

Mary Beth Adams

Research Soil Scientist

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USDA Forest Service
Northern Research Station
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Education

Ph.D. North Carolina State University, Department of Soil Science and School of Forest Resources, 1986
M.S. Purdue University, Forestry, 1982
B.S.F. Purdue University, Forestry, 1980

Experience

March 2010 –present Research Soil Scientist, USDA Forest Service Northern Research Station, Morgantown and Parsons, WV
Fall, 2012 Visiting Researcher, West Virginia University, Division of Forestry and Natural Resources, Morgantown, WV
1990-2010 Project Leader, USDA Forest Service, Northern Research Station, Parsons, WV
1999, Spring Senior Visiting Scientist, New Zealand Forest Research Institute, Limited, and Visiting Researcher, School of Forestry, University of Canterbury, Christchurch, New Zealand.
1989-1990 Assistant Program Manager, Spruce-Fir Research Program, USDA Forest Service, Newtown Square, PA
1986-1989 Postdoctoral Researcher, Environmental Sciences Div., Oak Ridge National Lab, Oak Ridge, TN
1984-1986 Teaching and Research Assistant, North Carolina State University

Selected publications (from 150+)

M.B. Adams; J. Knoepp; J.W. Webster. 2014. Inorganic Nitrogen Retention by Watersheds at Fernow Experimental Forest and Coweeta Hydrologic Laboratory. *Soil Science Society of America Journal*. 78:S84-S94.

.Adams, Mary Beth; M. A. Buford (editors). Proceedings, Workshop on Science Considerations in Function Restoration. 2014. *Journal of Sustainable Forestry* special issue Volume 33, supplement 1.

Adams, M.B.; Kochenderfer, J.N. 2014. Recovery of Central Appalachian Forested Watersheds from a Wide Range of Treatments: Comparison to Watersheds in the Southern Appalachians. Chapter 12 In: Swank, W., J. Webster, (editors) *Recovery of Ecosystem Structure and Function from Clear-cutting in the Southern Appalachians*. Springer.

Vose, J., M.B. Adams, D.M. Amatya, J. Campbell, S. Johnson, F. Swanson, R.K. Kolka, A. Lugo., R. C. Musselman, C.C. Rhodes. 2014. The Role of Experimental Forests and Ranges in the Development of Ecosystem Science and Biogeochemical Cycling Research. pp387-404 in: D.C. Hayes, S.L. Stout, R.H. Crawford, A.P. Hoover (eds). USDA Forest Service Experimental Forests and Ranges: Research for the Long-Term. Springer.

Adams, M.B.; Kochenderfer, J.N. 2014. Recovery of Central Appalachian Forested Watersheds from a Wide Range of Treatments: Comparison to Watersheds in the Southern Appalachians. In: Swank, W., J. Webster, J. (editors) Recovery of Ecosystem Structure and Function from Clear-cutting in the Southern Appalachians. Springer.

Argerich, A.; Johnson, S.L.; Sebestyen, S.D.; Rhoades, C.C.; Greathouse, E.; Knoepp, J.D.; Adams, M.B.; Likens, G.E.; Campbell, J.L.; McDowell, W.H.; Scatena, F.N.; Ice, G.G. 2013. Trends in stream nitrogen concentrations for forested reference catchments across the USA. *Environmental Research Letters*. 8 p.

Sun, Ge; McLaughlin, Samuel B.; Porter, John H.; Uddling, Johan; Mulholland, Patrick J.; Adams, Mary B.; Pederson, Neil. 2012. Interactive influences of ozone and climate on streamflow of forested watersheds. *Global Change Biology*. doi:10.1111/j.1365-2486.2012.02787

Jones, J., et al. 2012. Ecosystem Processes and Human Influences Regulate Streamflow Response to Climate Change at Long-Term Ecological Research Sites. *Bioscience*.62(4):390-404.

Adams, M.B. 2011. Land Application of Hydrofracturing Fluids Damages a Deciduous Forest Stand in West Virginia, USA. *J. Environmental Quality*. 40: 1340-1344.

Gilliam, F.S., and M.B. Adams. 2011. Effects of Nitrogen on Temporal and Spatial Patterns of Nitrate in Streams and Soil Solution of a Central Hardwood Forest," *ISRN Ecology*, vol. 2011, Article ID 138487, 9 pages, 2011. doi:10.5402/2011/138487

Kelly, C.N. Schoenholtz, S. M.B. Adams. 2011. Soil properties associated with net nitrification following watershed conversion from Appalachian hardwoods to Norway spruce. *Plant and Soil*. 344:361-376.

Fernandez, I.J.; Adams, M.B.; SanClements, M.D.; Norton, S.A. 2010 Comparing decadal responses of whole-watershed manipulations at the Bear Brook and Fernow Experiments. *Environmental Monitoring and Assessment* 171: 149-161.

Moran, M. Susan; Peters, Debra P. C.; McClaran, Mitchel P.; Nichols, Mary H.; Adams, Mary B. 2009. 145. Long-term data collection at USDA experimental sites for studies of ecohydrology. *Ecohydrology* 1(4):377-393.

Adams, Mary Beth; Kochenderfer, James N.; Edwards, Pamela J. 2007. The Fernow Watershed Acidification Study: Ecosystem acidification, nitrogen saturation and base cation leaching *Water Air Soil Pollution: Focus* 7(2007):267-273.

Adams, M.B., D. R. DeWalle, and J.L. Hom (eds.) 2006. *The Fernow Watershed Acidification Study*. Springer: Dordrecht.

Adams, M.B., J.A. Burger, A.B. Jenkins, L. Zelazny. 2000. Impact of harvesting and atmospheric pollution on nutrient depletion of eastern US hardwood forests. *Forest Ecology and Management* 138:301-319.

Peterjohn, W.T., C.J. Foster, M.J. Christ. M.B. Adams. 1999. Patterns of N availability within a forested watershed exhibiting symptoms of nitrogen saturation. *For. Ecol. and Manage.* 119: 247-257.

Adams, M.B., K. Ramakrishna, E.A. Davidson, eds. 1998. The contributions of soil science to the development of and implementation of criteria and indicators of sustainable forest management. *SSSA Spec. Publ. No. 53.*

Adams, M.B. and T. R. Angradi. 1996. Decomposition and nutrient dynamics of hardwood leaf litter in the Fernow Whole-Watershed Acidification Study. *For. Ecol. Mgmt.* 83: 61-69.

Kelly, J.M., G. E. Taylor, Jr., N. T. Edwards, M. B. Adams, G. S. Edwards and A. L. Friend. 1993. Growth, physiology and nutrition of loblolly pine seedlings as impacted by air pollution induced stress: The ROPIS-South Project. *Water, Air and Soil Pollution* 69:363-391.

Adams, M.B. and C. Eagar. 1992. Impacts of acidic deposition on high elevation spruce-fir forests: Results from the Spruce-Fir Research Cooperative. *For. Ecol. Mgmt*

Adams, M. B., Nichols, D. S., C. A. Federer, K. Jensen, and H. Parrott, 1991. A Screening Procedure to Evaluate Air Pollution Effects on Wildernesses of the Eastern Region that are Designated as Class I Air Quality Areas. USDA Forest Service General Technical Report NE-151. Northeastern Forest Experiment Station, Radnor, PA.

Synergistic Activities:

Science and Technical Advisory Committee, Chesapeake Bay Commission (2000-2008); Advisory Committee, WVU College of Agriculture, Natural Resources and Design, 2008-2014, Dean's Advisory Committee, Purdue University College of Agriculture (2016-2018).

participant in workshops on Nitrogen Saturation in the Northeastern U.S.(2002), and Meta-Analysis of Nitrogen Addition Studies Workshop (2003).

Currently serving on 4 graduate student committees at West Virginia University, 1 at University of Pittsburgh and 1 at Va. Tech.

Co-investigator on the Fernow LTREB, supported by NSF. Often serves as Fernow science representative on LTER and cross-site synthesis activities (see publications).

Provides many reviews of grant proposals (David Smith Conservation Biology Fellows; NSF Ecosystems, IGERT; USDA Competitive Grants/NIFA; Northern States Research Cooperative, Austrian Science Fund, the Sustainable Forest Management Network of Canada, The British Columbia Forest Investment Account; GACR Czech Science Foundation) and manuscripts for many journals. Has served as associate editor for *Tree Physiology*, *J. Environmental Quality*, *Forest Science*, and guest editor for *Forest Ecology and Management* and *Journal of Sustainable Forestry*

Honors and Awards:

Xi Sigma Pi, Forestry Honor Society 1978

Gamma Sigma Delta, National Agriculture Honor Society, 1980

Sigma Xi, Scientific Honor Society, 1982

Certificate for Best Presentation, Division S-7, 1988, 1992, 1999, Soil Science Society of America annual meetings

USFS Performance Award, 1991, 1992, 1993, 2006, 2009

Team member, USFS Chief's Stewardship Award, 1993

Team member, USFS Chief's Multicultural Award, 1996
Certificate of Merit, 1993, for outstanding contribution to Eastern Region Air Quality
Effects Criteria for Wilderness Protection
USDA Certificate of Appreciation, 1997, In recognition of contributions to the HBCU
Eastern Forest Health Project's Team Success
Team recipient, 1999 American Forest & Paper Association. Wildlife Stewardship
Achievement Award. The Award was presented to Westvaco Wildlife & Ecosystem
Research Forest Research Steering Committee
Environmental Award, West Virginia Forestry Association, May 2002
Natural Resource Stewardship Award, Northeastern Research Station, 2005
Team Recipient, 2007 US Department of Interior Cooperative Conservation Award. The award was given to the
Appalachian Regional Reforestation Initiative Academic Team
Fellow, Soil Science Society of America, 2009
Team recipient, Rise to the Future Research Achievement Award, 2009. The award was given to the Long-Term
Brook Trout Monitoring Project Team
Impact Award, West Virginia University, Division of Forestry and Natural Resources, 2010, for contributions to
the Division with positive impact to students
Team Recipient, Presidential Migratory Bird Federal Stewardship Award, 2011. The award was given to the ARRI
Science team.
Golden Auger Award from West Virginia Association of Professional Soil Scientists. 2011. For outstanding
contributions to soil science in West Virginia
NRS Inspiring Women Awards for Outstanding Scientific Achievement, 2015.
Purdue University College of Agriculture Outstanding Alumnus, Class of 2016

Professional memberships

Soil Science Society of America, 1982 to present
Society of American Foresters, 1982 to present
Ecological Society of America, 1997 to present
American Association for the Advancement of Science, 1983 to present
West Virginia Association of Professional Soil Scientists, 1995 to present
American Society of Mining and Reclamation, 2009 to present
Association of Women in Science, 1992 to present