

Sarah B. Kapnick

- CONTACT INFORMATION Geophysical Fluid Dynamics Laboratory / NOAA
Forrestal Campus, Princeton University
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Website: www.gfdl.noaa.gov/sarah-kapnicks-homepage
- PROFESSIONAL EXPERIENCE Postdoctoral Research Associate and Visiting Scientist, Atmospheric and Oceanic Sciences Program, Princeton University and GFDL/NOAA, October 2011-Present

Research Assistant, Atmospheric and Oceanic Sciences, UCLA, June 2011-September 2011
- RESEARCH INTERESTS Climate variability and predictability, global and regional climate change, hydroclimate, water supply, climate impacts
- EDUCATION **University of California, Los Angeles**, Los Angeles, California
Ph.D., Atmospheric and Oceanic Sciences, Dissertation Advisor: Alex Hall, June 2011
Leaders in Sustainability Certificate, Institute of Environment and Sustainability, May 2011
M.S., Atmospheric Sciences, December 2007

Princeton University, Princeton, New Jersey
A.B., Mathematics, Senior Thesis Advisor: S. George Philander, June 2004
Certificate in Finance, Bendheim Center for Finance, June 2004
- HONORS AND AWARDS *ThinkSwiss Travel Grant*, ThinkSwiss.org, Switzerland, 2012
Bjerknes Award, Department of Atmospheric and Oceanic Sciences, UCLA, 2011
Mautner Graduate Student Award, Physical and Life Sciences Division, UCLA, 2011
Brian Lance Bosart Memorial Award, Department of Atmospheric and Oceanic Sciences, UCLA, 2010
UCLA Dissertation Fellowship, UCLA, 2010-2011
Switzer Environmental Fellowship Award, Robert & Patricia Switzer Foundation, 2010
UCLA Charles E. and Sue K. Young Graduate Student Award, College of Letters and Sciences, UCLA, 2010
NASA Earth and Space Science Fellowship, NASA, 2007-2010
Edwin W. Pauley Fellowship, UCLA, 2006-2007
Roy and Dorothy John Fellowship, UCLA, 2006-2007
- PUBLICATIONS **Kapnick, S.**, T. Delworth 2013: Controls of Global Snow Under a Changed Climate. *Journal of Climate*. doi:10.1175/JCLI-D-12-00528.1, in press.

Pavelsky, T., Sobolowski, S., **Kapnick, S.**, and J. Barnes, 2012: Changes in orographic precipitation patterns caused by a shift from snow to rain. *Geophysical Research Letters*, **39**, L18706, doi:10.1029/2012GL052741.

Kapnick, S. and A. Hall, 2012: Causes of recent changes in western North American snowpack. *Climate Dynamics*, **38** (9), 1885-1899, doi:10.1007/s00382-011-1089-y.

Waliser, D., Kim, J., Xue, Y., Chao, Y., Eldering, A., Fovell, R., Hall, A., Li, Q., Liou, K., McWilliams, J., **Kapnick, S.**, Vasic, R., De Sale, R., and Y. Yu, 2012: Simulating the Sierra Nevada snowpack: The impact of snow albedo and multi-layer snow physics. *Climatic Change*, **109** (S1), 95-117.

Boé, J., Hall, A., Colas, F., McWilliams, J., Qu, X., Kurian, J., and **Kapnick, S.**, 2011: What shapes mesoscale wind anomalies in coastal upwelling zones? *Climate Dynamics*, **36** (11), 2037-2049, doi:10.1007/s00382-011-1058-5.

Pavelsky, T., **Kapnick, S.**, and A. Hall, 2011: Accumulation and melt dynamics of snowpack from a multi-resolution regional climate model in the central Sierra Nevada, California. *JGR-Atmospheres*, **116**, doi:10.1029/2010JD015479.

Kapnick, S. and A. Hall, 2010: Observed climate-snowpack relationships in California and their implications for the future. *Journal of Climate*, **23** (13), 3446-3456.

Kapnick, S. and A. Hall, 2009: Observed changes in the Sierra Nevada snowpack: potential causes and concerns. California Environmental Protection Agency and California Energy Commission Report CEC-500-2009-016-F.

Kim, J., Fovell, R., Hall, A., Li, Q., Liou, K., McWilliams, J., Xue, Y., Qu, X., **Kapnick, S.**, Waliser, D., Eldering, A., Chao, Y., and R. Friedl, 2009: A projection of the cold season hydroclimate in California in mid-21st century under the SRES-A1B emission scenario. California Environmental Protection Agency and California Energy Commission Report CEC-500-2009-029-F.

Waliser, D., Kim, J., Xue, Y., Chao, Y., Eldering, A., Fovell, R., Hall, A., Li, Q., Liou, K., McWilliams, J., **Kapnick, S.**, Vasic, R., De Sale, F., and Y. Yu, 2009: Simulating the Sierra Nevada snowpack: The impact of snow albedo and multi-layer snow physics. California Environmental Protection Agency and California Energy Commission Report CEC-500-2009-030-F.

- ACADEMIC TALKS
- 2013 NOAA MAPP Webinar, NOAA Climate Program Office, Virtual Meeting.
 - 2013 Department of Geological Sciences, UNC-Chapel Hill, Chapel Hill, NC.
 - 2013 NOAA Library Webinar, NOAA Headquarters, Silver Spring, MD.
 - 2013 Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY.
 - 2013 Department of Geology and Geophysics, Yale University, New Haven, CT.
 - 2012 AGU Fall Meeting, San Francisco, CA. (Poster)
 - 2012 DISCCRS VII Symposium, Colorado Springs, CO.
 - 2012 NCCR Climate Summer School, Monte Verità, Ticino, Switzerland.
 - 2012 Workshop for Climate Change and Water Cycle, and Communicating Uncertainty, Princeton Institute for International and Regional Studies, Princeton University, Princeton, NJ.
 - 2011 Geophysical Fluid Dynamics Laboratory, Princeton, NJ.
 - 2011 Department of Atmospheric and Oceanic Sciences, UCLA, Los Angeles, CA.
 - 2011 AMS Annual Meeting, Seattle, WA. (Poster)
 - 2010 Cryosphere Workshop, Stevens Institute of Technology, Hoboken, NJ.
 - 2010 NASA Goddard Institute for Space Studies, New York, NY.
 - 2009 Pacific Northwest National Laboratory, Richland, WA.
 - 2008 AGU Fall Meeting, San Francisco, CA. (Poster)
 - 2008 Climate, Ecosystems, and Resources in Eastern California Conference, Bishop, CA.
 - 2008 Fifth Annual California Climate Change Research Conference, Sacramento, CA. (Poster)

TEACHING
EXPERIENCE

Princeton University, Princeton, NJ
Guest Lecturer for GEO 202, “Ocean, Atmosphere, and Climate” **Spring 2012**
Undergraduate Assistant for GEO 220, “Weather and Climate” **Spring 2004**
Grader/Undergraduate Assistant for MAT 201, “Multivariable Calculus” **Fall 2003**

University of California, Los Angeles, Los Angeles, California
Guest Lecturer for AOS 201B, “Geophysical Fluid Dynamics II” **Spring 2009 and 2008**
Guest Lecturer for AOS 201A, “Geophysical Fluid Dynamics I” **Winter 2009**
Teaching Assistant for AOS 1, “Climate Change: Puzzles and Policies” **Spring 2008**

PROFESSIONAL
SERVICES

- American Geophysics Union and American Meteorological Society member since 2008
- Reviewer for: Climatic Change, Environmental Health Perspectives, Environmental Research Letters, Journal of Climate, Journal of Geophysical Research - Atmospheres, Proceedings of the National Academy of Sciences, The Cryosphere, Water Resources Research

ACTIVITIES AND
OUTREACH

Princeton University, Princeton, NJ
Graduate Student Mentor **October 2011-Present**
Providing informal mentoring to graduate students in Atmospheric and Oceanic Sciences on research, careers, and proposal preparation. Also acting with a counterpart in the Geosciences Department to develop a mentoring seminar series for graduate students and postdoctoral researchers, with a sub-emphasis on women in science, in the Geosciences Department and Atmospheric and Oceanic Sciences Program.

Isaac Newton Middle School for Math and Science, New York, NY
Career Day Speaker **March 2010; May 2012; May 2013**
Annual speaker for middle school students in Spanish Harlem about working as a scientist, researching snowpack, and attending college and graduate school in general.

Chicago Symphony Orchestra, Chicago, IL
Scientific Consultant **January - May 2010**
Provided expertise and direction on understanding the physics and mathematics of waves in the ocean and sound waves for the “Beyond the Score” program for Debussys La Mer performance. The program was performed in Chicago in May 2010 and has been traveling to other cities, including Seattle in November 2010. <http://beyondthescore.org/>

SELECTED MEDIA
COVERAGE

Major snow disappoints with minor moisture, *CNN*, March 6, 2013.
Warming climate could mean bigger blizzards, less snow, *CNN*, February 26, 2013.
Climate contradiction: Less snow, more blizzards, *Associated Press*, February 19, 2013.
Out of Equilibrium? The World’s Changing Ice Cover, *Environmental Health Perspectives*, January 1, 2011.

PREVIOUS
EMPLOYMENT

Goldman Sachs & Co., New York, NY
Investment Banking Analyst **2004 - 2006, Summer 2003**
Financial Institutions Group analyst covering insurance, reinsurance, and exchanges.