Forrest M. Hoffman

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1 Professional Preparation

University of Tennessee, Knoxville	Physics	B.S. 1991
University of Tennessee, Knoxville	Physics	M.S. 2004

2 Appointments

Oak Ridge National Laboratory (ORNL)/UT-Battelle, LLC, MS 6016, Oak Ridge, Tennessee 37831–6016: Develops and implements serial and parallel scientific models used in environmental analyses and predictions. Develops supporting software tools for visualization, analysis, and publication of scientific data and information. Performs systems analysis and design for the Atmospheric Radiation Measurement (ARM) Archive. Develops and impelements Internet technologies for the U.S. Global Change Data and Information System (GCDIS), the U.S. National Assessment, and Project NOPP Drifters. Requires knowledge of Unix systems, the X Window System, HTML, JavaScript, CGI, C, FORTRAN, computer and network security, computer programming, and modeling and visualization techniques. Currently serving on the ORNL Scientific Computing User Advisory Committee, the ORNL IBM SP2 Access Committee, the ORNL Internet Technologies Working Group (ITWG), the ORNL Secure On-Line Facilities Development Group, and the ESD Electronic Communications Committee (11/1993–present).

Linux Magazine: Contributing editor and columnist for "Extreme Linux" column (01/2002–10/2006).

University of Tennessee, Department of Geological Sciences, Knoxville, Tennessee 37996: Performed scientific software development, system administration, systems programming, and management of several Unix-based workstations and minisupercomputers in the Earth Sciences Modeling Center of Oak Ridge National Laboratory's Environmental Sciences Division. Developed and modified scientific models and tools used in environmental analyses, including numerical models and visualization systems used to model and analyze environmental data (7/1992–11/1993).

Automated Sciences Group, Inc., 800 Oak Ridge Turnpike, Oak Ridge, Tennessee 37830: Knowledge Engineer for Hydrogeochemical Expert System Project at Oak Ridge National Laboratory. Responsible for software design and development for contaminant transport modeling and Unix system administration and programming. Proficiency in knowledge engineering, knowledge representation, programming languages, and scientific modeling techniques required (5/1989–6/1992).

Oak Ridge Associated Universities (ORAU), Oak Ridge, Tennessee 37830: Science and Engineering Research and Professional Intern for Hydrogeochemical Expert System Project at Oak Ridge National Laboratory (9/1988–5/1989).

National Center for Atmospheric Research, Mauna Loa Solar Observatory, Hilo, Hawai'i 96721–0425: Operator of K-Coronameter, Prominence Monitor, and Calcium Variability Monitor. Performed scientific data collection and management, operated multiple computer systems and telescope control systems at high altitude observatory (1987–9/1988).

Selected Publications

Silvia Kloster, Natalie M. Mahowald, James T. Randerson, Peter E. Thornton, Forrest M. Hoffman, Samuel Levis, Peter J. Lawrence, Johan J. Feddema, Keith W. Oleson, and David M. Lawrence. Fire dynamics during the 20th century simulated by the Community Land Model. *Biogeosci.*, 7(6):1877–1902, June 2010. doi:10.5194/bg-7-1877-2010.

James T. Randerson, Forrest M. Hoffman, Peter E. Thornton, Natalie M. Mahowald, Keith Lindsay, Yen-Huei Lee, Cynthia D. Nevison, Scott C. Doney, Gordon Bonan, Reto Stöckli, Curtis Covey, Steven W. Running, and Inez Y. Fung. Systematic assessment of terrestrial biogeochemistry in coupled climate-carbon models. *Global Change Biol.*, 15(10):2462–2484, October 2009. ISSN 1365-2486. doi:10.1111/j.1365-2486.2009.01912.x.

David J. Erickson III, Richard T. Mills, Jay Gregg, T. J. Blasing, Forrest M. Hoffman, Robert J. Andres, Matthew Devries, Z. Zhu, and S. R. Kawa. An estimate of monthly global emissions of anthropogenic CO_2: Impact on the seasonal cycle of atmospheric CO_2. *J. Geophys. Res.*, 113(G1):G01023, March 2008. doi:10.1029/2007JG000435.

Forrest M. Hoffman, Curtis C. Covey, Inez Y. Fung, James T. Randerson, Peter E. Thornton, Yen-Huei Lee, Nan A. Rosenbloom, Reto C. Stöckli, Steven W. Running, David E. Bernholdt, and Dean N. Williams. Results from the Carbon-Land Model Intercomparison Project (C-LAMP) and availability of the data on the Earth System Grid (ESG). *J. Phys.: Conf. Ser.*, 78(1):012026, December 2007. doi: 10.1088/1742-6596/78/1/012026.

Robert E. Dickinson, Keith W. Oleson, Gordon Bonan, Forrest Hoffman, Peter Thornton, Mariana Vertenstein, Zong-Liang Yang, and Xubin Zeng. The Community Land Model and its climate statistics as a component of the Community Climate System Model. *J. Clim.*, 19(11):2302–2324, June 2006. doi: 10.1175/JCLI3742.1.

William W. Hargrove, Forrest M. Hoffman, and Paul F. Hessburg. Mapcurves: A quantitative method for comparing categorical maps. *J. Geograph. Syst.*, 8(2):187–208, July 2006. doi:10.1007/s10109-006-0025-x.

Forrest M. Hoffman, Mariana Vertenstein, Hideyuki Kitabata, and James B. White III. Vectorizing the Community Land Model (CLM). *Int. J. High Perf. Comput. Appl.*, 19(3):247–260, August 2005a. doi: 10.1177/1094342005056113.

Forrest M. Hoffman, William W. Hargrove, David J. Erickson, and Robert J. Oglesby. Using clustered climate regimes to analyze and compare predictions from fully coupled general circulation models. *Earth Interact.*, 9(10):1–27, August 2005b. doi:10.1175/EI110.1.

William W. Hargrove, Forrest M. Hoffman, and Rebecca A. Efroymson. A practical map-analysis tool for detecting potential dispersal corridors. *Landscape Ecol.*, 20(4):361–373, May 2005. doi: 10.1007/s10980-004-3162-y.

Michael A. White, Forrest Hoffman, William W. Hargrove, and Ramakrishna R. Nemani. A global framework for monitoring phenological responses to climate change. *Geophys. Res. Lett.*, 32(4):L04705, February 2005. doi:10.1029/2004GL021961.

Earl Saxon, Barry Baker, William Hargrove, Forrest Hoffman, and Chris Zganjar. Mapping environments at risk under different global climate change scenarios. *Ecol. Lett.*, 8(1):53–60, January 2005. doi: 10.1111/j.1461-0248.2004.00694.x.

William W. Hargrove and Forrest M. Hoffman. Potential of multivariate quantitative methods for delineation and visualization of ecoregions. *Environ. Manage.*, 34(Supplement 1):S39–S60, April 2004. doi: 10.1007/s00267-003-1084-0.

William W. Hargrove, Forrest M. Hoffman, and Paul M. Schwartz. A fractal landscape realizer for generating synthetic maps. *Conserv. Ecol.*, 6(1):2, February 2002. URL `http://www.consecol.org/vol6/iss1/art2/`. Part of Special Feature on Ralf Yorque Memorial Competition 2001.

William W. Hargrove, Forrest M. Hoffman, and Thomas Sterling. The do-it-yourself supercomputer. *Sci. Am.*, 265(2):72–79, August 2001. URL `http://www.sciam.com/article.cfm?articleID=000E238B-33EC-1C6F-84A9809EC588EF21`.