

**SHENANDOAH WATERSHED STUDY
&
VIRGINIA TROUT STREAM SENSITIVITY STUDY**

Bibliography of Associated Publications: 2013



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JOURNAL ARTICLES

- 1981 Burns, D., J.N. Galloway, and G.R. Hendrey. Acidification of surface waters in two areas of the Eastern United States. *Water, Air, and Soil Pollution*, 16: 277.
- 1983 Galloway, J.N., S.A. Norton, and M.R. Church. Freshwater acidification from atmospheric deposition of sulfuric acid: A conceptual model. *Environmental Science and Technology*, 17: 541A-545A.
- 1985 Cosby, B.J., G.M. Hornberger, J.N. Galloway, and R.F. Wright. Modeling the effects of acid deposition: assessment of a lumped-parameter model of soil water and streamwater chemistry. *Water Resources Research*, 21: 51-63.
- 1985 Cosby, B.J., G.M. Hornberger, J.N. Galloway, and R.F. Wright. Time scales of catchment acidification: a quantitative model for estimating freshwater acidification. *Environmental Science and Technology*, 19: 1145-1149.
- 1985 Cosby, B.J., R.F. Wright, G.M. Hornberger, and J.N. Galloway. Modeling the effects of acid deposition: estimation of long-term water quality responses in a small forested catchment. *Water Resources Research*, 21: 1591-1601.
- 1985 Hornberger, G.M., K.J. Beven, B.J. Cosby, and D.E. Sappington. Shenandoah Watershed Study: calibration of a topography-based, variable contributing area model to a small forested catchment. *Water Resources Research*, 21: 1841-1850.
- 1985 Hornberger, G.M. and B.J. Cosby. Selection of parameter values in environmental models using sparse data: a case study. *Applied Mathematics and Computers*, 17: 335-355.
- 1986 Cosby, B.J., G.M. Hornberger, R.F. Wright, and J.N. Galloway. Modeling the effects of acid deposition: control of long-term sulfate dynamics by soil sulfate adsorption. *Water Resources Research*, 22: 1283-1291.
- 1986 Cosby, B.J., G.M. Hornberger, R.F. Wright, E.B. Rastetter, and J.N. Galloway. Estimating catchment water quality response to acid deposition using mathematical models of soil ion exchange processes. *Geoderma*, 38: 77-95.
- 1986 Hornberger, G.M., B.J. Cosby, and J.N. Galloway. Modeling the effects of acid deposition: uncertainty and spatial variability in estimation of long-term sulfate dynamics in a region. *Water Resources Research*, 22: 1293-1302.
- 1986 Weathers, K.C., G.E. Likens, F.H. Bormann, J.S. Eaton, W.B. Bowden, J.L. Anderson, D.A. Cass, J.N. Galloway, W.C. Keene, K.D. Kimball, P. Huth, and D. Smiley. A regional acidic cloud/fog water event in the eastern United States. *Nature*, 319: 657-658.
- 1987 Cozzarelli, I.M., J.S. Herman, and R.A. Parnell. The mobilization of aluminum in a natural soil system: effects of hydrologic pathways. *Water Resources Research*, 23: 859-874.
- 1987 Reuss, J.O., B.J. Cosby, and R.F. Wright. Chemical processes governing soil and water acidification. (Review Article). *Nature*, 329: 27-32.

- 1988 Krovetz, D.O., M.A. Reiter, J.T. Sigmon, and F.S. Gilliam. Assembly and field testing of a ground-based presence of cloud detector. *Journal of Atmospheric and Oceanic Technology*, 5: 579-581.
- 1988 Krovetz, D.O. M.A. Reiter, J.T. Sigmon, and L.H. Lessard. An automated system for air sampling with annular denuders at a remote site. *Environmental Pollution*, 58: 97-107.
- 1988 Sigmon, J.T., D.O. Krovetz, and M.A. Reiter. An inexpensive thermocouple probe-amplifier and its response to rapid temperature fluctuations in a mountain forest. *Journal of Atmospheric and Oceanic Technology*, 5: 870-874.
- 1988 Weathers, K.C., G.E. Likens, F.H. Bormann, S.H. Bickell, B.T. Bormann, B.C. Daube, Jr., J.S. Eaton, J.N. Galloway, W.C. Keene, K.D. Kimball, W.H. McDowell, T.G. Siccama, D. Smiley, and R.A. Tarrant. Cloud water chemistry from ten sites in North America. *Environmental Science and Technology*, 22: 1018-1026.
- 1989 Burns, D. Speciation and equilibrium relations of soluble aluminum in a headwater stream at base flow and during rain events. *Water Resources Research*, 25: 1653-1665.
- 1989 Gilliam, F.S., J.T. Sigmon, M.A. Reiter, and D.O. Krovetz. Elevational and spatial variation in daytime ozone concentrations in the Virginia Blue Ridge Mountains: implications for forest exposure. *Canadian Journal of Forest Research*, 19: 422-426.
- 1989 Ryan, P.F., G.M. Hornberger, B.J. Cosby, J.N. Galloway, J.R. Webb, and E. B. Rastetter. Changes in the chemical composition of stream water in two catchments in the Shenandoah National Park, VA, in response to atmospheric deposition of sulfur. *Water Resources Research*, 25: 2091-2099.
- 1989 Sigmon, J.T., F.S. Gilliam, and M.E. Partin. Precipitation and throughfall chemistry for a montane hardwood forest ecosystem: potential contributions from cloud water. *Canadian Journal of Forest Research*, 19: 1240-1247.
- 1989 Webb, J.R., B.J. Cosby, J.N. Galloway, and G.M. Hornberger. Acidification of native brook trout streams in Virginia. *Water Resources Research*, 25:1367-1377.
- 1989 Bricker, O.P. and K.C. Rice. Acidic deposition to streams: A geology-based method predicts their sensitivity: *Environmental Science & Technology*, 23: 379-385.
- 1990 Castelle, A.J. and J.N. Galloway. Carbon dioxide dynamics in acid forest soils in Shenandoah National Park. *Soil Science Society of America Journal*, 54: 252-257.
- 1990 Harrison, E.A. and H.H. Shugart. Evaluating performance of an Appalachian oak forest dynamics model. *Vegetation*, 86: 1-13.
- 1990 Hornberger, G.M. Modeling complex natural processes with small observation sets: the case of acidification of surface waters in North America and Europe. *Mathematics and Computers in Simulation*, 32: 39-47.
- 1990 Sigmon, J.T. and C.E. Murphy. Dry deposition of sulfur and nitrogen oxide gases to forest vegetation. *Acid Precipitation*, 3: 217-238.
- 1990 Sigmon, J.T., D.W. Sjostedt, and S.J. Colucci. The Carolina nocturnal low-level jet. *Weather and Forecasting*, 5: 404-415.

- 1991 Castro, M. S. and J. N. Galloway. A comparison of sulfur-free and ambient air enclosure techniques for measuring the exchange of reduced sulfur gases between soils and the atmosphere. *Journal of Geophysical Research*, 96: 427-437.
- 1991 Vong, R.J., J.T. Sigmon, and S.F. Mueller. Cloud water deposition to Appalachian forests. *Environmental Science and Technology* 25: 1014-1021.
- 1991 Wolock, D.M. and G.M. Hornberger. Hydrological effects of changes in atmospheric carbon dioxide levels. *Journal of Forecasting*, 10: 105-116.
- 1992 Feldman, R., and E. Connor. The relationship between pH and community structure of invertebrates in streams of the Shenandoah National Park, Virginia, U.S.A. *Freshwater Biology*, 27: 261-276.
- 1993 Herlihy, A.T., P.R. Kaufmann, M.R. Church, P.J. Wigington, J.R. Webb, and M.J. Sale. The effects of acidic deposition on streams in the Appalachian mountain and Piedmont region of the mid-Atlantic United States. *Water Resources Research*, 29: 2687-2703.
- 1993 O'Brien, A.K., K.C. Rice, M.M. Kennedy, and O.P. Bricker. Comparison of episodic acidification of Mid-Atlantic upland and Coastal Plain streams. *Water Resources Research*, 29: 3029-3039.
- 1993 Rice, K.C., and O.P. Bricker. Hydrologic, chemical, and isotopic characterization of two small watersheds on Catoctin Mountain, north-central Maryland, U.S.A. *Chemical Geology*, 107: 319-321.
- 1994 Bazemore, D.E., K.N. Eshleman, and K.J. Hollenbeck. The role of soil water in stormflow generation determined from natural tracer and hydrometric techniques. *Journal of Hydrology*, 162: 47-75.
- 1995 Rice, K.C., and O.P. Bricker. Seasonal cycles of dissolved constituents in streamwater in two forested catchments in the mid-Atlantic region of the eastern U.S.A. *Journal of Hydrology*, 170:137-158.
- 1995 Bulger, A. J., C. A. Dolloff, B. J. Cosby, K. N. Eshleman, J. R. Webb, and J. N. Galloway. The "Shenandoah National Park: Fish in Sensitive Habitats (SNP: FISH)" Project. An Integrated Assessment of Fish Community Responses to Stream Acidification. *Water, Air, and Soil Pollution*, 85: 309-314.
- 1995 Dennis, T.E. and A.J. Bulger. Condition factor and whole-body sodium concentration in a freshwater fish: evidence of acidification stress and possible ionoregulatory over-compensation. *Water, Air, and Soil Pollution*, 85: 377-382.
- 1995 Dennis, T.E., S.E. MacAvoy, M. B. Steg, and A.J. Bulger. The association of water chemistry variables and fish condition in streams of Shenandoah National Park (USA). *Water, Air, and Soil Pollution*, 85: 365-370.
- 1995 Eshleman, K.N., L.M. Miller-Marshall, and J.R. Webb. Long-term changes in episodic acidification of streams in Shenandoah National Park, Virginia (USA). *Water, Air, and Soil Pollution*, 85: 517-522.
- 1995 Webb, J. R., B. J. Cosby, F.A. Deviney, K. N. Eshleman, and J. N. Galloway. Change in the acid-base status of an Appalachian Mountain catchment following forest defoliation by the gypsy moth. *Water, Air, and Soil Pollution*, 85: 535-540.

- 1995 Galloway, J.N. Acid deposition: perspectives in time and space. *Water, Air, and Soil Pollution*, 85: 15-24.
- 1995 Hyer, K.E., J. R. Webb, and K. N. Eshleman. Episodic acidification of three streams in Shenandoah National Park, Virginia, USA. *Water, Air and Soil Pollution*, 85: 523-528.
- 1995 MacAvoy, S. E. and A. J. Bulger. Survival of brook trout (*Salvelinus fontinalis*) embryos and fry in streams of different acid sensitivity in Shenandoah National Park, USA. *Water, Air, and Soil Pollution*, 85: 445-450.
- 1995 Newman, K.R. and C.A. Dolloff. Response of blacknose dace (*Rhinichthys atratulus*) and brook char (*Salvelinus fontinalis*) to acidified water in a laboratory stream. *Water, Air, and Soil Pollution*, 85: 371-376.
- 1995 Webb, J. R., B. J. Cosby, F.A. Deviney, K. N. Eshleman, and J. N. Galloway. Change in the acid-base status of an Appalachian Mountain catchment following forest defoliation by the gypsy moth. *Water, Air, and Soil Pollution*, 85: 535-540.
- 1996 Currie, W.S., J.N. Galloway, and H.H. Shugart. Watershed base-cation cycle dynamics modeled over forest regrowth in a central Appalachian ecosystem. *Water, Air, and Soil Pollution*, 89: 1-22.
- 1997 MacAvoy, S.E. and R.C. Zaepfel. Effects of tricaine methanesulfonate (MS-222) on hematocrit: first field measurements on blacknose dace. *Transactions of the American Fisheries Society*, 126: 500-503.
- 1997 O'Brien, A.K., K.C. Rice, O.P. Bricker, M.M. Kennedy, and R.T. Anderson. Use of geochemical mass balance modeling to evaluate the role of weathering in determining stream chemistry in five mid-Atlantic watersheds on different lithologies. *Hydrological Processes*, 11: 719-744.
- 1998 Rice, K.C., and G.M. Hornberger. Comparison of hydrochemical tracers to estimate source contributions to peak flow in a small, forested, headwater catchment. *Water Resources Research*, 34: 1755-1766.
- 1998 Cooper, O.R. and J.L. Moody. Meteorological controls on ozone at an elevated U.S. regional background monitoring site. *Journal of Geophysical Research*, 105: 6855-6869.
- 1998 Eshleman, K.N., R.P. Morgan II, J.R. Webb, F.A. Deviney, and J.N. Galloway. Temporal patterns of nitrogen leakage from mid-Appalachian forested watersheds: role of insect disturbances. *Water Resources Research*, 34: 2005-2116.
- 1998 Furman, T.P., P.B. Thompson, and B. Hatchl. Primary mineral weathering in the central Appalachians: A mass balance approach. *Geochimica et Cosmochimica Acta*, 62: 2889-2904.
- 1999 Fitzhugh, R.D., T. Furman, J.R. Webb, B.J. Cosby, and C.T. Driscoll. Longitudinal and seasonal patterns of stream acidity in a headwater catchment on the Appalachian Plateau, West Virginia, U.S.A. *Biogeochemistry*, 47: 39-62.
- 1999 Webb, J.R. and F.A. Deviney. The acid base status of the St. Marys River: the Virginia Trout Stream Sensitivity Study Results. *Banisteria*, 13: 171-182.

- 2000 Bulger, A.J., J.R. Webb, and B.J. Cosby. Current, reconstructed past, and projected future status of brook trout (*Salvelinus fontinalis*) streams in Virginia. *Canadian Journal of Fisheries and Aquatic Sciences*, 57: 1515.
- 2000 Eshleman, K.N. A linear model of the effects of disturbance on dissolved nitrogen leakage from forested watersheds. *Water Resources Research*, 36: 3325-3335.
- 2000 Eshleman, K.N., R.H. Gardner, S.W. Seagle, N.M. Castro, D.A. Fiscus, J.R. Webb, J.N. Galloway, F.A. Deviney, and A.T. Herlihy. Effects of disturbance on nitrogen export from forested lands of the Chesapeake Bay watershed. *Environment Monitoring and Assessment*, 63: 187-197.
- 2000 Scanlon, T.M., J.P. Raffensperger, G.M. Hornberger, and R.B. Clapp. Shallow subsurface stormflow in a forested headwater catchment: observations and modeling using a modified TOPMODEL. *Water Resources Research*, 36: 2575-2586.
- 2001 Eshleman, K.N., D.A. Fiscus, N.M. Castro, J.R. Webb, and F.A. Deviney, Jr. Computation and visualization of regional-scale forest disturbance and associated dissolved nitrogen export from Shenandoah National Park, Virginia. *The Scientific World*, 1(S2): 539-547.
- 2001 Hornberger, G.M., T.M. Scanlon, and J.P. Raffensperger. Modeling transport of dissolved silica in a forested headwater catchment: The effect of hydrological and chemical time scaled on hysteresis in the concentration-discharge Relationship. *Hydrological Processes*, 15: 2029-2038.
- 2001 Scanlon, T.M., J.P. Raffensperger, and G.M. Hornberger. Modeling transport of dissolved silica in a forested headwater catchment: implications for defining the hydrochemical response of observed flow pathways. *Water Resources Research*, 37: 1071-1082.
- 2001 Buffam, I.D., J.N. Galloway, K.J. McGlathery, and L.K. Blum. A stormflow/baseflow comparison of dissolved organic matter concentrations and bioavailability in an Appalachian stream during storms. *Biogeochemistry*, 53: 269-306.
- 2002 Chanat, J.G., K.C. Rice, and G.M. Hornberger. Consistency of patterns in concentration-discharge plots. *Water Resources Research*, 38: doi:10.1029/2001WR000971.
- 2002 Katul, G., Wiberg, P., Albertson, J. and G. Hornberger. A mixing layer theory for flow resistance in shallow streams. *Water Resources Research* 38 (11), 1250, doi:10.1029/2001WR000817
- 2002 Roghair, C.N., C.A. Dolloff, and M.K. Underwood. Response of a brook trout population and instream habitat to a catastrophic flood and debris flow. *Transaction of the American Fisheries Society*, 131: 718-730.
- 2003 Chanat, J.G., and G.M. Hornberger, Modeling catchment-scale mixing in the near-stream zone—Implications for chemical and isotopic hydrograph separation. *Geophysical Research Letters*, 30 (2), 1091, doi:10.1029/2002GL016265.
- 2004 Sullivan, T.J., B.J. Cosby, A.T. Herlihy, J.R. Webb, A.J. Bulger, K.U. Snyder, P. Brewer, E.H. Gilbert, and D. Moore. Regional model projections of future effects of sulfur and nitrogen deposition on streams in the southern Appalachian mountains. *Water Resources Research*, 40 (2), W02101, doi:10.1029/2003WR001998.

- 2004 Rice, K.C., J.G. Chanut, G.M. Hornberger, and J.R. Webb. Interpretation of concentration-discharge patterns in acid-neutralizing capacity during stormflow in three small, forested catchments in Shenandoah National Park, Virginia. *Water Resources Research*, 40 (5), W05301, doi:10.1029/2003WR002709.
- 2004 Eshleman, K.N., D.A. Fiscus, N.M. Castro, J.R. Webb, and A.T. Herlihy. Regionalization of disturbance-induced nitrogen leakage from mid-Appalachian forests using a linear systems model. *Hydrological Processes*, 18: 2713-2725.
- 2004 Kahl, J.S., J.L. Stoddard, R. Haeuber, S.G. Paulsen, R. Birnbaum, F.A. Deviney, D.R. DeWalle, C.T. Driscoll, A.T. Herlihy, J.H. Kellogg, P.S. Murdoch, K. Roy, W.E. Sharpe, N.S. Urquhart, J.R. Webb, and K.E. Webster. Response of surface waters to the 1990 Clean Air Act Amendments. *Environmental Science and Technology*, 38: 473-496.
- 2004 Webb, J.R., B.J. Cosby, F.A. Deviney, Jr., J.N. Galloway, S.W. Maben, and A.J. Bulger. Are brook trout streams in western Virginia and Shenandoah National Park recovering from acidification?, *Environmental Science and Technology*, 38: 4091-496.
- 2004 Welsch, D.L., and G.M. Hornberger. Spatial and temporal simulation of soil CO₂ concentrations in a small forested catchment in Virginia. *Biogeochemistry*, 71: 413-434, doi:10.1023/B:BIOG.0000049350.24911.e9.
- 2005 Campbell Grant, E.H., R.E. Jung, and K.C. Rice. Stream salamander species richness and abundance in relation to environmental factors in Shenandoah National Park. *American Midland Naturalist*, 153: 348-356.
- 2005 Scudlark, J.R., K.C. Rice, K.M. Conko, O.P. Bricker, and T.M. Church. Transmission of atmospherically derived trace elements through an undeveloped, forested Maryland watershed. *Water, Air, and Soil Pollution*, 163: 53-79, doi:10.1007/s11270-005-8135-5.
- 2006 Deviney, F.A., Jr., K.C. Rice, and G.M. Hornberger. Time series and recurrence interval models to predict the vulnerability of streams to episodic acidification in Shenandoah National Park, Virginia, *Water Resources Research*, 42: 1-14.
- 2007 Grady, A.E, T.M. Scanlon, and J.N. Galloway, Declines in dissolved silica concentrations in western Virginia streams (1988-2003): Gypsy moth defoliation stimulates diatoms?, *Journal of Geophysical Research – Biogeosciences*, 112, G01009, doi:10.1029/2006JG000251.
- 2007 T.J. Sullivan, J.R. Webb, K.U. Snyder, A.T. Herlihy, and B.J. Cosby. Spatial distribution of acid-sensitive and acid-impacted streams in relation to watershed features in the southern Appalachian mountains. *Water, Air, and Soil Pollution*, 182: 57-71, doi 10.1007/s11270-00609320-x).
- 2008 Sullivan, T.J., B.J. Cosby, J.R. Webb, R.L. Dennis, A.J. Bulger, and F.A. Deviney, Jr. Streamwater acid-base chemistry and critical loads of atmospheric sulfur deposition in Shenandoah National Park, Virginia. *Environmental Monitoring and Assessment*, 137: 85-99, doi 10.1007/s10661-007-9731-1.
- 2009 Riscassi, A.L., and T.M. Scanlon. Nitrate variability in hydrological flowpaths for three Mid-Appalachian forested watersheds following a large-scale defoliation. *Journal of Geophysical Research – Biogeosciences*, 114, G02009, doi:10.1029/2008JG000860.

- 2010 Scanlon, T.M., S.M. Ingram, and A.L. Riscassi. Terrestrial and in-stream influences on the spatial variability of nitrate in a forested headwater catchment, *Journal of Geophysical Research – Biogeosciences*, 115, G02022, doi:10.1029/2009JG001091.
- 2010 Riscassi, A. L., A.D. Converse, K.J. Hokanson, and T. M. Scanlon. Evaluation of an automated sampling technique to measure total mercury in streamwater during storm events. *Journal of Environmental Monitoring*, 12, 1833-1839.
- 2010 Converse, A.D., A.L. Riscassi, and T.M. Scanlon. Seasonal variability in gaseous mercury fluxes measured in a high-elevation meadow. *Atmospheric Environment*, 44, 2176-2185, 2010.
- 2011 Riscassi, A.L., and T.M. Scanlon. Controls on stream water dissolved mercury in three mid-Appalachian forested headwater catchments. *Water Resources Research*, 47, W12512, doi:10.1029/2011WR010977.
- 2011 Riscassi, A.L., Hokanson, K.J. and T.M. Scanlon. Streamwater particulate mercury and suspended sediment dynamics in a forested headwater catchment. *Water, Air, and Soil Pollution*, doi:10.1007/s11270-010-0731-3.
- 2012 Deviney, Jr., F.A., D.E. Brown, and K.C. Rice. Evaluation of Bayesian estimation of a hidden continuous-time Markov Chain Model with application to threshold violation in water-quality indicators. *Journal of Environmental Informatics*, 19(2):70-78, doi: 10.3808/jei.201200210.
- 2013 Price, J.R., K.C. Rice, and D.W. Szymanski. Mass-balance modeling of mineral weathering rates and CO₂ consumption in the forested Hauer Branch watershed, Catoctin Mountain, Maryland, USA. *Earth Surface Processes and Landforms*: doi: 10.1002/esp.3373.
- 2013 Rice, K.C. and J.R. Price, J.R. Comparison of mineral weathering and biomass nutrient uptake in two small forested watersheds underlain by quartzite bedrock, Catoctin Mountain, Maryland, USA. *Aquatic Geochemistry*: doi 10.1007/s10498-013-9205-8.
- 2013 Riscassi, A.L., and T.M. Scanlon. Factors controlling dissolved and particulate mercury export from three forested, upland Appalachian catchments. *Journal of Hydrology*, 501, 92-100, doi:10.1016/j.jhydrol.2013.07.041.
- 2013 Gunda, T., and T.M. Scanlon. Topographical influences on the spatial distribution of soil mercury at the catchment scale. *Water, Air & Soil Pollution*, 224:1511, doi: 10.1007/s11270-013-1511-7.
- 2013 Robison, A.L., T.S. Scanlon, B.J. Cosby, J.R. Webb, and J.N. Galloway. Roles of sulfate adsorption and base cation supply in controlling the chemical response of streams of western Virginia to reduced acid deposition. *Biogeochemistry*, doi:10.1007/s10533-013-9921-6.
- 2013 Grant, E.H.C., A.M. Wiewel, K.C. Rice. Stream water temperature limits occupancy of salamanders in mid-Atlantic protected areas. *Journal of Herpetology* (in press)

REPORTS, ASSESSMENTS, AND OTHER PUBLICATIONS

- 1980 Hendrey, G.R., J.N. Galloway, S.A. Norton, C.L. Schofield, P.W. Shaffer, and D.A. Burns. Geological and hydrochemical sensitivity of the eastern United States to acid precipitation: U.S. Environmental Protection Agency, EPA-600/3-80-024.
- 1982 Galloway, J.N., G.M. Hornberger, and K.J. Beven (Investigators) D.A. Burns, N.B. Dise, R.T. Haelen, P.W. Shaffer, and J.L. Vreeland (Co-Investigators) Shenandoah Watershed Acidification Study: three-year summary report. September 1979 - September 1982.
- 1982 Shaffer, P.W. and J.N. Galloway. Acid precipitation: The impact on two headwater streams in Shenandoah National Park, Virginia. International Symposium on Hydrometeorology, American Water Resources Association.
- 1985 Hornberger, G.M. and B.J. Cosby. Evaluation of a model describing the long-term dynamic response of catchments to deposition of atmospheric sulfate. Proc. 7th IFAC Symposium on Identification and System Parameter Estimation, Pergamon Press, 229-234 pp.
- 1985 Lynch, D.D., and N.B. Dise. Sensitivity of Stream Basins in Shenandoah National Park to Acid Deposition. Water Resources Investigations Report 85-4115. U.S. Geological Survey, Washington, D.C.
- 1985 Smith, D. Selectivity coefficients for a Shenandoah Watershed Soil. Pilot Study Report for the Shenandoah Watershed Study, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 1985 Cosby, B.J. Modeling the reversibility of acidification with mathematical models. In: Proceedings of the workshop on reversibility of acidification. Grimstad, Norway, June, 1986. Commission of the European Communities, Directorate-General for Science, Research and Development, Brussels, Belgium, 137-148 pp.
- 1986 Hornberger, G.M., B.J. Cosby, and E.B. Rastetter. Regionalization of predictions of effects of atmospheric acidic deposition on surface waters. Proceedings of the International Conference on Water Quality Modeling in the Inland Natural Environment. Bournemouth, England, 535-550 pp.
- 1987 Gilliam F.S. and J.T. Sigmon. Relationships between throughfall chemistry and the chemical fluxes in dry deposition and mountain clouds. Sixth Symposium on Meteorological Observations and Instrumentation. American Meteorological Society, 63-65 pp.
- 1987 Knoer, K.R., J.T. Sigmon, D. Krovetz, and T. Schneider. An inexpensive fine wire thermocouple probe and amplifier for rapid temperature fluctuation measurements. Sixth Symposium on Meteorological Observations and Instrumentation. American Meteorological Society, 229-230 pp.
- 1987 Sigmon, J.T. and M.J. Estes. Comparisons of chemical compositions of mountain stratiform clouds and valley fog in the Shenandoah National Park. Sixth Symposium on Meteorological Observations and Instrumentation, American Meteorological Society, v.67 no.9, September 1986.

- 1987 Sigmon, J.T. and L.H. Lessard. Measurements of concentrations of some reactive atmospheric gases and fine primary particulates with annular denuder atmospheric samplers. 6th Symposium on Meteorological Observations and Instrumentation. American Meteorological Society, v.67 no.9, September 1986.
- 1988 Sigmon, J.T. Elevational gradients in wet and dry deposition of pollution. Environmental Protection Agency (EPA) Internal Report.
- 1988 Webb, R. Virginia Trout Stream Sensitivity Study: 1987 Summary Report, Virginia Trout Stream Sensitivity Study, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 1989 Tandy, E.G., J.R. Webb, and M.C. Kiley. Initial compilation of map-documented bedrock and soil information for Virginia Trout Stream Sensitivity Survey (VTSSS) and selected NSS catchments. Report to U.S. Environmental Protection Agency.
- 1989 Webb, J.R., B.J. Cosby, J.N. Galloway, G.M. Hornberger and P.F. Ryan. Shenandoah Watershed Study: An Overview. Shenandoah Watershed Study, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 1989 Webb, J.R., B.J. Cosby, J.N. Galloway, G.M. Hornberger, and P.F. Ryan. Acidification of native brook trout streams in Virginia. January 1987 - December 1988. Report to Virginia Department of Game and Inland Fisheries.
- 1989 Webb, J.R., P.E. Bugas, B.J. Cosby, J.N. Galloway, G.M. Hornberger, J.W. Kauffman, L.O. Mohn, P.F. Ryan, and P.P. Smith. Acidic deposition and the status of Virginia's wild trout resource. F. Richardson and R.H. Hamre (eds.), In *Wild Trout IV*, Proceedings of the Symposium, Yellowstone National Park.
- 1991 Cosby, B.J., P.F. Ryan, J.R. Webb, G.M. Hornberger, and J.N. Galloway. Mountains of Western Virginia. D.F. Charles (ed.), In *Acid Deposition and Aquatic Ecosystems: Regional Case Studies*. Springer-Verlag, New York.
- 1992 Webb, J.R. and J. Karish. Shenandoah Watershed Study Program: Summary Description and Five-year Projection. Report to National Park Service.
- 1992 Rice, K.C., and O.P. Bricker. Acid rain and its effect on streamwater quality on Catoctin Mountain, Maryland. USGS Open-File Report 92-168, Water Fact Sheet.
- 1992 Rice, K.C., and O.P. Bricker. Acid rain-induced changes in streamwater quality during storms on Catoctin Mountain, Maryland: USGS Open-File Report 92-649, Water Fact Sheet.
- 1993 Bricker, O.P., and K.C. Rice. Acid Rain: Annual Review of Earth and Planetary Sciences, 21:151-174.
- 1993 Rice, K.C., M. M. Kennedy, O.P. Bricker, and C.A. Donnelly. Data on the quantity and chemical quality of precipitation, Catoctin Mountain, north-central Maryland, 1982-1991. USGS Open File Report 93-169.
- 1993 Deviney, F.A., and J.R. Webb. St. Mary's River Watershed Database Reference. Report to George Washington National Forest.

- 1993 McFarland, J.W. Temporal and spatial variability of fluoride in streamwaters of the Shenandoah National Park. Independent Study Project. University of Virginia, Charlottesville, Virginia.
- 1994 Fitzhugh, R.D. Effects of gypsy moth defoliation on water and nutrient cycling in a forested ecosystem. Fourth Year Thesis. University of Virginia, Charlottesville, Virginia.
- 1994 Webb, J.R., F.A. Deviney, and J.N. Galloway. Will the Clean Air Act protect wild trout streams in the southern Appalachian mountains? R. Barnhart and R.H. Hamre (eds.), In *Wild Trout V*, Proceedings of the Symposium, Yellowstone National Park.
- 1994 Webb, J.R., F.A. Deviney, J.N. Galloway, C.A. Rinehart, P.A. Thompson, and S. Wilson. The Acid-Base Status of Native Brook Trout Streams in the Mountains of Virginia: A Regional Assessment Based on the Virginia Trout Stream Sensitivity Study. Report to the Virginia Department of Game and Inland Fisheries.
- 1995 Galloway, J.N., J.R. Webb, and F.A. Deviney. Wet and Bulk Deposition to Shenandoah National Park. Report to the U.S. National Park Service.
- 1995 Rice, K.C., and O.P. Bricker. Seasonal cycles in streamwater quality on Catocin Mountain, Maryland. USGS FS-136-95.
- 1996 Rice, K.C., and O.P. Bricker. Hydrologic and geochemical factors affecting the chemistry of small headwater streams in response to acidic deposition on Catocin Mountain, north-central Maryland. USGS Water-Resources Investigations Report 95-4155.
- 1996 Rice, K.C., M.M. Kennedy, C.A. Carter, R.T. Anderson, and O.P. Bricker. Hydrologic and water-quality data for two small watersheds on Catocin Mountain, north-central Maryland, 1987-93. USGS Open-File Report 95-151.
- 1996 Herlihy, A.T., P.R. Kaufmann, J.L. Stoddard, K.N. Eshleman, and A.J. Bulger. Effects of acidic deposition on aquatic resources in the Southern Appalachians with a special focus on Class 1 Wilderness Areas. Report to the Southern Appalachian Mountain Initiative.
- 1997 Webb, J.R., R.D. Fitzhugh, and T.H. Furman. The acid-base status of surface waters in Otter Creek and Dolly Sods Wildernesses. Project Completion Report to Monongahela National Forest.
- 1997 Chimka, C.T., B.J. Cosby, and J.N. Galloway. Ammonia and the Chesapeake Bay Airshed. Report to the Chesapeake Bay Program, Scientific and Technical Advisory Committee.
- 1997 Bricker, O.P., and K.C. Rice. Acid Rain: in Hydrologic Processes from Catchment to Continental Scales. p. 203-226; ed. Dietrich, W.E., and Sposito, G.
- 1998 Church, T.M., J.R. Scudlark, K.M. Conko, O.P. Bricker, and K.C. Rice. Transmission of atmospherically deposited trace elements through an undeveloped, forested Maryland watershed: Maryland Department of Natural Resources Chesapeake Bay Research and Monitoring Division, CBWP-MANTA-AD-98-2.

- 1998 Bulger, A.J., J.R. Webb, and B.J. Cosby. [Current and projected status of coldwater fish communities in the southeastern U.S. in the context of continued acid deposition.](#) Project Completion Report to Trout Unlimited,
- 1999 Bulger, A.J., B.J. Cosby, C.A. Dolloff, K.N. Eshleman, J.R. Webb, and J.N. Galloway. Shenandoah National Park: Fish in Sensitive Habitats. An integrated assessment of fish community responses to stream acidification. Project Completion Report to U.S. National Park Service.
- 1999 Deviney, F.A., J.R. Webb, J.N. Galloway. Analysis of Power to Detect Acidification Trends in Virginia Streams. Project Completion Report submitted to U.S. Environmental Protection Agency, Corvallis, Oregon.
- 1999 Eshleman, K.N., J.L. Moody, K.E. Hyer, and F.A. Deviney. Episodic acidification of streams in Shenandoah National Park, Virginia. Final Report from Cooperative Agreement #4000-2-1007 (supplement #4) submitted to Department of Interior, National Park Service-Air Resources Division (Denver, CO) and National Park Service-Mid-Atlantic Region (University Park, Pennsylvania).
- 1999 Galloway, J.N., F.A. Deviney, and J.R. Webb. Shenandoah Watershed Study Data Assessment: 1980-1993. Report submitted to National Park Service, Luray, Virginia.
- 1999 Webb, J.R., M.B. Adams, J.N. Galloway, H. Van Miegroet, and W.T. Swank. Southern Appalachian Mountain Region (Section C.3 and Appendix A.). In Integrating the Nation's Environmental Monitoring and Research Networks and Programs: An Exercise to Demonstrate the Value of Index Areas in a National Network. A Report prepared by James R. Gosz and Pete Murdoch for the Office of Science and Technology Policy.
- 2000 Fievet, C.J., J.R. Webb, and C. Gray. Forest Species Composition and Basal Area for Selected Watersheds in Western Virginia. Shenandoah Watershed Study, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 2000 Van Tassel, K. Aluminum Chemistry in the Shenandoah National Park. Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 2001 J.K. Krawczel. Variations in Nitrate Concentrations in Streams of the Mount Rogers Area. Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 2001 Webb, J.R., T.J. Sullivan, and K.U. Snyder. [Lithology-Based Landscape Classification for the SAMI Aquatic Effects Assessment.](#) Report to the Southern Appalachian Mountains Initiative, Asheville, North Carolina.
- 2001 Welsch, D.L., J.R. Webb, and B.J. Cosby. Description of Summer 2000 Field Work: Soil Sample and Tree Core Collection. Report submitted to U.S. National Park Service, Luray, Virginia.
- 2001 Webb, J.R., F.A. Deviney, Jr., B.J. Cosby, and J.N. Galloway. Regional Trends in the Acid-Base Status of Western Virginia Stream Waters: 1988-1999. Report submitted to U.S. Environmental Protection Agency, Corvallis, Oregon.
- 2001 Rice, K.C., S.W. Maben, and J.R. Webb. Title: [Water-Quality Data of Soil Water from Three Watersheds, Shenandoah National Park, Virginia, 1999-2000.](#) Open-File Report 01-236, U.S. Geological Survey, Washington, D.C.

- 2002 Blankenship, J.C. The potential use of trends in tree-ring chemistry as an indicator of soil acidification in Shenandoah National Park. Shenandoah Watershed Study, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 2002 Sullivan, T.J., B.J. Cosby, R.K. Munson, J.R. Webb, K.U. Snyder, A.T. Herlihy, A.J. Bulger, E.H. Gilbert, and D. Moore. [Assessment of the Effects of Acidic Deposition on Aquatic Resources in the Southern Appalachian Mountains](#). Final report to the Southern Appalachian Mountains Initiative, Asheville, North Carolina.
- 2003 Stoddard, J. L., J. S. Kahl, F. A. Deviney, D. R. DeWalle, D. C.T., A. T. Herlihy, J. H. Kellogg, P. S. Murdoch, J. R. Webb, and K. E. Webster. [Response of surface water chemistry to the Clean Air Act Amendments of 1990](#). EPA/620/R-03/001, U.S. Environmental Protection Agency, Corvallis, Oregon.
- 2002 Hornberger, G.M. Forecasting the Impact of Atmospheric Acidic Deposition on the Chemical Composition of Stream Water and Soil Water. In: Beck, M.B. (ed.) Environmental Foresight and Models: A Manifesto, Chapter 8, pp 131-145. Elsevier Science.
- 2003 Fievet, C.J., M.L. Allen, and J.R. Webb. [Documentation of Landuse and Disturbance History in Fourteen Intensively Studied Watersheds in Shenandoah National Park, Virginia: 1920s to Present](#). Shenandoah Watershed Study, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 2003 Sullivan, T.J., B.J. Cosby, J.A. Laurence, R.L. Dennis, K. Savig, J.R. Webb, A.J. Bulger, M. Scruggs, C. Gordon, J. Ray, E.H. Lee, W.E. Hogsett, H. Wayne, D. Miller, and J.S. Kern. [Assessment of Air Quality and Related Values in Shenandoah National Park](#). NPS/NERCHAL/NRTR-03/090, U.S. Department of the Interior, Philadelphia, Pennsylvania.
- 2003 Webb, R. Supplemental Material on Acidic Deposition and the Warm Springs Mountain/Cowpasture River Conservation Area. In Crichton, C. Warm Springs Mountain/Cowpasture River Conservation Area Plan. The Nature Conservancy of Virginia, Charlottesville, Virginia.
- 2003 Galloway, J. N. Acid deposition: S and N cascades and elemental interactions. J.M. Melillo, C.B. Field, and B. Moldan (eds.), In Element Interactions. SCOPE, Island Press, pp. 358.
- 2004 Rice, K.C., and R.E. Jung. Water-quality and amphibian population data collected in Maryland, Washington, D.C., and Virginia, 2001-2004. USGS Open-File Report 2004-1401.
- 2004 Webb, R. [Effects of Acidic Deposition on Aquatic Resources in the Central Appalachian Mountains](#). A Shenandoah Watershed Study Report, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 2004 Sullivan, T.J. and B.J. Cosby. [Aquatic Critical Load Development for the Monongahela National Forest, West Virginia](#). Report prepared for USDA Forest Service, Monongahela National Forest, Elkins, West Virginia.

- 2004 [The Shenandoah Watershed Study: Twenty Five Years of Watershed Research and Monitoring in Shenandoah National Park.](#) National Park Service.
- 2005 Rice, K.C., F.A. Deviney, G.M. Hornberger, and J.R. Webb. [Predicting the Vulnerability of Streams to Episodic Acidification in Shenandoah National Park, Virginia.](#) U.S. Geological Survey, Scientific Investigations Report 2005-5259.
- 2005 Webb, J.R., F.A. Deviney, S.W. Maben, D.S. Tobias, A.J. Humphries, B.J. Cosby, J.N. Galloway. [Identification of Native Brook Trout Streams That Are Impaired by Acidification.](#) Report to Virginia Water Resources Research Center, Blacksburg, Virginia.
- 2006 Webb, R. [The Shenandoah Watershed Study: A Convergence of Science and Public Policy,](#) Park Science.
- 2006 Snyder, C. D., R. Webb, J. Atkinson , and S. Spitzer. [Effects of Stream Water Chemistry on Mercury Concentrations in Brook Trout in Shenandoah National Park.](#) Report submitted to the National Park Service, Shenandoah National Park, Luray, Virginia.
- 2006 Cosby, B.J., J.R. Webb, J.N. Galloway, and F.A. Deviney. [Acidic Deposition Impacts on Natural Resources in Shenandoah National Park,](#) Technical Report NPS/NER/NRTR—2006/066.
- 2007 Rice, K.C., F.A. Deviney, and G. Olson, G. [Acid rain in Shenandoah National Park, Virginia.](#) USGS Fact Sheet 2007-3057.
- 2007 Webb, J.R., and K.C. Rice. [Mystery solved: White deposit on streambeds proves to be diatoms.](#) Shenandoah National Park Resource Management Newsletter.
- 2008 Rice, K.C. [Water-quality data at amphibian research sites in Maryland, Washington, D.C., and Virginia, 2005-2007.](#) USGS Open File Report 2008-1204.
- 2010 Sullivan, T.J., B.J. Cosby, and T.C. McDonnell. [Aquatic Critical Loads and Exceedances in Acid-Sensitive Portions of Virginia and West Virginia.](#) Report to National Park Service, USEPA, USDA Forest Service, and USGS.
- 2012 Sullivan, T.J., A.T. Herlihy, G.B. Lawrence, and J.R. Webb. [Forest Service National Protocols for Sampling Air Pollution-Sensitive Waters.](#) Prepared for the USDA Forest Services Air Resource Management Program, Rocky Mountain Research Station, General Technical Report RMRS-GTR-278WWW, 2012 Webb, R. Virginia Trout Stream Sensitivity Study 2010 Survey: Results for Shenandoah National Park. Report prepared for National Park Service, Shenandoah National Park, Luray, Virginia.
- 2013 Jastram, J.D., C.D. Snyder, N.P. Hitt, and K.C. Rice., [Synthesis and interpretation of surface-water quality and aquatic biota data collected in Shenandoah National Park, Virginia, 1979–2009:](#) U.S. Geological Survey Scientific Investigations Report 2013–515.
- 2013 Snyder, C.D., J.R. Webb, J.A. Young, and Z.B. Johnson. [Significance of headwater streams and perennial springs in ecological monitoring in Shenandoah National Park:](#) U.S. Geological Survey Open-File Report 2013-1178.

THESES

- 1982 Burns, D.A. Speciation and equilibrium modeling of soluble aluminum in a small headwater stream in Shenandoah National Park, Virginia. 105 pp. Masters Thesis.
- 1983 Vreeland, J.L. The role of shallow groundwater in the hydrogeochemical response of White Oak Run, Shenandoah National Park, Virginia. 206 pp. Masters Thesis.
- 1984 Dise, N.B. A synoptic survey of headwater streams in Shenandoah National Park, Virginia, to evaluate sensitivity to acidification by acid deposition. 165 pp. Masters Thesis.
- 1984 Haelen, T.R. Hydrological and solution chemistry responses of a tributary valley in the White Oak Run catchment, Shenandoah National Park, Virginia. 279 pp. Masters Thesis.
- 1985 Feldman, R.S. The influence of alkalinity on stream invertebrates in the Shenandoah National Park, Virginia: Implications of acid deposition. 154 pp. Masters Thesis.
- 1986 Cozzarelli, I.M. A two-water model of aluminum mobilization in a natural soil system. 162 pp. Masters Thesis.
- 1986 Castelle, A.J. Carbon dioxide dynamics and base cation leaching from acid forest soils in the White Oak Run watershed, Shenandoah National Park, Virginia. 117 pp. Masters Thesis.
- 1987 Harrison, E.A. A simulation model of forest succession in Shaver Hollow, Shenandoah National Park, Virginia. 127 pp. Masters Thesis.
- 1987 Tenbus, F.J. Hydrological characteristics of the alluvial infill at the White Oak Run catchment, Shenandoah National Park, Virginia. 195 pp. Masters Thesis.
- 1988 Webb, J. R. Retention of atmospheric sulfate by catchments in Shenandoah National Park, Virginia. 217 pp. Masters Thesis.
- 1989 Lessard, L.H. The variability of acidic gas particle concentrations and deposition in a Virginia deciduous forest. 143 pp. Masters Thesis.
- 1989 Mathews, N.C. Surface, subsurface water interaction in the alluviated stream channel of the Shaver Hollow catchment, Shenandoah National Park, Virginia. 146 pp. Masters Thesis.
- 1990 Estes, M.J. The chemical composition of cloud water in the Shenandoah National Park and its variation with long-range atmospheric transport and season. 115 pp. Masters Thesis.
- 1990 Tandy, E.G. Spatial and temporal variability of soluble sulfate and soil moisture in White Oak Run, Shenandoah National Park, Virginia. 116 pp. Masters Thesis.
- 1991 Miller, D. Base cation leaching from an acid forest soil of the Shenandoah National Park, Virginia. 198 pp. Masters Thesis.
- 1991 Jackson, E. Soil moisture distribution and tree mortality in Shaver Hollow Shenandoah National Park, Virginia. 127 pp. Masters Thesis.
- 1991 Castro, M.S. Characterization of natural sulfur fluxes from forest soils in a temperate deciduous forest. 145 pp. Ph.D. Dissertation.

- 1992 Currie, W.S. Modeling base cation cycles driven by forest dynamics in a central Appalachian watershed. 135 pp. Masters Thesis.
- 1993 Bazemore, D.E. The role of soil water in stormflow generation in a forested headwater catchment. 56 pp. Masters Thesis.
- 1993 Miller-Marshall, L.M. Mechanisms controlling variation in stream chemical composition during hydrologic episodes in the Shenandoah National Park, Virginia. 166 pp. Masters Thesis.
- 1993 Reust, L.S. Clay mineral analysis of soils developed on a forested watershed, Shenandoah National Park, Virginia. 105 pp. Masters Thesis.
- 1994 Ingersoll, S.K. Differences in soil sulfate adsorption within a headwater catchment in Shenandoah National Park, Virginia. 93 pp. Masters Thesis.
- 1995 Dennis, T.E. The susceptibility of the Blacknose Dace, *Rhinichthys atratulus*, to acidification in Shenandoah National Park. 63 pp. Masters Thesis.
- 1995 Weishampel, P.A. Nitrogen cycle of a disturbed forest. 82 pp. Masters Thesis.
- 1996 Fitzhugh, R.D. Controls on longitudinal and seasonal variation of stream acidity in a headwater catchment on the Appalachian Plateau, West Virginia. 61 pp. Masters Thesis.
- 1996 MacAvoy, S.E. Susceptibility of the early life stages of brook trout, *Salvelinus fontinalis*, and adult blacknose dace, *Rhinichthys atratulus*, to acidification in Shenandoah National Park. 88 pp. Masters Thesis.
- 1997 Hyer, K.D. Episodic acidification of streams in Shenandoah National Park, Virginia. 207 pp. Masters Thesis.
- 1997 Muller-Koppers, M.M. Dry deposition of base cations to a small forested watershed. Masters Thesis.
- 1997 Greene, C.W. Characterization of runoff processes in a forested headwater catchment, Shenandoah National Park, Virginia. 138 pp. Masters Thesis.
- 1997 Chang, L. Effects of carbon and nitrogen on nitrification in Shaver Hollow Watershed, Shenandoah National Park, Virginia. 150 pp. Ph.D. Dissertation.
- 1997 Carl, K.A. The influence of transient storage in the hypohelic zone on solute transport in South Fork Brokenback Run, Virginia. 60 pp. Masters Thesis.
- 1997 Korsak, A.K. Sources of sulfur to Yellow Creek and Coal Run, Otter Creek Wilderness, West Virginia : A stable isotope approach. Masters Thesis.
- 1999 Scanlon, T.M. Modeling stream discharge and dissolved silica variations in a forested headwater catchment: A hydrological pathway approach. 91 pp. Masters Thesis.
- 1999 Buffam, I.D. A stormflow/baseflow comparison of dissolved organic matter concentration and bioavailability in an Appalachian stream. 186 pp. Masters Thesis.
- 2000 Pochatila, J. Geochemical investigation of weathering processes in a forested, headwater catchment, South Fork Brokenback Run, Shenandoah National Park: A mass-balance approach. 119 pp. Masters Thesis.

- 2000 Deviney, F.A. Detecting change in water quality in Deep Run and White Oak Run, Shenandoah National Park, Virginia. 107 pp. Masters Thesis.
- 2001 Reinhardt, K. The effects of the June 1995 flood on stream chemistry of the Staunton River. 171 pp. Masters Thesis.
- 2003 Welsch, D.L. Modeling the influence of riparian soil air CO² concentrations on stream water alkalinity. Ph.D. Dissertation.
- 2004 Krawzcel, J.K. Assessing the lethal and sublethal effects of stream acidification on five fish species in Shenandoah National Park. Masters Thesis.
- 2004 Chanat, J.G. Hydrologic Mechanisms Underlying Episodic Concentration-Discharge Relationships in Headwater Catchments. Ph.D. Dissertation.
- 2006 Moore, C.W. Survey of mercury in the brook trout and stream waters of the Shenandoah National Park, Virginia, USA. 93 pp. Masters Thesis.
- 2011 Miller, J.L. Chemical Changes in Virginia's Brook Trout Streams: An Analysis of Statewide Surveys 1987-2010. 63 pp. Master's Thesis.
- 2011 Riscassi, A.L. Controls on streamwater dissolved and particulate mercury within three mid-Appalachian forested headwater catchments. 184 pp. Ph.D. Dissertation.

PRESENTATIONS

- 1980 Beven, K.J. and G.M. Hornberger. Calibration of a hydrograph simulation model for a catchment in Shenandoah National Park. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1980 Beven, K.J., P. Shaffer, S. Lees, G.M. Hornberger, J.N. Galloway, and K. Nordstrom. Components of stormflow from catchments in Shenandoah National Park. Abstract published in ESO and paper presented at American Geophysical Union Chapman Conference.
- 1984 Cosby, B.J., J.N. Galloway, G.M. Hornberger, P. Shaffer, and R.F. Wright. The effect of acid deposition on the streams of Shenandoah National Park: past, present and future. Eighth Shenandoah National Park Symposium. Shenandoah National Park, Virginia (Invited paper).
- 1984 Cosby, B.J., G.M. Hornberger, R.F. Wright, and J.N. Galloway. A simple model of dissolved sulfate dynamics in soils. Spring Meeting of the American Geophysical Union, Cincinnati, Ohio.
- 1984 Cosby, B.J., R.F. Wright, G.M. Hornberger, and J.N. Galloway. Assessment of an equilibrium model of soil and streamwater chemistry. Workshop on predicting soil and water acidification. Knoxville, Tennessee. Oak Ridge National Laboratory (Invited paper).
- 1985 Cosby, B.J., G.M. Hornberger, E.B. Rastetter, and J.N. Galloway. Forecasting long-term changes in water chemistry in two streams in Shenandoah National Park. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1985 Cosby, B.J., G.M. Hornberger, R.F. Wright, E.B. Rastetter, and J.N. Galloway. Estimating catchment water quality response to acid deposition using mathematical models of soil ion exchange processes. Workshop on Mechanisms of Ion Transport in Soils. Swiss Federal Institute of Technology. Zurich, Switzerland.
- 1985 Cosby, B.J., R.F. Wright, G.M. Hornberger, and J.N. Galloway. Acidic deposition and weathering: a modeling approach. International Conference on Acid Precipitation. Muskoka, Canada.
- 1985 Hornberger, G.M., J.N. Galloway, E.B. Rastetter, and B.J. Cosby. Long-term streamwater chemistry responses of catchments in Shenandoah National Park to acidic deposition. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1985 Galloway, J.N., G.M. Hornberger, and B.J. Cosby. The influence of acid deposition on streamwater composition for two forested catchments in Shenandoah National Park, Virginia. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland (Invited paper).
- 1985 Rastetter, E.B., G.M. Hornberger, and B.J. Cosby. Examination of short-term dynamic responses of catchments to acid deposition using linear transfer function models. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.

- 1985 Sigmon, J.T. Forest-atmosphere interactions-deposition of atmospheric pollutants. U.S. Forest Service Air Resource Management and Wilderness Protection Workshop. Shenandoah National Park, Virginia.
- 1986 Cosby, B.J. and R.F. Wright. - Modeling the reversibility of acidification with mathematical models. Commission of the European Communities, Workshop on Reversibility of Acidification, Grimstad, Norway (Invited paper).
- 1986 Hornberger, G.M., B.J. Cosby, and J.N. Galloway. Modeling the regional influence of acid deposition on streams in Shenandoah National Park. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland (Invited paper).
- 1986 Hornberger, G.M., B.J. Cosby, and R.F. Wright. Regional application of a conceptual surface water acidification model. Fall Meeting of the American Geophysical Union, San Francisco, California (Invited paper).
- 1986 Ryan, P.F., B.J. Cosby, G.M. Hornberger, R.F. Wright, and P.G. Whitehead. Long-term pH changes inferred using a hydrochemical model of catchment soils. 50th Annual Meeting, American Society of Limnology and Oceanography.
- 1986 Ryan, P.F., G.M. Hornberger, and B.J. Cosby. Differences between sulfate concentration/discharge relationships in "replicate" catchments in an acid deposition study. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1986 Tenbus, F.J. and G.M. Hornberger. The role of heterogeneous hydraulic conductivity in calculation of subsurface discharge from an upland catchment. Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1986 Wolock, D.M., G.M. Hornberger, B.J. Cosby, and T.A. King. The influence of catchment hydrological characteristics on the likelihood of episodic stream pH depression. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1987 Cosby, B.J. and G.M. Hornberger. Analysis of surface water acidification in Shenandoah National Park, VA, using a regionalized conceptual model (MAGIC). Symposium session of the International Society for Ecological Modeling, Thirty-eighth AIBS Annual Meeting, Columbus, Ohio (Invited paper).
- 1987 Galloway, J.N., G.M. Hornberger, P.F. Ryan, B.J. Cosby, and J.R. Webb. The cycling of Sulfur, Nitrogen, and Chlorine through two forest catchments in Shenandoah National Park, VA. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland (Invited paper).
- 1987 Miller, D. and J.N. Galloway. Base cation leaching from an acid forest soil, Shenandoah National Park, Virginia. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1987 Ryan, P.F., J.N. Galloway, B.J. Cosby, and C. Gold. Elevational differences in bulk precipitation chemistry in Shenandoah National Park, VA. Spring Meeting of the American Geophysical Union, Baltimore, Maryland.

- 1987 Sigmon, J.T. Atmospheric Deposition to Forested Watersheds. Savannah River Laboratory, Georgia.
- 1987 Webb, J.R., J.N. Galloway, B.J. Cosby, and G.M. Hornberger. Spatial variability of alkalinity and sulfate in the streams of Shenandoah National Park, VA. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1988 Mathews, N. C. and G.M. Hornberger. - Surface, subsurface water interactions in an alluviated stream channel of an upland forested catchment. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1988 Sigmon, J.T. and M.J. Estes. Relationship between cloud chemistry and meteorology in Central Virginia: a Preliminary Study. Preprints of the Eighty-first Annual Meeting of the Air Pollution Control Association.
- 1988 Webb, J.R. Potential for streamwater acidification in the Virginia mountains: coordination of the Shenandoah Watershed Study and the Virginia Trout Stream Sensitivity Study. Tenth Shenandoah Research Symposium, Shenandoah National Park, Virginia.
- 1989 Webb, J.R., B.J. Cosby, J.N. Galloway, and G.M. Hornberger. Acidification of native brook trout streams in Virginia. Virginia Water Resources Conference, Richmond, Virginia.
- 1988 Webb, J.R., B.J. Cosby, J.N. Galloway, and G.M. Hornberger. The streamwater habitat of *Salvelinus fontinalis* in Virginia: A resource jeopardized by current levels of acidic deposition. American Fisheries Society Annual Meeting, Anchorage, Alaska.
- 1988 Rice, K.C., and O.P. Bricker. Acidic precipitation and its effects on chemistry of streams flowing on various bedrock types in central Maryland. 2nd National Capital Region Science Conference, September 1988, Catoctin Mountain National Park, Maryland.
- 1989 Bricker, O.P., and K.C. Rice. Influence of bedrock geology on the chemistry of surface waters in central Maryland. AGU Chapman Conference, Hydrogeochemical Responses of Forested Catchments, Bar Harbor, Maine.
- 1989 Kennedy, M.M., K.C. Rice, and O.P. Bricker. The effects of storm events on episodic acidification of headwater streams on different bedrock types in Maryland and Virginia. Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1989 Webb, J.R. Acidification of Native Brook Trout Streams in Virginia. Acid deposition effects in the Mid-Atlantic States. Conference sponsored by U.S. Environmental Protection Agency, Pittsburgh, Pennsylvania.
- 1990 Webb, J.R., J.N. Galloway, and G.M. Hornberger. Watershed acidification and spatial variability of alkalinity and sulfate in mountain headwater streams of Virginia. Virginia Water Resources Conference, Richmond, Virginia.
- 1990 Webb, J.R., J.N. Galloway, G.M. Hornberger, and E.G. Tandy. Acidification and spatial variability of alkalinity and sulfate in mountain headwater streams of Shenandoah National Park and western Virginia. Twelfth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.

- 1990 Kennedy, M.M., O.P. Bricker, K.C. Rice, and M.A. Mast. An evaluation of the effects of antecedent conditions on the episodic acidification of streams. Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1991 Mast, M.A., K.C. Rice, O.P. Bricker, and M.M. Kennedy. Relation of stream chemistry and flowpaths during storm events at four small Mid-Atlantic watersheds. Gordon Research Conference, "Hydrological-Geochemical-Biological Interactions in Forested Catchments," Plymouth, New Hampshire.
- 1991 Rice, K.C., and O.P. Bricker. Stable isotopes of hydrogen and oxygen in water, Catoctin Mountain, north-central Maryland. Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1991 Herlihy, A.T., P.R. Kaufmann, M.R. Church, P.J. Wigington, J.R. Webb, and M.J. Sale. The effects of acidic deposition on forested upland catchments in the Mid-Appalachian mountains. Abstract published in ESO and poster presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1991 Webb, J.R. and J.N. Galloway. Potential acidification of streams in the Mid-Appalachian Highlands: a problem with generalized assessments. Southern Appalachian Man and Biosphere Conference, Gatlinburg, Tennessee.
- 1991 Webb, J.R. and J.N. Galloway. Variation in watershed response to acidic deposition in the mountains of Virginia. Abstract published in ESO and poster presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1992 Bazemore, D.E. and K.N. Eshleman. Subsurface contribution to storm runoff in an Appalachian headwater stream. Thirteenth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.
- 1992 Bazemore, D.E. and K.N. Eshleman. The vadose water contribution to stormflow in a forested mountain catchment. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1992 Bulger, A.J. Potential acid impact on species richness in the Southern Appalachians? Environmental Resources Research Institute, Penn State University. (Invited speaker)
- 1992 Eshleman, K.N. A two-component mixing model for predicting regional episodic acidification of surface waters. Thirteenth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.
- 1992 Galloway, J.N. Acid deposition in Shenandoah National Park: A synthesis of twelve years of measurements. Thirteenth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.
- 1992 Ingersoll, S.K., B.J. Cosby, and T.H. Furman. Spatial variation in sulfate mobility in a headwater catchment in Shenandoah National Park, Virginia. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1992 Marshall, L.M. Temporal and spatial variation in stream chemical composition of White Oak Run and Deep Run, Shenandoah National Park. Thirteenth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.

- 1992 Thompson, P.A. and K.N. Eshleman. Temporal variations in streamwater chemistry in North Fork of the Dry Run, Shenandoah National Park. Thirteenth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.
- 1992 Webb, J.R., B.J. Cosby, F.A. Deviney, D. Downey, J.N. Galloway, and M.E. Mitch. Nitrogen release and stream-water acidification following forest defoliation by the gypsy moth in the southern Appalachian mountain region. Southern Appalachian Man and Biosphere Conference, Gatlinburg, Tennessee.
- 1992 Webb, J.R., D. Downey, and M.E. Mitch. Regional biogeochemical change associated with forest defoliation by the gypsy moth. Managing Water Resources During Global Change: An International Conference. American Water Resources Association, Reno, Nevada.
- 1992 Webb, J.R., D. Downey, and M.E. Mitch. Streamwater Acidification associated with forest defoliation by gypsy moth in Shenandoah National Park. Thirteenth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.
- 1992 Weishample, P.A. Modeling base cations driven by forest dynamics in a central Appalachian watershed, Shenandoah National Park. Thirteenth Biennial Research and Resource Management Symposium, Shenandoah National Park, Virginia.
- 1992 Kendall, C., M.A. Mast, and K.C. Rice. Tracing watershed weathering reactions with ^{13}C . Proceedings Volume of the 7th International Symposium on Water-Rock Interaction, Park City, Utah.
- 1992 Kendall, C., K.C. Rice, and M.A. Mast. Tracing seasonal changes in sources of carbon in small catchments using ^{13}C . Spring Meeting of the American Geophysical Union, Montreal, Quebec, Canada.
- 1992 Kuebler, Anne, K.C. Rice, O.P. Bricker, and M.M. Kennedy. Comparison of solute mass balances and geology of four small Mid-Atlantic watersheds. Spring Meeting of the American Geophysical Union, Montreal, Quebec, Canada.
- 1993 Bricker, O.P., and K.C. Rice. The role of local-scale research in assessing regional-scale acid deposition effects. Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1993 Bricker, O.P., A.K. O'Brien, and K.C. Rice. Seasonal cycles and long-term trends in small headwater catchments, Eastern United States. BioGEOmon Symposium on Ecosystem Behavior. Evaluation of Integrated Monitoring in Small Catchments, Prague, Czech Republic.
- 1993 Rice, K.C., and O.P. Bricker. Chemical and isotopic composition of storm runoff in two small watersheds on Catoctin Mountain, north-central Maryland. Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1993 Bulger, A.J. Impacts of acidification on stream fishes versus lake fishes. U.S./Canada Air Quality Committee, Shenandoah National Park, Virginia (Invited speaker).
- 1993 Cosby, B.J., J.R. Webb, F.A. Deviney, J.N. Galloway, and D.M. Downey. Catchment-scale nitrogen saturation following forest defoliation by the gypsy moth. Abstract published in ESO and paper presented at American Geophysical Union, Fall Meeting, San Francisco, California.

- 1993 Herlihy, A.T., P.R. Kaufmann, M.R. Church, P.J. Wigington, J.R. Webb, and M.J. Sale. The effects of acidic deposition on forested upland catchments in the Mid-Appalachian mountains. West Virginia Academy of Science, Elkins, West Virginia.
- 1993 Webb, J.R. Acidic deposition and public lands in the southeastern United States. United States Information Agency, Washington, D.C.
- 1993 Webb, J.R. Nitrogen release and stream acidification following forest defoliation by the gypsy moth. West Virginia Academy of Science, Elkins, West Virginia.
- 1993 Webb, J.R. It's the sulfur, stupid. National Resource Board Conservation Issues Panel, Trout Unlimited Annual Meeting, Hershey, Pennsylvania.
- 1993 Webb, J.R. Aquatic effects of acidic deposition in the southern Appalachian Mountain region. Southern Appalachian Mountain Initiative Semi-Annual Meeting, Asheville, North Carolina.
- 1993 Webb, J.R. Adverse impact: Virginia trout stream sensitivity. Twenty-seventh Annual Meeting of the State Advisory Board on Air Pollution: Air Quality Compliance Issues of the 1990s, Williamsburg, Virginia.
- 1994 Bulger, A.J. Impacts of acidification on fish in Shenandoah National Park, Virginia. Mid-Atlantic Highlands Area Environmental Monitoring and Assessment Conference, Hershey, Pennsylvania.
- 1994 Eshleman, K.N., L.M. Miller-Marshall, and D.E. Bazemore. Episodic acidification of streams in Shenandoah National Park, Virginia. Mid-Atlantic Highlands Area Environmental Monitoring and Assessment Conference, Hershey, Pennsylvania.
- 1994 Hyer, K.E. and K.N. Eshleman. Changes in the acid-base composition of three headwater streams in Shenandoah National Park during precipitation events. Annual Meeting of the Virginia Academy of Science, Harrisonburg, Virginia.
- 1994 Webb, J.R. Observation of change in stream-water solute concentrations in Shenandoah National Park and adjacent mountain areas. Mid-Atlantic Highlands Area Environmental Monitoring and Assessment Conference, Hershey, Pennsylvania.
- 1994 Bricker, O.P., A.K. O'Brien, K.C. Rice, R.T. Anderson, and M.M. Kennedy. Nitrate export from forested watersheds in the Chesapeake Bay Region, USA. 15th annual Society of Environmental Toxicology and Chemistry Meeting, Denver, Colorado.
- 1994 Rice, K.C., and O.P. Bricker. Seasonal cycles of dissolved constituents in streamwater on Catoctin Mountain, north-central Maryland. Virginia Water Resources Conference, Richmond, Virginia.
- 1994 Rice, K.C., and O.P. Bricker. Effects of acidic deposition on the hydrochemistry of Bear Branch, a small forested watershed on Catoctin Mountain, north-central Maryland: Chesapeake Research Conference, Toward a Sustainable Coastal Watershed: The Chesapeake Experiment, Norfolk, Virginia.
- 1995 Rice, K.C., and O.P. Bricker. Relation of streamwater chemistry to hydrologic and geochemical controls in four small forested watersheds on Catoctin Mountain in north-central Maryland. Fall Meeting of the American Geophysical Union, San Francisco, California.

- 1995 Bulger, A.J., B.J. Cosby, K.N. Eshleman, J.N. Galloway, J.R. Webb, and C.A. Dolloff. The "Shenandoah National Park: Fish in Sensitive Habitats" (SNP: FISH) Project. An integrated assessment of fish community responses to stream acidification. ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden.
- 1995 A.J. Bulger, B.J. Cosby, K.N. Eshleman, J.N. Galloway, C.A. Dolloff and J.R. Webb The "Shenandoah National Park: Fish in Sensitive Habitats (SNP: FISH)" project: An Integrated Assessment of Fish Community Responses to Stream Acidification. American Fisheries Society, East Coast Trout Workshop, Hershey, Pennsylvania.
- 1995 Bulger, A.J., B.J. Cosby, K.N. Eshleman, J.N. Galloway, C.A. Dolloff and J.R. Webb The "Shenandoah National Park: Fish in Sensitive Habitats (SNP: FISH)" project: An Integrated Assessment of Fish Community Responses to Stream Acidification. Catchment Science: Interactions of Hydrology, Biology, and Geochemistry, Gordon Research Conference, New London, New Hampshire (Invited presentation).
- 1995 Cooper, O.R., K.E. Hyer, M.M. Muller, J.L. Moody, and K.N. Eshleman. The impact of atmospheric dynamics on precipitation chemistry and associated streamwater acidification. ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden (Poster).
- 1995 Cosby, B.J., A.J. Bulger, and K.N. Eshleman. An integrated modeling approach for long-term forecasts of chronic and episodic acidification effects on fish. ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden (Poster).
- 1995 Dennis T.E. and A.J. Bulger Water chemistry variables as predictors of fish condition factor in Shenandoah National Park (USA) ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden.
- 1995 Dennis T.E. and A.J. Bulger. Blacknose dace (*Rhinichthys atratulus*) Condition Factor: an Early Warning of Acidification Effects in Shenandoah National Park Trout Streams. American Fisheries Society, East Coast Trout Workshop, Hershey, Pennsylvania.
- 1995 Dennis T.E. and A.J. Bulger. Blacknose dace (*Rhinichthys atratulus*) Condition Factor and whole-body sodium as indicators of acidification stress in Shenandoah National Park (USA) fish populations. ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden.
- 1995 Dennis T.E. and A.J. Bulger. Sublethal indicators of acid stress in Blacknose dace (*Rhinichthys atratulus*) in Shenandoah National Park. Catchment Science: Interactions of Hydrology, Biology, and Geochemistry, Gordon Research Conference, New London, New Hampshire (Invited presentation).
- 1995 Eshleman, K.N., K.E. Hyer, and J.R. Webb. Comparative analysis and regionalization of hydrochemical responses of small forested watersheds in the eastern Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California (Invited paper).
- 1995 Eshleman, K.N., L.M. Miller-Marshall, and J.R. Webb. Long-term changes in episodic acidification of streams in Shenandoah National Park, Virginia (USA). ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden.

- 1995 Fitzhugh, R.D., T.H. Furman, B.J. Cosby, and J.R. Webb. Controls on stream acidity in a headwater catchment on the Appalachian plateau, West Virginia. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1995 Hyer, K.E., D.E. Bazemore, and K.N. Eshleman. Comparisons of stream hydrochemical responses among three forested mountain catchments in Virginia. Abstract published in ESO and poster presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1995 Hyer, K.E., J.R. Webb, and K.N. Eshleman. Episodic acidification of three streams in Shenandoah National Park, Virginia (USA). ACID REIGN '95? International Conference on Shenandoah National Park, Virginia (USA). Acid Reign '95? International Conference on Acid Rain, Goteburg, Sweden (Poster).
- 1995 MacAvoy, S.E and A.J. Bulger. Acidification Effects on Survival of Brook Trout (*Salvelinus fontinalis*) Embryos and Fry in Shenandoah National Park. American Fisheries Society, East Coast Trout workshop, Hershey, Pennsylvania.
- 1995 MacAvoy, S.E and A.J. Bulger. Survival of brook trout (*Salvelinus fontinalis*) Embryos and Fry in streams of different acid sensitivity in Shenandoah National Park, USA. ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden.
- 1995 MacAvoy, S.E. and A.J. Bulger. Acid episodes kill brook trout fry in acidified streams in Shenandoah National Park. Catchment Science: Interactions of Hydrology, Biology, and Geochemistry, Gordon Research Conference, New London, New Hampshire (Invited presentation).
- 1995 Newman, K. and A. Dolloff. Fish Habitat and fish populations in acid-sensitive Shenandoah National Park Catchments. ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden.
- 1995 Newman, K. and A. Dolloff. Fish Habitat differences do not explain differences in fish communities, but acid status does, in Shenandoah National Park Catchments. Catchment Science: Interactions of Hydrology, Biology, and Geochemistry, Gordon Research Conference, New London, New Hampshire (Invited presentation).
- 1995 Webb, J.R., B.J. Cosby, K.N. Eshleman, and J.N. Galloway. Change in the acid-base status of Appalachian mountain catchments following forest defoliation by the gypsy moth. ACID REIGN '95? International Conference on Acid Rain, Goteburg, Sweden (Poster).
- 1995 Webb, J.R., B.J. Cosby, K.N. Eshleman, and J.N. Galloway. - An empirical model for projection of stream-water acidification in the Mid-Appalachian mountain range. ACID REIGN '95 Conference, Goteberg, Sweden.
- 1996 Bulger, A.J. Patterns of fish response to acidification in Virginia vs. Scotland. Macaulay Land Use Research Institute, Aberdeen, Scotland (Invited speaker).
- 1996 Bulger, A.J. Transboundary air pollution effects on freshwater biota. Oceanography Department, Old Dominion University (Invited speaker).
- 1996 Bulger, A.J. Status of damaged trout populations and likelihood of reversibility of acid effects. Trout Unlimited, National Executive Council, August (Invited keynote speaker).

- 1996 Eshleman, K.N., J.N. Galloway, J.R. Webb, F.A. Deviney, R.P. Morgan II, M.K. Meagher, and N.M. Castro. Temporal patterns of dissolved nitrogen leakage from mid-Appalachian forested watersheds. American Geophysical Union Chapman Conference on Nitrogen Cycling in Forest Ecosystems, Sunriver, Oregon (Poster).
- 1996 Hyer, K.E. The chemical factors controlling episodic acidification in a small forested stream in Shenandoah National Park, Virginia. Annual Meeting of the Chesapeake Region Association of Biogeochemists, Charlottesville, Virginia.
- 1996 Cosby, B.J., J.N. Galloway, G.M. Hornberger, J.R. Webb, and A.J. Bulger. Watershed studies of natural and anthropogenic disturbances in Mid-Atlantic forested ecosystems. American Academy for the Advancement of Sciences, Annual Meeting and Science Innovation Exposition, Seattle, Washington.
- 1997 Eshleman, K.N. A linear model of the effects of the disturbance on nitrogen leakage from forested watersheds. Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1997 Eshleman, K.N., J.R. Webb, and J.N. Galloway. Long-term changes in nitrogen in surface water: Deposition or forested disturbance? Third EMAP Research Symposium, Albany, New York.
- 1997 Eshleman, K.N., J.R. Webb, and J.N. Galloway. - Long-term changes in fluxes of nitrogen from forests to surface waters: Atmospheric deposition or disturbance? Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1997 Furman, T.H. Geology drives the system. Shenandoah Symposium: Science, Myth, Culture, Shenandoah National Park, Virginia.
- 1997 Hyer, K.E., J.N. Galloway, and K.N. Eshleman. Episodic nitrate and ammonium transport along a spatial gradient in a forested headwater stream in Virginia. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 1997 Galloway, J.N. Landscape under siege: atmospheric factors. Shenandoah Symposium: Science, Myth, Culture, Shenandoah National Park, Virginia.
- 1997 J.R. Webb, B.J. Cosby, F.A. Deviney, and J.N. Galloway. Observation of change in regional stream-water composition following forest defoliation. Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1997 Buffam, I.D., J.N. Galloway, and L.K. Blum. A low flow/high flow comparison of dissolved organic matter concentrations and bacterial growth in an Appalachian stream. American Society of Limnology and Oceanography (Poster).
- 1998 Eshleman, K.N. Assessment of forested disturbance in the mid-Atlantic region: a multi-scale linkage between terrestrial and aquatic ecosystems. United States Environmental Protection Agency Mid-Atlantic Integrated Assessment: Working Conference, Baltimore, Maryland.

- 1998 Webb, J.R., F.A. Deviney, B.J. Cosby, and J.N. Galloway. 1998. Change in the acid-base status of streams associated with forested mountain watersheds in the mid-Appalachian region. United States Environmental Protection Agency Mid-Atlantic Integrated Assessment: Working Conference, Baltimore, Maryland.
- 1998 Webb, J.R., F.A. Deviney. The acid status of the St. Marys River: the Virginia Trout Stream Sensitivity Study results. Maple Flats Symposium. Sponsored by Virginia Natural History Society and George Washington and Jefferson National Forests, Charlottesville, Virginia.
- 1998 Bricker, O.P., and K.C. Rice. Nitrate export from seven small, forested catchments in the Chesapeake Bay watershed, Eastern USA. Spring Meeting of the American Geophysical Union, Boston, Massachusetts.
- 1998 Church, T.M., J.R. Scudlark, K.M. Conko, O.P. Bricker, and K.C. Rice. Transmission of atmospherically deposited trace elements through an undeveloped, forested Maryland watershed. Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1999 Bulger, A.J. Fish responses to acidification in the southeastern US versus the northeastern US. Hubbard Brook Research Foundation, Hanover, New Hampshire (Invited symposium speaker).
- 1999 Deviney, F.A. Detecting change in streamwater concentrations time series through outlier modeling. Abstract published in ESO and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1999 Eshleman, K.N. Modeling the effects of disturbance on dissolved nitrogen export from forested watersheds. Abstract published in ESO and poster presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 1999 Rice, K.C., J.P. Raffensperger, and J.R. Webb. Hydrological and geochemical controls on episodic acidification of streams in Shenandoah National Park, Virginia: Development and testing of a predictive model. Virginia Water Research Symposium, Richmond, Virginia.
- 1999 Cosby, B.J. and A.J. Bulger. Incorporating Fish Responses into a Geochemical Model of Acidification for Virginia Mountain Streams. Annual Meeting of the American Fisheries Society, Charlotte, North Carolina.
- 1999 Bulger, A.J., B.J. Cosby, and J.R. Webb. Current and Projected Status of Trout Stream Fish Communities in the Southeastern US Under Continued Acid Deposition. Annual Meeting of the American Fisheries Society, Charlotte, North Carolina.
- 1999 Bulger, A.J., M. Steg, and T.E. Dennis. Stream chemistry and fish species richness in Shenandoah National Park (Virginia, U.S.A.). Annual Meeting of the American Fisheries Society, Charlotte, North Carolina.
- 1999 Deviney, F.A.. Searching for gypsy moth: modeling additive and innovational interventions in streamwater concentration time series. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Bulger, A.J. Congressional Staff Workshop on Acid Rain, the Capitol, Washington D.C. (Invited speaker).

- 2000 Bulger, A.J. Chemical thresholds and potential recovery patterns in fish populations after acidification. Hubbard Brook Research Foundation, Hanover, New Hampshire (Invited symposium speaker).
- 2000 Reinhardt, K. and T. Furman. The Effects of Flood Disturbance on Stream Biogeochemistry in Shenandoah National Park. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, San Francisco, Washington, D.C.
- 2000 Rice, K., G.H. Hornberger, and J.R. Webb. Episodic Variations of Acid-Neutralizing Capacity in Streamwater at Paine Run, Shenandoah National Park, Virginia. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Pochatila, J., B. Jones, and J. Herman. Geochemical Investigation of Weathering Reactions in South Fork Brokenback Run, Shenandoah National Park: A Mass-Balance Approach. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Galloway, J.N. Shenandoah National Park: People and Biogeochemistry. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Webb, J.R., F.A. Deviney, B.J. Cosby, A. Bulger, and J.N. Galloway. Changes in the Acid-Base Status of Streams in Shenandoah National Park and the Mountains of Virginia. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Eshleman, K.N., D. Fiscus, N. Castro, J.R. Webb, and F.A. Deviney. Computation and Visualization of Regional-Scale Forest Disturbance and Associated Dissolved Nitrogen Export from Shenandoah National Park. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Deviney, F.A., J.R. Webb, and K.N. Eshleman. A Disturbance in the Forest: Modeling Chemical Response to Gypsy Moth. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Bulger, A., S. MacAvoy, and T.E. Dennis. Stream Acidification Effects on Fish Species Richness, Mortality, and Condition Factor in Shenandoah National Park, VA, USA. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.

- 2000 Cosby, B.J., A. Bulger, J.R. Webb, and J.N. Galloway. Acidic Deposition and Fish in the Shenandoah National Park: Past, Current, and Future Responses. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Cosby, B.J., J.N. Galloway, G.H. Hornberger, A. Bulger, and J.R. Webb. The Shenandoah Watershed Study: Twenty years of hydro-biogeochemical research in the Shenandoah National Park. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2000 Brewer, P., Sullivan, T., Cosby, B.J., Munson, R. Acid Deposition Effects to Forests and Streams in the Southern Appalachian Mountains. In Proceedings of Air and Waste Management Association, Salt Lake City, Utah.
- 2000 Eshleman, K.N., D. Fiscus, N. Castro, J.R. Webb, and F.A. Deviney. Computation and visualization of regional-scale forested disturbance and associated dissolved nitrogen export from Shenandoah National Park. Abstract published in ESO and paper presented at the Special Session "Biogeochemistry of Shenandoah National Park" Spring Meeting of the American Geophysical Union, Washington, D.C (Invited paper).
- 2000 Webb, J.R., F.A. Deviney, Jr., B.J. Cosby, A.J. Bulger, and J.N. Galloway. Acidic Deposition and the Status of Virginia's Wild Trout Resource: Revisited. Poster presented at Wild Trout VII, Yellowstone National Park, Wyoming.
- 2000 Rice, K.C., Chanat, J.G., and Hornberger, G.M. Hydrological and geochemical controls on episodic acidification of streams in Shenandoah National Park, Virginia: Development and testing of a predictive model: NPS/USGS Cyber Seminar based in Ft. Collins, Colorado.
- 2001 Bulger, A.J. Blood, poison and death: acid rain effects on fish in the eastern US. Conference, "Acid Rain: Are the Problems Solved?". Sponsored by Center for Environmental Information; Co-sponsored by (in part) U.S. EPA, National Park Service, Fish and Wildlife Service, Geological Service, NOAA, Ecological Society of America, American Fisheries Society, American Lung Association and Environment Canada, Washington D.C. (Invited symposium speaker).
- 2001 Bulger, A.J. Acidification and fish biodiversity loss. Fisheries sustainability symposium. American Fisheries Society Annual Meeting, Phoenix, Arizona (Invited symposium speaker).
- 2001 Eshleman, K.N., D.A. Fiscus, N.M. Castro, J.R. Webb, and A.T. Herlihy. Regionalization of disturbance-induced nitrogen leakage from mid-Appalachian forests using a linear systems model. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Boston, Massachusetts (Invited paper).
- 2001 Eshleman, K.N., D.A. Fiscus, N.M. Castro, J.R. Webb, and F.A. Deviney. Computation and visualization of regional-scale forest disturbance and associated dissolved nitrogen export from Shenandoah National Park. The Second International Nitrogen Conference, Program and Abstracts, Potomac, Maryland.

- 2001 Chanat, J.G., Rice, K.C., and Hornberger, G.M. Variability in concentration-discharge plots - modeling results with implications for field studies. Abstract published in ESO and poster presented at Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2001 Chanat, J.G., Rice, K.C., and Hornberger, G.M. Variability in concentration-discharge plots - modeling results with implications for field studies: Gordon Research Conference on Hydrobiogeochemistry of Forested Catchments.
- 2001 Chanat, J.G., Rice, K.C., and Hornberger, G.M. Application of a modified TOPMODEL to simulate episodic patterns of acid-neutralizing capacity versus stormflow in three headwater catchments in Shenandoah National Park, Virginia: AGU Chapman Conference on State-of-the-Art Hillslope Hydrology.
- 2001 Chanat, J.G., Rice, K.C., and Hornberger, G.M. Variability in concentration-discharge plots - modeling results with implications for field studies: Virginia Water Research Symposium.
- 2001 Rice, K.C., Chanat, J.G., Hornberger, G.M., and Webb, J.R. Concentration-discharge patterns in acid-neutralizing capacity during stormflow in three small, forested catchments in Shenandoah National Park, Virginia: Gordon Research Conference on Hydrobiogeochemistry of Forested Catchments.
- 2001 Rice, K.C., Chanat, J.G., Hornberger, G.M., and Webb, J.R. Concentration-discharge patterns in acid-neutralizing capacity during stormflow in three small, forested catchments in Shenandoah National Park, Virginia: USGS Appalachian Region Integrated Science Workshop Proceedings, Gatlinburg, Tennessee.
- 2001 Chanat, J.G., K.C. Rice, and G.M. Hornberger. Variability in concentration-discharge plots - modeling results with implications for field studies. Abstract published in ESO and paper presented at Spring Meeting of the American Geophysical Union, Boston, Massachusetts.
- 2002 Jung, R.E., M. Bank, K.C. Rice, M.T. Southerland, and D. Sparling. Amphibian-stressor investigations as part of the U.S. Geological Survey Amphibian Research and Monitoring Initiative (NE ARMI) in the Northeast region. Symposium on Multiple Stressor Effects in Relation to Declining Amphibian Populations, ASTM, Pittsburgh, Pennsylvania.
- 2001 Rice, K.C., Chanat, J.G., Hornberger, G.M., and Webb, J.R. Hydrological and geochemical controls on episodic acidification of streams in Shenandoah National Park, Virginia: Virginia Water Research Symposium.
- 2002 Bulger, A. J. Recovery from aquatic acidification? Workshop on Models for Biological Recovery from Acidification in a Changing Climate. Sponsored by Norwegian Institute for Water Research, Oslo, Norway (Invited symposium speaker).
- 2002 Deviney, Jr., F.A., A. J. Bulger, B. J. Cosby, J.N. Galloway, and J.R. Webb. Analysis of Power to Detect Regional Trends in Water-Quality Indicators in Virginia Mountain Streams. Abstract published in ESO and poster presented at Spring Meeting of the American Geophysical Union, Washington, D.C.

- 2002 Galloway, J.N., A.J. Bulger, B.J. Cosby, F.A. Deviney, Jr., and J.R. Webb. Shenandoah Watershed Study: 20 Years of Catchment Hydrogeochemistry. Abstract published in ESO and poster presented at Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2002 Cosby, B.J., J.R. Webb, J.C. Blankinship, D.L. Welsch and F.A. Deviney, Jr. Base Cations In Northern Red Oak Trees, Soils, and Surface Waters of Shenandoah National Park, VA. Abstract published in ESO and poster presented at Spring Meeting of the American Geophysical Union, Washington, D.C.
- 2002 Webb, J.R., B.J. Cosby, J.C. Blankinship, D.L. Welsch and F.A. Deviney, Jr. Base Cations In Northern Red Oak Trees, Soils, and Surface Waters of Shenandoah National Park, VA. Poster presented at the National Forest Health Monitoring Program Meeting, New Orleans, Louisiana.
- 2002 Rice, K.C. Modeling streamwater chemistry during episodic acidification in Shenandoah National Park: National Park Service national meeting, Ft. Collins, Colorado.
- 2003 Webb, J.R. A Red Flag to Regulators: Lack of Recovery From Stream Acidification in Western Virginia Trout Streams. Presentation for Congressional Briefing on Air Pollution Threats to National Parks, sponsored by the National Parks Conservation Association, Washington, D.C.
- 2003 Deviney, Jr., F.A., Cosby, B.J., Galloway, J.N., Hornberger, G.M., Rice, K.C., and Webb, J.R. Time series models to predict acid-neutralizing capacity from stream discharge, Shenandoah National Park, Virginia: Gordon Research Conference on Catchment Science.
- 2003 Jung, R.E., P. Nanjappa, E.H.C. Grant, and K.C. Rice. Vernal pool amphibian monitoring as part of the NE ARMI program. Society of Environmental Toxicology and Chemistry 24th Annual Meeting, Austin, Texas.
- 2004 Deviney, Jr., F.A., B.J. Cosby, G.M. Hornberger, K.C. Rice, and J.R. Webb. Vulnerability to episodic acidification of streams in Shenandoah National Park. Virginia Mountain Streams Symposium, University of Virginia, Charlottesville, Virginia.
- 2004 Deviney, Jr., F.A., K.C. Rice, and J.R. Webb. Vulnerability to episodic acidification of streams in Shenandoah National Park. Fall Meeting of the American Geophysical Union, San Francisco, California.
- 2004 Grant, E.H.C., R.E. Jung, and K.C. Rice. Stream salamander species richness and abundance in relation to environmental factors in Shenandoah National Park. Virginia Mountain Streams Symposium, University of Virginia, Charlottesville, Virginia.
- 2004 Rice, K.C., F.A. Deviney, Jr., and J.R. Webb. Vulnerability of streams to episodic acidification in Shenandoah National Park. Virginia Water Research Symposium.
- 2004 Webb, J.R. Effects of Acidic Deposition in the Forested Mountain Watersheds of the Central and Southern Appalachian Mountains. Atlantic Science and Conservation Strategies Workshop (The Nature Conservancy), Point Clear, Alabama.
- 2004 Webb, J.R., B.J. Cosby, F.A. Deviney, Jr., and J.N. Galloway. Evidence for Recovery From Streamwater Acidification in Shenandoah National Park, Virginia. Annual meeting of the Virginia Chapter of the American Fisheries Society, Lexington, Virginia.

- 2004 Webb, J.R. B.J. Cosby, F.A. Deviney, Jr., J.N. Galloway, S.W. Maben, A.J. Bulger. Are Brook Trout Streams in Western Virginia and Shenandoah National Park Recovering From Acidification? Virginia Mountain Streams Symposium, Department of Environmental Sciences, University of Virginia, Charlottesville, Virginia.
- 2005 Webb, J.R. Identification of Native Brook Trout Streams That Are Impaired by Acidification. National Water Research Symposium: Balancing Water Law and Science, Virginia Water Resources Research Center, Virginia Tech, Blacksburg, Virginia.
- 2006 Webb, J.R. Conservative Forest Management: A Fundamental Tool for Mitigation of Acidic Deposition Impacts in Forested Mountain Watersheds of the Central Appalachian Region, Society of American Foresters, Pittsburg, Pennsylvania.
- 2006 Grady, A. E., T. M. Scanlon, and J. N. Galloway, Declines in dissolved silica concentrations in western Virginia streams (1988- 2003), Abstract published in EOS and paper presented at Fall Meeting of the American Geophysical Union, San Francisco, California.
- 2006 Rice, K.C., F.A. Deviney, Jr. and G.M. Hornberger. Time series and recurrence interval models to predict the vulnerability of streams to episodic acidification in Shenandoah National Park, Virginia. Spring Meeting of the American Geophysical Union, Baltimore, Maryland.
- 2006 Rice, K.C., F.A. Deviney, Jr., G.M. and Hornberger. Time series and recurrence interval models to predict the vulnerability of streams to episodic acidification in Shenandoah National Park, Virginia. GSA Abstracts with Programs Vol. 38, No. 7; Philadelphia, Pennsylvania.
- 2007 Galloway, J.N., and J.R. Webb. Atmospheric deposition to streams. National Park Service Eastern Rivers Summit, Shepherdstown, West Virginia.
- 2008 Rice, K.C. Geologic controls on stream water chemistry in Shenandoah National Park: Virginia Division of Geology and Mineral Resources Symposium. Geologic research in the Blue Ridge and Valley and Ridge Provinces of Virginia, Charlottesville, Virginia
- 2009 Rice, K.C., J.R. Webb, F.A. Deviney, Jr., and J.P. Schaberl. Examining sulfate behavior along a North-South gradient of unglaciated Eastern U.S. catchments. NADP meeting, Saratoga Springs, New York.
2009. Rice, K.C., B.J. Cosby, F.A. Deviney, and J.R. Webb. Differences in Sulfate Behavior along a North-South Gradient of Unglaciated Eastern U.S. Catchments. American Geophysical Union 2009 Fall Meeting, San Francisco, California.
- 2009 Riscassi, A. and T. M. Scanlon. Streamwater mercury dynamics within three headwater catchments in Shenandoah National Park, VA. American Geophysical Union 2009 Fall Meeting, San Francisco, California.
- 2009 Scanlon, T.M., S.M. Ingram, and A.L. Riscassi. Terrestrial and in-stream influences on the spatial variability of nitrate in a forested headwater catchment. Gordon Research Conference, Proctor Academy, New Hampshire.
- 2010 Riscassi, A.L., K.J. Hokanson, and T.M. Scanlon. 2010. Streamwater particulate mercury and suspended sediment dynamics in a forested headwater catchment. American Geophysical Union 2010 Fall Meeting, San Francisco, California.

- 2011 Riscassi, A.L. and T.M. Scanlon. Controls on streamwater HgD and DOC export from three mid-Appalachian forested headwater catchments. The 10th International Conference on Mercury as a Global Pollutant (ICMGP), Halifax, Nova Scotia.
- 2011 Scanlon, T.M. Stream water nitrogen dynamics: Recent findings from the Shenandoah Watershed Study. Virginia Tech, Department of Forest Resources and Environmental Conservation. Blacksburg, Virginia.
- 2011 Webb, R., J. Miller, J. Cosby, J. Galloway, and S. Maben. The Virginia Trout Stream Sensitivity Study 2010 Survey: Evidence for Recovery From Acidification. Southern Division American Fisheries Society East Coast Trout Workshop, Frostburg, Maryland.
- 2011 Rice, K.C., F.A. Deviney, Jr., B.J. Cosby, and J. Lynch. Understanding sulfate dynamics in unglaciated Eastern U.S. catchments. GSA Annual Meeting, Minneapolis, Minnesota.
- 2012 Burns, D.A., K.C. Rice, G.B. Lawrence, T.J. Sullivan, and A.C. Ellsworth. Stream chemistry and sensitivity to acid deposition along the Appalachian Trail. NADP meeting, Portland, Maine.
- 2012 Snyder, C.D., J.D. Jastram, N.P. Hitt, J. Wofford, and K.C. Rice. Macroinvertebrate responses to increasing stream temperatures in Shenandoah National Park, Virginia (USA). Fall Meeting of the American Geophysical Union, San Francisco, California.
- 2012 Robison, A.L., T.M. Scanlon, B.J. Cosby, J.R. Webb, and J.N. Galloway. Base cation controlled recovery from acidification in streams in the Ridge/Blue Ridge provinces. American Geophysical Union 2012 Fall Meeting, San Francisco, California.
- 2012 Robison, A.L., T.M. Scanlon, B.J. Cosby, J.R. Webb, and J.N. Galloway. Base cation driven recovery of streams from acidification in the Ridge/Blue Ridge province of western Virginia. Biogeomon. Belfast, Maine.
- 2012 Scanlon, T.M., A.L. Riscassi. Controls on mercury transport from forested headwater catchments in Shenandoah National Park and beyond. American Geophysical Union 2012 Fall Meeting, San Francisco, California.
- 2012 Webb, J.R. The SWAS-VTSSS Program. Appalachian Stewardship Foundation Directors Meeting, Hawks Nest State Park, West Virginia.
- 2013 Jastram, J.D., C.D. Snyder, N.P. Hitt, K.C. Rice, and J. Wofford. Status and trends of aquatic resources in Shenandoah National Park—A summary of monitoring results (1979-2009). Virginia Chapter of the American Fisheries Society meeting, Lexington, Virginia.
- 2013 Robison, A.L., T.M. Scanlon, B.J. Cosby, J.R. Webb, and J.N. Galloway. Climate driven warming of streams in Shenandoah National Park, VA. Robert J. Huskey Graduate Research Exhibition, University of Virginia. Charlottesville, Virginia.
- 2013 Robison, A.L., T.M. Scanlon, B.J. Cosby, J.R. Webb, and J.N. Galloway. Controls on Acid Recovery in Western Virginia Streams: Past, Present, and Future. U.S.-Japan Joint Seminar on Catchment Hydrology and Forest Biogeochemistry, Honolulu, Hawaii.

- 2013 Scanlon, J. N. Galloway, B.J. Cosby, J.R. Webb, and A.L. Robison. Virginia's Mountain Streams: What Thirty Years of Research Tells Us About Future Impacts of Acid Rain and Climate Change. Mountain Stream Symposium II, James Madison University, Harrisonburg, Virginia.
- 2013 Robison, A.L., T.M. Scanlon, B.J. Cosby, J.R. Webb, K. Hayhoe, and J.N. Galloway. Modeling potential interactions of acid deposition and climate change at four watersheds in Shenandoah National Park, VA using the dynamic biogeochemical model PnET-BGC. American Geophysical Union Fall Meeting. San Francisco, California.