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Education: Ph.D., Yale University, New Haven, Connecticut, 1972-1977
M.F.S., Yale University, New Haven, Connecticut, 1970-1972
M.A.T., Wesleyan University, Middletown, Connecticut, 1967-1968
B.A., Wesleyan University, Middletown, Connecticut, 1961-1965

Experience:

The Ecosystems Center, Marine Biological Laboratory, Woods Hole, 1976-Present
Assistant Scientist, 1976-1982; Associate Scientist, 1982-1987; Senior Scientist, 1987-Present; Acting
Director, 1988-1989; Co-Director, 1989-2009; Distinguished Scientist, 2010
Professor of Biology, Brown University, 2003-Present
Associate Director for Environment, Office of Science and Technology Policy, Office of the President,
Washington, DC, 1996-1997
Director, Ecosystems Studies Program, National Science Foundation, Washington, DC, 1986-1988
Associate in Research, The Hubbard Brook Ecosystem Study, Yale University, New Haven, CT, 1975-
1976
Teaching Assistant, January Ecology Course, Marine Biological Laboratory, Woods Hole, MA, January
1975
Teaching Assistant in Soils, Yale University, New Haven, CT, 1973-1975
Biology Instructor, Foote School, New Haven, CT, 1972-1973
Biology Instructor, Weston High School, Weston, CT, 1968-1973
Biology Instructor, Kakamega Secondary School, Kakamega, Kenya (East Africa), 1966-1967

Offices, Boards and Honors:

Fellow, American Academy of Arts and Sciences
Member, American Philosophical Society
President, Ecological Society of America
President, Scientific Committee on Problems of the Environment
Vice Chair, International Geosphere-Biosphere Programme
Honorary Professor, Institute of Geophysical Sciences and Natural Resources Research, Chinese
Academy of Sciences
Member, Cosmos Club
Member, Sigma Xi
Chair, US Committee for the Scientific Committee on Problems of the Environment
Distinguished Alumni Award, Wesleyan University
Award of Excellence in Ecosystem Science, Natural Resources Ecology Laboratory, Colorado State
University
Trustee, Marine Biological Laboratory
Trustee, The H. John Heinz III Center for Science, Economics and the Environment
Trustee, National Ecological Observation Network (NEON)
Trustee, Cary Institute of Ecosystem Studies
Trustee, National Center for Atmospheric Research

Professional Society Memberships:

American Geophysical Union
Ecological Society of America
National Association for the Advancement of Science

Advisory Committees (selected)

Earth Systems Science Partnership (ESSP)
International Geosphere-Biosphere Programme (IGBP)
Global Change System for Analysis, Research and Training (START)
National Science Foundation – Biological Sciences Directorate
State of the Nation's Ecosystems (design team – The H. John Heinz III Center for Science, Economics and the Environment)

Publications (including in pres and in review):

In Review

- Butler, S. M., J.M. Melillo, J.E. Johnson, J. Mohan, P.A. Steudler, H. Lux, E. Burrows, C.L. Vario, T.D. Hill, N. Aponte, F. Bowles. Soil warming changes the nitrogen cycle: nitrogen-driven changes in species composition. *Oecologia*.
- Melillo, J.M., S.M. Butler, J.E. Johnson, J. Mohan, A. J. Burton, Y. Zhou, J. Tang, P.A. Steudler, H. Lux, E. Burrows, C.L. Vario, T.D. Hill, F. Bowles. Changes in the net carbon balance of a forest ecosystem in response to soil warming. *PNAS*.
- Hayes, D.J. Hayes, A. D. McGuire, D. W. Kicklighter, K. R. Gurney, T. J. Burnside, and J. M. Melillo (2010) Is the northern high latitude land-based CO₂ sink weakening? *Global Biogeochemical Cycles*.
- Tian, H., J. Melillo, M. Liu, D. Kicklighter, J. Liu, W. Ren, C. Lu, X. Xu, G. Chen, C. Zhang, S. Pan and S. Running Mechanisms of China's terrestrial carbon sink: responses to nitrogen inputs and other environmental changes. *Global Biogeochemical Cycles*.
- Zhou, Y, J. Tang, J. Melillo, S. Butler and J. Mohan. Fine root standing crop and chemistry after six years of soil warming in a temperate forest. *Plant and Soil*.

2010

- Bokhorst, S., J.W. Bjerke, J. Melillo, T.V. Callaghan, G.K. Phoenix. 2010. Impacts of extreme winter warming events on litter decomposition in a sub-Arctic heathland. *Soil Biology & Biochemistry* 42 (2010) 611e617
- Galford, G.L., J.M. Melillo, J.F. Mustard, C.E.P. Cerri, C.C. Cerri (2010) The Amazon frontier of land-use change: croplands and consequences for greenhouse gas emissions. *Earth Interactions*. (doi: 10.1175/2010E1327.1).
- Galford, G. L., J. M. Melillo, D. W. Kicklighter, T. W. Cronin, C. E. P. Cerri, J. F. Mustard and C. C. Cerri (*in press*) Greenhouse gas emissions from alternative futures of deforestation and agricultural management in the southern Amazon. *Proceedings of the National Academy of Sciences* (doi: [10.1073/pnas.1000780107](https://doi.org/10.1073/pnas.1000780107)).
- Galford, G. L., J. M. Melillo, D. W. Kicklighter, J. F. Mustard, T. W. Cronin, C. E. P. Cerri and C. C. Cerri (*in press*) Carbon emissions and uptake from 105 years of land-cover and land-use change at the agricultural frontier of the Brazilian Amazon. *Ecological Applications*.
- Gurgel, A., T. Cronin, J. Reilly, S. Paltsev, D. Kicklighter, and J. Melillo. (*in press*) Food, Fuel, Forests and the Pricing of Ecosystem Services. Land Use and Climate Change: A Global Perspective on Mitigation Options. *AJAE Proceedings*.
- Hayes, D.J., A.D. McGuire, D.W. Kicklighter, T.J. Burnside, and J.M. Melillo (*in press*) The effects of land cover and land use change on the contemporary carbon balance of terrestrial ecosystems in

the Eurasian Arctic. Chapter 6 in: *Eurasian Arctic Land Cover and Land Use in a Changing Climate* (G. Gutman, P. Groisman, and Reissell, eds.). Springer.

- Luo, Y., J.M. Melillo, S. Niu, C. Beier, J.S. Clark et al. (*in press*) Coordinated Approaches to Quantify Long-Term Ecosystem Dynamics in Response to Global Change. *Global Change Biology*.
- McGuire, A. D., D. J. Hayes, D. W. Kicklighter, M. Manizza, Q. Zhuang, M. Chen, M. J. Follows, K. R. Gurney, J. W. McClelland, J. M. Melillo, B. J. Peterson and R. G. Prinn (*in press*) An analysis of the carbon balance of the Arctic Basin from 1997 to 2006. *Tellus* (doi: [10.1111/j.1600-0889.2010.00497.x](https://doi.org/10.1111/j.1600-0889.2010.00497.x)).
- Melillo, J.M., D.W. Kicklighter, H. Tian, S. Butler. (2010) Fertilizing Change: Carbon-Nitrogen Interactions and Carbon Storage in Land Ecosystems. In: Hillel, D. and C. Rosenzweig (Eds). 2010. *Handbook of Climate Change and Agroecosystems: Impacts, Adaptation, and Mitigation*. Imperial College Press. London. 438pp.

2009

- Balshi, M. S., A. D. McGuire, P. Duffy, M. Flannigan, D. W. Kicklighter and J. Melillo (2009) Vulnerability of carbon storage in North American boreal forests to wildfires during the 21st century. *Global Change Biology* **15**, 1491-1510, doi: [10.1111/j.1365-2486.2009.01877.x](https://doi.org/10.1111/j.1365-2486.2009.01877.x).
- Bustamante, M.M.C., H. Watson, J. Melillo, D.J. Connor, H. Hardy, E. Lambin, H. Lotze-Campen, N.H. Ravindranath, T.D. Searchinger, and J. Tschirley pp. What are the final land limits? Chapter 16. IN *Biofuels: Environmental Consequences and Interactions with Changing Land Use* R.W. Howarth and S. Bringezu, (ed). 271-291
- Felzer, B. S., T. W. Cronin, J. M. Melillo, D. W. Kicklighter and C. A. Schlosser (2009) Importance of carbon-nitrogen interactions and ozone on ecosystem hydrology during the 21st century. *Journal of Geophysical Research* **114**, G01020, doi: [10.1029/2008JG000826](https://doi.org/10.1029/2008JG000826).
- Karl, T.R. J.M. Melillo. T.C. Peterson. (eds.) *Global Climate Change Impacts in the United States*. Cambridge University Press. Cambridge, England,. pp. 188 .
- Lu, Y., Q. Zhuang, G. Zhou, A. Sirin, J. Melillo and D. Kicklighter (2009) Possible decline of the carbon sink in the Mongolian Plateau during the 21st century. *Environmental Research Letters* **4**, 045023 (8 pp), doi: [10.1088/1748-9326/4/4/045023](https://doi.org/10.1088/1748-9326/4/4/045023).
- Melillo, J. M., J. M. Reilly, D. W. Kicklighter, A. C. Gurgel, T. W. Cronin, S. Paltsev, B. S. Felzer, X. Wang, A. P. Sokolov and C. A. Schlosser (2009) Indirect emissions from biofuels: how important? *Science* **326**, 1397-1399. [doi: [10.1126/science.1180251](https://doi.org/10.1126/science.1180251)]. [[Supporting Data](#)]
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- Searchinger, T., S. Hamburg, J. Melillo, W. Chameides, P. Havlik, D. Kammen, G. Likens, R. Lubowski, M. Obersteiner, M. Oppenheimer, G. P. Robertson, W. Schlesinger, G. D. Tilman. (2009) *Science* 326:526-527.
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- 2008** Melillo, J. and O. Sala. 2008. Ecosystem services, pp. 75-115. In: E. Chivian and A. Bernstein (eds.), *Sustaining Life: How Human Health Depends on Biodiversity*. Oxford University Press, New York, NY.
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- 2004** Melillo, J. M., P. A. Steudler, J. D. Aber, K. Newkirk, H. Lux, F. P. Bowles, C. Catricala, A. Magill, T. Ahrens and S. Morrisseau. 2004. Soil warming – a major consequence of global climate change. Chapter 13, pp. 280-295. *In: D. Foster and J. Aber (eds.), Forests in Time, The Environmental Consequences of 1000 Years of Change in New England*. Yale University Press, New Haven, CT.
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