

RICHARD SEAGER

E-mail Address: seager@ldeo.columbia.edu

FAX (914) 365-8736

Work phone:(914) 365-8743

Home Address

533 West 112th St. Apt. 8A
New York, NY 10025
(212) 666-5618

Education

LIVERPOOL UNIVERSITY

Liverpool, England

October 1980–May 1983

1983 B. Sc. Honours First Class, Geography

COLUMBIA UNIVERSITY

New York, NY

September 1983– February 1990

1985 M. A. in Geological Sciences

1990 M. Phil. in Geological Sciences

1990 Ph. D. in Geological Sciences

Ph.D. Thesis: Modeling sea surface temperature and low level winds in the tropics.

Advisor: Professor Mark Cane.

Employment

March 1990–December 1990. Post-Doctoral Research Scientist at Lamont Doherty Geological Observatory of Columbia University, New York.

January 1991–December 1992. Post-Doctoral Research Scientist at The Joint Institute for Study of the Atmosphere and Ocean, University of Washington, Seattle.

January 1993 to December 1993. National Oceanic and Atmospheric Administration Program in Climate and Global Change Postdoctoral Fellow at Lamont Doherty Earth Observatory of Columbia University, New York.

January 1994 to July 1997. Associate Research Scientist at Lamont Doherty Earth Observatory of Columbia University, Palisades, New York.

July 1997 to July 2000. Research Scientist at Lamont Doherty Earth Observatory of Columbia University, Palisades, New York.

July 2000 to September 2008. Doherty Senior Research Scientist at Lamont Doherty Earth Observatory of Columbia University, Palisades, New York.

September 2008 to June 2010 Palisades Geophysical Institute Senior Research Scientist at Lamont Doherty Earth Observatory of Columbia University, Palisades, New York.

July 2010 to present. Palisades Geophysical Institute/Lamont Research Professor at Lamont Doherty Earth Observatory of Columbia University, Palisades, New York.

January 2011. Appointed member of Earth Institute Faculty.

Research interests

Climate change and variability on seasonal to glacial timescales, tropical forcing of global climate variations, North American drought, tropical atmosphere-ocean interactions,

tropical climate change, explaining the causes of regional climates, climate modeling, seasonal to decadal climate prediction, global hydroclimate variability and change.

Professional service

US CLIVAR drought working group member (2006 to present).
Contributing author for Climate Change Science Program Synthesis and Assessment Report, abrupt change chapter (2006 to 2009).
Associate Editor, *Quarterly Journal of the Royal Meteorological Society* (2005 to 2011)
Member of the American Meteorological Society Committee on Tropical Meteorology and Hurricanes (1995 to 1999).
Member of the CLIVAR Pacific panel (1999 to 2001) Member of NOAA Climate and Global Change Postdoctoral Fellowship Committee (2011 to present).

Awards

California Department of Water Resources Climate Science Paper awards for two separate papers, November 2008.
Lamont Director's Award for Outstanding Research Performance, September 2007.
National Oceanic and Atmospheric Administration Program in Climate and Global Change Postdoctoral Fellowship, July 1992.

Professional Associations

Member of the Royal Meteorological Society
Member of The American Meteorological Society.
Member of the AMS Committee on Tropical Meteorology and Hurricanes (1995 to 1999).
Member of the American Geophysical Union.

Graduate students advised (wholly or partially)

Amy Clement, Sloan Coats, Alessandra Giannini, Arthur Greene, Alicia Karspeck, Julien Emile-Geay, Celine Herweijer, Wenchang Yang, Yutian Wu, Colin Kelley, Joelle Birnberg, Mary Moore, David Wang, John Sawicki.

Postdoctoral fellows mentored

Nili Harnik (Lamont fellowship), Kris Karnauskas (Lamont fellowship), Jason Smerdon (Lamont fellowship), Ben Cook (NOAA fellowship), Isla Simpson (September 2012 start).

Undergraduate interns co-authored published papers with

Alexandrina Tzanova, Laura Vogel, Tyler Ruff, Stephanie Jurburg (2)

Popular articles, un-refereed articles, encyclopedia entries etc.

- R. Seager and B. Cook, 2011: The Dust Bowl, *Encyclopedia of Natural Hazards*, Peter Bobrowsky, Ed., Springer, New York, in press.
- R. Seager, 2008: Setting the record straight on the Gulf Stream and European climate. *The Plantsman*, the quarterly magazine of the Royal Horticultural Society, **7**, 22-27.

- R. Seager, 2007: Making a bad situation worse: Climate change and human-induced aridification of southwestern North America. California Department of Water Resources *California Drought Update*, June 2008.
- Schubert, S., R. Koster, M. Hoerling, R. Seager, D. Lettenmaier, A. Kumar and D. Gutzler, 2007: Predicting drought on seasonal-to-decadal timescales. *Bull. Amer. Meteor. Soc.*, **88**, 1625-1630.
- R. Seager, 2006: The source of Europe's mild climate, *Am. Sci.*, **94**, 334-341.
- Clement, A.C., J. Emile-Geay, R. Seager, M. Cane and M. N. Evans, 2006: Solar forcing of the tropical Pacific climate and impacts over North America for the last millennium. *PAGES News*, **14**, 12-14.
- R. Seager, 2003: Gulf Stream, la fin d'un mythe. *La Recherche*, **361**, 40-45 (In French).

Refereed professional reports

- Hoerling, R., S. Schubert, K. Mo, A. AghaKouchak, H. Berbery, J. Dong, A. Kumar, V. Lakshmi, R. Leung, J. Li, X. Liang, L. Luo, B. Lyon, D. Miskus, X. Quan, S. Schubert, R. Seager, S. Sorooshian, H. Wang, Y. Xia, N. Zeng, 2013, An Interpretation of the Origins of the 2012 Central Great Plains Drought, NOAA Drought Task Force Narrative Team Assessment Report, www.drought.gov/drought/content/resources/reports
- Cook, E.R., P.J. Bartlein, N. Diffenbaugh, R. Seager, B.N. Shuman, R. S. Webb and C. Woodhouse, 2008, Hydrological variability and change. In *Abrupt Climate Change*, A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. U.S. Geological Survey, Reston, VA, pp. 143-257.
- Delworth, T.L., P.U. Clark, M. Holland, W.E. Johns, T. Kuhlbrodt, J. Lynch-Stieglitz, C. Morrill, R. Seager, A.J. Weaver, and R. Zhang, 2008: The potential for abrupt change in the Atlantic Meridional Overturning Circulation. In: *Abrupt Climate Change*. A report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. U.S. Geological Survey, Reston, VA, pp. 258-359.

Refereed publications

- Kelley, C., S. Mohtadi, M. Cane, R. Seager and Y. Kushnir, 2013: Climate change and political instability in Syria. *Proc. Nat. Acad. Sci.*, submitted.
- Cook, B., J. Smerdon, R. Seager and S. Coats, 2013: Global warming and drought forcing in the 21st Century. *Clim. Dyn.*, to be submitted.
- W. Yang, R. Seager, M. Cane and B. Lyon, 2013: The East African long rains in observations and models. *J. Climate*, submitted.
- Seager, R., H. Liu, N. Henderson, I. Simpson, C. Kelley, T. Shaw, Y. Kushnir and M. Ting, 2013: Causes of increasing aridification of the Mediterranean region in response to rising greenhouse gases. *J. Climate*, submitted.
- Seager, R. 2013: Decadal hydroclimate variability across the Americas. In *Climate Change, Multidecadal and Beyond*, World Scientific Series on Weather and Climate, in review.

- Seager, R. and M. P. Hoerling, 2013: Dynamical causes of past, present and future North American Droughts: A forward looking review. *J. Climate*, submitted.
- Williams, A. P., R. Seager, M. Berkelhammer, A. K. Macaladay, M. A. Crimmins, T. W. Swetnam, A. T. Trugman, N. Buening, N. Hyrniw, N. G. McDowell, C. I. Mora, T. Rahn, 2013: Vapor-pressure deficit as the driver of extreme 2011 wildfire in the southwest United States. *Bull. Amer. Meteor. Soc.*, submitted.
- Coats, S., J.E. Smerdon, B. I. Cook, R. Seager, 2013: Stationarity of the tropical Pacific teleconnection to North America in CMIP5/PMIP3 Model Simulations, *Geophys. res. Lett.*, submitted.
- Seager, R., L. Goddard, J. Nakamura, N. Henderson, D. Lee, 2013: Dynamical causes of the 2010/11 first year of the Texas-northern Mexico drought. *J. Climate*, submitted.
- Hoerling, M., J. Eischeid, A. Kumar, R. Leung, A. Mariotti, K. Mo, S. Schubert and R. Seager, 2013: Causes and Predictability of the 2012 Great Plains Drought. *Bull. Amer. Meteor. Soc.*, in press.
- Seager, R. and N. Henderson, 2013: Diagnostic computation of moisture budgets in the ERA-Interim Reanalysis with reference to analysis of CMIP-archived atmospheric model data. *J. Climate*, in press.
- Gonzalez, P., L. Polvani, R. Seager and G. Correa, 2012: Stratospheric ozone depletion: a key driver of recent precipitation trends in South Eastern South America. *Clim. Dyn.*, doi:10.1007/s00382-013-1777-x.
- Sheffield, J. and others, 2013: North American Climate in CMIP5 Experiments. Part II: Evaluation of 20th Century Intra-Seasonal to Decadal Variability. *J. Climate*, in press.
- Cook, B. I., J. E. Smerdon, R. Seager and E. R. Cook, 2013: Pan-continental droughts in North America over the last millennium. *J. Climate*, submitted.
- Maloney, E.D. and others, 2013: North American Climate in CMIP5 Experiments: Part III: Assessment of 21st Century Projections. *J. Climate*, in press.
- Frierson, D. Y.-T. Hwang, N. Fuckar, R. Seager, S. M. Kang, A. Donahue, E. A. Maroon, X. Liu, D. S. Battisti, 2013: Why tropical rain peaks in the Northern Hemisphere: The role of the ocean conveyor belt, *Nature*, submitted.
- Tierney, J., J. Smerdon, K. Anchukaitis and R. Seager, 2012: Multidecadal variability in East African hydroclimate controlled by the Indian Ocean. *Nature*, **439**, 389-392.
- Coats, S., J. Smerdon, R. Seager, B. Cook and J. F. Gonzalez-Rpuco, 2012: Megadroughts in southwest North America in ECHO-G millennial simulations and their comparison to proxy drought reconstructions. *J. Climate*, in press.
- Kelley, C., M. Ting, R. Seager and Y. Kushnir, 2012: Mediterranean precipitation climatology, seasonal cycle, and trend as simulated by CMIP5. *Geophys. Res. Lett.*, doi:10.1029/2012GL053416.
- Yang, W., R. Seager and M. A. Cane, 2012: Zonal momentum balance in the tropical atmospheric circulation during the global monsoon mature months. *J. Atmos. Sci.*, **70**, 583-599.
- Cook, B. I. and R. Seager, 2013: The response of the North American Monsoon to increased greenhouse gas forcing. *J. Geophys. Res. (Atmospheres)*, **118**, 1690-1699.

- Seager, R., M. Ting, C. Li, N. Naik, B. Cook, J. Nakamura and H. Liu, 2013: Projections of declining surface-water availability for the southwestern United States. *Nature Climate Change*, **3**, 482-486.
- Williams, A.P., C. D. Allen, A. K. Macalady, D. Griffin, C. Woodhouse, D. Meko, T. Swetnam, S. Rauscher, R. Seager, H. Grissino-Mayer, J. Dean, E.R. Cook, C. Gangodagamage, M. Cai and N. McDowell, 2013: Temperature as a potent driver of regional forest drought stress and tree mortality, *Nature Climate Change*, **3**, 292-297.
- Wu, Y., L. Polvani and R. Seager, 2012: The importance of the Montreal Protocol for protecting the Earth's hydroclimate. *J. Climate*, in press.
- Nakamura, J., U. Lall, Y. Kushnir, A. Robertson and R. Seager, 2012: Dynamical structure of major floods in the U.S. Midwest and Great Britain. *J. Hydromet.*, in press.
- Wu, Y., R. Seager, T. Shaw, M. Ting and N. Naik, 2012: Atmospheric circulation response to an instantaneous doubling of carbon dioxide. Part II: Atmospheric transient adjustment and its dynamics. *J. Climate*, **26**, 918-935.
- Karlsruh, K., R. Seager, A. Giannini and A. Busalacchi, 2012: A simple mechanism for the climatological mid-summer drought along the Pacific coast of Central America. *Atmosfera*, **26**, 261-281.
- Cook, B. I., R. Seager, R. L. Miller and J.A. Mason, 2012: Intensification of North American megadroughts through surface and dust aerosol forcing. *J. Climate*, in press.
- Karlsruh, K., J. E. Smerdon, R. Seager and J. F. Gonzalez-Rouco, 2012: Simulated patterns of unforced centennial climate variability in the Pacific. *J. Climate*, **25**, 5943-5961.
- Seager, R., N. Pederson, Y. Kushnir, J. Nakamura and S. Jurburg, 2012: The 1960s drought and subsequent shift to a wetter climate in the Catskill Mountains region of the New York City watershed. *J. Climate*, **25**, 6721-6742.
- Pederson, N., A. Bell, E. Cook, U. Lall, N. Devenini, R. Seager, K. Eggeston and K. Vranes, 2012: Is an epic pluvial masking the water insecurity of the greater New York City region? *J. Climate*, **26**, 1339-1354.
- Seager, R., N. Naik and L. Vogel, 2012: Does global warming cause intensified interannual hydroclimate variability?, *J. Climate*, **25**, 3355-3372.
- Wu, Y., R. Seager, M. Ting, N. Naik and T. Shaw, 2012: Atmospheric circulation response to an instantaneous doubling of carbon dioxide. Part I: Model experiments and transient thermal response in the troposphere. *J. Climate*, **25**, 2862-2879.
- Seager, R. and N. Naik, 2012: A mechanisms-based approach for detecting recent anthropogenic hydroclimate change. *J. Climate*, **25**, 236-261.
- Ruff, T., Y. Kushnir and R. Seager, 2012: Comparing Twentieth and Twenty-First Century patterns of interannual precipitation variability over the western United States and northern Mexico. *J. Hydrometeor.*, **13**, 366-378.
- Kelley, C., M. Ting, R. Seager and Y. Kushnir, 2011: The relative roles of natural variability and forced change in causing the late 20th Century drying of the Mediterranean region. *Clim. Dyn.*, doi:10.1007/s00382-011-1221.
- Cook, B., R. Seager and R. Miller, 2011: The causes and dynamics of the early 20th Century North American pluvial. *J. Climate*, **24**, 5043-5060.

- Ting, M., Y. Kushnir, R. Seager, and C. Li, 2011: Robust features of Atlantic multi-decadal variability and its climate impacts, *Geophys. Res. Lett.*, **38**, L17705, doi:10.1029/2011GL048712.
- Seager, R. and R. Burgman, 2011: Medieval hydroclimate revisited. *PAGES*, **19**, 10-12.
- D'Arrigo, R., R. Seager, J. Smerdon, A. LeGrande and E. Cook 2011: Winter 1783-1784: Was Laki or an analog of winter 2009/10 to blame? *Geophys. Res. Lett.*, **38**, doi:10.1029/2011GL046696.
- Cook, B., R. Seager and R. Miller, 2011: Impact of devegetated dune fields on North American climate during the Medieval Climate Anomaly. *Geophys. Res. Lett.*, **38**, doi:10.1029/2011GL047566.
- Seager, R., N. Naik, W. Baethgen, A. Robertson, Y. Kushnir, J. Nakamura and S. Jurburg, 2010: Tropical oceanic causes of interannual to multidecadal precipitation variability in southeast South America over the past century. *J. Climate*, **23**, 5517-5539.
- Cook, B., E. Cook, K. Anchukaitis, R. Seager and R. Miller, 2010: Forced and unforced variability of 20th Century North American droughts and pluvials. *Clim. Dyn.*, doi:10/1007/s00382-010-0897-9.
- Cook, B., R. Seager and R. Miller, 2010: Atmospheric circulation anomalies during two persistent North American droughts: 1932-1939 and 1948-1957. *Clim. Dyn.*, **36**, 2339-2355
- Harnik, N., R. Seager, N. Naik, M. Cane and M. Ting, 2010: The role of linear wave refraction in the transient eddy-mean flow response to tropical Pacific SST anomalies. *Quart. J. Roy. Meteor. Soc.*, **136**, 2132-2146.
- Seager, R. and G. Vecchi, 2010: Global warming and the 21st century climate of southwestern North America. *Proc. Nat. Acad. Sci.*, **107**, 21277-21282.
- Kushnir, Y., R. Seager, M. Ting, N. Naik and J. Nakamura, 2010: Mechanisms of tropical Atlantic SST influence on North American precipitation variability. *J. Climate*, **23**, 5610-5628.
- Seager, R., N. Naik and G. Vecchi, 2010: Thermodynamic and dynamic mechanisms for large-scale changes in the hydrological cycle in response to global warming. *J. Climate*, **23**, 4651-4668.
- Seager, R., Y. Kushnir, J. Nakamura, M. Ting and N. Naik, 2010: Northern hemisphere winter snow anomalies: ENSO, NAO and winter of 2009/10. *Geophys. Res. Lett.*, **37**, doi:10.1029/2010GL043830.
- Wu, Y., M. Ting, R. Seager, H.-P. Huang and M. Cane, 2010: Changes in storm tracks and energy transports in a warmer climate simulated by the GFDL CM2.1 model. *Clim. Dyn.*, doi:10.1007/s00382-010-0776-4.
- Burgman, R., R. Seager, A. C. Clement and C. Herweijer, 2010: Role of tropical Pacific SSTs in global medieval hydroclimate: A modeling study. *Geophys. Res. Lett.*, **37**, doi:10.1029/2009GL042239.
- Seager, R., N. Naik, M. Ting, N. Harnik, M. Cane and Y. Kushnir, 2010: Adjustment of the atmospheric circulation to tropical Pacific SST anomalies: Variability of transient eddy propagation in the Pacific North-America sector. *Quart. J. Royal. Meteor. Soc.*, **136**, 277-296.
- Schubert, S. and 32 others (incl. R. Seager), 2009: A U.S. CLIVAR project to assess and compare the responses of global climate models to drought-related SST forcing patterns: Overview and results. *J. Climate*, **22**, 5251-5272

- Cook, E. R., R. Seager, R. R. Heim, R. S. Vose, C. Herweijer, C. Woodhouse, 2009: Megadroughts in North America: Placing IPCC projections of hydroclimatic change in a long term paleoclimatic context. *J. Quat. Sci.*, **25**, 48-61..
- Cook, B., R. Miller and R. Seager, 2009, Amplification of the North American Dust Bowl drought through human-induced land surface degradation. *Proc. Nat. Acad. Sci.*, **106**, 4997-5001.
- Seager, R., A. Tzanova and J. Nakamura 2009: Drought in the southeastern United States: Causes, variability over the last millennium and the potential for near future hydroclimate change. *J. Climate*, **22**, 5021-5045.
- Stahle, D.W., E. R. Cook, J. Villanueva Diaz, F. K. Fye, D. J. Burnette, R. D. Griffin, R. Acuña-Soto, R. Seager and R. R. Heim, 2009: Early 21st Century drought in Mexico. EOS Transactions of the American Geophysical Union, **90**, 89-90.
- Ting, M., Y. Kushnir, R. Seager, C. Li, 2009: Forced and internal 20th Century SST changes in the North Atlantic. *J. Climate*, **22**, 1469-1481.
- Karneuskas, K., R. Seager, A. Kaplan, Y. Kushnir and M. A. Cane, 2009: Observed strengthening of the zonal sea surface temperature gradient across the equatorial Pacific Ocean, *J. Climate*, **22**, 4316-4321.
- Seager, R., M. Ting, M. Davis, M. Cane, N. Naik, J. Miller, C. Li, E.R. Cook and D.W. Stahle, 2009: Mexican drought: An observational, modeling and tree ring reconstruction study of variability and climate change. *Atmosfera*, bf 22, 1-31.
- Cook, B., R. Miller and R. Seager, 2008: Dust and sea surface temperature forcing of the 1930s 'Dust Bowl' drought. *Geophys. Res. Lett.*, **35**, doi:10.1029/2008GL033486.
- Seager, R., R. Burgman, Y. Kushnir, A. C. Clement, E. R. Cook, N. Naik and J. Miller, 2008: Tropical Pacific forcing of North American Medieval megadroughts; Testing the concept with an atmosphere model forced by coral-reconstructed SSTs *J. Climate*, bf 21, 6175-6190.
- Seager, R., Y. Kushnir, M. Ting, M. Cane, N. Naik and J. Miller, 2008: Would advance knowledge of 1930s SSTs have allowed prediction of the Dust Bowl drought? *J. Climate*, **21**, 3261-3281
- Emile-Geay, J., R. Seager, M. A. Cane. G. H. Haug and E. R. Cook 2008: Volcanoes and ENSO over the last millennium, *J. Climate.*, **21**, 3134-3138.
- Herweijer, C. and R. Seager, 2008: The global footprint of persistent extra-tropical drought in the instrumental era. *Int. J. Climatol.*, , doi:10.1002/joc.1590.
- Murtugudde, R., R. Seager and P. Thoppil, 2008: Arabian Sea response to monsoon variations. *Paleoceanogr.*, bf 22, doi:10.1029/2007PA001467.
- Seager, R., M. Ting, I. M. Held, Y. Kushnir, J. Lu, G. Vecchi, H.-P. Huang, N. Harnik, A. Leetmaa, N.-C. Lau, C. Li, J. Velez and N. Naik, 2007: Model projections of an imminent transition to a more arid climate in southwestern North America, *Science*, **316**, 1181-1184.
- Seager, R., N. E. Graham, C. Herweijer, A. Gordon, Y. Kushnir and E. Cook, 2007: Blueprints for Medieval hydroclimate. *Quat. Sci. Rev.*, **26**, 2322-2336.
- Emile-Geay, J., M.A. Cane, R. Seager, A. Kaplan and P. Almasi, 2007: El Niño as a mediator of the solar influence on climate, *Paleoceanogr.*, **22**, doi:10.1029/2006PA001304.
- Seager, R., 2007: The turn of the century North American drought: Global context, dynamics and past analogues. *J. Climate*, **20**, 5527-5552.

- Herweijer, C., R. Seager and E. R. Cook, 2007: North American droughts of the last millennium from a gridded network of tree ring data. *J. Climate*, **20**, 1353-1376.
- Cook, E.R., R. Seager, M.A. Cane and D. W. Stahle, 2007: North American droughts: reconstructions, causes and consequences. *Earth Sci. Rev.*, **81**, 93-134.
- Seager, R. and D. S. Battisti, 2007: Challenges to our understanding of the general circulation: Abrupt climate change. *The General Circulation of the Atmosphere*, T. P. Schneider and A.S. Sobel, Eds., Princeton University Press, pp 331-371.
- Herweijer, C., R. Seager and E. R. Cook, 2006: North American Droughts of the mid to late Nineteenth Century: A history, model simulation and implications for Medieval megadrought. *The Holocene*, **16**, 159-171.
- Huang, H.-P., R. Seager and Y. Kushnir, 2005: The 1976/77 transition in precipitation over the Americas and the influence of tropical SST. *Clim. Dyn.*, **24**, 721-740.
- Seager, R., Y. Kushnir, C. Herweijer, N. Naik and J. Velez, 2005: Modeling of tropical forcing of persistent droughts and pluvials over western North America: 1856-2000. *J. Climate*, **18**, 4068-4091.
- Clement, A. C., R. Seager and R. Murtugudde, 2005: Why are there tropical warm pools? *J. Climate*, **18**, 5294-5311.
- Hazeleger, W., C. Severeijns. R. Seager and F. Molteni, 2005: Tropical Pacific-driven decadal energy transport variability. *J. Climate*, **18**, 2037-2051.
- Herweijer, C., R. Seager and M. Winton, 2005: Why ocean heat transport warms the global mean climate. *Tellus*, **57A**, 662-675.
- Seager, R., W. A. Robinson, N. Harnik, Y. Kushnir, M. Ting, H. Huang and J. Velez, 2005: Mechanisms of ENSO-forcing of hemispherically symmetric precipitation variability. *Q. J. Royal. Meteorol. Soc.*, **131**, 1501-1527.
- Karspeck, A., R. Seager and M. Cane, 2004: Predictability of tropical Pacific decadal variability in an intermediate model. *J. Climate*, **17**, 2842-2850.
- Seager, R., A. Karspeck, M. Cane, Y. Kushnir, A. Giannini, A. Kaplan, B. Kerman and J. Miller, 2004: Predicting Pacific decadal variability, In *Earth Climate: The ocean-atmosphere interaction*, C. Wang, S.-P. Xie and J. A. Carton, Eds., 105-120.
- Hazeleger, W., R. Seager, M. A. Cane and N. Naik, 2004: How can tropical Pacific ocean heat transport vary? *J. Phys. Oceanogr.*, **24**, 320-333.
- Seager, R., R. Murtugudde, A. C. Clement and C. Herweijer, 2003: Why is there an evaporation minimum at the Equator? *J. Climate*, **16**, 3792-3801.
- Seager, R., N. Harnik, Y. Kushnir, W. A. Robinson and J. Miller, 2003: Mechanisms of hemispherically symmetric climate variability. *J. Climate*, **16**, 2960-2978.
- Seager, R., R. Murtugudde, N. Naik, A. Clement, N. Gordon and J. Miller, 2003: Air-sea interaction and the seasonal cycle of the subtropical anticyclones. *J. Climate*, **16**, 1948-1966.
- Kushnir, Y., R. Seager, J. Miller and J. Chiang, 2002: A simple model of tropical Atlantic decadal climate variability. *Geophys. Res. Letters*, **29**, 10.1029/2002GLO15874.
- Greene, A. M., Seager, R. and W. S. Broecker, 2002: Tropical snowline depression at the Last Glacial Maximum: comparison of coral and groundwater records. *J. Geophys. Res.-Atmospheres*, 10.1029/2001JD000670.
- Seager, R., D. Battisti, J. Yin, N. Naik, N. Gordon, A. C. Clement and M. A. Cane, 2002: Is the Gulf Stream responsible for Europe's mild winters?. *Quart J. Royal Meteor. Soc.*, **128**, 2563-2586.

- Seager, R., Y. Kushnir, N. Naik, M. A. Cane and J. Miller 2001: Wind-driven shifts in the latitude of the Kuroshio-Oyashio extension and generation of SST anomalies on decadal timescales. *J. Climate*, **14**, 4249-4265.
- Clement, A. C., M. A. Cane and R. Seager, 2001: An orbitally forced tropical trigger for abrupt climate change. *J. Climate*, **14**, 2369-2375.
- Giannini, A., J. C. H. Chiang, M. A. Cane, Y. Kushnir and R. Seager, 2001: The ENSO teleconnection to the tropical Atlantic Ocean: contributions of the remote and local SSTs to rainfall variability in the tropical Americas. *J. Climate*, **14**, 4530-4544.
- Seager, R., Y. Kushnir, P. Chang, N. Naik, J. Miller and W. Hazeleger, 2001: Looking for the role of the ocean in tropical Atlantic decadal climate variability. *J. Climate*, **14**, 638-655.
- Hazeleger, W., R. Seager, M. Visbeck, N. Naik and K. Rodgers, 2001: On the impact of the mid-latitude stormtrack on the upper Pacific. *J. Phys. Oceanogr.*, **31**, 616-636.
- Clement, A. C., R. Seager and M. A. Cane, 2000: Suppression of El Niño during the mid-Holocene by changes in the Earth's orbit. *Paleoceanogr.*, **15**, 731-737.
- Seager, R., Y. Kushnir, M. Visbeck, N. Naik, J. Miller, G. Krahnemann and H. Cullen, 2000: Causes of Atlantic Ocean climate variability between 1958 and 1998. *J. Climate*, **13**, 2845-2862.
- Seager R., Clement, A. C. and M. A. Cane, 2000: Glacial cooling in the tropics: exploring the roles of tropospheric water vapor, surface wind speed and boundary layer processes. *J. Atmos. Sci.*, **57**, 2144-2157.
- Clement, A. C., R. Seager and M. A. Cane, 1999: Orbital controls on ENSO and the tropical climate. *Paleoceanogr.*, **14**, 441-456.
- Clement, A. C. and R. Seager, 1999: Climate and the tropical oceans. *J. Climate*, **12**, 3383-3401.
- Clement, A. C., M. A. Cane and R. Seager, 1998: Patterns and mechanisms of Twentieth Century climate change. *World Resource Review*, **10**, 161-185.
- Cane, M. A., A. C. Clement, A. Kaplan, Y. Kushnir, R. Murtugudde, D. Pozdnyakov, R. Seager and S. E. Zebiak, 1997: Twentieth century sea surface temperature trends. *Science*, **275**, 957-960.
- T. Stockdale, A. J. Busalacchi, D. E. Harrison and R. Seager, 1998: Ocean modeling of ENSO. *J. Geophys. Res.*, **103**, 14325-14355.
- R. Seager and R. Murtugudde, 1997: Ocean dynamics, thermocline adjustment and regulation of tropical SST. *J. Climate*, **10**, 521-534.
- A. C. Clement, R. Seager, M. A. Cane and S. E. Zebiak, 1996: An ocean dynamical thermostat. *J. Climate*, **9**, 2190-2196.
- R. Murtugudde, R. Seager and A. J. Busalacchi, 1996: Simulation of the tropical oceans with an ocean GCM coupled to an atmospheric mixed layer model. *J. Climate*, **9**, 1795-1815.
- R. Seager, Y. Kushnir and M. A. Cane, 1995: On heat flux boundary conditions for ocean models. *J. Phys. Oceanogr.*, **12**, 3219-3230.
- R. Seager, M. B. Blumenthal and Y. Kushnir, 1995: An advective atmospheric mixed layer model for ocean modeling purposes: Global simulation of surface heat fluxes. *J. Climate*, **8**, 1943-1957.

- Seager, R. and Zebiak, S. E., 1995: Simulation of tropical climate with a linear primitive equation model. *J. Climate*, **8**, 2497-2520.
- Seager, R. and M. B. Blumenthal, 1994: Modeling tropical Pacific sea surface temperature with satellite derived solar radiative forcing. *J. Climate*, **7**, 1943-1957.
- Seager, R. and Zebiak, S. E., 1994: Convective interaction with dynamics in a linear primitive equation model. *J. Atmos. Sci.*, **51**, 1307-1331.
- Seager, R., 1991: A simple model of the climatology and variability of the low level wind field in the tropics. *J. Climate*, **4**, 164-179.
- Seager, R., 1989: Modeling tropical Pacific sea surface temperature: 1970-1987. *J. Phys. Oceanogr.*, **19**, 419-434.
- Seager, R., Zebiak, S. E. and Cane, M. A., 1988: A model of the tropical Pacific sea surface temperature climatology. *J. Geophys. Res.*, **93**, 1265-1280.