

G a b r i e l A . V e c c h i

Research Interests	Climate dynamics and predictability. Ocean/atmosphere dynamics and coupling. Coupled climate variability and change.		
Education	Ph.D. Physical Oceanography Apr., 2000 University of Washington Seattle, WA Thesis title: "Sub-seasonal wind variability and El Niño"		
	M.S. Applied Mathematics Feb. 1999 University of Washington Seattle, WA		
	M.S. Physical Oceanography Dec. 1996 University of Washington Seattle, WA		
	B.A. Mathematics May 1994 Rutgers University New Brunswick, NJ		
Professional experience	Jun. 2006 – Present Research Oceanographer Princeton, NJ NOAA – Geophysical Fluid Dynamics Laboratory		
	Nov. 2003 – Jun. 2006 UCAR Visiting Scientist Princeton, NJ NOAA – Geophysical Fluid Dynamics Laboratory		
	Sep. 2004 – Jan. 2005 Lecturer New Brunswick, NJ Rutgers University, Environmental Sci. 323 – Atmospheric Thermodynamics.		
	May 2001 – Nov. 2003 Research Scientist Seattle, WA University of Washington, Joint Institute for the Study of the Atmosphere and Oceans		
	May 2000 – Apr. 2001 Postdoctoral Research Associate Seattle, WA University of Washington, Department of Atmospheric Sciences / Joint Institute for the Study of the Atmosphere and Oceans		
	Sep. 1994 – Apr. 2000 Research Assistant Seattle, WA University of Washington, School of Oceanography / Joint Institute for the Study of the Atmosphere and Oceans		
	Oct. 1993 – Sep. 1994 Research Assistant New Brunswick, NJ Institute for Marine and Coastal Sciences, Rutgers University		
	Jun. 1993- Aug. 1993 Summer Research Fellow New Brunswick, NJ Institute for Marine and Coastal Sciences, Rutgers University		

Awards received	<p>NOAA/OAR Outstanding Paper of the Year, 2007</p> <p>Presidential Early Career Award for Scientists and Engineers (PECASE), 2004-2009.</p> <p>Editor's Citation for Excellence in Refereeing for Geophysical Research Letters, 2004.</p> <p>NASA Space Grant Scholarship, 1994-1996.</p> <p>Cook College, Rutgers University Marine Sciences Student of the Year, 1994.</p> <p>New Jersey Department of Education Garden State Scholar Scholarship, 1990-1994.</p>
Community Service	<p>Associate Editor, Journal of the Atmospheric Sciences.</p> <p>Associate Editor, Journal of Climate</p> <p>Member CLIVAR Asian/Australian Monsoon Panel (2008-2010)</p> <p>Member CLIVAR Indian Ocean Panel (2007-2009)</p> <p>AGU/TOS/ASLO Ocean Sciences 2006 Meeting Scientific Organizing Committee.</p> <p>Judge 2005 NAACP ACT-SO Academic Competition.</p> <p>Speaker: Elementary through High School.</p> <p>Article reviews for: J. Physical Oceanography, Monthly Weather Review, J. of Geophysical Research, Geophysical Research Letters, J. Climate, J. Atmospheric Sciences, Nature, J. Oceanic and Atmospheric Technology, Remote Sensing of the Environment, Tellus.</p> <p>Proposal reviews for: NOAA, NSF, NASA, DOE.</p>
Professional Organizations	<p>American Geophysical Union.</p> <p>American Meteorological Society.</p> <p>The Oceanography Society</p>
Computer Experience	<p>UNIX, Windows and Macintosh operating systems.</p> <p>Extensive programming experience with Fortran. Experience with C, C++, HTML and Perl Script. Experience with UNIX scripting utilities: sed, awk.</p>
Languages	Fluent in Spanish (lived in Venezuela from age 1 to 14) and Italian. Working knowledge of French.
Interests and activities	Ultimate frisbee, soccer, snowboarding, mountain biking, SCUBA.

Publications

- Lloyd, I.D., & G.A. Vecchi (2009): Submonthly Indian Ocean cooling events and their relation to large-scale conditions. *J. Climate (in preparation)*.
- Lengaigne, M., & G.A. Vecchi (2009): Contrasting the termination of moderate and extreme El Niño events in Coupled General Circulation Models. *Clim. Dyn. (submitted)*.
- Landsea, C.W., G.A. Vecchi, L. Bengtsson & T.R. Knutson (2009): Increases in Atlantic tropical cyclone counts since the late 1800s are likely due to advances in observations and analyses. *J. Climate (submitted)*.
- DiNezio, P.N., A.C. Clement, G.A. Vecchi, B.J. Soden, B.P. Kirtman & S.-K. Lee (2009): Climate Response of the Equatorial Pacific to Global Warming. *J. Climate (submitted)*.
- McPhaden, M.J., et al. (2009): Ocean-Atmosphere Interactions During Cyclone Nargis. *EOS Trans. Amer. Geophys. Union (in press)*.
- Vecchi, G.A., K.L. Swanson & B.J. Soden (2008): Whither Hurricane Activity? *Science*, **322**(5902), 687. DOI: 10.1126/science.1164396.
- Vecchi, G.A., & T.R. Knutson (2008). On Estimates of Historical North Atlantic Topical Cyclone Activity *J. Climate*, **21**(14), 3580-3600.
- Knutson, T.R., J.J. Sirutis, S.T. Garner, G.A. Vecchi & I.M. Held (2007). Simulated impact of 21st Century warming on Atlantic hurricane activity. *Nature Geoscience*, doi:10.1038/ngeo202.
- Vecchi, G.A., A. Clement & B.J. Soden (2008). Examining the Tropical Pacific's Response to Global Warming. *EOS, Trans. Amer. Geophys. Union*, **89**(9), pp.81,83.
- Song, Q., G.A. Vecchi & A. Rosati (2007). Predictability of Indian Ocean Sea Surface Temperature Anomalies in the GFDL Coupled Model. *Geophys. Res. Lett.*, **5**, L02701, doi:10.1029/2007GL031966.
- Vecchi, G.A., & B.J. Soden (2007). Effect of remote sea surface temperature change on tropical cyclone potential intensity. *Nature*, **450**(7172), pp 1066-1070, doi:10.1038/nature06423.
- Vecchi, G.A., & B.J. Soden (2007). Global Warming and the Weakening of the Tropical Circulation. *J. Climate*, **20**(17) 4316-4340.
- Vecchi, G.A., & B.J. Soden (2007). Increased tropical Atlantic wind shear in model projections of global warming. *Geophys. Res. Lett.*, **34**, L08702, doi:10.1029/2006GL028905.
- Vecchi, G.A., & M. Harrison (2007). An Indian Ocean Observing System Simulation Experiment. *J. Climate*, **20**, 3300-3319.
- Song, Q.N., G.A. Vecchi, & A. Rosati (2007). Indian Ocean Variability in the GFDL CM2 Coupled Climate Model. *J. Climate*, **20**, 2895-2916.
- Song, Q.N., G.A. Vecchi, & A. Rosati (2007). Impact of the Indonesian Throughflow on Climate Variability in the GFDL Coupled Climate Model. *J. Climate*, **20**, 2434-2451.

- Seager, R., et al (2007). Model projections of an imminent transition to a more arid climate in southwestern North America. *Science* **316**, 1181-1184.
- Lu, J., G.A. Vecchi & T.J. Reichler (2007). Expansion of the Hadley cell under global warming. *Geophys. Res. Lett.* **34**, L06805, doi:10.1029/2006GL028443.
- Vecchi, G.A., B.J. Soden, A.T. Wittenberg, I.M. Held, A. Leetmaa & M.J. Harrison (2006): Weakening of Tropical Pacific Atmospheric Circulation due to Anthropogenic Forcing. *Nature*, **441**(7089), 73-76. doi:10.1038/nature04744.
- Vecchi, G.A. (2006). The termination of the 1997-98 El Niño. Part II: Mechanisms of Atmospheric Change. *J. Climate*, **19**(12), 2647-2664.
- Vecchi, G.A., & D.E. Harrison (2006). The termination of the 1997-98 El Niño. Part I: Mechanisms of Oceanic Change. *J. Climate*, **19**(12), 2633-2646.
- Gnanadesikan, A. et al., (2006): GFDL's CM2 global coupled climate models - Part 2: The baseline ocean simulation, *J. Climate*, **19**(5), 675-697.
- CLIVAR/GOOS Indian Ocean Panel and Collaborators (2006). Understanding the Role of the Indian Ocean in the Climate System—Implementation Plan for Sustained Observations. Southampton, UK, International CLIVAR Project Office, 76pp. (ICPO Publication Series, 100) <http://eprints.soton.ac.uk/20357/>
- Vecchi, G.A., A.T. Wittenberg & A. Rosati (2006). Reassessing the role of stochastic forcing in the 1997-8 El Niño. *Geophys. Res. Lett* **33**, L01706, doi:10.1029/2005GL024738.
- Vecchi, G.A., A. Rosati & D.E. Harrison (2004): Setting the timing of El Niño termination. *Bull. Amer. Meteorol. Soc.*, **85**(8), 1065-1066.
- Bhat, G. S., G. A. Vecchi & S. Gadgil (2004). Sea Surface Temperature of the Bay of Bengal derived from TRMM. *J. Mar. Tech.*, **21**, 1283-1290.
- Vecchi, G.A., & D.E. Harrison (2004): Interannual Indian rainfall variability and Indian Ocean sea surface temperature anomalies. In *Earth Climate: The Ocean-Atmosphere Interaction*, C. Wang, S.-P. Xie, and J.A. Carton (eds.), AGU, Geophysical Monograph 147, Washington D.C., 247–260
- Vecchi, G.A., & N.A. Bond (2004): The Madden-Julian Oscillation (MJO) and northern high latitude wintertime surface air temperatures. *Geophys. Res. Lett.* **31**, L04104, doi:10.1029/2003GL018645.
- Vecchi, G.A., S.-P. Xie, & A. Fischer (2004). Air-Sea Coupling over Western Arabian Sea Cold Filaments. *J. Climate*, **17**(6), 1213–1224.
- Vecchi, G.A. & D.E. Harrison (2003). On the termination of the 2002-3 El Niño event. *Geophys Res. Lett.*, **30**(18), 1964-1967.
- Bond, N.A., & G.A. Vecchi (2003). On the Madden Julian Oscillation and Precipitation in Oregon and Washington. *Weather and Forecasting*, **18**(4), 600-613.

- Vecchi, G.A., & D.E. Harrison (2002). Monsoon Breaks and sub-seasonal sea surface temperature variability in the Bay of Bengal. *J. Climate*, **15**(12), 1485-1493.
- Harrison, D.E., R.D. Romea, & G.A. Vecchi (2001). Central Equatorial Pacific Zonal Currents II: The seasonal momentum balances and the boreal spring eastward surface current surge. *J. Mar. Res.*, **59**, 921-948.
- Harrison, D.E., & G.A. Vecchi (2001). January 1999 Indian Ocean cooling event. *Geophys. Res. Lett.* **28**(19), 3717-3720.
- Harrison, D.E. & G.A. Vecchi (2001). El Niño and La Niña: Equatorial Pacific surface temperature and thermocline variability, 1986-98. *Geophys. Res. Lett.*, **28**, 1051-1054.
- Harrison, D.E., G.A. Vecchi & R.H. Weisberg (2000). Eastward surface jets in the central equatorial Pacific. November 1991-March 1992. *J. Marine Res.*, **58**, 735-754.
- Vecchi, G.A. (2000). Tropical Pacific sub-seasonal wind variability and El Niño. Ph.D. Dissertation, University of Washington.
- Vecchi, G.A. & D.E. Harrison (2000). Tropical Pacific sea surface temperature anomalies, El Niño and equatorial westerly wind events. *J. Climate*, **13**(11), 1814-1830.
- Harrison, D.E. & G.A. Vecchi (1999). On the termination of El Niño. *Geophys. Res. Lett.* **26**(11), 1593-7.
- Vecchi, G.A. & D.E. Harrison (1997). Westerly wind events in the tropical Pacific, 1986-1995: An atlas from the ECMWF operational surface wind fields. NOAA Technical Memorandum ERL PMEL-109 (NTIS PB97-188213).
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