

# Ron L. Miller

## Education

B.S. with Honor in Geophysics, 1982: California Institute of Technology, Pasadena, CA.

Ph.D. in Meteorology, 1990: Massachusetts Institute of Technology, Cambridge, MA.

Thesis title: *Topics in Shear Instability: Viscous Destabilization of Stratified Flow & Organization of Rainfall by an Unstable Jet Aloft*, supervised by Prof. R. S. Lindzen.

## Employment

November 1990–January 1993: Post-doctoral Officer of Research, Columbia University and NASA Goddard Institute for Space Sciences.

February 1993–May 1999: Associate Research Scientist, Dept. of Applied Physics and Applied Math, Columbia University.

June 1999–present: Physical Scientist, NASA Goddard Institute for Space Sciences.

September 2001–present: Adjunct Professor, Dept. of Applied Physics and Applied Math, Columbia University.

## Professional Activities

Invited Reviewer of the IPCC Fourth Assessment Report. Lead Author for Synthesis and Assessment Product 3.1 ('Climate Models and Their Uses and Limitations') of the U.S. Climate Change Science Program.

Doctoral thesis supervisor for two students at Columbia University. Committee member for seven other doctoral students. Taught graduate course on 'Tropical Meteorology' (EESC G6928y) in the Dept. of Earth and Environmental Sciences, Columbia University.

## Selected Publications

Miller, R. L., Tropical thermostats and low cloud cover, *J. Climate*, 10, 409–440, 1997.

Miller, R. L., and I. Tegen, Climate response to soil dust aerosols, *J. Climate*, 11, 3247–3267, 1998.

Shindell, D. T., R. L. Miller, G. Schmidt, and L. Pandolfo, Simulation of the Arctic Oscillation trend by greenhouse forcing of a stratospheric model, *Nature*, 399, 452–455, 1999.

Cakmur, R., R. L. Miller, and O. Torres, Incorporating the effect of small-scale circulations upon dust emission in an atmospheric general circulation model, *J. Geophys. Res.*, 109, D07201, doi:10.1029/2003JD4067, 2004.

Miller, R. L., J. Perlwitz, and I. Tegen, Feedback by dust radiative forcing upon dust emission through the planetary boundary layer, *J. Geophys. Res.*, 109(D24), D24209, doi:10.1029/2004JD004912, 2004.

Cakmur, R. V., R. L. Miller, J. Perlwitz, D. Koch, I. V. Geogdzhayev, P. Ginoux, I. Tegen, and C. S. Zender, Constraining the global dust emission and load by minimizing the difference between the model and observations, *J. Geophys. Res.*, 111, D06207, doi:10.1029/2005JD005791, 2006.

Miller, R. L., R. V. Cakmur, J. Perlwitz, I. V. Geogdzhayev, P. Ginoux, D. Koch, K. E. Kohfeld, C. Prigent, R. Ruedy, G. A. Schmidt, and I. Tegen, Mineral dust aerosols in the NASA Goddard Institute for Space Studies ModelE AGCM, *J. Geophys. Res.*, 111, D06208, doi:10.1029/2005JD005796, 2006a.

Miller, R. L., G. A. Schmidt, and D. T. Shindell, Forced annular variations in the 20th century Intergovernmental Panel Climate Change Fourth Assessment Report models, *J. Geophys. Res.*, 111, D18101, doi:10.1029/2005JD006323, 2006b.

Cook, B. I., R. L. Miller, and R. Seager, Dust and sea surface temperature forcing of the 1930s "dust bowl" drought, *Geophys. Res. Lett.*, 35, L08710, doi:10.1029/2008GL033486, 2008.

Xian, P., and R. L. Miller, Abrupt seasonal migration of the ITCZ into the summer hemisphere, *J. Atmos. Sci.*, (in press, available from <http://pubs.giss.nasa.gov/authors/pxian.html>), 2008.