

Curriculum Vitae
Gerard H. Roe
Professor, Associate Chair
Dept. of Earth and Space Sciences,
University of Washington, Seattle, WA.

ADDRESS

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
Ph.D. in Atmospheric Science, June 1999. Dissertation under Prof. Richard Lindzen:
“The mutual interaction between the great continental ice sheets and atmospheric
stationary waves”.

Oriel College, University of Oxford, Oxford, UK
Bachelor of Arts degree in Physics. First Class Honors, June 1992.

PROFESSIONAL EXPERIENCE

September 2012 to present: Full Professor, Seattle, WA
September 2007 to 2012: Associate Professor,
January 2003 to 2007: Assistant Professor
University of Washington, Department of Earth and Space Sciences,
Adjunct Associate Professor, Dept. of Atmospheric Sciences

September 1999 to December, 2002: Postdoctoral Researcher, Seattle, WA
University of Washington, Quaternary Research Center/Joint Institute for The Study of
the Atmosphere and Ocean.

September 1993 – March 1999: Graduate Research Assistant, Cambridge, MA
March 1999 – July 1999: Post-doctoral Associate, Massachusetts Institute of
Technology, Program in Atmospheres, Oceans, and Climate.

SERVICE, HONORS AND AWARDS

ESS excellence in teaching award, 2012.
Distinguished Public Lecturer, Cooperative Institute for Research in Environmental
Sciences. October '08.
Flint Visiting Professor, Yale University, April to June, 2007
ESS teaching award, honorable mention, 2006, 2007.
UW distinguished mentor award, nomination 2009.
Carl-Gustav Rossby Award for ‘Most Outstanding Thesis’ submitted to the Program in
Atmospheres, Oceans, and Climate, 1998-99.
Oxford University Exhibition, June 1990.

Associate Editor, Quaternary Research, 2004 to 2011.
Session organizer, IUGG Cryosphere, Davos, June 2013
Session organizer, Tectonic and Climates, Gordon Conference, June 2011
Session Co-chair: Orographic Precipitation and Landscapes, AGU Dec, 2009, 2011
Session organizer, Rapid Climate Change, Leverhulme Symposium, Cambridge University, Royal Society, London, U.K, March, '08.
Organizer NSF workshop "Climate over Landscapes", Sept '07

UW SERVICE/COMMITTEES

ESS Associate Chair, July 15 to present
ESS undergraduate advisor. Jun 06 to present;
ESS curriculum committee, 2011-present
ESS executive committee. 2013-2015, 2016 to present
Dean review committee, 2016.
ESS MESSAGE review panel, 2014.
ESS computer committee (chair, 2007); ESS curriculum committee; ESS prelims exam committee Fall 04, 05, 06, 08; ESS graduate admissions Spr '05; ESS glaciology research faculty search committee, Fall '04; Seminar organizer (ESS, QRC, PCC).
Co-chair Environmental Institute, 2009
UW Program on climate change: governing board Jan 03 to present; executive committee 2005 to 2010; director search committee, June 06; postdoc hiring committee, Sept '03; organizer summer retreat Sept'03.
UW Program on the Environment, member advisory board
UW College of the Environment, Institute committee, Co-Chair, 2010
Math and Science Field Committee to the Provost's Advisory Council on Teacher Preparation

CLASSES TAUGHT

ESS310: Mathematical methods in Earth Sciences, Spring, 2013, 2014, 2015, 2016,
ESS/ATM/OCN586: Everything you always wanted to know about climate (but were afraid to ask), Fall 2012
ESS 414/514: Geophysics - fluids, Spring, 2012; Winter, 2013, Winter 2015, Winter 2016
ESS/ATM/OCN 589: Paleoclimate, Spring, 2011
ESS 201: The Earth system and climate, Winter, 2009, 2010
ESS exploration seminar Denmark and Greenland, August, 2008
ESS 590: Landscapes and Climate, Spring 2009
ESS 590: Climate feedbacks, Fall 2014
ENVIR 511 512: Graduate certificate in environmental management, City of Bellevue action plan for community greenhouse gas reduction, Winter, Spring 09
ESS 314: Geophysics: expedition to planet Earth, Winter 2004, Fall, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2013.
PCC/ATM/OCN/ESS 587: Climate dynamics, Fall 2003, 2004, 2005, 2006, 2007, 2008
ESS 416/516: Geophysics: the atmosphere, Spring 2003, 2004, 2005, 2006.

ESS 590: Special topics in climate: Heinrich events (seminar). Fall 2003, Winter, Spring 2004. Centennial variability (seminar), Winter 2005; African aridity (seminar), Winter, '06; The Holocene Express, Winter 2007, Glaciology, Fall 2015.
ESS/ATM 590: Knowability and no ability in climate and earth sciences (seminar), Spring '06, '08, '09, Winter 2014
PCC 586: That sinking feeling: the thermohaline circulation (seminar). Spring, 2005.
ESS 534/ATM 514: Ice and climate modeling, Winter 2001.
ESS 431: Principles of glaciology (5 lecture module ice dynamics), Since Fall 2003.

GRADUATE ADVISEES

Alison Anders (ESS, PhD, 2005, Assoc. Prof., U. Illinois)!, Michael O'Neal (ESS, PhD, 2005, Assoc. Prof, U. Delaware)!, Drew Stolar (ESS, PhD, 2006, GE, Connecticut)!, Noah Finnegan (ESS, PhD, 2006, Asst. Prof., UCSC)!, Summer Rupper (ESS, MSc, 2004; ESS, PhD, 2007, Assoc. Prof., U. Utah)*, Camille Li (ATM, PhD, 2007, Asst. Prof., U. Bergen)#, Kevin Rennert (ATM PhD 2007, Staffer, Energy Committee, US Senate)!, Kat Huybers (ESS, MSc 2007, PhD 2014, Visiting Prof., Pacific Lutheran U.)*, Jane Locke (ESS PhD 2008, Chevron) #, Jim Lutz (CFR PhD 2008, Scientist, CFR)#, Robert Sheerer (ESS, MSc 2008)#, Eric Buer (ESS, MSc 2008, Consultant, Ridolfi Inc.)#, Jennifer Adams (CivE PhD 2007) #, Justin Minder (ATM PhD , 2010, Asst. Prof. Suny Albany)*, Kevin Wood (ESS PhD, 2010, scientist PMEL), Sandra Penny (ATM PhD 2013, Lecturer, Sage College)*, Michelle Koutnik (ESS PhD 2010, Asst.. Prof U. Wash.)#, Rachel Headley (ESS, PhD 2011, Asst. Prof. UWisc Parkside)!, Erin Burke (ESS MSc, 2012, Deschutes Public Library)*, Nichole Feldl (At. Sci. PhD 2013, Asst. Prof UC Santa Cruz)*, Angela Pendergrass (PhD 2013, postdoc NOAA)*, Kyle Armour (Physics, PhD 2012, Asst. Prof., UW)!, Brian Smoliak (At. Sci., PhD 2013, Climate Corporation) #, Nicholas Siler (At. Sci, PhD 2015)*, Leif Anderson (UColorado, PhD 2014, Postdoc, U Iceland)!, Nathan Steiger (At. Sci., PhD candidate, Postdoc Lamont Doherty)*, Xiaojuan Li (At. Sci., PhD candidate)*, John Christian (ESS, PhD candidate)
*formal advisor or co-advisor, !major research advisor, #committee member (some research input)

PUBLICATIONS

In preparation:

Roe, G.H., 2016: A formal attribution of glacier retreat to climate change. *In preparation.*
Ma, K., M. Brandon, and G.H. Roe, 2016: Decoupling of mountain glaciers and climate over long timescales in the Patagonian Andes. *In preparation.*
Dilmen, D.I., V.V. Titov, and G.H. Roe, 2016: The impact of basal friction and bathymetry in simulations of tsunami inundation. *In preparation.*
Siler, N., K. Armour, and G. Roe, 2016: How does global precipitation scale with surface temperature? A new surface-energy perspective. *In preparation.*
Siler, N., K. Armour, and G. Roe, 2016: Energetic constraints on the magnitude and pattern of changes in the hydrologic cycle under global warming. *In preparation.*

- Armour, K., G. Roe, N. Siler, and N. Feldl, 2016: The relative roles of feedbacks, forcing and ocean heat uptake in the spatial pattern of climate change. *In preparation*.
- Armour, K., G. Roe, N. Siler, and N. Feldl, 2016: Quantifying sources of uncertainty in regional climate change projections. *In preparation*.
- Herla, F., G.H. Roe., and B. Marzeion, 2016: Ensemble Statistics of a Geometric Glacier Length Model. *In preparation*.

Submitted:

- Christian, J., N. Siler, G. Roe, and M. Koutnik, 2016: Identifying dynamically induced variability in glacier mass balance records. *Submitted*.
- White, R.H., D.S. Battisti, and G.H. Roe, 2016: Mongolian mountains matter most: implications of the latitude and shape of Asian orography on the winter Pacific jet stream. *Submitted*.
- Huybers, K.M, G.H. Roe, H. Conway, 2016: Differential stability of the West Antarctic Ice Sheet. *In revision*.
- Medwedeff, W., and G.H. Roe, 2016: A statistical analysis of global glacier mass balance observations. *In revision*.

Published/in press (peer-reviewed):

- Roe, G.H., Q. Ding, and D.S. Battisti, P. Molnar, M.K. Clark, and C.N. Garzione, 2016: The response of Asian summertime climate to the largest geologic changes of the past 50 Ma. *Accepted, J.G.R.*
- Roe, G.H., and M.B. Baker, 2016: The response of glaciers to climatic persistence. *In press, J. Glaciology*.
- Huybers, K.M., S.B. Rupper, and G.H. Roe, 2015: Lake level response to natural and forced variability, a case study of Great Salt Lake. *Climate Dynamics*. 10.1007/s00382-015-2798-4.
- Dilmen, D.I., V.V. Titov, and G.H. Roe, 2015: Evaluation of the relationship between coral damage and tsunami dynamics; a case study for the 2009 Samoa Tsunami. *Pure and Appl. Geophys.*, DOI 10.1007/s00024-015-1158-y.
- Roe, G.H., N. Feldl, K.C. Armour, Y.-T. Hwang, and D.M.W. Frierson, 2015: Regional climate predictability from regional feedbacks. *Nature Geoscience*, doi:10.1038/ngeo2346.
- Battisti, D.S, Q. Ding, and G.H. Roe, 2014: A coherent pan-Asian climate and isotopic response to precessional forcing. *J. Geophys. Res.*, **119(21)**, 11,997-12,020.
- Roe., G.H., and M.B. Baker, 2014: Glacier response to climate perturbations: an accurate linear geometric model. *J. Glaciology*, **60**, 670-684.
- Siler, N., and G.H. Roe, 2014: How will orographic precipitation respond to surface warming? An idealized thermodynamic perspective. *Geophys. Res. Lett.* DOI: 10.1002/2013GL059095.
- Feldl, N., D.M.W. Frierson, and G.H. Roe, 2014: The influence of regional feedbacks on circulation sensitivity. *Geophys. Res. Lett.*, **41**, doi:10.1002/2014GL059336.
- Anderson, L.S., G.H. Roe, and R.S. Anderson, 2014: The effects of interannual climate variability on paleoclimate estimates derived from glacial moraines. *Geology*, **42**, 55-58.

- Steiger, N.J., G.J. Hakim, E.J. Steig, D.S. Battisti, and G.H. Roe, 2014: Assimilation of time-averaged pseudoproxies for climate reconstruction, *Journal of Climate*, **27**, 426-441.
- Burke, E.E., and G.H. Roe, 2014: The persistence of memory in the climatic forcing of glaciers, *Climate Dynamics*, DOI 10.1007/s00382-013-1758-0.
- Roe, G.H., 2013: Costing the Earth: a numbers game, or a moral imperative? *Weather, Climate, and Society*, **5**, 378-380.
- Feldl, N. and G.H. Roe, 2013: The nonlinear and nonlocal nature of climate feedbacks. *Journal of Climate*, **26**, 8289–8304.
- Armour, K.C., C.M. Bitz, and G.H. Roe, 2013: Time-varying climate sensitivity from regional feedbacks. *Journal of Climate*, **26**, 4518-4534.
- Feldl, N. and G.H. Roe, 2013: Four perspectives on climate feedbacks. *Geophys. Res. Lett.*, **40**, 4007–4011, doi:10.1002/grl.50711,
- Penny, S.M., G.H. Roe, and D.S. Battisti, 2013: Interannual variability of the Pacific storm track. *Journal of Climate*, **23**, 634-648.
- Yuan, D.-Y., Ge, W.-P., Chen, Z.-W., Li, C.-Y., Wang, Z.-C., Zhang, H.-P., Zhang, P.-Z., Zheng, D.-W., Zheng, W.-J., Craddock, W.H., Dayem, K.E., Duvall, A.R., Hough, B.G., Lease, R.O., Champagnac, J.-D., Burbank, D.W., Clark, M.K., Farley, K.A., Garzzone, C.N., Kirby, E., Molnar, P., and Roe, G.H., 2013, The growth of northeastern Tibet and its relevance to large-scale continental geodynamics: A review of recent studies: *Tectonics*, **32**, 1358-1370
- Roe, G.H., and Y. Bauman, 2013: Should the climate tail wag the policy dog? *Climatic Change*, doi:10.1007/s10584-012-0582-6.
- Headley, R., B. Hallet, G.H. Roe, E.D. Waddington, and E. Rignot, 2012: Comparing observed and modeled velocities in Seward throat: implications for erosion beneath fast-moving ice streams, *J. Geophys. Res.*, **117**, doi:10.1029/2011JF002291.
- Siler, N., G.H. Roe., and D.R. Durran, 2012: On the dynamical causes of variability in the rain-shadow effect: a case study of the Washington Cascades. *Monthly Weather Review*, **14**, 122-139.
- Headley, R., and G.H. Roe, and B. Hallet, 2012: Analytical solution of glacier-bed profiles, and comparison with observations, *Earth. Plan. Sci. Lett.*, **317-318**, 354–362.
- Roe, G.H., and K.C. Armour, 2011: How sensitive is climate sensitivity? *Geophys. Res. Lett.*, **38**, doi:10.1029/2011GL047913.
- Roe, G.H., and M.B. Baker, 2011: Comment on “Another look at climate sensitivity”. *Nonlinear Processes in Geophysics*, **18**, 125-127, doi:10.5194/npg-18-125-2011.
- Roe, G.H., 2011: What do glaciers tell us about climate variability and climate change? *J Glaciology*, **57**, 567-578.
- Armour, K., G.H. Roe, 2011: Climate commitment in an uncertain world, *Geophys. Res. Lett.*, **38**, doi:10.1029/2010GL045850.
- Penny, S. M., G.H. Roe, and D.S. Battisti, 2011: Reply to Comments on "The Source of the Midwinter Suppression in Storminess over the North Pacific" *J. Climate*, **24**, 5192-5194.
- Minder, J.R., D.R. Durran, and G.H. Roe, 2011: Mesoscale controls on mountainside snowline. *J. Climate*, **68**, 2107-2127.

- Pendergrass, A.G., G.J. Hakim, D.S. Battisti, and G.H. Roe, 2011: Coupled mixed-layer temperature predictability for climate reconstruction, *J. Climate*, **24**, 2483-2499.
- Feldl, N., and G.H. Roe, 2011: The shape of daily precipitation in the American West as a function of ENSO. *J. Climate*, **24**, 2483-2499.
- Feldl, N., G.H. Roe, 2011: Synoptic patterns associated with intense La Nina precipitation in the southwestern United States, *Geophys. Res. Lett.*, **37**, L23803, doi:10.1029/2010GL045439
- Roe, G.H., and M.T. Brandon, 2011: Critical form and feedbacks in mountain belt dynamics: the role of rheology. *J. Geophys. Res.*, **116**, B02101, doi: 10.1029/2009JB006571.
- Roe, G.H., 2010: Knowability and no ability in climate projections. *Report prepared for the Environmental Protection Agency. National center for environmental economics report no. 0564. Available at <http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0564-117.pdf>.*
- Roe, G.H., and M.B. Baker, 2010: Notes from a catastrophe - the descent into a snowball Earth. *J. Climate*, **22**, 4574-4589.
- Dayem, K, D.S. Battisti, G.H. Roe, P. Molnar, 2010: Lessons learned from the modern monsoon applied to the interpretation of paleoclimate records. *Earth. Plan. Sci. Lett.*, **295**, 219–230.
- Penny, S.M., G.H. Roe, and D.S. Battisti, 2010: The source of the midwinter suppression of the Pacific storm track. *J. Climate*, **23**, 634-648.
- Roe, G.H. and M.A. O’Neal, 2009: The response of glaciers to intrinsic climate variability: observations and models of late Holocene variations. *J. Glaciology*, **55**, 839-854.
- Minder, J.U., G.H. Roe, and D.R. Montgomery, 2009: Spatial patterns of rainfall and landslide hazard, *Water Resources Research*, **45**, W04419.
- Huybers, K.M., and G.H. Roe, 2009: Glacier response to regional patterns of climate variability. *J. Climate*, **22**, 4606-4620.
- Baker, M.B., and G.H. Roe, 2009: The shape of things to come: why is climate change so predictable? *J. Climate*, **22**, 4574-4589.
- Rupper, S.B., G.H. Roe, and A. Gillespie, 2009: Spatial patterns of glacier advance and retreat in Central Asia in the Holocene. *Quat. Res.*, **72**, 337-346.
- Minder, J.U. and G.H. Roe, 2009: Precipitation in mountainous terrain. To appear in the Encyclopedia of Snow, Ice and Glaciers. Edited by U.K. Haritashya, V. Singh, and P. Singh, Springer Press.
- Roe, G.H., 2009: Feedbacks, time scales, and seeing red. *Annual Reviews of Earth and Planetary Sciences*, **37**, 93-115.
- Roe, G.H., 2008: On the paleoclimate interpretation of Chinese loess. *Quat. Res.*, **71**, 150–161.
- Galewsky, J., and G.H. Roe, 2008: Climate over landscapes: The emerging links between geomorphology and the atmospheric sciences. *White paper, submitted to the National Research Council*.
- Roe, G.H., K.X. Whipple, J.K. Fletcher, 2008: Feedbacks between climate, erosion, and tectonics in a critical wedge orogen. *Amer. J. Sci.*, **308**, 815–842.

- Minder, J.U., D.R. Durran, and G.H. Roe, A.M. Anders, 2008: The climatology of small-scale orographic precipitation over the Olympic mountains: Patterns and processes. *Quat. J. Roy. Met. Soc.*, **134**, 817-839.
- Rennert, K., G.H. Roe, C.M. Bitz, J. Putkonen, and D. Fischer, 2008: Rain-on-snow in the circumpolar Arctic: climatology and impacts. *J. Climate*, doi: 10.1175/2008jcli2117.1
- Anders, A.M., and G.H. Roe, D.R. Montgomery, and B. Hallet, 2008: Coupled evolution of topography and orographic precipitation in varied climates. *Geology*, **36**, 479-482.
- Rupper, S.B., and G.H. Roe, 2008: Glacier changes and regional climate – a mass and energy balance approach. *J. Climate*, **21**, 5384- 5401.
- Owen, L.A., G. Thackaray, R.S. Anderson, J. Briner, D. Kaufman, G.H. Roe, W. Pfeffer, and C. Yi, 2008: Integrated research on mountain glaciers: Current status, priorities and future prospects. *Geomorphology*, doi:10.1016/j.geomorph.2008.04.019.
- Roe, G.H., and M.B. Baker, 2007: Why is climate sensitivity so unpredictable? *Science*, **318**, 629-632.
- Stolar, D.R., G.H. Roe, and S.D. Willett, 2007: Controls on the patterns of topography and erosion rate in a critical orogen at steady state, *J. Geophys. Res.*, **112**, F04002.
- Tomkin, J.T., and G.H. Roe, 2007: The response of a glaciated critical wedge orogen to changes in climate. *Earth. Plan. Sci. Lett.*, **262**, 385–397.
- Anders, A.M., G.H. Roe, D.R. Durran, and J.R. Minder, 2007: Small-scale spatial gradients in climatological precipitation on the Olympic Peninsula. *J. Hydromet.*, **8**, 1068-1081.
- Roe, G.H., 2006: In defense of Milankovitch. *Geophys. Res. Lett.* **33**, L24703, doi: 10.1029/2006GL027817.
- Roe, G.H., D. Stolar, and S.D. Willett, 2006: The sensitivity of a critical wedge orogen to climatic and tectonic forcing. in: S.D. Willett, N. Hovius, M. Brandon, D.M. Fisher, (Eds), *Tectonics, Climate, and Landscape Evolution: Geological Society of America Special Paper 398*, Geological Society of America, Boulder, CO, 227-239.
- Roe, G.H., and M. Baker, 2006: Microphysical and geometrical controls on the pattern of orographic precipitation. *J. Atmos. Sci.*, **63**, 861–880.
- Stolar, D., G.H. Roe, and S.D. Willett, 2006: Evolution of a critical orogen under various forcing scenarios: findings from a numerical sandbox. in: S.D. Willett, N. Hovius, M. Brandon, D.M. Fisher, (Eds), *Tectonics, Climate, and Landscape Evolution: Geological Society of America Special Paper 398*, Geological Society of America, Boulder, CO, 240-250.
- Anders, A.M., G.H. Roe, B. Hallet, D.R. Montgomery, N. Finnegan, and J. Putkonen, 2006: Spatial patterns of precipitation and topography in the Himalaya. in: S.D. Willett, N. Hovius, M. Brandon, D.M. Fisher, (Eds), *Tectonics, Climate, and Landscape Evolution: Geological Society of America Special Paper 398*, Geological Society of America, Boulder, CO, 39-53.
- Finnegan, N., G.H. Roe, D.R. Montgomery, B. Hallet, 2005: A scaling relationship for channel width in bedrock rivers. *Geology*, **33**, 229-232.
- Roe, G.H., 2005: Orographic precipitation. *Annual Review of Earth and Planetary Sciences*, **33**: 645-671.

- Anders, A.M, G.H. Roe, and D.R. Durran, 2004: Conference notebook Orographic precipitation and the form of mountain ranges. *Bulletin of the American Meteorological Society*, **85**, 498-499.
- Roe, G.H., and E. J. Steig, 2004: On the characterization of millennial-scale climate variability. *J. Climate*, **17**, 1929-1944.
- Bitz, C.M., and G.H. Roe, 2004: A physical explanation for the high rate of sea-ice thinning in the Arctic Ocean. *J. Climate*, **17**, 3623-3632.
- Rupper, S., E.J. Steig, and G.H. Roe, 2004: On the relationship between snow accumulation at Mt. Logan, Yukon, and climate variability in the North Pacific. *J. Climate*, **17**, 4724-4739.
- Roe, G.H., D.R. Montgomery, and B. Hallet, 2003: Orographic climate feedbacks on the relief of mountain ranges. *J. Geophys. Res.*, **108**, doi:10.1029/2001JB001521.
- Putkonen, J., and G.H. Roe, 2003: Rain-on-snow events, soil temperatures, and the sensitivity of ungulates to climate change. *Geophys. Res. Lett.*, **30**, doi: 10.1029/2002GL016326.
- Roe, G.H., 2002: Modeling orographic precipitation over ice sheets: an assessment over Greenland. *J. Glaciology*, **48**, 70-80.
- Roe, G.H., D.R. Montgomery, and B. Hallet, 2002: Effects of orographic precipitation variations on the concavity of steady-state river profiles. *Geology*, **30**, 143-146.
- Risbey, J.S., P.J. Lamb, R.L. Miller, M.C. Morgan, and G.H. Roe, 2002: Elucidating the structure of regional climate scenarios by combining synoptic and dynamic guidance and GCM output. *J. Climate*, **15**, 1036-1050.
- Roe, G.H., and R.S. Lindzen, 2001: The mutual interaction between continental-scale ice sheets and atmospheric stationary waves. *J. Climate*, **14**, 1450-1465.
- Roe, G.H., and R.S. Lindzen, 2001: A one-dimensional model for the interaction between ice sheets and atmospheric stationary waves. *Climate Dynamics*, **17**, 479-487.
- Roe, G.H., and M.R. Allen, 1999: Competing explanations for the 100,000-yr ice age cycle. *Geophys. Res. Lett.*, **26**, 2259-2262.
- Lindzen, R.S., and G.H. Roe, 1997: The effect of concentrated PV gradients on stationary waves: correction, *J. Atmos. Sci.*, **54**, 1815-1818.
- Roe, G.H., and R.S. Lindzen, 1996: Baroclinic adjustment in a two level model with barotropic shear, *J. Atmos. Sci.*, **53**, 2749-2754.

INVITED SEMINARS, TALKS, AND COURSES:

2016:

Massachusetts Institute of Technology, March 16: A formal attribution of glacier retreat to climate change. MASS seminar series.

Georgia Institute of Technology, Mar 2016: A formal attribution of glacier retreat to climate change. School of Earth and Atmospheric Sciences, Dept. Seminar.

2015:

NSF summer school, climate and tectonics, August 2015 Lectures on basic atmospheric science, and glacier variability.

University of Washington, April 2015: Glacier variability and the global mass-balance inventory. Dept. Atmospheric Sciences dynamics seminar

Brigham Young University, April 2015. The impact on Asian climate of the largest geologic changes of the past 50 Ma., Geology colloquium.

California Institute of Technology, Feb 2015. The natural variability of glacier: was there a little ice age? Division colloquium.

California Institute of Technology, Feb 2015. Humpty Dumpty and regional climate prediction. Planetary Science Seminar.

2014:

American Geophysical Union Fall Meeting, December 2014: Regional predictability from regional feedbacks.

National Center for Atmospheric Research, Nov 2014: Humpty Dumpty and regional climate predictability., Lab seminar

Institute for Arctic and Alpine Research, Nov, 2014: The natural variability of glaciers, Institute seminar.

Woods Hole, Massachusetts, Summer 2014. Woods Hole summer school in geophysical fluid dynamics.

Friday Harbor, San Juan Islands, 2014. Program on climate change, Summer institute.

Disko Island, Greenland, August 2014. Advanced climate dynamics summer course, lecturer

Columbia University, Feb 2014: Humpty Dumpty and regional climate predictability. Dept Applied Math Seminar, New York.

Massachusetts Institute of Technology, Lorenz Center, Feb 2014: Regional climate predictability from regional patterns of feedbacks. 1st Lorenz Center workshop, Endicott House, Cambridge Ma

University of Washington, Feb 2014: Humpty Dumpty and regional climate predictability. Dept. Atmospheric Sciences, Dept. Seminar, Seattle.

2013:

Massachusetts Institute of Technology, Cambridge, MA, Nov 2013: Humpty Dumpty and regional climate variability. MASS seminar series.

Massachusetts Institute of Technology, Cambridge, MA, Nov 2013: The natural variability of glaciers. Oceanography Seminar series

NSF Himalaya-Karakoram-Tibet Workshop, Tübingen, Germany, June 2013: The influence of Tibet on the climate of Asia.

2012:

American Geophysical Union Fall Meeting: The case for regional feedbacks, December, 2012

American Geophysical Union Fall Meeting: Knowability and no ability in climate projections, December, 2012

European Geophysical Union, April 2012: Glacier long profiles in regions of active uplift, and their role in orogen dynamics.

Kaplan Workshop on Environmental Geochemistry, March 2012: The climate of Asia and Tibet and its relationship to paleoclimate proxies. Ein Gedy, Israel.

Kaplan Workshop on Environmental Geochemistry, March 2012: The natural variability of glaciers. Ein Gedy, Israel.