

ALEX HALL

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BACKGROUND

Dr. Hall studies the climate system from both regional and global perspectives. He has extensive experience in analysis of climate simulations, and comparing output from these experiments to *in situ* and remote sensing data. At the global scale, he studies feedbacks determining the climate system's response to increases in greenhouse gases. At the regional scale, he has been active in the development and integration of regional climate models. He uses these simulations to examine mesoscale climate dynamics and interactions among earth-system components that are crucial for simulating and understanding regional climate but are unrepresented in current global climate models. At UCLA, Dr. Hall teaches climate-related courses at the undergraduate and graduate levels, and is a recipient of the NSF CAREER award (2002-2007).

SYNERGISTIC ACTIVITIES

Dr. Hall is a contributing author to the 2007 IPCC 4th scientific assessment of climate change report, where his work on climate sensitivity is featured. He is co-chair of US CLIVAR Climate Prediction and Applications Interface Panel, charged with making research and funding recommendations to US agencies regarding climate prediction and climate applications. He is also a member of the overarching US CLIVAR committee.

PROFESSIONAL PREPARATION

Pomona College, Claremont, CA
B.A., May 1993, *summa cum laude*
double concentration in Physics and History

Princeton University, Princeton, NJ
Ph.D. in Atmospheric and Oceanic Sciences, August 1998
Thesis advisor: Suki Manabe

Lamont-Doherty Earth Observatory, Lamont postdoctoral fellow. October 1998-November 2000.

APPOINTMENTS

University of California—Los Angeles, Assistant Professor, Department of Atmospheric and Oceanic Sciences. November 2000-June 2008. Associate Professor, June 2008-present. (official notice received February 19, 2008)

Collaborators

Cecilia Bitz, U of Washington; Sandrine Bony, Laboratoire de Meteorologie Dynamique; Tony Broccoli, Rutgers U; Yong Chen, UCLA; Amy Clement, U of Miami; Sebastien Conil, Meteo France; Charles Dong, UCLA; Mimi Hughes, UCLA; Kuo-Nan Liou, UCLA; Charles Jackson, U of Texas; Jim McWilliams, UCLA; Brian Medeiros, UCLA; Xin Qu, UCLA; Dave Thompson, Colorado State U; Bjorn Stevens, UCLA; Martin Visbeck, Kiel Institute for Ocean Science

Graduate and Postdoctoral Advisors.

Graduate Advisor: Suki Manabe, currently Professor Emeritus of Princeton University. No fixed postdoctoral advisor.

Thesis Advisor and Postgraduate-Scholar Sponsor.

Currently advising Mimi Hughes, a graduate student in the UCLA Atmospheric and Oceanic Sciences Department (Ph.D. anticipated, spring 2008), and Sarah Kapnick, a 2nd year graduate student. Also advised Dr. Xin Qu, who obtained his Ph.D. in March 2007, as well as 3 other students. Total students advised: 5. Postdoctoral-Scholar sponsor for Dr. Xin Qu and Dr. Julien Boé.

PUBLICATIONS

- Hughes M, Hall A, Fovell RG (2007) Blocking in areas of complex topography, and its influence on rainfall distribution. Conditionally accepted to *J. Atmos. Sci.*
- Dong C, Hall A, Hughes M, and McWilliams J (2008) The importance of near-shore topography for coastal upwelling processes. submitted to *JGR--Oceans*.
- Hall A., X. Qu, and J. D. Neelin (2008), Improving predictions of summer climate change in the United States, *Geophys. Res. Lett.*, 35, L01702, doi:10.1029/2007GL032012
- Liou KN, Lee WL, Hall A, and (2007), Radiative Transfer in Mountains: Application to the Tibetan Plateau, *Geophys. Res. Lett.*, 34: L23809, DOI:10.1029/2007GL031762
- Randall, D.A., et al., (2007) "Climate Models and Their Evaluation." In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the 4th Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. et al. (eds.)]. Cambridge University Press, Cambridge, UK and New York, USA.
- Hughes M, Hall A, Fovell RG (2007) Links between diurnal cycles of wind and temperature in complex topography. *Clim. Dyn.* 29: 277-292, doi: 10.1007/s00382-007-0239-8
- Qu X, Hall A (2007) What controls the strength of snow albedo feedback? accepted to *J. Clim*
- Qu X, Hall A (2006) Assessing snow albedo feedback in simulated climate change. *J. Clim.* 19: 2617-2630
- Bony et al. (2006) How well do we understand climate change feedback processes? *J. Clim.* 19:3445–3482, DOI: 10.1175/JCLI3819.1

- Conil S, Hall A (2006) Local Modes of Atmospheric Variability: A case study of Southern California. *J. Clim.* 19: 4308–4325
- Chen Y, Hall A, Liou KN (2006) Application of 3D solar radiative transfer to mountains. *J. Geophys. Res.*, 111, D21111, doi: 10.1029/2006JD007163.
- Hall A and Qu X (2006) Using the current seasonal cycle to constrain snow albedo feedback in future climate change. *Geophys. Res. Lett.*, 33, L03502, doi: 10.1029/2005GL025127.
- Medeiros B, Hall A, Stevens B (2005) What controls the mean depth of the PBL? *J. Clim.* 18: 3157-3172.
- Qu X, Hall A (2005) Surface contribution to planetary albedo variability in cryosphere regions. *J. Clim.* 18: 5239-5252
- Hall A, Clement A, Thompson DWJ, Broccoli AJB, Jackson C (2005) The importance of atmospheric dynamics in the northern hemisphere wintertime climate response to changes in earth's orbit. *J. Clim.* 18: 1315–1325. download
- Clement A, Hall A, Broccoli A (2004) The importance of precessional signals in the tropical climate. *Clim. Dyn.* 22: 327-341
- Hall A (2004) Role of surface albedo feedback in climate. *J. Clim.* 17: 1550-1568.
- Visbeck M, Hall A (2004) Interannual Southern Hemisphere Atmospheric Variability in the NCEP reanalysis between 1980 and 2002. *J Clim*, 17: 2255-2258.
- Hall A. (2003) Mathematical Models of Human-Induced Climate Change, in *Mathematical Models*, edited by Jerzy Filar, in *Encyclopedia of Life Support Systems (EOLSS)*, Developed under the auspices of the UNESCO, EOLSS Publishers, Oxford, UK.
- Hall A, Visbeck M (2002) Synchronous Variability in the Southern Hemisphere Atmosphere, Sea Ice, and Ocean Resulting from the Annular Mode. *J Clim*. 15: 3043-3057
- Hall A, Stouffer RJ (2001) An Extreme Climate Event in a Coupled Ocean-Atmosphere Simulation without External Forcing. *Nature*. 409:171-174
- Hall A, Manabe S (2000) The Effect of Water Vapor Feedback on Internal and Anthropogenic Variations of the Global Hydrologic Cycle. *J. Geophys. Res.* 105(D5): 6935-6944
- Hall A, Manabe S (2000) ENSO Suppression in a Coupled Model Without Water Vapor Feedback. *Clim. Dyn.* 16: 393-403
- Hall A, Manabe S (1999) The Role of Water Vapor Feedback in Unperturbed Climate Variability and Global Warming. *J. Clim.* 12: 2327-2346
- Hall A, Manabe S (1997) Can Local, Linear Stochastic Theory Explain Sea Surface Temperature and Salinity Variability? *Clim. Dyn.* 13: 167-180