Curriculum Vitae
Nancy Beth Grimm

School of Life Sciences
Faculty of Ecology, Evolution & Environmental Science
Arizona State University
Tempe, AZ 85287-4501

(480) 965-4735 (Office)
(480) 965-1517 (Lab)
((480) 965-6899 (FAX)
email: nbgrimm@asu.edu

EDUCATION AND EMPLOYMENT HISTORY

Education

B.A. in Natural Science (ecology), Hampshire College, Amherst, MA, 1978. Thesis title: Factors controlling abundance of *Nostoc parmeloides* in Oregon mountain streams. Advisors: C. D'Avanzo, J. Sedell

M.S. in Zoology, Arizona State University, Tempe, AZ, 1980. Thesis title: Nitrogen and phosphorus dynamics in southwestern desert stream ecosystems. Advisor: W. L. Minckley

Ph.D. in Zoology, Arizona State University, Tempe, AZ, 1985. Dissertation title: Roles of primary producers and consumers in the nitrogen cycle of a Sonoran Desert stream. Advisor: W. L. Minckley.

Post-doctoral Fellowship (National Science Foundation), Arizona State University, Tempe, AZ, 1987–1989. Factors controlling periphyton abundance and production during stream succession. Mentor: S. G. Fisher.

Principal Professional Employment

2003–	Professor, School of Life Sciences, Arizona State University
2010–	Senior Sustainability Scientist, Global Institute of Sustainability, Arizona State University
2011–2012	Senior Scientist for the National Climate Assessment, US Global Change Research Program (on detail from the National Science Foundation)
2010–2012	Program Director and Interdisciplinary Liaison, National Science Foundation (on detail from Arizona State University)
2007–2009	Faculty Leader, Faculty of Ecology, Evolution, and Environmental Science, School of Life Sciences, Arizona State University
1999–2003	Professor, Department of Biology, Arizona State University
1997–1999	Associate Professor, Department of Biology, Arizona State University
1994–1997	Associate Research Scientist, Department of Zoology, Arizona State University
1990–1994	Assistant Research Scientist, Department of Zoology, Arizona State University
1989–1990	Faculty Research Associate, Department of Zoology, Arizona State University
1987–1989	National Science Foundation Postdoctoral Fellow, Arizona State University
1985–1987	Faculty Research Associate, Department of Zoology, Arizona State University

Other Appointments

Teaching Faculty, School of Sustainability, Arizona State University, 2010 –
Graduate Faculty, School of Sustainability, Arizona State University, 2010 –
Affiliated Professor, School of Sustainability, Arizona State University (ASU), 2007–2010
Visiting Professor, Centre d'Estudis Avançats de Blanes, January–June 2007
Adjunct Professor of Biology, University of New Mexico (UNM), 2005–

Visiting Researcher, National Center for Ecological Analysis and Synthesis, 1998–1999
Consultant, Western Water Policy Advisory Commission – Chair of working group on sustainability of western watersheds, 1996–1997

PROFESSIONAL HONORS, AWARDS, AND ELECTED OFFICE

Fellow, American Geophysical Union, 2017
Distinguished Ecologist, Marine Biological Laboratory Ecosystems Center, October 2015
Inaugural William Mitsch Lecturer, University of Notre Dame, October 2015
Eminent Ecologist, Kellogg Biological Station, June 2015
Jenner Lecturer, University of North Carolina, April 2015
Eugene and Bill Odum Lecturer, University of Georgia, April 2015
Director's Award for Collaborative Integration, National Science Foundation, 2012
Fellow, Ecological Society of America, 2012
Distinguished Scientist Award (LTER network), American Institute of Biological Sciences, 2011
Founders' Day Faculty Award for Excellence in Research, Arizona State University Alumni Association, 2010
Fellow, American Association for the Advancement of Science, 2008
Inaugural Minshall Lecturer, Idaho State University, 2007
Governing Board Member-At-Large, Council of Scientific Society Presidents, 2006
President, Ecological Society of America, 2005-2006 (President-Elect 2004–2005, Past President 2006–2007)
Selected, Aldo Leopold Leadership Fellows Program, 2005 cohort (declined)
Distinguished Ecologist, Colorado State University Graduate Program in Ecology, 2004
Distinguished Ecologist, Utah State University Ecology Program, January 2003
President, North American Benthological Society,1999–2000 (President-Elect 1998–1999, Past President 2000–2001).
Kaeser Visiting Scholar, Center for Limnology, University of Wisconsin-Madison, April 1998

CURRENT ACTIVITIES OVERVIEW

Research Interests

Global environmental change; biogeochemistry; ecosystem structure and function; nitrogen cycling in streams and cities; interactions between surface and ground waters; terrestrial-aquatic linkages; disturbance and succession; effects of global climate change and human activities on stream ecosystems; climate-change adaptation in urban social-ecological-technological systems; sustainable future scenarios for cities

Current Primary Research Projects and Collaborations

Urban Resilience to Extremes Sustainability Research Network (SRN) (2015-2020): Developing a network of cities, researchers, practitioners, and students to understand and work to promote resilience of city infrastructure in the face of extreme events like floods, heat waves, and drought. Fundamental to this network is the conceptual framework of infrastructure as urban social-ecological-technological systems (SETS) and involvement of ecologists, social scientists, and engineers. Co-Director, Co-PI, and Executive Committee, co-lead of City Comparisons and Education/Outreach working groups, city lead for Phoenix. Research will be

focused on realistic projection of future extreme event frequencies and magnitudes under climate change, and development of both adaptive and normative scenarios of urban futures.

Central Arizona – Phoenix LTER (1997 – present): Comprehensive investigation of an urban social-ecological system. Lead PI and Director 2012–2016; Executive Committee Member 2010–2012; Lead PI and Co-Director 1997–2010; ~100 collaborators from diverse natural and social science fields and engineering, mostly from ASU and local partnerships. My research is focused on biogeochemical patterns and processes as they affect and are affected by society, adaptation options in the face of increased temperature and extreme events, and synthesis and scenarios of future change in this complex system under continued demographic, land-use, and climate change.

Urban stormwater (2009 – present): Studies of sources, fates, and retention of nutrients in urban stormwater flowpaths; ecosystem services of designed ecosystems such as streams, floodways, retention basins, lakes, riparian parks, and accidental wetlands; collaborating with ecologists, hydrologists, and social scientists.

Effects of climate variability and change on stream ecosystem processes (1978–1999; 2009–2020): Long-term study of Sycamore Creek, a spatially intermittent desert stream-riparian ecosystem. Current research focuses on how climate variability and change drive ecosystem state change from gravel runs to wetlands, and resilience of these contrasting reach types to the hydrologic disturbance regime (flash floods, drying). Collaborators include past Sycamore Creek researchers as well as current ASU colleagues.

Stream PULSE: defining stream biomes to understand and forecast stream ecosystem change (2015–2020): Continental-scale project asking, is there such a thing as a stream biome? For diverse and temporally dynamic lotic ecosystems across the U.S., we are evaluating the phenology of stream ecosystem energetics, hypothesizing that metabolism is a function of energy supply (light and fixed terrestrial carbon) and fixed carbon removal (via hydrologic disturbance). This project is part of a collaborative Macrosystems Biology grant led by Duke University.

Professional Memberships

American Association for the Advancement of Science; American Geophysical Union; American Institute of Biological Sciences; Association for the Sciences of Limnology and Oceanography; Arizona Riparian Council; Ecological Society of America; Society for Freshwater Science; Society for Urban Ecology; Societas Internationalis Limnologiae; The Nature Conservancy

Past Work at the National Science Foundation

Program Director for Ecosystem Studies: Received and solicited review for proposals, organized co-review with other programs if appropriate, ran panels, communicated decisions on funding, developed new Web material, developed new solicitation for pre-proposals from the Division of Environmental Biology.

Interdisciplinary Program Liaison for Biological Sciences Directorate: Worked to develop new intra-agency collaborations with Geological Sciences, Social, Behavioral and Economic Sciences, Engineering Directorates as well as Offices of Polar Programs, International Science and Engineering, and Cyberinfrastructure; oversaw the Foundation-wide Science, Engineering, and Education for Sustainability (SEES) portfolio as a member for the SEES Implementation Group, served on SEES working groups to develop solicitations for Sustainable Energy Pathways, Water Sustainability and Climate, and Arctic SEES; chaired Sustainability Symposium working group; served as liaison with National Research Council for Sustainability Symposium planning, including substantive input on objectives, agenda, invited

speakers, and panelists.

Senior Scientist for the National Climate Assessment (NCA) (on detail from NSF for July 2011–August 2012): Coordinated agency-led teams producing technical input reports for the NCA in the areas of 1) ecosystems, biodiversity and ecosystem services, 2) urban, infrastructure, and vulnerabilities, and 3) biogeochemical cycles; this included coordinating communication, in-person and telephone meetings, planning and implementing Webinars, coordinating with other teams for other sectors and regions, and writing (in part) and producing final reports. Was coordinating lead author for one chapter each in ecosystems and urban reports. Coordinated author teams writing the official 2013 NCA report for the same three areas, entailing similar responsibilities as for technical inputs. Served as lead author for ecosystems and biogeochemical cycles chapters of the NCA.

PUBLICATIONS

Refereed Journal Articles, Book Chapters, Reports, and Symposia
(post-docs‡; graduate students (underscore); undergraduate students*)

In press

17x. Bai, X., E.S. Brondizio, R.D. Bullard, G.A.S. Edwards, **N.B. Grimm**, A. Lora-Wainwright, B. Özkaynak, and S. Schindler. 2017. Urban Ecosystems. *In*: Rethinking Environmentalism: Linking Justice, Sustainability, and Diversity, ed. S. Lele, E. S. Brondizio, J. Byrne, G. M. Mace, and J. Martinez-Alier. Strüngmann Forum Reports, vol. 23, J. Lupp, series editor. Cambridge, MA: MIT Press, i*n press.*

172. Bernhardt, E. S., J. B. Heffernan, **N. B. Grimm**, E. H. Stanley, J. W. Harvey, M. Arroita, A. P. Appling, M. J. Cohen, W. H. McDowell, R. O. Hall, J. S.Read, B. J. Roberts, E. G. Stets. The metabolic regimes of flowing waters. Limnology & Oceanography: *in press.*

17x. **Grimm, N. B.,** and S. Schindler. Nature of cities and nature in cities: prospects for conservation and design of urban nature in human habitat. *In*: Rethinking Environmentalism: Linking Justice, Sustainability, and Diversit*y*, ed. S. Lele, E. S. Brondizio, J. Byrne, G. M. Mace, and J. Martinez-Alier. Strüngmann Forum Reports, vol. 23, J. Lupp, series editor. Cambridge, MA: MIT Press, *in press.*

17x. Hale, R. L., E. M. Cook, D. Iwaniec, and **N. B. Grimm**. 2014. Urbanization and altered biogeochemical cycles. Pages *in* Bai, X. E., T. Graedel, and A. Morishima, Editors. Cities in evolution: urbanization, environmental change, and sustainability. Cambridge University Press. *In press.*

17x. Krause, S., J. Lewandowski, **N. Grimm**, D. M. Hannah, G. Pinay, K. McDonald, E. Martí, A. Argerich, L. Pfister, J. Klaus, T. Battin, S. Larned, J. Schelker, J. Fleckenstein, C. Schmidt, M. O. Rivett, G. Watts, F. Sabater, A. Sorolla, and V. Turk. Ecohydrological interfaces as hotspots of ecosystem functioning. Water Resources Research: *in press.*

17x. Tank, J.L., E. Martí, T. Riis, W.K. Dodds, M.R. Whiles, D. von Schiller, L.R. Ashkenas, W.B. Bowden, B.M. Norman, S.M. Collins, C.L. Crenshaw, T.A. Crowl, N.A. Griffiths, **N.B. Grimm,** S.K. Hamilton, S.L. Johnson, W.H. McDowell, E.J. Rosi-Marshall, K.S. Simon, S.A. Thomas, J.R. Webster. Partitioning assimilatory nitrogen uptake in streams: an analysis of stable isotope tracer additions across continents. Ecological Monographs: *in press.*

2017

176. Dong, X., **N. B. Grimm,** and A. Ruhí‡. 2017. Evidence for self-organization in determining spatial patterns of stream nutrients, despite primacy of the geomorphic template. Proceedings of the National Academy of Sciences of the United States 114:4744-4752. DOI: 10.1073/pnas.1617571114.
175. **Grimm, N. B.,** S. T. A. Pickett, R. L. Hale, and M. L. Cadenasso. Does the ecological concept of disturbance have utility in urban social-ecological-technological systems? Ecosystem Health and Sustainability vol. 3 (1) p. e01255.
174. Groffman, P. M., M. L. Cadenasso, J. Cavender-Bares, D. L. Childers, **N. B. Grimm,** J. M. Grove, S. E. Hobbie, L. R. Hutyra, G. D. Jenerette, T. McPhearson, D. E. Pataki, S. T. A. Pickett, R. V. Pouyat, E. Rosi-Marshall, B. J. Ruddell. Moving towards a new urban systems science. Ecosystems 20:38-43.
173. McHale, M. R., S. Hall, A. Majumdar, and **N. B. Grimm**. 2017. Carbon lost and carbon gained: A study of vegetation and carbon tradeoffs among diverse land uses in Phoenix, AZ. Ecological Applications. *doi: 10.1002/eap.1472.*
172. Palta‡, M. M., **N. B. Grimm**, and P. M. Groffman. 2017. "Accidental" urban wetlands: ecosystem functions in unexpected places. Frontiers in Ecology and the Environment 15:248-256. doi 10.1002/fee.1494

2016

171. **Grimm, N. B.** 2016. An urban ecological journey. Pages 155-166 *in* Willig, M. R and L. R. Walker, editors. Long-term environmental research: changing the nature of scientists. Oxford University Press.
170. **Grimm, N. B.,** E. M. Cook, R. L. Hale‡, and D. M. Iwaniec‡. 2016. A broader framing of ecosystem services in cities: benefits and challenges of built, natural, or hybrid system function. Pages 203-212 *in* K. C. Seto, W. D. Solecki, and C. A. Griffith, editors. Handbook on urbanization and global environmental change. Routledge.
169. **Grimm, N. B.,** P. M. Groffman, M. D. Staudinger, and H. Tallis. 2016. Climate change impacts on ecosystems and ecosystem services in the United States: process and prospects for sustained assessment. Climatic Change 135:97–109.
168. McPhearson, Timon, Steward T.A. Pickett, **Nancy B. Grimm**, Jari Niemelä, Marina Alberti, Thomas Elmqvist, Christiane Weber, Dagmar Haase, Jürgen Breuste, and Salman Qureshi. 2016. Advancing urban ecology towards a science of cities. BioScience 66:198-212. *doi:10.1093/biosci/biw002*
167. Weathers, K. C., P. M. Groffman, E. Van Dolah, E. Bernhardt, **N. B. Grimm**, K. McMahon, J. Schimel, M. Paolisso, R. Maranger, S. Baer, K. Brauman, E. Hinckley. 2016. Frontiers in ecosystem ecology from a community perspective: the future is boundless. Ecosystems: *p 1-18, doi:10.1007/s10021-016-9967-0.*

2015

166. Dong, X., **N. B. Grimm**, K. Ogle, and J. Franklin. 2015. Temporal variability of hydrology modifies the influence of geomorphology on vegetation distribution along a desert stream. Journal of Ecology 104:18-30. doi: 10.1111/1365-2745.12450.
165. Gurney, K. R., P. Romero-Lankao, K.C. Seto, L.R. Hutyra, R. Duren, C. Kennedy, **N.B. Grimm**, J.R. Ehleringer, P. Marcotullio, S. Hughes, S. Pincetl, M.V. Chester, D.M. Runfola, J.J. Feddema, and J. Sperling. Climate change: track urban emissions on a human scale. Nature 525: 179–181. doi:10.1038/525179a
164. Hale, R. L., **N. B. Grimm**, C. Vörösmarty, and B. Fekete. 2015. Nitrogen and phosphorus fluxes from watersheds of the NE US from 1930-2000: role of anthropogenic nutrient inputs, infrastructure, and climate. Global Biogeochemical Cycles 29:341-356.

163. Hale, R. L., L. Turnbull‡, S. Earl, D. L. Childers, and **N. B. Grimm**. 2015. Stormwater infrastructure controls runoff and dissolved material export from arid urban watersheds. Ecosystems 18:62-75. doi:10.1007/s10021-014-9812-2.
162. Hopkins, K.G., N. B. Morse, D. J. Bain, N. D. Bettez‡, **N. B. Grimm**, J. L. Morse‡, and M. M. Palta‡. 2015. Type and timing of stream flow changes in urbanizing watersheds in the Eastern U.S. Elementa. doi: 10.12952/journal.elementa.000056.
161. Hopkins, K.G., N. B. Morse, D. J. Bain, N. D. Bettez‡, **N. B. Grimm**, J. L. Morse‡, M. M. Palta‡, W. D. Shuster, A. Bratt, and A. Suchy. 2015. Assessment of regional variation in stream flow responses to urbanization and the persistence of physiography. Environmental Science & Technology 49:2724-2732. DOI: 10.1021/es505389y.
160. Metson, Geneviève S., David M. Iwaniec‡, Lawrence A. Baker, Elena M. Bennett, Daniel L. Childers, Dana Cordell, **Nancy B. Grimm**, J. Morgan Grove, Daniel A. Nidzgorski, and Stuart White. 2015. Urban phosphorus sustainability: systemically incorporating social, ecological, and technological factors into phosphorus flow analysis. Environmental Science and Policy 47:1-11. dx.doi.org/10.1016/j.envsci.2014.10.005

2014

159. Collins, S. L., J. Belnap, **N. B. Grimm**, J.A. Rudgers, C.N. Dahm, P. D'Odorico, M. Litvak, D.O. Natvig, D.C. Peters, W.T. Pockman, R.L. Sinsabaugh, B.O. Wolf. 2014. A multi-scale, hierarchical model of pulse dynamics in aridland ecosystems. Annual Reviews of Ecology, Evolution, and Systematics 45:397–419, doi:10.1146/annurev-ecolsys-120213-091650.
158. Creed, I. F., A. T. Spargo, J. A. Jones, J. M. Buttle, M. B. Adams, F. D. Beall, E. Booth, J. Campbell, D. Clow, K. Elder, M. B. Green, **N. B. Grimm**, C. Miniat, P. Ramlal, A. Saha, S. Sebestyen, D. Spittlehouse, S. Sterling, M. W. Williams, R. Winkler, and H. Yao. 2014. Changing forest water yields in response to climate warming: results from long-term experimental watershed sites across North America. Global Change Biology 20:3191–3208.
157. Galloway, J. N., W. H. Schlesinger, C. M. Clark, **N. B. Grimm**, R. B. Jackson, B. E. Law, P. E. Thornton, A. R. Townsend, and R. Martin. 2014 Ch. 15: Biogeochemical Cycles. Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 350-368, doi:10.7930/J0X63JT0.
156. Groffman, P. M., P. Kareiva, S. Carter, **N. B. Grimm,** J. Lawler, M. Mack, V. Matzek, and H. Tallis. 2014. Ch. 8: Ecosystems, Biodiversity, and Ecosystem Services. Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 195-219, doi:10.7930/J0TD9V7H.
155. Hale, R. L., L. Turnbull‡, S. Earl, **N. B. Grimm**, K. M. Riha, G. Michalski, K. Lohse, and D. L. Childers. 2014. Sources and transport of nitrogen in arid urban watersheds. Environmental Science and Technology 48:6211–6219. dx.doi.org/10.1021/es501039t.
154. Hutyra, Lucy R., Riley Duren, Kevin R. Gurney, **Nancy Grimm**, Eric Kort, Elisabeth Larson, Gyami Shrestha. 2014. Urbanization and the carbon cycle: Current capabilities and research outlook from the natural sciences perspective. Earth's Future 2, doi:10.1002/2014EF000255.
153. Lin, T., and N. B. Grimm. 2014. Comparative study of urban ecology development in the U.S. and China: opportunity and challenge. Urban Ecosystems DOI 10.1007/s11252-014-0413-9

152. LINX collaborators: W. K. Dodds, J. R. Webster, C. L. Crenshaw, A. M. Helton, J. M. O'Brien, E. Martí, A. E. Hershey, J. L. Tank, A. J. Burgin, **N. B. Grimm**, S. K. Hamilton, D. J. Sobota, G. C. Poole, J. J. Beaulieu, L. T. Johnson, L. R. Ashkenas, R. O. Hall, Jr., S. L. Johnson, W. M. Wollheim, W. B. Bowden. 2014. The Lotic Intersite Nitrogen Experiments: an example of successful ecological research collaboration. Freshwater Science 33:700–710.
151. Romero-Lankao, Patricia, Kevin Gurney, Karen Seto, Mikhail Chester, Riley M. Duren, Sara Hughes, Lucy R. Hutyra, Peter Marcotullio, Larry Baker, **Nancy B. Grimm**, Chris Kennedy, Elisabeth Larson, Stephanie Pincetl, Dan Runfola, Landy Sanchez, Gyami Shrestha, Andrea Sarzynski, Joshua Sperling, Eleanor Stokes. 2014. Towards a more integrated understanding of urbanization, urban areas and the carbon cycle. Earth's Future 2, doi:10.1002/2014EF000258.
150. Tanner, C. T., F. Adler, **N. B. Grimm**, P. M. Groffman, S. Levin, J. Munshi-South, D. Pataki, and M. Pavao-Zuckerman. 2014. Urban ecology and evolution: five paths forward for the next generation of urban ecologists. Frontiers in Ecology and the Environment 12:574-581.

2013

149. Burt, T., G. Pinay, **N. B. Grimm** and T. Harms. 2013. Between the land and the river: river conservation and the riparian zone. In S. Sabater and A. Elosegi. River conservation. BBVA Foundation.
148. **Grimm, N. B.**, F. S. Chapin III, B. Bierwagen, P. Gonzalez, P. M. Groffman, Y. Luo, F. Melton, K. Nadelhoffer, A. Pairis, P. A. Raymond, J. Schimel, and C. E. Williamson. 2013. The impacts of climate change on ecosystem structure and function. Frontiers in Ecology and the Environment 11:474-482, doi:10.1890/120282.
147. **Grimm, N. B.**, C. L. Redman, C. G. Boone, D. L. Childers, S. L. Harlan, and B. L. Turner, II. 2013. Viewing the urban socio-ecological system through a sustainability lens: lessons and prospects from the Central Arizona–Phoenix LTER programme. Pages 217-246 *in* S. Singh, H. Haberl, M. Chertow, M. Mirtl, and M. Schmid, editors. Long term socio-ecological research: Studies in society-nature interactions across spatial and temporal scales. Human-Environment Interaction Series, Volume 2. Springer Netherlands.
146. **Grimm, N. B.**, M. D. Staudinger, A. Staudt, S.L. Carter, F. S. Chapin III, P. Kareiva, M. Ruckelshaus, B. A. Stein. 2013. Climate-change impacts on ecological systems: introduction to a US assessment. Frontiers in Ecology and the Environment 11:456-464, doi:10/1890/120310.
145. Larson, E. K., S. Earl, E. Hagen, R. Hale, H. Hartnett, M. McCrackin, M. McHale‡, and **N. B. Grimm**. 2013. Beyond restoration and into design: hydrologic alterations in aridland cities. Pages 183-210 *in* Resilience in ecology and urban design. S. T. A. Pickett, M. Cadenasso, and B. McGrath, eds. Future Cities Series, Springer.
144. Pincetl, S., G. Franco, **N. B. Grimm**, T. S. Hogue, S. Hughes, E. Pardyjak, A. M. Kinoshita, and P. Jantz. 2013. Urban Areas. Pages 267–296 *in* G. Garfin, A. Jardine, R. Merideth, M. Black, and S. LeRoy, editors. Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment. A report by the Southwest Climate Alliance. Washington, DC: Island Press.
143. Ribot, Miquel, Daniel von Schiller, Marc Peipoch, Francesc Sabater, **Nancy B. Grimm**, and Eugènia Martí. 2013. Influence of nitrate and ammonium availability on uptake kinetics of stream biofilms. Freshwater Science 32:1155-1167.
142. Ye, L., and **N. B. Grimm**. 2013. Modelling potential impacts of climate change on water and nitrate export from a mid-sized, semiarid watershed in the US Southwest. Climatic Change 120:419-431. doi 10.1007/s10584-013-0827-z.
141. Zhang‡, Chi, Jianguo Wu, Nancy B. Grimm, Melissa McHale‡, Alexander Buyantuyev. 2013. A

hierarchical patch mosaic ecosystem model for urban landscapes: Model development and evaluation. Ecological Modelling 250:81-100.

2012

140. Boone, C. G., E. M. Cook, S. J. Hall, M. L. Nation, **N. B. Grimm**, C. Raish, D. Finch, and A. York. 2012. A comparative gradient approach as a tool for understanding and managing urban ecosystems. Urban Ecosystems 15:795–807, DOI 10.1007/s11252-012-0240-9.
139. Harms, T. K., and **N. B. Grimm**. 2012. Responses of trace gases to hydrologic pulses in desert floodplains. Journal of Geophysical Research, Biogeosciences 117: doi 10.1029/2011JG001775.
138. Jones, J. A., I. F. Creed, K. L. Hatcher, R. J. Warren, M. B. Adams, M. H. Benson, E. Boose, W. A. Brown, J. L. Campbell, A. Covich, D. W. Clow, C. N. Dahm, K. Elder, C. R. Ford, **N. B. Grimm**, D. L. Henshaw, K. L. Larson, E. S. Miles, K. M. Miles, S. D. Sebestyen, A. T. Spargo, A. B. Stone, J. M. Vose, and M. W. Williams. 2012. Ecosystem processes and human influences regulate streamflow response to climate change at long-term ecological research sites. BioScience 62:390-404.
137. Larson, E. K., and **N. B. Grimm**. 2012. Small-scale and extensive hydrogeomorphic modification and water redistribution in a desert city and implications for regional nitrogen removal. Urban Ecosystems 15:71-85.
136. Sponseller, R. A., S. J. Hall, D. P. Huber, **N. B. Grimm**, J. P. Kaye, C. M. Clark, and S. L. Collins. 2012. Variation in monsoon precipitation drives spatial and temporal patterns of *Larrea tridentata* growth in the Sonoran Desert. Functional Ecology 26:750-758.
135. Staudinger, Michelle D., Nancy B. Grimm, Amanda Staudt, Shawn L. Carter, F. Stuart Chapin III, Peter Kareiva, Mary Ruckelshaus, Bruce A. Stein. 2012. Impacts of climate change on biodiversity, ecosystems, and ecosystem services: technical input to the 2013 National Climate Assessment. Cooperative Report to the 2013 National Climate Assessment. 296 pp. Available at: http://assessment.globalchange.gov

2011

134. Collins, S.L., S.R. Carpenter, S.M. Swinton, D. Ornstein, D.L. Childers, T.L. Gragson, **N. B. Grimm**, J.M. Grove, S.L. Harlan, J.P. Kaye, A.K. Knapp, G.P. Kofinas, J.J. Magnuson, W.H. McDowell, J.M. Melack, L.A. Ogden, G.P. Robertson, M.D. Smith, and A.C. Whitmer. 2011. An integrated conceptual framework for long-term social-ecological research. Frontiers in Ecology and the Environment 9:351-357.
133. Edmonds, J. W., and **N. B. Grimm**. 2011. Abiotic and biotic controls of organic matter cycling in a managed stream. Journal of Geophysical Research, Biogeosciences 116. DOI: 10.1029/2010JG001429.
132. Findlay, S.E.G., P.J. Mulholland, J.L. Tank, M.J. Bernot, A.J. Burgin, C.L. Crenshaw, C.N Dahm, W.K. Dodds, **N. B. Grimm**, W.H. McDowell, J. Potter, D. Sobota, S. Hamilton. 2011. Cross-stream comparison of substrate-specific denitrification potential. Biogeochemistry 104:381-392.
131. **Grimm, N. B.**, R. L. Hale, E. M. Cook, and D. Iwaniec. 2011. Urban biogeochemical flux analysis. Pages 503-520 *in* I. Douglas, D. Goode, M. Houck, and R. Wang, editors. An encyclopaedia of urban ecology. London: Taylor and Francis.
130. Hall, S.J., R.A. Sponseller[‡], **N. B. Grimm**, D. Huber, J.P. Kaye, C.M. Clark, and S.L. Collins. 2011. Ecosystem response to nutrient enrichment across an urban airshed in the Sonoran Desert. Ecological Applications 21:640-660.
129. Kaye, J. P., S. E. Eckert, D. A. Gonzales, J. O. Allen, S. J. Hall, R. A. Sponseller[‡], and **N. B. Grimm**. 2011. Decomposition of urban atmospheric carbon in Sonoran Desert soils. Urban Ecosystems. *Published online April 2011,* doi:10.1007/s11252-011-0173-8.

128. Martin*, R. A., T. K. Harms, and **N. B. Grimm**. 2011. Chronic N loading reduces N retention across varying base flows in a desert river. Journal of the North American Benthological Society 30:559-572.
127. McDonald, R. I., I. Douglas, C. Revenga, R. Hale, N. Grimm, J. Grönwall, and B. Fekete. 2011. Global urban growth and the geography of water availability, quality, and delivery. Ambio 40:437-446.
126. Roach, W. J., and **N. B. Grimm**. 2011. Denitrification mitigates N flux through the stream–floodplain complex of a desert city. Ecological Applications 21: 2618-2636.

2010

125. Beaulieu, J. J., J. L. Tank, S. K. Hamilton, W. M. Wollheim, R. O. Hall Jr., P. J. Mulholland, B. J. Peterson, L. R. Ashkenas, L. W. Cooper, C. N. Dahm, W. K. Dodds, **N. B. Grimm**, S. L. Johnson, W. H. McDowell, G. C. Poole, H. M. Valett, C. P. Arango, M. J. Bernot, A. J. Burgin, C. L. Crenshaw, A. M. Helton, L. Johnson, J. M. O'Brien, J. D. Potter, R. W. Sheibley III, D. J. Sobota, and S. M. Thomas. 2010. Nitrous oxide emission from denitrification in stream and river networks. Proceedings of the National Academy of Science, doi: 10.1073/pnas.1011464108.
124. Bernot, M. J, D. J. Sobota, R. O. Hall, Jr., P. J. Mulholland, W. K. Dodds, J. R. Webster, J. L. Tank, L. R. Ashkenas, L. W. Cooper, C. N. Dahm, S. V. Gregory, **N. B. Grimm**, S. K. Hamilton, S. L. Johnson, W. H. McDowell, J. L. Meyer, B. Peterson, G. C. Poole, H. M. Valett, C. Arango, J. J. Beaulieu, A. J. Burgin, C. Crenshaw, A. M. Helton, L. Johnson, J. Merriam, B. R. Niederlehner, J. M. O'Brien, J. D. Potter, R. W. Sheibley, S. M. Thomas, and K. Wilson. 2010. Inter-regional comparison of land-use effects on stream metabolism. Freshwater Biology 55:1874-1890.
123. Collins, K. A., T. J. Lawrence, E. K. Stander, R. J. Jontos, S. S. Kaushal, T. A. Newcomer, **N. B. Grimm**, and M. C. Ekberg. 2010. Opportunities and challenges for managing nitrogen in urban storm water: a review and synthesis. Ecological Engineering 36:1507-1519.
122. Crenshaw, C. L., **N. B. Grimm**, L. H. Zeglin, R. W. Sheibley‡, C. N. Dahm, and A. D. Pershall. 2010. Nitrogen dynamics in hyporheic zones of reference and human-altered streams. Fundamental and Applied Limnology, Archiv fur Hydrobiologie 176:391-405.
121. Harms, T. K., and **N. B. Grimm**. 2010. Influence of the hydrologic regime on resource availability in a semi-arid stream-riparian corridor. Ecohydrology, DOI: 10.1002/eco.119.
120. Sponseller‡, R. A., **N. B. Grimm**, A. J. Boulton, and J. L. Sabo. 2010. Responses of community structure to long-term variability of flooding and drought regimes in the desert Southwest. Global Change Biology 16:2891- 2900, doi: 10.1111/j.1365-2486.2010.02200.x

2009

119. Haggerty, R., E. Martí, A. Argerich, D. von Schiller, and **N. B. Grimm**. 2009. Resazurin as a "smart" tracer for quantifying metabolically active transient storage in stream ecosystems. Journal of Geophysical Research 114: G03014, doi:10.1029/2008JG000942.
118. Hall, R. O., Jr., J. L. Tank, D. J. Sobota, P. J. Mulholland, J. M. O'Brien, W. K. Dodds, J. R. Webster, H. M. Valett, G. C. Poole, B. J. Peterson, J. L. Meyer, W. H. McDowell, S. L. Johnson, S. K. Hamilton, **N. B. Grimm**, S. V. Gregory, C. N. Dahm, L. W. Cooper, L. R. Ashkenas, S. M. Thomas, R. W. Sheibley‡, J. D. Potter, B. R. Niederlehner, L. Johnson, A. M. Helton, C. Crenshaw, A. J. Burgin, M. J. Bernot, J. J. Beaulieu, and C. Arango. 2009. Nitrate removal in stream ecosystems measured by ^{15}N addition experiments: total uptake. Limnology and Oceanography 54: 653-665.
117. Hall, S. J., B. Ahmed*, P. Ortiz*, R. Davies, R. Sponseller‡, and **N. B. Grimm**. 2009. Urbanization alters soil microbial functioning in the Sonoran Desert. Ecosystems 12:654-671.

116. Harms, T. K., E. E. Wentz, and **N. B. Grimm**. 2009. Spatial heterogeneity of denitrification in semi-arid floodplains. Ecosystems 12:129-143.
115. Lewis‡, D. B., T. K. Harms, J. D. Schade‡, and **N. B. Grimm**. 2009. Biogeochemical function and heterogeneity in arid-region riparian zones. Pages 323-341 *in* J. Stromberg and B. Tellman, editors. Ecology and conservation of the San Pedro River. University of Arizona Press, Tucson.
114. Mulholland, P. J., R. O. Hall, Jr., D. J. Sobota, W. K. Dodds, S. E. G. Findlay, **N. B. Grimm**, S. K. Hamilton, W. H. McDowell, J. M. O'Brien, J. L. Tank, L. R. Ashkenas, L. W. Cooper, C. N. Dahm, S. V. Gregory, S. L. Johnson, J. L. Meyer, B. J. Peterson, G. C. Poole, H. M. Valett, J. R. Webster, C. Arango, J. J. Beaulieu, M. J. Bernot, A. J. Burgin, C. Crenshaw, A. M. Helton, L. Johnson, B. R. Niederlehner, J. D. Potter, R. W. Sheibley‡, and S. M. Thomas. 2009. Nitrate removal in stream ecosystems measured by ^{15}N addition experiments: denitrification. Limnology and Oceanography 54:666-680.
113. Roach, W. J., and **N. B. Grimm**. 2009. Nutrient variation in an urban lake chain and its consequences for phytoplankton production. Journal of Environmental Quality 38:1429-1440.
112. Walker, J. S., **N. B. Grimm**, J. M. Briggs, C. Gries, and L. Dugan. 2009. Effects of urbanization on plant species diversity in central Arizona. Frontiers in Ecology and the Environment 7:465-470.

2008

111. **Grimm, N. B.**, C. Baxter, and C. L. Crenshaw. 2008. Surface-subsurface interactions in streams. Pages *in* F. R. Hauer and G. A. Lamberti, editors. Methods in stream ecology. Academic Press, San Diego, California, USA.
110. **Grimm, N. B.**, S. H. Faeth, N. E. Golubiewski, C. R. Redman, J. Wu, X. Bai, and J. M. Briggs. 2008. Global change and the ecology of cities. Science 319:756-760.
109. **Grimm, N. B.**, D. Foster, P. Groffman, J.M. Grove, C. S. Hopkinson, K. Nadelhoffer, D. Peters, and D.E. Pataki. 2008. The changing landscape: ecosystem responses to urbanization and pollution across climatic and societal gradients. Frontiers in Ecology and the Environment 6:264-272.
108. Harms, T. K., and **N. B. Grimm**. 2008. Hot spots and hot moments of carbon and nitrogen dynamics in a semi-arid riparian zone. Journal of Geophysical Research–Biogeosciences 113: G01020, doi:10.1029/2007JG000588.
107. Hall, S. J., D. Huber, and **N. B. Grimm**. 2008. Soil N_2O and NO emissions from an arid, urban ecosystem. Journal of Geophysical Research–Biogeosciences 113: doi:10.1029/2007JG000523.
106. Kaye, J. P., A. Majumdar, C. Gries, A. Buyantuyev, **N. B. Grimm**, D. Hope, G. D. Jenerette, W. Zhu, and L. Baker. 2008. Hierarchical Bayesian scaling of soil properties across urban, agricultural, and desert ecosystems. Ecological Applications 18:132-145.
105. Lohse‡, K. A., D. Hope, R. A. Sponseller‡, J. O. Allen, and **N. B. Grimm**. 2008. Atmospheric deposition of carbon and nutrients across an arid metropolitan area. Science of the Total Environment 402:95-105.
104. Majumdar, A., J. P. Kaye, C. Gries, D. Hope, and **N. B. Grimm**. 2008. Hierarchical spatial modeling and prediction of multiple soil nutrients and carbon concentrations. Communications in Statistics –Simulation and Computation 37: 434–453. doi: 10.1080/03610910701792588.
103. McCrackin*, M. L., T. K. Harms, **N. B. Grimm**, S. J. Hall, and J. P. Kaye. 2008. Responses of microbes to resource availability in urban, desert soils. Biogeochemistry 87:143-155.

102. Mulholland, P. J., A. M. Helton, G. C. Poole, R. O. Hall, Jr., S. K. Hamilton, B. J. Peterson, J. L. Tank, L. R. Ashkenas, L. W. Cooper, C. N. Dahm, W. K. Dodds, S. Findlay, S. V. Gregory, **N. B. Grimm**, S. L. Johnson, W. H. McDowell, J. L. Meyer, H. M. Valett, J. R. Webster, C. Arango, J. J. Beaulieu, M. J. Bernot, A. J. Burgin, C. Crenshaw, L. Johnson, B. R. Niederlehner, J. M. O'Brien, J. D. Potter, R. W. Sheibley‡, D. J. Sobota, and S. M. Thomas. 2008. Stream denitrification across biomes and its response to anthropogenic nitrate loading. Nature 452:202-205.
101. Peters, D. P. C., P. M. Groffman, K. J. Nadelhoffer, **N. B. Grimm**, S. L. Collins, W. K. Michener, and M. A. Huston. 2008. Living in an increasingly connected world: a framework for continental-scale environmental science. Frontiers in Ecology and the Environment 6:229-237.
100. Roach, W. J., J. B. Heffernan, **N. B. Grimm**, J. R. Arrowsmith, C. Eisinger, and T. Rychener. 2008. Unintended consequences of urbanization for aquatic ecosystems: a case study from the Arizona desert. BioScience 58:715-727. doi:10.1641/B580808
99. Shen‡, W., J. Wu, **N. B. Grimm**, and D. Hope. 2008. Effects of urbanization-induced environmental changes on desert ecosystem functioning. Ecosystems 11:138-155.

2007

98. Breil, P., **N. B. Grimm**, and P. Vervier. 2007. Surface water-groundwater exchange processes and fluvial ecosystem function: an analysis of temporal and spatial scale dependency. *In* Hydroecology and ecohydrology: past, present and future. P.J. Wood, D.M. Hannah and J.P. Sadler, editors. John Wiley and Sons, Chichester, England.
97. Dent, C. L., **N. B. Grimm**, E. Martí, J. W. Edmonds, J. C. Henry, and J. R. Welter. 2007. Variability in surface-subsurface hydrologic interactions and implications for nutrient retention in an arid-land stream. Journal of Geophysical Research 112, G04004, doi:10.1029/2007JG000467.
96. Jacobs, S. M., J. S. Bechtold, H. C. Biggs, **N. B. Grimm**, S. Lorentz, ME. McClain, R.J. Naiman, S.S. Perakis, G. Pinay, M.C. Scholes. 2007. Nutrient vectors and riparian processing: a review with special reference to African semiarid savanna ecosystems. Ecosystems 10:1231-1249.
95. Lewis‡, D.B., and **N. B. Grimm**. 2007. Hierarchical regulation of N export from urban catchments: interactions of storms and landscapes. Ecological Applications 17: 2347-2364.
94. Lewis‡, D.B., **N. B. Grimm**, T.K. Harms, and J.D. Schade‡. 2007. Subsystems, flowpaths, and the spatial variability of nitrogen in a fluvial ecosystem. Landscape Ecology 22: 911-924.
93. Li, K., P. Zhang, J. C. Crittenden, S. Guhathakurta, Y. Chen, H. Fernando, A. Sawhney, P. McCartney, N. Grimm, R. Kahhat, H. Joshi, G. Konjevod, Y. J. Choi, E. Fonseca, B. Allenby, D. Gerrity, and P. M. Torrens. 2007. Development of a framework for quantifying the environmental impacts of urban development and construction practices. Environmental Science and Technology 41:5130-5136.
92. Meixner, T., A. K. Huth, P. D. Brooks, M. H. Conklin, **N. B. Grimm**, R. C. Bales, P. A. Haas, and J. R. Petti. 2007. Influence of shifting flow paths on nitrogen concentrations during monsoon floods, San Pedro River, Arizona. Journal of Geophysical Research–Biogeosciences 112, G03S03, doi:10.1029/2006JG000266.

2006

91. Hope, D., C. Gries, D. Casagrande, C.L. Redman, **N. B. Grimm**, and C. Martin. 2006. Drivers of spatial variation in plant diversity across the Central Arizona-Phoenix ecosystem. Society and Natural Resources 19(2):101-116.

90. Jenerette, G.D., J. Wu, **N. B. Grimm**, and D. Hope. 2006. Points, patches and regions: Scaling soil biogeochemical patterns in an urbanized arid ecosystem. Global Change Biology 12:1532-1544.
89. Kaye, J.P., P. M. Groffman, **N. B. Grimm**, L.A. Baker, and R. Pouyat. 2006. A distinct urban biogeochemistry? Trends in Ecology and Evolution 21:192-199.
88. Lewis‡, D.B., J.D. Schade‡, A.K. Huth, and **N. B. Grimm**. 2006. The spatial structure of variability in a semi-arid, fluvial ecosystem. Ecosystems 9:386-397.
87. Zhu‡, W., D. Hope, C. Gries, and **N. B. Grimm**. 2006. Soil characteristics and the accumulation of inorganic nitrogen in an arid urban ecosystem. Ecosystems 9:711-724.

2005

86. Belnap, J., J. Welter, **N. B. Grimm**, N. Barger, and J. Ludwig. 2005. Linkages between microbial and hydrologic processes in arid and semi-arid watersheds. Ecology 86:298-307.
85. **Grimm, N. B.**, R.W. Sheibley‡, C. Crenshaw, C.N. Dahm, W.J. Roach, and L. Zeglin. 2005. N retention and transformation in urban streams. Journal of the North American Benthological Society 24:626-642.
84. Hope, D., Zhu, W., C. Gries, J. Oleson, J. Kaye, **N. B. Grimm**, L.A. Baker. 2005. Spatial variation in soil inorganic nitrogen across an urban ecosystem. Urban Ecosystems 8:251-273.
83. Larson, E.K., **N. B. Grimm**, P. Gober, and C.L. Redman. 2005. The paradoxical ecology and management of water in the Phoenix, USA metropolitan area. Journal of Ecohydrology and Hydrobiology 5:287-296. *(appeared in 2006 with pub date of 2005)*
82. Schade‡, J.D., J.R. Welter, E. Martí, and **N. B. Grimm**. 2005. Hydrological exchange and N retention in an arid-land riparian ecosystem. Journal of the North American Benthological Society 24:19-28.
81. Shen‡, W., J. Wu, P.R. Kemp, J.F. Reynolds, and **N. B. Grimm**. 2005. Simulating the dynamics of productivity of a Sonoran ecosystem: model parameterization and validation. Ecological Modeling 189:1-24.
80. Welter, J.W., S.G. Fisher, and **N. B. Grimm**. 2005. Nitrogen transport and retention in an arid land watershed: influence of storm characteristics on terrestrial-aquatic linkages. Biogeochemistry 76:421-440.

2004

79. Dodds, W.K., E. Martí, J.L. Tank, J. Pontius, S.K. Hamilton, **N. B. Grimm**, W.B. Bowden, W.H. McDowell, B.J. Peterson, H.M. Valett, J.R. Webster, and S. Gregory. 2004. Carbon and nitrogen stoichiometry and nitrogen cycling rates in streams. Oecologia 140:458-467.
78. **Grimm, N. B.**, R.J. Arrowsmith, C. Eisinger, J. Heffernan, D.B. Lewis‡, A. MacLeod*, L. Prashad, W.J. Roach, T. Rychener, and R.W. Sheibley‡. 2004. Effects of urbanization on nutrient biogeochemistry of aridland streams. Pages 129-146 *in* R. DeFries, G. Asner, and R. Houghton (editors). Ecosystem interactions with land use change. Geophysical Monograph Series 153. American Geophysical Union, Washington, D.C.
77. **Grimm, N. B.**, and C.L. Redman. 2004. Approaches to the study of urban ecosystems: the case of central Arizona-Phoenix. Urban Ecosystems 7:199-213.
76. Hope, D., M.W. Naegeli‡, A. Chan*, and **N. B. Grimm**. 2004. Nutrients on asphalt parking surfaces in an arid urban environment. Water, Air and Soil Pollution: Focus 4:371-390.
75. Zhu‡, W., N.D. Dillard*, and **N. B. Grimm**. 2004. Urban nitrogen biogeochemistry: status and processes in green retention basins. Biogeochemistry 71:177-196.

2003

74. Fink, J., F. Steiner, **N. B. Grimm**, and C.L. Redman. 2003. Greater Phoenix 2100: Building a national urban environmental research agenda. Pages 413-426 *in* G. Heiken and R. Fakundiny, editors. Earth science in the city: a reader. American Geophysical Union, Washington, DC.

73. **Grimm, N. B.**, S. E. Gergel‡, W.H. McDowell, E.W. Boyer, C.L. Dent, P.M. Groffman, S.C. Hart, J.W. Harvey, C.A. Johnston, E. Mayorga, M. McClain, and G. Pinay. 2003. Merging aquatic and terrestrial perspectives of nutrient biogeochemistry. Oecologia 442: 485–501.
72. Hobbie J.E., S.R. Carpenter, N.B.Grimm, J.R. Gosz, and T.R. Seastedt. 2003. The US Long Term Ecological Research Program. BioScience 53:21-32.
71. Hope, D., C. Gries, W. Zhu‡, W.F. Fagan, C.L. Redman, **N. B. Grimm**, A. Nelson, C. Martin, and A. Kinzig. 2003. Socio-economics drive urban plant diversity. Proceeedings of the National Academy of Science 100:8788-8792.
70. McClain, M. E., E. W. Boyer, C. L. Dent, S. E. Gergel‡, **N. B. Grimm**, P. M. Groffman, S. C. Hart, J. W. Harvey, C. A. Johnston, E. Mayorga, W. H. McDowell, and G. Pinay. 2003. Biogeochemical hot spots and hot moments at the interface of terrestrial and aquatic ecosystems. Ecosystems 6:301-312.
69. Sanzone, D.M., J.L. Meyer, E. Martí‡, E.P. Gardiner, J.L. Tank, and **N. B. Grimm**. 2003. Carbon and nitrogen transfer from a desert stream to riparian predators. Oecologia 134:238-250.
68. Webster, J.R., P.J. Mulholland, J.L. Tank, H.M. Valett, W.K. Dodds, B.J. Peterson, W.B. Bowden, C.N. Dahm, S. Findlay, S.V. Gregory, **N. B. Grimm**, S.K. Hamilton, S.L. Johnson, E. Martí‡, W.H. McDowell, J.L. Meyer, D.D. Morrall, S.A. Thomas, and W.M. Wollheim. 2003. Factors affecting nitrogen retention in streams – an inter-biome perspective. Freshwater Biology 48:1329-1352.

2002

67. Dodds, W.K, A.J. López, W.B. Bowden, S. Gregory, **N. B. Grimm**, S.K. Hamilton, A.E. Hershey, W.H. McDowell, J.L. Meyer, D. Morrall, P.J. Mulholland, B.J. Peterson, J.L. Tank, H.M. Valett, J.R. Webster, and W. Wollheim. 2002. Nitrogen uptake as a function of concentration in streams. Journal of the North American Benthological Society 21:206-220.
66. **Grimm, N. B.**, L.A. Baker, and D. Hope. 2002. An ecosystem approach to understanding cities: familiar foundations and uncharted frontiers. Pages 95-114 in A.R. Berkowitz, C.H. Nilon, and K.S. Hollweg, editors. Understanding urban ecosystems: a new frontier for science and education. Springer-Verlag, New York, New York.
65. Mulholland, P.J., J. L. Tank, J. R. Webster, W. B. Bowden, W. K. Dodds, S. V. Gregory, **N. B. Grimm**, S. K. Hamilton S. L. Johnson, E. Martí‡, W. H. McDowell, J. Merriam, J. L. Meyer, B. J. Peterson, H. M. Valett, and W. M. Wollheim. 2002. Can Uptake Length in Streams be Determined by Nutrient Addition Experiments? Results from an inter-biome comparison study. Journal of the North American Benthological Society 21:544-560.
64. Schade, J.D., E. Martí‡, J.R. Welter, S.G. Fisher, and **N. B. Grimm**. 2002. Sources of N to the riparian zone of a desert stream: implications for riparian vegetation and N retention. Ecosystems 5: 68-79.
63. Vitousek, P.M., K. Cassman, C. Cleveland, T. Crews, C.B. Field, **N. B. Grimm**, R.W. Howarth, R. Marino, L. Martinelli, E.B. Rastetter, and J.I. Sprent. 2002. Towards an ecological understanding of biological nitrogen fixation. Biogeochemistry 57/58:1-45.

2001

62. Dent, C.L., **N. B. Grimm**, and S.G. Fisher. 2001. Multi-scale effects of surface-subsurface exchange on stream water nutrient concentrations. Journal of the North American Benthological Society 20:162-181.
61. Luck, M.A., G.D. Jenerette, J. Wu, and **N. B. Grimm**. 2001. The urban funnel model and spatially heterogeneous ecological footprint. Ecosystems 4:782-796.

60. Mulholland, P. J., C.S. Fellows, J.L. Tank, **N. B. Grimm**, J. R. Webster, S.K. Hamilton, E. Martí‡, L. Ashkenas, W. B. Bowden, W. K. Dodds, W. H. McDowell, J. L. Meyer, and B. J. Peterson. 2001. Inter-biome comparison of factors controlling stream metabolism. Freshwater Biology 46:1503-1517.
59. Schade, J.D., S.G. Fisher, **N. B. Grimm**, and J.A. Seddon*. 2001. The influence of a riparian shrub on nitrogen cycling in a Sonoran Desert stream. Ecology 82:3363-3376.
58. Collins, J., A. Kinzig, **N. B. Grimm**, W. Fagan, J. Wu, and E. Borer. 2000. A new urban ecology. American Scientist 88:416-425.

2000

57. Dent, C.L., J. J. Schade, **N. B. Grimm**, and S.G. Fisher. 2000. Subsurface influences on surface biology. Pages 381-402 *in* J.B. Jones, Jr., and P.J. Mulholland, editors. Streams and ground waters. Academic Press, San Diego, USA.
56. **Grimm, N. B.** J.M. Grove, C.L. Redman, and S.T.A. Pickett. 2000. Integrated approaches to long-term studies of urban ecological systems. BioScience 50:571-584
55. Martí‡, E., S.G. Fisher, J.J. Schade, and **N. B. Grimm**. 2000. Flood frequency, arid land streams, and their riparian zones. Pages 111-136 *in* J.B. Jones, Jr., and P.J. Mulholland, editors. Streams and ground waters. Academic Press, San Diego, USA.
54. Martí‡, E., S.G. Fisher, J.J. Schade, J.R. Welter, and **N. B. Grimm**. 2000. Hydrological and chemical linkages between streams and their riparian zones: an intermediate disturbance model. Internationale Vereinigung fur Theoretische und Angewandt Limnologie, Verhandlungen 27:442-447.

1999

53. Dent, C.L., and **N. B. Grimm**. 1999. Spatial heterogeneity of stream water nutrient concentrations over successional time. Ecology 80:2283-2298.
52. Forrester, G.L., T.L. Dudley‡, and **N. B. Grimm**. 1999. Trophic interactions in open systems: effects of predators and nutrients on stream food chains. Limnology & Oceanography 44:1187-1197.

1998

51. Dahm, C.N., **N. B. Grimm**, P. Marmonier, H.M. Valett, and P. Vervier. 1998. Nutrient dynamics at the interface between surface waters and ground waters. Freshwater Biology 40:427-451.
50. Fisher, S.G., **N. B. Grimm**, E. Martí‡, R.M. Holmes, and J.B. Jones. 1998. Material spiraling in river corridors: a telescoping ecosystem model. Ecosystems 1:19-34.
49. Fisher, S.G., **N. B. Grimm**, E. Martí‡, and R. Gómez‡. 1998. Hierarchy, spatial configuration, and nutrient cycling in a desert stream. Australian Journal of Ecology 23:41-52.
48. Holmes, R.M., S.G. Fisher, **N. B. Grimm**, and B.J. Harper*. 1998. The impact of flash floods on microbial distribution and biogeochemistry in the parafluvial zone of a desert stream. Freshwater Biology 40:641-654.

1997

47. **Grimm, N. B.**, A. Chacón, C.N. Dahm, S.W. Hostetler, O.T. Lind, P.L. Starkweather, and W.W. Wurtsbaugh. 1997. Sensitivity of aquatic ecosystems to climatic and anthropogenic changes: the Basin and Range, American Southwest, and México. Hydrological Processes 11:1023-1041.
46. **Grimm, N. B.**, A. Chacón, C.N. Dahm, S.W. Hostetler, O.T. Lind, P.L. Starkweather, and W.W. Wurtsbaugh. 1997. Sensitivity of aquatic ecosystems to climatic and anthropogenic changes: the Basin and Range, American Southwest, and México. Pages 205-224 *in* C.E. Cushing, editor. Freshwater ecosystems and climate change in North America. Advances in Hydrological Processes. John Wiley & Sons, New York.

45. **Grimm, N. B.**, and K.C. Petrone*. 1997. Nitrogen fixation in a desert stream ecosystem. Biogeochemistry 37:33-61.
44. Jones, J.B., Jr., J.D. Schade, S.G. Fisher, and **N. B. Grimm**. 1997. Organic matter dynamics in Sycamore Creek, a desert stream in Arizona, USA. Pages 78-81 *in* J.R. Webster and J.L. Meyer, editors. Stream organic matter budgets. Journal of the North American Benthological Society 16:3-161.
43. Martí‡, E., **N. B. Grimm**, and S.G. Fisher. 1997. Pre- and post-flood retention efficiency of nitrogen in a Sonoran Desert stream. Journal of the North American Benthological Society 16:805-819.
42. Stanley, E.H., S.G. Fisher, and **N. B. Grimm**. 1997. Ecosystem expansion and contraction: a desert stream perspective. BioScience 47:427-435.

1996

41. Clinton, S.M., **N. B. Grimm**, and S.G. Fisher. 1996. Response of a desert stream hyporheic invertebrate community to drying disturbance. Journal of the North American Benthological Society 15:700-712.
40. Fisher, S.G., and **N. B. Grimm**. 1996. Ecological effects of global climate change on freshwater ecosystems with emphasis on streams and rivers. Pages 30.1-30.31 *in* Mays, L.W., editor. Handbook of water resources. McGraw-Hill.
39. **Grimm, N. B.** 1996. Surface-subsurface interactions in streams. Pages 625-646 *in* F.R. Hauer and G.A. Lamberti, editors. Methods in stream ecology. Academic Press, San Diego, California, USA.
38. Jones, J.B., Jr., S.G. Fisher, and **N. B. Grimm**. 1996. A long-term perspective of dissolved organic carbon transport in Sycamore Creek, Arizona, USA. Hydrobiologia 317:183-188.
37. Holmes, R.M., J.B. Jones, Jr., S.G. Fisher, and **N. B. Grimm**. 1996. Denitrification in a nitrogen-limited stream ecosystem. Biogeochemistry 33:125-146.

1995

36. Jones, J.B., Jr., S.G. Fisher, and **N. B. Grimm**. 1995. Vertical hydrologic exchange and ecosystem metabolism in a Sonoran Desert stream. Ecology 76:942-952.
35. Jones, J.B., Jr., S.G. Fisher, and **N. B. Grimm**. 1995. Nitrification in the hyporheic zone of a desert stream ecosystem. Journal of the North American Benthological Society 14:249-258.
34. Jones, J.B., Jr., R.M. Holmes, S.G. Fisher, **N. B. Grimm**, and D.M. Greene*. 1995. Methanogenesis in Arizona, USA, dryland streams. Biogeochemistry 31:155-173.

1994

33. Dudley‡, T.L., and **N. B. Grimm**. 1994. Modification of macrophyte resistance to disturbance by an exotic grass, and implications for desert stream succession. Internationale Vereinigung fur Theoretische und Angewandt Limnologie, Verhandlungen 25:1456-1460.
32. **Grimm, N. B.** 1994. Disturbance, succession, and ecosystem processes in streams: a case study from the desert. Pages 93-112 *in* P.S. Giller, A.G. Hildrew, and D.G. Raffaeli, editors. *Aquatic ecology: scale, pattern and process.* Joint Symposium of the British Ecological Society and the American Society of Limnology and Oceanography. Blackwell Scientific Publications, Oxford, England.
31. **Grimm, N. B.** 1994. Why link species and ecosystems? A perspective from ecosystem ecology. Pages 5-15 + lit. cited *in* Jones, C.G. and Lawton, J.H., editors. *Linking species and ecosystems.* Chapman and Hall, Inc., New York.
30. Holmes, R.M., S.G. Fisher, and **N. B. Grimm**. 1994. Nitrogen dynamics along parafluvial flowpaths: importance to the stream ecosystem. Pages 47-56 *in* J.A. Stanford and H.M. Valett, editors. Proceedings of the Second International Conference on Groundwater Ecology. American Water Resources Association, Bethesda, Maryland, U.S.A.

29. Holmes, R.M., S.G. Fisher, and **N. B. Grimm**. 1994. Parafluvial nitrogen dynamics in a desert stream ecosystem. Journal of the North American Benthological Society 13: 468-478.
28. Jones, J.B., Jr., R.M. Holmes, S.G. Fisher, and **N. B. Grimm**. 1994. Chemoautotrophic production and respiration in the hyporheic zone of a Sonoran Desert stream. Pages 329-338 *in* J.A. Stanford and H.M. Valett, editors. Proceedings of the Second International Conference on Groundwater Ecology. American Water Resources Association, Bethesda, Maryland, U.S.A.
27. Peterson‡, C.G., A.C. Weibel*, **N. B. Grimm**, and S.G. Fisher. 1994. Mechanisms of benthic algal recovery following spates: comparison of simulated and natural events. Oecologia 98:280-290.
26. Stanley, E.H., D.L. Buschman*, A.J. Boulton‡, **N. B. Grimm**, and S.G. Fisher. 1994. Invertebrate resistance and resilience to intermittency in a desert stream. American Midland Naturalist 131:288-300.
25. Valett, H.M., S.G. Fisher, **N. B. Grimm**, and P. Camill*. 1994. Vertical hydrologic exchange and ecological stability of a desert stream ecosystem. Ecology 75:548-560.

1993

24. **Grimm, N. B.** 1993. Implications of climate change for stream communities. Pages 293-314 + lit. cited *in* P. Kareiva, J. Kingsolver, and R. Huey, editors. *Biotic interactions and global change.* Sinauer Associates, Inc., Sunderland, Massachusetts, USA.

1992

23. Boulton‡, A.J., C.G. Peterson, **N. B. Grimm**, and S.G. Fisher. 1992. Stability of an aquatic macroinvertebrate community in a multi-year hydrologic disturbance regime. Ecology 73:2192-2207.
22. Carpenter, S.R., S.G. Fisher, **N. B. Grimm**, and J.R. Kitchell. 1992. Global climate change and freshwater ecosystems: lakes and streams. Annual Review of Ecology and Systematics 23:119-139.
21. **Grimm, N. B.** 1992. Biogeochemistry of nitrogen in arid-land stream ecosystems. Journal of the Arizona-Nevada Academy of Science 26:130-146.
20. **Grimm, N. B.**, and S.G. Fisher. 1992. Responses of arid land streams to changing climate. Pages 211-233 *in* P. Firth and S.G. Fisher, editors. *Global Climate Change and Freshwater Ecosystems.* Springer-Verlag, New York, New York, U.S.A.
19. Peterson‡, C.G., and **N. B. Grimm**. 1992. Temporal variation in enrichment effects during periphyton succession in a nitrogen-limited desert stream ecosystem. Journal of the North American Benthological Society 11:20-36.
18. Valett, H.M., S.G. Fisher, **N. B. Grimm**, E.H. Stanley, and A.J. Boulton‡. 1992. Hyporheic-surface water exchange: implications for ecosystem structure and function. Pages 395-405 *in* J.A. Stanford and J.J. Simons, editors. Proceedings of the First International Conference on Groundwater Ecology. American Water Resources Association, Bethesda, Maryland, U.S.A.
17. Wood*, D.J., S.G. Fisher, and **N. B. Grimm**. 1992. Pools in desert streams: limnology and response to disturbance. Journal of the Arizona-Nevada Academy of Science 26:171-179.

1991

16. **Grimm, N. B.**, H.M. Valett, E.H. Stanley, and S.G. Fisher. 1991. Contribution of the hyporheic zone to stability of an arid-land stream. Internationale Vereiningung fur Theoretische und Angewandte Limnologie, Verhandlungen 24:1595-1599.
15. Boulton‡, A.J., S.E. Stibbe*, **N. B. Grimm**, and S.G. Fisher. 1991. Invertebrate recolonization of small patches of defaunated hyporheic sediments in a Sonoran Desert stream. Freshwater Biology 26:267-277.

14. Fisher, S.G., and **N. B. Grimm**. 1991. Streams and disturbance: are cross-ecosystem comparisons useful? Pages 196-221 *in* J.C. Cole, G.M. Lovett, and S.E.G. Findlay, editors. *Comparative analyses of ecosystems: patterns, mechanisms and theories.* Springer-Verlag, New York, New York, USA.

1990

13. Stream Solute Workshop (N.G. Aumen and 18 others, including **N. B. Grimm**). 1990. Concepts and methodologies for studying solute dynamics in stream ecosystems. Journal of the North American Benthological Society 9:95-119.

1980s

12. **Grimm, N. B.**, and S.G. Fisher. 1989. Stability of periphyton and macroinvertebrates to disturbance by flash floods in a desert stream. Journal of the North American Benthological Society 8:293-307.
11. **Grimm, N. B.** 1988. Feeding dynamics, nitrogen budgets, and ecosystem role of a desert stream omnivore, *Agosia chrysogaster* (Pisces: Cyprinidae). Environmental Biology of Fishes 21: 143-152.
10. **Grimm, N. B.** 1988. Role of macroinvertebrates in nitrogen dynamics of a desert stream. Ecology 69: 1884-1893.
9. Fisher, S.G., and **N. B. Grimm**. 1988. Disturbance as a determinant of structure in a Sonoran Desert stream ecosystem. Internationale Vereinigung für Theoretische und Angewandt Limnologie, Verhandlungen 23:1183-1189.
8. **Grimm, N. B.** 1987. Nitrogen dynamics during succession in a desert stream. Ecology 68: 1157-1170.
7. **Grimm, N. B.**, and S.G. Fisher. 1986. Nitrogen limitation in a Sonoran Desert stream. Journal of the North American Benthological Society 5: 2-15.
6. **Grimm, N. B.**, and S.G. Fisher. 1986. Nitrogen limitation potential of Arizona streams and rivers. Journal of the Arizona-Nevada Academy of Science 21: 31-43.
5. Fisher, S.G., and **N. B. Grimm**. 1985. Hydrologic and material budgets for a small Sonoran Desert watershed during three consecutive cloudburst floods. Journal of Arid Environments 9: 105-118.
4. **Grimm, N. B.**, and S.G. Fisher. 1984. Exchange between interstitial and surface water: implications for stream metabolism and nutrient cycling. Hydrobiologia 111: 219-228.
3. Fisher, S.G., L.J. Gray, **N. B. Grimm**, and D.E. Busch. 1982. Temporal succession in a desert stream ecosystem following flash flooding. Ecological Monographs 52: 93-110.
2. Fisher, S.G., D.E. Busch, and **N. B. Grimm**. 1981. Diel feeding chronologies in two Sonoran Desert stream fishes, *Agosia chrysogaster* (Cyprinidae) and *Pantosteus clarki* (Catostomidae). Southwestern Naturalist 26: 31-36.
1. **Grimm, N. B.**, S.G. Fisher, and W.L. Minckley. 1981. Nitrogen and phosphorus dynamics in hot desert streams of Southwestern U.S.A. Hydrobiologia 83: 303-312.

Books

1. Karl TR, Melillo JM, Peterson TC, eds., with **N. B. Grimm** + 27 others (author team). 2009. Global climate change impacts in the United States. Cambridge University Press.

Book Reviews

2. **Grimm, N. B.** 1986. Aquatic resources management of the Colorado River ecosystem. Journal of the North American Benthological Society 5: 85-86.
1. **Grimm, N. B.** 1989. Autecological approach to the nitrogen cycle. Ecology 70:293-294.

Non-Reviewed Book Chapters and Reports

5. Collins, S. L., S. M. Swinton, C. W. Anderson, B. Benson, J. Brunt, T. Gragson, **N. B. Grimm**, J.M. Grove, D. Henshaw, A.K. Knapp, G.P. Kofinas, J.J. Magnuson, W.H. McDowell, J.M. Melack, J. Moore, L.A. Ogden, J. Porter, O. J. Reichman, G.P. Robertson, M.D. Smith, J. Vande Castle, and A. C. Whitmer. 2007. Integrated Science for Society and the Environment: A Strategic Research Initiative. Executive Summary of LTER Network Office Publication No. 23.
4. Harms, T. K., R. A. Sponseller‡, and **N. B. Grimm**. 2007. Desert streams. In S.E. Jørgensen, editor. Encylopedia of ecology. In press.
3. Fink, J. H., C. L. Redman, and **N. B. Grimm**. 2000. Expanding a long term ecological research project into a national urban environmental laboratory (abstract). EOS, Transactions of the American Geophysical Union 81: S11.
2. **Grimm, N. B.**, S. G. Fisher, S. V. Gregory, G. R. Marzolf, D. M. McKnight, F. J. Triska, and H. M. Valett. 1997. Sustainability of western watersheds: nutrients and productivity. Pages 33-45 *in* W.L. Minckley, editor. Aquatic ecosystems symposium. Report, Western Water Policy Review Advisory Commission. Nat. Tech. Inform. Serv., Springfield, VA.
1. Fisher, S. G., and **N. B. Grimm**. 1983. Water quality and nutrient dynamics of Arizona streams. OWRT Project Completion Report A-106-ARIZ. Office of Water Research and Technology.

Non-Reviewed Commentaries and Editorials

10. **Grimm, N. B.** 2017. Are cities ecosystems? The Nature of Cities. Online discussion.
9. Tallis, H., J. Lubchenco, … et al. (including **N. B. Grimm**). 2014. A call for inclusive conservation. Nature 515:27-28+supplemental-5 pp.
8. **Grimm, N. B.**, and K. L. Jacobs. 2013. Bringing people into ecosystems for climate assessment. Frontiers in Ecology and the Environment.
7. **Grimm, N. B.**, and B. van der Pluijm. 2012. Sustainability needs the geosciences. Eos 93(44): 441.
6. Mayer, P., **N. Grimm,** C. Lepczyk, S. Pickett, R. Pouyat, and P. Warren. 2010. Urban ecosystems research joins mainstream ecology. Nature 467:153 (correspondence).
5. Townsend, A.R., L.A. Martinelli, and **N. B. Grimm**. 2010. Perspectives on the modern nitrogen cycle. Ecological Applications 20:3-4. (Introduction to a special feature that I edited.)
4. **Grimm, N. B.** 2006. Ecology 2020. A message from the President. Annual Report, Ecological Society of America, Washington, D.C.
3. **Grimm, N. B.**, A. Covich, and J.M. Melillo. 2006. A vision for ecology's future: where are we today? Frontiers in Ecology and the Environment 4:115.
2. Melillo, J.M., **N. B. Grimm**, and W.H. Schlesinger. 2005. Ecology and the transition to sustainability. Frontiers in Ecology and the Environment 3:3.
1. Melillo, J.M., **N. B. Grimm**, and A. Covich. 2005. NEON: Lighting the way forward. Frontiers in Ecology and the Environment 3:351.

Manuscripts In Review

Babbar-Sebens, M., J. Duncan, A. Yeakley, B. Heidari, S. Rivera Aparicio, A. Felson, R. Hale, **N. B. Grimm**, B. S. Minsker, P. M. Groffman, and L. Band. Building resilient green infrastructure in urban ecosystems: new solutions for emerging challenges.

Corman, J. R., S. L. Collins, E. Cook, X. Dong, L. A. Gherardi, **N. B. Grimm,** R. L. Hale, T. Lin, J. Ramos, L. G. Reichmann, and O. E. Sala. Foundations and frontiers of ecosystem science: legacy of a classic paper (Odum 1969). Ecosystems: in revision.

Creed, I. F., A.-K. Berström, A. Andersson, J. Ask, M. Berggren, M. Cherif, E. Freeman, R. Giesler, N. B. Grimm, D. O. Hessen, E. R. Hotchkiss, J. Karlsson, K. A. Kidd, P. Kortelainene, E. Kritzberg, D. M. McKnight, M. M. Palta, O. Senar, T. Vrede, G. A. Weyhenmeyer, C. G. Trick. Global change-driven effects on dissolved organic matter composition: Implications for aquatic food webs at northern latitudes. Global Change Biology: in revision.

Dong, X., **N. B. Grimm**, J. B. Heffernan, and R. Muneepeerakuhl. Self-organization of macrophytes in heterogeneous fluvial landscapes. In review.

PRESENTATIONS

Invited, Plenary, and Keynote Presentations

Invited presentation (with Marta Berbés Blásquez, Chingwen Cheng, Elizabeth Cook, Timon McPhearson, Lauren McPhillips, and Monica Palta). Symposium: "Aquatic ecosystem services in a changing world." Title: Assessing urban aquatic services in the face of climate-driven extreme events. Ecological Society of America Annual Meeting, Portland, OR, August, 2017.

Invited presentation. Ignite Session: "What is the single greatest threat to dryland ecosystems in a changing world?" Title: Climate change and urbanization: colliding threats to desert streams. Ecological Society of America Annual Meeting, Portland, OR, August, 2017.

Keynote. International Conference: "HydroEco2017: Ecohydrology on the edge: ecology-hydrology-human interactions in a changing world." Title: Building resilience to extreme weather-related events in urban environments through social-ecological-technological systems (SETS) infrastructure. Birmingham, UK, June 2017.

Invited presentation (with C. L. Redman). "Sustainability Research Networks Awardees Conference." Title: UREx SRN overview. National Science Foundation, Arlington, VA, June 2017.

Keynote. International Urban Wildlife Conference. Title: The rise of urban ecology as an integrative, interdisciplinary science for the Anthropocene. San Diego, CA, June, 2017.

Panelist. International Conference: "Interdisciplinary perspectives on urban infrastructure history and the social sciences." Host: NYU Paris. Paris, France, May 2017.

Keynote. International Conference: "Green Infrastructures: Nature Based Solutions for sustainable and resilient cities." Title: A SETS perspective on green infrastructure and its services. Orvieto, Italy, April 2017.

Invited presentation. Chapman Conference: "Extreme climate event impacts on aquatic biogeochemical cycles and fluxes." Title: Designing social-ecological-technological systems (SETS) to build resilience to extreme weather-related events in urban environments. San Juan, PR, February 2017.

The Stockholm Seminar. Title: Extreme events call for a resilient SETS infrastructure. Royal Swedish Academy of Sciences, Stockholm, Sweden, May, 2016.

Keynote: EnviroDay 2016. Title: The future of cities: addressing challenges from the collision of urbanization and climate change. Environmental Sciences Department, University of Virginia, Charlottesville, VA, February 2016.

Invited presentation. Special Workshop: "Urban Systems." Title: Urban resilience to extremes: a new Sustainability Research Network. Complex Systems Symposium, Tempe, AZ, October 2015.

Keynote. International Conference: "2nd Water Sensitive Cities Conference." Title: Developing a concept of social-ecological-technological systems to characterize resilience of urban areas

and infrastructure to extreme events. CRC for Water Sensitive Cities, Brisbane, Australia, September 2015.

Invited presentation (with C. L. Redman, M. Chester, D. Iwaniec, T. McPhearson, T. Miller, and T. Muñoz-Erickson). Symposium: "An ecology in, of, and for cities." Title: Developing a concept of social-ecological-technological systems to characterize resilience of urban areas and infrastructure to extreme events. Ecological Society of America (ESA) Annual Meeting, Baltimore, MD, August 2015.

Invited presentation (with R. Hale, S.T.A. Pickett, M. L. Cadenasso). Organized Oral Session: "The Emergence, Rise, and Future of Urban Ecology in the United States." Title: Disturbance in urban ecosystems. ESA Annual Meeting, Baltimore, MD, August 2015.

Keynote. International Conference: "Hydroeco2015: Advances in monitoring, predicting and managing hydroecological processes." Title: Spatial and temporal variation in responses of ecosystem structure and processes to short- and long-term hydrological regime shifts in a semi-arid watershed. Vienna, Austria, April 2015.

Invited presentation (with X. Dong, A. Ruhí, and J. L. Sabo). Special Session: "Climate-driven changes in coupled terrestrial-aquatic ecological stoichiometry." Title: Spatial and temporal patterns of nutrient limitation, plant biomass and productivity, and stream metabolism vary in response to short- and long-term hydrological regime shifts. American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, December 2014.

Plenary. International Workshop: "Urbanization in watersheds: ecological and environmental responses." Title: How shall we compare urban and urbanizing watersheds globally? Concepts and case studies. Xiamen, China, October 2014.

Plenary. International Workshop: "Climate driven changes on coupled terrestrial-aquatic ecological stoichiometry." Title: Global change effects on riverine hydrological, biogeochemical, and ecological processes. Abisko, Sweden, September 2014.

Invited Presentation. IGNITE Session, "From Mountains to Coasts: Ecosystems in the Third National Climate Assessment." Title: Climate change, ecosystem services, and biogeochemical cycles. ESA Annual Meeting, Sacramento, CA, August 2014.

Invited presentation. Special Session, "Environmental Impacts of Urbanization at Multiple Scales: Neighborhood to Globe." Title: Prospects for resilience and sustainability of urban socio-techno-ecological systems to evolving stressors at global, regional, and local scales. AGU Fall Meeting, San Francisco, CA, December 2013.

Plenary. Symposium of the Syracuse Center of Excellence: "Urban Reinvention and Resilience." Title: Adding the "techno" into urban socioecological systems. Syracuse, NY, October 2013.

Invited presentation. International Conference: "CIGMA 2013: Conferencia International de Geographía y Medio Ambiente." Title: Urban socio-techno-ecological systems: Prospects for resilient urban water systems. Session on Climate Change, Mexico City, Mexico, October 2013.

Plenary. International Conference. Title: Urban socio-techno-ecological systems: Prospects for resilient urban water systems. Triennial Meeting, International Society of Ecology (INTECOL), and 100th Anniversary Meeting, British Ecological Society (BES), London, UK, August 2013.

Invited Presentation. Organized Oral Session: "Implications of climate change for ecosystem processes in the Southwest U.S." Title: Overview of the 2013 US National Climate Assessment, with special reference to impacts of climate change on ecosystems, hydrology, and urban areas of the Southwest. ESA Annual Meeting, Minneapolis, Minnesota, August 2013.

Invited Presentation. IGNITE Session: "Urban Ecology: From Biophysics to Society." Title: Urban stormwater and the new normal. ESA Annual Meeting, Minneapolis, Minnesota, August 2013.

Plenary. International Symposium: "Methodological approaches for dealing with socio-ecological complexity of urban areas." Title: Understanding urban socio-techno-ecological systems. First International Congress, Society for Urban Ecology. Berlin, Germany, July 2013.

Plenary. Title: A global perspective on urban streams and rivers. Arizona Riparian Council, Tempe, AZ, April 2013.

Plenary. Title: Interdisciplinary research: a view from two perches. Graduate Student Symposium, LTER All-Scientists Meeting, Estes Park, CO, September 2012.

Invited presentation. Symposium: "Urban biogeochemistry." Title: Modulation of storm-driven water and nutrient loads by infrastructure in an arid urban ecosystem. EcoSummit 2012, Columbus, OH, October 2012.

Invited presentation. Symposium, "The National Climate Assessment: Preliminary Findings, Building Assessment Capacity, and Implementing a Sustained Assessment Process." Title: Current and future impacts of climate and global change on the structure and functioning of ecosystems. ESA Annual meeting, Portland, Oregon, August 2012.

Plenary. Title: Global environmental change and the water challenges of cities. Annual Meeting, Association for the Sciences of Limnology and Oceanography (ASLO). Lake Biwa, Japan, July 2012.

Keynote. Title: The challenges of global environment change for ecosystems, people, and the Southwest. Annual Undergraduate Symposium, Arizona State University. Tempe. AZ, March 2012.

Invited presentation. International Conference: "Grasslands in a Global Context." Title: Hydrogeomorphic drivers of stream ecosystem structure and function in deserts and grasslands. Manhattan, Kansas, September 2011.

Plenary. International Conference: "SCARCE." Title: Challenges in water provisioning, delivery, and quality for urban populations: analysis of global patterns and an aridland case study. International Conference, Institut Catalan de Reserches Aquatic, Girona, Spain, December 2010.

Keynote. International Conference: "Urban Environmental Forum." Title: Challenges in water provisioning, delivery, and quality for urban populations: analysis of global patterns and an aridland case study. Xiamen, China, December 2010.

Invited presentation. Organized Oral Session: "Long-Term Research in Environmental Biology." Title: Interannual variability in hydrologic regimes leads to shifts in nutrient availability and vegetative biomass in a desert stream. ESA Annual Meeting, Pittsburgh, PA, August, 2010.

Invited presentation. Special Session: "Drought, climate change, and ecosystems: monitoring and assessing regional impacts for adaptation." Title: Climate-change impacts and the role of ecosystem services in mitigation and adaptation in urban areas: a case study from an aridland city. AGU Fall Meeting, San Francisco, CA, December 2009.

Welcome address: "Water-ecosystem services, drought and environmental justice." ESA First Millennium Conference, Athens, GA, November 2009.

Invited speaker/panelist. Forum: "Transitioning to sustainability: the challenge of developing sustainable urban systems." The National Academies' Second Sustainability R&D Forum, Washington, DC, September 2009.

Invited presentation. Symposium, "Out on a limb: sustainability of urban ecosystems under changing climates." Title: Global change in the urban century. Annual symposium, Association of Ecosystem Research Centers, Washington, DC, September 2009.

Invited panelist. Synthesis Panel: "Coupled biogeochemical cycles." Couple Biogeochemical Cycles - ESA event, Albuquerque, NM, August 2009.

Invited presentation. Symposium: "Human macroecology." Title: Ecosystem processes associated with human settlements at local, regional, and continental scales. ESA Annual meeting, Albuquerque, NM, August 2009.

Invited presentation. Workshop: "Climate change impacts and integrated assessment." Title: Central Arizona–Phoenix LTER: urbanization and global environmental change. Snowmass, CO, July 2009.

Invited Presentation. International Workshop: "Developing a bi-national or collaborative long-term ecological research platform in the Arava Valley." Title: Central Arizona – Phoenix LTER: Social-ecological dynamics in a rapidly urbanizing, arid region. Joint Israel-Jordan workshop, Aqaba, Jordan. June 2009.

Invited Presentation. International conference: "Implementing the ISSE in regional LTER research." Title: Central Arizona – Phoenix LTER: Social-ecological dynamics in a rapidly urbanizing, arid region. Israel LTER workshop, Haifa, Israel. June 2009.

Invited presentation. International conference: "Dynamic Deserts." Title: Drivers and consequences of interannual variability in nitrogen transport and retention in aridland stream–riparian ecosystems. Tempe, AZ, February 2009.

Keynote. International conference: "Urban Futures: the challenge of sustainability." Title: Global change in the urban century. Annual Meeting of the Alliance for Global Sustainability, Zurich, Switzerland, January 2009.

Invited presentation. Symposium: "Urban areas and global change." Title: Urbanization across gradients: testing hypotheses on effects of land change at multiple scales. AGU Fall Meeting, San Francisco, CA, December 2008.

Invited presentation. Inaugural Freshwater Biology Summit: "Multiple stressors in aquatic ecosystems." Title: Combined influences of climatic and anthropogenic drivers on nitrogen transport and retention in aridland stream-riparian systems. Freshwater Biological Association, Windermere, UK, September 2008.

Invited presentation (with E.K. Larson). Symposium: "Second Symposium on Urban Stream Ecology." Title: Ecosystem function in urban streams. Salt Lake City, UT, May 2008.

Invited Presentation. Mini-Symposium, Long-Term Ecological Research Program, "Social-ecological systems in a changing world: Perspectives from long-term ecological research." Title: The changing landscape: ecosystem responses to urbanization and pollution across continental and regional gradients. National Science Foundation, Arlington, VA, February 2008.

Keynote. International Workshop (inaugural): "The Hyporheic Network." Title: The role of hyporheic zone processes in nutrient dynamics of streams: a retrospective analysis. Sheffield, UK, June 2007.

Invited Speaker and Senior Mentor. International Workshop, "Urbanization Interactions with Biogeochemistry and Climate." Young Scientist Network of the Analysis, Integration and Modeling of the Earth System project, International Geosphere-Biosphere Programme. Mexico City, Mexico, September 2006.

Presidential Address. Plenary and Awards Session: ESA Annual Meeting, Memphis, Tennessee, August 2006.

Plenary. Annual Symposium, "Sustainability." Title: Urban ecosystems: a challenge for sustainability science. St Olaf College, St Paul, MN, May 2006.

Opening lecture. Leadership Workshop, Ecological Society of America's Strategies for Ecology Education, Diversity and Sustainability (SEEDS)" "Leadership." Title: Thoughts on leadership. Tempe, AZ, March 2006.

Opening and closing comments. International Conference: "Ecology in an era of globalization." Special ESA themed meeting, Merida, Yucatan, Mexico, January 2006.

Plenary presentation. International Conference: "The circular economy and sustainable development." Title: Urban ecosystems and the challenge to sustainability science. Hangzhou, Zeiming Province, China, November 2005.

Presentation for the China Ministry of Land Resources, "Sustainable Land Use and Planning Training - Phoenix." Title: CAP - LTER: Instrument of Phoenix. Arizona State University, September 26-28, 2005

Special Session, "Ecological sustainability in a world of constant change: Developing a new research agenda for ESA." Introductory and synthesis comments. ESA Annual Meeting, Montreal, Quebec, Canada, August 2005.

Moderated roundtable luncheon discussion, "Building an ecological observatory network for regional- to continental-scale research: NEON, the National Ecological Observatory Network." Opening remarks. ESA Annual Meeting, Montreal, Quebec, Canada, August 2005.

Special Session, "Biodiversity and ecosystem function in human-altered streams." Invited 'tutorial' presentation: Sorting out mechanisms from syndromes in the study of human-altered streams. ASLO Annual Meeting, Santiago de Campostela, Galicia, Spain, June 2005.

Fulbright International Scholars Seminar, "Managing and Protecting Natural Resources." Invited presentation: Impact of urban environments on streams and rivers. Tempe, AZ, February 2005.

International Workshop, "Riparian biogeochemistry in semi-arid ecosystems." Invited presentation: Hydrologic controls on nitrogen dynamics in riparian ecosystems of semi-arid landscapes. Skukuza, Kruger National Park, South Africa, October 2004.

Science conference, "Interactions between changes in climate and disturbance regimes." Invited presentation: Urban disturbance (with S.T.A. Pickett). US LTER Coordinating Committee, Fairbanks, AK, August 2004.

Symposium, "In the footsteps of Lewis & Clark: rediscovering earth from land to sea—a biogeoscience perspective." Invited presentation: A unique urban biogeochemistry? (with J.P. Kaye, S.J. Hall, J.O. Allen, and D.B. Lewis). ESA Annual Meeting, Portland, OR, August 2004.

International Conference, "Urbanization and stream ecology." Plenary Presentation: Nitrogen retention and transformation in urban streams (with C.L. Crenshaw, C.N. Dahm, W.J. Roach, R.W. Shielbley III, and L.H. Zeglin). Melbourne, Australia, December 2003.

Estuarine Research Foundation/US Long-Term Ecological Research Joint Symposium. Seattle, WA, September 2003. (Plenary)

Chapman Conference "Ecosystem interactions with land-use change." Invited presentation: Effects of land-use change from urbanization on nutrient dynamics in aridland streams. Santa Fe, NM, 2003.

Mini-Symposium, Long-Term Ecological Research Program, "Integration of Geosciences and Social Science within the LTER Program: Progress and Prospects." Invited Presentation: Introduction. National Science Foundation, Arlington, VA, February 2003.

Chapman Conference "Interactions between Vegetation and Hydrological Processes in Semiarid Landscapes." Invited presentation: Nutrient retention in stream-channel and riparian hotspots of semi-arid watersheds. Taos, NM, September 2002.

Special Symposium, "Cities of Resilience", ESA Annual meeting, Tucson, AZ, August 2002. (Invited; co-author with C. Redman)

Special Session, "Physical forcing and pelagic-benthic interactions in aquatic systems", ASLO Annual meeting, Victoria, BC, June 2002. (Invited)

Mini-Symposium, Long-Term Ecological Research Program, "LTER Network Major Research Accomplishments." Invited Presentation: Urban crossroads: integration of earth, life, and social sciences in the city. National Science Foundation, Arlington, VA, February 2002.

First Annual Conference, Global Nitrogen Enrichment Program. University of Wales, Bangor, Wales, September 2001. (Plenary)

16th Annual Symposium of the U.S. Chapter of International Association of Landscape Ecology, Tempe, Arizona, April 2001. (Plenary)

Special Symposium, ESA Annual meeting, Snowbird, Utah, August 2000. (Invited)

NABS. Annual Meeting, Keystone, Colorado, May 2000. (Presidential address)

Joint symposium of the BES and the ESA: "Ecology: Achievement and Challenge." Orlando, Florida, April 2000. (Plenary)

"Southwest River Management and Restoration: Non-Structural Approaches." Conference sponsored by the Arizona Floodplain Management Association, Phoenix, Arizona, April 2000. (Invited)

Annual Meeting of the Association of Ecosystem Research Centers. Washington, DC, November 1999. (Invited)

8th Cary Conference, "Understanding urban ecosystems: a new frontier for science and education." Millbrook, NY, April 1999. (Plenary)

Special LTER Session on Urban Ecosystems, Annual Meeting, Ecological Society of America, Baltimore, Maryland, August 1998. (Invited)

Kaeser Visiting Scholar lecture, Center for Limnology, University of Wisconsin, Madison, WI. (Invited)

International LTER meeting, Taipei, Taiwan, November 1997. (Invited)

Special Session, "Natural and applied hydrologic variation: influences on the functioning and restoration of lotic ecosystems in semi-arid and arid regions." Aquatic Sciences Meeting, ASLO, Santa Fe, NM. (Invited)

Special Session, "Stream ecosystems as products of coupled hydrologic and biogeochemical processes in catchments and channels." Aquatic Sciences Meeting, ASLO, Santa Fe, NM. (Invited, with E. Marti and others)

Special session on undergraduate research programs. Annual Meeting, NABS, Kallispell, MT, June 1996. (Invited)

National Center for Ecological Analysis and Synthesis Conference, "Spatio-temporal dynamics in ecological systems." National Center for Ecological Analysis and Synthesis, Santa Barbara, California, USA, February-March 1996. (Invited)

EAWAG Workshop, "Heterogeneity, surface/groundwater interaction, retention, nutrient turnover and biodiversity in the transion zones of lotic ecosystems." The Limnological Research Center, EAWAG, Kastanienbaum, Switzerland, February 1996. (Plenary)

Co-operative Research Centre for Freshwater Ecology Symposium, "Spatial and Temporal Scaling of Ecological Processes in Freshwater Systems." Monash University, Clayton, Victoria, Australia, December 1995. (Invited, with S. Fisher and others)

Co-operative Research Centre for Freshwater Ecology Symposium, "Spatial and Temporal Scaling of Ecological Processes in Freshwater Systems." Monash University, Clayton, Victoria, Australia, December 1995. (Invited)

Symposium, "Testing the influence of environmental heterogeneity on patterns and processes in streams." Annual Meeting, NABS, Keystone, Colorado, May-June 1995. (Invited)

5th Cary Conference: "Linking species and ecosystems." Millbrook, NY, May 1993. (Plenary)

Symposium, "Benthic algal ecology: processes and differential species performance." Annual Meeting, North American Benthological Society. Calgary, Alberta, Canada, May 1993. (Invited)

Symposium: "Aquatic ecology: scale, pattern and process." BES and ASLO, Cork, Ireland, April 1992. (Invited)
Gordon Research Conference: "Estuarine processes." New Hampton, New Hampshire, June 1991. (Invited)
Workshop: "Evolutionary, population, and community responses to global change." Friday Harbor Labs, Washington, September 1991. (Invited)
Special Symposium honoring Gerald Cole. Arizona-Nevada Academy of Science Annual Meeting, Tempe, Arizona, April 1990. (Invited)
Symposium: "Temporal variability and disturbance in fluvial environments." Annual Meeting, AGU, San Francisco, California, December 1990. (Invited)
USEPA/NASA/NABS - sponsored Symposium: "Troubled waters of the greenhouse earth: climate change, water resources, and freshwater ecosystems. Blacksburg, Virginia, May 1990. (Invited)
Symposium: "Groundwater limnology." International Society of Limnology. Munich, West Germany, August 1989. (Invited)
Boden Conference on Stream Ecology, Australian Society of Limnology. Thredbo, New South Wales, Australia, January 1985. (Invited)

Contributed Presentations and Abstracts

2017 American Association of Geographers (AAG) Annual Meeting, Boston, MA, April 2017: 1 paper co-authored.
Ecological Society of America Annual Meeting, Portland, OR, August 2017: three papers and two posters co-authored.
Resilience 2017 Conference, Stockholm, Sweden, August 2017: 1 paper presented, two papers co-authored.
PECS-II Conference, Oaxaca, México, November 2017: 4 papers co-authored.
American Geophysical Union (AGU) Fall Meeting, New Orleans, LA (Dec 2017): 1 paper presented, 1 paper co-authored.
2016 Ecological Society of America (ESA) Annual Meeting, Fort Lauderdale, FL (August 2016): 2 papers co-authored
International Long-Term Ecological Research (ILTER) Open Science Meeting, Skukuza, South Africa, September 2016: 1 posters presented.
Habitat III Conference, Future Earth Side Event: 1 paper presented, 1 panel discussion moderated.
2015 Association for the Sciences of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, Granada, Spain, February 2015: 1 paper presented.
Ecological Society of America (ESA) Annual Meeting, Baltimore, MD, August 2015: 3 papers co-authored.
Long-Term Ecological Research (LTER) All-Scientists Meeting, Estes Park, CO, September 2015: 3 posters co-authored.
Complex Systems Symposium, Tempe, AZ (September 2015): 1 paper presented.
Geological Society of American Annual Meeting, Baltimore, MD (November 2015): 1 paper co-authored.
American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, December 2015: 2 papers co-authored.
2014 Joint Aquatic Sciences Meeting (ASLO, SFS), Portland, OR, May 2014: 1 paper presented, 3 papers co-authored, 1 poster co-authored.

ESA Annual Meeting, Sacramento, CA, August 2014: 2 papers co-authored
AGU Fall Meeting, San Francisco, December 2014: 1 paper co-authored.

2013 ASLO Aquatic Sciences Meeting, New Orleans, LA, February 2013: 1 paper presented.
SFS Annual Meeting, Jacksonville, FL, May 2013: 1 paper and 1 poster co-authored.
ESA Annual Meeting, Minneapolis, MN, August 2013: 3 papers co-authored.
AGU Fall Meeting, San Francisco, CA, December 2013: 1 paper co-authored.

2012 SFS (formerly NABS) Annual Meeting, Louisville, KY, May 2012: 2 papers co-authored.
ESA Annual Meeting, Portland, OR, August 2012: 3 papers and 2 posters co-authored.
LTER All-Scientists Meeting, Estes Park, CO, September 2012: 3 posters co-authored.
International LTER All-Scientists Meeting, Lisbon, Portugal, September 2012: 2 posters presented.
AGU Fall Meeting, San Francisco, CA, December 2012: 1 paper presented and 1 co-authored.

2011 NABS Annual Meeting, Providence, RI, May 2011: 2 papers and 1 poster co-authored.
Society for European Freshwater Science (SEFS) Triennial Meeting, Girona, Spain, July 2011: 1 paper presented and 1 paper co-authored.
ESA Annual Meeting, Austin, TX, August 2011: 6 papers and 2 posters co-authored.
AGU Annual Meeting, San Francisco, CA, December 2011: 2 papers co-authored and 1 poster co-authored.

2010 NABS and ASLO Joint Annual Meeting, Santa Fe, NM, June 2010: 2 posters and 1 paper co-authored.

2009 NABS Annual Meeting, Grand Rapids, MI, May 2009: 3 papers co-authored.
ESA Annual Meeting, Albuquerque, NM, August 2009: 2 papers co-authored.
LTER Triennial Symposium, Estes Park, CO, September 2009: 1 poster presented, 2 posters co-authored, 2 workshops organized.
ESA Millennium Conference, Athens, GA, November 2009: 1 poster co-authored.
American Geophysical Union (AGU) Annual Meeting, San Francisco, CA, December 2009: 1 paper presented, 1 poster co-authored.

2008 NABS Annual Meeting, Salt Lake City, UT, May 2008: 5 papers co-authored.
ESA Annual Meeting, Milwaukee, WI, August 2008: 1 poster co-authored.
AGU Annual Meeting, San Francisco, CA, December 2008: 1 paper co-authored.

2007 Advancing the Science of Limnology and Oceanography (ASLO), Aquatic Sciences Meeting, Santa Fe, NM, February 2007: 2 papers co-authored.
NABS Annual Meeting, Columbia, SC, May 2007: 4 papers co-authored.
ESA Annual Meeting, San Jose, CA, August 2007: 2 papers co-authored.

2006 LTER All-Scientists Meeting, Estes Park, CO, September 2006: 1 poster authored, 6 posters co-authored.
ESA Annual Meeting, Memphis, TN, August 2006: 7 posters co-authored.
NABS Annual Meeting, Anchorage, AK, June 2006: 1 paper presented, 2 papers co-authored, 1 poster co-authored.

2005 ESA Annual Meeting, Montreal, Quebec, August 2005: 2 papers co-authored.
ASLO Annual Meeting, Santiago de Campostela, Galicia, Spain, June 2005: 1 poster co-authored.
NABS and AGU Joint Annual Meeting, New Orleans, LA, June 2005: 3 papers co-authored.

2004 NABS Annual Meeting, Vancouver, BC, June 2004: 1 paper presented, 5 papers co-authored.
ESA Annual Meeting, Portland, OR, August 2004: 1 paper presented, 3 papers co-authored.

2003 NABS Annual Meeting, Athens, GA, June 2003: 1 paper co-authored.
Chapman Conference "Ecosystem interactions with land-use change." Santa Fe, NM, June 2003: 1 paper co-authored.

AGU, Spring Meeting, Nice, France, April 2003: 1 poster presented; 1 paper co-authored.
2002 AGU Fall Meeting, San Francisco, CA, December 2002: 1 paper co-authored.
NABS Annual Meeting, Pittsburgh, PA, May 2002: 2 papers co-authored.
ASLO Annual Meeting, Victoria, BC, June 2002: 1 poster co-authored.
ESA Annual Meeting, Tucson, AZ, August 2002: 2 papers co-authored.
2001 Arizona Riparian Council, Tucson, Arizona, May 2001: 1 paper co-authored.
International Association of Landscape Ecology (IALE), U.S. Chapter Tempe, Arizona, April 2001: 2 posters co-authored.
NABS Annual Meeting, LaCrosse, Wisconsin, June 2001: 1 paper presented, 3 papers co-authored.
ESA Annual Meeting, Madison, Wisconsin, August 2001: 1 paper presented, 7 papers co-authored.
2000 NABS Annual Meeting, Keystone, Colorado, June 2000: 2 papers co authored
AGU Annual Meeting, Washington, DC, May 2000. 1 paper co- authored
All-Scientists' Meeting, US LTER Network, Snowbird, Utah, August 2000. 1 poster co-authored
ESA Annual Meeting, Snowbird, Utah, August 2000: 4 papers and 2 posters co authored
American Meteorological Society, Third Symposium on the Urban Environment: 1 paper co-authored
1999 ESA Annual Meeting, Spokane, WA, August 1999. 5 papers co authored
IALE Annual Meeting, Snowmass, CO, July 1999: 1 paper coauthored
NABS Annual Meeting, Duluth, MN, May 1999: 3 papers co-authored
1998 ESA Annual Meeting, Baltimore, Maryland, August 1998: 3 papers co authored
Societas Internationalis Limnologiae (SIL) Triennial Meeting. Dublin, Ireland, August 1998: 1 papered presented, 2 papers co authored
NABS Annual Meeting, Prince Edward Island, June 1998: 8 papers co authored.
Seventh International Symposium on Society and Resource Management: Culture, Environment, and Society. Columbia, Missouri, May 1998. 1 paper co authored
1997 ESA Annual Meeting, Albuquerque, NM: 1 paper presented, 5 papers co authored
ASLO Annual Meeting, Santa Fe, NM. 1paper co authored
1996 NABS Annual Meeting, Kallispell, MT.: 1 paper presented, 4 papers co-authored.
ASLO Annual Meeting, Milwaukee, WI.: 1 paper co-authored
1995 NABS Annual Meeting, Keystone, Colorado: 5 papers and 1 poster co authored
Entomological Society of America, Las Vegas, Nevada. 1 paper co authored
ESA Annual Meeting, Snowbird, Utah: 1 paper presented, 1 paper co authored
1994 Southwestern Association of Biologists, Abiquiui, NM: 2 papers co authored
International Conference on Ground-Water Ecology, Atlanta, Georgia: 2 papers co authored
NABS Annual Meeting, Orlando, Florida: 2 papers co authored
AGU and ASLO, Annual Ocean Sciences Meeting. San Diego, California: 1 paper co authored
1993 NABS Annual Meeting, Calgary, Alberta, Canada: 4 papers co authored
Jornadas Tecnicas Internacionales: Bases ecológicas para la restauración de humedales en la cuenca Mediterranea. La Rabida, Huelva, Spain, June: 1 poster presented
1992 SIL Triennial Meeting, Barcelona, Spain, August: 1 poster presented; 2 posters co authored
NABS Annual Meeting. Louisville, Kentucky, May : 1 paper presented, 3 papers co authored
ESA Annual Meeting. Honolulu, Hawaii: 1 paper co authored
International Conference on Ground-Water Ecology, Tampa, Florida, April: 1 paper co authored.
1991 NABS Annual Meeting. Santa Fe, New Mexico, May: 3 papers co authored

AGU Annual Meeting, San Francisco, California, December: 1 paper co authored
1990 ESA Annual Meeting. Snowbird, Utah, July–August: 1 paper presented.
1989 Workshop on Solute Dynamics in Stream Ecosystems, University of Mississippi, February: 1 paper presented.
1988 NABS Annual Meeting. Tuscaloosa, Alabama: 1 paper presented, 2 paper co authored.
ESA Annual Meeting. Davis, California: 1 paper presented
1987 SIL Triennial Meeting. Hamilton, New Zealand: 1 paper co authored
1985 NABS Annual Meeting. Corvallis, Oregon: 1 paper presented.
1984 NABS Annual Meeting. Raleigh, North Carolina: 1 paper presented.
1983 NABS Annual Meeting. LaCrosse, Wisconsin: 1 paper presented.
1980 ASLO Annual Meeting. Knoxville, Tennessee: 1 paper co authored
Arizona–New Mexico Chapter, American Fisheries Society. Thatcher, Arizona: 1 paper presented.
1979 Arizona-Nevada Academy of Science. Tempe, Arizona: 1 presented, 2 papers co authored.

Invited Lectures, Seminars, and Colloquia

Australian Society of Limnology, Melbourne Chapter (1985); University of New Mexico (1986); Appalachian Environmental Laboratory, University of Maryland (1988); Arizona State University (Zoology, 1989); The Ecosystems Center, Woods Hole Marine Biological Laboratory (1989); Hampshire College (1989); Institute for Ecosystem Studies, Cary Arboretum (1990); University of New Mexico (1990); Northern Arizona University (1992); University of British Columbia (1992); Arizona State University (Zoology, 1993); Cornell University (1995); Universitat de Barcelona, Spain (1995); Virginia Polytechnical and State University (1997); Arizona State University (Civil Engineering, 1997); Arizona State University West (1997); Arizona State University (Biology, Geology, 1998); University of Colorado (1998); University of Wisconsin (Kaeser Visiting Scholar, 1998); Stanford University (1999); University of California, Santa Barbara (1999); Arizona State University (Geography, 2000); University of California at Riverside (May 2001); University of California at Davis (May 2001); Cornell University (October 2001); USDA-ARS Water Conservation Laboratory, Phoenix (January 2002); National Science Foundation (February 2002); University of Georgia (September 2002); Utah State University (Eminent Ecologist, January 2003); National Science Foundation (February 2003); University of Arizona (April 2003); Colorado State University (Eminent Ecologist, March 2004), Pennsylvania State University (April 2005); St Olaf College (May 2006); Carnegie Institution of Washington (May 2006); Chinese Academy of Sciences, Beijing, China (August 2006); Centre d'Estudis Avançats de Blanes, Spain (March 2007); Universidad de Murcia, Spain (March, 2007); Universitat de Barcelona, Spain (May, 2007); University of Arizona (January 2008); US Arid Land Agricultural Research Center (December 2008); Brown University (April 2009); Cornell University (May 2009); National Science Foundation (March 2010); Environmental Protection Agency (March 2010); Cary Institute of Ecosystem Studies (March 2011); University of Connecticut (Teale Lecture, April 2011); Oak Ridge National Laboratory (November 2011); University of Maryland (February 2012); Arizona State University (March 2012); Duke University (April 2012); Georgetown University (November 2012); Syracuse University (October 2013); University of Texas, Arlington (October 2013); University of Puerto Rico Rio Piedras (September 2014); University of Melbourne (November 2014); Cornell University (November 2014); University of North Carolina (Jenner Memorial Lecture, spring 2015); University of Georgia (30th Eugene and Bill Odum Lecture, April 2015); Michigan State University (Eminent Ecologist, June 2015); Universidad Austral de Chile (August 2015); Griffiths University, Australia (September 2015); University of Notre Dame (October 2015); Marine Biological Laboratory Ecosystems Center (Distinguished Ecologist, October 2015); University of Virginia (EnviroDay 2016 keynote speaker,

February 2016); Royal Swedish Academy of Sciences (Stockholm Seminar, May 2016); MISTRA Urban Futures, Chalmers University, Sweden (May, 2016)

RESEARCH GRANTS AWARDED

"SCC-Planning: Building resilient coastal cities through smart and connected communities." PI N. B. Grimm, Co-PIs M. Feagan, T. A. Muñoz-Erickson, T. Troxler, and C. Welty ($100K). National Science Foundation, 2017-2018.

"Nature's cooling systems: participatory action planning to address landscape vulnerability to heat." The Nature Conservancy (lead) PI M. Messerschmidt; ASU co PIs N. B. Grimm, D. Hondula; Maricopa County Department of Public Health co-PIs V. Berisha, J. White; Desert Botanical Garden co-PI S. Buete ($125K). Vitalyst Foundation, 2017-2018.

"LTER: CAP IV: "Design with nature" infrastructure in Phoenix: A research framework for exploring urban ecology and sustainability." PI and Director D. L. Childers, Co-PIs N. B. Grimm, S. J. Hall, B. L. Turner, and A. York (~$2M). National Science Foundation, 2016-2018.

"Collaborative Research: Defining stream biomes in order to better understand and forecast stream ecosystem change." PI N. B. Grimm for ASU portion ($492,775). Collab. with Duke (lead institution; E. Bernhardt PI), U Florida, U Connecticut, U Wyoming, U Wisconsin, U New Hampshire. Macrosystems Biology Program, National Science Foundation 2015-2020.

"SRN: Urban Water Innovation Network (U-WIN): Transitioning Toward Sustainable Water Systems." Senior Personnel, ASU Sub-Contract (M. Georgescu, ASU PI) (~$2M). SEES Program, National Science Foundation, 2015-2020.

"SRN: Urban resilience to extreme weather-related events." PI/Co-Director C. L. Redman, Co-PI/Co-Director N.B. Grimm, Co-PIs M. Chester, T. McPhearson, T. Muñoz-Erickson ($12 M). SEES Program, National Science Foundation, 2015-2020.

"LTREB: Multiscale effects of climate variability and change on hydrologic regimes, ecosystem function, and community structure in a desert stream and its catchment." PI N. B. Grimm, Co-PI J.L.Sabo ($450,000). Ecosystem Program, National Science Foundation, 2015-2020.

"Collaborative Research: RIPS Type 2: Resilience Simulation for Water, Power & Road Networks." T. Seager, PI; N. B Grimm, Senior Personnel ($2.5 M). National Science Foundation, 2014-2017.

"Urban aquatic ecosystems." PI N. B. Grimm, LTER cross-site workshop series, ($26,000). LTER Network Office, 2012-2013.

"CAP3: Urban sustainability in the dynamic environment of central Arizona." PI N.B. Grimm, substitute PI 2010-2012 D.L. Childers, Co-PIs C.G. Boone, C.L. Redman, B.L. Turner III ($5.4M). Long-Term Studies Program, National Science Foundation, 2010-2016.

"Collaborative Research: Impacts of urbanization on nitrogen biogeochemistry in xeric ecosystems." PI N.B. Grimm, Co-PI S. Earl (Earl substitute PI 2010-2012), collaborative with University of Arizona (lead PI, K. Lohse; Co-PIs P. Brooks, T. Meixner) and Purdue University (PI G. Mikulski) ($259,769 to ASU). Ecosystem Studies Program, National Science Foundation, 2009-2012.

"LTREB: Multi-scale effects of climate variability and change on hydrologic regimes, ecosystem function, and community structure in a desert stream and its catchment." PI N.B. Grimm, Co-PI J.L.Sabo (substitute PI 2009-2010; $449,298). Long Term Studies Program/ARRA, National Science Foundation, 2009-2014.

"CAP LTER REU, Other, Schoolyard, and Social Science Supplements." PI/PD N.B. Grimm, Co-PD C.L. Redman, Co-PIs M. Elser, C. Gries, A. Brazel, C. Johnson, K. Larson ($64,000). Long

Term Studies Program, National Science Foundation, 2009–2010.

"RAPID: Responses of herbaceous annual plants to material deposition from the urban atmosphere under contrasting conditions of antecedent drought and winter rainfall," PI N.B. Grimm, Co-PI S.J. Hall ($29,904). Ecosystem Studies Program, National Science Foundation, 2009-2010.

"CAA: Environmental and economic impacts of material used in future urban development." J. Crittenden (PI), 19 Co-PIs with N.B. Grimm ($399,280). Science Foundation Arizona, 2007–2008.

"Collaborative Research: Ecosystem response to N and organic C deposition from the urban atmosphere." PI/PD N.B. Grimm, Co-PIs J.O. Allen, S.J Hall; Collaborator J.P. Kaye (Penn State) ($712 K total award, $630K ASU portion, including 2006-2007 supplements). Ecosystem Studies Program, National Science Foundation, 2005–2008.

"Central Arizona-Phoenix LTER: Phase 2." PI/PD N.B. Grimm, Co-PD C.L. Redman, 23 Co-PIs. ($5,389,038 including 2005-2008 supplements). Long-Term Studies Program, National Science Foundation, 2004–2010.

"CAP LTER: Land-use change and ecological processes in an urban ecosystem of the Sonoran Desert." PI/PD N.B. Grimm, Co-PD C.L. Redman ($866K including supplements). Accomplishment-Based Renewal, Long-Term Studies program, National Science Foundation, 2003–2004.

"Decision Support for Urban Development: Air Quality, Social Injustice, Material and Energy and the Impact of Social Decision Making – A Proof of Concept Demonstration." J. Crittenden, E. Corley, J. Fernando, N. Grimm, S. Guhathakurta, P. McCartney, A. Sawhney, Y. Chen. National Science Foundation. ($115,000.) 2004-2005.

"A Decision Support Tool for Sustainable Urban Water Management." J. Crittenden, N. Grimm, S. Guhathakurta, P. McCartney, E. Corley, P. Westerhoff, P. Fox. EPA P3 Design ($10,000.) 2004-2005.

"Agrarian Landscapes in Transition: A Cross-Scale Approach." PI/PD C.R. Redman, Co-PIs D. Foster, M. Guttman, P. Kareiva, and A.P. Kinzig, Senior Associate N.B. Grimm (and others) ($1,999,952). Biocomplexity Special Competition Coupled Human and Natural Systems, National Science Foundation, 2003–2006.

"Coupled biogeochemical cycles in human-dominated ecosystems" (PI/PD P. Brezonik, U. of Minnesota, Senior Associate N.B. Grimm ($100,000). Biocomplexity Special Competition on Coupled Biogeochemical Cycles (Incubation), National Science Foundation, 2001–2002.

"Nitrate uptake and retention in streams: mechanisms and effects of human disturbance." PI/PD P. Mulholland, Co-PIs Webster, S. Hamilton, J. Tank, and R.O. Hall, Senior Associate and PI for Southwest N.B. Grimm ($3 M, $137,619 ASU portion). Integrated Research Challenges in Environmental Biology Special Competition, National Science Foundation, 2001–2006.

"Organic matter removal in urban streams." PI/PD; with graduate student Jennifer Edmonds ($10,000). Competitive Grants Integrating Applied and Basic Benthic Biology (open to NABS student membership), Proctor and Gamble, 2000–2002.

"A science and technology center for the sustainability of water resources in semi-arid regions." Senior Associate/Participant (of 50; PI/PD Soroosh Sorooshian, Senior Associate N.B. Grimm with 50 others from 17 universities and governmental organizations ($14,491,268 total award; $285,512 ASU subcontract to NBG). Science and Technology Centers Programs, National Science Foundation, 1999–2004.

"Long term monitoring of Phoenix forest ecosystem/CAP LTER." PI/PD N.B. Grimm, Co-PD C.L. Redman ($10,000). U.S. Department of the Interior, Forest Service, 1998–1999.

"Integrating linkages among aquatic and terrestrial components of arid landscapes." PI/PD S.G. Fisher, Co-PI N.B. Grimm ($250,000). Ecosystem Studies Program, National Science

Foundation. 1998–1999

"Dissertation Research: The effects of heterogeneity and scale on nutrient dynamics in a desert stream." PI/PD N.B. Grimm with graduate student C. Lisa Dent ($6,107). Division of Environmental Biology, National Science Foundation. 1998–1999.

"Central Arizona-Phoenix LTER: Land use change and ecological processes in an urban ecosystem of the Sonoran Desert." PI/PD N.B. Grimm, Co-PD C.L. Redman, 16 Co-PIs ($4,999,066 including Geosciences-Engineering, General, Curation, Schoolyard LTER, Connectivity, and REU Supplements 1997–2003). Long Term Studies Program, National Science Foundation, 1997–2003.

"LTREB: Short-Term Climate Change and Variable Response to Disturbance in an Arid Land Watershed-Stream Ecosystem." PI/PD N.B. Grimm, Co-PI S.G. Fisher ($254,959 including REU supplement 1997). Long Term Studies Program, National Science Foundation, 1997–2002.

"Nitrogen Uptake, Retention, and Cycling in Stream Ecosystems: An Intersite N-15 Tracer Experiment." Lead PIs J.R. Webster, J.L. Meyer, P.J. Mulholland, B.J. Peterson; Co-PIs W.B. Bowden, W.K. Dodds, S. Findlay, S.G. Fisher, S.V. Gregory, N.B. Grimm, S.K. Hamilton, A.E. Hershey, S.L. Johnson, W.B. McDowell, E. Martí, H.M. Valett, Co-PI's ($1,100,000; $53,185 ASU sub-contract to N.B. Grimm, E. Marti, S. Fisher). Ecosystem Studies Program, National Science Foundation, 1996–1999.

"Effects of Disturbance and Spatial Heterogeneity on Nutrient Retention and Transport in a Stream-Riparian Ecosystem." PI/PD S.G. Fisher, Co-PI N.B. Grimm ($800,000). Ecosystem Studies Program, National Science Foundation, 1993–1998.

"Functional Assessment of Effluent Dominated Riparian Ecosystems." PI/PD D.T. Patten, Co-PIs N.B. Grimm, J.C. Stromberg, R.D. Ohmart, T. Maddock III ($27,020). Research Grants Program, Water Resources Research Program, US Geological Survey, 1995–1996.

"Ecology of Hyporheic and Groundwater Communities: Distribution, Response to Stress, and Recovery from Disturbance." PI/PD S.G. Fisher, Co-PI N.B. Grimm ($128,465). Exploratory Research Grants Program, United States Environmental Protection Agency, 1994–1996.

"LTREB: Short-Term Climate Change and Variable Response to Disturbance in an Arid Land Watershed-Stream Ecosystem." PI/PD N.B. Grimm, Co-PI S.G. Fisher ($236,000 including REU Supplements, 1992, 1993, 1994, 1996). Long Term Studies Program, National Science Foundation, 1991–1996.

"Stability of a Stream Ecosystem: LTER Supplement." PI/PD S.G. Fisher, Co-PI N.B. Grimm ($24,620). Ecosystem Studies Program, National Science Foundation, 1991–1992.

"Patterns, controls, and ecosystem consequences of trophic structure in a stream." PI/PD S.G. Fisher, Co-PIs N.B. Grimm, T.L. Dudley ($99,000). Ecosystem Studies Program, National Science Foundation, 1990–1992.

"Stability of a stream ecosystem to disturbance by flooding and drying." PI/PD S.G. Fisher, Co-PI N.B. Grimm ($622,000 including REU supplements 1990, 1991). Ecosystem Studies Program, National Science Foundation, 1989–1992.

"Factors controlling periphyton abundance and production during stream succession." PI/PD N.B. Grimm ($58,000). Post-Doctoral Research Fellowship Program, Biotic Systems and Resources, National Science Foundation, 1987–1989.

EDUCATIONAL AND INFRASTRUCTURE GRANTS/PROJECTS

"IRES: Interdisciplinary student research on urban resilience in Latin America." PI N. B. Grimm, Co-

PIs T. A. Muñoz-Erickson, C. L. Redman, and E. Vivoni ($250K). Office of International Science and Engineering, National Science Foundation, 2017-2019.

"REU: Collaborative Research: Defining stream biomes in order to better understand and forecast stream ecosystem change." PI N. B. Grimm ($5K). Macrosystems Biology Program, National Science Foundation 2016-2017.

"Ecohydrological interfaces as critical hotspots for transformations of ecosystem exchange fluxes and biogeochemical cycling" (INTERFACES)." PI S. Krausse (University of Birmingham, UK), Associated Academic Partner, N. B. Grimm. Training Network, European Commission, 2013-2018.

"Intergovernmental Personnel Agreement." PI N. B. Grimm, for salary payment while at NSF as a rotator. National Science Foundation, 2010-2012.

"REU: Collaborative Research: Impacts of urbanization on nitrogen biogeochemistry in xeric ecosystems." PI N.B. Grimm, Co-PI S. Earl (Earl substitute PI 2010-2012), collaborative with University of Arizona (lead PI, K. Lohse; Co-PIs P. Brooks, T. Meixner) and Purdue University (PI G. Mikulski) ($7,000 per year). Ecosystem Studies Program, National Science Foundation, 2010, 2011, 2012.

"Strategic investment in ARENA (The Arizona Environmental Array)," PI/PD N.B. Grimm, Co-PIs J.M. Briggs and C. Gries ($60,440). Science Foundation Arizona, 2007–2008.

"REU: Ecosystem response to N and organic N deposition from the urban atmosphere." PI/PD N.B. Grimm, Co-PIs J.O. Allen, S.J Hall; $7,000). Ecosystem Studies Program, National Science Foundation, 2006, 2007, 2008.

"Technician Support: ICP-MS research in the W. M. Keck Foundation Laboratory for Environmental Biogeochemistry, Arizona State University. Phase I." PI/PD A.D. Anbar, Co-PIs N.B. Grimm, L.A. Leshin, E.L. Shock ($224,994). Instrumentation & Facilities Program, Earth and Atmospheric Research, National Science Foundation, 2005–2008.

"IGERT Formal Proposal: Integrative Graduate Education and Research Training in Urban Ecology." PI/PD S.G. Fisher, Co-PIs N.B. Grimm, A.P. Kinzig, E. Hackett, and C.L. Redman ($3,184,586). IGERT Program, National Science Foundation, 2005–2011.

"Sustainability science and engineering education." J Crittenden (PI), B. Allenby, Y. Chen, N.B. Grimm, S. Guhathakurta, D. Pijawka, S. Van der Leeuw, P Westerhoff, J. Wu ($89,917). Carnegie-Mellon University sub, 2005–2008.

"W. M. Keck Foundation Laboratory for Environmental Biogeochemistry." PI/PD E. Shock, Co-PIs N.B. Grimm, L. Leshin, and P. O'Day ($900,000). W.M. Keck Foundation, 2002–2003.

"Down to Earth Science: Graduate Teaching Fellows in K-12 Education." PI/PD B.L. Ramakrishna, Co-PI N.B. Grimm and 20 others ($1,324,145). GK-12 Program, National Science Foundation, 2001–2006.

"IGERT Formal Proposal: Integrative Graduate Education and Research Training in Urban Ecology." PI/PD S. Fisher, Co-PIs C. Redman, W.L. Graf, N.B. Grimm, E. Hackett, and P. Christensen ($2,699,970). IGERT Program, National Science Foundation, 2000–2005.

"Networking our research legacy: infrastructure to document, manage, and access ecological data resources." PI/PD P. McCartney, Co-PIs T.P. Craig, C. Gries, N.B. Grimm, and C.L. Redman ($720,489). Database Activities Program, National Science Foundation, 1999–2002.

"UMEB: Diverse approaches to environmental research." PI/PD D.L. Pearson, Co-PIs J.P. Collins, S.H.Faeth, N.B. Grimm, R.L. Rutowski ($215,983). Undergraduate Mentoring in Environmental Biology Program, National Science Foundation, 1999–2003.

"UMEB: Research Experience for Undergraduates in Ecology." PI/PD N.B. Grimm, Co-PIs J.P. Collins, J.J. Elser, S.H. Faeth, S.G. Fisher, S.W. Rissing ($250,933). Division of Environmental Biology, National Science Foundation, 1993–1998.

"Analytical Laboratory for Research in Environmental Biology." PI/PD N.B. Grimm, Co-PIs J.J. Elser, J.H. Fewell, S.G. Fisher, J.F. Harrison, T.A. Markow, M.C. Moore, G.E. Walsberg ($150,000). Instrumentation and Instrument Development Program, National Science Foundation, 1993.

PROFESSIONAL HONORS AND SERVICE ACTIVITIES

Editorial Boards

Associate Editor: Frontiers in Built Environment, *Urban Science* (2017–)
Editorial Advisory Board: *Journal of Urban Ecology* (2015–)
Editor: *Earth's Future* (2014–)
Guest Editor: *Proceedings of the National Academy of Science of the USA* (2008, 2009, 2012, 2013, 2014)
Editor: *Ecohydrology* (2007–)
Assigning Editor: *Ecological Applications* (2007–2010)
Editor: *Ecology Letters* (2001–2002)
Editor: *Ecosystems* (1997–2006)
Editor: *Ecology* and *Ecological Monographs* (1994–1997; emeritus 1998, ad hoc 2008–2010)
Associate Editor: *Journal of the North American Benthological Society* (1991–1994)

Review Panels and Advisory Boards

Member: "Environmental Systems Research: Urban Environments" Jury, Vienna Science and Technology Fund (2017)
Member: Premi Ramón Margalef (Margalef Prize) Jury Selection Committee (2016–)
Member: National Academy Standing Committee to advise the United States Global Change Program (2014–)
Member: Network Advisory Board, INTERFACES Training Network, European Commission (2013–)
Member: Research Advisory Sub-Committee, Program B in the CRC for Water Sensitive Cities, Australia (2013–2016)
Member: Advisory Board, DataONE (2010–2014)
Member: National Advisory Board, Long-Term Ecological Research Network (2010– 2013)
Member: Scientific Committee, Catalan Institute for Water Research, Girona, Spain (2007–2013)
Member: Advisory Board, EPSCoR Program, University of Alaska, Fairbanks (2007–2010)
Member: Advisory Board, Integrative Graduate Education and Research Training program in urban hydrology, University of Maryland Baltimore County (2006–2010)
Member: H.J. Andrews LTER Site Review Team, National Science Foundation (2005)
Advisor, Willamette River Biocomplexity Project, Oregon State University, Corvallis, OR (2004)
Panel Member: National Ecological Observatory Network (NEON) Panel, National Science Foundation (2004)
Member: External Advisory Board, Coweeta Long-Term Ecological Research Project (2004)
ASU Representative: Consortium of Universities for the Advance of Hydrological Sciences, Inc. (2001–2004)
Member: Committee on Hydrologic Sciences, National Research Council (2002–2003)
Panel Member: Science and Technology Centers Panel, National Science Foundation (2000)

Chair: H.J. Andrews LTER Site Review Team, National Science Foundation (1999)
Scientific Advisor: University of Évora Center for Applied Ecology (Centro de Ecologia Aplicada), Évora, Portugal, 1998–2000 (annual meetings).
Panel Member: Long-Term Ecological Research Panel, National Science Foundation (1998)
Chair: National Center for Ecological Analysis & Synthesis Scientific Advisory Board (1999–2000)
Member: National Center for Ecological Analysis & Synthesis Scientific Advisory Board (1997–2000)
Member: McMurdo Dry Valleys LTER Site Review Team, National Science Foundation (1997)
Panel Member: Ecosystem Studies Panel, National Science Foundation (1990, 1991–1994)
Panel Member: Environmental Biology Exploratory Research Panel, U.S. Environmental Protection Agency (1991–1993)
Member: Bonanza Creek and Toolik Lake LTERs Site Review Team, National Science Foundation (1991)
Member: Walker Branch Watershed Project Review Team, Environmental Research Division, U.S. Department of Energy (1991)
Advisory Panel Member: Sevilleta Long-Term Ecological Research Project (1991)

Service to Professional Societies

COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS: Governing Board member-at-large, elected (2006)
AMERICAN SOCIETY OF LIMNOLOGY AND OCEANOGRAPHY: Special Symposium (October 1994), "Freshwater Ecosystems and Climate Change in North America." (Chair, Regional Working Group for the Basin and Range, Arid Southwest and Mexico region; Member, Steering Committee; 1993–1994)
CONSORTIUM OF UNIVERSITIES FOR THE ADVANCEMENT OF HYDROLOGIC SCIENCES, INC.: ASU Representative to the Board of Directors (2002–2009); Synthesis Center Committee (2003).
ECOLOGICAL SOCIETY OF AMERICA: Special Nominating Subcommittee (Chair, 2014); Nominating Committee (Chair, 2006-2007); Past President (2006–2007); President (2005–2006); President-Elect (2004–2005); Governing Board (2004–2007); Eminent Ecologist Award and Distinguished Service Citation Selection Committee (Member 1994–1997); Research Needs Committee (Member, 1993–2003).
NORTH AMERICAN BENTHOLOGICAL SOCIETY/ SOCIETY FOR FRESHWATER SCIENCE (POST-2011): Board of Directors for the Endowment (2009–2014); Name Evaluation Committee (2002–2003); President-Elect (1998–1999); President (1999–2000); Past President (2000–2001); Awards Selection Committee (Chair, 1999–2000); Executive Committee (Chair, 1994–1995, Member 1995–1996, 1998–2001); Award of Excellence Committee (2001–2005); Special Symposium (October 1994), "Freshwater Ecosystems and Climate Change in North America." (Chair, Regional Working Group for the Basin and Range, Arid Southwest and Mexico region; Member, Steering Committee; 1993–1994); NABS Name Committee (Chair, 1992–1993); Program Committee, North American Benthological Society Annual Meeting, Santa Fe, New Mexico (Co-chair, 1990–1991); Elections and Place Committee (Chair, 2000–2001, Member, 1984–1985 and 1988–1989).
SOCIETAS INTERNATIONALIS LIMNOLOGIAE: USA National Representative (2000–2004).

Workshop/Session Organization

Panel Organizer: Educational activities within the SRNs. SRN Awardees Conference, National Science Foundation, Arlington, VA, June 2017

Poster Session Organizer: Early career research in the SRNs. SRN Awardees Conference, National Science Foundation, Arlington, VA, June 2017

Union Session Organizer (with Ben van der Pliujm): Earth's Future: The Food-Water-Energy Nexus. American Geophysical Union Fall Meeting, San Francisco, CA, December 2016

Session/Side Event Organizer (with T. McPhearson, T. Elmqvist): Building urban resilience to extreme events: lessons across cultures. Habitat III Conference, Future Earth-sponsored side event. Quito, Ecuador, October 2016

Session Organizer (with Emily Bernhardt): Are there stream biomes? Annual Meeting, Association for the Sciences of Limnology and Oceanography, Granada, Spain, February 2015

Session Organizer (with Charles Kroll, Glenn Guntenspergen, Theodore Endreny): Urban Ecosystem Services: Monitoring, Modeling, and Management (PA11), Fall Meeting, American Geophysical Union, San Francisco, CA, December 2014

Session Organizer (with Ben van der Pluijm, Guy Brasseur, Mike Ellis): Earth's Future: Navigating the Science of the Anthropocene (GC41), Fall Meeting, American Geophysical Union, San Francisco, CA, December 2014

Workshop Organizer: Urban aquatic systems, SESYNC, Annapolis, MD, July 2013.

Symposium Organizer (with Ben van der Pluijm): Sustainable Future (GC052), Fall Meeting, American Geophysical Union, San Francisco, CA, December 2012.

Town Hall Organizer (with Kathleen Weathers): Frontiers in Ecosystem Science: Energizing the Research Agenda, Fall Meeting, American Geophysical Union, San Francisco, CA, December 2012.

Symposium Organizer (with Julia Jones): Ecosystem capacity for sustaining long-term water supplies, Annual Meeting, Ecological Society of America, Portland, OR, August 2012.

Steering Committee: Society for European Freshwater Science, Triennial Meeting 2011, Girona, Spain (2010-2011).

International Scientific Committee: Resilience 2011: Resilience, Innovation, and Sustainability: navigating the complexities of global change. 2nd International Science and Policy Conference, Tempe, AZ (2011).

Special Session Organizer (with E. Marti): Advances in stream biogeochemistry: the legacy and promise of 30 years of the nutrient spiralling concept. Annual Meeting, North American Benthological Society, Grand Rapids, MI (2009).

Workshop Organizer (with C.L. Redman): Urbanization in context: how environmental problems and their solutions vary among biophysical and societal settings. LTER All-Scientists Meeting, Estes Park, CO, September 2006.

Special Session Organizer (with A. Covich and C. Duke): An ecologists' community discussion of funding agency initiatives. Annual Meeting of the Ecological Society of America, Memphis, TN, August 2006

Retreat Co-Organizer (with M. Nation, C. Redman, J. Wu, J. Briggs, and P. Gober): Interactions of urbanization with climate change. CAP LTER/DCDC retreat, Flagstaff, AZ, July 2006

Workshop Organizer (with J. Lobo, C.L. Redman, and B.L. Shears): The rise of cities: adaptive solutions for urbanization in desert, coastal, and tropical regions. Ecological Society of America Special Meeting, Merida, Yucatan, Mexico, January 2006.

Special Session Organizer (with G. Shaver and C. Duke): Sustainability science: a research agenda for the Ecological Society of America. Annual Meeting of the Ecological Society of America, Montreal, Quebec, Canada, August 2005.

International Conference Co-Chair (with Prof. Wenhua Li): The circular economy and sustainable development. Hangzhou, Zeiming Province, China, November 2005.

Symposium Organizer: Integration of geosciences and social sciences into the LTER program: progress and prospects. 3rd Annual NSF Mini-Symposium, National Science Foundation, Arlington, Virginia, February 2003.

Symposium Organizer (with S.E. Gergel and W.H. McDowell): Integrating aquatic and terrestrial biogeochemistry in heterogeneous landscapes. Annual Meeting, Ecological Society of America, Madison, Wisconsin, August 2001. Sponsored by the Aquatic Section.

Special Session Organizer (with J. Edmonds): Urban stream and watershed ecology. North American Benthological Society, LaCrosse, Wisconsin, June 2001.

Host: Semi-annual Coordinating Committee Meeting, US LTER Network, Tempe, AZ, April 2001.

Workshop Co-Organizer: "Human modifications of hydrological cycles and their impact on biogeochemistry at local and regional scales", with L. Band and D. Childers; LTER All Scientists' Meeting, Snowbird, UT, August 2000.

Workshop Co-Organizer: "Development of coupled hydrological-biogeochemical models of materials transport at the landscape scale", with J. Melack, LTER All Scientists' Meeting, Snowbird, UT, August 2000.

Organizer: NCEAS working group on "Integrating Terrestrial and Aquatic Perspectives of Biogeochemistry." National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 1999–2001.

Co-Organizer (with Kareiva): NCEAS workshop on "Developing a modeling paradigm for spatially explicit urban ecology models. " National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, October 1998.

Member, Planning Committee: NCEAS working group on "Interdisciplinary synthesis of recent natural and managed floods." National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 1998–1999. Planning meeting, Washington, D.C., September 1998.

Member: Conference Organizing Committee, Second International Conference on Ground Water Ecology. (Sponsored by the U.S. Environmental Protection Agency and the American Water Resources Association; 1993–1994)

Workshop Participation (invited)

Participant: "The future of field stations assessment workshops." Jasper Ridge Biological Reserve, Stanford, CA, July 2017

Participant: AGU Chapman Conference, "Extreme climate event impacts on aquatic biogeochemical cycles and fluxes." San Juan, PR, January 2017.

Participant: "City-business collaboration on resilience planning in Phoenix." C2SE workshop, Phoenix, AZ, December 2016

Participant: Planning Future Scenarios for New York, San Juan, and Valdivia. New York, NY, November 2016.

Participant: Workshop on "Input for Development of an Integrated Field Laboratory." US Department of Energy, Germantown, MD, February 2015.

Participant: Workshop on "Human-Carbon Interactions in Urban Systems." National Center

for Atmospheric Research, Boulder, CO, October 2013.

Participant: SESYNC Venture Working Group on "Green infrastructure design." National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD, 2013–2014.

Participant: NCEAS working group on "Ecology of environmental justice in metropolitan areas." National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 2010–2011.

Participant: NCEAS working group on "Ecosystem services on an urbanizing planet: toward a global assessment." National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 2009–2010.

Participant: Managing nitrogen in human-dominated landscapes. Research Coordination Network on Denitrification, University of Rode Island Bay Campus, May 2009.

Participant: ASLO workshop, "Emerging Research Issues for Limnology: The Study of Inland Waters." Boulder, CO, December 2002.

Participant: Lincoln Institute for Land Policy Workshop, "Greater Phoenix 2100." The Flynne Foundation Headquarters, Phoenix, Arizona, April 2001.

Participant: The role of boundaries in ecology. Institute for Ecosystem Studies, Millbrook, NY, October 2000.

Participant and Plenary Speaker: Ecology: Achievement and Challenge – a joint symposium of the British Ecological Society and the Ecological Society of America. Orlando, Florida, April 2000.

Participant and Plenary Speaker: 8th Cary Conference: Understanding urban ecosystems: a new frontier for science and education. Millbrook, NY, May 1999.

Participant: NCEAS working group on "Unifying models of nitrogen fixation" for international SCOPE project on "Nitrogen transport and transformations: a regional and global analysis." National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 1998–1999 (2 meetings).

Participant: David H. Smith Conservation Research Fellowships Science Advisors Workshop, sponsored by The Nature Conservancy, St. Louis, MO, June 1998.

Participant and Presenter: Western Water Policy Advisory Commission, Scientific Workshop, "Sustainability of Western Watersheds." Tempe, AZ, February 1997.

Participant and Speaker: International Long-Term Ecological Research Annual Meeting, Taipei, Taiwan. Nov 1997.

Participant: Seventh Cary Conference, "Successes, Limitations, and Frontiers in Ecosystem Science." Institute for Ecosystem Studies, Millbrook, NY, May 1997.

Participant: NCEAS Symposium, "Synthesis in Ecology: Applications, Opportunities, and Challenges." National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, November 1996.

Participant and Speaker: 1st NCEAS Symposium, "Spatio-temporal dynamics in ecological systems." National Center for Ecological Analysis and Synthesis, Santa Barbara, California, USA, February–March 1996.

Participant and Plenary Speaker: 5th Cary Conference: "Linking species and ecosystems." Millbrook, NY, May 1993.

Member: Ground Water Ecology Strategic Workgroup, US Environmental Protection Agency (1992–1993)

Other Professional Service Activities

Working Group Member: The Royal Society Policy Project, "Resilience to extreme weather." 2013–2014.

Lead Author: US Global Change Research Program, National Climate Assessment, Chapter 8: Ecosystems, Biodiversity, and Ecosystem Services. 2012–2014.

Lead Author: US Global Change Research Program, National Climate Assessment, Chapter 17: Biogeochemical Cycles. 2012–2014.

Staff Coordinator: US Global Change Research Program, National Climate Assessment, Chapters 8, 11, and 17. 2011–2012.

Member: Ecological Society of America's Rapid Response Team (a team of scientists on call as experts to answer questions of policymakers and others in Washington, DC; 2009–).

Review Team Member: The Ecosystems Center, Woods Hole Marine Biological Laboratory. September–November 2009.

Member: Steering Committee, Urbanization and Global Environmental Change International Conference. UGEC is part of the International Human Dimensions Program. 2009–2010.

Contributing Author: U.S. Climate Change Science Program (CCSP), Global climate change impacts in the United States (2008–2009).

Member: Writing Team, Long-Term Ecological Research Network Integrative Science for Society and Environment Proposal (2006–2007)

Member: Steering Committee, Consortium for Connectivity at Continental Scales (3Cs). coordinated national response to the National Ecological Observatory Network (NEON) request for information, D. Peters and others, Lead Scientists (2006–2007); also Team Leader for "Land change: ecosystem responses to urbanization and pollution across climatic and societal gradients" and Member, Steering Committee, for "STREON: Stream experiment and observational network."

Member: Steering Committee, Cary Conference on Ecology and Urban Design (2006–2007)

Senior Mentor: Workshop of the Young Scientist Network of the Analysis, Integration and Modeling of the Earth System project, International Geosphere-Biosphere Programme. Mexico City, Mexico, September 2006

Member: Conference Committee, Long-Term Ecological Research Network Planning (2006)

Member: US LTER Network Science Council (2006–)

Member: US LTER Network Coordinating Committee (1997–2006).

Dissertation Examiner/Tribunal Member: E. Martí Roca, Universitat de Barcelona, Barcelona, Spain (1995).

Dissertation Examiner/Tribunal Member: R. Gómez Cerezo, Universidad de Murcia, Murcia, Spain (1995).

Review Team Member: Biological Research Forum on the Edwards Aquifer, Austin Texas (Sponsored by the Nature Conservancy; April 1994)

Extramural Reviewer for Funding Agencies: National Science Foundation (Ecosystem Studies, Ecology, Environmental Geochemistry and Biogeochemistry, Hydrological Studies, UMEB, International Programs), US Environmental Protection Agency, British National Science Foundation, Vienna Science and Technology Fund

Reviewer for Journals: *Ambio, American Midland Naturalist, Applied Geochemistry, Archiv fur Hydrobiologie, Australian Journal of Marine and Freshwater Research, BioScience, Biogeochemistry, Cities & the Environment, Freshwater Biology, Freshwater Science, Frontiers in Ecology & the Environment, Ecology, Ecology & Society, Ecological Applications, Ecological Modeling, Environmental Management, Environmental Research Letters, Environmental Science & Technology, Geophysical Research Letters, Global Biogeochemical Cycles, Global Change Biology, Hydrobiologia, Hydrological Processes, Journal of Ecology, Journal of Geophysical*

Research–Biogeosciences, Journal of the North American Benthological Society, Journal of Phycology, Landscape Ecology, Landscape and Urban Planning, Limnology & Oceanography, Oecologia, Nature, Nature Geosciences, PLOS One, Proceedings of the National Academy of Science, Science, Science of the Total Environment, Urban Ecosystems, Water Resources Research

Tenure and Promotion Reviews: Cary Institute of Ecosystem Studies, Colorado State University, Cornell University, Dartmouth College, Duke University, Michigan Tech, Michigan State University, The Pennsylvania State University, State University of New York at Binghamton, Virginia Tech, University of California–Berkeley, University of California–Davis, University of California–Riverside, University of California–Santa Barbara, University of Cincinnati, University of Colorado, University of Minnesota, University of Nebraska, University of New England (Australia), University of Notre Dame, University of Vienna, University of Wisconsin, Utah State University, University of Utah

TEACHING AND SUPERVISORY ACTIVITIES

Courses Taught

Biogeochemistry, Urban Ecological Systems (bi-annually 1998–2010; 2017), Fundamentals of Ecology (5y), undergraduate ecology research seminar (9y), graduate seminars (Linking Species and Ecosystems, Urban Ecology, Stream and Ecosystem Ecology, Biogeochemistry of Terrestrial and Aquatic Ecosystems, Urban Ecology Reading Group, Urban Resilience Reading Group, Collaborative Workshop on Geomorphic and Social History of Indian Bend Wash, Ecohydrology, Ecological Boundaries), freshman seminars (Sustainability and Environment; Global Change and Cities), Limnology (lecture and lab), Graduate Ecology Core (UNM), Ecosystem Ecology (UNM)

Guest Lectures

Conservation Biology (ASU), Biogeochemistry (Colorado State University), Biology & Management of Terrestrial Resources (ASU), Biology & Management of Aquatic Resources (ASU), Stream Ecology (ASU and Cornell), Ecosystem Analysis (ASU), Limnology (ASU), Planning Studio (ASU), Urban Climatology (ASU), UMEB Seminar (ASU), Nature of Biological Science (ASU), Professional Values (ASU), Biology Careers (ASU), Introduction to Sustainability (ASU), Sustainable Ecosystems (grad and undergrad, ASU), Sustainability (George Washington University), Urban Ecology (North Carolina State University, Boston University), Environmental Life Sciences (ASU), Theory in Ecology (University of Georgia), Biogeochemistry (Yale University)

Post-doctoral Scholars Supervised (current post-docs in bold)

Tom L. Dudley (1989–1991), currently Assoc. Research Biologist, University of California Berkeley
Christopher G. Peterson (1989–1991), currently Assoc. Prof., Loyola University of Chicago
H. Maurice Valett (1991), currently Professor, University of Montana
Andres Millan (1991–1992), currently Prof. Titular, University of Murcia, Spain
Josefa Velasco (1991–1992), currently Prof. Titular, University of Murcia, Spain
Rosa Gómez (1995), currently Prof. Titular, University of Murcia, Spain
Eugènia Martí (1995–1997), currently Prof. Titular, Centre d'Estudis Avançats de Blanes, Spain
Diane Hope (1997–1998), Project Manager, Central Arizona–Phoenix LTER 1998–2006, currently in private sector, Arizona

Mark Hostetler (1998–1999), currently Assoc. Prof., University of Florida
Kimberly Knowles-Yanez (1998–1999), currently Assoc. Prof., California State University Santa Monica
Markus Naegeli (1998– 1999), currently in private sector, Switzerland
Nancy McIntyre (1998–2000); currently Professor, Texas Tech
Weixing Zhu (1999–2000), currently Assoc. Prof., SUNY Binghamton
Russell Watkins (1999), current position unknown
Amy Nelson (1999–2001), currently in private sector, USA
Madhusudan Katti (2000–2002), currently Assoc. Prof., North Carolina State University
Eyal Shochat (2000–2002), currently in private sector, Israel
John Schade (2000–2003), currently Program Director, National Science Foundation
David Lewis (2000– 2003), currently Associate Professor, Univ. of South Florida
Susanne Grossman-Clarke (2000–2003), currently Researcher, Potsdam Institute for Climate Research
Sarah Gergel (at NCEAS; 2000–2003), currently Assoc. Prof., University of British Columbia
Rich Sheibley (2002–2003), currently hydrologist, US Geological Survey, Tacoma, WA
Margot Kaye (2002–2004), currently Assoc. Prof., Pennsylvania State University
William Cook (2003–2005), currently Asst. Prof., St. Cloud State University
David Casagrande (2003–2005), currently Asst. Prof., Western Illinois University
Kathleen Lohse (2005– 2006), currently Asst. Prof., Idaho State University
Amber Wutich (2006–2007), currently Prof., Arizona State University
Ryan Sponseller (2006–2007), currently Assoc. Prof., University of Umea, Sweden
Melissa McHale (2007–2008), currently Asst. Prof., Colorado State University
Lin Ye (2007–2008 and 2009-2010), currently Asst. Professor, Chinese Academy of Science
Chi Zhang (2009–2011), currently post-doc, Chinese Academy of Science
Chelsea Crenshaw (2010–2011), currently Research Associate, University of New Mexico
Kristina Hopkins (2014–2015) (at SESYNC), currently staff scientist, US Geological Survey
David Iwaniec (2014–2016), currently Assistant Professor, Georgia State University
Elizabeth Cook (2014-2016), currently post-doc, The New School
Monica Palta (2012–2014; 2016–2017), currently Assistant Professor, Pace University
Marta Berbés Blásquez (2016–2018)
Lauren McPhillips (2016–2018)

Graduate Scholars Supervised (current students in bold)

Sandra M. Clinton (advisor–M.S. 1996), currently Faculty Research Assoc., U North Carolina Charlotte
C. Lisa Dent (advisor–Ph.D. 1999), formerly post-doc U Wisconsin; deceased
Aisha Goettl (advisor–M.S. 2001), currently AZ Department of Environmental Quality
Shero Holland (advisor–M.N.S. 2003), currently private consulting, Phoenix, AZ
Jennifer W. Edmonds (advisor–Ph.D. 2004), currently Asst. Prof., University of Alabama
W. John Roach (advisor–Ph.D. 2005), currently consultant, SymBiotic Software, Missoula, MT
John Jung (advisor–M.N.S. 2005), currently high-school teacher, Mesa, AZ
Tamara Harms (advisor–Ph.D. 2008), currently Asst. Professor, University of Alaska Fairbanks
Elisabeth Larson (advisor–Ph.D. 2010), currently AAAS Fellow, NASA)
Rebecca Hale (advisor– Ph.D. 2013), currently Research Asst. Professor, Idaho State U
Xiaoli Dong (co-advisor– Ph.D. 2015), currently post-doc, Duke U
Amalia Handler (advisor–Ph.D. candidate, Environmental Life Sciences) – current student
Mengdi Lu (co-advisor – Ph.D. student, Environmental Life Sciences) – current student

Melissa Davidson (advisor–Ph.D. student, Sustainability) – current student
Stephen Elser (advisor–Ph.D. student, Environmental Life Sciences) – current student
Katherine Kemmitt (advisor–M.S. student, Biology) – current student
Marina Lauck (advisor–Ph.D. student, Environmental Life Sciences) – current student
Jason Sauer (advisor–Ph.D. student, Environmental Life Sciences) – current student
Christina Wong (advisor– Sustainability Ph.D. program, 2008-2010; changed advisors)
H. Maurice Valett (co-mentor–Ph.D. 1991), currently Professor, U Montana
Emily H. Stanley (co-mentor–Ph.D. 1993), currently Professor, U Wisconsin
Jeremy B. Jones (co-mentor–Ph.D. 1994), currently Professor, U Alaska Fairbanks
Robert M. Holmes (co-mentor–Ph.D. 1995), currently Senior Scientist, Woods Hole Research Inst.
John D. Schade (co-mentor–Ph.D. 2000), currently Assoc. Prof., St. Olaf College
Matthew A. Luck (co-advisor–M.S. 2001), Ph.D. U New Mexico, currently Res. Scientist, ISciences, LLC
Dalaine Wood (on committee–M.S. 1990), currently instructor, Mesa Community College
Neil Mackay (on committee–Ph.D. 1996), currently instructor, Scottsdale Community College
Jennifer Johnson (on committee–M.N.S. 1997), current position unknown
Joanne Romagni (on committee–Ph.D. 1998), currently Professor and VP Research, DePaul U
Ann Schrot (on committee–M.S. 1998), current position unknown
Jonathan Snyder (on committee–M.S. 1998), current position unknown
Ayoola Folarin (on committee–M.S. 2001), current position unknown
Linda Gudex (on committee–M.S. 2003), current position unknown
Anne Huth (on committee–Ph.D. 2003, Hydrology, University of Arizona), currently environmental educator, Tucson, Arizona
Darrel Jenerette (on committee–Ph.D. 2003, Plant Biology), currently Assoc. Prof., University of California Riverside
Jill Welter (on committee–Ph.D. 2004), currently Assoc. Prof., College of St. Catherine's
Julia Henry (on committee–M.S. 2005), currently research associate, University of North Carolina Wilmington
Shannon Johnson (on committee–PhD 2005, Microbiology), currently post-doc, Los Alamos National Laboratory
Steven Metzger (on committee–M.N.S. 2006), current position unknown
Ryan Sponseller (on committee–Ph.D. 2006), currently Assoc. Prof., University of Umea
Chelsea Crenshaw (on committee–Ph.D. 2007, University of New Mexico), currently consultant, NM
Candan Soykan (on committee–Ph.D. 2007), currently post-doc, UC
Daniel Gonzalez (on committee–Ph.D. 2007, Chemical, Material, and BioEngineering), currently in private sector, CA
Alexander Buyantuyev (Ph.D. 2008, currently Asst. Prof., SUNY Albany)
Kristin Gade (on committee–Ph.D. 2010), currently employed at Arizona Department of Transportation
Elizabeth Hagen (on committee–Ph.D. 2010), currently
Christofer Bang (on committee–Ph.D. 2010), currently instructor, Arizona State University
Michelle McCrackin (on committee–Ph.D. 2010), currently post-doc, EPA, Washington State University
Xiaoding Zhuo (on committee–Ph.D. 2010, Chemistry and Biochemistry), currently research assistant, Boston University
Elizabeth Cook (on committee – Ph.D. 2014, Plant Biology), currently postdoc, Universidad Austral de Chile
Laureano Gherardi (on committee – Ph.D. 2014, Environmental Life Sciences), currently postdoc,

ASU
Jessica Corman (on committee – Ph.D. 2015, Biology), currently postdoc, University of Wisconsin
Robin Greene (on committee –M.S. 2015, Biology)
Michael Bernstein (Ph.D. 2016, Sustainability), currently postdoc, Arizona State University
Amanda Suchy (Ph.D. 2016, Environmental Life Sciences), currently postdoc, Cary Institute of Ecosystem Studies
Jorge Ramos (on committee – Ph.D. 2017, Environmental Life Sciences), currently Conservation International
Melissa Guardaro – Sustainability Ph.D. student
Ethan Baruch (on committee – Environmental Life Sciences)
Megan Wheeler (on committee – Environmental Life Sciences)

External Graduate Dissertation Juries/Reviews

Rosa Gómez Cerrezo, University of Murcia (Ph.D. 1995)
Eugènia Martí Roca, University of Barcelona (Ph.D. 1995)
Daniel von Schiller, University of Barcelona (Ph.D. 2008)
Carijn Beumer, Maastricht University (Ph.D. 2014)

Undergraduate Scholars Supervised (current - bold) * graduate/professional school

Amy C. Weibel (ASU),* Ph.D. Wayne State, current position unknown
Philip Camill (U Tennessee),* Ph.D. Duke, currently Assoc. Prof., Bowdoin College
Derek L. Buschman (Regis College),* current position unknown
Suzanne Stibbe (U Georgia),* M.S. U Georgia, current position unknown
Kimberly Bailey (ASU), current position unknown
Kevin C. Petrone (Hampshire Coll),* Ph.D. U Alaska Fairbanks, currently research scientist, CSIRO
Deborah Bishop,* M.S. Baylor University, currently Recycling Coordinator for City of Fort Worth
Tegan Blaine (Brown),* Ph.D., currently climate change advisor, US AID
Dena Greene (U Alabama),* M.S. Southern Mississippi, current position unknown
Karen Shorty (ASU), current position unknown
E. Miguel Murphy (ASU),* M.F.A., currently poet in CA
Lisa David (Occidental Coll),* current position unknown
Bryan J. Harper (ASU),* M.S. Michigan, current position unknown
Andrea J. Jackson (ASU, Honors),* M.S. Queen Mary& Westfield, J.D. UCLA; currently, attorney
Alicia M. Corbett (ASU, Honors),* Duke University - J.D., 2002, currently attorney in Phoenix
Jaime L. Seddon (ASU),* currently Scientist, Biology, Optimer Pharmaceuticals
Teresa M. Tibbets (ASU),* Ph.D. University of New Mexico, currently post-doc Montana
Jennifer Hunter (ASU), current position unknown
Kelly Donovan,* current position unknown
Andy Chan (UC Berkeley),* current position unknown
Erik Lohman (ASU), current position unknown
Katherine Malone, current position unknown
Matthew de la Peña Mattozzi (Harvey Mudd),* Ph.D., currently post-doc, Harvard University
Noah Dillard,* peace worker
Katharina Zinnow,* current position unknown
Jennifer Zachary (ASU, Honors),* J.D. Harvard; currently attorney in Washington, D.C.
Brian Lutz (ASU),* M.S., M.S., M.P.A., currently with UN Development Program
Laura Calandrella (ASU), current position unknown

Jill Koehler (ASU),* M.S. anthropology
Nicole Garber (ASU, Honors),* M.D., currently fellow, Baylor College of Medicine
Vanessa Hamer,* Peace Corps
Amanda Smith,* current position unknown
Kelly Balcarzyk (U Rochester),* M.S., currently Ph.D. student, West Virginia University
Philip Tarrant (ASU),* M.S., currently Director of Informatics and Technology, GIOS, ASU
Sone Sithonnorath (ASU), M.S. student, Northern Arizona University
Megan Wegehoft (ASU), current position unknown (Amherst, NH)
Michelle McCrackin* (ASU), Ph.D., currently staff, Baltic Sea Institute, Stockholm
Christina Wong* (Occidental Coll), ASU Sustainability Ph.D. program
Kayla Graham* (ASU, Honors), M.S., currently Communications Mgr Sutter Health
Rebecca Martin* (ASU, Honors), Ph.D., currently NRC Postdoctoral Fellow, US EPA, Corvallis, OR
Bashar Ahmed* (ASU, Honors), currently M.D., Arizona
Nicholas Weller* (ASU, Honors), ASU School of Sustainability Ph.D. program
Kevin Zeck (ASU), graduated
Sarah Moratto* (ASU), graduated, currently M.S. student, ASU School of Sustainability
Danielle Shorts (ASU), graduated
Emma Holland* (ASU), graduated, currently Ph.D. student
Erin Worth (ASU), graduated 2014
Marena Sampson* (ASU, Honors), graduated 2015, currently M.S. student, ASU
Truman Combs (ASU), graduated 2015, currently Nature Conservancy
Samuel Lu (ASU), ASU student
Alex Mayr (ASU), graduated 2016
Nick Armijo (ASU), graduated 2017
David Nardeli (Univ of Vermont)
Shannon Newell (Northern Arizona Univ)
Jeremiah McGehee (ASU), current student
Corey Caulkins (ASU, Honors), current student
Kody Landals (ASU), current student
Riya Patel (Coronado High School), current student

UNIVERSITY AND PUBLIC SERVICE

School Committees and Activities

Search Committee, Macrosystems Biology, School of Life Sciences (SoLS), 2014–2015
Search Committee, Environmental Science and Sustainability, School of Sustainability (SoS), 2013–2014
Facilities Committee, SoLS, Member, 2012–2013.
Cluster Search (3 committees), Global Change Ecology, Coordinator; Community/Ecosystem Ecology, Chair; Physiological Ecology, Member; Global Ecology, Member, SoLS, 2009-2010
Personnel Committee (elected), member, Ecology, Evolution and Environmental Science (EEES) Faculty, SoLS, 2009-2010
Faculty Leader (elected), Ecology, Evolution, and Environmental Science Faculty, SoLS, 2007–2009
Personnel Committee, Chair, EEES Faculty, SoLS, 2007–2009
Executive Committee, SoLS, 2007–2009
Executive Committee, SoS, 2007–2008
Personnel Committee, SoS, 2007–2008

Biogeochemistry/Microbial Ecology Search Committee, Chair, SoLS, Spring–Fall 2004
Initiatives Program Committee, SoLS: EEES Faculty Representative (elected), 2003–2004
Personnel Committee (elected), 1996–97, 1997–98, 1999–2000, 2000–01 (Chair), 2003–2004 (special Ad-Hoc for defunct Biology Department), 2005–2006
Discussion Leader, EEES faculty of SoLS, 2002–2003
Graduate Program Committee, 2001–2002
Biology & Society Program Steering Committee, 1999–2003
Biology & Society Search Committee, 1998–1999
Ecology Research Experience for Undergraduates Program (ECOREU), 1993–1998: Director, Principal Investigator, Chair of Steering Committee.

- ECOREU served 24 students, 58% from underrepresented groups and 83% women, who were placed in research labs early in their college careers. Of the 24 students, half began the program in their freshman year and 7 as sophomores; 10 are Latino/a, 2 are African American, 3 are Indian, 2 are Asian American, and 8 are Anglo; 20 of the 24 are women. Responsibilities of the Director included vigorous recruitment of members of underrepresented groups (using individual mailings, announcement at campus organizations, letters to local high schools, and by working with the Honors College, ASU admissions, and the SUMS Institute to identify qualified incoming students). As of December 1998, 6 of the 9 UMEB students who had graduated from college were in graduate or medical (1) school (2 not in biology), and 2 were employed as research specialists in environmental biology. I also advised all of the students on a highly individualized basis, led the seminar series for all years of the program, and took students to national meetings (such as the Ecological Society of America meeting in Snowbird, UT, 1995), in addition to serving as research supervisor for several of the students.

Undergraduate Summer Research Symposium (UBEP Program), 1990–2000: Organized symposium, solicited speakers, coached students on presentations
Hughes Program Steering Committee, 1994–1997
Septennial Review Committee, 1994–1996
Graduate Committees of Ph.D., M.S. students in Biology, Plant Biology, Microbiology, Chemical, Material & Bioengineering, Geological Sciences, Chemistry & Biochemistry, Hydrology & Water Resources [UA], Biology [UNM])
Environmental Biology Laboratory (later Stable Isotope Laboratory), 1993–1998: Director, Principal Investigator. Wrote successful grant proposal to fund acquisition of equipment. Supervised technician. Laboratory is now a CLAS facility.

College Committees and Activities

Supervisor, Honors Thesis, Marena Sampson, BS 2015 (Barrett Honors College [BHC]): Graduated Cum Laude
Dean's Faculty Advisory Committee (Promotion and Tenure), College of Liberal Arts & Sciences, 2013–2015; 2016–2019
Faculty Advisory Committee, the Goldwater Environmental Laboratory (College of Liberal Arts and Sciences [CLAS]), 2009–2010
Executive Council, W.M. Keck Laboratory for Environmental Biogeochemistry (CLAS), 2002–2010
Terrestrial Biogeochemist Search Committee (Chair, CLAS), 2001–2002
Supervisor, Honors Thesis, Bony Ahmed, BS 2009 (BHC): Graduated Cum Laude. Currently: M.D.
Supervisor, Honors Thesis, Rebecca Martin, BS 2008 (BHC): Graduate Cum Laude. Currently: Post-doc with US EPA, Portland, OR.
Supervisor, Honors Thesis, Nicole Garber, BS 2003 (BHC): Graduated Cum Laude. Currently: St. Louis University Medical School.

Supervisor, Honors Thesis, Jennifer Zachary, BS 2001 (BHC): Graduated Summa Cum Laude; Biology Department Service Award. Currently: Attorney.
Supervisor, Honors Thesis, Andrea Jackson, BS 1996 (BHC): Graduated Cum Laude; Marshall Scholarship. Currently: Attorney.
Reader, Honors Thesis, Amanda McLeod, 2003 (BHC)
Reader, Honors Thesis, Tatjana Polony, 1997 (BHC)
Biosciences Council (committee to unify Life Sciences departments; CLAS), 1995–1997
Goldwater Oversight Committee (CLAS), 1994–1997
Presentation, faculty workshop for Life Sciences, Senior Honor Day (BHC), 1997
Mentor for Gammage Scholar (BHC), 1996–1997
GRSO graduate student award competition: proposal review— 1996 (The Graduate College)
Graduate Concentration in Ecology (Departments of Zoology and Botany), 1992–1997: Director, Chair of Steering Committee (CLAS)

University Committees and Activities

Standing Committee for Sustainability Education at ASU, 2013–2014
Faculty Women's Association Leadership Summit: Invited panelist, 2010
Member, Search Committee for Dean and Director, Global Institute of Sustainability (GIOS), 2009–2010
Chair, Council of Project Directors, GIOS, 2005–2006
Planning Council, GIOS, 2005–2007
President's Academic Council, ASU, 2003–2009
Central Arizona-Phoenix Long-Term Ecological Research Program (CAP LTER), 1997–present: Lead Principal Investigator, Co-Project Director, Co-Chair of Executive Committee.

- Coordinate research by faculty members, graduate students, and post-docs from ~12 different departments across campus.

Faculty Women's Association Grants & Fellowships Workshop: Invited discussion leader, 2000
Personnel Committee, Office of the Vice Provost for Research, ASU, 1999–2000
Water Environment in Arid Lands Initiative, 1995–1998: member of core group

Education and Public Outreach

Presentation on urban resilience to extreme events, C2SE workshop on city-business collaboration for resilience in Phoenix, December 2016
Featured in *ASU Now* story, "The Future of Water in the Southwest," October 2016
Featured in *ASU Now* story, "Beating heat in future takes more than AC," August 2016
Presentation to Science Diplomacy course on resilience of cities to extreme events. Washington, DC, June 2016
Quoted in *Environmental Health News*, "Engineers struggle to put streams back into the urban landscape," February 2016
Various presentations to city managers, leaders, planners in Portland, OR, Syracuse, NY; New York, NY; Baltimore, MD; San Juan, PR; Valdivia, Chile; and Hermosillo, Mexico; 2015–2016
Quoted in *Nature* news story, "Ecologists embrace their urban side," August 2015
Featured in *Phys.Org*, "Changing the way we think about urban infrastructure," July 2015
Press Release on UREx SRN, picked up by AAAS *EurekAlert*, July 2015; *Next City,* August 2015
News story on sustainable cities, *ASU news*, May 2015
Lightning Presentation, "Flood." Presented at the Sustainable Future Scenarios kickoff workshop with 30-40 local governmental and NGO leaders, 2015
Quoted in *NBC News,* "Extreme Weather Requires New Focus on Resilience, Report Says,"

November 2015

Quoted in *International Business Times*, "Mankind Must Prepare for Extreme Weather Events Warns Royal Society," November 2014

Lecture, "Climate change impacts in the US Southwest." Presented to the Conservation Alliance, Phoenix metro area organization focused on conservation in desert/mountain parks. February 2014.

Story featured on ASU News, Science & Tech, covering the special issue of *Frontiers in Ecology & the Environment* on climate-change impacts on ecosystems, biodiversity, and ecosystem services. November 2013.

Press Release by the Ecological Society of America on the special issue of *Frontiers in Ecology & the Environment* on climate-change impacts on ecosystems, biodiversity, and ecosystem services. November 2013.

Tele-press conference, sponsored by Climate Nexus: Emerging Consensus Shows Climate Change Already Having Major Effects on Ecosystems. Discussion of the technical input report, "Climate change on ecosystems, biodiversity, and ecosystem services." December, 2012.

Press Release by USGS on the technical input report, "Climate change on ecosystems, biodiversity, and ecosystem services." This release and tele-press conference covered by DotEarth blog, *Arizona Republic*, *Deseret News*, Climatewire, E&E, *Summit County Voice*, Phys.org, UPI, *Cleveland Leader*, *Santa Fe New Mexican*, *The Coloradoan*, TopNews United States, and ASU News with quotes by NBG.

Outreach presentations for the National Science Foundation and National Climate Assessment (Oak Ridge National Laboratory, Arizona State University, University of Connecticut, Ecological Society of America, North American Benthological Society, Association for the Sciences of Limnology and Oceanography, American Geophysical Union, American Fisheries Society, American Meteorological Society, Gordon & Betty Moore Foundation, University of Maryland, Duke University, George Washington University)

Mentor, MentorNet (online mentoring program for minority/women Ph.D. students, 2008, 2009, 2011-2012

Mentor, High-school teachers summer research program (five teachers for four weeks), 2009

Interview, Channel 12 evening news on global climate change, June 2009

Interview, Horizon ((KAET) on global climate change, June 2009

Speaker and Panelist, Community Conversation on Arizona Water, sponsored by the National Oceanic and Atmospheric Administration, Arizona Science Center, May 2009

Speaker, Interfaith Power & Light (a faith community response to global climate change), "Potential impacts of and responses to global climate change in Arizona," April 2009

Speaker, "Global change in the urban century," President's Community Enrichment Program (ASU), Desert Botanical Garden, January 2009

Presentation on urban ecology to "Spirit of the Senses" intellectual club, Phoenix, AZ, 2007

Meeting Mentor, Ecological Society of America's (ESA) Strategies for Ecology Education, Development, and Sustainability (SEEDS) program, ESA meetings, 2006, 2007

Host and speaker, ESA's SEEDS Leadership Workshop, 2006

Leader and speaker for the ESA SEEDS field trip to Sevilleta LTER and UNM, 2005

International Science & Engineering Fair Judge (Team Captain), Phoenix, AZ**,** 2005

Interviewed on National Public Radio's 'Science Friday'; 1-hour topic: Urban Ecology, 2004

Workshop presenter for Sally Ride Science Festival for Girls, annually 2003–2005, ASU campus

Lecture on urban ecology to teacher workshop, 1998, 1999

Teacher internships in my laboratory (3 teachers, one week in summer), 1999

International Science & Engineering Fair Judge (Team Captain), Tucson, AZ, 1996

Presentations (4-5) in elementary school classes on pollution, aquatic ecosystems, and Antarctica (Carmenati School, Tempe; Roosevelt School, Mesa), 1996, 1997
Presentations to Girl Scouts of America “jamboree”, 1996