

JIANGXIAO QIU

Ecosystem and Landscape Ecology Lab
Department of Zoology
University of Wisconsin-Madison
430 Lincoln Dr., Madison, WI 53706

Phone: (608) 556-6982
Office: (608) 265-8001
Email: jqiu7@wisc.edu
landscape.zoology.wisc.edu/People/Qiu.html

EDUCATION

- 2011 - present **Ph.D., Zoology** (Quantitative Ecology), University of Wisconsin-Madison
Dissertation: Landscape resilience and ecosystem service interactions in a Midwestern urbanizing agricultural landscape: the role of spatial heterogeneity, changing climate and invasive species.
Advisor: Monica G. Turner (expected graduation: May 2016)
- 2007 - 2011 **M.S., Ecology**, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China.
Thesis: Urban landscape pattern, morphology and aboveground biomass in Beijing metropolitan areas (China).
Advisors: Xiaoke Wang & Zhiyun Ouyang
- 2003 - 2007 **B.S., Geography**, College of Urban and Environmental Sciences, Northwest University, Xi'an, China

RESEARCH INTERESTS

Landscape ecology • Ecosystem services • Biodiversity conservation • Biological invasion • Global change • Climate and land-use change • Social-ecological systems • Integrated scenarios • Sustainability • Land-water interactions • Hydrologic ecosystem services • Remote sensing • Biophysical and spatial modeling • GIS • Spatial analysis

ACADEMIC APPOINTMENTS

- 2014 - present The National Socio-Environmental Synthesis Center (SESYNC) Graduate Student Fellow
- 2013 - 2015 Graduate Research Assistant (3 yrs), University of Wisconsin-Madison
Funding: National Science Foundation (NSF) Water Sustainability and Climate (WSC) Program; Northern Temperate Lakes (NTL) Long-Term Ecological Research (LTER) Network
- 2011 - 2013 Graduate Teaching Assistant (3 semesters), University of Wisconsin-Madison
Course taught: Animal Biology
- 2007 - 2011 Graduate Research Assistant (4 yrs), Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China
Funding: National Natural Foundation of China

Published or In Press

1. **Qiu, J.** 2015. A global synthesis of the effects of biological invasions on greenhouse gas emissions. *Global Ecology and Biogeography* 24 (11): 1351-1362.
2. **Qiu, J.**, Turner, M.G. 2015. Importance of landscape heterogeneity in sustaining hydrologic ecosystem services in an agricultural watershed. *Ecosphere* 6(11): art229.
3. Wang, H., Qureshi, S., Qureshi, B., **Qiu, J.**, Friedman, C.R., Breuste, J., Wang, X. 2015. A multivariate analysis integrating ecological, socioeconomic and physical indicators to investigate urban forest cover and plant diversity in Beijing, China. *Ecological Indicators* 60: 921-929.
4. Carpenter, S.R., Booth, E.G., Gillon, S., Kucharik, C.J., Loheide, S., Mase, A.S., Motew, M., **Qiu, J.**, Rissman, A.R., Seifert, J., Soyulu, E., Turner, M.G., Wardropper, C.B. 2014. Plausible futures of a social-ecological systems: Yahara watershed, Wisconsin, USA. *Ecology and Society* 20 (2): 10.
5. **Qiu, J.**, Turner, M.G. 2013. Spatial interactions among ecosystem services in an urbanizing agricultural watershed. *Proceedings of the National Academy of Sciences USA* 110 (29): 12149-12154.
6. Wang, H., **Qiu, J.**, Breuste, J., Friedman, C.R., Zhou, W., Wang, X. 2013. Variations of urban greenness across urban structural units in Beijing, China. *Urban Forestry & Urban Greening* 12 (4): 554-561.
7. Wang, H., Lencinas, M.V., Friedman, C.R., Zhu, Z., **Qiu, J.** 2012. Understory plant diversity assessment of Szemao pine (*Pinus kesiya* var. *langbianensis*) plantations in Yunnan, China. *Collectanea Botanica* 31: 51-65.
8. **Qiu, J.**, Wang, X., Zheng, H., Ouyang, Z. 2012. The spatial pattern of landscape fragmentation and its relations with urbanization and socio-economic development: A case study of Beijing. *Acta Ecologica Sinica* 32 (9): 2659-2669.
9. Su, Z., Zhang, R., **Qiu, J.** 2011. Decline in the diversity of willow trunk-dwelling weevils (Coleoptera: Curculionoidea) as a result of urban expansion in Beijing, China. *Journal of Insect Conservation* 15 (3): 367-377.
10. Wang, H., Lopez-Pujol, J., Meyerson, L.A., **Qiu, J.**, Wang, X., Ouyang, Z. 2011. Biological invasions in rapidly urbanizing areas: A case study of Beijing, China. *Biodiversity and Conservation* 20 (11): 2483-2509.
11. Wang, H., Lencinas, M.V., Friedman, C.R., Wang, X., **Qiu, J.** 2011. Understory plant diversity assessment of *Eucalyptus* plantations over three vegetation types in Yunnan, China. *New Forests* 42 (1): 101-116.

12. Lu, F., Yang, L., Wang, X., Duan, X., Mu, Y., Song, W., Zheng, F., Niu, J., Tong, L., Zheng, H., Zhou, Y., **Qiu, J.**, Ouyang, Z. 2011. Preliminary report on methane emissions from the Three Gorges Reservoir in the summer drainage period. *Journal of Environmental Sciences* 23 (12): 2029-2033.
13. **Qiu, J.**, Wang, X. 2010. A comparative study on object-based land cover classification in high spatial resolution remote sensing imagery of urban areas. *Remote Sensing Technology and Application* 25 (5): 653-661.
14. Zhou, Y., **Qiu, J.**, Wang, X., Gang, L., Wu, Q. 2010. A vulnerability assessment of landslide in water-level-fluctuation zones of the Three Gorges Reservoir. *Resource Science*, 32 (7): 1301-1307.
15. Zhou, Y., **Qiu, J.**, Wang, X., Wu, Q. 2010. Assessment of eco-environmental vulnerability of water-level fluctuation belt in Three-Gorges Reservoir area. *Acta Ecologica Sinica* 30 (24): 6734-6740.

In Review or Revision

16. **Qiu, J.**, Wardropper, C.B., Rissman, A.R., Turner, M.G. (In review). Spatial fit between water quality policies and hydrologic ecosystem services in an urbanizing agricultural landscape. *Landscape Ecology*.
17. **Qiu, J.**, Turner, M.G. (In review). Effects of Asian earthworm (*Amyntas agrestis*) invasion on temperate forest and prairie soils in the Midwestern US. *Ecosystems*.
18. Usinowicz, J., **Qiu, J.**, Kamarainen, A. (In review). Flashiness and flooding of two lakes in the Midwest during a century of urbanization and climate change. *Ecological Applications*.

In Preparation

19. **Qiu, J.**, Metow, M., Booth, E.G., Carpenter, S.R., Kucharik, C.J., Turner, M.G. (In prep). Spatial-temporal dynamics of future ecosystem services in an urbanizing agricultural landscape.
20. **Qiu, J.**, Booth, E.G., Carpenter, S.R., Metow, M., Chen, X., Kucharik, C.J., Turner, M.G. (In prep). Unravelling climate and land-use effects on temporal dynamics and interactions among multiple ecosystem services.
21. **Qiu, J.**, Queiroz, C., Bennett, E., Lavorel, S., Maes, J., Norstrom, A., Peterson, G., Turner, M.G. (In prep). Synthesis of tradeoffs and synergies among multiple ecosystem services: patterns and drivers.
22. **Qiu, J.**, Zipper, S., Kucharik, C.J. (In prep). Influence of drought on U.S. crop production: variability and sensitivity of responses.

23. Begg, C., **Qiu, J.**, Zipper, S., Kung, A. (In prep). Social learning and adaptation to climate change: insights from repeated floods in Saxony, Germany.
24. Booth, E.G., **Qiu, J.**, Carpenter, S.R., Kucharik, C.J., Loheide, S., Turner, M.G. (In prep). From qualitative to quantitative environmental scenarios: translating storylines into biophysical modeling inputs at the watershed scale.

Book

25. Zhou, Y., Wang, X., Wu, Q., Lu, F., **Qiu, J.** 2010. *Ecological Vulnerability and Protection in Drawdown Area of the Three Gorges Reservoir*. China Environmental Science Publisher, Beijing, China.

TECHNICAL REPORTS

1. Liu, J., Li, D., Wang, X., Fan, X., **Qiu, J.** 2010. Environmental impact assessment of 295,000-acre fast-growing forest base in *Wenshan*, Yunnan Province, China. Report submitted to the State Forestry Administration of China.
2. Liu, J., Li, D., Wang, X., Fan, X., **Qiu, J.** 2010. Environmental impact assessment of 630,000-acre fast-growing forest base in *Simao*, Yunnan Province, China. Report submitted to the State Forestry Administration of China.
3. Ouyang, Z., Xu, W., **Qiu, J.**, Lu, C. 2010. Spatial characteristics of ecosystem services and ecological land-use classification research in Beijing, China. Report submitted to Beijing Municipal Bureau of Land and Resources, China.
4. Ouyang, Z., Xu, W., Zheng, H., **Qiu, J.**, Li, X. 2010. Eco-environmental assessment and ecological restoration strategy of *Yushu* Earthquake, Qinghai, China. Report submitted to the Ministry of Environmental Protection of China.

GRANTS, FELLOWSHIPS AND AWARDS

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| 2014 - 2016 | The National Socio-Environmental Synthesis Center (SESYNC) Graduate Student Pursuit Fellowship, “Learning for and Adaptation to Surprises: Resilience to Water-related Hazards in Germany and USA” (Co-PI) |
| 2015 | NASA-MSU Professional Enhancement Award (\$700) |
| 2015 | National Science Foundation Data Science Workshop Travel Award (\$1,000) |
| 2012 - 2015 | John Jefferson Davis Travel Award, Department of Zoology, University of Wisconsin-Madison (7 awards totaling \$3,800) |
| 2014 | Vilas Conference Presentation Award, University of Wisconsin-Madison (\$600) |
| 2014 | Graduate Student Community Building Award, Wisconsin Ecology (\$800) |
| 2013 | Phi Kappa Phi National Honor Society |

- 2012 Graduate Student Research Fellowship, Department of Zoology, University of Wisconsin-Madison (\$600)
- 2011 Hall Ammerer-WRF Graduate Fellowship, University of Washington-Seattle (offered but declined)
- 2010 Scholarship for Outstanding Graduate Student, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences (\$800)
- 2008 - 2009 Graduate Research Innovation (GRI) Award, Chinese Academy of Sciences, “Importance of Urban Landscape Pattern for Biodiversity Conservation in Beijing Urban Ecosystem” (\$3,500 – graduate Co-PI)
- 2007 Graduation with Honor, Northwest University
- 2003 - 2007 Distinguished Achievement Award for Academic Excellence, Northwest University (4 awards totaling \$3,000)

INVITED WORKSHOPS

- 2015 Program on Ecosystem Change and Society (PECS) Workshop, “Ecosystem service trade-offs and synergies: synthesizing and learning across case-studies”, Stockholm Resilience Center, Stockholm, Sweden.
- 2015 National Science Foundation (NSF) Data Science Workshop, “Big Data and Data Science Challenges”, University of Washington-Seattle, Seattle, WA.
- 2015 Computational Summer Institute, The National Socio-Environmental Synthesis Center, Annapolis, MD.
- 2015 On the Cutting Edge Professional Development Program, “Preparing for an Academic Career in the Geosciences”, National Association of Geoscience Teachers (NAGT) and National Science Foundation, Madison, WI.

PROFESSIONAL PRESENTATIONS (first author only)

- 2015 **Qiu, J.**, Turner, M.G. Consequences of exotic Asian earthworm (*Amyntas agrestis*) invasion for Midwestern forest and prairie soils. *Ecological Society of America*, Baltimore, MD (Oral presentation).
- 2015 **Qiu, J.**, Wardropper, C.B., Rissman, A.R., Turner, M.G. Joint spatial analysis of water policies and hydrologic ecosystem services in an urbanizing agricultural landscape. *9th International Association of Landscape Ecology World Congress*, Portland, OR (Oral presentation).
- 2015 **Qiu, J.**, Zipper, S.C., Kucharik, C.J. Influence of drought on U.S. crop production: variability and sensitivity of response. *American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America Annual Meeting*, Minneapolis, MN (Oral presentation).

- 2015 **Qiu, J.,** Wardropper, C., Rissman, A., Turner, M.G. Sustaining hydrologic ecosystem services: role of landscape pattern and multi-level water governance. *National Science Foundation (NSF) Water Sustainability and Climate (WSC) Investigator Meeting*, Arlington, VA (Poster presentation).
- 2014 **Qiu, J.,** Turner, M.G. Importance of landscape heterogeneity in sustaining hydrologic ecosystem services in an urbanizing agricultural watershed. *Ecological Society of America*, Sacramento, CA (Oral presentation).
- 2013 **Qiu, J.,** Booth, E.G., Carpenter, S.R., Turner, M.G. Spatially explicit scenarios analysis for hydrologic services in an urbanizing agricultural watershed. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, CA (Oral presentation).
- 2013 **Qiu, J.,** Booth, E.G., Carpenter, S.R., Turner, M.G. Spatially explicit assessment of ecosystem service vulnerability in an agricultural landscape under alternative future scenarios. *Ecological Society of America*, Minneapolis, MN (Poster presentation).
- 2012 **Qiu, J.,** Turner, M.G. Spatial interactions among multiple ecosystem services in an urbanizing agricultural landscape in the Upper Midwest. *The 2012 Long-Term Ecological Research (LTER) All Scientists Meetings (ASM)*, Estes Park, CO (Poster presentation).
- 2012 **Qiu, J.,** Turner, M.G. Spatial interactions among ecosystem services in an urbanizing agricultural landscape in the Upper Midwest. *Ecological Society of America*, Portland, OR (Poster presentation).
- 2010 **Qiu, J.,** Wang, X., Lu, F., Ouyang, Z. Landscape fragmentation and its relations with urbanization and social and economic developments in Beijing. *Ecological Society of America*, Pittsburgh, PA (Oral presentation).
- 2010 **Qiu, J.,** Wang, X., Zheng, H., Ouyang, Z. Spatial temporal dynamics landscape fragmentation and its implications for urban sustainability. *China Development Strategy Society for Sustainability*, Beijing, China (Oral presentation).

GUEST LECTURES, INVITED PRESENTATIONS & OUTREACH ACTIVITIES

- 2015 Guest lecture, University of Wisconsin-Madison, Geography 377: An Introduction to Geographic Information Systems: *The application of Geographic Information System to map and assess ecosystem services.*
- 2015 Invited speaker, 15th Annual Science Day, University of Wisconsin-Madison Arboretum, “Consequences of non-native earthworms (*Amyntas agrestis*) for Wisconsin forest and prairie soils”.

- 2015 9th Annual Nelson Institute Earth Day Conference: Hard Science, Tough Choices. “A Newly Arrived Underground Invader in the Midwest”.
- 2015 Guest instructor, University of Wisconsin-Madison Preschool Laboratory, Madison WI. Co-developed and co-led a hands-on lesson about birds and habitats.
- 2015 2015 Wisconsin Science Festival, Madison, WI. Zoology Department Booth, “Camouflage, museum specimens, and foraging games”.
- 2015 Darwin Day 2015, J. F. Crow Institute for the Study of Evolution, Madison, WI. “Eat or be eaten: How animals find food in a dangerous world”.
- 2014 12th Annual University of Wisconsin-Madison’s Science Expeditions, Madison, WI. “Museum specimen and animal forage games”.
- 2014 Earth Day Every Day, Toki Middle School, Madison, WI. “Envisioning the Future of the Yahara Watershed in southern Wisconsin: Water, Agriculture and Climate Change.”

SELECTED MEDIA COVERAGE

- 2015 Press Release: “Small landscape changes can mean big freshwater gains” by Jenny Seifert, UNIVERSITY OF WISCONSIN-MADISON NEWS ([link](#)); also printed in SCIENCE DAILY ([link](#)); EUREKALERT ([link](#)); interviewed by The Daily Cardinal;
- 2015 Research Brief: “Optimizing the benefits of our ecosystems will require holistic landscape management” ([link](#))
- 2015 International Association of Landscape Ecology (IALE) Student Spotlight, US-IALE Newsletter, August 2015 by staff writer ([link](#))
- 2015 Research Blog: “Research Q&A: How invasive species affect greenhouse gas emissions” by Jiangxiao Qiu and Jenny Seifert ([link](#))
- 2015 NATURE “Petition calls for lay summaries in ecology journals”, by Chris Woolston ([link](#))
- 2014 “Invasive Jumping Earthworm Found in the Midwest” by Sheila Eldred, DISCOVERY NEWS ([link](#))
- 2014 “Hungry, invasive crazy worm makes first appearance in Wisconsin” by Chris Barncard, UNIVERSITY OF WISCONSIN-MADISON NEWS ([link](#))
- 2014 “Responding to a shock to the system: the Asian crazy worm” by Jenny Seifert, UNIVERSITY OF WISCONSIN-MADISON WATER SUSTAINABILITY AND CLIMATE ([link](#))

- 2014 Field experiment filmed by Wisconsin Public Television by Zac Schultz
- 2013 “Ecologists map the benefits of our ecosystems” by Jill Sakai, UNIVERSITY OF WISCONSIN-MADISON NEWS ([link](#)); also printed in SCIENCE DAILY ([link](#)), EUREKALERT ([link](#)), SENSORS & SYSTEMS ([link](#)), SCIENCE 360 NEWS ([link](#))
- 2013 “Tradeoffs and win-wins in ecosystem services” by Jenny Seifert, UNIVERSITY OF WISCONSIN-MADISON WATER SUSTAINABILITY AND CLIMATE ([link](#))

UNDERGRADUATE MENTORING & RESEARCH TRAINING

Introductory Biology Mentored Research Program (full semester, 2 credits), University of Wisconsin-Madison; *student present research publicly at a campus-wide research symposium

- 2015 Brittany Moreno* (University of Wisconsin-Madison)
- 2014 Joseph Bevington* (University of Wisconsin-Madison)
- 2013 Sherman Yu* (University of Wisconsin-Madison)

Independent Undergraduate Research Program

- 2010 Jia Xie (Beijing Forestry University)

ADDITIONAL RELEVANT PROFESSIONAL TRAINING

- 2014 Structural Equation Modeling workshop, led by Dr. James Grace (U.S. Geological Survey), Madison, WI.
- 2014 Delta Program in Teaching and Learning, University of Wisconsin-Madison, Teaching Philosophy and Teaching Portfolio workshop, Madison, WI.
- 2010 Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST) Modeling Training, Beijing, China.
- 2009 Advanced Seminar of Object-oriented Land Use Classification and Image Analysis, Beijing Space Eye Innovation Technology Center, Beijing, China.
- 2008 ArcGIS Certification Program, Beijing ESRI Training Center, Beijing, China.

PROFESSIONAL SERVICE

Manuscript reviewer for: *Proceedings of the National Academy of Sciences, Landscape Ecology, Frontiers in Ecology and the Environment, Ecology, Oecologia, Biodiversity and Conservation, Remote Sensing, Urban Forestry & Urban Greening, Acta Ecologica Sinica, Remote Sensing Technology and Application*

Graduate Student Representative, Department of Zoology, University of Wisconsin-Madison

Graduate Student Representative, Wisconsin Ecology, University of Wisconsin-Madison

Graduate Student Representative, Delta Program in Teaching and Learning, Center for the Integration of Research, Teaching and Learning (CIRTL), University of Wisconsin-Madison

PROFESSIONAL MEMBERSHIPS

Member, Ecological Society of America (ESA)

Member, Society for Conservation Biology (SCB)

Member, American Geophysical Union (AGU)

Member, The Ecosystem Service Partnership (ESP) – Mapping ES Thematic Working Group

Member, The Long-Term Ecological Research Network (LTER)

Member, U.S. International Association for Landscape Ecology (US-IALE)

REFERENCES

PhD Advisor

Monica G. Turner
Eugene P. Odum Professor of Ecology
Department of Zoology
University of Wisconsin – Madison
430 Lincoln Dr., Madison, WI 53706
(608) 262-2592
turnermg@wisc.edu

PhD Committee Member and Research Collaborator

Stephen R. Carpenter
Director of the Center for Limnology
Stephen Alfred Forbes Professor of Zoology
Department of Zoology
University of Wisconsin – Madison
680 North Park Street, Madison, WI 53706
(608) 262-3014
steve.carpenter@wisc.edu

PhD Committee Member and Research Collaborator

Christopher J. Kucharik
Associate Professor
Department of Agronomy
Nelson Institute Center for Sustainability and the Global Environment (SAGE)
1575 Linden Dr., Madison, WI 53706
(608) 890-3021
kucharik@wisc.edu

PhD Committee Member

Volker C. Radeloff
Associate Professor
Department of Forest and Wildlife Ecology
University of Wisconsin-Madison
1630 Linden Dr., Madison, WI 53706
(608) 263-4349
radeloff@wisc.edu