

Richard A. Houghton
The Woods Hole Research Center
P.O. Box 296
Woods Hole, Massachusetts 02543
Tel: (508) 540-9900; Fax: (508) 540-9700

Education

1965 B.A. Biology, Hamilton College
1979 Ph.D. Ecology, S.U.N.Y., Stony Brook

Research Interests

Employment History

1989-present Senior Scientist, Woods Hole Research Center, Woods Hole, Massachusetts
1993-1994 Visiting Senior Scientist, Office of Mission to Planet Earth, NASA, Wash., D.C.
1987-1989 Associate Scientist, Woods Hole Research Center, Woods Hole, MA
1984-1987 Associate Scientist., Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA
1975-1984 Res. Assoc., Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA
1967-1974 Research Associate, Biology Department, Brookhaven National. Lab., Upton, NY

Professional Service/Activities

Marquis Who's Who in America
Honorary Doctorate from the Faculty of Forest Science, University of Munich
Associate Editor, *Environmental Reviews*
National Technical Advisory Committee for NIGEC
Landsat Pathfinder Science Working Group
Member - Ecological Society of America
Member - American Geophysical Union
Member - Sigma Xi

Publications

- Houghton, R.A. 1999. The annual net flux of carbon to the atmosphere from changes in land use 1850-1990. *Tellus* 51B:298-313.
- Houghton, R.A., J.L. Hackler and K.T. Lawrence. 1999. The U.S. carbon budget: contributions from land-use change. *Science* 285:574-578.
- Houghton, R.A. 2000. Emissions of carbon from land-use change. Pages 63-76 in: *The Carbon Cycle* (T.M.L. Wigley and D.S. Schimel, editors), Cambridge University Press, New York, NY.
- Houghton, R.A. and J.L. Hackler. 2000. Changes in terrestrial carbon storage in the United States. 1. The roles of agriculture and forestry. *Global Ecology and Biogeography* 9:125-144.

- Houghton, R.A., J.L. Hackler and K.T. Lawrence. 2000. Changes in terrestrial carbon storage in the United States. 2. The role of fire and fire management. *Global Ecology and Biogeography* 9:145-170.
- Noble, I., M. Apps, R. Houghton, D. Lashof, W. Makundi, D. Murdiyarso, B. Murray, W. Sombroek and R. Valentini. 2000. Implications of different definitions and generic issues. Pages 53-126 in: R.T. Watson, I.R. Noble, B. Bolin, N.H. Ravindranath, D.J. Verardo and D.J. Dokken (editors). *Land Use, Land-Use Change, and Forestry. A Special Report of the IPCC*. Cambridge University Press, New York.
- Houghton, R.A. and J.L. Hackler. 2001. Carbon Flux to the Atmosphere from Land-Use Changes: 1850 to 1990. ORNL/CDIAC-131, NDP-050/R1. Carbon Dioxide Information Analysis Center, U.S. Department of Energy, Oak Ridge National Laboratory, Oak Ridge, Tennessee, U.S.A.
- Pacala, S.W., G.C. Hurtt, D. Baker, P. Peylin, R.A. Houghton, R.A. Birdsey, L. Heath, E.T. Sundquist, R.F. Stallard, P. Ciais, P. Moorcroft, J.P. Caspersen, E. Shevliakova, B. Moore, G. Kohlmaier, E. Holland, M. Gloor, M.E. Harmon, S.-M. Fan, J.L. Sarmiento, C.L. Goodale, D. Schimel and C.B. Field. 2001. Consistent land- and atmosphere-based U.S. carbon sink estimates. *Science* 292:2316-2320.
- Schimel, D.S., J.I. House, K.A. Hibbard, P. Bousquet, P. Ciais, P. Peylin, B.H. Braswell, M.J. Apps, D. Baker, A. Bondeau, J. Canadell, G. Churkina, W. Cramer, A.S. Denning, C.B. Field, P. Friedlingstein, C. Goodale, M. Heimann, R.A. Houghton, J.M. Melillo, B. Moore III, D. Murdiyarso, I. Noble, S.W. Pacala, I.C. Prentice, M.R. Raupach, P.J. Rayner, R.J. Scholes, W.L. Steffen and C. Wirth. 2001. Recent patterns and mechanisms of carbon exchange by terrestrial ecosystems. *Nature* 414:169-172.
- DeFries, R.S., R.A. Houghton, M.C. Hansen, C.B. Field, D. Skole and J. Townshend. 2002. Carbon emissions from tropical deforestation and regrowth based on satellite observations for the 1980s and 90s. *Proceedings of the National Academy of Sciences* 99:14256-14261.
- Goodale, C.L., M.J. Apps, R.A. Birdsey, C.B. Field, L.S. Heath, R.A. Houghton, J.C. Jenkins, G. H. Kohlmaier, W. Kurz, S. Liu, G.-J. Nabuurs, S. Nilsson and A.Z. Shvidenko. 2002. Forest carbon sinks in the northern hemisphere. *Ecological Applications* 12:891-899.
- Houghton, R.A. 2002. Magnitude, distribution and causes of terrestrial carbon sinks and some implications for policy. *Climate Policy* 2:71-88.
- Hurtt, G.C., S.W. Pacala, P.R. Moorcroft, J. Caspersen, E. Shevliakova, R.A. Houghton and B. Moore III. 2002. Projecting the future of the U.S. carbon sink. *Proceedings of the National Academy of Sciences* 99:1389-1394.
- Houghton, R.A. 2003. Revised estimates of the annual net flux of carbon to the atmosphere from changes in land use and land management 1850-2000. *Tellus* 55B:378-390.
- Houghton, R.A. 2003. Why are estimates of the terrestrial carbon balance so different? *Global Change Biology* 9:500-509.
- Houghton, R.A. and J.L. Hackler. 2003. Sources and sinks of carbon from land-use change in China. *Global Biogeochemical Cycles* 17(2):1034.
- House, J.I., I.C. Prentice, N. Ramankutty, R.A. Houghton and M. Heimann. 2003. Reconciling apparent inconsistencies in estimates of terrestrial CO₂ sources and sinks. *Tellus* 55B:345-363.