

Brian Medeiros

AMP NCAR/CGD
P.O. Box 3000
Boulder, CO, 80307-3000

e: brianpm@ucar.edu [alternate @ucla.edu]
p: 303.497.1402
w: <http://www.atmos.ucla.edu/~brianpm>
w: <http://www.cgd.ucar.edu/amp/staff/brianpm>

Education

Ph.D. Atmospheric & Oceanic Sciences, UCLA, 2007.
Dissertation: Cloud-climate interactions in general circulation models.
Advisor: Bjorn Stevens

M.S. Atmospheric Sciences, UCLA, 2003.

B.A. Physics, UC Berkeley, 2000.

Research Experience

Project Scientist I 2009–present, NCAR CGD

Postdoctoral Researcher 2007–2009, UCLA DAOS,
visitor to Colorado State University, Dept. of Atmospheric Science, Center for Multiscale Modeling of
Atmospheric Processes (CMMAP, host: David Randall)

Graduate Student Researcher 2002–2007, UCLA DAOS

Lab Assistant 1999–2001, Physics Department, UC Berkeley

Teaching Experience

UCLA DAOS

Teaching Assistant, “Air Pollution,” AS 2, Fall 2002.
Tutorial organizer & instructor, “A crash course in unix,” September 2006.

UC Berkeley, Dept. of Physics

Teaching Assistant, “Thermodynamics, Electricity & Magnetism,” Phys. 7B, Fall 2000.
Teaching Assistant, “Basic Semiconductor Circuits Lab,” Phys. 111, Spring 2001.

UC Berkeley Extension

Teaching Assistant, “Introduction to Astronomy,” Fall 2000.

Awards & Fellowships

Brian Bosart Memorial Award, DAOS, UCLA, Fall 2006.

Edwin W. Pauley Fellowship UCLA, 2001-2002, 2003-2004.

Refereed Publications

de Boer, G., W. Chapman, J. E. Kay, **B. Medeiros**, M. D. Shupe, S. Vavrus, J. Walsh: A Characterization of the Present-Day Arctic Atmosphere in CCSM4, *submitted to J. Climate*.

Medeiros, B., C. Deser, R. A. Tomas, and J. E. Kay 2011: Arctic inversion strength in climate models, *J. Climate*, *in press*. DOI: 10.1175/2011JCLI3968.1.

Medeiros, B., and B. Stevens, 2011: Revealing differences in GCM representations of low clouds. *Climate Dynamics*, 36(1), pp. 385-399. DOI: 10.1007/s00382-009-0694-5.

Medeiros, B., L. Nuijens, C. Antoniazzi, and B. Stevens, 2010: Low-latitude boundary layer clouds as seen by CALIPSO, *J. Geophys. Res.*, 115, D23207. DOI:10.1029/2010JD014437.

Zhang, Y., B. Stevens, **B. Medeiros** and M. Ghil, 2009: Low-cloud fraction, lower-tropospheric stability and large-scale divergence. *J. Climate*, 22, 4827-4844. DOI: 10.1175/2009JCLI2891.1.

Medeiros, B., B. Stevens, I. M. Held, M. Zhao, D. L. Williamson, J. G. Olson, and C. S. Bretherton, 2008: Aquaplanets, climate sensitivity, and low clouds. *J. Climate*, 21(19), p. 4974–4991 DOI: 10.1175/2008JCLI1995.1.

Rauber, R.M., B. Stevens, J. Davison, S. Göke, O.L. Mayol-Bracero, D. Rogers, P. Zuidema, H.T. Ochs, C. Knight, J. Jensen, S. Bereznicki, S. Bordoni, H. Caro-Gautier, M. Colón-Robles, M. Deliz, S. Donaher, V. Ghate, E. Grzeszczak, C. Henry, A. Marie Hertel, I. Jo, M. Kruk, J. Lowenstein, J. Malley, **B. Medeiros**, Y. Méndez-Lopez, S. Mishra, F. Morales-García, L.A. Nuijens, D. O'Donnell, D.L. Ortiz-Montalvo, K. Rasmussen, E. Riepe, S. Scalia, E. Serpetzoglou, H. Shen, M. Siedsma, J. Small, E. Snodgrass, P. Trivej, and J. Zawislak, 2007: In the Driver's Seat: Rico and Education. *Bull. Amer. Meteor. Soc.*, 88, 1929–1937. DOI: 10.1175/BAMS-88-12-1929.

Medeiros, B., A. Hall, and B. Stevens, 2005: What controls the climatological depth of the PBL? *J. Climate*, 18(16), p. 2877–2892. DOI: 10.1175/JCLI3417.

Karner, D. B., J. Levine, **B.P. Medeiros**, and R.A. Muller, 2002: Constructing a stacked benthic $\delta^{18}O$ record. *Paleoceanography*, 17(3), p. 2-1 – 2-17. DOI: 10.1029/2001PA000667.

Non-refereed Publications

Karner, Daniel B., **Brian Medeiros**, Richard A. Muller, 1999: Dansgaard-Oeschger events and the 1.5-kyr cycle. Lawrence Berkeley Nat'l Lab Technical Report, LBNL-44529.

Talks

On the new CESM boundary layer: physics interactions & the subtropical south Atlantic. Workshop on Coupled Ocean-Atmosphere-Land Processes in the Tropical Atlantic, Miami, FL, USA, March 2011.‡

Southeast Pacific stratocumulus in CAM4 and CAM5: Falling down and breaking up. 3rd VOCALS Science Meeting, Miami, FL, March 2011.

Climate feedbacks in aquaplanet CAM4 and CAM5
15th Annual CESM Workshop, Breckenridge, CO, July 2010.

Aquaplanet sensitivity in CAM 4&5
CCSM Atmos. Model Working Group Meeting, February, 2010.

‡ Invited.

Insidious little clouds: Shallow cumulus in climate models.
NCAR CGD Seminar, August, 2009.

Ordinary clouds and their extraordinary impacts.
CMMAP 7th Team Meeting, Fort Collins, CO, July, 2009.‡

Cloud response to climate change in a single column framework.
CFMIP/GCSS Boundary Layer Working Group Workshop on evaluation and understanding of cloud processes in GCMs, UBC Vancouver, June, 2009.

The Little Clouds That Could
Mesoscale & Microscale Meteorology (MMM) Seminar, NCAR, Boulder, CO, April 2009.‡

Big Trouble with Little Clouds.
Rosenstiel School for Marine and Atmospheric Sciences, U. Miami, Florida, November 2008.‡
Max Plank Institut für Meteorologie, Hamburg, Germany, October 2008.
Eidgenössische Technische Hochschule (ETH) Zürich, Switzerland, October 2008.
Jet Propulsion Laboratory, NASA/Caltech, Pasadena, California, October 2008.‡

Cloud-Climate interactions in GCMs: An aquaplanet perspective. 4th Pan-GCSS Meeting on Advances in Modeling and Observing Clouds and Convection, Toulouse, France, June 2008.‡

Can aquaplanets predict a GCM's climate sensitivity? Colorado State University, Dept. of Atmos. Sci., October 2007.

Using aquaplanets to understand GCM climate sensitivity. CFMIP/ENSEMBLES Workshop on assessment of cloud and water vapour feedback processes in GCMs, Paris, France, April 2007.

Unraveling cloud feedbacks.
NCAR Climate Modeling Section, Boulder, CO, June 2006.
UCLA DAOS, May 2006.

The climate sensitivity of aquaplanets. 1st Graduate Climate Conference, University of Washington Program on Climate Change, Eatonville, WA, April 2006.

How Earth-like are the aquaplanets? Climate Process Team on Low-latitude Cloud Feedbacks. GFDL, Princeton, NJ, November 2005.

Climate change experiments in an idealized GCM. UCLA DAOS Students Seminar Series, August 2005.

Workshops & Summer Schools

Center for Multiscale Modeling of Atmospheric Processes, Team Meeting,

27-30 July 2009, Fort Collins, CO	15-17 January 2008, UCLA, Los Angeles, CA
6-8 January 2009, New York City, NY	7-9 August 2007, CSU, Fort Collins, CO
29-31 July 2008, Fort Collins, CO	20-22 February 2007, Kauai, HI

Small Scales and Extreme Events: The Hurricane. Institute for Pure and Applied Mathematics (IPAM), UCLA, February 2007.

The Art of Climate Modeling, ASP Summer Colloquium. NCAR, Boulder, CO, June 2006

Community Climate System Model Workshop, 2004, 2006, 2009, 2010

Workshop on the Parameterization of the Atmospheric Boundary Layer. Lake Arrowhead, CA, June 2005.

RICO Graduate Students Program. Rain In Cumulus Over the Ocean (RICO): NSF field project, Antigua & Barbuda, West Indies, January 2005.

Modern Applied Mathematics for the Atmospheric and Oceanic Sciences, IPAM, UCLA, July 2003.

Mathematics of Subgrid-Scale Phenomena in Atmospheric and Oceanic Flows, IPAM, UCLA, February 2002.

Academic Service

Reviewer

Atmos. Phys. & Chem.	Atmos. Sci. Lett.
Boundary Layer Meteorology	Clim. Dyn.
Geophys. Res. Lett.	J. Advances in Modeling Earth Systems
J. Appl. Meteorol.	J. Atmos. Sci.
J. Climate	J. Geophys. Res.
National Science Foundation	NCAR (internal)

Committees

UCLA AOS computer committee (2003-2007), UCLA AOS web committee (2003-2007), CMMAP Education & Diversity Oversight Committee (2008/9)

UCLA AOS Seminar Organizer

Student Seminar Series, Summer 2005.
AOS 272, Climate Dynamics Seminar, Fall 2003.

Chi Epsilon Pi (AOS Student Organization; Webmaster, 2003-7, President, 2001-2)

Professional Societies American Meteorological Society, American Geophysical Union

Conference Proceedings

Medeiros, B, 2010: Southeast Pacific stratocumulus as depicted in two versions of the Community Atmosphere Model, Abstract A51A-0049 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Medeiros, B., D. L. Williamson, C. Hannay, and J. G. Olson, 2010: Southeast Pacific stratocumulus in two versions of the Community Atmosphere Model, *Proc. 19th Symposium on Turbulence and Boundary Layers*, Keystone, CO, Amer. Meteor. Soc., 9.8.

Zhang, Y., D. J. Seidel, J. C. Golaz, C. Deser, R. Tomas, J. Kay, C. O. Ao, B. Medeiros, and S. Park, 2010: Climatological Characteristics of Surface-Based Inversions over the Arctic and Antarctic, *Proc. 19th Symposium on Turbulence and Boundary Layers*, Keystone, CO, Amer. Meteor. Soc., 11A.3.

Medeiros, B., 2010: Forecasts of Southeast Pacific stratocumulus in two versions of the Community Atmosphere Model, DOE Integrated Climate Change Modeling Science Team Meeting, Gaithersburg, MD.

Medeiros, B., B. Stevens, and C. Antoniazzi, 2008: A closer look at tropical low clouds in climate models, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract A43C-0332.

Medeiros, B. and B. Stevens, 2008: Tropical low clouds in GCMs. 4th Pan-GCSS Meeting on Advances in Modeling and Observing Clouds and Convection, Toulouse, France.

- Antoniazzi, C., B. Medeiros, and B. Stevens, 2008: A CALIOP view on low clouds. 4th Pan-GCSS Meeting on Advances in Modeling and Observing Clouds and Convection, Toulouse, France.
- Medeiros, B. and B. Stevens, 2007: Low clouds and climate sensitivity. The Akio Arakawa Symposium, San Antonio, TX, Amer. Meteor. Soc., P1.13.
- Zhang, Yunyan, B. Stevens, B. Medeiros, M. Ghil, 2005: Interpreting stratocumulus climatology using Lilly's mixed-layer theory. The Doug Lilly Symposium Posters, Atlanta, GA, Amer. Meteor. Soc., P1.28.
- Small, J., and RICO grad students, 2005: RICO Graduate Student Flight: The Island Tail Objective. San Francisco, CA. AGU
- Medeiros, B., A. Hall, and B. Stevens, 2004: What controls the climatological PBL depth? Proc. of 16th Symposium on Boundary Layers and Turbulence, Portland, ME, Amer. Meteor. Soc., 5.1.
- Medeiros B.P., A. Hall, B. Stevens, and X. Wang, 2003: What controls the climatological depth of the PBL? Extended Abstracts, 14th Symposium on Global Change and Climate Variations, Long Beach, CA, Amer. Meteor. Soc., 11.1, 4 pp.
- Hall, A., M. Hiltner, R. Hansell, J-Y. Kim, V. LaLiberte, W-L. Lee, N. Lovenduski, B. Medeiros, X. Qu, S. Wang, K-N. Liou, and B. Stevens, 2003: The Role of the Diurnal Cycle in Maintaining the Mean State of the Climate System. 14th Symposium on Global Change and Climate Variations, Long Beach, CA, Amer. Meteor. Soc., 9.3.
- Medeiros B.P., D.B. Karner, R.A. Muller, and J. Levine, 2000: The Global Ice Volume Record as Viewed Through a Benthic $\delta^{18}O$ Stack. *Eos Trans. AGU*, 81 (48), Fall Meet. Suppl., San Francisco, CA, Amer. Geophys. Union, Abstract OS51B-26.
- Medeiros B.P., D.B. Karner, and R.A. Muller, 1999: Dansgaard-Oeschger Events and the 1.5-kyr Cycle. *Eos Trans. AGU*, 80, Fall Meet. Suppl., San Francisco, CA, Amer. Geophys. Union, Abstract U21A-17.