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Personal information

Citizenship: United Kingdom of Great Britain and Northern Ireland.
Birthdate: March 18 1962.
US Permanent Resident

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 present. Doherty Senior Research Scientist at Lamont Doherty Earth Observatory of Columbia University, Palisades, New York.

Professional service

US CLIVAR drought working group member 2006 to present.

Contributing author for Climate Change Science Program Synthesis and Assessment Report, abrupt change panel (ongoing).

Associate Editor, *Quarterly Journal of the Royal Meteorological Society* (2005 to present)

Member of the American Meteorological Society Committee on Tropical Meteorology and Hurricanes (1995 to 1999).

Member of the CLIVAR Pacific panel (1999 to 2001)

Reviewed numerous articles for *Journal of Climate*, *Journal of Geophysical Research-Oceans*, *Journal of Physical Oceanography*, *Journal of Atmospheric Sciences*, *Quarterly Journal of the Royal Meteorological Society*, *Climate Dynamics*, *Geophysical Research Letters*, *Geology*, *Atmosphere-Ocean* and for the National Academy of Sciences. Reviewed proposals for NOAA Office of Global Programs (also served on review panel), NASA, NSF, Canadian Foundation for Atmospheric Sciences.

Awards Awarded a 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 New York Academy of Sciences
Member of The American Meteorological Society.
Member of the AMS Committee on Tropical Meteorology and Hurricanes (1995 to 1999).

Popular articles

- R. Seager, 2003: Gulf Stream, la fin d'un mythe. *La Recherche*, **361**, 40-45 (In French).
- R. Seager, 2006: The source of Europe's mild climate, *Am. Sci.*, **94**, 334-341.

Refereed publications

- Seager, R., R. Burgman, Y. Kushnir, A. C. Clement, E. R. Cook, N. Naik and J. Miller, 2007: Tropical Pacific forcing of North American Medieval megadroughts; Testing the concept with an atmosphere model forced by coral-reconstructed SSTs *J. Climate*, submitted.
- Seager, R., Y. Kushnir, M. Ting, M. Cane, N. Naik and J. Miller, 2007: Would advance knowledge of 1930s SSTs have allowed prediction of the Dust Bowl drought? *J. Climate*, submitted.
- Murtugudde, R., R. Seager and P. Thoppil, 2007: Arabian Sea response to monsoon variations. *Paleoceanogr.*, submitted.

- 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.
- Emile-Geay, J., R. Seager, M. A. Cane, G. H. Haug and E. R. Cook 2007: Volcanoes and ENSO over the last millennium, *J. Climate*, submitted.
- Seager, R., N. E. Graham, C. Herweijer, A. Gordon, Y. Kushnir and E. Cook, 2006: Blueprints for Medieval hydroclimate. *Quat. Sci. Rev.*, in press.
- Emile-Geay, J., M.A. Cane, R. Seager, A. Kaplan and P. Almasi, 2007: ENSO as a mediator for the solar influence on climate, *Paleoceanogr.*, in press.
- Seager, R., 2007: The turn of the century North American drought: Global context, dynamics and past analogues. *J. Climate*, in press.
- 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.
- Herweijer, C. and R. Seager, 2007: The global footprint of persistent extra-tropical drought in the instrumental era. *Int. J. Climatol.*, in press.
- 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.
- 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.
- 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 and N. Naik, 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. Severijns, 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. Krahnmann 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.

Selected unrefereed publications

(only those containing material not covered in referred publications)

Seager, R. and Zebiak, S. E., 1997: Coupling between clouds, radiation, convection and surface fluxes in a tropical climate model. Proceedings of the 22nd conference on Hurricanes and Tropical Meteorology, May 19-23, 1997, pp 563-564.

Seager, R. 1990: Analysis of surface heat flux using tropical ocean models. World Climate Research Program Report on meeting of WOCE Ocean Surface Layer Committee at Florida State University, March 1990.

Seager, R., Zebiak, S. E., Cane, M. A. and Blumenthal, M. B. 1989: Modeling the seasonal cycle of the tropical Pacific and Atlantic Oceans. World Climate Research Program Report 24.