

CURRICULUM VITAE

January 27, 2011

NAME:

Wilfred M. Post III

ADDRESS:

Work: Environmental Sciences Division
Oak Ridge National Laboratory
P.O. Box 2008, Building 1509
Oak Ridge, Tennessee 37831-6335
Telephone: 865-576-3431; Fax: 865-574-2232
E-mail: wmp@ornl.gov

EDUCATION:

Allentown, Pennsylvania — public school system

University of Wisconsin, Madison, Wisconsin
B.S. 1971, Major: Mathematics
M.S. 1975, Major: Botany

University of Tennessee, Knoxville, Tennessee
Ph.D. 1978, Major: Ecology

EMPLOYMENT:

Graduate Teaching Assistant, University of Wisconsin, Madison, Wisconsin (1972–1975)

Field Assistant, U. S. Army Corps Engineers funded project - Vegetation of the Kickapoo Valley, University of Wisconsin, Madison, Wisconsin (Summers 1973, 1974)

Graduate Teaching Assistant, University of Tennessee, Knoxville, Tennessee (1975–1978)

Post Doctoral Fellow, University of Tennessee, Knoxville, Tennessee (1978–1980)

Research Associate, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee (1980–1985)

Research Staff Member, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee (1985–1998)

Senior Research Staff Member, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee (1998–present)

Adjunct-Associate Professor, Graduate Program in Ecology, University of Tennessee, Knoxville (1984–present)

AWARDS and HONORS:

1985

Technical Achievement Award - Publication, Martin Marietta Energy Systems

1986

Technical Achievement Award - Publication, Martin Marietta Energy Systems

1987

Excellence in Presentation of a Paper at the 1987 Annual Meeting, The Soil Science Society of America

Technical Achievement Award - Publication, Martin Marietta Energy Systems

1990

Technical Communication Award, Distinguished in Scholarly and Professional Articles (First Place), East Tennessee Chapter of the Society for Technical Communication

Award of Distinguished Technical Communication (First Place), International Technical Publications Competition, Society for Technical Communication

President's Award for Performance Improvement, Martin Marietta Energy Systems

1991

Technical Achievement Award - Publication, Martin Marietta Energy Systems

Technical Communication Award, Distinguished in Scholarly and Professional Articles (First Place), East Tennessee Chapter of the Society for Technical Communication

Award of Excellence in Technical Communication (Second Place), International Technical Publications Competition, Society for Technical Communication

1997

1996 Editors' Citation for Excellence in Refereeing for Global Biogeochemical Cycles, American Geophysical Union.

1998

Technical Communication Award, Achievement for Online Products (Third Place), Atlanta Chapter of the Society for Technical Communication

2002

Highly cited researcher in ecology/environment (in top 250 researchers in subject category based on citations from 1981-1999), ISI HighlyCited.com.

PUBLICATIONS: W. M. Post III**Books**

- DeAngelis, D. L., W. M. Post, and C. C. Travis. 1986. *Positive Feedback in Natural Systems*. Springer-Verlag. 290 pp.

Journals

- Post, W. M., and S. E. Riechert. 1977. Initial investigations into the structure of spider communities. I. Competitive effects. *Journal of Animal Ecology* **46**:729–749.
- DeAngelis, D. L., R. H. Gardner, J. B. Mankin, W. M. Post, and J. H. Carney. 1978. Energy flow and the number of trophic levels in ecological communities. *Nature* **273**:406–407.
- Travis, C. C., and W. M. Post. 1979. Dynamics and comparative static of mutualistic communities. *Journal of Theoretical Biology* **78**:553–571.
- DeAngelis, D. L., C. C. Travis, and W. M. Post. 1979. Persistence and stability of seed-dispersed species in a patchy environment. *Theoretical Population Biology* **16**:107–125.
- Post, W. M., and C. C. Travis. 1979. Quantitative stability in models of ecological communities. *Journal of Theoretical Biology* **79**:547–553.
- Travis, C. C., W. M. Post, D. L. DeAngelis, and J. Perkowski. 1980. Analysis of compensatory Leslie matrix models for competing species. *Theoretical Population Biology* **18**:16–30.
- Post, W. M., W. R. Emanuel, P. J. Zinke, and A. G. Stangenberger. 1982. Soil carbon pools and world life zones. *Nature* **298**:156–159.
- Post, W. M., D. L. DeAngelis, and C. C. Travis. 1983. Endemic disease in environments with spatially heterogeneous host populations. *Mathematical Biosciences* **63**:289–302.
- Post, W. M. and S. L. Pimm. 1983. Community assembly and food web stability. *Mathematical Biosciences* **64**:169–192.
- Emanuel, W. R., G. G. Killough, W. M. Post, and H. H. Shugart. 1984. Modeling terrestrial ecosystems in the global carbon cycle with shifts in carbon storage capacity by land-use change. *Ecology* **65**:970–983.
- Pastor, J., and W. M. Post. 1984. Calculating Thornthwaite and Mather's AET. *Canadian Journal of Forest Research* **14**:466–467.
- Post, W. M., J. Pastor, P. J. Zinke, and A. G. Stangenberger. 1985. Global patterns of soil nitrogen. *Nature* **317**:613–616.
- DeAngelis, D.L., J.C. Waterhouse, W.M. Post, and R.V. O'Neill. 1985. Ecological modeling and disturbance evaluation. *Ecological Modelling* **29**:399–419.
- DeAngelis, D. L., J. A. Kitchell, and W. M. Post. 1985. Influence of naticid predation on evolutionary strategies of bivalve prey: Conclusions from a model. *American Naturalist* **126**:817–842.
- Pastor, J., and W.M. Post. 1986. Influence of climate, soil moisture, and succession on forest carbon and nitrogen cycles. *Biogeochemistry* **2**:3–27.
- Dyer, M. I., D. L. DeAngelis, and W. M. Post. 1986. A model of herbivore feedback on plant productivity. *Mathematical Biosciences* **79**:171–184.
- DeAngelis, D. L., J. A. Kitchell, and W. M. Post. 1987. Reply to Comito. *American Naturalist* **130**:458–460.

- Pastor, J., R. H. Gardner, V. H. Dale, and W. M. Post. 1988. Successional changes in nitrogen availability as a potential factor contributing to spruce declines in boreal North America. *Canadian Journal of Forest Research* **17**:1394–1400.
- Pastor, J., and W. M. Post. 1988. Response of northern forests to CO₂-induced climatic change: Dependence on soil water and nitrogen availabilities. *Nature* **334**:55–58.
- Huston, M., D. L. DeAngelis, and W. M. Post. 1988. New computer models unify ecological theory. *Bioscience* **38**:682–691.
- Cunningham, M., M. B. Adams, R. J. Luxmoore, W. M. Post, and D. L. DeAngelis. 1989. Length of root samples quickly estimated with a video image analyzer. *Canadian Journal of Forest Research* **19**:335–340.
- O'Neill, R. V., D. L. DeAngelis, J. Pastor, B. J. Jackson, and W. M. Post. 1989. Multiple nutrient limitations in ecological processes. *Ecological Modelling* **46**:147–163.
- Post, W. M., T.-H. Peng, W. R. Emanuel, A. W. King, V. H. Dale, and D. L. DeAngelis. 1990. The Global Carbon Cycle. *American Scientist* **78**:310–326.
- DeAngelis, D. L., W. M. Post, P. J. Mulholland, A. L. Steinman, and A. V. Palumbo. 1991. Nutrient limitation and the structure of food webs. *Ecology International Bulletin* **19**:15–28.
- Dale, V. H., R. L. A. Franklin, W. M. Post, and R. H. Gardner. 1991. Sampling ecological information: choice of sample size. *Ecological Modelling* **57**:1–10.
- King, A. W., W. R. Emanuel, and W. M. Post. 1992. Projecting future concentrations of atmospheric CO₂ with global carbon cycle models: The importance of simulating historical changes. *Environmental Management* **16**:91–108.
- Post, W. M., J. Pastor, A. W. King, and W. R. Emanuel. 1992. Aspects of the interaction between vegetation and soil under global change. *Water, Air, and Soil Pollution* **64**:345–363.
- Shugart, H. H., T. M. Smith, and W. M. Post. 1992. The potential for application of individual-based simulation models for assessing the effects of global change. *Annual Reviews of Ecology and Systematics* **23**:15–38.
- Pastor, J. and W. M. Post 1993. Linear regressions do not predict the transient responses of eastern North American forests to CO₂-induced climate change. *Climatic Change* **23**:111–119.
- King, A. W., W. R. Emanuel, S. D. Wullschleger, and W. M. Post. 1995. In search of the missing carbon sink: A model of terrestrial biospheric response to land-use and atmospheric CO₂. *Tellus* **47B**:501-519.
- Harrison, K. G., W. M. Post, and D. D. Richter 1995. Soil carbon turnover in a recovering temperate forest. *Global Biogeochemical Cycles* **9**:229-254.
- Post, W. M., and J. Pastor 1996. LINKAGES - An individual-based forest ecosystem model. *Climatic Change* **34**:253–261.
- Post, W. M., A. W. King, and S. D. Wullschleger 1997. Historical variations in terrestrial biospheric carbon storage. *Global Biogeochemical Cycles* **11**:99–109.
- King, A. W., W. M. Post, and S. D. Wullschleger 1997. The potential response of terrestrial carbon storage to changes in climate and atmospheric CO₂. *Climatic Change* **35**:199–227.
- Paustian, K., E. Levine, W. M. Post, and I. M. Ryzhova 1997. The use of models to integrate information and understanding of soil C at the regional scale. *Geoderma* **79**:227-260.
- IGBP Terrestrial Carbon Working Group 1998. The terrestrial carbon cycle: Implications for the Kyoto Protocol. *Science* **280**:1393-1394.

- Garten, C. T., W. M. Post, P. J. Hanson, and L. W. Cooper. 1999. Forest soil carbon inventories and dynamics along an elevation gradient in the southern Appalachian Mountains. *Biogeochemistry* **45**:115-145.
- Adams, J. M. and W. M. Post 1999. A preliminary estimate of changing calcrete carbon storage on land since the last glacial maximum. *Global and Planetary Change* **20**:243-256.
- Post, W. M., and K. C. Kwon. 2000. Soil carbon sequestration and land-use change: processes and potential. *Global Change Biology* **6**:317-328.
- Garten, C. T., L. W. Cooper, W. M. Post, and P. J. Hanson 2000. Climate controls on forest soil C isotope ratios in the Southern Appalachian Mountains. *Ecology* **81**:1108-1119.
- Luxmoore, R. J., W. W. Hargrove, M. L. Tharp, W. M. Post, M. W. Berry, K. S. Minser, W. P. Cropper, D. W. Johnson, B. Zeide, R. L. Amateis, H. E. Burkhart, V. C. Baldwin, and K. D. Peterson 2000. Signal-transfer modeling for regional assessment of forest responses to environmental changes in the southeastern United States. *Environmental Modelling and Applications* **5**:125-137.
- Post, W.M., R.C. Izaurralde, L.K. Mann, and N. Bliss 2001. Monitoring and Verifying Changes of Organic Carbon in Soil. *Climatic Change* **51**:73-99.
- Luxmoore R.L., W. W. Hargrove, M.L. Tharp, W.M. Post, M.W. Berry, K.S. Minser, W.P. Cropper Jr., D.W. Johnson, B. Zeide, R.L. Amateis, H.E. Burkhart, V.C. Baldwin Jr. and K.D. Peterson 2002. Addressing multi-use issues in sustainable forest management with signal-transfer modeling. *Forest Ecology and Management* **165**:295-304.
- Kurbanov, E.A. and W.M. Post 2002. Changes in area and carbon in forests of the Middle Zavolgie: A regional case study of Russian forests. *Climatic Change* **55**:157-173.
- West, T.O. and W.M. Post 2002. Soil organic carbon sequestration rates by tillage and crop rotation: A global data analysis. *Soil Science Society of America Journal* **66**:1930-1946.
- Gu, L., W.M. Post, and A.W. King. 2003. Fast labile carbon turnover obscures sensitivity of heterotrophic respiration from soils to temperature: a model analysis. *Global Biogeochemical Cycles*, **18**, GB1022, doi:10.1029/2003GB002119.
- West, T.O., G. Marland, A.W. King, W.M. Post, A.K. Jain, and K. Andrasko 2004. Carbon management response curves: Estimates of temporal soil carbon dynamics. *Environmental Management* **33**:507-518.
- Marland, G., C.T. Garten Jr., W.M. Post, and T.O. West 2004. Studies on enhancing carbon sequestration. *Energy* **29**:1643-1650.
- Post W.M., R.C. Izaurralde, J.D. Jastrow, B.A. McCarl, J.E. Amonette, V.L. Bailey, P.M. Jardine, T.O. West, J. Zhou 2004. Carbon sequestration enhancement in U.S. soils. *BioScience* **54**:895-908.
- Harrison K.G., R.J. Norby, W.M. Post, E.L. Chapp 2004. Soil C accumulation in a white oak CO₂-enrichment experiment via enhanced root production. *Earth Interactions* **8**: 1-15.
- Tan, Z.X., R. Lal, R.C. Izaurralde, and W.M. Post 2004. Biochemically protected soil organic carbon at the North Appalachian Experimental Watershed. *Soil Science* **169**:423-433
- Kittel, T.G.F., N.A. Rosenbloom, J.A. Royle, C. Daly, W.P. Gibson, H.H. Fisher, P. Thornton, D. Yates, S. Aulenbach, C. Kaufman, R. McKeown, D. Bachelet, D.S. Schimel, and VEMAP2 Participants. 2004. The VEMAP Phase 2 bioclimatic database. I: A gridded historical (20th century) climate dataset for modeling ecosystem dynamics across the conterminous United States. *Climate Research* **27**:151-170.
- Johnston, C.A., P. Groffman, D.D. Breshears, Z.G. Cardon, W. Currie, W. Emanuel, J. Gaudinski, R.B. Jackson, K. Lajtha, K. Nadelhoffer, D. Nelson Jr., W.M. Post, G. Retallack, L.

- Wielopolski 2004. Carbon cycling in soil. *Frontiers in Ecology and the Environment* 2:522-528.
- Blanco-Canqui, H., R. Lal, L.B. Owens, W.M. Post and R.C. Izaurralde 2005. Strength properties and organic carbon of soils in the North Appalachian region. *Soil Science Society of America Journal* 69:663-673.
- Puget, P., R. Lal, C. Izaurralde, W.M. Post, and L. Owens 2005. Stock and distribution of total and corn-derived soil organic carbon in aggregate and primary particle fractions for different land use and soil management practices. *Soil Science* 170:256-279.
- Jain, A.K., T.O. West, X. Yang, and W.M. Post. 2005. Assessing the Impact of Changes in Climate and CO₂ on Potential Carbon Sequestration in Agricultural Soils. *Geophysical Research Letters* 32, L19711, doi:10.1029/2005GL023922.
- Thornton, P. E., R. B. Cook, B. H. Braswell, B. E. Law, W. M. Post, H. H. Shugart, B. T. Rhyne, L. A. Hook 2005, Archiving Numerical Models of Biogeochemical Dynamics, *Eos Trans. AGU*, 86(44), 431, 10.1029/2005EO440003.
- McLauchlan, K., S. E. Hobbie, and W. M. Post III. 2006. Conversion from agriculture to grassland builds soil organic matter on decadal timescales. *Ecological Applications* 16: 143- 153.
- King, A.W., C.A. Gunderson, W.M. Post, D.J. Weston, S.D. Wullschleger 2006. Plant respiration in a warmer world. *Science* 312:356-357.
- Blanco-Canqui, H., R. Lal, W.M. Post, R.C. Izaurralde, and L.B. Owens 2006. Corn stover impacts on near-surface soil properties of no-till corn in Ohio. *Soil Sci. Soc. Am. J.* 70(1): 266-278.
- Blanco-Canqui, H., R. Lal, W.M. Post, R.C. Izaurralde, and L.B. Owens 2006. Rapid changes in soil carbon and structural properties due to stover removal from no-till corn plots. *Soil Sci.* 171(6): 468-482.
- Blanco-Canqui, H., R. Lal, W.M. Post, R.C. Izaurralde, and M.J. Shipitalo 2006. Organic carbon influences on soil particle density and rheological properties. *Soil Sci. Soc. Am. J.* 70(4): 1407-1414.
- Blanco-Canqui, H., R. Lal, W.M. Post, and L.B. Owens 2006. Changes in long-term no-till corn growth and yield under different rates of stover mulch. *Agron. J.* 98(4): 1128-1136.
- Liu, Q., N.T. Edwards, W.M. Post, L. Gu, J. Ledford, and S. Lenhart 2006. Temperature-independent diel variation in soil respiration observed from a temperate deciduous forest. *Global Change Biology* 12:2136-2145, doi:10.1111/j.1365-2486.2006.01245.x
- Grace P.R., W.M. Post and K. Hennessy 2006. The potential impact of climate change on Australia's soil organic carbon resources. *Carbon Balance and Management* 1:14 doi:10.1186/1750-0680-1-14.
- Izaurralde, R.C., J.R. Williams, W.M. Post, A.M. Thomson, W.B. McGill, L.B. Owens, and R. Lal 2007. Long-term modeling of soil C erosion and sequestration at the small watershed scale. *Climatic Change.* 80:73-90.
- Luxmoore, R. J., M. L. Tharp and W. M. Post 2008. Simulated biomass and soil carbon of loblolly pine and cottonwood plantations across a thermal gradient in southeastern United States. *Forest Ecology and Management.* 254:291-299. doi:10.1016/j.foreco.2007.08.008
- Gu, L., P.J. Hanson, W.M. Post, D.P. Kaiser, B. Yang, R. Nemani, S.G. Pallardy, and T. Meyers 2008. The 2007 Eastern US spring freeze: Increase cold damage in a warming world? *Bioscience* 58:253-262.

- Ranatunga, K., R.J. Keenan, S.D. Wullschleger, W.M. Post, and M.L. Tharp 2008. Above-ground biomass and soil carbon stocks as influenced by harvest management practices in New South Wales, Australia: Simulations with the forest succession model LINKAGES. *Forest Ecology and Management* 255:2407–2415.
- Gu, L., P. J. Hanson, W. M. Post, and Q. Liu (2008), A novel approach for identifying the true temperature sensitivity from soil respiration measurements, *Global Biogeochem. Cycles*, 22, GB4009, doi:10.1029/2007GB003164.
- Liu, Q., L. Gu, R.E. Dickinson, Y. Tian, L. Zhou and W.M. Post 2008. Assimilation of Satellite Reflectance Data into a Dynamical Leaf Model to Infer Seasonally Varying Leaf Area for Climate and Carbon Models. *Journal of Geophysical Research-Atmospheres* 113, D19113, doi: 10.1029/2007JD009645.
- Yang, X., V. Wittig, A. Jain and W.M. Post 2009. Integration of nitrogen dynamics into a global terrestrial ecosystem model. *Global Biogeochemical Cycles* 23, 4, doi:10.1029/2009GB003474.
- Jain, A., X. Yang, H. Keshgi, A.D. McGuire, W.M. Post, and D. Kicklighter. 2009. Nitrogen attenuation of terrestrial carbon cycle to global environmental factors. *Global Biogeochemical Cycles* 23, 4, doi:10.1029/2009GB003519.
- West, T. O., C. C. Brandt, L. M. Baskaran, C. M. Hellwinckel, R. Mueller, C. J. Bernacchi, B. Bandaru, B. Yang, B. S. Wilson, G. Marland, R. G. Nelson, G. G. De La Torre Ugarte, and W. M. Post. 2010. Cropland carbon fluxes in the United States: Increasing geospatial resolution of inventory-based carbon accounting. *Ecological Applications* 20(4), 1074–1086.
- Garten, C. T., Jr., Smith, J. L., Tyler, D. D., Amonette, J. E., Bailey, V. L., Brice, D. J., Castro, H. F., Graham, R. L., Gunderson, C. A., Izaurralde, R. C., Jardine, P. M., Jastrow, J. D., Kerley, M. K., Matamala, R., Mayes, M. A., Metting, F. B., Miller, R. M., Moran, K. K., Post, W. M., Sands, R. D., Schadt, C. W., Phillips, J. R., Thomson, A. M., Vugteveen, T., West, T. O., Wullschleger, S. D. 2010. Intra-annual changes in biomass, carbon, and nitrogen dynamics at 4-year old switchgrass field trials in west Tennessee, USA. *Agriculture Ecosystems and Environment* 136(1-2):177-184.
- Chen, X, W.M. Post, R.J. Norby, A.T. Classen (in press) Modeling soil respiration and variations of source components using a multi-factor global climate change experiment. *Climatic Change* DOI 10.1007/s10584-010-9942-2.

Book Chapters

- Travis, C. C., W. M. Post, and D. L. DeAngelis. 1980. Infectious disease in a spatially heterogeneous environment. pp. 271–278. IN Amad, Kenner, and Lazer (eds.), *Differential Equations*. Academic Press, New York.
- Post, W. M., and C. C. Travis. 1981. Global stability in ecological models with continuous time delays. pp. 241–250. IN T. L. Herdman, S. M. Rankin, and H. W. Stech (eds.), *Functional Differential and Integral Equations*. Marcel Dekker, New York.
- DeAngelis, D. L., W. M. Post, and C. C. Travis. 1981. Self-organizing characteristics of ecological communities. IN G. Roth and H. Schweigler (eds.), *Self-Organizing Systems*. Campus Verlag, Frankfurt.
- Post, W. M., C. C. Travis, and D. L. DeAngelis. 1981. Evolution of mutualism between species. pp. 183–201. IN K. L. Cooke and S. Busenberg (eds.), *Differential Equations and Applications in Ecology, Epidemics, and Population Problems*. Academic Press, New York.

- DeAngelis, D. L., J. A. Kitchell, W. M. Post, and C. C. Travis. 1984. A Model of naticid gastropod predator-prey coevolution. IN S. A. Levin and T. A. Hallam (eds.), *Lecture Notes in Biomathematics, Vol. 54, Proceedings International Symposium on Math Ecology, Trieste, Italy, November 29 — December 10, 1982*. pp. 120–136. Springer Verlag, New York.
- Post, W. M., C. C. Travis, and D. L. DeAngelis. 1985. Mutualism, limited competition, and positive feedback. IN D. Boucher (ed.), *The Biology of Mutualism: Ecology and Evolution*. Croom-Helm, Edinburg. pp. 305–325.
- Peng, T.-H., W. M. Post, D. L. DeAngelis, V. H. Dale, and M. P. Farrell. 1989. Atmospheric carbon dioxide and the global carbon cycle: The key uncertainties. IN T. N. Verziroğlu, (ed.) pp. 707–728. *Alternative Energy Sources. VIII. Research and Development*. Hemisphere Publishing, New York.
- Peng, T.-H., W. M. Post, D. L. DeAngelis, V. H. Dale, and M. P. Farrell. 1990. Atmospheric carbon dioxide and the global carbon cycle: The key uncertainties. IN T. N. Verziroğlu, (ed.) pp. 17–38. *Environmental Problems and solutions: Greenhouse Effect, Acid Rain, Pollution*. Hemisphere Publishing, New York.
- Post, W. M. and Pastor, J. 1990. An individual-based forest ecosystem model for projecting forest response to nutrient cycling and climate changes. IN L. Wensel and G. Biging, (eds.), pp. 61–74. *Forest Simulation Systems: Proceedings of the IUFRO Conference, Berkeley, California, November 2–5, 1988*, University of California, Division of Agriculture and Natural Resources, Bulletin 1927, Berkeley.
- Post, W. M., and L. K. Mann 1990. Changes in soil organic carbon and nitrogen as a result of cultivation. IN A. F. Bouwman (ed.) *Soils and The Greenhouse Effect*. pp. 401–406. Wiley, New York.
- DeAngelis, D.L. and W.M. Post. 1991. Positive feedback and ecosystem organization. IN M. Higashi and T. P. Burns (eds.) *Theoretical Studies of Ecosystems: The Network Perspective*. pp. 155–178. Cambridge University Press, Cambridge.
- King, A. W., W. R. Emanuel, and W. M. Post. 1991. The response of atmospheric CO₂ to changes in land use. IN J. S. Levine (ed.) *Global Biomass Burning*. pp. 326–338. MIT Press, Cambridge Massachusetts.
- Post, W. M., F. Chavez, P. J. Mulholland, J. Pastor, T.-H. Peng, K. Prentice, and T. Webb III. (1992). Climate Feedbacks in the global carbon cycle. IN D. A. Dunnette, and R. J. O'Brien (eds.) *The Science of Global Change: The Impact of Human Activities on the Environment*. pp. 392–412. American Chemical Society, Washington, DC.
- Post, W. M. 1992. Uncertainties in the terrestrial carbon cycle. IN A. M. Solomon and H. H. Shugart, (eds.) *Vegetation Dynamics and Global Change*. pp. 116–132. Chapman and Hall, New York.
- Emanuel, W. R., King, A. W., and W. M. Post 1993. A dynamic model of terrestrial carbon cycling. IN M. Heimann, and G. Pearman, eds., *The Global Carbon Cycle*. Proceedings of the NATO Advanced Study Institute on the Global Carbon Cycle, Il Ciocco, Italy, September 8–20, 1991. NATO ASI Series 1: Global Environmental Change, Vol. 15, Springer-Verlag, Berlin.
- Post, W. M. 1993. Organic carbon in soils and the global carbon cycle. In M. Heimann and G. Pearman (eds.), *The Global Carbon Cycle*. Proceedings of the NATO Advanced Research Institute Workshop on the Global Carbon Cycle, El Ciocco, Italy, September 8–20, 1991. NATO ASI Series 1: Global Environmental Change, Vol. 15, Springer-Verlag, Berlin.
- Emanuel, W. R., A. W. King, and W. M. Post. 1994. Changes in atmospheric CO₂ concentration and the global carbon cycle. In N. E. Tolbert, and J. Preiss (eds.) *Regulation of*

Atmospheric CO₂ and O₂ by Photosynthetic Carbon Metabolism. pp. 37-54. Oxford University Press, New York.

- Wullschleger, S. D., W. M. Post and A. W. King 1995. On the potential for a CO₂ fertilization effect in forest trees: Estimates of the biotic growth factor based on 58 controlled-exposure studies. IN: (G. M. Woodwell and F. T. Mackenzie, eds.) *Biotic Feedbacks in the Global Climatic System*, Oxford University Press, Oxford.
- Post, W. M., D. Anderson, A. Dahmke, R. Houghton, A.-Y. Huc, R. Lassiter, R. Najjar, H.-U. Neue, T. Pederson, S. Trumbore, and R. Vaikmäe. 1995. Group Report: What is the role of NLOM cycling in the global scale. pp. 155-174. IN (R. Zepp, and Ch. Sonntag, eds.) *The Role of Nonliving Organic Matter in the Earth's Carbon Cycle*, John Wiley & Sons.
- Post, W. M., King, A. W., and S. D. Wullschleger 1996. Soil organic matter models and global estimates of soil organic carbon. pp. 201-222. IN (P. Smith, J. Smith and D. Powlson, eds.) *Evaluation of Soil Organic Matter Models Using Existing Long-Term Datasets*. Springer-Verlag, Berlin.
- Grace, P.R., Post, W.M., Godwin, D.C., Bryceson, K.P., Truscott, M.A. and Hennessy, K.J. 1998. Soil carbon dynamics in relation to soil surface management and cropping systems in Australian agroecosystems. pp. 175-194. IN (R. Lal, J.M. Kimble, R.F. Follett & B.A. Stewart eds.) *Management of carbon sequestration in soil. Advances in Soil Science*. CRC Press, New York.
- Post, W. M. 2002. Carbon Cycle. pp. 127-130. In (A.S. Gouldie, ed.) *Encyclopedia of Global Change: Environmental Change and Human Society*. Oxford University Press. New York, NY.
- Post, W.M. 2002. Global distribution of soil organic matter in world ecosystems. pp. 899-904. DOI:10.1081/E-ESS-120001792. IN (R. Lal, ed.) *Encyclopedia of Soil Science*, Marcel Dekker, Inc., New York, NY.
- Post, W.M. 2002. Impact of soil restoration, management, and land use history on forest soil carbon. In (J.M. Kimble, L.S. Heath, R.A. Birdsey, R. Lal, eds.) *The Potential of U.S. Forest Soils to Sequester Carbon and Mitigate the Greenhouse Effect*, CRC Press LLC., Boca Raton, Florida. pp. 191-199.
- Wullschleger S.D., Gunderson C.A., Tharp M.L., West D.C., Post W.M. 2003. Simulated patterns of forest succession and productivity as a consequence of altered precipitation. Chapter 25 In: Hanson PJ, Wullschleger SD, Eds, *North American Temperate Deciduous Forest Responses to Changing Precipitation Regimes*. Springer, New York, pp. 433-446.
- Gu, L., W. M. Post, D. Baldocchi, T. A. Black, S. B. Verma, T. Vesala, and S. C. Wofsy, 2003. Phenology of Vegetation Photosynthesis. Chapter 7.2 in *Phenology: An Integrated Environmental Science*, Mark D. Schwartz, Editor, Kluwer Academic Publishers.
- Marland, G., C.T. Garten, W.M. Post, and T.O. West 2003. CSiTE studies on carbon sequestration in soils. IN: Gale, J. and Y. Kaya, Eds., *Greenhouse Gas Control Technologies*. Elsevier Science Ltd., Oxford UK. pp. 1465-1470.
- Post, W.M., A.W. King 2005. Climate change and terrestrial ecosystem productivity. In: *Food Security and Global Climate Change* (R. Lal and B.A. Stewart eds.) Taylor and Francis Books. pp. 174-178.
- Gu L., W. M. Post, D. D. Baldocchi, T. A. Black, A. E. Suyker, S. Verma, T. Vesala, S. C. Wofsy, 2009. Characterizing the Seasonal Dynamics of Plant Community Photosynthesis Across a Range of Vegetation Type. In A. Noormets (ed.), *Phenology of Ecosystem Processes* (Springer, 2009).

- Cook, R.B., R.M. McCord, W.M. Post, L.A. Hook 2009. A conceptual framework for management of carbon sequestration data and models. In (B. McPherson and E. Sundquist, eds.) Carbon Sequestration and Its Role in the Global Carbon Cycle. American Geophysical Union, Geophysical Monograph Series 183. pp.325-333.
- Post, W.M., J.E. Amonette, R. Birdsey, C.T. Garten Jr., R.C. Izaurralde, P.M. Jardine, J. Jastrow, R. Lal, G. Marland, B.A. McCarl, A.M. Thomson, T.O. West, S.D. Wullschleger, and F.B. Metting 2009. Terrestrial Biological Carbon Sequestration: Science for Enhancement and Implementation. In (B. McPherson and E. Sundquist, eds.) Carbon Sequestration and Its Role in the Global Carbon Cycle. American Geophysical Union, Geophysical Monograph Series 183. pp.73-88.
- Post, W.M. 2010. Global distribution of soil organic matter in world ecosystems. The Encyclopedia of Environmental Management, Sven Erik Jorgensen Editor, Taylor & Francis Group, New York.

Proceedings

- Emanuel, W. R., W. M. Post, and H. H. Shugart. 1980. Modeling the role of terrestrial ecosystems in the global carbon cycle. IN *Proceeding of the 1980 Pittsburgh Conference on Modeling and Simulation*. Instrument Society of America, Pittsburgh, Pennsylvania.
- Post, W. M., P. L. Zinke, A. G. Stangenberger, W. R. Emanuel, H. Jenny, and J. S. Olson. 1982. Summaries of soil carbon storage in world life zones. pp. 131–139. IN S. Brown (ed.), *Global Dynamics of Biospheric Carbon*. U. S. Department of Energy, Washington, D.C.
- Emanuel, W. R., G. G. Killough, W. M. Post, and H. H. Shugart. 1982. Modeling terrestrial carbon cycling at the global scale. IN S. Brown (ed.), *Global Dynamics of Biospheric Carbon*. U. S. Department of Energy, Washington, D.C.
- DeAngelis, D. L., W. M. Post, and G. Sugihara. 1983. *Current Trends in Food Web Theory — Report on a Food Web Workshop*. ORNL–5983. Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Post, W. M. 1983. Dynamic patterns of randomly assembled food webs. IN D. L. DeAngelis, W. M. Post, and G. Sugihara (eds.), *Current Trends in Food Web Theory — Report on a Food Web Workshop*. ORNL–5983. Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Post, W. M., V. H. Dale, D. L. DeAngelis, L. K. Mann, P. J. Mulholland, R. V. O’Neill, T.-H. Peng, and M. P. Farrell 1991. Formulating energy policies related to fossil fuel use: Critical Uncertainties in the global carbon cycle. *Southeast Regional Climate Symposium, Global Change: A Southern Perspective*. pp. 77–95. February 19–22, 1990, Charleston, South Carolina. South Carolina Water Resources Commission, Columbia, South Carolina.
- Post, W. M., W. R. Emanuel, and A. W. King 1992. Soil organic matter dynamics and the global carbon cycle. pp. 107–119 IN: N. H. Batjes and E. M. Bridges, eds. *World Inventory of Soil Emission Potentials*. Proceedings of an International Workshop organized in the framework of the Netherlands National Research Programme on Global Air Pollution and Climate Change (NOP). WISE Report No. 2, International Soil Reference and Information Centre, Wageningen.
- King, A. W., W. R. Emanuel, and W. M. Post. 1993. A dynamic model of terrestrial carbon cycling response to land-use change. In M. Kanninen (ed.) *Carbon Balance of World’s Forested Ecosystems: Towards a Global Assessment*. Proceedings of a IPCC AFOS Workshop, Joensuu, Finland. The Finnish Research Programme on Climate Change, Academy of Finland, Helsinki.

Post, W.M., R.C. Izaurralde, L.K. Mann, and N. Bliss 1999. Monitoring and verifying soil organic carbon sequestration. pp. 41-66. In: (N. Rosenberg, R.C. Izaurralde, and E. L. Malone eds.) Carbon Sequestration in Soils: Science, Monitoring, and Beyond. Proceeding of the St. Michaels Workshop, December 1998. Battelle Press, Columbus.

Other

Post, W. M., H. H. Shugart, D. L. DeAngelis. 1978. *Stability criteria for Multispecies Communities*. ORNL/TM-6475. Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Carney, J. H., D. L. DeAngelis, R. H. Gardner, J. B. Mankin, and W. M. Post. 1981. *Calculation of probabilities of transfer, recurrence intervals, and positional indices for linear compartment models*. ORNL/TM-7379. Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Emanuel, W. R., G. G. Killough, W. M. Post, H. H. Shugart, and M. P. Stevenson. 1984. *Computer implementation of a globally averaged model of the world carbon cycle*. DOE/NBB-0062, Department of Energy, Washington, D.C.

Zinke, P. J., A. G. Stangenberger, W. M. Post, W. R. Emanuel, and J. S. Olson. 1984. *Worldwide Organic Soil Carbon and Nitrogen Data*. ORNL/TM-8857.

Jager, H.I., R.H. Gardner, D.L. DeAngelis, and W.M. Post. 1984. *A simulation approach to understanding the processes that structure food webs*. ORNL/TM-8904. Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Pastor, J., and W. M. Post. 1985. *Development of a linked forest productivity-soil process model*. ORNL/TM-9519. Oak Ridge, Tennessee.

Taylor, P. J., and W. M. Post. 1985. *A description of MSUNCY, a computer model combining interspecific interactions with nutrient cycling*. ORNL/TM-9400. Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Post, W.M. 1990. *Report of a Workshop on Climate Feedbacks and the Role of Peatlands, Tundra, and Boreal Ecosystems in the Global Carbon Cycle*. ORNL/TM-11457. Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Post, W. M., A. W. King, S. D. Wullschlegel, and F. Hoffman 1997. *Historical Variations in Terrestrial Biospheric Carbon Storage*. DOE Research Summary, No. 34, June 1997. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory. Oak Ridge, Tennessee.

Post, W. M., R. C. Izaurralde, L. K. Mann, and N. Bliss. 2000. Monitoring and verifying changes in organic carbon in soil. CDIAC Communications, Issue No. 27, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory. Oak Ridge, Tennessee.

Paustian, K., B. Babcock, L. Chiment, W. Post, N. Rosenberg, W. Schlesinger, P. Robertson, J. Hatfield, C. Rosenzweig, C. Rice, B. McCarl, R. Lal, C. Kling, A. Mosier, S. McLaughlin, D. Zilberman 2004. Agriculture's Response to Global Climate Change. Report No. 138, Council for Agricultural Science and Technology, Ames, IA.

In Press or Submitted

Wang, D., Ricciuto D., Post, W.M., Berry, M.W. 2011 Parallel Computing for Terrestrial Ecosystem Carbon Modeling. Accepted for Springer Encyclopedia on Parallel Computing <http://refworks.springer.com/mrw/index.php?id=2303>

INVITED PRESENTATIONS:

Evolution of Mutualism Between Species. Presented at “Research Conference on Differential Equations and Applications to Ecology, Epidemics, and Population Problems”, Claremont College, Claremont California, January 1981.

Soil Carbon Storage in World Life Zones. Presented at the Ecological Society of America Annual Meeting symposium on “Global Dynamics of Biospheric Carbon”, Bloomington, Indiana, August 1981.

Dynamics of Mutualistic Populations. Presented at the Department of Biology, University of Sussex, Falmer, England, November 1981.

Global Patterns of Soil Carbon. Presented at “A Workshop on the Global Carbon Cycle”, Marine Biological Laboratory, Woods Hole, Massachusetts, February 1982.

Climate and Carbon Dioxide. Presented at the Department of Earth Sciences, Western Carolina University, Cullowhee, North Carolina, October 1982.

Dynamic Patterns of Randomly Assembled Food Webs. Presented at “Workshop on Current Trends in Food Web Theory”, Fontana Village, North Carolina, October 1982.

Global Patterns of Soil Nitrogen. Presented at the Soil Science Society of America Annual Meetings. Washington, DC August 1983.

Soils and Climate. Presented at “The Soil in Perspective — A Symposium in Celebration of the Scientific and Scholarly Contributions of Hans Jenny”, University of California, Berkeley, California, February 1984.

Forest Succession Modeling and Ecosystem Theory. Presented at Southeastern Mathematical Ecology Conference, North Carolina State University, Raleigh, North Carolina, March 1985.

Soil Nitrogen and the Global Carbon Cycle. Presented at the Environmental Sciences Division Annual Information Meeting, Oak Ridge, Tennessee, May 1986.

Soil organic Carbon and Nitrogen, Cultivation, and the global carbon cycle. Presented at the University of Minnesota, Natural Resource Research Institute, Duluth, Minnesota, February 1988.

Current themes in food web research. Presented at the University of Minnesota, Biology Department, Duluth, Minnesota, February 1988.

The Global Carbon Cycle, Climate Change, and Feedbacks With Global Vegetation. Presented at International Institute of Applied Systems Analysis meeting on “Modeling of Global Vegetation Change: Available Data Sets, Relationships, Processes, and Approaches”. Laxenburg, Austria, April 17–22, 1988.

Chemistry of Organic Carbon in Soil with Relationship to the Global Carbon Cycle. Presented at the American Chemical Society Meetings Symposium “Biogeochemistry of CO₂ and the Greenhouse Effect”, Los Angeles, California, September 26, 1988.

Climate Change and Forest Ecosystem Response. Presented at the IUFRO Forest Simulation Systems Conference, Berkeley, California, November 2–5, 1988.

- Forest Response to Nutrient Cycling and Climate Changes. Presented at the “Sixth Annual Acid Rain Conference”, Gatlinburg, Tennessee, October 30–31, 1989.
- Rate of forest soils sequestering of carbon after disturbance. Presented at the Environmental Protection Agency workshop “The Potential of soils for sequestering additional carbon from the atmosphere”. Corvallis, Oregon, February 22–24, 1990.
- Modeling Forest Response From Tree to Planet. Presented at the V International Congress of Ecology. Yokohama, Japan, August 23–30, 1990.
- Decomposition modeling for forest ecosystems. Presented at the NCAR/USFS workshop on Forest and Climate Interactions, NCAR, Boulder, Colorado, October 1990.
- The Global Carbon Cycle. Presented at the University of Chicago, Department of Evolutionary Biology and Ecology, Chicago, Illinois, November 1990.
- Modeling the role of terrestrial ecosystems in the global carbon cycle. Presented at the American Association for the Advancement of Science Annual Meeting, Washington, D.C., February 1991.
- Soils and the global carbon cycle. Presented at the “NATO Advanced Study Institute on the Global Carbon Cycle”, Il Ciocco, Italy, September, 1991.
- Soil organic matter dynamics and the global carbon cycle. Presented at the “World Inventory of Soil Emissions (WISE) International Workshop”, International Soil Research and Information Centre (ISRIC), Wageningen, The Netherlands, August 1992.
- Status of the ORNL–UCB Global Soil Dataset. Presented at the “IGBP-DIS/GCTE Global Soils Database Workshop”, Silsoe, United Kingdom, October 8–9, 1992.
- Biodiversity: Redundant or essential in forest ecosystems? Presented at Association of Ecosystem Research Centers Symposium, Smithsonian Institution, Washington, DC, November 1992.
- Soils in the global carbon cycle: Where biology meets geology. Presented at the Pennsylvania State University, Department of Geography, State College, Pennsylvania, March 1993.
- Empirical models of organic matter decomposition and soil organic matter dynamics. Presented at “Workshop on Modeling Soil Organic Matter Turnover”, Rothamsted Experiment Station, Harpenden, United Kingdom, May 1993.
- Below ground processes and carbon cycle modeling. Presented at workshop “Belowground responses to Rising Atmospheric CO₂: Implications for Plants, Soil Biota and Ecosystem Processes”, University of Michigan Biological Station, Pellston, Michigan, May 1993.
- Forest Population and Ecosystem Responses to Global Change. Presented at the Biology Department, University of Michigan, Ann Arbor, Michigan, February 1995.
- Soil organic matter models and global estimates of soil organic carbon. A keynote address presented at the NATO Advanced Research Workshop “Evaluation of Soil Organic Matter Models Using Existing, Long-Term Datasets”, IACR-Rothamsted, Harpenden, United Kingdom, May 1995.
- Soil organic matter and the global carbon cycle. Presented at the Cooperative Research Centre, Waite Agricultural Research Station, University of Adelaide, Adelaide, Australia, February 1996.
- An estimate of changes in carbon storage for the Australian continent resulting from land use and climate change. Presented at the CSIRO Division of Plant Industry, Canberra, Australia, February 1996.

- Resources and Capabilities of ORNL for Application to Carbon Sequestration Policy and Practice. Presented at the Policy Office, DOE Headquarters, February 1998.
- Where the carbon is in terrestrial ecosystems and what is the potential. Presented at the Workshop on Climate Change Impacts and Integrated Assessment, Energy Modeling Forum, Snowmass, Colorado, August 1998.
- Litter quality and decomposition: community and long-term effects. GCTE-COST Workshop on Litter Quality and Decomposition Under Elevated Atmospheric CO₂. Capri, Italy, September 1998.
- Monitoring and verifying soil organic carbon sequestration. PNNL/ORNL/CAST Workshop on Carbon Sequestration in Soils: Science, Monitoring, and Beyond. St. Michaels, MD, December 1998.
- Monitoring and verifying soil organic carbon sequestration. EROS Data Center, Souix Falls, SD, April 1999.
- Post, W.M. and E.D. Vance. Callenges and strategies for detecting changes in forest soil carbon pools. Soil Science Society of America Annual Meetings, Charlotte, NC, October 2001.
- Stalking the Elusive North American Terrestrial Carbon Sink. Ecology and Evolutionary Biology, University of Tennessee, November 2001.
- Stalking the Wild Terrestrial Carbon Sink. Ecology and Evolutionary Biology, University of Minnesota, October 2002.
- Fire, Soils and the Global Carbon Cycle. Soil Science Society of America Annual Meetings, Indianapolis, IN, November 2002.
- Belowground Carbon Cycle Research: Next Generation Tools for Stand, Watershed and Regional Scale Applications. NSF Geosciences and Ecosystem Studies, NSF Headquarters, Washington, DC. Workshop on Advancing Belowground Research. February 2003.
- DOE Research on Carbon Sequestration in Terrestrial Ecosystems (CSiTE). Public Seminar, USGCRP Office, Washington, DC, April 2003.
- Climate Change and Terrestrial Ecosystem Production. Climate Change and World Food Supply Symposium, Ohio State University, Columbus OH. June 2003.
- Stalking the Wild Terrestrial Carbon Sink. Atmospheric Sciences Department, University of Illinois, Urbana, IL, September 2003.
- Global carbon cycle and climate change. Atmospheric Science Department, University of Illinois, Urbana, IL, October 2004.
- Modeling the Global Carbon Cycle and Climate Feedbacks Over the Next 100 Years. Geography Department, Indiana University, October 2004.
- Carbon Sequestration in U.S. Soils: A Framework for Integrated Evaluation. Chapman Conference - The Science and Technology of Carbon Sequestration: Assessment and Verification of Natural and Deliberate Carbon Sinks, San Diego, CA, January 2005.
- Carbon Sequestration in U.S. Soils: A Framework for Integrated Evaluation Ohio State University, School of Natural Resources, CIRIT Climate Change Seminar Series, May 2005.
- Soil Carbon Sequestration and Land-Use. Southern Forest Research Partnership, Inc (SFRP) Workshop - Critical Processes and Properties Regulating Carbon Cycling in Southern Forests, Asheville, North Carolina, June 2006.
- Carbon Sequestration in U.S. Soils: A Framework for Integrated Evaluation from Science Discovery to Economic Feasibility, Alabama A&M University, Normal, Alabama, September 2006.

The Wild North America Terrestrial Carbon Sink, Computer Science Department Seminar, Virginia Polytechnic University, Blacksburg, Virginia, November 2006.

North American Carbon Observations and Modeling, Smoky Mountain Chapter of the American Meteorological Society, Knoxville, TN, November 2006.

Developing a model with soil carbon processes for carbon sequestration: Modeling directly measurable pools. EBI-GLBRC Conference "Linking Biophysical and Economic Models of Biofuel Production and Environmental Impacts, Chicago, IL November 2008.

Regional Model-Data Comparison: An NACP Interim Synthesis Project. NACP All Investigators Meeting, Plenary Presentation, San Diego, CA, February 2009.

Regional Model-Data Comparison (MDC): An NACP Interim-Synthesis Project. Canadian Carbon Program Annual Meeting, Vancouver, BC, February 2009.

SCIENCE LEADERSHIP:

United States Carbon Cycle Research Plan, Author, 2001-2003

North America Carbon Program Science Steering Group, Member 2004-2008

Coordinator, NACP Interim Synthesis - Regional/Continental Model-Data Comparison, 2008-2009.

Science Leader, Center for Enhancement of Carbon Sequestration in Terrestrial Ecosystems (CSiTE)

Mentor, DOE Global Change Education Program (GCEP)

Undergraduate Summer Internship

2000 Jesse Miller, Jillian Salvatore

2002, 2003, 2004 Erin Hanlon

2005 Kate Flick

Graduate Student National Laboratory Mentor

2001-2003 Jennifer Fraterrigo, University of Wisconsin

2003-present, Victoria Wittig, University of Illinois

2003-2007, Holly Gibbs, University of Wisconsin

2004-2008, Xiaojuan Yang, University of Illinois

REVIEWER ACTIVITIES:

Panel Reviews

U. S. Environmental Protection Agency, Competitive Grants Program, 1985, 1987
National Science Foundation, National Science Centers Program, 1990
U. S. Forest Service, North Central Research Station Program Review, 1993
U. S. Department of Energy, Global Change Distinguished Postdoctoral Fellowship Program,
1994
U. S. Environmental Protection Agency, Global Change Program Review, 1994
U. S. Environmental Protection Agency, Transect of Soil Warming Experiments, 1995
U. S. Environmental Protection Agency, Forest Indicators Program, 1998
Department of Commerce, Global Carbon Cycle, June 2002
NASA, Earth System Science Fellowship Program, June 2002
NASA, Terrestrial Ecology Program, June 2002

Ad Hoc Peer Reviews (last 2 years)

Grants:

National Science Foundation, Ecosystems Studies
National Institutes of Global Environmental Change
Department of Energy Program for Ecosystem Research
Department of Energy Terrestrial Carbon Processes Program
USDA Competitive Grants Program
NASA Earth Observing System Competitive Grants

Journal Articles, Book Chapters, International Convention Reports, etc.

Soil Science Society of America Journal
Global Biogeochemical Cycles
Global Change Biology
Encyclopedia of Climate and Weather
Nature
Intergovernmental Panel on Climate Change
Climatic Change
Ecosystems
Plant and Soil
Biogeochemistry