

JERAD D. BALES

USGS Chief Scientist for Hydrology
U.S. Geological Survey, 12201 Sunrise Valley Drive, MS 436, Reston, VA 20192
Phone: 703-648-5044; Fax: 703-648-5002; Email: jdbales@usgs.gov

EDUCATION

- Ph.D. Civil Engineering (Water Resources Engineering), University of Texas, Austin; December 1986
- M.S. Civil Engineering (Environmental Engineering), University of Tennessee, Knoxville; August 1978
- B.S. Civil Engineering, University of Tennessee, Knoxville; March 1977

APPOINTMENTS

- Oct. 2009 – present: U.S. Geological Survey Chief Scientist for Hydrology, Reston, VA
- Jan. 2007 – Sep. 2009: Director, U.S. Geological Survey North Carolina Water Science Center
- Aug. 1998 – Jan. 2007: Hydrologist and Supervisory Hydrologist, U.S. Geological Survey, Raleigh, NC
- Mar. 1998 – Aug 1998: Sr. Water Resources Engr., Dewberry & Davis, Raleigh, NC
- Sept. 1986 – Feb 1998: Hydrologist and Supervisory Hydrologist, U.S. Geological Survey, Raleigh, NC
- Sept. 1990 – Aug 1996: Adjunct Prof., Dept. of Geography, University of North Carolina, Chapel Hill
- Sept. 1988 - Dec. 1988: Visiting Asst. Prof., Forestry and Envr. Studies, Duke University, Durham, NC
- Aug. 1981 - Aug. 1986: Research Assistant, Dept. of Civil Engineering, University of Texas, Austin
- Jan. 1981 - Mar. 1981: Lecturer, Dept. of Civil Engineering, University of Tennessee, Knoxville
- Aug. 1978 - Aug. 1981: Civil Engineer, Water Systems Development Branch, TVA, Norris, TN

SYNOPSIS

Dr. Jerad Bales is the U.S. Geological Survey's Chief Scientist for Hydrology. In this position, he is responsible for the planning and development of national basic and applied research programs related to the hydrologic environment. He also oversees and evaluates the results of research efforts conducted by USGS staff and by universities under the mandates of the Water Resources Research Act of 1984; coordinates the USGS Hydrologic Research and Development Program and the Water Resources Research Institutes Program; and assists other USGS leaders with external national and international programs. Bales represents the USGS on a number of external committees including co-chair of the Subcommittee on Water Availability and Quality (a Federal interagency committee under the National Science and Technology Council's Committee on the Environment, Natural Resources, and Sustainability), Water Sector lead for the U.S. 2013 National Climate Assessment, member of the National Science Foundation's Critical Zone Observatory Advisory Board, and as the USGS representative to the GEO (Group on Earth Observations) Water Theme.

Prior to his position as Chief Scientist, Dr. Bales was Director of the U.S. Geological Survey North Carolina Water Science Center in Raleigh, NC. Concurrent with his position with the USGS, he served as Adjunct Professor at the Department of Geography at the University of North Carolina at Chapel Hill, and Visiting Assistant Professor in Forestry and Environmental Studies at Duke University, Durham. He has served on the Hydraulic Engineering Technical Oversight, Hydraulic Measurements and Experimentation, Tidal Hydraulics, and Environmental Hydraulics Technical Committees for the American Society of Civil Engineers.

Dr. Bales has been principal investigator or Co-PI on numerous water-resources investigations throughout the U.S., as well as internationally. His research has covered a broad range of topics, and has been funded by more than 20 Federal, State, and local agencies. Dr. Bales has authored more than 120 articles and technical reports, and has received numerous awards for his government service with USGS, including the U.S. Department of the Interior Superior Service Award in 1992.

PUBLICATIONS—Articles and Reports

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- Nustad, R.A., Wood, T.M., and Bales, J.D., 2011, Use of a two-dimensional hydrodynamic model to evaluate extreme flooding and transport of dissolved solids in Devils Lake, North Dakota, 2006 and 2009: U.S. Geological Survey Scientific Investigations Report.
- Cabrera, R., Dube, S.K., Murty, T.S., Feyen, J.C., Bales, J.D., and Amer, S., 2010, Storm surge modeling and applications in coastal areas: *in* Chang, J., ed., Global perspectives on tropical cyclones: World Scientific Publishing, pp. 363-405
- Paerl, H., Christian, R.R., Pierls, B.L., Hall, N.S., Joyner, A.R., Bales, J.D., and Riggs, S.R., 2010, Human and climatic impacts on the USA's largest lagoonal ecosystem, Pamlico sound: Formulating science and management in the face of climate change: Kennish, M., and Paerl, H., eds., *in* Coastal Lagoons: Critical Habitats of Change, CRC Press.
- Wehmeyer, L.L., and Bales, J.D., 2009, Relation between flow and dissolved oxygen in the Roanoke River between Roanoke Rapids and Jamesville, North Carolina, 1998–2005: U.S. Geological Survey Scientific Investigations Report 2009–5238, 32 p., available online at <http://pubs.usgs.gov/sir/2009/5238/>.
- Bales, J.D., and Wagner, C.R., 2009, Sources of uncertainty in flood inundation maps: *J. of Flood Risk Management* , 2(2):139-147, doi: 10.1111/j.1753-318X.2009.01029.x.
- Frankforter, J.D., Weyers, H.S., Bales, J.D., Moran, P.W. and Calhoun, D.L. 2009, The relative influence of nutrients and habitat on stream metabolism in agricultural streams: *Environmental Monitoring and Assessment*, Volume 168, Issue 1, pp 461-479, DOI 10.1007/s10661-009-1127-y.
- Steuer, J.J., Bales, J.D., and Giddings, E.M.P., 2009, Relationship of stream ecological conditions to simulated hydraulic metrics across a gradient of basin urbanization: *Journal of the North American Benthological Society* December 2009 : Vol. 28, Issue 4, pg(s) 955-976.
- Villarine, G., Smith, J.A., Serinaldi, F., Bales, J., Bates, P.D., and Krajewski, W.F., 2009, Flood frequency analysis for nonstationary annual peak records in an urban drainage basin: *Advances in Water Resources*, 32:1255-1266.
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- Galloway, J.M, Ortiz, R.F., Bales, J.D., and Mau, D.P., 2008, Simulation of hydrodynamics and water quality in Pueblo Reservoir, southeastern Colorado, for 1985 through 1987 and 1999 through 2002: U.S. Geological Survey Scientific Investigations Report 2008-5056.
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- Bales, J.D., and Nardi, M.R., 2007, Automated routines for calculating whole-stream metabolism: theoretical background and user's guide: U.S. Geological Survey Techniques and Methods 4-C2, 33 p.
- Bales, J.D., Wagner, C.R., Tighe, K.C., and Terziotti, S., 2007, LiDAR-derived flood-inundation maps for real-time flood-mapping applications, Tar River Basin, North Carolina: U.S. Geological Survey Scientific Investigations Report 2007-5032, 42 p.

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- Bras, R., Bales, J., Graham, W., Gunderson, L., and Stone, P., 2007, Scientific Peer Review of the Natural System Regional Simulation Model (NSRSM) v2.0: West Palm Beach, FL, South Florida Water Mgmt. District, accessed at https://my.sfwmd.gov/pls/portal/docs/PAGE/PG_GRP_SFWMD_HESM/PORTLET_RSM_PEERREVIEW/TAB2564291/NSRSMFINALV3.PDF, 81 p.
- Buchak, E.M., Bales, J.D., and Martin, J.L., 2007, Modeling systems and their application in Martin, J.L., Edinger, J.E., Higgins, J.M., and Gordon, J., A., eds., Energy production and reservoir water quality: Reston, VA, American Society of Civil Engineers, p. 6-1 – 6-4.
- McCarthy, A.M., Bales, J.D., Cope, W.G., and Shea, 2007, Modeling pesticide fate in a small tidal estuary: Ecological Modeling, 200:149-159.
- Bales, J.D., Tomlinson, S.A., and Tillis, G., 2006, Flow and salt transport in the Suwannee River estuary, Florida, 1999 – 2000: analysis of data and three-dimensional simulations: U.S. Geological Survey Professional Paper 1656-B, 66 p.
- Nustad, R.A., and Bales, 2005, Simulation of conservative material transport in the Red River of the North Basin, North Dakota, Minnesota, and South Dakota, 2003-2004: U.S. Geological Survey Scientific Investigations Report 2005-5273, 81 p.
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- Bales, J.D., Chapman, M.E., Oblinger, C.J., and Robbins, J.C., 2004, North Carolina District Science Plan, 2003 – 2008: U.S. Geological Survey Open-File Report 2004-1025, 31 p.
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- Bales, J.D., and Robbins, J.C., 1999, A water-quality modeling framework for the Neuse River Estuary, North Carolina: U.S. Geological Survey Water-Resources Investigations Report 99-4017, 35 p.
- Bales, J.D., and Giorgino, 1998, Dynamic modeling of water-supply reservoir physical and chemical processes *in* Subcommittee on Hydrology of the Interagency Advisory Committee on Water Data, Proceedings of the First Federal Interagency Hydrologic Modeling Conference, p. 2-61 – 2-67.
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- Bales, J.D., Fulford, J.F., and Swain, E., 1997, Review of selected features of the Natural System Model and suggestions for applications in South Florida: U.S. Geological Survey Water-Resources Investigations Report 97-4039, 42 p.
- Giorgino, M.J., and Bales, J.D., 1997, Rhodhiss Lake, North Carolina: Analysis of ambient conditions and simulation of hydrodynamics, constituent transport, and water-quality characteristics, 1993-94: U.S. Geological Survey Water-Resources Investigations Report 97-4131, 62 p.
- Bales, J.D., and Pope B.F., 1996, Streamflow characteristics of the Waccamaw River near Freeland, North Carolina, 1940-94: U.S. Geological Survey Water-Resources Investigations Report 96-4093, 35 p.
- Mason, R.R., and Bales, J.D., 1996, Estimating flood hydrographs for urban basins in North Carolina: U.S. Geological Survey Water-Resources Investigations Report 96-4085, 19 p.
- Bales, J.D., and Childress, C.J.O., 1996, Aftermath of Hurricane Fran in North Carolina--preliminary data on flooding and water quality: U.S. Geological Survey Open-File Report 96-499, 6 p.
- Garrett, R.G., and Bales, J.D., 1995, Water-quality characteristics of streams in the Treyburn development area of Falls Lake watershed, North Carolina, 1988-93: U.S. Geological Survey Water-Resources Investigations Report 95-4094, 79 p.
- Bales, J.D., and Robbins, J.C., 1995, Simulation of hydrodynamics and solute transport in the Pamlico River estuary, North Carolina: U.S. Geological Survey Open-File Report 94-454, 85 p.
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- Dario, J.A., and Bales, J.D., 2011, Multiscale modeling to assess effects of climate and land use changes on common and imperiled freshwater mussel occurrence in the Tar River, NC and the St. Croix and Mississippi Rivers in the Upper Midwest, USA: 7th
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- Hazell, W.F., and Bales, J.D., 1997, Real-time rainfall measurement in the City of Charlotte and Mecklenburg County, North Carolina: U.S. Geological Survey Fact Sheet FS-052-97, 4 p.

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- Bales, J.D., Fulford, J.M., and Swain, E.D., 1996, Review and evaluation of a model for simulating the natural hydrology of south Florida: U.S. Geological Survey Fact Sheet FS-180-96, 4 p.
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Bales, J.D., 1986, Review of *Fluvial Forms and Processes*: Earth Science Reviews, v. 22, no. 3, p. 233.

Bales, J.D., 1985, Review of *Mathematical Modeling of Water Quality--Streams, Lakes, and Reservoirs*: Journal of Hydrology, v. 77, p. 379-380.

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SELECTED FUNDED INVESTIGATIONS AT THE USGS

- Comparison of Methods for Rapid Development of Flood Inundation Maps, U.S. Geological Survey, 2007-2008.
- Review of Yadkin River / High Rock Lake Flow and Sediment Transport Models: North Carolina Division of Water Resources, 2007.
- Roanoke River Hydrodynamic and Water Quality Model Development in Support of Kerr 216 Studies: U.S. Army Corps of Engineers, 2005-08.
- Currituck Sound Monitoring and Modeling in Support of Restoration Development Planning: North Carolina Division of Water Resources and U.S. Army Corps of Engineers, 2004 – 2008.
- Real-Time Flood Inundation Mapping in the Tar River Basin—A Pilot Project: North Carolina Division of Emergency Management and the National Weather Service, 2002 – 2005.
- Development of Methods and Tools for Estimating Pesticide Concentrations in Estuaries: US EPA Office of Pesticides Programs, 2000 – 2002.
- Application of Emerging Water-Quality Techniques to Document Effects of Hurricane Floyd on North Carolina Estuaries: North Carolina Department of Environment and Natural Resources, 2000 – 2001.
- Effects of Agricultural Practices and Stream Restoration on Sedimentation, Water Chemistry, and Stream Habitat in the Piedmont of North Carolina: North Carolina Division of Soil and Water Conservation, with contributions from the North Carolina Division of Water Quality and the North Carolina Clean Water Management Trust Fund, 2002-2007.
- Enhanced Flood Prediction and Information Dissemination Pilot Project for North Carolina, funded by the USGS Center for Integrated Disaster Information, 2001.
- Delineation of High-Water Marks in the Tar River and Neuse River Basins Following Hurricane Floyd, funded by the U.S. Army Corps of Engineers, 1999.
- Recomputation of Flood Recurrence Intervals for Eastern North Carolina Streams, funded by FEMA, 1999.
- Hydrodynamics and Salt Transport in the Suwannee River, Florida; funded by the Suwannee River Water Management District, 1999-2002.
- Temperature and Dissolved-Oxygen Dynamics in the Roanoke River, North Carolina; funded by the U.S. Fish and Wildlife Service, 1997-99.
- The Relation between Reservoir Releases and Flows and Flood-Plain Inundation in the Roanoke River, North Carolina; funded by Virginia Electric Power Company and others, 1996-98.
- Development of an Unsteady Hydrodynamic and Water-Quality Model for the Lower Neuse River; funded by the North Carolina Division of Environmental Management, 1996-97.
- Water and Salt Balance of Currituck Sound; funded by the North Carolina Division of Marine Fisheries and North Carolina Division of Water Resources, 1996-97.

SELECTED FUNDED INVESTIGATIONS AT THE USGS

- Continuous, Real-Time Water-Quality Monitoring of the Neuse River Estuary; funded by the North Carolina Division of Environmental Management, 1996-continuing.
- Evaluation of Selected Features of the Natural System Model for Simulating South Florida Hydrology; funded by the U.S. Army Corps of Engineers, Jacksonville District, 1995-96.
- Long-Term Trends in Flow in the Waccamaw River at Freeland, North Carolina; funded by the North Carolina Division of Water Resources, 1995.
- Water-Quality Modeling of Mountain Island Lake; funded by the Charlotte - Mecklenburg Utility Department, 1994-98.
- Freshwater Flow and Saltwater Intrusion in the Tidal Pasquotank River; funded by the North Carolina Division of Water Resources, 1994-96.
- Barrier Island Surface-Water Drainage--Hatteras Island, NC; funded by North Carolina Division of Environmental Management and National Park Service, 1993-95.
- Nonpoint-Source Loadings to the Catawba River from Selected Urban Land Uses and for Selected Management Practices; funded by the City of Charlotte and Mecklenburg County, 1993-98.
- Hydrodynamics and Water-Quality of the Upper Catawba River Basin; funded by the Western Piedmont Council of Governments, 1992-95.
- Flows in Lower Roanoke River and Hydrodynamics of Albemarle Sound; funded by U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and Albemarle-Pamlico Estuarine Study, North Carolina Dept. of Environment, Health, and Natural Resources;,1991-93.
- Flow and Salinity in West Neck Creek, Virginia; funded by the Division of Water Resources and the Wildlife Resources Commission, North Carolina Dept. of Environment, Health, and Natural Resources, 1989-91.
- Continuous Monitoring of Estuarine Water Quality; funded by the Albemarle-Pamlico Estuarine Study, North Carolina Dept. of Environment, Health, and Natural Resources, 1989-93.
- Investigation of Flows and Flow Patterns in the Pamlico River and Neuse River Estuaries; funded by the Albemarle-Pamlico Estuarine Study, North Carolina Dept. of Environment, Health, and Natural Resources, 1988-92.
- Management of Artificial Drainage from Converted Wetlands and Estuarine Water Quality; funded by the Albemarle-Pamlico Estuarine Study and the Division of Environmental Management (EPA 319 program), North Carolina Dept. of Environment, Health, and Natural Resources, 1988-92.
- Hydrologic Characteristics and Water Quality Trends of the Albemarle-Pamlico Estuarine System; funded by the Albemarle-Pamlico Estuarine Study, North Carolina Department of Natural Resources and Community Development, 1988-89.

REGISTRATION

- Registered Professional Engineer, State of North Carolina, Cert. No. 13580

EXTERNAL ACTIVITIES

PROFESSIONAL MEMBERSHIPS

- American Water Resources Association
- American Geophysical Union
- National Hydrologic Warning Council (Data and Modeling Technical Committee)

RECENT COMMITTEES and EXTERNAL ACTIVITIES

- Co-Chair, Subcommittee on Water Availability and Quality (SWAQ); SWAQ is a subcommittee of the National Science and Technology Council's Committee on the Environment, Natural Resources, and Sustainability, and is the primary committee coordinating water science and technology among Federal agencies, 2010 - present.
- Lead, Water Sector Chapter for the 2013 U.S. National Climate Assessment, 2011-2013.
- Member, National Science Foundation's Critical Zone Observatory Advisory Committee, 2010 – present.
- Member, National Hydrologic Warning Council's Committee on Hydrologic Data and Modeling, 2010 – present.
- USGS representative to GEO (Group on Earth Observations) Water Theme, 2009 – present.
- Participant, U.S. Department of the Interior Working Party on Biodiversity, Water, and Ecosystems for the Environmental Policy Committee of the Organization of Economic Cooperation and Development), 2010 – present.
- North Carolina Geographic Information Coordination Council (appointed by the Governor) 2008 – 2009.
- North Carolina Endocrine Disruptors Workgroup, 2008 – 2009.
- Clean Water Management Trust Fund, Stormwater Advisory Committee, 2008
- USGS representative to National Water Quality Monitoring Council's Committee for Design of National Monitoring Program 2004 – 2006.
- Team lead for USGS *Rivers* Future Science Directions, 2001 – 2004.
- USGS Committee for the Design of the National Streamflow Information Program, 1998-99
- USGS Water representative to NOAA Coastal Risk Atlas workgroup, 2001.
- Modeling review committees:
 - South Florida Natural System Model (2007)
 - Onondaga Lake (NY) Water Quality Model Peer Review team (2004-11)
 - Salton Sea (CA) Hydrodynamic and Thermal Modeling Review Team (2005)
 - Florida Bay Hydrodynamic Modeling Independent Review Panel Member, 2002
 - Seneca River (NY) Model Review Team (2002 – 2004)
 - Cooper River (SC) Model Review Workgroup (1998-99)

Academic Committees

- Ph.D. committee (climate modeling), Dept. of Civil Engineering, North Carolina State University, 2009 – 2011.
- University of North Carolina Water Resources Research Institute Technical Committee and Advisory Committee 2005 - 2009
- Duke University Department of Civil Engineering, Undergraduate Advisory Board, 2002 – 2009
- Ph.D. committee (ground-water modeling), Dept. of Civil Engineering, Duke University, 1987 – 93
- M.S. committee(nonpoint-source hydrologic modeling), Dept. of Geography, Univ. of North Carolina, 1988-89
- M.S. committee(created and natural wetlands), Dept. of Geography, Univ. of North Carolina, 1991 – 93
- Advisory Board, Envr. Policy and Studies Center, Catawba Valley Comm.y College, Hickory, NC, 1992-94.
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PRESENTATIONS (since 2005)

- Water Resources and Irrigated Agriculture with an Emphasis on Biofuel Production, National Webinar on Water and Irrigated Agriculture, Council on Food, Agricultural, and Resource Economics, December 2010.
- New and Emerging Technologies for Water Science at the USGS, National Oceanic and Atmospheric Administration Technology Summit, Silver Spring, Maryland, November 2010.
- Water Information for West Virginia and the Nation, 2010 West Virginia Water Conference, Morgantown, West Virginia, October 2010.
- Water Resources Impacts of Biofuel Feedstock Production and Conversion, Conference on Sustainable Feedstocks for Advanced Biofuels, Atlanta, GA, September 2010.
- Water Resources Information for the Nation and Pennsylvania. Pennsylvania Annual Water Symposium, State College, PA, May 2010.
- Controls on Stream Metabolism in Agricultural Settings, 7th National Monitoring Conference, Denver, CO, April 2010.
- USGS Research Related to Water Reuse. National Research Council Committee on Assessment of Water Reuse as an Approach for Meeting Future Water Supply Needs, Washington, DC, January 2010.
- Water Resources and Climate Change. Annual meeting of the NC Chapter of the American Fisheries Society, Workshop on Climate Change and its Effects of Fisheries and Aquatic Resources, Burlington, NC, February 2009.
- USGS Data Collection in North Carolina. NC Sensor Workshop, University of North Carolina, Chapel Hill, February 2, 2009.
- Flood Inundation Mapping—Lessons Learned: USGS Midwest Area Surface Water Workshop, Indianapolis, IN, January 22, 2009.
- Pharmaceuticals, antibiotics, hormones, and other compounds: USGS activities in the U.S. and North Carolina: North Carolina Chapter, American Water Works Association, Greensboro, NC, November 19, 2009.
- USGS NC WSC Science and Data Programs in the Albemarle - Pamlico Estuary Region. Albemarle-Pamlico National Estuary Program Science and Technical Advisory Committee Meeting, Greenville, NC, July 30, 2008.
- USGS Activities in Support of US EPA Coastal Carolina Ecosystem Services Program: US EPA National Health and Environmental Effects Research Laboratory, Research Triangle Park, NC, July 9, 2008.
- Weather, Water, and Climate: Project WET (Water Education for Teachers) Workshop, Pittsboro, NC, July 8, 2008.
- Flood warning for Sutlej River in remote Northern India: World Environmental and Water Resources Congress, Honolulu, HI, May 13, 2008.
- NAWQA NEET Stream Metabolism Studies—Software and Key Findings May 1, 2008: La Crosse, WI, Upper Midwest Science Center meeting on stream nutrient processing: May 1, 2008.
- Uncertainty issues in flood inundation modeling: 4th International Symposium on Flood Defence, Toronto, Canada, May 8, 2008.
- NAWQA NEET Stream Metabolism Studies—Key Findings and Software: USGS Upper Midwest Science Center meeting on stream nutrient processing, May 1, 2008.
- The drought of 2007-08 in North Carolina and implications for water supply: American Society of Civil Engineers North Carolina Section, Spring Technical Seminar, Raleigh, NC, April 28, 2008.

PRESENTATIONS (since 2005)

- Earth Day Celebration: Drought and water supply in Durham: Earth Day Celebration, Durham, NC, April 19, 2008.
- USGS Storm Surge Monitoring Plans for North Carolina: NC Division of Coastal Management Local Permit Officers Annual Training Session, Beaufort, NC, April 3, 2008.
- Pharmaceuticals, Hormones, Antibiotics, and other Organic Wastewater Compounds: USGS Activities in the U.S. and North Carolina: NC Division of Marine Fisheries Endocrine Disruptors Workgroup, Wilmington, NC, March 10, 2008
- Drought and Water Supply in the French Broad River Basin: RiverLink French Broad River Basin Drought Forum, Asheville, NC, A-B Technical Community College, February 22, 2008.
- Three-Dimensional Circulation and Transport Modeling in Devils Lake, ND: Perdido Beach, AL—2nd USGS Modeling Workshop, February 14, 2008.
- The Drought of 2006-08: Immaculate Conception Catholic Church Drought Forum, Durham, NC January 27, 2008.
- Water-Quality Models: USGS Ecosystem Modeling Workshop, Perdido Beach, AL, February 11, 2008.
- The Drought of 2007: Will the Water Run Out? A Nicholas School Town Hall for the Duke and Durham Communities, Duke University Nicholas School of the Environment, Durham, NC, January 8, 2008.
- Hydrologic effects of drought in the Western Piedmont COG region, North Carolina: Western Piedmont Council of Governments Drought Workshop, Hickory, NC, Lenoir-Rhyne College, November 14, 2007.
- Uncertainties in flood inundation mapping: National Weather Service Eastern Region Flood Inundation workshop, Raleigh, NC, November 13, 2007.
- Forty years of water-quality monitoring in the U.S: USGS National Water Quality Workshop—Opening Plenary Session, Galveston, TX, November 6, 2007.
- Software for automated stream metabolism calculations: USGS National Water Quality Workshop, Galveston, TX, November 7, 2007.
- The future of water in Wilkes County : Wilkes 20/20 Government Strategic Alliance workshop, Wilkesboro, NC, October 30, 2007.
- Simulation of Constituent Transport in the Red River of the North Basin, North Dakota and Minnesota, During Unsteady-Flow Conditions, 1977 and 2003-04: Grand Forks, ND-- Third International Water Conference, Research and Education in an International Watershed: Implications for Decision Making, March 14, 2007 (presented by Rochelle Nustad, primary author).
- Flood Inundation Modeling and Mapping: Denver, CO--USGS – Japanese NILIM/PWRI Workshop, January 30, 2007, Denver, CO.
- Interdisciplinary River Science and Dams: New Orleans, LA--USGS National Water Science Meeting, January 24, 2007.
- Simulation of Water Level, Flow, and Solute Transport in Devils Lake, ND for Present and Future Conditions: Menlo Park, CA--Surface Water Modeling and Measurement Workshop, January 18, 2007.
- Nitrogen and phosphorus loadings to the Neuse and Pamlico River Estuaries, North Carolina: 2006 National Monitoring Conference, San Jose, CA , May 9, 2006.
- The Rivers Component of the National Monitoring Network: 2006 National Monitoring Conference, San Jose, CA, May 8, 2006.
- Real-time flood inundation mapping in North Carolina: 3rd Federal Interagency Hydrologic Modeling Conference, Reno, NV, April 6, 2006.

PRESENTATIONS and REVIEWS

Automated procedures for computing whole-stream metabolism: 3rd Interagency Modeling Conference, Reno, NV, April 4, 2006.

Hurricanes and Floods: Meredith College Women in Science and Mathematics seminar, Raleigh, NC, October 19, 2005.

Floods and Flood Inundation Mapping: University of North Carolina Institute of Marine Sciences seminar, Morehead City, NC, October 14, 2005

USGS – NOAA Web Services Project: Quarterly USGS – NOAA coordination meeting, Silver Spring, MD, April 28, 2005.

SCIENTIFIC PUBLICATION REVIEWS

Journals

- Environmental Management
- Estuarine Coastal and Shelf Science
- Hydrologic Sciences Journal
- Journal of Hydraulic Engineering
- Journal of Environmental Engineering
- Lake and Reservoir Management
- Water Resources Bulletin/Journal of the American Water Resources Association
- Transactions of the American Fisheries Society
- Wetlands

Technical Reports

- Civil Engineering Research Foundation
- Federal Energy Regulatory Commission Permit Applications
- Government Accounting Office Technical Reports
- North Carolina Department of Environment, Health, and Natural Resources Technical Reports
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Geological Survey

Conference Proceedings

- Proceedings of the 27th International Association of Hydraulic Research Congress (1997)
- Estuarine and Coastal Modeling Conference (1990, 1992, and 1994)

PROPOSAL REVIEWS

U.S. Geological Survey

- Water Resources Research Institute Grants Program
- Water Science Center Research Program

U.S. Environmental Protection Agency

- New York Harbor National Estuary Program
- Sarasota Bay National Estuary Program

REVIEWS

Others

- UK Natural Environment Research Council – Changing Water Cycle
- NOAA Integrated Ocean Observing System (IOOS)
- Government Accountability Office (GAO)
- U.S. Fish and Wildlife Service
- Albemarle-Pamlico National Estuarine Program
- North Carolina EPA 319(h) Nonpoint Source Grants Program
- North Carolina Water Quality Workgroup
- North Carolina Sea Grant Program
- North Carolina Water Resources Research Institute
- Lake Champlain Research Consortium
- University of New Hampshire Coastal Response Research Center