# Gregory D. Hoke

Department or Earth Sciences
Syracuse University
116 Heroy Geology Laboratory
Syracuse, NY, 13244, U.S.A.
voice: 315.443.1903
email: gdhoke@syr.edu
web: http://topo.syr.edu/


Curriculum Vita
Fall 2011

## PRESENT POSITION

Assistant Professor of Earth Sciences, Dept. of Earth Sciences, Syracuse University, Syracuse NY, USA

## RESEARCH INTERESTS

Tectonic Geomorphology

Interaction between landscapes, climate and tectonics

Paleoaltimetry

Understanding mountain belts through the sedimentary record

## EDUCATION

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|---|---|
| 2006 | Ph.D. in Geological Sciences, Cornell University, Ithaca, NY |
| 1998 | B.S. in Geology and Geol. Oceanography, University of Rhode Island, Kingston, RI |
| 1994 | Secondary School Diploma, George Stevens Academy, Blue Hill, ME |

## PREVIOUS APPOINTMENTS

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|---|---|
| 01.2008-12.2008 | Alexander von Humboldt fellow, Univ. Potsdam, Potsdam Germany |
| 11.2006-12.2008 | Research Associate, University of Rochester |
| 11.2006-12.2009 | NSF International Research Fellow, Mendoza, Argentina |
| 11.2005-10.2006 | Post-doctoral Research Associate, University of Rochester |

## TEACHING

EAR 203, *Earth System Science* (~ 100 student lecture)

EAR 342/542 *Geomorphology* (cross-listed undergraduate/graduate, ~ 15 students/year)

EAR 443/643 *Current topics in Geomorphology* (reading seminar)

EAR 400/600 Applications of GIS in the Earth Sciences (~10 students/year)

## FELLOWSHIPS and RESEARCH GRANTS

### *Professional Career*

Pending:

American Chemical Society-Petroleum Research Fund ($100,000): Evaluating the mechanisms for episodic filling and erosion in wedge-top and proximal foreland environments in the Precordillera, San Juan Province, Argentina.

NSF Low Temperature Geochemistry and Geobiology ($163,846, SU Budget): Collaborative Research: Clumped-isotope thermometry of pedogenic carbonates: quantifying the influence

of climate, environment, and altitude in the Andes (Katherine Huntington (U. Washington), PI, G. Hoke, co-PI)

NSF EAR IF ($88,098 requested for SU budget): Early Career: Acquisition of an Isotopic Liquid-Water Analyzer for Hydrology and Earth Science Research and Education at Syracuse University (Laura Lautz, PI, G. Hoke and Z. Liu co-PIs)

Awarded:

2010-2013: NSF Tectonics Program award EAR-1019427 ($365,182 SU Budget): *Basin Evolution and Elevation History of the SE Margin of the Tibetan Plateau: Constraints on the Timing and Mechanisms of Surface Uplift* (G. Hoke PI, C. N. Garzione (U. Rochester) co-PI)

2006-2010: NSF International Research Fellowship Program ($122,662): *Rock deformation events, range elevation change and sedimentary basin filling in the Andes Mountains between 34-30°S latitude*

2007-2009: Alexander von Humboldt Fellowship (~ €50,000)

***Graduate Career***

2002-2005 NASA Earth System Science Graduate Fellowship

2003 Cornell Geological Sciences Meyer Bender class of 1929 Memorial Scholarship

2003 Cornell Geological Sciences Estwing Award for most outstanding graduate student

**PROFESSIONAL ORGANIZATION MEMBERSHIP**

Geological Society of America (Quaternary Geology and Structure and Tectonics divisions)

American Geophysical Union (T and EP sections)

International Association of Sedimentologists

**LANGUAGES**

English (native speaker), Spanish (fluent), German (intermediate, EU level B.1)

**COMPUTING**

Environments: MacOS, Windows, UNIX
Software: Adobe Illustrator, Adobe Photoshop, MATLAB, ArcGIS, ArcINFO, ENVI, Natural Scene Designer, Microsoft Office Suite

**INVITED COLLOQUIUM PRESENTATIONS** (last 5 years)

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|---|---|
| 2011 | Colgate University |
| | Institute for Tibetan Plateau Research, Beijing, China |
| | Princeton University |
| | Bucknell University (2 talks) |
| 2010 | Miami University of Ohio |
| | McGill University |
| | Binghamton University |
| 2009 | Syracuse University |
| 2007 | Universidad Nacional de Córdoba (talk and 2 day workshop) |
| | Universidad de Buenos Aires |

Inst. Argentino de Niv. Glac. y Ciencias Ambientales

Syracuse University

University of Massachusetts at Amherst

**PROFESSIONAL SERVICE**

*Peer Review:*

Journals: GEOLOGY, Terra Nova, G-Cubed, International Journal of Earth Sciences, Journal of Geophysical Research Earth Surface, Journal of South American Earth Sciences, Tectonophysics, German SFB 267 Research volume, Earth Surface Processes and Landforms, Geophysical Research Letters, Journal of the Geological Society, Basin Research, Tectonics, Andean Geology, Geological Society of America Bulletin

Proposals: FONCyT Earth Sciences Division (NSF-like funding agency in Argentina), NSF EAR Tectonics Division , Swiss NSF, FONDECYT (NSF-like agency in Chile)

Meetings:

2011: Co-convener (with J. Nie) of session at Geological Society of America national meeting: Toward a Better Understanding of the Uplift History and Mechanisms of the Tibetan Plateau

2010: Judge for outstanding student presentation awards at the AGU Fall Meeting

2009: Co-convener (with J. Saylor and A. Mora) of session at Geological Society of America national meeting: Uplift or Climate Change? Evaluating Surface Uplift and Deformation in Light of Climate Change in the Andes

2006: Co-convener (with J. A. Rech and R. Amundson) of session at Geological Society of America National meeting: Surficial Processes at the Hyperarid Limit: Current Research in the Atacama Desert, Chile

**DEPARTMENTAL SERVICE**

Member of Geophysics Faculty search committee (Sept 2010 - April 2011)

Coordinator of the Department of Earth Sciences' weekly K.D. Nelson Seminar Series (since 5/10)

Departmental IT representative to the College of Arts and Sciences IT committee.

Faculty advisor to the Earth Sciences student Geology Club

**PUBLICATIONS**

*Articles in review:*

Walcek, A.A. and **Hoke, G.D.**, resubmitted after favorable review, Surface Uplift and Erosion of the Southernmost Argentine Precordillera, *Geomorphology*

*Accepted Articles*

Giambiagi, L., Mescua, J., Bechis, F., Tassara, A., Hoke, G., accepted, Thrust Belts Of The Southern Central Andes: Along-Strike Variations In Shortening, Topography, Crustal Geometry, And Denudation: Geological Society of America Bulletin.

*Peer-reviewed Articles*

Ramezani, J., **Hoke, G.D.**, Fastovsky, D.E., Bowring, S.A., Therrien, F, Dworkin, S.I., Atchley, S.C. and Nordt, LC., 2011, High-precision U-Pb zircon geochronology of the Late Triassic Chinle Formation, Petrified Forest National Park (Arizona, USA): Temporal constraints on the early evolution of dinosaurs: *Geological Society of America Bulletin*, doi: 10.1130/B30433.1

Ruskin, B.G, Dávila, F.M., **Hoke, G.D.**, Jordan, T.E., Astini, R.A. and Alonso, R, 2011 Stable isotope composition of middle Miocene carbonates of the Frontal Cordillera and Sierras Pampeanas: Did the Paranaense seaway flood western and central Argentina?: *Palaeogeography, Palaeoclimatology, Palaeoecology*, vol. 308 pp. 293-303, doi:10.1016/j.palaeo.2011.05.033.

Jordan, T.E., Nester, P. L., Blanco, N., **Hoke, G. D.**, Davila, F. M., and Tomlinson, A.J., 2010, Uplift of the Altiplano-Puna Plateau: A view from the west: *Tectonics*, doi:10.1029/2010TC002661.

**Hoke, G.D.**, Garzione, C.N., Araneo, D.C., Latorre, C., Strecker, M.R., and Williams, K.J., *2009*, The stable isotope altimeter: Do Quaternary pedogenic carbonates predict modern elevations?: *Geology*, **37**(11), p. 1015-1018, doi: 10.1130/G30308A.1

Garzione, C. N., **Hoke, G. D.**, Labarkin, J. C., Withers, S., MacFadden, B. J., Ghosh, P., and Mulch, A., 2008, Rise of the Andes: *Science*, **320**, p. 1304-1307. 10.1126/science.1148615

**Hoke, G. D.,** and Garzione, C. N., 2008**,** Paleosurfaces, paleoelevation, and the mechanisms for thelatest Miocene topographic development of the Altiplano Plateau: *Earth and Planetary Science Letters*, v. 271, no. 1-4, p. 192-201**,** doi:10.1016/j.epsl.2008.04.008

**Hoke, G. D.**, Isacks, B. L., Jordan T.E., Tomlinson, A.J., Blanco Pavez, N., and Razmezani, J., 2007, Geomorphic evidence for post-10 Ma uplift of the western flank of the central Andes 18°30'22°S: *Tectonics* **26** doi:/10.1029/2006TC002082

Loveless, J. P., **Hoke, G. D.**, Allmendinger, R. W., Gonzalez, G., Isacks, B. L., and Carrizo, D. A., 2005, Pervasive cracking of the northern Chilean Coastal Cordillera: New evidence for forearc extension: *Geology*, **33**(12) p. 973-976. doi:10.1130/G22004.1

Allmendinger, R. W., Gonzalez, G, Yu, J, **Hoke, G.** and Isacks, B., 2005, Trench Parallel Shortening in the Northern Chilean Forearc: Tectonic and Climatic Implications: *Geological Society of America Bulletin* **116**(1-2), doi: 10.1130/B25505.1

**Hoke, G. D.**, Isacks B. L, Jordan T. E. and Yu, J. S., 2004, A groundwater origin for the giant quebradas of northern Chile: *Geology* **32 (**7), p. 605-608. doi: 10.1130/G20601.1

**Hoke, G. D.** and Turcotte D. L., 2004, Weathering of Stones due to dissolution: *Environmental Geology* **46**(3-4), p. 305-310. doi: 10.1007/s00254-004-1033-0

**Hoke, G.D.**, and Turcotte, D.L., 2002, Weathering and damage: Journal of Geophysical Research-Solid Earth, v. 107, p. 2210, doi:10.1029/2001JB001573

*Abstracts (last 5 years) (*) denotes student author*

**Hoke, G.D.**, Aranibar, J.N., Viale, M., Araneo, D.C. and Llano, C, 2011, Isotopic characterization of mountain precipitation along the eastern flank of the Andes between 32.5 - 35° S, 2011 AGU Fall Meeting.

*Whadcoat, S.K., **Hoke, G.D.** and Hren, M.T., 2011, Spatial patterns in surface waters along the SE Margin of the Tibetan Plateau, Yunnan Province, China. 2011 AGU Fall Meeting. 2011 AGU Fall Meeting.

*Peters, N, Huntington, K.W., and **Hoke, G.D.**, 2011,Seasonal, annual, and environmental biases in pedogenic carbonate formation: implications for interpreting soil temperatures from clumped isotopes.

*Walcek, A.A. and **Hoke, G.D.,** 2010, Surface Uplift and Erosion of the Southernmost Argentine Precordillera Range, constrained two ways, Abstract EP53D-0639 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

*Graber, N.R., **Hoke, G.D.** and Metcalf, J.R., 2010, Timing of uplift in the Argentine Frontal Cordillera (34-32.5°S), through (U-Th)/He Thermochronology, Abstract EP53D-0640 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Ramezani, J, Fastovsky, D.E., S.A. Bowring, and **Hoke, G.D.**, 2010, Depositional history of the Late Triassic Chinle fluvial system at the Petrified Forest National Park: U-Pb geochronology, regional correlation and insights into early dinosaur evolution, Abstract V31A-2313 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Huntington, K.W., *Peters, N., Roe, G., **Hoke, G.D.** and Eiler, J., 2010, Impact of surface processes and climate variability on clumped isotope thermometry of soil carbonates, southern Central Andes, Argentina (*Invited*), Abstract EP23C-08 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

**Hoke, G.D.** and Jordan, T.E., 2010,Long-term erosion rates from focused fluvial incision into extensive surface remnants preserved in the hyper-arid Atacama desert, northern Chile, Abstract EP53D-0642 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

*Peters, N., Huntington, K.W. and **Hoke, G.D.**, 2010, Clumped-isotope thermometry of pedogenic carbonates: Quantifying the influence of climate, seasonality, and altitude in the south Central Andes, Argentina: Geological Society of America, Abstracts with Programs Vol. 42, No. 5

**Hoke**, G.D., C. N. Garzione, 2009 (invited presentation), Mechanisms for late Miocene surface uplift of the Altiplano plateau, EOS Trans. AGU, 90(52) Fall Meet. Suppl., Abstract 51F-01

**Hoke, G.D.,** Garzione, C.N. and Giambiagi, L.B., 2009, Stable isotopic records from Miocene pedogenic carbonates in the southern Central Andes: implications for the elevation of the Andes near 33°S: Geological Society of America, Abstracts with Programs, Vol. 41, No. 7, p. 522.

**Hoke, G. D.** and Garzione C.N., 2008 (invited presentation), Stable isotopic records from Cenozoic basins in the SE Margin of the Tibetan Plateau, Yunnan Province, China: implications for regional paleoelevation, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract T32A-07

**Hoke, G.D.**, Williams, K. J., Garzione, C. N., Araneo, D., and Strecker M.R., 2008, Isotopic composition of river waters and early stage carbonates crusts along an elevation transect at 33°S, southern Central AndesEos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract T53A-1909

Garzione, C.N. and **Hoke G. D.**, 2007 (Invited presentation), Late Miocene plateau-wide surface uplift ofthe central Andes and the growth of orogenic plateaus, Circum Pacific Tetconics, Geologic Evolution, and Ore Deposits: symposium in honor of William R. Dickinson, Tucson, AZ

Jordan, T. E., Nester P. L., and **Hoke G. D.**, 2007 (invited presentation), Surface uplift of the Central Andes: A view from the west, Circum Pacific Tetconics, Geologic Evolution, and Ore Deposits: symposium in honor of William R. Dickinson, Tucson, AZ

**CURRENT STUDENTS**

***Undergraduate***

Peter L. Nelson

***Graduate***

Nathan R. Graber (MS degree, Syracuse University, expected spring 2011)
Siobhan K. Whadcoat (Ph.D. degree, Syracuse University, expected fall 2016)
Gregory K. Wissink (Ph.D. degree, Syracuse University, expected spring 2017)
Mariana B. Bonich (Ph.D. degree, Syracuse University, expected spring 2017)

**FORMER STUDENTS**

***Graduate***

Alina A. Walcek (MS degree, Syracuse University, 5/2011)
Nathan R. Graber (MS degree, Syracuse University 9/2011)

***Undergraduate***

Gisela Reyna (Lic. en Geología, Universidad Nacional de Córdoba, Argentina)