

Curriculum Vitae Nancy Beth Grimm

School of Life Sciences
Faculty of Ecology, Evolution & Environmental Science
Arizona State University
Tempe, AZ 85287-4501
Married to Scott L. Collins
Two children: Ian B. Fisher, Orion B. Fisher

(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 parmelooides* 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

- 2018–** Virginia M. Ullman Professor of Ecology, School of Life Sciences, Arizona State University
- 2003–2018** 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

Affiliated Faculty, Global Drylands Center, Arizona State University (ASU), 2018–
 Affiliated Faculty, Center for Biodiversity Outcomes, ASU, 2016–
 Graduate Faculty, School of Sustainability, ASU, 2010 –
 Affiliated Professor, School of Sustainability, ASU, 2007–2010
 Visiting Professor, Centre d'Estudis Avançats de Blanes, 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 AND AWARDS

Member, National Academy of Sciences, 2019
 Fellow, Society for Freshwater Science, 2019
 Sustainability Science Award, Ecological Society of America, 2019
 H. J. Oosting Lecturer, Duke University, 2019
 Virginia M. Ullman Chair in Ecology, 2018
 Fellow, American Geophysical Union, 2017
 Distinguished Ecologist, Marine Biological Laboratory Ecosystems Center, 2015
 Inaugural William Mitsch Lecturer, University of Notre Dame, 2015
 Eminent Ecologist, Kellogg Biological Station, 2015
 Jenner Lecturer, University of North Carolina, 2015
 Eugene and Bill Odum Lecturer, University of Georgia, 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, ASU 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)
 Distinguished Ecologist, Colorado State University Graduate Program in Ecology, 2004
 Distinguished Ecologist, Utah State University Ecology Program, 2003
 President, North American Benthological Society (now Society for Freshwater Science), 1999–2000
 (President-Elect 1998–1999, Past President 2000–2001).
 Kaeser Visiting Scholar, Center for Limnology, University of Wisconsin-Madison, 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; climate-change adaptation in urban social-ecological-technological systems; sustainable future scenarios for cities

Current Primary Research Projects and Collaborations

Ten active research grants; \$25M. Major projects:

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.

Central Arizona – Phoenix LTER (1997 – present): Comprehensive investigation of an urban social-ecological system. Executive committee member and co-PI 2016–present; 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.

Urban Resilience to Extremes Sustainability Research Network (SRN) (2015-2020): Leading 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 is 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.

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.

Current Teaching and Mentoring

Teaching Ecosystem Ecology, Urban Ecosystems, Urban Resilience Reading Group, Ecosystems Reading Group. Mentoring five graduate students, two postdocs, one undergraduate researcher.

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

Current Service

Editorial Board Member: *Watershed Ecology & the Environment* (2018–), *Sustainability* (2018–), *Ecohydrology* (2007–)

Associate Editor: *Frontiers in Built Environment*, *Urban Science* (2017–)

Editorial Advisory Board: *Journal of Urban Ecology* (2015–)

Editor: *Earth's Future* (2014–)

Member: National Academy Standing Committee to advise the United States Global Change Program (2014–)

Advisory Board Member: H₂O'Lyon: School of Integrated Watershed Sciences (2019–)

PUBLICATIONS

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

In press

18x. Zimmerman, R., **Grimm, N.** and Brawley-Chesworth, A. 2019. “Planning robust 21st century US urban infrastructure: socially driven transitions from pre-industrial, carbon-intensive and carbon-sensitive infrastructure,” in *U.S. infrastructure: challenges and directions for the 21st century*, edited by Aman Khan and Klaus Becker. Routledge: *in press*.

2019

188. Iwaniec, D. M., E. M. Cook, O. Barbosa, and **N. B. Grimm**. 2019. Criteria for urban sustainability transformations. *Sustainability* 11:573. doi:10.3390/su11030573.

2018

187. 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 environments and environmentalisms. pp 127-150 *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. ISBN 9780262038966

186. Cook, E. M., R. Sponseller‡, N. B. Grimm, and S. J. Hall. 2018. Mixed method approach to assess atmospheric nitrogen deposition in arid and semi-arid ecosystems. *Environmental Pollution* 239:617-630.

185. 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. 2018. Foundations and frontiers of ecosystem science: legacy of a classic paper (Odum 1969). *Ecosystems*. doi: 10.1007/s10021-018-0316-3

184. 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. Kortelainen, E. Kritzberg, D. M. McKnight, M. M. Palta‡, O. Senar, T. Vrede, G. A. Weyhenmeyer, C. G. Trick. 2018. Global change-driven effects on dissolved organic matter composition: Implications for aquatic food webs at northern latitudes. *Global Change Biology*. <https://doi.org/10.1111/gcb.14129>

183. **Grimm, N. B.**, and S. Schindler. 2018. Nature of cities and nature in cities: prospects for conservation and design of urban nature in human habitat. pp 99-126 *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. ISBN 9780262038966
182. Hondula, D. M., J. L. Sabo, R. Quay, M. Chester, M. Georgescu, **N. B. Grimm**, S. L. Harlan, A. Middel, S. Porter, C. L. Redman, B. Rittmann, B. L. Ruddell, and D. D. White. 2019. Cities of the Southwest are testbeds for urban resilience. *Frontiers in Ecology and the Environment* 17:79–80.
181. Hopkins[‡], K. G., **N. B. Grimm**, and A. M. York. 2018. Influence of governance structure on green stormwater infrastructure investment. *Environmental Science and Policy* 84:124–133.
180. McPhillips[‡], Lauren E., Heejun Chang, Mikhail V. Chester, Yaella Depietri, Erin Friedman, **Nancy B. Grimm**, John S. Kominoski, Timon McPhearson, Pablo Méndez-Lázaro, Emma J. Rosi, and Javad Shafiei Shiva. 2018. Defining extreme events: a cross-disciplinary review. *Earth's Future*. <https://doi.org/10.1002/2017EF000686>.

2017

179. 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. 2017. The metabolic regimes of flowing waters. *Limnology & Oceanography* 63:S99-S118. DOI: 10.1002/lno.10726.
178. 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.
177. **Grimm, N. B.**, S. T. A. Pickett, R. L. Hale, and M. L. Cadenasso. 2017. Does the ecological concept of disturbance have utility in urban social-ecological-technological systems? *Ecosystem Health and Sustainability* vol. 3 (1) p. e01255.
176. Groffman, P. M., M. L. Cadenasso, J. Cavender-Bares, D. L. Childers, **N. B. Grimm**, J. M. Grove, S. E. Hobbie, L. R. Hutryra, G. D. Jenerette, T. McPhearson, D. E. Pataki, S. T. A. Pickett, R. V. Pouyat, E. Rosi-Marshall, B. J. Ruddell. 2017. Moving towards a new urban systems science. *Ecosystems* 20:38-43.
175. Krause, S., J. Lewandowski, **N. B. 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. 2017. Ecohydrological interfaces as hotspots of ecosystem functioning. *Water Resources Research* 53:6359–6376.
174. 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* 27:644-661. doi: 10.1002/eap.1472.
173. 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
172. 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. Cowl, 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. 2017. Partitioning assimilatory nitrogen uptake in streams: an analysis of stable isotope tracer additions across continents. *Ecological Monographs* 88(1):120-138. doi: 10.1002/ecm.1280.

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. Hutyrá, 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. 2015. 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. Miniati, 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* 18: 599-611. 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. Eloegi. *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 ¹⁵N 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 ¹⁵N 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 N₂O 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. *Proceedings 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 für 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 für Theoretische und Angewandte 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. Raffaelli, 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 Vereinigung für 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 Angewandte 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. *Encyclopedia 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

- Dong, X., **N. B. Grimm**, J. B. Heffernan, and R. Muneeppeerakuhl. Self-organization of macrophytes in heterogeneous fluvial landscapes. *In review*.
- Hadly, Elizabeth A., Nils Chr. Stenseth, Uma Ramakrishnan, Jerry Schubel, Mary Power, Henrique Pereira, Peggy Fiedler, **Nancy Grimm**, Mary Firestone, Nona Chiariello, Anthony D. Barnosky. A new and critical role for biological field stations in our rapidly changing world. *In review*.
- Handler, A. M., A. K. Suchy, and **N. B. Grimm**. Nitrate reduction capacity and pathways of urban accidental wetlands in Phoenix, Arizona. *In review*.
- Iwaniec, D. M., E. M. Cook, M. Davidson, M. Berbés Blázquez, M. Georgescu, E. S. Kraynehodd, A. Middel, D. A. Sampson, and **N. B. Grimm**. The co-production of sustainable future scenarios. *In review*.
- McPhillips, L. E., S. Earl, R. L. Hale, and **N. B. Grimm**. Urbanization in semi-arid United States watersheds results in decreased stream flashiness.

PRESENTATIONS

Invited, Plenary, and Keynote Presentations

109. Plenary. *Society for Freshwater Science Annual Meeting*. Title: Rivers of our dreams: water futures in urban central Arizona. Salt Lake City, UT, May 2019.
108. Keynote. *H. J. Oosting Lecture*. Title: Climate change, disturbance, and extreme events: how will cities respond? Duke University, Durham, NC, March 2019.
107. Invited. *Comparative Urbanism Conference*. Title: Extreme events call for resilient urban infrastructure and positive future visions. Atlanta, GA, March 2019.
106. Keynote. *Baltimore Ecosystem Study 20th annual meeting*. Title: Twenty years of urban ecological research: parallels and contrasts of a Rust Belt and a Sun Belt city. Baltimore, MD, October, 2018.

105. Invited presentation. *Generous Cities Summit*. Title: Ecosystem services of the Salt River's accidental wetlands. ASU Biomimicry Center, Tempe, AZ, April 2018.
104. Keynote. *Our Common Future* symposium. Title: Urban resilience to extreme climate events. Donald Blechman Memorial Lecture Series, School of Environment, Arts & Society, Florida International University, Miami, FL, January, 2018.
103. 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.
102. 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.
101. 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.
100. Invited presentation (with C. L. Redman). *Sustainability Research Networks Awardees Conference*. Title: UREx SRN overview. National Science Foundation, Arlington, VA, June 2017.
99. Keynote. *International Urban Wildlife Conference*. Title: The rise of urban ecology as an integrative, interdisciplinary science for the Anthropocene. San Diego, CA, June, 2017.
98. Panelist. International Conference: *Interdisciplinary perspectives on urban infrastructure history and the social sciences*. Host: NYU Paris. Paris, France, May 2017.
97. 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.
96. 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.
95. Invited. *The Stockholm Seminar*. Title: Extreme events call for a resilient SETS infrastructure. Royal Swedish Academy of Sciences, Stockholm, Sweden, May, 2016.
94. 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.
93. Invited presentation. Special Workshop: *Urban Systems*. Title: Urban resilience to extremes: a new Sustainability Research Network. Complex Systems Symposium, Tempe, AZ, October 2015.
92. 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.
91. 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.

90. 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.
89. 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.
88. 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.
87. 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.
86. 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.
85. 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.
84. 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.
83. Plenary. Symposium of the Syracuse Center of Excellence: *Urban Reinvention and Resilience*. Title: Adding the “techno” into urban socioecological systems. Syracuse, NY, October 2013.
82. Invited presentation. International Conference: “CIGMA 2013: Conferencia Internacional de Geografía y Medio Ambiente.” Title: Urban socio-techno-ecological systems: Prospects for resilient urban water systems. Session on Climate Change, Mexico City, Mexico, October 2013.
81. 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.
80. 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.
79. Invited Presentation. IGNITE Session: *Urban Ecology: From Biophysics to Society*. Title: Urban stormwater and the new normal. ESA Annual Meeting, Minneapolis, Minnesota, August 2013.
78. 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.
77. Plenary. *Arizona Riparian Council meeting*. Title: A global perspective on urban streams and rivers. Tempe, AZ, April 2013.
76. Plenary. *LTER Graduate Student Symposium*. Title: Interdisciplinary research: a view from two perches. LTER All-Scientists Meeting, Estes Park, CO, September 2012.

75. 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.
74. 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.
73. Plenary. Annual Meeting, *Association for the Sciences of Limnology and Oceanography (ASLO)*. Title: Global environmental change and the water challenges of cities. Lake Biwa, Japan, July 2012.
72. Keynote. *Annual Undergraduate Symposium, SOLUR*. Title: The challenges of global environment change for ecosystems, people, and the Southwest. Arizona State University. Tempe, AZ, March 2012.
71. 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.
70. 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.
69. 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.
68. 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.
67. 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.
66. Welcome address: *Water-ecosystem services, drought and environmental justice*. ESA First Millennium Conference, Athens, GA, November 2009.
65. 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.
64. 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.
63. Invited panelist. Synthesis Panel: *Coupled biogeochemical cycles*. Couple Biogeochemical Cycles - ESA event, Albuquerque, NM, August 2009.
62. 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.
61. Invited presentation. Workshop: *Climate change impacts and integrated assessment*. Title: Central Arizona–Phoenix LTER: urbanization and global environmental change. Snowmass, CO, July 2009.
60. 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.
59. 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.
 58. 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.
 57. 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.
 56. 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.
 55. 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.
 54. 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.
 53. 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.
 52. 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.
 51. 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.
 50. *Presidential Address*. Plenary and Awards Session: ESA Annual Meeting, Memphis, Tennessee, August 2006.
 49. Plenary. Annual Symposium, *Sustainability*. Title: Urban ecosystems: a challenge for sustainability science. St Olaf College, St Paul, MN, May 2006.
 48. 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.
 47. Opening and closing comments. International Conference: *Ecology in an era of globalization*. Special ESA themed meeting, Merida, Yucatan, Mexico, January 2006.
 46. 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.
 45. 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

44. 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.
43. 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.
42. Invited 'tutorial' presentation. Special Session, *Biodiversity and ecosystem function in human-altered streams*. Title: Sorting out mechanisms from syndromes in the study of human-altered streams. ASLO Annual Meeting, Santiago de Compostela, Galicia, Spain, June 2005.
41. Invited. Fulbright International Scholars Seminar, *Managing and Protecting Natural Resources*. Title: Impact of urban environments on streams and rivers. Tempe, AZ, February 2005.
40. Invited presentation. International Workshop, *Riparian biogeochemistry in semi-arid ecosystems*. Title: Hydrologic controls on nitrogen dynamics in riparian ecosystems of semi-arid landscapes. Skukuza, Kruger National Park, South Africa, October 2004.
39. Invited presentation. Science conference, *Interactions between changes in climate and disturbance regimes*. Title: Urban disturbance (with S.T.A. Pickett). US LTER Coordinating Committee, Fairbanks, AK, August 2004.
38. Invited presentation. Symposium: *In the footsteps of Lewis & Clark: rediscovering earth from land to sea—a biogeoscience perspective*. Title: 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.
37. Plenary. International Conference, *Urbanization and stream ecology*. Title: 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.
36. Plenary. Estuarine Research Foundation/US Long-Term Ecological Research Joint Symposium. Seattle, WA, September 2003.
35. Invited presentation. Chapman Conference *Ecosystem interactions with land-use change*. Title: Effects of land-use change from urbanization on nutrient dynamics in aridland streams. Santa Fe, NM, 2003.
34. Invited presentation. Mini-Symposium, Long-Term Ecological Research Program, *Integration of Geosciences and Social Science within the LTER Program: Progress and Prospects*. Title: Introduction. National Science Foundation, Arlington, VA, February 2003.
33. Invited presentation. Chapman Conference: *Interactions between Vegetation and Hydrological Processes in Semiarid Landscapes*. Title: Nutrient retention in stream-channel and riparian hotspots of semi-arid watersheds. Taos, NM, September 2002.
32. Invited presentation. Special Symposium, *Cities of Resilience*. ESA Annual meeting, Tucson, AZ, August 2002. (with C. Redman)
31. Invited presentation. Special Session, *Physical forcing and pelagic-benthic interactions in aquatic systems*, ASLO Annual meeting, Victoria, BC, June 2002.
30. Invited presentation. Mini-Symposium, Long-Term Ecological Research Program, *LTER Network Major Research Accomplishments*. Title: Urban crossroads: integration of earth, life, and social sciences in the city. National Science Foundation, Arlington, VA, February 2002.
29. Plenary. First Annual Conference, *Global Nitrogen Enrichment Program*. University of Wales, Bangor, Wales, September 2001.
28. Plenary. 16th Annual Symposium of the U.S. Chapter of International Association of Landscape Ecology, Tempe, Arizona, April 2001.
27. Invited presentation. Special Symposium, ESA Annual meeting, Snowbird, Utah, August 2000.
26. Plenary. *Presidential Address*. NABS Annual Meeting, Keystone, Colorado, May 2000.

25. Plenary. Joint symposium of the BES and the ESA: *Ecology: Achievement and Challenge*. Orlando, Florida, April 2000.
24. Invited presentation. Arizona Floodplain Management Association Conference: *Southwest River Management and Restoration: Non-Structural Approaches*. Phoenix, Arizona, April 2000.
23. Invited presentation. Annual Meeting of the Association of Ecosystem Research Centers. Washington, DC, November 1999. (Invited)
22. Plenary. Eighth Cary Conference, *Understanding urban ecosystems: a new frontier for science and education*. Millbrook, NY, April 1999.
21. Invited presentation. Special LTER Session on *Urban Ecosystems*, Annual Meeting, Ecological Society of America, Baltimore, Maryland, August 1998.
20. Keynote. *Kaeser Visiting Scholar lecture*. Center for Limnology, University of Wisconsin, Madison, WI.
19. Invited presentation. International LTER meeting, Taipei, Taiwan, November 1997.
18. Invited presentation. 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.
17. Invited presentation. Special Session, *Stream ecosystems as products of coupled hydrologic and biogeochemical processes in catchments and channels*. Aquatic Sciences Meeting, ASLO, Santa Fe, NM. (with E. Marti and others)
16. Invited presentation. *Special session on undergraduate research programs*. Annual Meeting, NABS, Kallispell, MT, June 1996.
15. Invited presentation. 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.
14. Plenary. EAWAG Workshop, *Heterogeneity, surface/groundwater interaction, retention, nutrient turnover and biodiversity in the transition zones of lotic ecosystems*. The Limnological Research Center, EAWAG, Kastanienbaum, Switzerland, February 1996.
13. Invited presentation. 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. (with S. Fisher and others)
12. Invited presentation. 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.
11. Invited presentation. Symposium, *Testing the influence of environmental heterogeneity on patterns and processes in streams*. Annual Meeting, NABS, Keystone, Colorado, May-June 1995.
10. Plenary. 5th Cary Conference: *Linking species and ecosystems*. Millbrook, NY, May 1993.
9. Invited presentation. Symposium, *Benthic algal ecology: processes and differential species performance*. Annual Meeting, North American Benthological Society. Calgary, Alberta, Canada, May 1993.
8. Invited presentation. Symposium: *Aquatic ecology: scale, pattern and process*. BES and ASLO, Cork, Ireland, April 1992.
7. Invited presentation. Gordon Research Conference: *Estuarine processes*. New Hampton, New Hampshire, June 1991.
6. Invited presentation. Workshop: *Evolutionary, population, and community responses to global change*. Friday Harbor Labs, Washington, September 1991.
5. Invited presentation. Special *Symposium honoring Gerald Cole*. Arizona-Nevada Academy of Science Annual Meeting, Tempe, Arizona, April 1990.

4. Invited presentation. Symposium: *Temporal variability and disturbance in fluvial environments*. Annual Meeting, AGU, San Francisco, California, December 1990.
3. Invited presentation. USEPA/NASA/NABS - sponsored Symposium: *Troubled waters of the greenhouse earth: climate change, water resources, and freshwater ecosystems*. Blacksburg, Virginia, May 1990.
2. Invited presentation. Symposium: *Groundwater limnology*. International Society of Limnology. Munich, West Germany, August 1989.
1. Invited presentation. *Boden Conference on Stream Ecology*, Australian Society of Limnology. Thredbo, New South Wales, Australia, January 1985.

Contributed Presentations and Abstracts

- 2019 Society for Freshwater Science (SFS) Annual Meeting, Salt Lake City, UT, May 2019: 1 paper and 1 poster co-authored.
Ecological Society of America (ESA) Annual Meeting, Louisville, KY, August 2019: 1 paper presented
- 2018 SFS Annual Meeting, Detroit, MI, June 2018: 1 paper and 2 posters co-authored.
Long-Term Ecological Research (LTER) All-Scientists Meeting, Asilomar, CA, October 2018: 2 talks presented, 1 poster presented, 2 posters co-authored.
American Geophysical Union (AGU) Fall Meeting, Washington, DC, December 2018: 2 posters co-authored.
International Forum on Urbanism, Barcelona, Spain, December 2018: 1 paper presented, 2 papers co-authored.
- 2017 American Association of Geographers (AAG) Annual Meeting, Boston, MA, April 2017: 1 paper co-authored.
ESA Annual Meeting, Portland, OR, August 2017: 3 papers and 2 posters co-authored.
Resilience 2017 Conference, Stockholm, Sweden, August 2017: 1 paper presented, 2 papers co-authored.
Program on Ecosystem Change and Society (PECS)-II Conference, Oaxaca, México, November 2017: 1 paper presented, 3 papers co-authored.
AGU Fall Meeting, New Orleans, LA (Dec 2017): 1 paper presented, 1 paper co-authored.
- 2016 ESA Annual Meeting, Fort Lauderdale, FL (August 2016): 2 papers co-authored
International LTER Open Science Meeting, Skukuza, South Africa, October 2016: 1 poster presented.
Habitat III Conference, Future Earth Side Event, Quito, Ecuador, October 2016: 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.
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.
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 Compostela, 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 paper 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. 1 paper 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); Florida International University, Miami, FL (January 2018); Duke University (Oosting Lecture, March 2019) ; Idaho State University, Pocatello, ID (April 2019); Flathead Lake Biological Station, Kallispell, MT (April 2019); University of Montana, Missoula, MT (April 2019)

RESEARCH GRANTS AWARDED

Active Awards:

- “REU: Collaborative Research: Defining stream biomes in order to better understand and forecast stream ecosystem change.” PI N. B. Grimm (\$13K, 2016-2017; \$8K, 2018-2019). Macrosystems Biology Program, National Science Foundation.
- “LTER: CAP IV - Investigating urban ecology and sustainability through the lens of urban ecological infrastructure.” PI and Director D. L. Childers, Co-PIs N. B. Grimm, S. J. Hall, B. L. Turner, and A. York (\$4.5M). National Science Foundation, 2018-2022.
- “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, 2017-2019.
- “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, 2017-2019.
- “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.

Previous Awards:

- “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.
- “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, 2010-2018.
- “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.
- “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

Active Awards:

- “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 (\$13K). Macrosystems Biology Program, National Science Foundation 2016-2017.

Previous Awards:

- “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

Editorial Board Member: *Watershed Ecology & the Environment* (2018–)

Editorial Board Member: *Sustainability* (2018–)

Associate Editor: *Frontiers in Built Environment*, *Urban Science* (2017–)

Editorial Advisory Board: *Journal of Urban Ecology* (2015–)

Editor: *Earth’s Future* (2014– 2019)

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

Advisory Board Member: H₂O’Lyon: School of Integrated Watershed Sciences (2019–)

Committee Member: National Academy Standing Committee to advise the United States Global Change Program (2014–)

Jury Member: Premi Ramón Margalef (Margalef Prize) (2016–2018)

Advisory Board Member: Network Advisory Board, INTERFACES Training Network, European Commission (2013–2018)

Jury Member: *Environmental Systems Research: Urban Environments*, Vienna Science and Technology Fund (2017)

Research Advisory Sub-Committee Member: Program B of the CRC for Water Sensitive Cities, Australia (2013–2016)

Advisory Board Member: DataONE (2010–2014)

National Advisory Board Member: Long-Term Ecological Research Network (2010–2013)

Scientific Committee Member: Catalan Institute for Water Research, Girona, Spain (2007–2013)

Advisory Board Member: EPSCoR Program, University of Alaska, Fairbanks (2007–2010)

Advisory Board Member: Integrative Graduate Education and Research Training program in urban hydrology, University of Maryland Baltimore County (2006–2010)

Site Review Team Member: H.J. Andrews LTER, 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)

External Advisory Board Member: Coweeta Long-Term Ecological Research Project (2004)

ASU Representative: Consortium of Universities for the Advance of Hydrological Sciences, Inc. (2001–2004)

Committee Member: Committee on Hydrologic Sciences, National Research Council (2002–2003)

Panel Member: Science and Technology Centers Panel, National Science Foundation (2000)

Site Review Team Chair: H.J. Andrews LTER, 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)

Scientific Advisory Board Chair: National Center for Ecological Analysis & Synthesis (1999–2000)

Scientific Advisory Board Member: National Center for Ecological Analysis & Synthesis (1997–2000)

Site Review Team Member: McMurdo Dry Valleys LTER, 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)

Site Review Team Member: Bonanza Creek and Toolik Lake LTERs, National Science Foundation (1991)

Review Team Member: Walker Branch Watershed Project, Environmental Research Division, U.S. Department of Energy (1991)

Advisory Panel Member: Sevilleta Long-Term Ecological Research Project (1991)

Service to Professional Societies

ECOLOGICAL SOCIETY OF AMERICA, ESA: Special Nominating Subcommittee to increase diversity in awards (Chair, 2014); Nominating Committee (Chair, 2006–2007); Past

President (2006–2007); President (2005–2006); President-Elect (2004–2005); Governing Board (Member, 2004–2007); Eminent Ecologist Award and Distinguished Service Citation Selection Committee (Member 1994–1997); Research Needs Committee (Member, 1993–2003).

SOCIETY FOR FRESHWATER SCIENCE, SFS (POST-2011; FORMERLY NORTH AMERICAN BENTHOLOGICAL SOCIETY): Program Committee, Joint ASLO-SFS Meeting, Madison, WI, 2020 (Co-Chair, 2018–2020). Board of Directors for the Endowment (Director, 2009–2014); Name Evaluation Committee (Member, 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 (Member, 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).

ASSOCIATION FOR THE SCIENCES OF LIMNOLOGY AND OCEANOGRAPHY, ASLO: Program Committee, Joint ASLO-SFS Meeting, Madison, WI, 2020 (Co-Chair, 2018–2020). 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).

COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS: Governing Board (Member-at-large [elected], 2006)

CONSORTIUM OF UNIVERSITIES FOR THE ADVANCEMENT OF HYDROLOGIC SCIENCES, INC., CUAHSI: Board of Directors (ASU Representative, 2002–2009); Synthesis Center Committee (Member, 2003).

SOCIETAS INTERNATIONALIS LIMNOLOGIAE, SIL: USA National Representative (2000–2004).

Workshop/Session Organization

Co-Organizer (with M. Berbés Blásquez, D. Iwaniec): *Understanding and responding to extreme weather events in ecosystems and social-ecological-technological systems*. Workshop, LTER All Scientists Meeting, Asilomar, CA, October 2018.

Co-Organizer (with M. Berbés Blásquez, D. Iwaniec): *LTER scenarios*. Workshop, LTER All Scientists Meeting, Asilomar, CA, October 2018.

Organizer: *Planning future scenarios for Syracuse, Portland, and Miami*. Syracuse, NY, August 2018.

Organizer and Host (with M. Berbés Blásquez, M. Davidson): *Future scenarios for South Phoenix*. Phoenix, AZ, May 2018.

Meeting Organizer and Host (with C. Redman, A. Grobstein): Urban Resilience to Extremes Sustainability Research Network All-Hands Meeting, Tempe, AZ, March 2018. Also co-organized Diversity and Inclusion, Mentoring, and Comparative Future Scenarios workshops at this meeting.

Co-Organizer, Host, and Facilitator (with M. Berbés Blásquez, M. Davidson): *South Phoenix World Café*. Phoenix, AZ, January 2018.

- Session Organizer (with T. McPhearson and C. L. Redman): *Co-producing urban resilience to extreme events*. Resilience 2017, Stockholm, Sweden, September 2017.
- Panel Organizer: Educational activities within the SRNs. SRN Awardees Conferences, National Science Foundation, Arlington, VA, June 2017; Alexandria, VA, June 2018
- Poster Session Organizer: Early career research in the SRNs. SRN Awardees Conferences, National Science Foundation, Arlington, VA, June 2017; Alexandria, VA, June 2018
- Organizer and Host: *Planning future scenarios for Hermosillo, Phoenix, and Baltimore*. Tempe, AZ, September 2017.
- Union Session Organizer (with Ben van der Pluijm): *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, Zhejiang 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 and Facilitation (invited)

- Participant: *Urbanization in the Anthropocene.* Stockholm, Sweden, January 2019.
- Facilitator: *Climate change and ecosystems.* Sackler Forum, US National Academy of Sciences and the Royal Society, Washington, DC, November 2018.
- Facilitator: *Heat Action Planning workshop.* Nature's Cooling Systems workshops with local community members in three Phoenix area neighborhoods, Phoenix and Mesa, AZ, June, July, August, September 2018 (five workshops total).

- Participant: *Respiration regimes in river networks: a cross-biome perspective*. Swiss Science Foundation- and NSF-funded workshop. Ovrannaz, Switzerland, September 2018.
- Facilitator: *Future scenarios for central Maryland*. Urban Resilience to Extremes Future Scenarios workshop, Baltimore, MD, June 2018.
- Facilitator: *Future scenarios for South Phoenix*. Urban Resilience to Extremes Future Scenarios workshop, Phoenix, AZ, May 2018.
- Participant: *Miami Innovation Lab*. Resilient Coastal Communities Smart & Connected Communities workshop, Miami, FL, March 2018.
- Participant: *AGU Editors workshop*. Coral beach, FL, February 2018.
- Participant: *From disaster to transformation: lessons from Puerto Rico in the aftermath of Hurricane María*. San Juan, PR, February 2018.
- Participant: Report of RULA IRES student research in Valdivia to Valdivia practitioners. Valdivia, Chile, February 2018.
- Participant and Project Host: *Future scenarios for Hermosillo*. Urban Resilience to Extremes Future Scenarios workshop, Hermosillo, Sonora, México, November 2017.
- Participant: Assessment workshop: *The future of field stations*. Jasper Ridge Biological Reserve, Stanford, CA, July 2017
- Participant, Note-Taker, and Project Host: *Future scenarios for Valdivia*. Valdivia, Chile, May 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 Rhode 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 (2006–2016)

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 für Hydrobiologie*, *Australian Journal of Marine and Freshwater Research*, *BioScience*, *Biogeochemistry*, *Cities & the Environment*, *Earth*, *Freshwater Biology*, *Freshwater Science*, *Frontiers in Ecology & the Environment*, *Ecology*, *Ecology Letters*, *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 Climate Change*, *Nature Geosciences*, *Nature Sustainability*, *PLOS One*, *Proceedings of the National Academy of Science*, *Science*, *Science of the Total Environment*, *Sustainability Science*, *Urban Ecosystems*, *Water Resources Research*.

Tenure and Promotion Reviews: Cary Institute of Ecosystem Studies, Colby College, 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 North Carolina, University of Notre Dame, University of Pittsburgh, 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), Ecosystem Ecology (2017 UNM, 2018), Global Change Biology (2017 UNM), 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)

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 Research Biologist, Marine Sciences Institute, University of California Santa Barbara
 Christopher G. Peterson (1989–1991), currently Professor and Chair, 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 Professor, University of Florida
 Kimberley Knowles-Yanez (1998–1999), currently Professor, California State University San Marcos
 Markus Naegeli (1998–1999), currently in private sector, Switzerland
 Nancy McIntyre (1998–2000); currently Professor, Texas Tech
 Weixing Zhu (1999–2000), currently Professor, 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 Assoc. Prof., Univ. of South Florida
 Susanne Grossman-Clarke (2000–2003), currently Training and Outreach Coordinator, Environmental Data Initiative, Univ. Wisconsin

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 Professor, St. Cloud State University
 David Casagrande (2003–2005), currently Assoc. Prof., Lehigh University
 Kathleen Lohse (2005–2006), currently Assoc. Prof., Idaho State University
 Amber Wutich (2006–2007), currently Professor, 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. Prof., Chinese Academy of Science
 Chi Zhang (2009–2011), currently post-doc, Chinese Academy of Science
 Chelsea Crenshaw (2010–2011), currently consultant, NM
 Kristina Hopkins (2014–2015) (at SESYNC), currently staff scientist, US Geological Survey
 David Iwaniec (2014–2017), currently Asst. Prof., Georgia State University
 Elizabeth Cook (2014-2016), currently Asst. Res. Prof., The New School
 Monica Palta (2012–2014; 2016–2017), currently Asst. Prof., Pace University
 Lauren McPhillips (2016–2018), currently Asst. Prof., Pennsylvania State University
Marta Berbés Blásquez (2016–2019)
Yeowon Kim (2018–present)

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 technician, CAP LTER
 Jennifer W. Edmonds (advisor–Ph.D. 2004), currently Asst. Prof., Nevada State College
 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 NASA contractor
 Rebecca Hale (advisor– Ph.D. 2013), currently Research Asst. Professor, Idaho State U
 Xiaoli Dong (co-advisor– Ph.D. 2015), currently Asst. Prof., Univ. California at Davis
 Katherine Kemmitt (advisor–M.S. 2018), currently scientist, EPA, Atlanta, GA
Amalia Handler (advisor–Ph.D. candidate, Environmental Life Sciences) – current student
Melissa Davidson (advisor–Ph.D. student, Sustainability) – current student on leave Spr 2019
Stephen Elser (advisor–Ph.D. candidate, Environmental Life Sciences) – current student
Marina Lauck (advisor–Ph.D. candidate, Environmental Life Sciences) – current student
Mengdi Lu (co-advisor – Ph.D. student, Environmental Life Sciences) – current student
Jason Sauer (advisor–Ph.D. candidate, Environmental Life Sciences) – current student
Amanda Kuhn (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 Program Director, National Science Foundation

Matthew A. Luck (co-advisor–M.S. 2001), Ph.D. U New Mexico, currently Res. Scientist, ISciences, LLC

Delaine 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), US Fish and Wildlife Biologist

Linda Gudex (on committee–M.S. 2003), current position unknown

Anne Huth (on committee–Ph.D. 2003, Hydrology, University of Arizona), currently Pima Comm. Coll. (adjunct)

Darrel Jenerette (on committee–Ph.D. 2003, Plant Biology), currently Professor, 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 staff scientist, 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 Quantitative Scientist, Audubon Society

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 Arizona Department of Transportation

Elizabeth Hagen (on committee–Ph.D. 2010), currently faculty, Rio Salado College

Christofer Bang (on committee–Ph.D. 2010), currently instructor, Arizona State University

Michelle McCrackin (on committee–Ph.D. 2010), currently scientist, Baltic Sea Institute

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 Asst. Res. Prof., The New School

Laureano Gherardi (on committee – Ph.D. 2014, Environmental Life Sciences), currently postdoc, ASU

Jessica Corman (on committee – Ph.D. 2015, Biology), currently Asst. Prof., U of Nebraska

Robin Greene (on committee –M.S. 2015, Biology)

Michael Bernstein (Ph.D. 2016, Sustainability), currently scientist, GenOK (Norway)

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 Stanford University, Jasper Ridge Biological Station

Neng Iong Chen (Ph.D. candidate, on committee – Environmental Life Sciences)

Ethan Baruch (Ph.D. candidate, on committee – Environmental Life Sciences)

Megan Wheeler (Ph.D. candidate, on committee – Environmental Life Sciences)

Joomie Lee (Ph.D. candidate, on committee – Environmental Planning & Design)

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),* Ph.D. Purdue, currently science teacher, Santa Fe, NM
 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,* international 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. education, owner, Smart Aleck Tutoring (CA)
 Nicole Garber (ASU, Honors),* M.D., currently Chief Psychiatrist, The Meadows (AZ)
 Vanessa Hamer,* Peace Corps
 Amanda Smith,* current position unknown
 Kelly Balcarzyk (U Rochester),* Ph.D., currently Presidential Management Fellow, USFS
 Philip Tarrant (ASU),* M.S., currently Director of Informatics and Technology, GIOS, ASU
 Sone Sithonnorath (ASU), M.S. student, Northern Arizona University
 Megan Wegehof (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 Bellmore (nee Martin)* (ASU, Honors), Ph.D., currently Science Director, SE Alaska
 Watershed Coalition, Juneau, AK
 Bashar Ahmed* (ASU, Honors), currently M.D., Arizona
 Nicholas Weller* (ASU, Honors), ASU School of Sustainability Ph.D. program
 Kevin Zeck (ASU, Honors), graduated 2013
 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), graduated 2018, currently field tech, NEON
 Jeremiah McGehee (ASU)
 Kody Landals (ASU), graduated 2018
 Corey Caulkins (ASU, Honors), graduated 2018, currently in consulting
 Riya Patel (Coronado High School), summer-fall 2017, currently BS student, Vanderbilt University
 Neesha Basnyat (Davidson College), graduates 2019
 Miranda Turner (Boston College), graduates 2019
Tearsa Saffel (ASU), current student
Matthew Gonzalez (ASU), current student

UNIVERSITY AND PUBLIC SERVICE

School Committees and Activities

Search Committee, Director, School of Life Sciences (SoLS), 2018–2019
 Search Committee, Macrosystems Biology, 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 University facility.

College Committees and Activities

Reader, Honors Thesis, Ruby Sainz, BS expected 2020 (Barrett Honors College [BHC])

Reader, Honors Thesis, Sara Thompson, BS 2019 (BHC)

Supervisor, Honors Thesis, Corey Caulkins, BS 2018 (BHC): Graduated Summa Cum Laude

Supervisor, Honors Thesis, Marena Sampson, BS 2015 (BHC): Graduated Cum Laude

Dean's Faculty Advisory Committee (Promotion and Tenure), College of Liberal Arts & Sciences, 2013–2015; 2016–2018

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

Reader, Honors Thesis, Sawyer Treese (School of Sustainability), BS 2019 (BHC)

Committee on Academic Freedom and Tenure at ASU, 2018–2021

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

Facilitator, future scenarios workshop, Syracuse, NY, May 2019

Featured in *ASU Now* story, “Trio of ASU professors elected to National Academy of Sciences,” May 2019

Featured in *ASU Now* story, “Streamlining the study of nature in cities,” April 2019

Facilitator, participatory workshops with community members for heat action planning, three neighborhoods in central Phoenix, South Phoenix, and Mesa (series of nine workshops, facilitator for four, summer 2018)

Facilitator, future scenarios workshop, Baltimore, MD, June 2018

Facilitator, future scenarios workshop, South Phoenix, AZ, May 2018

Workshop on themes for future scenarios, South Mountain Village community, January 2018

Featured in *ASU Now* story, “ASU researcher named American Geophysical Union Fellow,” July 2017

Facilitator, workshop on urban heat, City of Phoenix, April 2017

- 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