abstracts with Programs,** 30 (7), A-143 (National)

Zehfuss, P., Burke, R., Bierman, P., Gillespie, A. R., Caffee, M. (1998) A comparison of relative and numerical dating techniques applied to tectonically offset fan surfaces, Owens Valley, CA. **Geological Society of America Abstracts with Programs,** 30 (7), A-141 (National)

Clapp, E., Bierman, P. and, Caffee, M., (1998) Estimating long-term erosion rates in a hyper-arid region using in situ produced cosmogenic 10-Be and 26-Al in

sediment and bedrock. **Geological Society of America Abstracts with Programs**, 30 (7), A-361. (National)

Marsella, K.A., Bierman, P.R., Davis, P.T., and Caffee, M.W. (1998) Revised glacial chronology of the Pangnirtung Fjord Region, Cumberland Peninsula, Baffin Island, based on ^{10}Be and ^{26}Al exposure age dating. **28th International Arctic Workshop, Arctic and Alpine Environments, Past and Present**, Program with Abstracts: Institute for Arctic and Alpine Research, University of Colorado, Boulder, p.111-113. (National)

Brown, S. L., Bierman, P. R., Mehrtens, C. J. and Lini, A. (1997) Episodic inputs of terrestrial sediment to a post-glacial mountain lake. **Geological Society of America Abstracts with Programs,** 29(7), A-36. (National)

Clapp, E. M. and Bierman, P. R. (1997) Rates of erosion determined using in situ produced cosmogenic isotopes in a small arroyo basin, northwestern New Mexico **Geological Society of America Abstracts with Programs**, 29 (7), A-371 (National)

Marsella, K., Bierman, P. R., Davis, P. T. and Caffee, M., (1997) Cosmogenic Dating of Surficial Features on Baffin Island, **8th Biennial CANQUA Meeting**, Montreal, 43. (International)

Abbott, M. D., Stanley, R., A. Lini, P. Bierman, 1996, Application of a system dynamics model to understand processes affecting spatial and temporal changes in the isotopic composition of groundwater: **EOS,** v. 77, F-201. (National)

Abbott, M. D., A. Lini, P. Bierman, and S. Wright, 1996, Determination of recharge source areas and groundwater residence times in fractured bedrock using stable isotopes: **Geological Society of America Abstracts with Programs,** 27 (7), A-197. (National)

Bliss, C., Clapp, E., and Bierman, P., 1996, A compilation of geomagnetic paleo-intensity records over the past 150 ky: prerequisite for calibrating cosmogenic ages: **EOS,** v. 77, F-174. (National)

Marsella, K. A., Bierman, P. R., Davis, P. T., and Caffee, M., 1996, Stage II big ice on Baffin Island: **Geological Society of America Abstracts with Programs** 27 (7), A-433. (National)

Whalen, T., and Bierman, P. R., 1996, River incision history in the Winooski drainage basin, Vermont: **Geological Society of America Abstracts with Programs**, 27 (7), A-110. (National)

Clapp, E. and Bierman, P. (1996) Cosmo calibrate, a program for calibrating cosmogenic exposure ages, **Radiocarbon**, 38 (1), p. 157. (International)

Marsella, K. and P. Bierman (1995) Timing and extent of glaciation on southern Baffin Island, NWT, Canada determined using in situ produced cosmogenic isotopes 10-Be and 26-Al. **Terra Nostra,** INQUA (Berlin, 26), 179. (International)

Larsen, P. L., Bierman, P. R. and Caffee, M. (1995) Preliminary in situ production rates of cosmogenic ^{10}Be and ^{26}Al over the past 21.5 ky from the terminal moraine of the Laurentide ice sheet, north-central New Jersey. **Geological Society of America Abstracts with Programs**. 27(6) A-59 (National)

Lin, L., Bierman, P. R., Lini, A. and Spear, R. (1995) New AMS ^{14}C ages and pollen analyses constrain timing of deglaciation and history of revegetation in northern New England. **Geological Society of America Abstracts with Programs**. 27(6) A-58 (National)

Abbott, M. D., Bierman, P. R., Lini, A. and Wright, S. (1995) Using stable oxygen isotopes to develop a conceptual model of groundwater flow in a Vermont upland basin. **Geological Society of America Abstracts with Programs**. 27(6) A-98 (National)

Clapp, E. and Bierman, P. (1995) First geomagnetic-based, in situ produced cosmogenic isotope calibration program. **Geological Society of America Abstracts with Programs**. 27(6) A-59 (National)

Whalen, T. N. and Bierman, P. R. (1995) River terraces as recorders of isostatic rebound in the Champlain Basin, northwestern Vermont. **Geological Society of America Abstracts with Programs**. 27(6) A-57 (National)

Church, A. and Bierman, P. (1995) Episodic fan aggradation in the Winooski drainage basin, northwestern Vermont. **Geological Society of America Abstracts with Programs.** 27(1), A36 (Northeastern)

Larsen, P. and Bierman, P. R. (1995) Cosmogenic ^{26}Al chronology of the late Wisconsinan glacial maximum in north-central New Jersey. **Geological Society of America Abstracts with Programs.** 27(1), A63. (Northeastern)

Baldwin, L., Bierman, P., Schwartz, A., *Church*, A. and *Larsen*, P. (1995) The effects of colonial disturbance and subsequent reforestation on the Vermont landscape: **Geological Society of America Abstracts with Programs,** 27(1), A28. (Northeastern)

Church, A. and Bierman, P. R. (1994) Post-glacial landscape change in northern Vermont: erosion and sedimentation in the Winooski Basin: **Geological Society of America Abstracts with Programs,** 26(7), A301. (National)

Abstracts with Undergraduate Students

Martin, J., Lawrence, D., Schmidt, A.H., Bierman, P.R. *Sosa-Gonzalez, V.*, Singleton, A., and Qiu, Y., (2015) Examining land use and erosion in southwest China. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 204-11.

Campbell, M. K., Bower, J.A., Schmidt, A. H., *Neilson, T. B., Sosa-Gonzalez, V.,* Bierman, P.R., (2015) Fallout radionuclides in soil profiles and history of land use in Yunnan province, China. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 204-10

Singleton, A., Schmidt, A. H., Sosa-Gonzalez, V., Qiu, Y., *Neilson, T., Greene, E. S.,* Bierman, P., Rood, D., Campbell, M. K. and Woodmansee, S. J. (2015) Effects of grain size and mineralogy on the distribution of fallout radionuclides ^{7}Be, ^{10}Be, ^{137}Cs, and ^{210}Pb in sediment. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 82-5.

Cleveland, M., *Nichols* K.K, Webb, R., Bierman, P. R., Larsen, J., and Finkel R. (2006) Asymmetric Tributary Erosion Rates of Eastern Grand Canyon Based On Cosmogenic ^{10}Be, **Geological Society of America Abstracts with Programs**

Stanley-Mann, E., Hilke, J., Bierman, P, and Worley, I (2004) Repeat photography documents landscape change 75 years after an horrendous flood, **Geological Society of America Abstracts with Programs**, 35 (7), 249-42 (National)

Musselman, K., Wemple, B., Shanley, J., Bierman, P.R. (2003) Analysis of spatial variability of precipitation and snow accumulation on Mount Mansfield, Stowe, Vermont, **Geological Society of America Abstracts with Programs** 34(7), (National)

Persico, L. P., *Nichols*, K.K., and Bierman, P.R. (2002) The tortoise, the tank, and the sage: what really moves Mojave desert pebbles, 33 (7), **Geological Society of America Abstracts with Programs** (National)

Kurfis, J., Bierman, P., *Nichols*, K., Persico, L., Melillo, P. (2001) Green university town succumbs to blacktop: Quantifying the increase in impermeable surfaces and runoff through time, 32(7), A-179 **Geological Society of America Abstracts with Programs** (National)

Persico, L. P., *Nichols*, K.K., and Bierman, P.R. (2001) Tracking painted pebbles in the Mojave: annual rates of sediment transport and the impact of off-road vehicles, 32(7), A-439, **Geological Society of America Abstracts with Programs** (National)

Bosley, A., *Noren*, A., and Bierman, P. (2001) Identification of paleoclimatic cycles during the Holocene using grain size analysis of sediments cored from Lake Morey in Fairlee, VT, **Geological Society of America Abstracts with Programs**, 33, (1), A-15 (Regional)

Persico, L. P., *Mallard*, L. D., Bierman, P. R., and Massey, C. A. (2000) Forest to farmland and back again: a changing Vermont landscape: **Geological Society of America Abstracts with Programs**, 32 (7), A-24. (National)

Zehfuss, P. and Bierman, P. (1996) Alluvial fans in Vermont as recorders of changes in sedimentation rates due to deforestation: **Geological Society of America Abstracts with Programs**, 28, 3, A112. (Northeastern)

Bryan, K. and Bierman, P. (1995) Deglaciation of southern Chittenden County and northern Addison County, VT: **Geological Society of America Abstracts with Programs.** 27(1), A32 (Northeastern)

Abstracts with Collaborators

Shakun, J. D., *Corbett*, L. B. and Bierman, P. R. (2016) Eight million years of land-based Antarctic ice sheet stability recorded by in situ ^{10}Be from the Andrill-1b core, **GSA Abstracts with Programs**. Vol. 48, No. 2, Paper No. 82-3.

Miller, S.R., Kirby, E., Long, M.D., Benoit, M.t H., King, S.D., Bierman, P.R., and Sak, P.B. (2015) Late Cenozoic topographic rejuvenation in the central Appalachians: geomorphic constraints and geophysical relationships from the magic project. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 268-5

Schmidt, A. H., *Neilson, T. B.*, Bierman, P. R., *Sosa-Gonzalez, V., Bower, J. A.*, Rood, D.H., Ouimet, W. B. (2015) Using ^{10}Be and short-lived fallout radionuclides to track sediment movement through watersheds in Yunnan, China. **GSA Abstracts with Programs** Vol. 47, No. 7., Paper No. 82-3

Davis, P.T., Bierman, P.R., and *Corbett, L.B.* (2015) 10-Beryllium evidence for rapid Laurentide deglaciation of the Katahdin area, west-central Maine, USA, 16 to 15 ky. **Geological Society of America abstracts with Programs**, NE section meeting, Bretton Woods, NH. Abstract No: 252257.

Shakun, J. D., *Corbett, L. B.*, and Bierman, P. R. (2015) Eight million years of land-based Antarctic Ice Sheet stability recorded by *in situ* ^{10}Be from the ANDRILL-1B core. EOS. **AGU Fall Meeting**. Abstract PP11E-03.

Ouimet, W., Byrne, T., Huang, C., Bierman, P., Lee, Y., Hsu, W., Hsieh, M. and van Soest, M., (2015) Extreme landscape disequilibrium and slow erosion during rapid mountain building. **EOS. AGU Fall Meeting.** Abstract T32B-02.

Schmidt, A.H., Bierman, P. R., *Sosa-Gonzalez, V., Neilson, T.,* Singleton, A., Qiu, Y., Bower, J. A., and Rood, D. (2015) Effects of Chinese deforestation and reforestation policies on sediment sourcing in Yunnan, China, EP21C-0923. **EOS. AGU Fall Meeting**. Abstract EP21C-0923.

McPhillips, D., Hoke, G. D., Zeng J. L., Bierman, P.R., Rood, D. H., and Niedermann, S. (2015) Incision of the Yangtze River Gorge at the First Bend determined by three-nuclide burial dating. **EOS. AGU Fall Meeting**. Abstract T24B-02.

Balco, G., Schaefer, J., and Bierman, P. R. (2015) Intercalibrated radiocarbon, varve, and exposure-age chronologies for the last glacial maximum and initial deglaciation in southern New England. **Geological Society of America abstracts with Programs,** NE section meeting, Bretton Woods, NH, Abstract No: 252006

Van Arsdale, R. B., Balco, G., Bierman, P.R., Rood, D. H., Rovey, C., Cox, R.T., Lumsden, D. N., Parks, A. (2014) The Pliocene Mississippi River, **Geological Society of America Abstracts with Programs**, abstract no: 244490

Fernandes, N. Bierman, P. R., *Sosa-Gonzalez, V.,* Rood, D., Fontes, R.L., Santos, A., Godoy, J., and Bhering, S., (2014) Comparing Background and Recent Erosion Rates in Degraded Areas of Southeastern Brazil, **EOS, Transaction of American Geophysical Union**, Fall meeting, EP23A-3585

Hanson, K., Slack, C., R. Coppersmith, J. Neveling, L. Glaser; P. Bierman, S.

Forman, M. Goedhart, C. Johnson, D. Black (2014) Paleoseismic investigations of the Kango fault, South Africa: incorporating temporal and spatial clustering behavior into a seismic source characterization model. **Seismological Society of America.**

Cox, R., Bierman, P., Rakotondrazafy, A. F. M. (2014) Madagascar erosion rates and insight into anthropogenic effects from in-situ ^{10}Be analysis of river sediments, **Geological Society of America Abstracts with Programs**, abstract no: 241043

Dethier, D.P., Ouimet, W. B., Kaste, J., *Shea, N.*, Wyshnytzky, C. (20140 Application of meteoric ^{10}Be, ^{137}Cs and elemental profiles to studies of soil mixing and erosion—a front range perspective, **Geological Society of America Abstracts with Programs,** abstract no: 250134

Ouimet, W. B., Dethier, D. P., *Shea, N.*,Wyshnytzky, C., Bierman, P. (2014) Meteoric ^{10}Be, hillslope erosion and landscape evolution along the Colorado Front Range, **Geological Society of America Abstracts with Programs**, abstract no: 249487

Rood, D., Xu, S., Shanks, R. Dougans, A., Gallacher, P., Keefe, K., Miguens-Rodriguez, M., Bierman, P., Carlson, A., and Freeman, S. (2014) Towards high precision and low ratio Be-10 measurements with the SUERC 5MV tandem: bigger isn't always better. **AMS-13 Conference.**

Dethier, D., Ouimet, W. Bierman, P.R., and Rood, D., (2013), Spatial variation in ^{10}Be erosion rates and increasing relief in the southern Rocky Mountains. **Geological Society of American annual meeting.**

*McPhillips, D., Bierman, P.R., and Rood, D., (2013), identical erosion rates and processes across the Pleistocene-Holocene transition, western cordillera, peru: single-clast Be-10 results**. Geological Society of American annual meeting.**

Ouimet, W., Dethier, D. P., Mondrach, H., *Shea*, N., Kaste, J., and Bierman, P.R., (2013), fallout radionuclides in critical zone studies, Front Range, colorado. **Geological Society of American annual meeting.**

Ouimet, W.B., Byrne, T. B., Siame, L. L., Bierman, P. R., Rood, D., (2013) Slow Erosion Rates, increasing relief and transient landscape evolution within the Central Range of Taiwan, **EOS Transactions of the American Geophysical Union**, T24C-02

*****Shakun, J. and Bierman, P. R. (2013) A 7 Myr record of Greenland glaciation and erosion from in situ ^{10}Be in marine sediments, **EOS Transactions of the American Geophysical Union**, C31C-08

Massey, C. and Bierman, P.R., (2013). Digital vignettes supplement a new geomorphology textbook— instructors choose case studies from a free database. **NE Geological Society of America Abstracts with Programs**, Paper No. 11-9.

Massey, C. and Bierman, P.R., (2013). The landscape change program—a digital archive of historic Vermont photographs, **NE Geological Society of America**

Abstracts with Programs, Paper No. 31-13.

Enzel Y., Amit R., Grodek T., Ayalon A., Lekach J., Porat N., Bierman P., Blum J., Erel Y., 2013, Late Quaternary weathering, sediment production, erosion, and alluvial fan deposition in hyperarid Nahal Yael, Israel, **International Association of Geomorphologists Meeting**, Paris

Fernandes N., Amaral C., Bierman P., Silva L.M., Araújo J.P., Vargas Jr. E., De Campos T., Dourado F., Lopes M., Peixoto M.N., Nunes A., 2013, Debris Flows in Rio de Janeiro: Mapping, Modeling and Dating, **International Association of Geomorphologists Meeting**, Paris

Enzel Y., Amit R., Grodek T., Ayalon A., Lekach J., Porat N., Bierman P., and Blum J.(2012) Increased storminess during MIS3 altered the late Quaternary basin-scale weathering, erosion, and deposition in Nahal Yael, hyperarid Negev, Israel. **EOS**, Transactions of the American Geophysical Union. EP51E-04.

Markewich, H.W., Pavich, M.J, Schultz, A.P., Mahan, S.A., and Bierman, P.R. (2012) Geochronologic evidence for a possible MIS 11 emergent barrier/beach-ridge in southeastern Georgia, USA**. Geological Society of America Abstracts with Programs.**

Enzel, Y., Amit, R., Grodek T., Ayalon, A., Lekach, J., Porat, N., Bierman, P., Blum J., and Erel, Y. (2011) A late quaternary episode of weathering, erosion, and deposition in Nahal Yael, Israel: to the 'impact of climatic change on an arid watershed. **Geological Society of America Abstracts with Programs**.

Miller, S. R., Sak, P. B. Kirby, E., and Bierman, P. R. (2011), Bumps in the long road to flat, **EOS**, Transactions of the American Geophysical Union.

Ouimet, W., Dethier, D., Bierman, P, Wyshnytsky, C., and Rood, D. H., (2011) Unexpected Delivery of Meteoric ^{10}Be to Critical Zone Soils, Front Range, Colorado. **EOS**, Transactions of the American Geophysical Union.

Kirby, E., *Regalla*, C., Ouimet, W., Bierman, P. (2010), Reconstructing temporal variations in fault slip from footwall topography: An example from Saline Valley, California. **EOS**, Transactions of the American Geophysical Union.

Cox, R., Bierman, P., Perry, E.O., and Rakotondrazafy, A. (2010), Cosmogenic ^{10}Be analysis of river sands provides background erosion rates for Madagascar. **Geological Society of America Abstracts with Programs.**

Matmon, A., Briner, J., Carver, G., Bierman, P., and Finkel, R, (2010), Moraine chronosequence of the Donnelly Dome Region, Alaska. **Geological Society of America Abstracts with Programs.

Nichols, K.K., Bierman, P.R., *Reusser*, L., *Portenga*, E., **Matmon, A., Rood, D. (2010), Dual ^{10}Be isotope systems constrain the source of sediment and rate of erosion for the tropical Barron River catchment, Queensland, Australia. **Eos Transactions American Geophysical Union.**

Miller, S.R., Sak, P.B., Kirby, E. Bierman, P, and *Reuter*, J. (2010), Relationship between fluvial geomorphology and erosion in the Pennsylvania Appalachians:

implications for landscape evolution, **Northeastern/Southeastern Joint Section Meeting, Geological Society of America**

Massey, C. A., Bierman, P. R., and Montgomery, D. R., (2009). Free on-line *vignettes* supplement new geomorphology textbook and allow course customization. **Geological Society of America Abstracts with Programs**. Paper No. 244-49.

Russell, J., Bierman, P. R., and Wright, W., (2009). *Imaging earth's surface* — a web–based archive of high resolution geomorphology imagery. **Geological Society of America Abstracts with Programs**. Paper No. 244-50.

Enzel, Y., Amit, R., Lekach, J., Porat, N., Grodek, T., Bierman, P., and Erel, Y. (2007) Impact of climatic change on an arid watershed: Nahal Yael, Israel: evaluating Bull and Schick's 1979 model with new field data and IRSL ages from Nahal Yael, **Geological Society of America Abstracts with Programs.**

Whipple, K. X.; Heimsath, A. M.; Safran, E. B.; Bierman, P. R. (2006) What Topographic Metrics Most Strongly Correlate with Millennial Erosion Rates as Determined by Detrital CRN Analyses? **AGU, Fall Meeting**, abstract #H21H-07

Massey, C.A. and Bierman, P.R. (2006) Historic landscape photographs inspire local teachers to create engaging curricula. **Geological Society of America Abstracts with Programs.**

Cox, R. Bierman, P. *Jungers*, M. C., Rakotondrazafy, A.F. M, and Finkel, R. (2006) Just how fast does Madagascar erode? Evidence from cosmogenic ^{10}Be analysis of lavaka, slope, and river sediment. **Geological Society of America Abstracts with Programs.**

Massey, C., Bierman, P., *Lavoie*, J.P., Manduca, C., Berrizbeitia, I., Henry, J., (2005), Learning visually with historic "geo-images". **Geological Society of America Abstracts with Programs.**

Pavich, M.J., *Reuter*, J.M. and Bierman, P.R., 2005, Persistence of relief and erosion on the eastern passive margin, **Earthscope Annual Meeting**.

Pavich, M., *Reuter*, J., *Reusser*, L. and Bierman, P. (2005) Late Cenozoic response of the Susquehanna River to climatic and base level forcing, **Eos Trans. AGU**.

**Matmon, A., Bierman, P. R., Larsen, J., Southworth, S., Pavich, M., Finkel, R., Caffee, M (2005) Grain size dependency of ^{10}Be concentrations in alluvial sediments in the Great Smoky Mountains (submitted for Goldschmidt conference).

Lifton, N., Pigati, J., Jull, A.J.T., Quade, J., Bierman, P.R., Stone, J., Kober, F. (2004) Identifying biases in cosmogenic nuclide production rate scaling models using in situ cosmogenic ^{14}C from surfaces at secular equilibrium, **International Geological Conference**

Gellis, A., Pavich, M J, Landwehr, J., Banks, W S, Bierman, P, *Reuter*, J.M. (2004) Identifying watershed sediment sources in the Chesapeake Bay, **Eos Trans. AGU**, H51C-1159.

Safran, E. B., Whipple, K. X., Dunne, T., Bierman, P., Aalto, R., Caffee, M. W. (2004) Erosion rates, landscape morphology, and hillslope processes in the Upper Beni River region, Bolivian Andes, **Eos Trans. AGU**,

Safran, E., Aalto, R., Dunne, T., Bierman, P., Finkel, R., 2003, Spatial patterns of erosion in the Bolivian Andes from in situ ^{10}Be, Fall AGU. **Eos Trans. AGU**, *84*(46), Fall Meet. Suppl., Abstract H52E-05

Massey, C., Hilke, J., and Bierman, P.R., 2003, Landscape metamorphism in Vermont: building an image archive of the past and present with students, historical societies, and towns. **Geological Society of America Abstracts with Programs**. v. 35, n. 67693.

Pavich, M.J., Bierman, P.R., Gellis, A.C., and *Reuter*, J.M. (2003) Rates and scales of Sediment Production in the Rio Puerco Basin, New Mexico **INQUA Congress**.

Lifton, N., Pigati, L., Jull, A. J. T., Quade, J., Bierman, P. R. Kober, F. (2002) Testing cosmogenic nuclide production rate scaling models using in situ cosmogenic ^{14}C from surfaces at secular equilibrium. Abstracts of Goldschmidt Conference, **Geochimica et Cosmochimica Acta.**

Dethier, D., Ouimet, W., Bierman, P., and Finkel, R., (2002) Long-term erosion rates derived from ^{10}Be in sediment from small catchments, northern Front Range and southern Wyoming **Geological Society of America Abstracts with Programs.** 34(6)

Davis, P.T., Briner, J., Miller, G.H., Coulthard, R., Bierman, P.R., and Finkel, R.W. (2002) Huge >54,000 yr old glaciomarine delta on northern Baffin Island overlain by boulders with <20,000 yr old cosmogenic exposure ages: implications for non-erosive cold-based ice on Baffin Island during the LGM, **Geological Society of America Abstracts with Programs,** 34(6).

Gellis, A., Pavich, M., Bierman, P., Ellwein, A., *Clapp*, E., Caffee, M. (2001) Modern compared to geologic rates of erosion in Arroyo Chavez, Rio Puerco Basin, New Mexico: 32(7), A-286, **Geological Society of America Abstracts with Programs.**

Duncan, C., Masek, J., Bierman, P., Larsen, J. and Caffee, M. (2001) Extraordinarily high denudation rates suggested by ^{10}Be and ^{26}Al analysis of river sediments, Bhutan Himalayas: 32(7), A-312, **Geological Society of America Abstracts with Programs,**

Clark, D., Gillespie, A., Bierman, P.R., and Caffee, M.W. (2001) Glacial asynchrony in the Kunlun Shan, northwestern Tibet, 32(7), A-441, **Geological Society of America Abstracts with Programs**

Dethier, D.P., Schildgen, T.F., Bierman, P.R., and Caffee, M.W. (2001) Cosmogenic age of the Rocky Flats Alluvium near Boulder, Colorado. 32(7), A-312, **Geological Society of America Abstracts with Programs**.

Dethier, D.P., Schildgen, T.F., Bierman, P.R., and Caffee, M.W. (2000) The cosmogenic isotope record of late Pleistocene incision, Boulder Canyon, Colorado, **Geological Society of America Abstracts with Programs**, 31 (7), A-473. (National)

Gellis, A.C., Pavich, M.J., Bierman, P. R., Ellwein, A., Aby, S., and *Clapp*, E. M. (2000) Measuring erosion rates using modern geomorphic and isotopic measurements in the Rio Puerco, New Mexico, **Geological Society of America Abstracts with Programs**, 31 (7), A-118. (National)

Mallard, L.D., Massey, C.A., and Bierman, P.R. (2000) Vermont students gather digital images of human-induced landscape change, **Geological Society of America Abstracts with Programs**, 32 (7), A-421. (National)

Gillespie, A. R. and Bierman, P.R (2000) Fan-moraine synchrony, Sierra Nevada, California, **Geological Society of America Abstracts with Programs**, 31 (7), A-472. (National)

Schroeder, P.A, Melear, N.D., Bierman, P.R., Caffee, M.W., Kashgarian, M. (2000) Evidence for the recrystallization of secondary soil minerals and implications for estimates of paleo-atmospheric conditions, **Geological Society of America Abstracts with Programs**, 31 (7), A-525. (National)

Massey, C. A., *Mallard*, L. D., Bierman, P. R. (2000) Digital archive of human-induced landscape change with K-16 students in Vermont, **Geological Society of America Abstracts with Programs**, 32 (7), A-204. (National)

Diaz, E., Costa, C., Giaccardi, A., Bierman, P. and Caffee, M. (1999) Edades de cosmonuclideos en avalanchas de rocas de la sierra de San Luis: Implicancias paleosismologicas. **14º Congreso Geológico Argentino**, I: 81. (National)

Matmon, A. and Bierman, P., (1999) How fast do rift escarpments retreat? **Geological Society of America Abstracts with Programs, 31 (7), A-445. (National)

Lini, A., Levine, S., Bierman, P. (1998) The birth of post-glacial lakes: a tale of stable isotopes. . **Geological Society of America Abstracts with Programs.** v. 30, n.7, A-164 (National)

Colgan, P.M., Mickelson, D.M., Bierman, P. R., and Caffee, M. (1998) Cosmogenic 10-Be and 26-Al evidence for an early deglaciation of the Green Bay Lobe, before 15,000 calendar years BP. **Geological Society of America Abstracts with Programs.** v. 30, n. 7, A-135 (National)

Davis, P.T., *Marsella*, K.A., Bierman, P.R., and Caffee, M.W. (1998) Creation, reshaping, and survival of subglacial bedrock forms in the Canadian Arctic: A contribution from cosmogenic nuclide exposure dating, **Abstracts for**

International Symposium on Glaciers and the Glaciated Landscape, Kiruna, Sweden, 17-20 August 1998, International Glaciological Society, Cambridge, U.K., p.28-29. (International)

Gillespie, A. R., Clark, D. H., and Bierman, P. R. (1996) New exposure ages support asynchronism between alpine glaciation and sea-level fluctuations, Sierra Nevada, California: **Geological Society of America Abstracts with Programs**, v. 27, no. 7, p. A-133. (National)

Patterson, C. J., Bierman, P. R., and Caffee, M.. (1996) 10-Beryllium indicates some mid-western glacial surfaces are >150,000 years old**: Geological Society of America Abstracts with Programs**, v. 28, no. 7, p. A-56. (National)

Davis, P. T., *Marsella*, K. A., Bierman, P. R., and Caffee, M.. (1996) Deglacial dynamics of Baffin Island by cosmogenic exposure dating**: Geological Society of America Abstracts with Programs**, v. 27, no. 7, p. A-434. (National)

Davis, P. T., *Marsella*, K. A., Bierman, P. R., and Caffee, M. W. (1996) Paired glacial boulder and bedrock cosmogenic analyses: **EOS**. v.77, F-193. (National)

Clark, D. H., Bierman, P. R. and Gillespie, A. R. (1995) New cosmogenic ^{10}Be and ^{26}Al measurements of glaciated surfaces, Sierra Nevada, California - They're precise but are they accurate. **Geological Society of America Abstracts with Programs** 27 (6) A-170 (National)

Davis, P. T., *Marsella*, K. A., Bierman, P. R., Finkel, R. C., Caffee, M., Southon, J. and Koning, J. (1995) Timing and extent of glaciation on southern Baffin Island, Nunavut Territory, arctic Canada, using in situ cosmogenic isotopes. **Geological Society of America Abstracts with Programs** 27 (6) A-60 (National)

Lini, A., Bierman, P. R., *Lin*, L. and Davis, P. (1995) Stable carbon isotopes in post-glacial lake sediments: a technique for timing the onset of primary productivity and verifying AMS 14-C dates. **Geological Society of America Abstracts with Programs** 27 (6) A-58 (National)

Gillespie, A. R. and Bierman, P. R. (1991) Theoretical precision estimates for exposure-age and erosion-rate data from analysis of cosmogenic isotopes. **Geological Society of America Abstracts with Programs**, 23, A409. (National)

Invited Presentations

2015 Geological Society of American annual meeting, Baltimore. *Mapping erosion of the Appalachian Mountains using cosmogenic ^{10}Be*. Keynote speaker, Pardee Symposium on Appalachian Geomorphology.

2015 Geological Society of American annual meeting, Baltimore. *Using ^{10}Be to decipher the incision history of the Potomac River near Great Falls*. Invited speaker, theme session in honor of Milan Pavich.

2014 American Geophysical Union meeting. *Cosmogenic Isotopic Tracing of Sediment Generated By the Greenland Ice Sheet*. Invited speaker.

2014 Nordic Workshop on Cosmogenic Nuclide Dating. Aarhus, Denmark, ^{10}Be Remote Sensing of Greenland Ice Sheet (erosion) history. Keynote speaker.

2014 Geological Society of American annual meeting, Vancouver. *Cosmogenic 10-Be analysis of debris flow boulders and sediment from Brazil indicates long return times*. Invited speaker.

2014 Williams College, Sperry Lecturer. *Erosion in the Ice Box - a Tale Told by Rare Isotopes in Greenland Ice Sheet Sediment*. Invited speaker

2014 Williams-Mystic, Annual Reunion, Alumni Speaker. *Adventures of a Greenland geologist, on and offshore*. Invited speaker

2014 AMS-13, Multinuclide workshop, Aix, France. *Multi-isotope analysis of Greenland outcrops and sediment indicates erosion and exposure history of the Greenland Ice Sheet*. Invited speaker

2013 Addison Historical Society, Addison, Vermont, *The Landscape Change Program - 70,000+ historic images of our state*. Invited speaker

2013 Pardee session, Geological Society of American annual meeting, Denver. *Quaternary cosmogenic geochronology - rates and dates - past, present, and future*. Invited speaker

2013 NSF-sponsored Workshop on Geomorphic Prediction of Landscape Response to Climate and Land Use Change in Tucson, AZ. *Rates of landscape change: erosion vs sediment yield*. Invited speaker.

2013 Scottish University Environmental Research Center, East Kilbride, Scotland, *Using 10-Be to understand more about Greenland Ice Sheet dynamics,* Invited speaker

2013 First Wednesday speaker, Vermont Humanities Council, St Johnsbury Antheneum. *Remaking the Landscape, 1958-1978: The Interstate Highways Come to Vermont*. Invited speaker

2012 Osher Lifelong Learning Institute, St. Albans, *Remaking the Landscape, 1958-1978: The Interstate Highways Come to Vermont*. Invited speaker

2012 Elder Education Enrichment, South Burlington, *Remaking the Landscape, 1958-1978: The Interstate Highways Come to Vermont*. Invited speaker

2012 American Geophysical Union meeting, *High-precision, high-resolution, post-glacial emergence curves for southern Greenland generated with in situ cosmogenic 10-Be*. Keynote, invited speaker.

2012 Thetford Historical Society Annual meeting, keynote. *Remaking the Landscape, 1958-1978: The Interstate Highways Come to Vermont*. Invited speaker

2012 International Geology Conference, Brisbane Australia, *10-Be, a powerful tool for quantifying present and ancient rates of Earth-surface processes*, Keynote speaker,

2012 Proponent Expert, Thyspunt SSHAC Level 2 Workshop, Cape Town South Africa, *Cosmogenic geochronology investigations for uplift rates and ages of surfaces: Implications for the tectonic stability and geomorphic evolution of Southern Africa*. Invited speaker

2011 First Wednesday speaker, Vermont Humanities Council Essex Public library. *Remaking the Landscape, 1958-1978: The Interstate Highways Come to Vermont*. Invited speaker

2011 Federal University of Brazil, Rio campus. Invited lecture. *The Use of Cosmogenic Isotopes to Assess Long-Term Erosion Rates and a Few Dates*. Invited speaker

2010, Brazilian National Geomorphology Symposium, *The use of cosmogenic isotopes to assess long-term erosion rate,* Keynote speaker.

2010, Geological Society of London, Landscapes to Rock, *Three decades tracing erosion and sediment with cosmogenic nuclides - where do we go next?* Invited speaker.

2010, Namibian Geological Survey, *New isotopic methods show the old Namibian landscape is slowly eroding*

2009, Australian National Science and Technology Organization, *Using Cosmogenic Isotopes to Study Landscape Change; what we know and can learn about the Australian Continent*

2009, Bentley College, *New Geomorphic Insights from Cosmogenic Isotopes*, The William Morris Davis Lecture.

2009, European Geological Society Annual Meeting, *New ways of using an old isotopic system – meteoric 10-Be is back and ready to do geomorphology*, Invited Speaker

2008, Fine sediment and the Chesapeake Bay Watershed, Maryland Department of Natural Resources, *Rates of Making and Moving Sediment in the Appalachians, the Power of Isotopic Analyses*.

2008, Macquarie University (Australia), *Eroding and Incising an Ancient Mountain Range, the Appalachians of Eastern North America*.

2008, Weybridge Farmers club, *Traveling Back in Time: Vermont's Changing Landscape*

2008, North Branch Nature Center, Naturalist Journeys Lecture, *Traveling Back in Time: Vermont's Changing Landscape*

2008, University of Washington, Department Earth and Space Sciences, *Eroding and Incising the Appalachian Mountains*.

2008, University of Glasgow, Department of Geographical and Earth Sciences, *Eroding the Appalachians, a North American view through a ^{10}Be lens*.

2008, University of Vermont, Mastering the Maze*, Images of UVM and Vermont through Time*

2008, Keynote Talk, Governor's Institute, Climate Change Winter Weekend, *What's Climate change mean to Vermont?*

2008, Invited Presentation and Panel Member, Lake Champlain Research Conference, *The Watershed and Inputs*

2007, 13th Annual New England Conference on Gifted and Talented Education, *Global climate change – Newly developed program lets exceptional high*

school students gain their voice,

2007, University of New Mexico, *Using 10-Be to establish background rates of sediment generation and transport.*

2007, Elder Education Enrichment, *The Landscape Change Program: Imaging the Place that was and is Vermont*

2007, Pennsylvania State University, *Using 10-Be to understand how the Appalachians are eroding over time and space*

2007, University of Tasmania, *13,000 years of landscape change in northern New England imaged through mud, sand and historic images.*

2007, University of Tasmania, *Using 10-Be to understand how ancient mountainous landscapes erode over time and space.*

2007, Colby College, *Measuring Appalachian Erosion - looking back in time through various lenses*

2007, UVM RSENR AWES, *What atom counting tells us about background rates of sediment generation and transport*

2007, Fleming Museum Lunch Series, *Images of a Vanished Landscape, Imagining what was Burlington and Winooski*

2007, University of Vermont, Mastering the Maze*, Images of UVM and Vermont through Time*

2007, Vermont Science Teachers Association, Pathways to Standards Conference, *Using images to visualize environmental change over time*

2006, Vermont Humanities Council, annual fall conference, keynote lecture, *Imaging and Imagining the Place that was and is Vermont*

2006, Geological Society of American, Pardee invited lecture, *Erosion in an old decaying mountain range – the Appalachians*

2006, CCTV Burlington, Preservation Burlington, *The landscape change program*, 30 minute live interview

2006, Johns Hopkins University, *Using 10-Be to establish background rates of sediment generation and transport.*

2006, Yale University, *A cosmogenic look at erosion of the North American passive margin*

2006, Keynote talk Goldschmidt Conference, Melbourne, *More than Rates or Dates: the Power of Amalgamation when Tracing Landscape-scale Processes with 10-Be*

2006, Barre Lions Club, , *The Landscape Change Program*

2006, University of Vermont, Mastering the Maze, *Vermont Time Machine*

2006, *Switchboard*, Vermont Public Radio, February 23

2005, Williston Historical Society, *The Landscape Change Program*

2005, Pittsford Public Library Society, *The Landscape Change Program*

2005, Computer Science Department, University of Vermont, *A programming challenge, getting the UVM Landscape Change Program off the dirt road and onto the information superhighway*

2005, Greensboro Historical Society, *The Landscape Change Program*

2005, National Science Foundation, for GEO directorate, *Floods, Erosion, Dirt and 10,000 Old Pictures…a dozen years of integrating research and teaching with NSF support*

2005, National Science Foundation, Review of Distinguished Teaching Scholar Award for Director of NSF and Program Managers, *Landscape Imagery -- a catalyst for formal and informal science education*

2005, Massachusetts Institute of Technology, *A 10-Be look at erosion of the North American passive margin*

2005, University of Vermont, Mastering the Maze, *Vermont Time Machine*.

2005, Vermont Computer Mapping Expo, *The Landscape Change Program*

2005, Waterways Experiment Station, US Army Corps of Engineers, *Using ^{10}Be to Understand How Fast Sediment is Generated and How Fast it Moves*

2005, Williams College, Environmental Studies Program, *Using 10,000 old pictures of Vermont to look back at two centuries of environmental change and inform current decisions*

2004, Pardee Symposium, Geological Society of America, *Oh where, oh where did the sediment go: two decades of tracking desert sand from source to sink with 10-Be*

2004, Shelburne Farms docent training lecture, *Using the landscape change archive*

2004, Vermont-National Education Association Convention, Professional Development Workshop, *200 Years of Vermont Landscape History*.

2004, Echo Center first anniversary meeting, *Teaming between Echo and UVM Geology*.

2004, Chittenden County Regional Planning Commission, *Urbanization And Water Quality in Burlington, Vermont*

2004, Burlington Gem and Mineral Club, *15,000 years of New England Landscape History*

2004, Echo Center volunteers training, *The landscape change program, a digital community image archive*.

2004, Preservation Burlington**,** *Burlington's Disappearing Greenspace*

2004, US ARO, Arid regions Land use conference, *Use of 10-Be for determining land use change, Colorado Springs*

2004, NSF Visualization workshop, Carleton College, *Visualizing 150 years of landscape change with a web-based, community image archive* with poster of same title.

2004, Skidmore College, *15,000 years of New England Landscape History*

2004, Greensboro Historical Society, *The landscape change program, a digital community image archive*.

2003, Franklin and Marshall College, *15,000 years of New England Landscape History - from glaciers to clear-cuts and mega-storms*

2004, Shelburne Farms docent training lecture, *The landscape history of Oakledge Park*

2002, Conservation Biology Seminar, *Saving urban greenspace*

2002, Burlington City Council, *Severe un permitted loss of urban green space*

2002, Purdue University, *Unraveling Appalachian erosion, incision and deposition history using ^{10}Be*.

2002, Neighborhood Planning Association, Ward 6, Burlington, *Green space loss in Burlington*

2002, Goldschmidt Geochemistry Conference, Davos, Switzerland, *Tracking landscape scale sediment generation and transport using ^{10}Be and ^{26}Al*.

2002, University of Vermont Environmental Council, *Uncontrolled Green space loss, its Causes and Effects*

2002, Burlington City Planning Commission, *Urban Hydrology and Land Use Change Over Time in Burlington*

2002, University of Vermont, Center for Research on Vermont, *Disappearing Burlington lawns: students, cars, and land use change,*

2001, University of Massachusetts at Amherst, Department of Geology, *Old surfaces on New England summits imply thin Laurentide ice*

2000, Boston University, Department of Geology, *Old surfaces on New England summits imply thin Laurentide ice*

2000, University of Vermont, Department of Plant and Soil Science, *Big storm and clear cutting in Vermont*

2000, United States Geological Survey, Reston, *Cosmogenic Isotopes as Erosion Monitors*

2000, Geological Society of Washington, *The Aging of Great Escarpments - Cosmic Rays and Geomorphology*

2000, Williams College, *Clear cuts and big storms -- landscape history in Vermont*

1999, Hebrew University and Israeli Nuclear Power Authority, *Cosmogenic Isotope Short Course*

1999, University of Vermont, Department of Chemistry, *What UVM geologists do with 10-Be and 26-Al*

1999, University of Vermont, College of Engineering, *10,000 years of big storms and 200 years of clear-cutting*.

1999, University of Vermont, School of Natural Resources, *Clear cuts and big storms -- landscape history in Vermont*

1999, Middlebury College, *Dirt and water, a record of big storms in the Holocene of New England?*

1999, Bryn Mawr College, *Clear cuts and big storms -- landscape history in Vermont*

1999, Brown University, *Cosmogenic Clear cuts and big storms -- landscape history in Vermont*

1999, University of New Hampshire, *Dirt and water, a record of big storms in the Holocene of New England?*

1999, National Science Foundation, *Dirt and Water, 10,000 Years of New England Storms*

1998, University of Michigan and Dartmouth University, *10,000 Years of New England Landscape History, 200 years of human Impact: Process and Products*

1998, University of Michigan and Dartmouth University, *Rates and Dates of Surface Processes -- a View through the Cosmogenic Window*

1998, Hampshire College, *10,000 Years of Climate Change and Human Impact on New England Landscapes*

1997, Harvard University, *Cosmogenic Geomorphology*

1997, Dartmouth University, *Cosmogenic Geomorphology*

1997, Indiana University/Purdue University *Cosmogenic Geomorphology*

1997, Hebrew University, Jerusalem, *Cosmogenic Geomorphology, Dates and Erosion Rates*

1997, Cornell University, *Rates and Timing of Geomorphic Processes*

1997, UCLA, *Faults, Fans, and the Weathering Function*

1996, US Army Research Office, Construction Engineering Research Laboratory, *Estimating Long-term erosion rates*

1996, United States geological Survey, Reston, *Uses of Cosmogenic Nuclides in Earth Science*

1996, Duke University, *Alluvial fans - East, West, Up, Down*

1996, SUNY Albany, *Cosmic Rays and Alluvial Fans - Tectonic and Landscape Implications For California and Vermont*

1996, University of Wisconsin, Madison, *Geomorphic Application of Cosmogenic Nuclides*

1996, Los Alamos National Laboratory, *10-Be and 26-Al Production Rates*

1995, Geological Society of America National Meeting, *Silicate Weathering Symposium*

1995, SUNY Binghamton, *Rates of Earth Surface Change*

1995, Williams College, *Rates of Earth Surface Change*

1994, University of Massachusetts, *Cosmogenic Answers to Questions of Continental Denudation*

1994, University of Vermont, Short course, *Geomorphic Applications of Cosmogenic Isotopes*

1993, Australian National University, *^{36}Cl and Rates of Granite Erosion*

1992, Chapman Conference, *Tectonics and Topography*

1991, Western Washington University, Seminar Series, *Surface Exposure Dating Methods*

1990, Penrose Conference, *Methods of Surface Exposure Dating*