BODO BOOKHAGEN
CURRICULUM VITAE

Geography Department, affiliated faculty with the Department of Earth Science
UC Santa Barbara
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EDUCATIONAL BACKGROUND

Vordiplom in Computer Science and Geophysics, 1997, Potsdam University, Germany
Diploma in Geology, 2000, Potsdam University, Germany
Dr. rer. nat. (summa cum laude), Geology, 2005, Potsdam University, Germany

ACADEMIC HONORS

2005	Best PhD-student publication award (Leibniz-Kolleg, Potsdam University)
2004	'Bernd-Rendel-Preis' (Achievement award by the German Sci. Foundation
2001	Socrates Intensive Program participants (EU sponsored)
1998	Selected participant at the ECRC Advanced Study Course (EU sponsored)

WORK EXPERIENCE AND APPOINTMENTS

since 2011	Assoc. Professor, Geography Dept., UC Santa Barbara
since 2008	Affiliated Faculty, Dept. of Earth Sciences, UC Santa Barbara
2008 – 2011	Asst. Professor, Geography Dept., UC Santa Barbara
Jun. 2007 – Sep. 2007	Visiting researcher, Inst. f. Geowiss., Potsdam University
Jan. 2006 – Dec. 2007	Postdoctoral researcher, GES, Stanford University
Jan. 2005 – Sep. 2007	Adjunct Researcher at the Inst. f. Geowiss., Potsdam University
Jan. 2005 – Feb. 2006	Assistant Researcher, Institute for Crustal Studies, UC Santa Barbara
Jun. 2004 – Nov. 2004	Research Associate at the Space Science Laboratory, UC Berkeley
May 2003 – Dec. 2003	Research Associate at the University of California, Berkeley
Oct. 2001 – Jul. 2002	DAAD Stipend at the University of California, Berkeley
Mar. 2001 – Dec. 2004	DFG (German Sci. Foundation) Graduate Fellow (Potsdam University)
Mar. 1996 – May 2001	Computer coder at a private computer company in Berlin, Germany

RESEARCH INTERESTS

Understanding Quaternary climate change, geomorphic processes, landscape evolution, and tectonic processes through integrated studies involving cosmogenic radionuclide dating (He, Ne, Be, Al, Cl), recent and past climatic records, remote sensing, numerical modeling, and field observations. Spatial scales range from hillslopes (10^0 km^2) to entire mountain ranges (~10^3 km). For smaller scale analysis, I am using a terrestrial laser scanner to create high resolution, cm-scale digital elevation models for erosion-process deciphering.

FIELD, LABORATORY AND COMPUTATIONAL EXPERIENCE

Quaternary Climate Change and Landsliding: Northwest Argentine Andes, NW Himalaya, and Southern California
Coastal Active Tectonics: South-central Chile, southern and central California
Exposure-Age Dating (CRN): NW Himalaya, south-central Chile, southeast Kyrgyzstan (Tien Shan)
Landscape Evolution: Southeast Kyrgyzstan, Kyrgyz Range, NW Himalaya, south-central Chile, Sana Cruz Island and coastal California
Computational Experiences: Development of high-resolution algorithms for the NASA TRMM Satellite, Hydrological Modeling of Lake-Level Changes, thermo-kinematic modeling of landscape evolution on long timescales (>10^5 y), quantification and forward modeling of geomorphic processes, development of processing algorithms for terrestrial LiDAR data

PROFESSIONAL SERVICE AND SYNERGISTIC ACTIVITIES

(1) helping to supervise graduate students at UCSB, Potsdam University, and Stanford University (including training students in the field, lab procedures, computer programming, and remote-sensing techniques), (2) building, managing, and maintaining a cosmogenic nuclide sample preparation lab at Stanford Univ. (http://pangea.stanford.edu/research/groups/tectonicgeomorph/index.php?page=11), (3) building a similar facility at UC Santa Barbara (http://www.geog.ucsb.edu/~bodo/data.php?pg=data#crn) and making it available to visiting researchers and students, (4) helping the NASA-TRMM team to develop high-resolution algorithms for the TRMM (Tropical Rainfall Measurement Mission) satellite, (5) reviewing several bookchapters and more than 60 manuscripts for the following journals: *Climate Dynamics, Earth and Planetary Science Letters, Earth Surface Processes and Landforms*, *Geology, Geomorphology, Geophysical Research Letters, GSA Bulletin, JGR-Earth Surface, JGR-Solid Earth, Lithosphere, Natural Hazards, Nature, Nature Geosciences, Nature Climate Change, Quaternary Research, Remote Sensing of the Environment, Tectonics* (6) reviewing proposal for the NSF, NGS, DFG, and ESF, and (7) serving on a reviewer board for the German Science Foundation and the European Science Foundation, (8) serving on the Lithosphere (GSA Journal) Editorial Board.

TEACHING EXPERIENCE

Geog 210A *Analytical Methods in Geography* (graduate level)

Geog 115B *Introduction to Remote Sensing* (Intermediate undergraduate level)

Geog 115C *Intermediate Remote Sensing* (upper undergraduate level)

Geog 137/237 *Quantitative Geomorphology* (advanced undergraduate/graduate level)

Introduction to GIS (graduate level)

Geog 288BB *Bridging Timescales – Understanding Geomorphic Processes in Space and Time* (graduate level)

Geog 295 *Graduate Reading Seminar – Geomorphology and Erosion* (graduate level)

Leading, and Co-Leading several geologic and geomorphologic field classes and field trips to sites in southern California, northwestern Argentina, and the Sierra Nevada

Lectures and short-courses on cosmogenic nuclide sample processing

Teaching during summer school in the Integrated Solid Earth Sciences (ISES 2008, sponsored by NSF)

Teaching during the Alpine Summer School 2011 (http://www.to.isac.cnr.it/)

GRADUATE AND POSTGRADUATE ADVISORS

Postdoctoral Sponsor: George E. Hilley, Geological and Environmental Sciences, Stanford University
Postdoctoral Sponsor: Douglas Burbank, Geological Sciences, University of California, Santa Barbara
PhD Advisor: Manfred R. Strecker, Institut für Geowissenschaften, Universität Potsdam and Samuel Niedermann, GeoForschungsZentrum Potsdam

REFEREED BOOKCHAPTERS

Strecker, M.R., Hilley, G.E., **Bookhagen, B.**, and Sobel, E.R. (2011): Structural, geomorphic and depositional characteristics of contiguous and broken foreland basins: examples from the eastern flanks of the central Andes in Bolivia and NW Argentina, in *Recent Advances in Tectonics of Sedimentary Basins*, C. Busby and A. Azor (editors).

Bookhagen, B. and Strecker, M.R. (2010): Modern Andean rainfall variation during ENSO cycles and its impact on the Amazon Basin, in *Neogene history of Western Amazonia and its significance for modern diversity*, eds. C. Hoorn, H. Vonhof, F. Wesselingh, Blackwell Publishing, Oxford.

Alonso, R.N., **Bookhagen, B.**, Carrapa, B., Coutand, I., Haschke, M., Hilley, G.E., Schoenbohm, L. Sobel, E. R., Strecker, M.R., Trauth, M.H., Villanueva, A. (2006): Tectonics, Climate, and Landscape Evolution of the Southern Central Andes: The Argentine Puna Plateau and adjacent Regions between 22 and 30° S lat, in *Frontiers in Earth Sciences,* eds. O. Oncken, M. Strecker, G. Franz, V. Ramos, Springer Verlag, Berlin.

REFEREED PUBLICATIONS

Carvalho, L.M.V., Jones, C., Posadas, A.N.D., Quiroz, R., **Bookhagen, B.**, and Liebmann, B. (2012): Precipitation characteristics of the South American Monsoon System derived from multiple datasets,

Journal of Climate, doi:10.1175/JCLI-D-11-00335.1

Bookhagen, B. and Strecker, M.R. (2012), Spatiotemporal trends in erosion rates across a pronounced rainfall gradients: examples from the south-central Andes, *Earth and Planetary Science Letters*.

Bookhagen, B. (2012): Himalaya Groundwater, *Nature Geoscience*, News and Views, doi:10.1038/ngeo1366

Schildgen, T.F., Cosentino, D., **Bookhagen, B.**, Niedermann, S., Yildrim, C., Echtler, H., Wittmann, H., Strecker, M.R. (2012): Multi-phased uplift of the southern maring of the Central Anatolian plateau, Turkey: A record of tectonic and upper mantle processes, *Earth and Planetary Science Letters*, 317-318, 85-95, doi:10.1016/j.epsl.2011.12.003

Goode, J., Burbank, D.W., **Bookhagen, B.** (2011): Basin Width Control of Faulting in the Naryn Basin, South-Central Kyrgyzstan, *Tectonics*, doi:10.1029/2011TC002910.

Malik, N., **Bookhagen, B.**, Marwan, N., Kurths, J. (2011): Analysis of spatial and temporal extreme monsoonal rainfall over South Asia using complex networks, *Climate Dynamics*, doi:10.1007/s00382-011-1156-4.

Scherler, D., **Bookhagen, B.**, Strecker, M.R. (2011): Hillslope-glacier coupling: the interplay of topography and glacial dynamics in High Asia, *JGR-Earth Surface*, doi:10.1029/2010JF001751.

Scherler, D., **Bookhagen, B.**, Strecker, M.R. (2011): Spatially variable response of Himalayan glaciers to climate change affected by debris cover, *Nature Geoscience*, doi:10.1038/ngeo1068

Hain, M., Strecker, M.R., **Bookhagen B.**, Alonso, R.N., Pingel, H., Schmitt, A.K. (2011): Neogene to Quaternary broken-foreland formation and sedimentation dynamics in the Andes of NW Argentina (25S), *Tectonics*, doi:10.1029/2010TC002703.

Bookhagen, B. and Burbank, D.W. (2010): Towards a complete Himalayan hydrologic budget: The spatiotemporal distribution of snow melt and rainfall and their impact on river discharge, *Journal of Geophysical Research-Earth Surface*, doi:10.1029/2009jf001426.

Bookhagen, B. (2010): Appearance of extreme monsoonal rainfall events and their impact on erosion in the Himalaya, *Geomatics, Natural Hazards, Risk,* 1, 1, pp. 37-50.

Perroy, R., **Bookhagen, .B.**, Asner, G., Chadwick, O. (2010): Comparison of gully erosion estimates using airborne and ground-based LiDAR, *Geomorphology,* doi:10.1016/j.geomorph.2010.01.009.

Rehak, K., **Bookhagen, B.**, Strecker, M.R., Echtler, H.P. (2010): Climatic controls on drainage-basin morphology – the western Andean flank between 15.5° and 41.5°S, *Earth Surface Processes and Landforms*.

Scherler, D., **Bookhagen, B.**, Strecker, M.R., von Blanckenburg, F. and Rood, D. (2010): Timing and Extent of Late Quaternary Glaciation in the western Himalaya constrained by 10Be Moraine Dating in Garhwal, India, *Quaternary Science Reviews,* doi:10.1016/j.quascirev.2009.11.031.

Wulf, H., **Bookhagen, B.**, and Scherler, D. (2010): Seasonal precipitation gradients and their impact on fluvial sediment flux in the Northwest Himalaya, *Geomorphology,* doi:10.1016/j.geomorph.2009.12.003.

Hren, M., **Bookhagen, B.**, Blisniuk, P., Booth, A., Chamberlain, C.P (2009): d18O and dD of streamwater across the Himalaya and Tibetan Plateau: Implications for moisture sources and paleoelevation reconstructions, *Earth and Planetary Science Letters*, 288, 1-2, 20-32.

Strecker, M.R., Alonso, R., **Bookhagen, B.**, Carrapa, B., Coutand, I., Hain, H.P., Hilley, G.E., Mortimer, E., Schoehnbohm, L., and Sobel E.R. (2009): Does the topographic distribution of the central Andean Pune Plateau result from climatic or geodynamic processes, *Geology*, 37, 7, doi:10.1130/G25545A.1.

Melnick, D., **Bookhagen, B.** Strecker, M.R., Echtler, H.P. (2009): Segmentation of megathrust rupture zones from fore-arc deformation patterns over hundreds to millions of years, Arauco Peninsular, Chile, *Journal of Geophysical Research-Earth Surface*, 114, B01407, doi:10.1029/2008JB005788.

Thiede, R.C., Ehlers, T.A., **Bookhagen, B.**, Strecker, M.R (2009): Erosional Variability along the NW Himalaya margin, *Journal of Geophysical Research-Earth Surface*, 114, F01015, doi:10.1029/2008JF001010.

Bookhagen, B. and Strecker, M.R. (2008): Orographic barriers, high-resolution TRMM rainfall, and relief variations along the eastern Andes, *Geophysical Research Letters*, 35, L06403,

doi:10.1029/2007GL032011.

Gabet, E.J., Burbank, D.W., Pratt-Sitaula, B., Putkonen, J., **Bookhagen, B.** (2008): Modern erosion rates in the High Himalayas of Nepal, *Earth and Planetary Science Letters*, 267, 482-494.

Strecker, M.R., Alonso, R.N., **Bookhagen, B.**, Carrapa, B., Hilley, G.E., Sobel, E., and Trauth, M.H. (2007): Tectonics and Climate of the Southern Central Andes, *Annual Reviews of Earth and Planetary Sciences, doi:10.1146/annurev.earth.35.031306.140158*.

Craddock, W., Burbank, D.W., **Bookhagen, B.**, Gabet, E. (2007): Bedrock channel geometry along an orographic rainfall gradient in the upper Marsyandi River valley in central Nepal, *Journal of Geophysical Research-Earth Surface, 112,* F03007, doi:10.1029/2006JF000589.

Hren, M.T., Chamberlain, P., Hilley, G.E., **Bookhagen, B.** (2007): Major ion chemistry of the Yarlung Tsangpo/Brahmaputra river: Chemical weathering, erosion, and CO_2 consumption in the southern Tibetan Plateau and Eastern Syntaxis of the Himalaya, *Geochemica et Cosmochimica acta*, 71, 2907-2935.

Grujic, D., Coutand, I., **Bookhagen, B.**, Bonnet, S., Blythe, A., Duncan, C. (2006): Climatic forcing of erosion, landscape, and tectonics in the Bhutan Himalayas, *Geology*, 34 (10), 801-804.

Bookhagen, B., Echtler, H.P., Melnick, D., Strecker, M.R., Spencer, J.Q.G. (2006): Using uplifted Holocene beach berms for paleoseismic analysis on the Santa María Island, south-central Chile, *Geophys. Res. Lett.*, 33, L15302, doi:10:1029/2006GL026734.

Melnick, D., **Bookhagen, B.**, Echtler, H.P., Strecker, M.R. (2006): Coastal deformation and great subduction earthquakes: Isla Santa María, Chile (37°S), *GSA Bulletin*, 118, (9/10), doi:10.1130/B25865.1.

Bookhagen, B., Fleitmann, D., Nishiizumi, K., Strecker, M.R., Thiede, R.C. (2006): Holocene Monsoonal dynamics and fluvial terrace formation in the northwest Himalaya, India, *Geology*, 34 (7), 601-604.

Thiede, R.C., Arrowsmith, R., **Bookhagen, B.**, McWilliams, M., Sobel, E., and Strecker, M. (2006): Dome formation and extension in the Tethyan Himalaya, Leo Pargil, northwest India, *GSA Bulletin*, 118 (5/6), 635-650, doi:10.1130/B25872.1.

Bookhagen, B. and Burbank, D.W. (2006): Topography, Relief, and TRMM-derived rainfall variations along the Himalaya, *Geophys. Res. Lett.*, 33, L08405, doi:10:1029/2006GL026037. [selected as AGU Editor's Choice in May 2006]

Thiede, R.C., **Bookhagen, B.**, Arrowsmith, J.R., Sobel, E.R., Strecker, M.R. (2004): Climatic control on rapid exhumation along the Southern Himalayan Front, *Earth and Planetary Science Letters*, 222 (3-4), 791-806.

Bookhagen, B., Thiede, R.C., Strecker, M.R. (2005): Late Quaternary intensified monsoon phases control landscape evolution in the northwest Himalaya, *Geology*, 33 (2), 149-152.

Bookhagen, B., Thiede, R.C., Strecker. M.R. (2005): Abnormal Monsoon years and their control on erosion and sediment flux in the high, arid northwest Himalaya, *Earth and Planetary Science Letters*, 231, 131-146.

Thiede, R.C., Arrowsmith, R., **Bookhagen, B.**, McWilliams, M., Sobel, E., and Strecker, M.R. (2005): From tectonically to erosionally controlled development of the Himalayan orogen, *Geology*, 33(8), 689-692.

Trauth, M.H., **Bookhagen, B.**, Mueller, A., Strecker, M.R. (2003): Late Pleistocene Climate Change and Erosion in the Santa Maria Basin, NW Argentina, *Journal of Sedimentary Research*, 73 (1), 82-90.

Trauth, M.H., **Bookhagen, B.**, Marwan, N., Strecker, M.R. (2003): Multiple landslide clusters record Quaternary climate changes in the northwestern Argentine Andes, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 194, 109-121.

Bergner, A.G., Trauth, M.H., **Bookhagen, B.** (2003): Magnitude of precipitation / evaporation changes in the Naivasha Basin (Kenya) during the last 150 kyr, *Global and Planetary Change*, 36 (1-2), 117-135.

Bookhagen, B., Haselton, K., Trauth, M. (2001): Hydrological Modelling of a Pleistocene landslide-dammed lake in the Santa Maria Basin, NW Argentina, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 169, 113-127.

INVITED CONFERENCE AND DEPARTMENT TALKS

Apr 2012	USC
Feb 2012	Toronto, Canada
Jan 2012	San Diego State University
Nov 2011	Caltech
Jun 2011	Himalayan Climate, Valle d'Aosta, Italy
Jun 2011	Climate Symposium at UCSB
May 2011	Chapman University, Science Forum
Apr 2011	EGU, Invited Talk
Feb 2011	Hydrology and Earth Science, Grenoble, France
Nov 2010	Earth Sciences, Freiberg, Germany
Nov 2010	Earth Sciences, Rennes, France
Nov 2010	FONA (Forum for Sustainability), Berlin, Germany
Oct 2010	Institute for Earth and Environmental Sciences, Potsdam University
Aug 2010	IASS Cryosphere conference in Potsdam, Germany
Dec 2009	UNEP (UN Environmental Program) Himalayan Climate Change Workshop in New Delhi
Dec 2009	AGU, San Francisco, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract EP51D-03 (Invited)
Dec 2009	AGU, San Francisco, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract T32B-03 (Invited)
Dec 2009	AGU, San Francisco, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract U51A-06 (Invited)
Oct 2009	Keck Institute for Space Studies, Monitoring Earth Surface Changes from Space
July 2009	Univ. of Jena, Department of Geography
June 2009	Univ. of Potsdam, Department of Geosciences
May 2009	Ice, Snow and Water, part of the Global Water Initiative (UC San Diego, University of Cambridge)
Dec 2008	AGU, San Francisco, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract H54D-08 (Invited)
Dec 2008	AGU, San Francisco, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract T41C-01 (Invited)
May 2008	Caltech, Division of Geological and Planetary Sciences
April 2008	Institute for Computational Earth System Sciences
April 2008	Dept. of Earth Science, UC Santa Barbara
Feb 2008	USGS Menlo Park
Jan 2008	Southern California Earthquake Center (SCEC) Meeting
May 2007	Geologic Sciences, San Francisco State University
Jan 2007	Earth Sciences, UC Davis
Jan 2007	Geography Department, UC Santa Barbara
Jan 2007	Opening Ceremony of the Graduate School 1364 at Potsdam University
Dec 2006	AGU Conference, San Francisco, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract T13E-03
May 2006	Department of Geophysics, Stanford University
Apr 2006	Geological and Environmental Sciences, Stanford University
Mar 2006	Earth Sciences, UC Santa Cruz
Nov 2005	Earth Sciences, UC Los Angeles
Aug 2005	Toronto, *Earth System Processes II GSA Special Meeting*
May 2005	Geological and Environmental Sciences, Stanford University
Feb 2005	Earth and Planetary Sciences, UC Berkeley
July 2004	Space Science Laboraory, UC Berkeley
May 2002	Earth and Planetary Sciences, UC Berkeley