

**VITA**  
**BRUCE L. RHOADS**

Department of Geography and Geographic Information Science  
University of Illinois at Urbana-Champaign  
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**ACADEMIC TRAINING**

B.A. Shippensburg University, Shippensburg, Pennsylvania, 1980, Geoenvironmental Studies  
M.A. Michigan State University, East Lansing, Michigan, 1982, Geography  
Ph.D. Arizona State University, Tempe, Arizona, 1986, Geography

**MAJOR RESEARCH INTERESTS**

My overall research program consists of three distinct, but interrelated areas of interest: 1) integrated watershed science in human-dominated environments, 2) basic research on river dynamics and the relation of these dynamics to human modification of landscapes, and 3) the philosophical and methodological underpinnings of physical geography and the relation of these underpinnings to those of geography at large.

**FACULTY POSITIONS**

2000 - present Professor, Department of Geography and Geographic Information Science

2001 – 2012 Head, Department of Geography and Geographic Information Science  
University of Illinois at Urbana-Champaign

2011 – present Affiliate Professor, Department of Civil and Environmental Engineering, University  
of Illinois at Urbana-Champaign

2007 – present Affiliate Professor, Department of Geology  
University of Illinois at Urbana-Champaign

1998 - present Affiliate Professor, Department of Natural Resources and  
Environmental Studies, University of Illinois at Urbana-Champaign

1992 - 2000 Associate Professor, Department of Geography,  
University of Illinois at Urbana-Champaign

1991 - 1998 Associate Head, Department of Geography,  
University of Illinois at Urbana-Champaign

1986 - 1992 Assistant Professor, Department of Geography,  
University of Illinois at Urbana-Champaign

## **COURSES TAUGHT**

GEOG 103: Earth's Physical Systems  
GEOG 199: Environmental Research in Physical Geography (Freshman Discovery Course)  
GEOG 210: Contemporary Social and Environmental Problems  
GEOG/GEOL/NRES 406: Fluvial Geomorphology  
GEOG 408: Humans and Rivers Systems  
GEOG/NRES 460: Interpretation and Analysis of Aerial Photography  
GEOG 471: Contemporary Geographic Thought  
GEOG 491: Research Methods in Geography  
GEOG/GEOL 575: Alluvial Boundary Layer Dynamics and Deposits  
GEOG 595: Advanced Seminar in Fluvial Geomorphology

## **PROFESSIONAL EXPERIENCE**

1979 Planning Staff Assistant, Bureau of Environmental Planning, Department of Environmental Resources, Harrisburg, PA.

1980 Planning Staff Assistant, Lancaster County Planning Commission, Lancaster, PA

1984 Environmental Consultant, Ellis, Baker, Lynch, Clark & Porter, P.C. Phoenix, AZ.

1988 Environmental Consultant, U.S. Army Corps of Engineers, Ohio River Division, Louisville, KY

1994 Geomorphologic Consultant, Hey and Associates, Chicago, IL. Stream channel stability assessment, DuPage County, IL; evaluation of dredge activities on stream channel stability, Fox River, IL.

1992-1998 Geomorphologic Consultant, Consumer Illinois Water Company, University Park, IL. Assessment of in-stream suspended solids remediation activities on channel stability.

1997-2000 Geomorphologic Consultant, Johnson, Martin, Russell, English, Scoma, & Beneke, Princeton, IL. Soedler versus Princeton Game and Fish Club, Inc.

2014-2019 Geomorphological Consultant, Follmer Law Offices, Urbana, Channel erosion on farm property near Loda, IL

## **GRANTS AND CONTRACTS**

1982-1983 Coinvestigator, "Public Policy For Land-Use Planning Near Desert Mountains", Contracted by City of Scottsdale, AZ with Center For Southwest Studies, Arizona State University Purchase Order No. 54643-7010. (William L. Graf, principal investigator, Dept. of Geography, Arizona State University) \$15,899

1984-1985 Principal Investigator, "Process and Response in Desert Mountain Fluvial Systems" Graduate Student Grant-In-Aid, Arizona State University. \$750

1986-1987 Principal Investigator, "Causal Interactions Among Fluvial Processes, Stream Channels Morphology, and Streambed Sediments in Desert Mountain Fluvial Systems" Research Board, University of Illinois \$5,400

- 1987-1988 Principal Investigator, "Human Disturbance of Santa Rosa and Santa Cruz Washes, Arizona", National Geographic Society. \$5000
- 1987-1988 Principal Investigator, "Human Disturbance of Santa Rosa and Santa Cruz Washes, Arizona", Research Board, University of Illinois. \$5700
- 1988-1989 Principal Investigator, "Flow Dynamics, Bed Morphology, and Sediment Transport at Stream Confluences" Research Board, University of Illinois, \$5,695
- 1988-1989 Coinvestigator, "Channel Response to Natural Events and Cultural Disturbance: Applications for Wetlands Management" Department of Energy and Natural Resources, State of Illinois (with Drs. Michael Miller, principal investigator, and Richard Berg, Illinois State Geological Survey) \$33,320
- 1988 Principal Investigator, "Historical Information on Streambank Stability Along the Illinois River", Ohio River Division, U.S. Army Corps of Engineers, \$2500
- 1989-1991 Principal Investigator, "Geographical and Environmental Planning Issues for Army Water Management Problems", Construction Engineering Research Laboratory, U.S. Army Corps of Engineers, \$68,170
- 1990-1991 Principal Investigator, "Fluvial Dynamics of a Stream Confluence", Research Board, University of Illinois, \$1500.
- 1990-1991 Principal Investigator, "River Channel and Water Table Monitoring During Phase II Construction: Des Plaines River Wetlands Demonstration Project, Wetlands Research, Inc., Chicago, IL. (with Dr. Michael Miller, coPI, IL Geological Survey) \$37,796
- 1990-1993 Coinvestigator, "Wetland Design Based on a Functional Assessment of Borrow Pits", Illinois Department of Transportation, (with Prof. Edwin E. Herricks, Principal investigator, and Prof. Douglas Shaw, Dept. of Civil Engineering, University of Illinois). \$177,600
- 1991-1993 Principal Investigator, "Fluvial and Ecological Dynamics of Stream Confluences", Geography and Regional Science Program, National Science Foundation, (with Prof. Edwin Herricks, CoPI, Dept. of Civil Engineering, Univ. of Illinois) \$80,923
- 1991 Principal Investigator, "Assessment of Stream Channel Stability in the Winfield Creek Watershed", Hey and Associates, Chicago, IL \$12,000
- 1992-1993 Principal Investigator, "Geomorphological Characteristics of Stream Confluences", Research Board, University of Illinois, \$8300
- 1994-1996 Principal Investigator, "Spatial Dynamics of Sediment-related Contaminant Dispersal in Drainage Nets. Illinois Water Resources Center. (with Prof. Edwin Herricks, Department of Civil Engineering, and Mr. Richard Cahill, Illinois State Geological Survey, CoPIs) \$36,500
- 1996 Co-Principal Investigator, "Symposium: The Scientific Nature of Geomorphology:" Geography and Regional Science Program, National Science Foundation (with Prof. Colin Thorn, CoPI, Dept. of Geography, Univ. of Illinois) \$15,000

- 1997-1999 Project Director and Co-PI, "Watershed Protection in Agricultural Environments: Integrated Social, Geomorphological, and Ecological Research to Support Ecosystem-based Stream Management", NSF/EPA Partnership for Environmental Research, Water and Watersheds Competition, (with David Wilson, Dept. of Geography and Edwin Herricks, Dept. of Civil Engineering, University of Illinois) \$350,000
- 1997-1999 Principal Investigator, "Three-dimensional Flow Structure and the Fluvial Dynamics of Stream Confluences", Geography and Regional Science Program, National Science Foundation, \$99,833.
- 1997-1999 Principal Investigator, "International Supplement - Three-dimensional Flow Structure and the Fluvial Dynamics of Stream Confluences", Eastern European Program, National Science Foundation, \$23,965
- 1998-1999 Principal Investigator, REU Supplement - Three dimensional Flow Structure and the Fluvial dynamics of Stream Confluences", Geography and Regional Science Program, National Science Foundation, \$5000
- 1998-1999 Co-Principal Investigator, Improving Student Access and Use of Digital Stereo Image Data, Educational Technologies and Assistance Grant, Educational Technologies Board, University of Illinois, (with Douglas Johnston, Dept. of Landscape Architecture, Co-PI) \$6,000
- 1998-1999 Principal Investigator, Relating Riverine Aquatic Habitat to Three-dimensional Flow and Geomorphological Form, Doctoral Dissertation Improvement Grant, National Science Foundation, (Doctoral Dissertation Award with Kelly Frothingham, Ph.D. Student, Geography) \$8,538
- 1998-2001 Project Director and Co-PI, "Development of a Scientific and Technological Framework for Stream Naturalization", NSF/EPA Partnership for Environmental Research, Water and Watersheds Competition, (with David Wilson, Dept. of Geography; Edwin Herricks and Marcelo Garcia , Dept. of Civil Engineering, University of Illinois) \$881,913
- 1999-2000 Co-PI "Development of an Integrated Scientific and Technological Framework for Stream Naturalization", University of Illinois Research Board Program (with Edwin Herricks, Department of Civil Engineering, University of Illinois), \$17,000
- 1999-2000 Co-PI, "Stream Channel Change in the Sangamon River and its Tributaries, Piatt County, Illinois". Illinois Department of Natural Resources, Conservation 2000 Program (with Edwin Herricks, Department of Civil Engineering, University of Illinois), \$4,500
- 1999-2001 Co-PI, "Relative Scales of Hydrodynamic and Geomorphologic Influence on the hydrologic Response in the Illinois river Basin", (with Praveen Kumar and Ben Yen, Department of Civil Engineering, University of Illinois), \$39,747
- 2000-2002 Principal Investigator, Development of Geomorphological Protocols for Assessing the Performance of Bendway Weirs, Illinois Department of Natural Resources, \$50,342
- 2005-2008 Principal Investigator, The Role of Large Woody Debris in the Dynamics of a Low-energy Meandering Stream in the Midwest: Implications for Stream Naturalization, Doctoral Dissertation Improvement Grant, National Science Foundation, (Doctoral Dissertation Award with Melinda Daniels, Ph.D. Student, Geography) \$9,274

- 2001-2002 Principal Investigator, The Three-dimensional Bed and Flow Structure of Pool-Riffle Sequences in the Embarras River, Doctoral Dissertation Improvement Grant, National Science Foundation, (Doctoral Dissertation Award with Scott Rayburg, Ph.D. Student, Geography) \$9,150 (Grant transferred to SUNY-Buffalo in 2001)
- 2001-2003 Principal Investigator, Integrated Engineering and Geomorphological Analysis for Assessing the Performance of Bendway Weirs in Illinois Streams, Water Resources Center, University of Illinois, \$39,247 (with Marcelo Garcia, Co-PI)
- 2001-2004 Principal Investigator, Integration of Mathematical Modeling, Physical Modeling and Field Research for Advanced Understanding of River Dynamics, Western European Program, National Science Foundation, \$25,550 (With Marcelo Garcia and Rebecca Wade, co-PIs)
- 2002-2004 Co-Principal Investigator, Restoration Needs Assessment for the Rock River Ecosystem Restoration Feasibility Study, U.S. Army Corps of Engineers (with Ed Herricks and Praveen Kumar) \$100,000
- 2003-2005 Principal Investigator, Fluvial geomorphology and nutrient processing in low-order stream in Midwestern tile-drained agricultural landscapes, U.S. Department of Agriculture (through subcontract with Ohio State University) \$45,000
- 2004-2006 Principal Investigator, Urban Stream Naturalization – A System Context for Practice Implementation, Illinois-Indiana Sea Grant College Program, (with Ed Herricks) \$111,164
- 2005-2006 Principal Investigator, Curvature-Migration Relations and the Planform Dynamics of Meandering Rivers, Doctoral Dissertation Improvement Grant, National Science Foundation, (Doctoral Dissertation Award with Inci Guneralp, Ph.D. Student, Geography) \$10,972
- 2005-2008 Principal Investigator, Fluvial Dynamics of Large-River Confluences, National Science Foundation \$229,996 (includes \$39,734 interagency agreement with Water Science Center of U.S. Geological Survey, Urbana, in support of the project).
- 2005-2007 Principal Investigator, Flow Dynamics and Channel Morphology at Natural Confluent-Meander Bends, Doctoral Dissertation Improvement Grant, National Science Foundation, (Doctoral Dissertation Award with Jim Riley, PhD Student, Geography), \$7266.
- 2007-2009 Principal Investigator, The Effects of Run-of-River Dams on Stream Morphology, Doctoral Dissertation Improvement Grant, National Science Foundation, (Doctoral Dissertation Award with Shane Csiki, PhD Student, Geography) \$9,782.
- 2007-2011 Co-PI, Water Cycle Dynamics in a Changing Environment: Advancing Hydrologic Science through Synthesis, National Science Foundation (*with Murugesu Sivapalan, Praveen Kumar and Donald Wuebbles, University of Illinois*) \$875,000

- 2009-2011 Co-PI, Acquisition of a state-of-the-art, shallow water multibeam echo-sounding system at the University of Illinois at Urbana-Champaign (UIUC MBES), National Science Foundation (with James Best, Bruce Fouke, Marcelo Garcia, Gary Parker), \$456,706
- 2009-2011 PI, Fluvial Dynamics of a Large-River Meander Cutoff, National Science Foundation, Special Grant for Exploratory Research (SGER) (with Jim Best), \$64,992
- 2010-2014 PI, Investigation of Interactions Among Near-Bank Turbulence, Flow Structure, and Bank Retreat in a Compound Meander Loop, Doctoral Dissertation Improvement Grant, National Science Foundation (Doctoral Dissertation Award with Frank Engel, PhD student, Geography) \$11,700
- 2010-2014 Co-PI, Morphodynamics of Complex Meander Bends on Large Rivers, National Science Foundation, (with James Best and Marcelo Garcia), \$306,271
- 2011-2013 PI, Influence of Riparian Vegetation on Near-bank Flow Structure and Erosion Rates on a Large Alluvial River, National Science Foundation (Doctoral Dissertation Award with Kory Konsoer, PhD student, Geography) \$11,624
- 2011-2012 Co-PI, Mississippi Flood of 2011 - Investigation of Initial Impact on the Landscape, National Science Foundation, RAPID, (with Praveen Kumar, PI, Marcelo Garcia, James Best, Gary Parker, co-PIs) \$59,238
- 2011-2017 PI, Fluvial Dynamics of Chute Cutoffs and Abandoned Channel Development on Meandering Rivers, National Science Foundation, (with Jim Best and Marcelo Garcia, co-PIs) \$250,099
- 2013-2020 Senior Investigator and Co-Leader of Theme D: Water, Soil, Sediment and Landscape Connectivity, Critical Zone Observatory Network for Intensively Managed Landscapes (IML-CZO), National Science Foundation, \$4,900,000 (Praveen Kumar, lead PI, Alison Anders, Art Bettis, Thanos Papanicolaou, and Tim Filley, Co-PIs).
- 2013-2014 Co-PI, Surficial Transport and Storage in the Upper Sangamon River Basin: Characterizing Sediment Dynamics across Gradients of Change, National Great Rivers Research and Education Center, \$75,000 (with Praveen Kumar, Laura Keefer, Alison Anders, Josh Peschel, and Gary Parker).
- 2014-2018 PI, Mixing at River and Stream Confluences, National Science Foundation \$250,549 (collaborative project with co-PI George Constantinecu University of Iowa)
- 2015-2016 Co-PI, Making up for losses: a critical analysis of section 404 compensatory stream mitigation banking in Illinois, Illinois Water Resources Center, \$5.591 (with Alex Peimer, University of Illinois)

- 2016-2017 Co-PI, Evaluating Water Quantity and Water Quality Issues in IL Streams using Large-Scale Particle Image Velocimetry, Illinois Water Resources Center, \$9,915 (with Quinn Lewis, University of Illinois and Frank Engel, USGS Illinois Water Science Center)
- 2018-2021 Co-PI, Investigating Fish Energy Use and Swimming Behavior in Turbulent Flows: Guiding restoration of Lake Michigan tributaries, \$199,653. (with Piotr Cienciala, Cory Suski, and Rafael Tinoco, University of Illinois). SeaGrant Program, NOAA.
- 2020-2025 Senior Investigator and Lead Investigator, River Corridor Theme, Critical Interface Network in Intensively Management Landscapes, National Science Foundation, \$6,500,000. (PI Praveen Kumar, UIUC, Co-PIs Allison Goodwell, Ashley Deere, Tim Filley).
- 2021-2022 Co-PI, Watershed-Specific Stormwater Release Rates Study, Phase III, Metropolitan Water Reclamation District of Greater Chicago, \$631,071. (PI, Greg Byard, ISWS, Art Schmidt, Civil and Environmental Engineering UIUC, Robert Hudson, Natural Resources and Environmental Sciences, UIUC)
- 2021-2022 Co-PI, Floodplain Morphology, Floodplain Inundation, and Riparian Ecology in the context of the Changing Hydrology of Rivers in Illinois, Illinois Water Resources Center, \$9500 (with Tanya Shukla and Praveen Kumar).
- 2022-2023 Co-PI, Evaluating Sources of Fine Sediment to Headwater Streams in Intensively Managed Agricultural Landscapes of Illinois , Illinois Water Resources Center, \$9700 (with Poushalee Banerjee, Alison Anders, and Andrew Margenot).
- 2022-2026 Co-PI, A missing piece of the Illinois phosphorus puzzle: quantifying statewide streambank erosion to inform effective nutrient loss reduction strategy. Illinois Nutrient Research and Education Council, \$822,300 (with Andrew Margenot, Shengnan Zhou, Sheng Wang, and Kaiyu Guan)

## **OTHER AWARDS**

- 2003 Short-term Faculty Appointment Award, International Council, University of Illinois to support visit by Dr. Nina Laurie to Department of Geography, University of Illinois, \$20,000.

## **PUBLICATIONS**

### Book Reviews, Commentaries, Research Reports, and Conference Proceedings Papers

1. Rhoads, B.L. 1979. Data Source Inventory On Strip Mineable Mineral Resources In Pennsylvania, Bureau of Environmental Planning, Department of Environmental Resources, Harrisburg, PA, 45 p.
2. Rhoads, B.L. 1983. Public Policy For Land-Use Planning Near Desert Mountains, Center For South-west Studies, Arizona State University. Reports submitted to the City of Scottsdale, AZ in

partial satisfaction of Purchase Order No. 54643-7010, Preliminary Report - 35 p. Final Report 239 p.

3. Rhoads, B.L. 1988. Experimental Fluvial Geomorphology, Book Review, The Professional Geographer, v. 40, 372-373.
4. Rhoads, B.L and Hajic, E. 1988. Historical Information on Streambank Stability along the Illinois River. Report submitted to the Ohio River Division, U.S Army Corps of Engineers, Contract No. DACW-27-88-M0760.
5. Rhoads, B.L. 1989. River Channels: Environment and Process, Book Review, Geographical Review, v. 79, 119-121.
6. Rhoads, B.L. 1991. On the Expansion Method, Commentary, The Professional Geographer, v. 43, 525-27.
7. Rhoads, B.L. 1992. Stream Channel Stability Assessment Winfield Creek and Major Tributaries DuPage County Illinois. Final Report. Prepared for Hey and Associates, Inc. Chicago IL.
8. Rhoads, B.L. 1994. Channel Network Hydrology, Book Review, Geomorphology.
9. Rhoads, B.L. 1995. Process Models and Theoretical Geomorphology, Book Review, Geomorphology, 11, 255-58.
10. Rhoads, B.L. 1997. Quaternary Science and Geomorphology, Annual Review, Geotimes, 42, 25-26.
11. Rhoads, B.L. and Monahan, K.M. 1997. Geomorphological Principles for 'Naturalizing' Streams and Rivers in Illinois. Proceedings, Governor's Conference on the Management of the Illinois River System. October 7-9, 1997, Peoria, IL, pp. 79-87.
12. Rodriguez, J. F., Bombardelli, F. A., Garcia, M. H., Guzman J. M., Frothingham K. and Rhoads, B. L. 2000. Numerical modeling of meandering streams. Proceedings, 4th International Conference on Hydroinformatics, International Association for Hydraulic Resesarch, Iowa City, IA, July 23-27, 2000 (5-page paper on CD).
13. Rodriguez, J. F., Garcia, M. H., Bombardelli, F. A., Guzman, J. M., Rhoads, B.L. and Herricks, E. 2000. Naturalization of urban streams using in-channel structures. Proceedings, Joint Conference on Water Resources Engineering and Water Resources Planning and Management, ASCE, Minneapolis, MN, July 30- Aug. 2, 2000. (5-page paper on CD)
14. Rhoads, B.L. 2003. Protocols for Geomorphic Characterization of Meander Bends in Illinois. Prepared for Illinois Department of Natural Resources, Conservation 2000 Ecosystems Project – Embarras River 001-98, Department of Geography, University of Illinois, Urbana.
15. Rhoads, B.L. 2005. Readers Respond to 'God's Rays. Letter to *Physics Today*. Vol. 58, p. 12.
16. Sukhodolov, A.N., Kozerski, H-P., and Rhoads, B.L. 2009. Currents in rivers. In *Encyclopedia of Inland Waters*, Likens, G. (ed). Hydrodynamics and Mixing in Lakes, Reservoirs, Wetlands and Rivers, p. 522-529.



### Articles Published in Refereed Journals

1. Rhoads, B.L., Rieck, R.L., and Winters, H.A. 1984. Trend surface analysis of glacially buried Pleistocene organic deposits in central Michigan, *Professional Geographer*, 36, 64-73.
2. Rhoads, B.L., Rieck, R.L., and Winters, H.A. 1985. Effects of thick drift on Quaternary landscapes in central Michigan, *Michigan Academician*, 17, 301-315.
3. Rhoads, B.L. 1986. Flood hazard assessment for land-use planning near desert mountains, *Environmental Management*, 10, 97-106.
4. Rhoads, B.L. 1987. Stream power terminology, *Professional Geographer*, 39, 189-195.
5. Rhoads, B.L. 1987. DISCALC: A computer algorithm for computing the flow characteristics of flood discharges in stream channel cross sections, *Computers and Geosciences*, 13, 495-511.
6. Rhoads, B.L. 1987. Changes in stream channel characteristics at tributary junctions, *Physical Geography*, 8, 346-361.
7. Rhoads, B.L. 1988. Mutual adjustments between process and form in a desert mountain fluvial system, *Annals of the Association of American Geographers*, 78, 271-287.
8. Rhoads, B.L. 1989. Longitudinal variations in the size and sorting of bed material along six arid-region mountain streams. *Catena Supplement*, 14, 87-105.
9. Rhoads, B.L. 1990. The impact of stream channelization on the geomorphic stability of an arid-region river, *National Geographic Research*, 6, 157-177.
10. Rhoads, B.L. 1990. Hydrologic characteristics of a small desert mountain stream: implications for short-term magnitude and frequency of bedload transport, *Journal of Arid Environments*, 18, 151-163.
11. Rhoads, B.L. and Miller, M.V. 1990. Impact of wetlands construction and operation on stream channel stability: conceptual framework for geomorphic assessment, *Environmental Management*, 14, 799-807.
12. Rhoads, B.L. and Miller, M.V., 1991. Impact of flow variability on the morphology of a low-energy meandering river, *Earth Surface Processes and Landforms*, 16, 357-367.
13. Rhoads, B.L. 1991. A continuously-varying parameter model of downstream hydraulic geometry, *Water Resources Research*, 27, 1865-1872.
14. Rhoads, B.L. and Welford, M.R. 1991. Initiation of river meandering. *Progress in Physical Geography*, 15, 127-156.
15. Rhoads, B.L. 1991. Impact of agricultural development on regional drainage in the lower Santa Cruz Valley, Arizona, U.S.A., *Environmental Geology and Water Sciences*, 18, 119-135.
16. Rhoads, B.L. 1991. Multicollinearity and parameter estimation in simultaneous-equation models of fluvial systems, *Geographical Analysis*, 23, 346-361.
17. Rhoads, B.L. 1992. Statistical models of fluvial systems, *Geomorphology*, 5, 433-455.
18. Rhoads, B.L., 1992. Fluvial geomorphology, *Progress in Physical Geography*, 16, 456-77.

19. Rhoads, B.L. and C. E. Thorn, 1993. Geomorphology as science: the role of theory, *Geomorphology*, 6, 287-307.
20. Rhoads, B.L. 1994. Fluvial geomorphology, *Progress in Physical Geography*, 18, 103-23.
21. Rhoads, B.L. 1994. On being a 'real' geomorphologist, *Earth Surface Processes and Landforms*, 19, 269-72.
22. Rhoads, B.L. and Thorn, C.E. 1994. Contemporary philosophical perspectives on physical geography with emphasis on geomorphology, *Geographical Review*, 84, 90-101.
23. Rhoads, B.L. 1994. Fluvial geomorphology, *Progress in Physical Geography*, 18, 588-608.
24. Kenworthy, S.T. and Rhoads, B.L., 1995. Hydrologic control of spatial patterns of suspended sediment concentration at a small stream confluence, *Journal of Hydrology*, 168, 251-63.
25. Rhoads, B.L. and Kenworthy, S.T., 1995. Flow structure at an asymmetrical stream confluence, *Geomorphology*, 11, 273-293.
26. Rhoads, B.L. and Kenworthy, S.T. 1998. Time-averaged flow structure in the central region of a stream confluence, *Earth Surface Processes and Landforms*, 23, 171-191.
27. Rhoads, B.L. and Cahill, R. 1999. Geomorphological assessment of sediment contamination in an urban stream system. *Applied Geochemistry*, 4, 459-483.
28. Rhoads, B.L. and Kenworthy, S.T. 1999. On secondary circulation, helical motion, and Rozovskii-based analysis of time-averaged 2-D velocity fields at confluences. *Earth Surface Processes and Landforms*, 24, 369-375.
29. Rhoads, B.L., Wilson, D., Urban, M., and Herricks, E.E. 1999. Interaction between scientists and nonscientists in community-based watershed management: emergence of the concept of stream naturalization. *Environmental Management*, 24, 297-308.
30. Rhoads, B.L. 1999. Beyond pragmatism: The value of philosophical discourse in physical geography. *Annals of the Association of American Geographers*, 89, 760-771.
31. Rhoads, B.L. and Sukhodolov, A.N. 2001. Field investigation of three-dimensional flow structure at stream confluences: 1. Thermal mixing and time-averaged velocities. *Water Resources Research*, 37, 2393-2410.
32. Sukhodolov, A.N. and Rhoads, B.L. 2001. Field investigation of three-dimensional flow structure at stream confluences: 2. Turbulence. *Water Resources Research*, 37, 2411-2424.
33. Frothingham, K.M., Rhoads, B.L. and Herricks, E.E. 2002. A multiscale conceptual framework for integrated eco-geomorphological research to support stream naturalization in the agricultural Midwest. *Environmental Management*, 29, 16-33.
34. Wade, R.J., Rhoads, B.L., Newell, M.D., Wilson, D., Garcia, M. and Herricks, E.E. 2002. Integrating science and technology to support stream naturalization near Chicago, Illinois. *Journal of American Water Resources Association*, 38, 931-944.

35. Landwehr, K. and Rhoads, B.L. 2003. Depositional response of a headwater stream to channelization, East Central Illinois, USA. *River Research and Applications*, 19, 77-100.
36. Daniels, M.D. and Rhoads, B.L. 2003. Influence of a large woody debris obstruction on three-dimensional flow structure in a meander bend. *Geomorphology*, 51, 159-173.
37. Frothingham, K.M. and Rhoads, B.L. 2003. Three-dimensional flow structure and channel change in an asymmetrical compound meander loop, Embarras River, Illinois. *Earth Surface Processes and Landforms*, 28, 625-644.
38. Rhoads, B.L., Schwartz, J.S. and Porter, S.A. 2003. Stream geomorphology and variability of hydraulic habitat for fish in four Midwestern agricultural streams. *Water Resources Research*, 39, 1218, doi: 10.1029/2003WR002294.
39. Urban, M.A. and Rhoads, B.L. 2003. Catastrophic human-induced change in stream-channel planform and geometry in an agricultural watershed, Illinois, USA. *Annals of the Association of American Geographers*, 93, 783-796.
40. White, A.B., Kumar, P., Saco, P.M., Rhoads, B.L., and Yen, B.C., 2003. Changes in hydrologic response due to stream network extension via land-drainage activities. *Journal of the American Water Resources Association*, 39, 1547-1560.
41. White, A.B., Kumar, P., Saco, P., Rhoads, B.L. and Yen, B.C. 2004. Hydrodynamic and geomorphologic dispersion: scale effects in the Illinois River Basin. *Journal of Hydrology*, 288, 237-257.
42. Rhoads, B.L. and Sukhodolov, A.N. 2004. Spatial and temporal structure of shear-layer turbulence at a stream confluence, *Water Resources Research*, 40, W06304, doi: 10.1029/2003WR002811.
43. Rodriguez, J.F., Bombardelli, F.A., Garcia, M.H., Frothingham, K., Rhoads, B.L., and Abad, J.D. 2004. High resolution numerical simulation of flow through a highly sinuous river reach. *Water Resources Management*, 18, 177-199.
44. Rhoads, B.L. 2004. Whither physical geography? *Annals of the Association of American Geographers*, 94, 748-755.
45. Daniels, M.D. and Rhoads, B.L. 2004. Effect of LWD configuration on three-dimensional flow structure in two low-energy meander bends at varying stages. *Water Resources Research*, 40, W11302, doi:10, 1029/2004WR003181.
46. Rhoads, B.L. 2006. The dynamic basis of geomorphology re-envisioned. *Annals of the Association of American Geographers*, 96, 14-30.
47. Sukhodolov, A.N, Fedele, J. and Rhoads, B.L. 2006. Structure of flow over alluvial bedforms: an experiment on linking field and laboratory methods. *Earth Surface Processes and Landforms*, 31, 1292-1310.
48. Opdyke, M.R., David, M.B., and Rhoads, B.L. 2006. The influence of geomorphic variability in channel characteristics on denitrification in agricultural streams. *Journal of Environmental Quality*, 35, 2103-2112.

49. Daniels, M.D. and Rhoads, B.L. 2007. Influence of experimental removal of large woody debris on spatial patterns of three-dimensional flow in a meander bend. *Earth Surface Processes and Landforms*, 32, 460-474.
50. Simon, A., Doyle, M., Shields, F.D., Jr., Rhoads, B.L., and McPhillips, M.. 2007. Do the Rosgen classification and associated “natural channel design” methods integrate and quantify fluvial processes and channel response? *Journal of the American Water Resources Association*, 43, 1117-1131.
51. Guneralp, I. and Rhoads, B.L. 2008. Continuous characterization of the planform geometry and curvature of meandering rivers. *Geographical Analysis*, 40, 1-25.
52. Abad, J., Rhoads, B.L., Guneralp, I. and Garcia, M.H. 2008. Flow structure at different stages in a meander bend with bendway weirs. *Journal of Hydraulic Engineering*, 134, 1052-1063.
53. Rhoads, B.L. and Sukhodolov, A.N. 2008. Lateral momentum flux and the spatial evolution of flow within a confluence mixing interface. *Water Resources Research*, 44, W08440, doi:10.1029/2007WR006634.
54. Rhoads, B.L., Riley, J.D. and Mayer, D.R. 2009. Response of bed morphology and bed material texture to hydrological conditions at an asymmetrical stream confluence. *Geomorphology*, 109, 161-173.
55. Guneralp, I. and Rhoads, B.L. 2009. Empirical analysis of the planform curvature-migration relation of meandering rivers. *Water Resources Research*, 45, W09424, doi:10.1029/2008WR007533.
56. Guneralp, I. and Rhoads, B.L. 2010. The spatial autoregressive structure of meander evolution revisited. *Geomorphology*, 120, 91-106.
57. Csiki, S. and Rhoads, B.L. 2010. Hydraulic and geomorphological effects of run-of-river dams. *Progress in Physical Geography*, 34, 755-780.
58. Constantinescu, G., Miyawaki, S., Rhoads, B.L., Sukhodolov, A.N. and Kirkil, G. 2011. Structure of turbulent flow at a river confluence with momentum and velocity ratios close to 1: Insight provided by an eddy-resolving numerical simulation. *Water Resources Research*, 47, W05507, doi:10.1029/2010WR010018.
59. Cope, M.A., McLafferty, S., and Rhoads, B.L. 2011. Farmer attitudes towards perennial energy grasses in East Central Illinois: Implications for community-based decision making. *Annals of the Association of American Geographers*, 101, 852-862.
60. Guneralp, I. and Rhoads, B.L. 2011. Influence of floodplain erosional heterogeneity on planform complexity of meandering rivers, *Geophysical Research Letters*, 38, L14402, doi: 10.1029/2011GL048134.

61. Zinger, J., Rhoads, B.L. and Best, J.L. 2011. Extreme sediment pulses generated by bend cutoffs along a large meandering river. *Nature Geoscience*, 4, 675-678.
62. Rhoads, B.L. and Massey, K. 2012. Flow structure and channel change in a sinuous grass-lined stream within an agricultural drainage ditch: implications for ditch stability and aquatic habitat. *River Research and Applications*, 28, 39-52.
63. Engel, F.D. and Rhoads, B.L. 2012. Interaction among mean flow, turbulence, bed morphology, bank failures and channel planform in an evolving compound meander loop, *Geomorphology*, 163, 70-83.
64. Riley, J.D. and Rhoads, B.L. 2012. Flow structure and channel morphology at a natural confluent meander bend. *Geomorphology*, 163, 84-98.
65. Constantinescu, G., Miyawaki, S., Rhoads, B.L., and Sukhodolov, A.N. 2012. Numerical analysis of the effect of momentum ratio on the dynamics and sediment-entrainment capacity of coherent flow structures at a stream confluence. *Journal of Geophysical Research-Earth Surface*, 117, doi:10.1029/2012JF002452
66. Parsons, D.R., Jackson, P.R., Czuba, J.A., Engel, F.L., Rhoads, B.L., Oberg, K.A., Best, J.L., Mueller, D.S., Johnson, K.K., and Riley, J.D. 2013. Velocity Mapping Toolbox (VMT): a processing and averaging suite for moving vessel ADCP measurements. *Earth Surface Processes and Landforms*, 38, 1244-1260.
67. Zinger, J.A., Rhoads, B.L., Best, J.L., and Johnson, K.J. 2013. Flow structure and channel morphodynamics of meander bend chute cutoffs: A case study of the Wabash River, USA. *Journal of Geophysical Research – Earth Surface*, 118, 2468–2487, doi:10.1002/jgrf.20155.
68. Csiki, S. and Rhoads, B.L. 2014. Influence of four run-of-river dams on channel morphology and sediment characteristics in Illinois, U.S.A. *Geomorphology*, 206, 215-229.
69. Lave, R., Wilson, M.W., Barron, E., Biermann, C., Cary, M., Duvall, C., Johnson, L., Lane, M., McClintock, N., Munroe, D., Pain, R., Proctor, J., Rhoads, B.L., Robertson, M., Rossi, J., Sayre, N., Simon, G., Tadaki, M., and Van Dyke, C. 2014. Intervention: critical physical geography. *The Canadian Geographer*, 58, 1-10.
70. Goodwell, A., Zhu, Z., Dutta, D., Greenberg, J., Kumar, P., Garcia, M.H., Rhoads, B.L., Holmes, R.R., Parker, G., Berreta, D.P., and Jacobsen, R.P. 2014. Assessment of floodplain vulnerability during extreme Mississippi River flood 2011. *Environmental Science and Technology*, 48, 2619-2625.
71. Konsoer, K. and Rhoads, B.L. 2014. Spatial-temporal structure of mixing interface turbulence of two large river confluences. *Environmental Fluid Mechanics*, 14, 1043-1070.
72. Riley, J., Rhoads, B.L., Parsons, D.R. and Johnson, K.K. 2014. Influence of junction angle on bed morphology on three-dimensional flow structure and bed morphology at confluent meander bends during different hydrological conditions. *Earth Surface Processes and Landforms*, DOI: 10.1002/esp3624

73. Constantinescu, G., Miyawaki, S., Rhoads, B.L., and Sukhdolov, A.N. 2014. Numerical evaluation of the effects of planform geometry and inflow conditions on flow, turbulence structure, and bed shear velocity at a stream confluence with a concordant bed. *Journal of Geophysical Research – Earth Surface*, doi: 10.1029/2012JF002452.
74. Lewis, Q.W. and Rhoads, B.L. 2015. Rates and patterns of thermal mixing at a small stream confluence under variable incoming flow conditions. *Hydrological Processes*, 29, 4442-4456.
75. Lewis, Q.W. and Rhoads, B.L. 2015. Resolving two-dimensional flow structure in rivers using large-scale particle image velocimetry: an example from a stream confluence. *Water Resources Research*, 51, 7977-7994, doi:10.1002/2015WR017783.
76. Rhoads, B.L. 2016. The natural and human structuring of rivers and other geomorphic systems: a tribute to William L. Graf. *Geomorphology*, 252, 1-4.
77. Rhoads, B.L., Lewis, Q.W., and Andresen, W. 2016. Historical changes in channel network extent and channel planform in an intensively managed landscape: natural versus human-induced effects. *Geomorphology*, 252, 17-31.
78. Konsoer, K.L., Rhoads, B.L., Langendoen, E.J., Best, J.L., Ursic, M.E., Abad, J.D. and Garcia, M.H. 2016. Spatial variability in bank resistance to erosion on a large meandering, mixed bedrock-alluvial river. *Geomorphology*, 252, 80-97.
79. Engel, F. L and B. L. Rhoads. 2016. Three-dimensional flow structure and patterns of bed shear stress in an evolving compound meander bend, *Earth Surface Processes and Landforms*, 41, 1211-1226. doi: 10.1002/esp.3895.
80. Constantinescu, G., Miyawaki, S., Rhoads, B.L. and Sukhodolov. A.N. 2016. Influence of planform geometry and momentum ratio on thermal mixing at a stream confluence with a concordant bed. *Environmental Fluid Mechanics*, 16, 845-873.
81. Konsoer, K.L., Rhoads, B.L., Best, J.L., Langendoen, E.J., Abad, J.D., Parsons, D., and Garcia, M.H. 2016. Three-dimensional flow structure and bed morphology in large, elongate meander loops with different outer bank roughness characteristics. *Water Resources Research*, 52, 9621-9641. DOI: 10.1002/2016WR019040.
82. Wang, Y., Rhoads, B.L., and Wang. D. 2016. Assessment of the flow regime alterations of the middle Yangtze River associated with dam construction: potential ecological implications. *Hydrological Processes*, 30, 3949-3966.
83. Sukhodolov, A., Krick, J., Sukhodolova, T.A., Cheng, Z.Y., Rhoads, B.L., and Constantinescu, G.S. 2017. Turbulent flow structure at a discordant river confluence: asymmetric jet dynamics with implications for channel morphology. *Journal of Geophysical Research – Earth Surface*, 122, 1278-1293. DOI: 10.1002/2016JF004126

84. Konsoer, K.L., Rhoads, B.L., Best, J.L., Langendoen, E.J., Ursic, M. Abad, J.D., and Garcia, M.H. 2017. Length scales and statistical characteristics of outer bank roughness for large elongate meander bends: The influence of bank material properties, floodplain vegetation and flow inundation. *Earth Surface Processes and Landforms*, 42, 2024-2037.
85. Engel, F. and Rhoads, B.L. 2017. Velocity profiles and the structure of turbulence at the outer bank of a compound meander bend. *Geomorphology*, 295, 191-201.
86. Umar., M., Rhoads, B.L. and Greenberg, J. 2018. Use of multispectral satellite remote sensing to assess mixing of suspended sediment downstream of large river confluences. *Journal of Hydrology*, 556, 325-338.
87. Wang, Y., Rhoads, B.L., Wang, D., Wu, J., And Zhang, X. 2018. An investigation of the hydrological impacts of large dams on the complexity of suspended sediment dynamics in the mainstream of the Yangtze River. *Journal of Hydrology*, 558, 184-195.
88. Yu, M. and Rhoads, B.L. 2018. Floodplains as a source of fine sediment in grazed landscapes: tracing the source of suspended sediment in the headwaters of an intensively managed agricultural landscape. *Geomorphology*, 308, 278-292.
89. Lewis, Q.W., Lindroth, E.M., and Rhoads, B.L. 2018. Integrating unmanned aerial systems and LSPIV for rapid, cost-effective stream gauging. *Journal of Hydrology*, 560, 230-246.
90. Blair, N., Leithold, E.L., Papanicolaou, A.N., Wilson, C.G., Keefer, L., Kirton, E., Schnoebelen, D., Rhoads, B.L., Yu, M., and Lewis, Q. 2018. The C-biogeochemistry of a midwestern USA agricultural impoundment in context: Lake Decatur in the intensively managed landscape Critical Zone Observatory. *Biogeochemistry*, 138, 171-195.
91. Kumar, P., Phong, V.V. Le, Papanicoulau, T., Rhoads, B.L., Anders, A.M, Stumpf, A., Wilson, C.G., Bettis III, A.E., Blair, N., Ward, A.S., Filley, T., Lin, H., Keefer, L., Keefer, D.A., Lin, Y-F., Muste, M., Royer, T.V., Fofoula-Georgiou, E., Belmont, P., 2018, Critical transition in critical zone of intensively managed landscapes. *Anthropocene*, 22, 10-19.
92. Rhoads, B.L. and Johnson, K. 2018. Three-dimensional flow structure, morphodynamics, suspended sediment, and thermal mixing at an asymmetrical river confluence of a straight tributary and curving main channel. *Geomorphology*, 323, 51-69.
93. Lewis, Q.W. and Rhoads, B.L. 2018a. LSPIV measurements of two-dimensional flow structure in streams using small unmanned aerial systems: 1. accuracy assessment based on comparison with stationary camera platforms and in-stream velocity measurements. *Water Resources Research*, 54, 8000-8018. <https://doi.org/10.1029/2018WR022550>
94. Lewis, Q.W. and Rhoads, B.L. 2018b. LSPIV measurements of two-dimensional flow structure in streams using small unmanned aerial systems: 2. hydrodynamic mapping at river confluences. *Water Resources Research*. 54, 7981-7999. <https://doi.org/10.1029/2018WR022551>.

95. Konsoer, K. and Rhoads, B.L. 2018. Analysis of turbulent flows using the Hilbert-Huang transform: a tool for exploring the characteristics of turbulence and coherent flow structures. *Hungarian Geographical Bulletin*, 67, 343-359.
96. Wilson, C.G., Abban, B. Keefer, L., Wacha, K., Dermisis, D., Giannopoulos, C., Zhou, S., Goodwell, A.E., Woo, D.K., Yan Q., Ghadiri, M., Stumpf, A., Pitcel, M., Lin Y-F, Marini, L., Storsved, B., Goff, K., Vogelgsang, J., Dere, A., Schilling, K.E., Muste, M., Blair N.E., Rhoads, B., Bettis, A., Pai, H., Kratt, C., Sladek, C., Wing, M., Selker, J., Tyler, S., Lin, H., Kumar, P., and Papanicolaou, A.N. 2018. The intensively managed landscape critical zone observatory: a scientific testbed for understanding critical zone processes in agroecosystems. *Vadose Zone Journal*, 17, doi:10.2136/vzj2018.04.0088.
97. Tao, Y., Wang, Y., Rhoads, B.L., Wang, D., Ni, L. and Wu, J. 2020. Quantifying the impacts of the Three Gorges Reservoir on water temperatures in the middle reach of the Yangtze River. *Journal of Hydrology*, 582, 124476, <https://doi.org/10.1016/j.jhydrol.2019.124476>.
98. Horna Munoz, D., Constantinescu, G., Rhoads, B., Lewis, Q., and Sukhodolov, A. 2020. Density effects at a concordant bed natural river confluence. *Water Resources Research*, 56, <https://doi.org/10.1029/2019WR026217>
99. Lindroth, E.M., Rhoads, B.L., Castillo, C.R., Czuba, J.A., Guneralp, I., Edmonds, D. 2020. Spatial variability in bankfull stage and bank elevations of lowland meandering rivers: relation to rating curves and channel planform characteristics. *Water Resources Research*, 56, <https://doi.org/10.1029/2020WR027477>.
100. Lewis, Q.W., Rhoads, B.L. Sukhodolov, A.N., and Constantinescu, G. 2020. Advective lateral transport of streamwise momentum governs mixing at small river confluences. *Water Resources Research*, 56, <https://doi.org/10.1029/2019WR026817>
101. Strailey, K.K., Osborne, R.T., Tinoco, R.O., Cienciala, P., Rhoads, B.L., and Suski, C.D. 2021. Simulated instream restoration structures offer smallmouth bass (*Micropterus dolomieu*) swimming and energetic advantages at high flow velocities. *Canadian Journal of Fisheries and Aquatic Sciences*, 78, 40–56 (2021) [dx.doi.org/10.1139/cjfas-2020-0032](https://doi.org/10.1139/cjfas-2020-0032)
102. Qiu, R., Wang, Y., Rhoads, B.L., Wang, D., Qui, W., Tao, Y., and Wu, J. 2021. River water temperature forecasting using a deep learning method. *Journal of Hydrology*, 595, <https://doi.org/10.1016/j.jhydrol.2021.126016>
103. Sabrina, S., Lewis, Q.W. and Rhoads, B.L. 2021. Large-scale particle image velocimetry reveals pulsing of incoming flow at a stream confluence. *Water Resources Research*, 57, e2021WR029662. <https://doi.org/10.1029/2021WR029662>
104. Salas, C.R. and Rhoads, B.L. 2022. Big Pine Creek Ditch revisited: planform recovery to channelization and the timescale of river meandering. *Geomorphology*, 108140, <https://doi.org/10.1016/j.geomorph.2022.108140>.



105. Rhoads, B.L. 2022. Whither physical geography Redux: Revisiting the place of physical geography in the United States. *Environmental and Planning F*: <https://doi.org/10.1177%2F26349825221082171>
106. Peimer, A., Rhoads, B.L. and Bassett, T. 2022. Standardizing no net loss stream mitigation assessment methods: tradeoffs between expediency and river science. *Journal of the American Water Resources Association*, 1–14. <https://doi.org/10.1111/1752-1688.13045>.
107. Sukhodolov, A.N., Shumilova, O.O., Constantinescu, G.S., Lewis, Q.W. and Rhoads, B.L. Mixing dynamics at river confluences governed by intermodal behaviour. 2023. *Nature Geoscience*, 16, 89-93. <https://doi.org/10.1038/s41561-022-01091-1>
108. Shukla, T.S., Lewis, Q.N., and Rhoads, B.L. 2023. Spatial patterns of transport-effective flow at three small confluences: Relation to channel morphology. *Earth Surface Processes and Landforms*, <https://doi.org/10.1002/esp.5532>

### Book Chapters

1. Rhoads, B.L., 1995. Stream power: A unifying theme for urban fluvial geomorphology, In: Herricks, E.E. (ed.), *Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment*. Boca Raton, Lewis Publishers, pp. 65-75.
2. Rhoads, B.L., 1996. Mean structure of transport-effective flows at an asymmetrical confluence when the main stream is dominant". In *Coherent Flow Structures in Open Channels*, Ashworth, P., Best, J., Bennett, S. and McLelland, S. (eds), Wiley, Chichester, pp. 491-517.
3. Rhoads, B.L. and Thorn, C.E. 1996. Observation in geomorphology. In *The Scientific Nature of Geomorphology*, Rhoads, B.L. and Thorn, C.E. (eds), Wiley, Chichester, pp. 21-56.
4. Rhoads, B.L. and Thorn, C.E. 1996. Toward a philosophy of geomorphology. In *The Scientific Nature of Geomorphology*, Rhoads, B.L. and Thorn, C.E. (eds), Wiley, Chichester, pp. 115-143.
5. Rhoads, B.L. and Herricks, E.E. 1996. Naturalization of headwater agricultural streams in Illinois: challenges and possibilities". In *River Channel Restoration*, Brookes, A. and Shields, D. (eds.), Wiley, Chichester. pp. 331-367
6. Rhoads, B.L. and Urban, M.A. 1997. Human-induced geomorphic change in low-energy agricultural streams: an example from east-central Illinois." In *Management of Landscapes Disturbed by Channel Incision*, Wang, S. S. Y., Langendoen, E.J., and Shields, F.D., (eds.), University of Mississippi, Oxford, MS. pp. 968-973.
7. Frothingham, K.M., Rhoads, B.L., and Herricks, E.E. 2001. Stream geomorphology and fisheries in channelized and meandering reaches of an agricultural stream. In *Geomorphic Processes and Riverine Habitat*, Dorava, J.M., Montgomery, D.R., Palcsak, B.B. and Fitzpatrick, F.A. (eds), American Geophysical Union, Washington, D.C. pp. 105-117.
8. Urban, M.A. and Rhoads, B.L. 2003. Conceptions of nature. In *Meaning in Physical Geography*, S. Trudgill and A. Roy (eds), Arnold, London, pp. 211-231.
9. Daniels, M.D. and Rhoads, B.L., 2004. Spatial pattern of turbulence kinetic energy in a meander bend with large woody debris, In *Riparian Vegetation and Fluvial Geomorphology: Hydraulic*,

*Hydrologic, and Geotechnical Interactions*, Sean Bennett (ed), American Geophysical Union, Washington, D.C., pp. 87-97.

10. Sukhodolov A, Fedele J., and Rhoads B. 2004. Turbulent river flow over moveable and molded bed forms: a comparative field study. In: *RiverFlow 2004*, M. Greco, A. Carravetta & Della Morte (eds.), A. Balkema, Vol. 1, 317-325.
11. Rhoads, B.L. Process and form. 2005. In *Questioning Geography*, Noel Castree, Alisdair Rodgers and Douglas Sherman, editors, Blackwell Publishers, Malden, MA., 131-150.
12. Rhoads, B.L. 2006. Scaling of confluence dynamics in river systems: some general considerations. In *River, Coastal and Estuarine Morphodynamics*, RCEM 2005, G. Parker and M.H. Garcia (eds.), Taylor and Francis, Vol. 1, 379-387.
13. Gunalp, Y. and Rhoads, B.L. 2006. The spatial structure of planform dynamics of meandering rivers. In *River, Coastal and Estuarine Morphodynamics*, RCEM 2005, G. Parker and M.H. Garcia (eds.), Taylor and Francis, Vol. 2, 773-782.
14. Rhoads, B.L., Garcia, M.H., Rodriguez, J., Bombardelli, F., Abad, J., and Daniels, M. 2008. Methods for evaluating the geomorphological performance of naturalized rivers: examples from the Chicago metropolitan area. *Uncertainty in River Restoration*, Sears, D. and Darby, S. (editors). Wiley, Chichester, pp. 209-228.
15. Best, J.L. and Rhoads, B.L. 2008. Sediment transport, bed morphology and sedimentology of river channel confluences. In *River Confluences, Tributaries and the River Network*. Rice, S., Roy, A. and Rhoads, B.L. (editors), Wiley, pp. 45-72.
16. Rice, S.P., Rhoads, B.L., and Roy, A.G. 2008. Introduction: River confluences, tributaries, and the fluvial network. In *River Confluences, Tributaries and the River Network*. Rice, S., Roy, A. and Rhoads, B.L. (editors), Wiley, pp. 1-9.
17. Rhoads, B.L. 2008. Introduction to Part III. Channel networks. In *River Confluences, Tributaries and the River Network*. Rice, S., Roy, A. and Rhoads, B.L. (editors), Wiley, pp. 303-306.
18. Gunalp, I. and Rhoads, B.L. 2009. Planform change and stream power in the Kishwaukee River watershed, Illinois: geomorphic assessment for environmental management. In *Management and Restoration of Fluvial Systems with Broad Historical Changes and Human Impacts*, James, A., Rathburn, S. and Wittecar, R. (eds) Geological Society of America Special Publication, Denver, Co. 109-118.
19. Rhoads, B.L. and Wilson, D. 2010. Observing our world. In *Research Methods in Geography: A First Course*. Jones, J.P. and Gomez, B. (editors), Blackwell. pp. 26-40.
19. Rhoads, B.L. and Thorn, C.E. 2011. The role and character of theory in geomorphology, In *Handbook of Geomorphology*, B. Gomez, V. Baker, Goudie, A. and Roy, A. (eds) Sage Publications. Pp. 59-77.
20. Rhoads, B.L., Engel, F.D. and Abad, J.D. 2011. Pool-riffle design based on geomorphological principles for naturalizing straight channels. In *Stream Restoration in Dynamic Fluvial Systems: Scientific Approaches, Analyses, and Tools*. Simon, A., Bennett, S.J., Castro, J.M. (eds), American Geophysical Union, Geophysical Monograph 194, Washington, D.C., pp. 367-384.

21. Rhoads, B.L. 2013. Process in geomorphology. In *Treatise on Geomorphology*. Vol. 1, The Foundations of Geomorphology, Schroder, J. (Editor-in-Chief), Orme, A.R., and Sack, D. (Eds.), Academic Press, San Diego, CA., pp 190-204.
22. Abad, J.D., Frias, C., Konsoer, K.M., Best, J.L., Rhoads, B.L., Langendoen, E.J., and Garcia, M.H., 2014. Modulation of the flow structure by progressive bed forms in the meandering Wabash River. *River Flow 2014*, International Association for Hydro-Environmental Engineering and Research (IAHR), Taylor and Francis Group, London, UK, pp. 1113-1117.
23. Rhoads, B.L. and Lewis, Q.W. 2016. Relations among mean flow, turbulence, and mixing at a small stream confluence. In *Riverflow 2016*, Constantinescu, G., Garcia, M.H., and Hanes, D. (eds), Taylor Francis, London. pp. 1633-1639.
24. Lewis, Q.W. and Rhoads, B.L. 2016. Flow evolution near the apex of two small stream confluences using large-scale particle image velocimetry. In *Riverflow 2016*, Constantinescu, G., Garcia, M.H. and Hanes, D. (eds), Taylor Francis, London. pp.1640-1647.
25. Muhammad, U., Rhoads, B.L. and Greenberg, J. 2016. Assessment of suspended sediment mixing at the confluence of the Mississippi and Missouri Rivers using broad-band satellite remote sensing. In *Riverflow 2016*, Constantinescu, G. and Garcia, M.H. (eds). Taylor Francis, London. pp. 1648-1654.
26. LeRoy, J.Z., Rhoads, B.L., Best, J.L., and Cisneros, J. 2016. Bed morphology and sedimentary dynamics at chute cutoffs: a case study of Mackey Bend, Wabash River, IL-IN. In *Riverflow 2016*, Constantinescu, G., Garcia, M.H., and Hanes, D. Taylor Francis, London. pp. 1736-1742.

### **Edited Books and Journal Issues**

Rhoads, B.L. and Thorn, C.E. (eds.) 1996. *The Scientific Nature of Geomorphology*. Wiley, Chichester, 481 pp.

Rice, S., Roy, A. and Rhoads, B.L. 2008. *River Confluences, Tributaries and the Fluvial Network*. Wiley, Chichester.

Castree, N., Demmeritt, D. Liverman, D. and Rhoads, B.L. 2009. *A Companion to Environmental Geography*. Wiley-Blackwell, Chichester.

Rhoads, B.L. and Fonstad, M.A. 2016. *The Natural and Human Structuring of Rivers and other Geomorphic Systems: A Tribute to William L. Graf*, Volume 252, *Geomorphology*.

### **Book**

Rhoads, B.L. *River Dynamics: Geomorphology to Support Management*, 2020, Cambridge University Press. Cambridge, UK.

## **PARTICIPATION IN PROFESSIONAL MEETINGS**

### Presentations and Published Abstracts

- 1985 Bruce L. Rhoads, "Bed Material Trends in Desert Mountain Drainage Networks", 81st Annual Meeting of the Association of American Geographers, Detroit, Michigan, Program Abstracts, Session 167.
- 1986 Bruce L. Rhoads, "Factors Controlling the Distribution of Streambed Materials in a Desert Mountain Drainage Network", 82nd Annual Meeting of the Association of American Geographers, Minneapolis, Minnesota, Program Abstracts, Session 144.
- 1986 Bruce L. Rhoads, "The Dynamic Behavior of a Desert Mountain Watershed", Nystrom Dissertation Competition, 83rd Annual Meeting of the Association of American Geographers, Portland, Oregon, Program Abstracts, Session 3007, Nystrom Award Session.
- 1987 Bruce L. Rhoads, "Factors Controlling Longitudinal Variations in Mean Grain Size and Sorting of Bed Material Along Six Arid-region Mountain Streams" Workshop on Erosion, Transport and Deposition Processes in Semiarid and Arid Areas, March 25 to April 5th, Hebrew University, Jerusalem, Israel, Program Abstracts, pp. 25-26.
- 1987 Bruce L. Rhoads, "The Impact of a Large Flood on a Channelized Reach of an Arid-region River" Eighteenth Annual "Binghamton" Geomorphology Symposium, Catastrophic Flooding, September 26-28, Miami University, Oxford, Ohio, Program Abstracts, p. 39.
- 1988 Bruce L. Rhoads and Scott Isard, "Climatic Change and Sediment Yield on the Green River, Wyoming and Utah", 84<sup>th</sup> Annual Meeting of the Association of American Geographers, Phoenix, Arizona, Program Abstracts, p. 158.
- 1989 Bruce L. Rhoads, "Magnitude and Frequency of Geomorphic Work in Desert Mountain Streams", 85th Annual Meeting of the Association of American Geographers, Baltimore, Maryland, Program Abstracts, p. 173.
- 1989 Bruce L. Rhoads and Michael Miller, "Impact of Various Flows on the Morphology and Bed Material of a Low-Energy Meandering River", Geological Society of America Annual Meeting, St. Louis, Missouri, Program Abstracts, p. A153.
- 1990 Bruce L. Rhoads, "Impacts of Channelization on the Fluvial Dynamics of a Dryland River", 86th Annual Meeting of the Association of American Geographers, Toronto, Program Abstracts, p. 206.
- 1991 Bruce L. Rhoads, "Bed Morphology and Flow Structure at a High-Angle Confluence", 87th Annual Meeting of the Association of American Geographers, Miami, Program Abstracts, p. 167.
- 1991 Michael Miller and Bruce L. Rhoads, "Geomorphic and Geohydrologic Assessment for the Management of Constructed Wetlands", 87th Annual Meeting of the Association of American Geographers, Miami, pp. 136-137.
- 1991 Bruce L. Rhoads, "Stream Power: A Unifying Theme for Urban Fluvial Geomorphology", Urban Runoff and Receiving Systems: An Interdisciplinary Analysis of Impact, Monitoring, and Management. Engineering Foundation Conference, Mt. Crested Butte, Colorado (Invited Paper) (No Published Abstracts - Proceedings published as an edited book).

- 1992 Bruce L. Rhoads, "Seasonal Variations in Erosion and Deposition at a Stream Confluence", 88th Annual Meeting of the Association of American Geographers, San Diego, Program Abstracts, p. 203.
- 1992 Bruce L. Rhoads, "Fluvial Dynamics of Stream Confluences: Research Design and Measurement Program", Workshop on Field Techniques and Experimental Design in Process Geomorphology, Catalina Island, CA, April 16-18. (Invited Paper), (No Published Abstracts).
- 1992 Bruce L. Rhoads, "Flow Patterns and Bed Morphology at an Asymmetrical Stream Confluence", 1992 Spring Meeting, American Geophysical Union, Canadian Geophysical Union, Mineralogical Society of America, Montreal, Canada. (Invited Paper), Program Abstracts, p. 136.
- 1992 Edwin E. Herricks, Pamela Hogle, and Bruce L. Rhoads, "Fisheries Population Dynamics related to the Fluvial Dynamics of a Small Stream Confluence", 1992 Spring Meeting, American Geophysical Union, Canadian Geophysical Union, Mineralogical Society of America, Montreal, Canada, Program Abstracts, p. 137.
- 1992 Bruce L. Rhoads, "Statistical Models of Fluvial Systems", 23rd Binghamton Geomorphology Symposium, Geomorphic Systems, Miami University, Oxford, Ohio (Invited Paper), Program Abstracts, p. 25.
- 1993 Bruce L. Rhoads, "Momentum Ratio and Flow Structure at an Asymmetrical Stream Confluence", 89th Meeting of the Association of American Geographers, Atlanta, Program Abstracts, p. 199.
- 1993 Bruce L. Rhoads, "Adjustment of Bed Morphology and Flow Structure to Temporal Variation in Momentum Flux Ratio at an Asymmetrical Stream Confluence", Third International Geomorphology Conference, Hamilton, Ontario, Program Abstracts, p. 228.
- 1994 Bruce L. Rhoads, "'Real' Fluvial Geomorphology, 90th Meeting of the Association of American Geographers, San Francisco, Program Abstracts, p. 316.
- 1995 Bruce L. Rhoads and Richard Cahill, "Network-scale Variability of Trace Metals in Fluvial Systems", 91st Meeting of the Association of American Geographers", Chicago, Program Abstracts, p. 257.
- 1995 Bruce L. Rhoads, "Flow Structure and Sediment Transport at an Asymmetrical Stream Confluence when the Main Stream is Dominant." Coherent Flow Structures in Open Channels: Origins, Scales, and Interactions with Sediment Transport and Bed Morphology, University of Leeds, U.K., Program Abstracts, p. 53.
- 1995 Bruce L. Rhoads, "Bedload Transport at a Stream Confluence: Implications for Contaminant Dispersal" 92nd Annual Meeting of the Association of American Geographers, Charlotte, NC, Program Abstracts, p. 249.
- 1999 Bruce L. Rhoads and Colin E. Thorn, "Observation in Geomorphology", 27th Binghamton Geomorphology Symposium, Champaign-Urbana, IL.
- 1997 Bruce L. Rhoads and Richard Cahill, "Spatial Variability of Trace-element Concentrations in an Urban Stream System", 93rd Annual Meeting of the Association of American Geographers, Fort Worth, TX, Program Abstracts, p. 222-223.

- 1999 Bruce L. Rhoads and Michael Urban, "Human-induced Geomorphic Change in Low-energy Agricultural Streams: An Example from East-central Illinois." (Invited Paper), Conference on Management of Landscapes Disturbed by Channel Incision, Oxford, MS, May 19-22, 1997
- 1997 Bruce L. Rhoads and Kelly Monahan, "Geomorphological Principles for 'Naturalizing' Streams and Rivers in Illinois". (Invited Paper). Governor's Conference on the Management of the Illinois River, October 7-9, 1997, Peoria, IL.
- 1997 Michael Urban and Bruce L. Rhoads, "Watershed Protection as a Social Process: Integrating Local Values and Geological Information into Community-Based Resource Management". Geological Society of America Annual Meeting, Salt Lake City, Utah, Oct. 20-23.
- 1999 Bruce L. Rhoads, David Wilson, and Edwin Herricks, "Watershed Protection in Agricultural Environments: Integrated Social, Geomorphological, and Ecological Research to Support Ecosystem-based Stream Management", Proceedings, 1998 Water and Watersheds Program Review, EPA/NSF Partnership for Environmental Research, 28-29 January, Corvallis, Oregon, p. 33
- 1998 Bruce L. Rhoads, "Stream Assessment and the Naturalization of Streams in East Central Illinois", Illinois Renewable Natural Resources Conference", 4-6 March, 1998, Springfield, Illinois.
- 1998 Michael Urban and Bruce L. Rhoads, "Relative Geomorphic Efficacy of Humans in Low-energy Agricultural Streams", 94<sup>th</sup> Annual Meeting of the Association of American Geographers, 25-29 March, 1998, Boston, MA
- 1999 Kelly Monahan and Bruce L. Rhoads, "Stream Geomorphology and Riverine Aquatic Habitat in Human-modified Agricultural Streams", Fall Meeting, American Geophysical Union, 6-10 December, 1998, San Francisco, CA
- 1999 Bruce L. Rhoads, "Integrated Geomorphological, Ecological and Social Research to Support Stream Naturalization", 95<sup>th</sup> Annual Meeting of the Association of American Geographers, 23-27 March, Honolulu, HI, Program Abstracts, p. 504.
- 1999 Kelly Monahan and Bruce L. Rhoads, "Integrating Geomorphology and Ecology to Support Naturalization of Human-modified Streams in the agricultural Midwest, 95<sup>th</sup> Annual Meeting of the Association of American Geographers, 23-27 March, Honolulu, HI, Program Abstracts, p. 421.
- 1999 Melinda Newell and Bruce L. Rhoads, "Characterization of Channel Dynamics for Stream Naturalization", 95<sup>th</sup> Annual Meeting of the Association of American Geographers, 23-27 March, Honolulu, HI, Program Abstracts, p. 440.
- 1999 Bruce L. Rhoads, David Wilson, Edwin E. Herricks, and Marcelo Garcia, "Development of an Integrated Scientific and Technological Framework for Stream Naturalization", Proceedings, 1999 Water and Watersheds Program Review, NSF/EPA Partnership for Environmental Research in Collaboration with the USDA, 19-21 April, Washington, D.C., pp. 14-15.
- 1999 Bruce L. Rhoads, David Wilson and Edwin E. Herricks, "Integrated Social, Geomorphological, and Ecological Research to Support Ecosystem-based Stream Management, Proceedings, 1999 Water and Watersheds Program Review, NSF/EPA Partnership for Environmental Research in Collaboration with the USDA, 19-21 April, Washington, D.C., pp. 58-59

- 2000 Frothingham, K. and Rhoads, B.L. Hydraulic and Morphologic Variability in a Channelized Reach and Meandering Reach of the Embarras River, IL. 96<sup>th</sup> Annual Meeting of the Association of American Geographers, 4-8 April, Pittsburg, PA.
- 2000 Rodriguez, J. F., Bombardelli, F. A., Garcia, M. H., Guzman J. M., Frothingham K. and Rhoads, B. L. Numerical modeling of meandering streams. Proc.4th International Conference On Hydroinformatics, International Association for Hydraulic Resesarch, Iowa City, IA, July 23-27.
- 2000 Rodriguez, J. F., Garcia, M. H., Bombardelli, F. A., Guzman, J. M., Rhoads, B.L. and Herricks, E. Naturalization of urban streams using in-channel structures. Proc. Joint Conference on Water Resources Engineering and Water Resources Planning and Management, ASCE, Minneapolis, MN, July 30- Aug. 2, 2000.
- 2000 Newell, M.D. and Rhoads, B.L. Role of Woody Debris in the Ecology of Poplar Creek, Kane and Cook Counties, Illinois, The Ecology and Management of Logjams in Prairie Rivers, Illinois Department of Natural Resources, Allerton Park Conference Center, Monticello, IL, November 8-9, 2000.
- 2001 Rhoads, B.L., Wade, R., Wilson, D., Garcia, M.H., and Herricks, E.E. Integrated Science and Technology to Support Naturalization of Urban Streams. 97<sup>th</sup> Annual Meeting of the Association of American Geographers, Feb. 27 – Mar. 3, 2001, New York, NY.
- 2001 Newell, M.D. and Rhoads, B.L. The Influence of Large Woody Debris on Three-dimensional Flow Structure in a Low-energy Meandering Stream. 97<sup>th</sup> Annual Meeting of the Association of American Geographers, Feb. 27 – Mar. 3, 2001, New York, NY.
- 2001 Belby, B. and Rhoads, B.L. Experimental Tests of a Pool-Riffle Design for Naturalizing Urban Streams, 97<sup>th</sup> Annual Meeting of the Association of American Geographers, Feb. 27 – Mar. 3, 2001, New York, NY.
- 2001 Porter, S. and Rhoads, B.L. Quantifying Hydraulic Habitat in Human-impacted Agricultural Streams, East Central Illinois, 97<sup>th</sup> Annual Meeting of the Association of American Geographers, Feb. 27 – Mar. 3, 2001, New York, NY.
- 2001 Rodríguez, J. F., Bombardelli, F. A., García, M. H., Guzmán J. M., Frothingham K., Rhoads, B.L., and Belby, B. Development of scientific tools for stream naturalization. XXVI General Assembly, European Geophysical Society, March 25-30, Nice, France.
- 2001 Schwartz J.S, E.E. Herricks, B.L. Rhoads. Integrating Geomorphology, Hydraulics, and Ecological Criteria to Support Stream Naturalization in East-Central Illinois. World Water and Environmental Resources Congress. Co-sponsored by ASCE – EWRI. Orlando, Florida. May 20-24.
- 2001 Rodríguez, J. F., Bombardelli, F. A., García, M. H., Belby, B., Rhoads, B. L. and Guzmán J.M., Numerical and physical modeling of pool-riffle sequences in low- gradient streams. *International Symposium on Environmental Hydraulics*, IAHR, Tempe, Dec. 5-8.
- 2001 Schwartz J.S, E.E. Herricks and B.L. Rhoads. Fish habitat relationships in an East-Central Illinois agricultural drainage: implications for stream naturalization. 63<sup>rd</sup> Midwest Fish and Wildlife Conference. *Transitions in the Conservation Landscape*. Des Moines, Iowa. December 9-12.

- 2001 Landwehr, K. and Rhoads, B.L. Depositional Response of a Headwater Stream to Channelization, Fall Meeting, American Geophysical Union, San Francisco, Dec. 10-14, Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract H52B-0404
- 2001 Daniels, M.D. and Rhoads, B.L. Influence of a Large Woody Debris Obstruction on Three-dimensional Flow Structure in a Meander Bend, American Geophysical Union, San Francisco, Dec. 10-14, Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract H41I-11
- 2002 Rhoads, B.L. Naturalization of Streams in Urban Watersheds: Examples from the Chicago Metro Area. USGS Stream Restoration Workshop, February 20-22, Urbana, IL
- 2002 Daniels, M.D. and Rhoads, B.L. Variability of Flow Structure through Meander Bends Containing Large Woody Debris: Implications for Stream Management. 98<sup>th</sup> Annual Meeting of the Association of American Geographers, March 19-23, Los Angeles.
- 2002 Wade, R.J. and Rhoads, B.L. Enhancement of hydraulic conditions and fish diversity in a channelized stream through the introduction of pool-riffle structures, 98<sup>th</sup> Annual Meeting of the Association of American Geographers, March 19-23, Los Angeles.
- 2002 Phillips, A.C., Rhoads, B.L., McTighe, T.J., and Klaus, C. Photoanalytic assessment of dynamics in tributary streams of the Illinois River Basin, Annual Meeting of the North-Central Section (36th) and Southeastern Section (51st), Geological Society of America, Lexington, Kentucky, April 3-5.
- 2002 Schwartz, J.S., E.E. Herricks, M.H. Garcia, B.L. Rhoads, J.F. Rodriguez and F.A. Bombardelli. *Physical habitat analysis and design of in-channel structures on a Chicago, IL urban drainage: a stream naturalization design process*. American Society of Civil Engineers: IAHR and IAWQ. 9<sup>th</sup> International Conference on Urban Stormwater Drainage. Portland, Oregon, September 2002
- 2003 Schwartz, J.S., Rhoads, B.L., Rodriguez, J.F., Garcia, M.H., Bombardelli, F.A., Herricks, E.E., Wade, R.J., Integrating Science and Engineering to Reduce Uncertainty of Stream Naturalization: An Example from the Chicago Metro, American Geophysical Union Fall Meeting, San Francisco, CA, December.
- 2003 Discussant, Panel Session on New Directions and New Perspectives in Geomorphology, 99<sup>th</sup> Annual Meeting of the Association of American Geographers, March 4-9, New Orleans.
- 2003 Rhoads, B.L., Wade, R., Garcia, M.H., Herricks, E.E., Schwartz, J., Rodriguez, J., Naturalization of an Urban Stream near Chicago, Illinois. 99<sup>th</sup> Annual Meeting of the Association of American Geographers, March 4-9, New Orleans.
- 2003 Keefer, L. and Rhoads, B.L.. Geomorphological Assessment Protocols for Evaluating Stream Channel Stability in Illinois Watersheds. 99<sup>th</sup> Annual Meeting of the Association of American Geographers, March 4-9, New Orleans.
- 2004 Guneralp, I. and Rhoads, B.L. Curvature-migration Relations and the Planform Dynamics of Meandering Rivers. 100<sup>th</sup> Annual Meeting of the Association of American Geographers, March 14-19, Philadelphia



- 2004 Rhoads, B.L. Whither Physical Geography? Plenary Session on Geography in the 21<sup>st</sup> Century, 100<sup>th</sup> Annual Meeting of the Association of American Geographers, March 14-19, Philadelphia.
- 2004 Riley, J.D. and Rhoads, B.L. Flow Structure and Bed Morphology at a Large River Confluence. 100<sup>th</sup> Annual Meeting of the Association of American Geographers, March 14-19, Philadelphia.
- 2004 Schwartz, J.S., Herricks, E.E., Marcinkevage, C., Suen, J-P., Rhoads, B.L., Kumar, P. and Russell, S. Development of Process-based Assessment Protocols in the Kishwaukee River Basin, Illinois: Watershed Integration of Hydrology, Geomorphology and Ecology. World Water and Environmental Resources Congress. June 27-July 1, Salt Lake City.
- 2005 Guneralp, I. and Rhoads, B.L. A New Methodology to Advance the Understanding of the Spatial Structure of the Planform Dynamics of Meandering Rivers. 101<sup>st</sup> Annual Meeting of the Association of American Geographers, April 5-9, Denver, CO.
- 2005 Riley, J.D. and Rhoads, B.L. Temporal Change in Bed Morphology at a Stream Confluence. 101<sup>st</sup> Annual Meeting of the Association of American Geographers, April 5-9, Denver, CO.
- 2005 Abad, J.D., Guneralp, I., Rhoads, B.L. and Garcia, M.H. Two case studies in river naturalization: planform migration and bank erosion control. Joint Assembly, American Geophysical Union, Society of Exploration Geophysicists, North American Benthological Society, American Astronomical Society, May 23-27, New Orleans.
- 2005 Rhoads, B.L. . Scaling of confluence dynamics in river systems: some general considerations. *River, Coastal and Estuarine Morphodynamics* 2005, Urbana, IL Oct. 4-7.
- 2005 Guneralp, I. and Rhoads, B.L. The spatial structure of planform dynamics of meandering rivers. *River, Coastal and Estuarine Morphodynamics* 2005, Urbana, IL Oct. 4-7.
- 2005 Guneralp, I. and Rhoads, B.L. The spatial structure of planform migration-curvature relation for meandering rivers. American Geophysical Union, San Francisco, Dec. 5-9.
- 2006 Guneralp I. and Rhoads, B.L. The spatial relation between planform migration and channel curvature. 102<sup>nd</sup> Annual Meeting of the Association of American Geographers, March 7-11, Chicago, IL.
- 2006 Riley, J.D. and Rhoads, B.L. Flow dynamics and channel morphology at natural confluent-meander bends. 102<sup>nd</sup> Annual Meeting of the Association of American Geographers, March 7-11, Chicago, IL.
- 2006 Rhoads, B.L. Rivers as Complex Environmental Systems: Complex Systems Symposium, University of Illinois, Urbana, May 15-18.
- 2007 Guneralp, I. and Rhoads, B.L. Uncovering the Cumulative Effect of Upstream Curvature on Planform Migration of Meandering Rivers. 103<sup>rd</sup> Annual Meeting of the Association of American Geographers, April 17-21, San Francisco, CA.

- 2007 Guneralp, I., Rhoads, B.L., Phillips, A., and Pociask, G. GIS-based Analysis of Aerial Photography to Evaluate the Response of Meandering Rivers to Human Modification: Examples from Illinois, USA. Geological Society of America Annual Meeting, October 28-31, Denver, CO.
- 2007 Riley, J.D. and Rhoads, B.L. Field Investigation of Flow Structure and Channel Morphology at Confluent Meander Bends, American Geophysical Union Fall Meeting, Dec. 10-14, San Francisco, CA.
- 2008 Csiki, S. and Rhoads, B.L. 2008. The effects of run-of-river dams on bed sedimentation in Illinois. 104<sup>th</sup> Annual Meeting of the Association of American Geographers, April 15-19, Boston, MA.
- 2008 Guneralp, I. and Rhoads, B.L. 2008. Spatial structure of planform migration-curvature relation. 104<sup>th</sup> Annual Meeting of the Association of American Geographers, April 15-19, Boston, MA.
- 2008 Rhoads, B.L., Naturalizing Straight Urban Streams Using Geomorphological Principles, 4th European Centre for River Restoration (ECRR) Conference on River Restoration, Italy, Venice S. Servolo Island, 16-21 June 2008.
- 2008 Csiki, S. and Rhoads, B.L. Fluvial geomorphological response to the presence of run of river dams, American Geophysical Union, Dec. 15-19, 2008, San Francisco.
- 2009 Riley, J.D. and Rhoads, B.L. Channel curvature at a small river confluence in southeastern Illinois: implications for flow structure and bed morphology. 105<sup>th</sup> Annual Meeting of the Association of American Geographers, March 22-27, 2009, Las Vegas.
- 2009 Csiki, S. and Rhoads, B.L. Bathymetry and sedimentation at four run-of-river dams in Illinois. 105<sup>th</sup> Annual Meeting of the Association of American Geographers, March 22-27, 2009, Las Vegas.
- 2009 Engel, F.L. and Rhoads, B.L. Evolving flow patterns in an evolving compound meander loop. 105<sup>th</sup> Annual Meeting of the Association of American Geographers, March 22-27, 2009, Las Vegas.
- 2009 Guneralp, I. and Rhoads, B.L. Planform curvature-migration relation of meandering rivers with compound loops. 105<sup>th</sup> Annual Meeting of the Association of American Geographers, March 22-27, 2009, Las Vegas.
- 2009 Guneralp, I. and Rhoads, B.L. Empirical analysis of the spatial structure of meander evolution: Insights into the development of compound loops. Fall Meeting, American Geophysical Union, Dec. 15-19, 2009, San Francisco.
- 2009 Engel, F.D. and Rhoads, B.L. Flow Structure and Channel Change in an Evolving Compound Meander Loop, Fall Meeting, American Geophysical Union, Dec. 15-19, 2009, San Francisco.

- 2009 Riley, J.D. and Rhoads, B.L. Flow Structure and Channel Morphology at a Confluent-Meander Bend, Fall Meeting, American Geophysical Union, Dec. 15-19, 2009, San Francisco.
- 2009 Rhoads, B.L., Best, J., Johnson, K. and Engel, F.D. Flow Structure and Channel Change in a Chute Cutoff along a Large Meandering River. Fall Meeting, American Geophysical Union, Dec. 15-19, 2009, San Francisco.
- 2010 Rhoads, B.L., Best, J., Johnson, K. and Engel, F.D. Fluvial Dynamics of a Chute Cutoff (or Two) along a Large Meandering River. 106<sup>th</sup> Annual Meeting of the Association of American Geographers, April 14-18, 2010.
- 2010 Engel, F. and Rhoads, B.L. Turbulent Flow and Channel Change in an Evolving Compound Meander Loop. 106<sup>th</sup> Annual Meeting of the Association of American Geographers, April 14-18, 2010.
- 2010 Guneralp, I. and Rhoads, B.L. Influence of Random Spatial Variability on the Planform Migration Dynamics of Meandering Rivers. 106<sup>th</sup> Annual Meeting of the Association of American Geographers, April 14-18, 2010.
- 2010 Miyawaki, S., Constantinescu, G., Rhoads, B.L., and Sukhodolov, A.N. Changes in three-dimensional flow structure at a river confluence with changes in momentum ratio. River Flow 2010, International Conference on Fluvial Hydraulics, Braunschweig, Germany, Sept 8-10.
- 2010 Csiki, S. and Rhoads, B.L. Discontinuities caused by the presence of run-of-river dams on fluvial systems. Geological Society of America, Annual Meeting, Denver, CO, Oct. 31 – Nov 3.
- 2010 Zinger, J., Rhoads, B.L., Best, J.L., Konsoer, K., and Engel, F. Mobilization of sediment by chute cutoffs on a large river: lower Wabash River, Illinois-Indiana. American Geophysical Union, San Francisco, Dec. 13-17.
- 2010 Parker, G., Wang, R., Eke, E., Parsons, D., Wilkerson, G., Best, J., Zinger, J.A., Rhoads, B.L., Engel, F. The puzzle of large low-slope sand-bed rivers: how can they be so deep? American Geophysical Union, San Francisco, Dec. 13-17.
- 2011 Engel, F.L. and Rhoads, B.L. Can boundary shear stress be estimated from aDcp data? 107<sup>th</sup> Annual Meeting of the Association of American Geographers, Seattle, WA, April 12-16, 2011.
- 2011 Riley, J.D. and Rhoads, B.L. Fluvial dynamics of a large confluent meander bend. 107<sup>th</sup> Annual Meeting of the Association of American Geographers, Seattle, WA, April 12-16, 2011.
- 2011 Konsoer, K. and Rhoads, B.L. Large-scale turbulence at confluences of large alluvial rivers. 107<sup>th</sup> Annual Meeting of the Association of American Geographers, Seattle, WA, April 12-16, 2011.
- 2011 Viglione, A., Blöschl, G., Sivapalan, M. and Rhoads, B.L. Estimation of flood peak frequencies at river confluences. European Geophysical Union, Vienna, Austria, April 3-8.

- 2011 Zinger, J., Rhoads, B.L., Best, J.L. Coherent structure and morphodynamics of chute cutoffs on a large meandering river. Coherent Flows Structures in Geophysical Flows at the Earth's Surface. Simon Fraser University, Burnaby, British Columbia, Aug. 3-5.
- 2011 Konsoer, K., Rhoads, B.L., and Johnson, K. Spatial-temporal structure of mixing-interface turbulence at two large river confluences. American Geophysical Union, San Francisco, Dec. 4-9.
- 2011 Jackson, R., Parson, D.R., Czuba, J.A., Mueller, D.S., Rhoads, B.L., Engel, F., Oberg, K.A., Best, J.L., Johnson, K., and Riley, J.D. Velocity Mapping Toolbox (VMT): a processing and visualization suite for moving-vessel ADCP measurements. American Geophysical Union, San Francisco, Dec. 4-9.
- 2011 Zinger, J., Rhoads, B.L., Best, J., and Johnson, K., Flow Structure and Channel Change in Chute Cutoffs on Meandering Rivers. American Geophysical Union, San Francisco, Dec. 4-9.
- 2011 Guneralp, I., and Rhoads, B.L., River Meandering in Heterogeneous Floodplains. American Geophysical Union, San Francisco, Dec. 4-9.
- 2012 Allison E. Goodwell; Debsunder Dutta; Jonathan Greenburg; Praveen Kumar; Bruce L. Rhoads; James Garvey; Robert B. Jacobson; Thomas L. Minyard; David P. Berretta; Robert Holmes; Jeff Nittrouer; Gary Parker; Marcelo H. Garcia; Robert Darmody; James Best; Michelle Wander; Arthur Schmidt. Assessing the Impact of 2011 Mississippi River Megaflood on the Landscape Using Lidar and AVIRIS Imaging Spectrometer Data. AGU Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Kona, Hawaii, USA 19 –22 February.
- 2012 Engel, F.L. and Rhoads, B.L., Preliminary Investigation of Near Outer-Bank Turbulence in an Active Compound Bend. 108<sup>th</sup> Annual Meeting of the Association of American Geographers, New York, NY Feb. 24-28.
- 2012 Riley, J.D. and Rhoads, B.L., Influence of Junction Angle on Flow Structure and Bed Morphology at Confluent Meander Bends. 108<sup>th</sup> Annual Meeting of the Association of American Geographers, New York, NY Feb. 24-28.
- 2012 Guneralp, I. and Rhoads, B.L. Influence of floodplain heterogeneity on meander morphodynamics. 108<sup>th</sup> Annual Meeting of the Association of American Geographers, New York, NY Feb. 24-28.
- 2012 Rhoads, B.L. Invited Panelist, Session on Critical Physical Geography, 108<sup>th</sup> Annual Meeting of the Association of American Geographers, New York, NY Feb. 24-28
- 2012 Constantinescu, G., Miyawaki, S., Rhoads, B.L., and Sukhodolov, A. On the structure of the shallow mixing interface at a river confluence. Third International Symposium on Shallow Flows, Iowa City, Iowa, June 4-6.

- 2012 Engel, F.L. and Rhoads, B.L. Investigation of near outer-bank turbulence in an active compound bend. Third International Symposium on Shallow Flows, Iowa City, Iowa, June 4-6.
- 2012 Zinger, J., Konsoer, K. and Rhoads, B.L. Hilbert-Huang analysis of shallow flow velocity data. Third International Symposium on Shallow Flows, Iowa City, Iowa, June 4-6.
- 2012 Zinger, J., Rhoads, B.L., Best, J., and Johnson, K. Field documentation of oxbow lake formation at an evolving chute cutoff on the Wabash River, IL-IN. Geological Society of America Annual Meeting, Charlotte, NC Nov. 4-7.
- 2012 Konsoer, K. Rhoads, B.L., Langendoen, E., and Ursic, M. Influence of riparian vegetation and floodplain heterogeneity on the planform evolution of a large meandering river. Geological Society of America Annual Meeting, Charlotte, NC Nov. 4-7.
- 2012 Goodwell, A.E., Zhu, Z.; Dutta, D.; Greenberg, J., Kumar, P., Garcia, M.H., Rhoads, B.L., Parker, G., Berretta, D., and Holmes, R.R, Landscape vulnerability analysis from historic lower Mississippi River flood in 2011. American Geophysical Union Annual Meeting, San Francisco, Dec. 3-7.
- 2012 Slaven, S., Anders, A. and Rhoads, B.L. Monitoring tracer stones in Fall Creek Gorge of Warren County, Indiana. American Geophysical Union Annual Meeting, San Francisco, Dec. 3-7.
- 2012 Konsoer, K.M., Rhoads, B.L., Langendoen, E., Johnson, K., and Ursic, M. Influence of riparian vegetation on near-bank flow structure and bank erosion on a large meandering river. American Geophysical Union Annual Meeting, San Francisco, Dec. 3-7.
- 2012 Zinger, J., Rhoads, B.L., Best, J., and Johnson, K. From meander bend to oxbow lake: flow, channel morphology and sedimentology of an evolving chute cutoff on the Wabash River. American Geophysical Union Annual Meeting, San Francisco, Dec. 3-7.
- 2013 Muhammad, U., Rhoads, B.L. and Greenberg, J. Temporal analysis of transverse mixing patterns downstream of the Mississippi-Missouri confluence with moderate resolution satellite remote sensing. Association of American Geographers Annual Meeting, Los Angeles, CA. April 9-13.
- 2013 Zinger, J., Rhoads, B.L. and Best, J. The morphodynamics, flow structure, and sedimentology of a developing cutoff on a large meandering river. 10<sup>th</sup> International Conference on Fluvial Sedimentology, University of Leeds, UK. 14-19 July.
- 2013 Rhoads, B.L., Konsoer, K.M., Best, J., Garcia, M.H. and Abad, J. Planform dynamics of a mixed bedrock-alluvial meandering river. American Geophysical Union Annual Meeting, San Francisco, Dec. 9-13
- 2013 Konsoer, K., Rhoads, B.L. Best, J., Langendoen, E.J., Ursic, M., Abad, J. and Garcia, M.H. Scales of form roughness on riverbanks with different riparian vegetation. American Geophysical Union Annual Meeting, San Francisco, Dec. 9-13

- 2013 Abad, J., Frias, C.E, Langendoen, E.J., Best, J., Rhoads, B.L., Konsoer, K., and Garcia, M.H. Bedforms modulating temporal peaks on near-bank shear stresses, the Wabash River case. American Geophysical Union Annual Meeting, San Francisco, Dec. 9-13
- 2014 Rhoads, B.L. and Schnoebelen, D. A Critical Zone Observatory in Intensively Managed Landscapes: Science to Support Stream Management. Keynote Address, 2014 Upper Midwest Stream Restoration Symposium, Lacrosse, WI, Feb. 23-26.
- 2014 Rhoads, B.L. Human-River Interactions in the Anthropocene: Science to support Management and Policy for Intensively Managed Landscapes in the Midwest. 110<sup>th</sup> Annual Meeting of the Association of American Geographers, Tampa, FL, April 8-12.
- 2014 Konsoer, K., Rhoads, B.L., Best, J, Langendoen, E., Abad,J., Ursic, M., and Garcia, M.H. Influence of bedrock control, bank materials, riparian vegetation, and planform geometry on the morphodynamics of a large meandering river. 110<sup>th</sup> Annual Meeting of the Association of American Geographers, Tampa, FL, April 8-12.
- 2014 Abad, J., Frias, C.E, Langendoen, E.J., Best, J., Rhoads, B.L., Konsoer, K., and Garcia, M.H. Modulation of flow structure by progressive bedforms in the meandering Wabash River. Riverflow, 7<sup>th</sup> International Conference on Fluvial Hydraulics, Lusanne, Switzerland, Sept. 3-5, pp. 1113-1117.
- 2014 Zinger J., Rhoads, B.L., Best, J., and Larson, T. Flow, morphology, and sedimentology of an evolving chute cutoff, Wabash River, IL-IN. American Geophysical Union meeting, San Francisco, CA. Dec. 15-19.
- 2014 Rhoads, B.L., Lewis, Q. and Andresen, W. Stream channel change in an intensively managed agricultural landscape: implications for critical zone processes. American Geophysical Union meeting, San Francisco, CA. Dec. 15-19.
- 2014 Yu, M., Rhoads, B.L., Neal, C. and Anders, A. Tracing suspended sediment sources in the upper Sangamon River basin using sediment fingerprinting techniques. American Geophysical Union meeting, San Francisco, CA. Dec. 15-19.
- 2014 Lewis, Q. and Rhoads, B.L. Field implementation of particle image velocimetry for studying flow dynamics at river confluences. American Geophysical Union meeting, San Francisco, CA. Dec. 15-19.
- 2014 Muhammad, U., Rhoads, B.L. and Greenberg, J. Suspended solids mixing in large river confluences: a remote sensing perspective. American Geophysical Union meeting, San Francisco, CA. Dec. 15-19.
- 2014 Konsoer, K., Rhoads, B.L., Best, J., Frias, C., Abad, J. and Langendoen, E. Using high resolution field measurements to model dune kinematics in a elongate meander bend. . American Geophysical Union meeting, San Francisco, CA. Dec. 15-19.

- 2015 Zinger, J.A., Rhoads, B.L., Best., J. and Johnson, K.A. Linking hydroacoustic measurements of flow structure to morphologic change at an actively evolving chute cutoff on the Wabash River, IL-IN. 111<sup>th</sup> Annual Meeting of the Association of American Geographers, Chicago, IL April 21-25.
- 2015 Lewis, Q., Rhoads, B.L. and Andresen, W.A., Historical Channel Change in an Intensively Managed Landscape: Natural versus Human-induced Effects. 111<sup>th</sup> Annual Meeting of the Association of American Geographers, Chicago, IL April 21-25.
- 2015 Yu, M., Rhoads, B.L., Neal, C., and Anders, A. Suspended sediment supply analysis in the Upper Sangamon River Basin using fingerprinting techniques. 111<sup>th</sup> Annual Meeting of the Association of American Geographers, Chicago, IL April 21-25.
- 2015 Yu, M. and Rhoads, B.L. Simulation and prediction of sediment dynamics at upper Sangamon River basin through coupling of THREW and 3ST1D models. North Central Section Meeting, Geological Society of America, Madison, May 19-20.
- 2015 Yan, Q., Iwashaki, T., Kumar, P., Parker, G., Stumpf, A., Rhoads, B.L., and Keefer, L. Understanding characteristics of river valley topography using flood model. North Central Section Meeting, Geological Society of America, Madison, May 19-20.
- 2015 Yan, Q., Kwang, J., Kumar, P., Anders, A., Rhoads, B.L., Stumpf, A., and Keefer, L. Ridge migration modeling with human activities. North Central Section Meeting, Geological Society of America, Madison, May 19-20.
- 2015 Yu, M., Rhoads, B.L., Stumpf, A. Tracing suspended sediment sources in the upper Sangamon River basin using conservative and non-conservative tracers. AGU Fall Meeting, San Francisco, Dec. 14-18.
- 2015 Abban, B., Papanicolaou, T., Wilson, C., Abaci, O., Wacha, K., Schnobelen, D., Rhoads, B., and Yu, M. Sediment fingerprinting in intensively managed landscapes: application of Bayesian unmixing framework that accounts for spatiotemporal heterogeneity to study intraseasonal trends in source contributions. AGU Fall Meeting, San Francisco, Dec. 14-18.
- 2016 Yu, M., Rhoads, B.L. and Stumpf, A. Tracing suspended sediment sources in the upper Sangamon River basin using fingerprinting techniques. 112<sup>th</sup> Annual Meeting of the Association of American Geographers, San Francisco, March 29-April 2.
- 2016 Rhoads, B.L. and Lewis, Q.W. 2016. Relations among mean flow, turbulence, and mixing at a small stream confluence. *Riverflow 2016*, St. Louis, MO, July 12-15.
- 2016 Lewis, Q.W. and Rhoads, B.L. 2016. Flow evolution near the apex of two small stream confluences using large-scale particle image velocimetry. *Riverflow 2016*, St. Louis, MO, July 12-15.
- 2016 Muhammad, U., Rhoads, B.L. and Greenberg, J. 2016. Assessment of suspended sediment mixing at the confluence of the Mississippi and Missouri Rivers using broad-band satellite remote sensing. *Riverflow 2016*, St. Louis, MO, July 12-15.

- 2016 LeRoy, J.Z., Rhoads, B.L., Best, J.L., and Cisneros, J. 2016. Bed morphology and sedimentary dynamics at chute cutoffs: a case study of Mackey Bend, Wabash River, IL-IN. *Riverflow 2016*, St. Louis, MO, July 12-15.
- 2017 Lewis, Q. and Rhoads, B.L. Mixing at stream confluences: rates, patterns and controlling factors. 113<sup>th</sup> Annual Meeting of the Association of American Geographers, Boston, 5-9 April
- 2017 Lewis, Q. and Rhoads, B.L., An assessment of stream confluence flow dynamics using large scale particle image velocimetry captured from unmanned aerial systems. American Geophysical Union, New Orleans, 11-15 Dec.
- 2017 Yu, M. and Rhoads, B.L. Floodplains as a source of fine sediment in grazed landscapes: tracing the source of suspended sediment in the headwaters of an intensively managed agricultural landscape. American Geophysical Union annual meeting, New Orleans, 11-15 Dec.
- 2017 Wang, D., Konsoer, K., Garcia, M., Rhoads, B.L., Langendoen, E., Best, J. Numerical estimation of outer bank resistance characteristics in an evolving meandering river. American Geophysical Union annual meeting, Washington, D.C. 11-15 Dec.
- 2018 Lewis, Q. and Rhoads, B.L. High-resolution hydrodynamic mapping at stream confluences using LSPIV. Annual Meeting of the American Association of Geographers, New Orleans, 10-14 April.
- 2018 Lindroth, E., Lewis, Q., and Rhoads, B.L. Integrating unmanned aerial systems and LSPIV for rapid, cost-effective stream gaging. Annual meeting of the American Association of Geographers, New Orleans, April 10-14.
- 2018 Konsoer, K., Rhoads, B., Best, J., Langendoen, E., Ursic, M, Garcia, M., Abad, J. and Wang, D. Influence of vegetation and outer bank roughness on rates of bank erosion along a large meandering river. European Geosciences Union, Vienna, 8-13 April.
- 2018 Konsoer, K., Rhoads, B., Best, J., Langendoen, E., Abad, J., Parsons, D., and Garcia, M. Interactions between three-dimensional flow structure and bed morphology in large elongate meander bends. European Geosciences Union, Vienna, 8-13 April.
- 2018 Konsoer, K., Rhoads, B. Best, J., Leroy, J., Langendoen, E., Ursic, M., Garcia, M., Riley, J.D., Abad, J.D., Johnson, K., Parson, D., Rowley, T. 2018. Curves, cutoffs, and confluences: morphodynamic insights from the Wabash River. Geological Society of America Annual Meeting, Indianapolis, IN 4-7 November.
- 2018 Rhoads, B.L., Lindroth, E., Czuba, J., Edmonds, D.A., Guneralp, I., Castillo, C., Cain, M., Ward, A. Reconsidering the concept of bankfull flow: do single-thread meandering rivers overtop their banks at a distinct bankfull stage? Geological Society of America Annual Meeting, Indianapolis, IN 4-7 November.
- 2018 Wang, D., Konsoer, K., Garcia, M., Rhoads, B.L., Langendoen, E., and Best, J. Quantifying the effects of outer bank large wood on flow resistance and bank erosion in an evolving meandering river. American Geophysical Union Annual Meeting, Washington, D.C. 10-14 Dec.
- 2019 Lindroth, E. and Rhoads, B.L. Objectively identifying spatial variation in bankfull stage.



- Annual meeting of the Association of American Geographers, Washington, D.C. 3-7 April.
- 2019 Konsoer, K., Rhoads, B.L., Best, J., Garcia, M., Wang, D., and Langendoen, E. Interactions between 3D flow structure and LWD in an elongate meander bend. Annual meeting of the Association of American Geographers, Washington, D.C. 3-7 April.
- 2019 Strailey, K.K., Tinoco, R.O, Cienciala, P., Rhoads, B.L. and C.D. Suski. Energetics and swim behavior of fish swimming in turbulent flows. 20th International Conference on Fluid Flow Problems. Chicago, IL, Mar 31- Apr. 3.
- 2019 Shukla, T., Lewis, Q.W. and Rhoads, B.L. Three-dimensional flow structure at three confluences with different planform configurations at high flow stages. West Lakes Regional Meeting, American Association of Geographers, University of Northern Iowa, 24-26 October.
- 2019 Wang, D, Konsoer, K., Garcia, M.H., Rhoads, B.L., Langendoen, E.J., Best, J. Quantifying the effects of outer-bank large wood debris (LWD) patches on flow-resistance and bank erosion with porous structure approximation. American Geophysical Union Annual Meeting, San Francisco, CA. Dec 9-13.
- 2019 Tinoco, R.O., Qin, J., Oeij, J., Cienciala, P., Suski, C. and Rhoads, B.L. Fish response to coherent flow structures: a 3D characterization of turbulent features affecting the swimming capabilities of fish. American Geophysical Union Annual Meeting, San Francisco, CA. Dec 9-13.
- 2020 Strailey, K., Osborn, R.T., Tinoco, R.O, Cienciala, P., Rhoads, B.L. and C.D. Suski. 2020. Turbulence generated by simulated instream restoration structures offers fish swimming and energetic advantages at high flow velocities. Upper Midwest Stream Restoration Symposium, Stillwater, MN. February 2020.
- 2020 Salas, C. and Rhoads, B.L. Big Pine Creek Ditch revisited: Insight into the initiation and evolution of meandering. American Geophysical Union Annual Meeting, Online, 1-17 December.
- 2020 Shukla, T. and Rhoads, B.L. Stage-related changes in flow structure at three small stream confluences: implications for process-form interactions. American Geophysical Union Annual Meeting, Online, 1-17 December.
- 2020 Strailey, K., Tinoco, R., Cienciala, P., Rhoads, B.L., and Suski, C. Incorporating fish physiology in stream restoration: the influence of turbulence on fish energetics and positional choice. American Geophysical Union Annual Meeting, Online, 1-17 December.
- 2020 Sabrina, S., Lewis, Q.W., and Rhoads, B.L., Large scale particle image velocimetry reveals complex two-dimensional structure of flow at a stream confluence. American Geophysical Union Annual Meeting, Online, 1-17 December.

- 2021 Tanya Shukla and Bruce Rhoads. Dynamics of anabranching rivers juxtaposed within lowland meandering rivers in intensively managed landscapes. American Association of Geographers (AAG) Annual Meeting, April 7-11.
- 2021 Strailey, K.K, Tinoco, R.O., Cienciala, P. Rhoads, B.L., and C.D. Suski. These turbulent times: interactions between fish and turbulence-generating simulated instream restoration structures and their implications for stream restoration. American Fisheries Society Annual Meeting, Baltimore, MD. November.
- 2021 Strailey, K.K, Tinoco, R.O., Cienciala, P. Rhoads, B.L., and C.D. Suski. These turbulent times: interactions between fish and turbulence-generating simulated instream restoration structures and their implications for stream restoration. AGU Fall 2021 Meeting (virtual), December.
- 2021 Shukla, T. and Rhoads, B.L. Anabranching reaches juxtaposed with lowland meandering rivers in the midwestern United States: morphological characteristics and power regimes. American Geophysical Union (AGU) Fall Meeting, December 12-17, 2021.
- 2021 Salas, C. and Rhoads, B.L. Spatial and Temporal Distribution of Suspended Sediment Concentrations on a Lowland Meandering River Floodplain: Implications for Channel-Floodplain Connectivity, American Geophysical Union (AGU) Fall Meeting, December 12-17, 2021
- 2022 Banerjee, P. Rhoads, B.L., Anders, A., Stumpf, A. Reconstructing the dynamics of a meandering river in an intensively managed landscape through analysis of floodplain deposits. American Association of Geographers (AAG) Annual Meeting, February 25-March 1.
- 2022 Shukla, T. and Rhoads, B.L. Prevalence of juxtaposed anabranching-meandering channel planform in Midwestern US: morphological characteristics and power regimes. American Association of Geographers (AAG) Annual Meeting, February 25-March 1, 2022.
- 2022 Salas, C. and Rhoads, B.L. Spatial and temporal distribution of suspended sediment concentrations from different floodplain geomorphic environments of a lowland meandering river, Association of Geographers (AAG) Annual Meeting, February 25-March 1, 2022.
- 2022 Shukla, T. and Rhoads, B.L. Meandering rivers in the midwestern US that anabranch: prevalence, morphological characteristics and power regimes, River Flow 2022, 11<sup>th</sup> International Conference on Fluvial Hydraulics, Kingston and Ottawa, Canada, Nov. 8-10, 2022.
- 2022 Salas, C. and Rhoads, B.L. Spatial and temporal variations of suspended sediment concentrations from different floodplain environments, River Flow 2022, 11<sup>th</sup> International Conference on Fluvial Hydraulics, Kingston and Ottawa, Canada, Nov. 8-10, 2022.

- 2022 Banerjee, P. and Rhoads, B.L. Reconstructing the dynamics of a meandering river in an intensively managed landscape through analysis of floodplain deposits. 2022 AGU Fall Meeting, Chicago, IL Dec. 12-16, 2022.
- 2022 Meem, T., Fouts, L., Rhoads, B.L., Schmidt, A., and Byard, G. Power-based assessment of the impact of urban runoff on the stability of Chicago-area streams. 2022 AGU Fall Meeting, Chicago, IL Dec. 12-16, 2022.
- 2022 Calderon Rivera, D., Burnette, M., Marini, L., Keefer, L., Bauer, E., Druhan, J., Goodwell, A., Blair, N., Rhoads, B.L., and Kumar, P. Critical interface network (CINet) Data Management and Discovery using Clowder and Geodashboard Frameworks, 2022 AGU Fall Meeting, Chicago, IL, Dec. 12-16, 2022.
- 2022 Salas, C. and Rhoads, B.L., Comparison of river and floodplain suspended sediment concentrations during a flood event on a lowland meandering river. 2022 AGU Fall Meeting, Chicago, IL, Dec. 12-16, 2022.
- 2022 Shukla, T. and Rhoads, B.L. Critical linkages between floodplain geomorphology and riparian forests in intensively managed fluvial landscapes. 2022 AGU Fall Meeting, Chicago, IL Dec. 12-16, 2022.

#### Sessions/conferences Organized

- 1986 Sediment Transport in High-Energy Fluvial Systems, Special Session, Geomorphology Specialty Group, 82nd Annual Meeting, Association of American Geographers, Minneapolis, MN
- 1987 Processes in Fluvial Systems, Special Session, Geomorphology Specialty Group, 83rd Annual Meeting, Association of American Geographers, Portland, OR
- 1996 The Scientific Nature of Geomorphology, 27th Binghamton Geomorphology Symposium, Champaign-Urbana, IL (Conference co-organizer with Colin E. Thorn)
- 2014 The Natural and Human Structuring of Rivers and other Geomorphic Systems: A Special Session in Honor of Will Graf. 110<sup>th</sup> Annual Meeting of the Association of American Geographers, Tampa, FL (co-organizer with Mark Fonstad).
- 2016 Hydrodynamics and Morphodynamics of River Confluences. *Riverflow 2016*, St. Louis, MO.
- 2016 Management and Restoration of Fluvial Systems: Rehabilitating or Accomodating altered Sediment Regimes, Geological Society of America Annual Meeting, Denver, CO. (co-organizer with Sara Rathburn and Allan James)

#### **THESIS AND DISSERTATION**

- 1982 Interrelationships Between Glacially Buried Organic Matter, the Bedrock Surface and the Present Topography in South-Central Michigan: A Case For Multiple Paleosurfaces (M.A. thesis - Michigan State University) 89 p.

1986 Process and Response in Desert Mountain Fluvial Systems (Ph.D. dissertation - Arizona State University) 288 p.

## **MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

*Association of American Geographers, and Geomorphology Specialty Group of the A.A.G.  
Geological Society of America, and Quaternary Geology and Geomorphology Specialty Group of the  
G.S.A.  
American Geophysical Union  
American Association for the Advancement of Science*

## **HONORS AND AWARDS**

*Finalist, Nystrom Award, Association of American Geographers, 1987*

*John Simon Guggenheim Fellow, 2005-2006*

*Citation for Excellence in Reviewing, American Geophysical Union, Journal of Geophysical Research  
Earth Surface, 2011*

*Grove Karl Gilbert Award for Excellence in Geomorphic Research (with Inci Guneralp),  
Geomorphology Specialty Group, American Association of Geographers 2012*

*Fellow, National Great Rivers Research and Education Center, Alton, IL, 2012-14*

*Melvin G. Marcus Distinguished Career Award, Geomorphology Specialty Group, American  
Association of Geographers, 2014*

*Fellow, American Association for the Advancement of Science (AAAS), Elected 2016*

*Fellow, American Association of Geographers, Elected in augural group of 20 fellows in 2017*

## **SERVICE ACTIVITIES**

### Service to the Discipline

#### **Manuscript reviewer**

*ACME: An International E-Journal for Critical Geographies*

*Advances in Water Resources*

*Annals of the Association of American Geographers*

*Area*

*Canadian Geographer*

*Catena*

*Disasters*

*Earth Science Reviews*

*Earth Surface Processes and Landforms*

*Ecological Engineering*

*Environmental Fluid Mechanics*

*Environmental Management*

*Experiments in Fluids*

*Frontiers in Earth Sciences*

*Geoforum*

*Geographical Analysis*

*Geography Compass*  
*Geology*  
*Geological Society of America Bulletin*  
*Geomorphology*  
*Geophysical Research Letters*  
*GSA Today*  
*Hydrological Processes*  
*International Journal of Physical Science*  
*Journal of Environmental Quality*  
*Journal of Environmental Management*  
*Journal of Fluid Mechanics*  
*Journal of Geophysical Research-Earth Surface*  
*Journal of Hydraulic Research*  
*Journal of Geology*  
*Journal of Hydraulic Engineering-ASCE*  
*Journal of Hydrological Engineering- ASCE*  
*Journal of Hydrology*  
*Journal of Soil and Water Conservation*  
*National Geographic Research*  
*Nature Communications*  
*Physical Geography*  
*Plos One*  
*Proceedings of the National Academy of Science*  
*Professional Geographer*  
*Progress in Physical Geography*  
*River Research and Applications*  
*Transactions of the American Fisheries Society*  
*Transactions of the Institute of British Geographers*  
*Water Resources Research*

**Report Reviews:**

National Research Council:

*Does Water Flow Influence Everglades Landscape Patterns?*  
*Endangered and Threatened Species in the Platte River Basin*  
*The Science of Instream Flows*

**Proposal reviewer:**

*National Science Foundation*

Division of International Programs  
Geography and Spatial Sciences Program  
Doctoral Dissertation Research Grants Program  
Geology and Paleontology Program  
Earth Sciences Instrumentation and Facilities Program  
Experimental Program to Stimulate Competitive Research  
Ethics and Values Studies Program  
Fluid Dynamics and Hydraulics Program  
Ecosystem Studies Program  
Hydrology Program  
Major Research Instrumentation Program

*National Geographic Society*

*International Science Foundation*

*NATO Collaborative Research Grant Program*

*National Environmental Research Council (U.K.)*

*Environment Canada - NSERC Research Partnerships Program*

*USDA National Research Initiative Competitive Grants Program*  
*Swiss National Science Foundation*  
*Oklahoma Water Research Resources Institute*  
*American Philosophical Society, Lewis and Clark Fund*  
*Fund for Scientific Research (FNRS), Belgium*

**Author**, Annual Progress Reports on Fluvial Geomorphology for *Progress in Physical Geography*, 1991-1994

**Member**, Editorial Board, *The Professional Geographer*, 1994-1997, 2008-2011

**Member**, Program Committee, Annual Meeting of the Association of American Geographers, Chicago, 1994-95

**Secretary/Treasurer**, Geomorphology Specialty Group, Association of American Geographers, 1995-1996

**Chair**, Geomorphology Specialty Group, Association of American Geographers, 1996-1997

**External Examiner**, 1996, Ph.D. Thesis, Dr. Stuart McLelland, University of Leeds, Leeds, UK

**Member**, Advisory Panel, Geography and Regional Science Program, National Science Foundation, 1997-1999

**Invited Participant**, Workshop on Interdisciplinary Research, U.S. Environmental Protection Agency, National Center for Environmental Research, Washington, D.C., Oct. 11-12, 2000.

**Member**, Editorial Board, *Geographical Analysis*, 2003-2013

Departmental Service, University of Illinois

1987-88 Graduate Teaching Assistant Committee

1988-89 Geomorphology Program (Chair), Graduate Committee, Undergraduate Committee

1989-90 Physical Geography Program (Chair), Graduate Committee

1990-91 Physical Geography Program (Chair), Library Committee, Computer Committee,  
Undergraduate Committee, Graduate Committee

1992-93 Promotion and Tenure Committee

1991-98 Associate Head, Head of Graduate Committee, Graduate Advisor

1997-2001 Member, Advisory Committee, Graduate Committee

1999-2000 Chair, Physical Geography Program  
Chair, Promotion and Tenure Committee, Bruce Newbold

2000-2001 Chair, Search Committee, Environmental Policy position  
Chair, Physical Geography Program

2001-2012 Department Head

2011-2022 Chair, River, Watershed and Landscape Dynamics Program Committee

2011-2022 Graduate Program Committee

2012-2022 Advisory Committee

School Service

2007-2012 School of Earth, Society and Environment Executive Committee

2008 Search Committee, School Director

University Service (University of Illinois)

1997-98 Environmental Curriculum Committee, College of Liberal Arts and Sciences

1997-98 Environmental Sector, Partnership Illinois

1997-98 Air Photo Advisory Committee, University Library

1998 Search Committee, Director of Illinois Water Resources Center

1998-99 Food, Air and Water Subcommittee, Partnership Illinois

2000-03 Member, Environmental Council, Office of the Provost

2000-01 Member, Courses and Curricula Committee, College of Liberal Arts and Sciences

2002-03 Mentor, Teaching Academy, College of Liberal Arts and Sciences

2006-2009 Member, Committee on Committees, College of Liberal Arts and Sciences

2013-2015 Executive Committee, College of Liberal Arts and Sciences

2014-2015 Member, Search Committee, Director, Illinois State Geological Survey

2014-2016 Coordinator, National Great Rivers Research and Education Center Faculty Fellows Program, Office of the Vice Chancellor for Research

2016 Chair, Chair Evaluation Committee, Department of Mathematics, University of Illinois

2017-2019 Awards Committee, College of Liberal Arts and Sciences

2021-2023 Member, University Promotion and Tenure Committee

Post-doctoral Associate Supervised

Dr. Rebecca Wade, Ph.D., 1997, University of Dundee, UK, Geography - Postdoctoral Research Associate 1999-2002, University of Illinois

Graduate Students Supervised, Degree, Date, and Thesis Title

*M.A. Students*

Paul Jahn, M.A. 1992, A Predictive Model for Shallow Groundwater Levels in Central Illinois (now with the Illinois State Geological Survey)

Stephen Kenworthy, M.A., 1994, Hydrologic and Morphologic Influences on Confluence Flow Structure (now an Assistant Professor, University of Western Kentucky)

Daniel Mayer, M.A. 1995, Hydrological Control of Spatial Patterns of Surficial Bed Material at a Stream Confluence (now an environmental scientist with the City of Clearwater, Florida)

Kyle Landwehr, M.A., 2001. Floodplain Development in an Agricultural Drainage Ditch, Spoon Creek, East Central Illinois

Brendan Belby, M.A., 2002 A Physical Model of a Pool-Riffle Unit: Empirical Analysis of Flow and the Velocity-Reversal Hypothesis (now a consulting fluvial geomorphologist in Sacramento, CA)

Stacey Porter, M.A., 2002, Velocity Distributions and Channel Types in Agricultural Streams: Implications for Hydraulic Habitat (now a fluvial geomorphologist with Balance Hydrologics, Berkeley, California).

Tania Matos, M.A., 2004. Influence of Bendway Weirs on Spatial Patterns of Bed Material Characteristics in Meander Bends

Elizabeth Woodward, M.A. 2006. Benches in Drainage Ditches: An Insight to Floodplain Initiation and Stream Naturalization.

Laura Keefer, M.A. 2006. Development and Application of Geomorphic Assessment Protocols for Channel Instability in Big Creek Watershed, Illinois.

Geoffrey Pociask, M.A., 2008. Influence of Bendway Weirs on the Lateral Migration of a Meandering River in East Central Illinois.

Kyle Massey, 2009, M.A., Three-dimensional flow structure in an Inset Channel within a Drainage Ditch: Influence of Bank Vegetation

Quinn Lewis, 2014, M.A., Mixing at a Small Stream Confluence, (now in PhD program, UIUC)

Kevin Johnson, 2017, M.A., Flow Structure of an Asymmetric Large River Confluence

Evan Lindroth, M.S., 2019, Objective Identification of Bankfull Stage in Meandering Rivers

Sadia Sabrina, M.S., 2020, Use of LSPIV to Characterize Flow Structure in a Small Stream Confluence

Poushalee Banerjee, M.S. In progress, Dynamics of lowland meandering river



### *PhD Students*

- Mark Welford, Ph. D., 1993, A Field Evaluation of the Formative Conditions, Wavelengths, and Heights of Alternate Bars in Alluvial Channels (now an Associate Professor at Georgia Southern University)
- Michael Urban, Ph.D., 2000, Drainage Development on the Embarras River, Illinois: A View of Anthropogeomorphic Change in Fluvial Systems (now an Associate Professor at University of Missouri, Columbia, MO)
- Kelly Frothingham, Ph.D., 2001, Function Follows Form: Relating Three-Dimensional Flow and Channel Morphology to Riverine Aquatic Habitat (Associate Professor at Buffalo State University, Buffalo, New York)
- Melinda Daniels, Ph.D., 2003, The Role of Large Woody Debris in the Dynamics of a Low-energy Meandering Stream in the Midwest: Implications for Stream (Stroud Water Research Institute)
- Inci Guneralp, Ph.D., 2007. Curvature-Migrations Relations and the Planform Dynamics of Meandering Rivers (Assistant Professor, Texas A&M University).
- James Riley, PhD, 2013, Dynamics of Confluent Meander Bends (Assistant Professor, Eastern Illinois University)
- Shane Csiki, PhD, 2014, The Effects of Run-of-River Dams on Stream Channel Morphology (fluvial geomorphologist, New Hampshire Geological Survey)
- Frank Engel, PhD, 2014, Fluvial Dynamics of Compound Meander Loops (research hydrologist, U.S. Geological Survey Water Science Center, Urbana, IL)
- Kory Konsoer, PhD, 2014, Flow Structure, Bed Morphology and Bank Erosion on Large Meandering Rivers (assistant professor, Department of Geography, Louisiana State University)
- Jessica LeRoy (Zinger), PhD, 2016, Cutoff Dynamics on Large Meandering Rivers, co-director of research with Jim Best (research hydrologist, Illinois Water Science Center, Urbana, IL)
- Alex Peimer, PhD. 2016. Banking on Offsets : A Political Ecological and Eco-Geomorphic Analysis of Section 404 Compensatory Stream Mitigation Banking in Illinois and Missouri, co-director of research with Thomas Bassett (Assistant Professor, Northeastern Illinois University)
- Muhammed, Umar, PhD, 2018 Satellite remote sensing of mixing dynamics at a large river confluence
- Mingjing Yu, PhD 2018 Sediment Dynamics in Intensively Managed Landscapes
- Quinn Lewis, PhD 2018 Measuring flow and mixing at stream confluences using large-scale particle image velocimetry, in-stream techniques, and small unmanned aerial systems
- Tanya Shukla, PhD, Anabranching of lowland meandering rivers, in progress
- Chelsy Salas, PhD, Suspended sediment dynamics of lowland rivers in intensively managed landscapes (in progress)

Tasneem Meem, PhD, Mixing at river confluences

Community Service

- 1989 Unpaid Consultant, Meadowbrook Park Drainage Project, Urbana Park District Advisory Committee, Urbana, IL
- 1990-94 Member of the Technical Advisory Board, Environmental Subcommittee, Upper Embarras River Basin Steering Committee
- 1992-96 Unpaid Consultant, Implementation of Alternative Land-drainage Strategies, Champaign County, IL. U. S. Natural Resources Conservation Service and Local Drainage Districts
- 1995 Unpaid Consultant, Phinney Branch Drainage Project, City of Champaign
- 1996 Member, Hydrology and Hydraulics Action Team, Illinois River Planning Committee
- 1997-98 Member, Stream Typing Group, Illinois Department of Natural Resources
- 1999 Member, Science Advisory Committee, Illinois River Coordinating Council, Office of the Lieutenant Governor, State of Illinois.
- 1999 Member of Conference Committee and Presenter, Stream Geomorphology Workshop, Kane County Department of Environmental Management and the Illinois Section of the American Society of Civil Engineers, May 13-14, Elgin, IL.
- 2002 Participant, Watershed Assessment Workshop to Support Illinois River 2020, Illinois Department of Natural Resources, Springfield, IL
- 2003 Participant and Presenter, Workshop on Stream Restoration, U.S. Geological Survey, Urbana, IL
- 2003 Presenter, Naturalization of Agricultural Streams in East Central Illinois, Isaak Walton League, Champaign Chapter, December 11.
- 2004 Presenter, Naturalization of Agricultural and Urban Streams in Illinois, Agricultural Watershed Institute, Decatur, Illinois, January 13
- 2004 Presenter, Naturalization of Agricultural Drainage Ditches, Vermilion County Drainage Conference, Natural Resources Conservation Service, Danville, IL, February 25.
- 2004 Presenter, Water 2004, Agricultural Drainage Management, Naturalization of Drainage Ditches and Drainage Management, Urbana, IL, October 13.
- 2006 Invited Participant, Agriculture & Hydrology Learning Network Conference, The Nature Conservancy, May 9-10, 2006, University of Illinois at Urbana-Champaign
- 2007 Presenter, Benches in Drainage Ditches: The Good, The Bad and The Ugly, Illinois Association of Drainage Districts Annual Conference, January, 19, Urbana, IL.

2006-19 Unpaid Consultant, Illinois Department of Natural Resources, and Illinois State Attorney  
General's Office, Swift Trucking versus the State of Illinois