

Curriculum Vitae

Mark William Bowen, Ph.D.

Department of Geography
Minnesota State University, Mankato
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EDUCATION

Doctor of Philosophy (2011)
Advisor: William C. Johnson

Geography, University of Kansas
Dissertation: *Spatial Distribution and Geomorphic Evolution of Playa Wetlands on the Kansas High Plains: Implications for a Changing Environment*

Master of Science (2004)
Advisor: Robert T. Pavlowsky

Resource Planning, Missouri State University
Thesis: *Consequences of Reservoir Drainage on Downstream Water Chemistry, Suspended Sediment, and Nutrients, Southwest Missouri*

Bachelor of Science (2000)

Missouri State University
Major: Geography
Minor: Computer Information Systems

PROFESSIONAL APPOINTMENTS

2021 – Present	Associate Professor, Geography, Minnesota State University, Mankato
2018 – Present	Co-Director, EARTH Systems Laboratory, Minnesota State University, Mankato
2018 – 2020	Assistant Professor, Geography, Minnesota State University, Mankato
2017 – 2018	Associate Professor, Geography, University of Wisconsin Oshkosh
2011 – 2017	Assistant Professor, Geography, University of Wisconsin Oshkosh
2007 – 2011	Graduate Research Assistant, Geography, University of Kansas
2005 – 2011	Research Assistant, United States Geological Survey, Lawrence, Kansas
2004 – 2008	Graduate Teaching Assistant, Geography, University of Kansas
2003	Graduate Teaching Assistant, Geography, Geology, and Planning, Missouri State University
2002 – 2004	Graduate Research Assistant, Geography, Geology, and Planning, Missouri State University
2000 – 2001	Chemistry and Earth Sciences Librarian Assistant, Washington University in Saint Louis

TEACHING EXPERIENCE

2021	Advanced Soils Geomorphology
2020	Soil Genesis and Landscape Evolution
2019	Geographic Research and Writing
2018 – Present	Soils Geomorphology
2018 – Present	Introductory Physical Geography (in-person and online)
2018 – Present	Earth Transformed: Life in the Anthropocene
2018	Geography Senior Capstone
2012 – 2018	Independent Study: Soil Research Topics and Techniques
2011 – 2018	Introduction to Physical Geography: Landforms and Soils (lecture and lab)
2013 – 2017	Water Resource Management
2012 – 2017	Principles of Soil Science
2012 – 2013	Environmental Conservation
2012	Advanced Topics in Physical Geography: Global Climates and Landscapes
2011	Introduction of Physical Geography: Weather and Climate Laboratory
2007 – 2008	Introduction to Soil Geography Laboratory
2007	Principles of Physical Geography
2007	Field Methods in Geographic Research
2004 – 2007	Introductory Meteorology Laboratory
2003	Special Topics in Geography Graduate Seminar: Water Quality

RESEARCH EXPERIENCE

2018 – Present	Late-Pleistocene and Holocene soils, geoarchaeology, geomorphology, and paleoenvironmental reconstruction in the Upper Mississippi River Basin
2017 – Present	Characterizing the geomorphic response of tropical rivers to increased hurricane frequency and intensity and land cover change
2012 – Present	Examining the role of conservation techniques in improving soil health
2006 – Present	Mapping and analyzing playa wetland – lunette dune system stratigraphy, morphology, and hydrology to reconstruct impacts of environmental change from the Late Quaternary to present
2017 – 2018	Mapped the distribution of mining contaminated soils and sediment in Wisconsin watersheds
2015 – 2018	Monitored and modeled water movement through playa hydric soils during hydroperiods
2006 – 2011	Applied the Hydrogeomorphic Approach to assess playa wetland ecological functions and identify factors impacting those functions
2007 – 2010	Analyzed stream channel response to large floods using USGS stream gage data
2006 – 2008	Determined response and recovery of mountain streams to a 100- to 500-year flood along the Colorado Front Range

2006	Investigated sediment sources to Perry Lake and Lake Wabaunsee using select chemical tracers, northeast Kansas
2005	Estimated degree of soil formation on a 12-year-old flood deposit of the Kansas River, Douglas County, Kansas
2005	Mapped surface Cretaceous and Quaternary geology: USGS EdMap project for Norton County, Kansas
2004	Assessed stream channel response to urbanization, Greene County, MO
2004	Conducted Phase One Environmental Assessment of North Dry Sac Watershed, Southwest Missouri
2003 – 2004	Implemented Total Maximum Daily Load water quality program for James River Watershed, Southwest Missouri
2002 – 2004	Conducted Phase One Environmental Assessment of Valley Mill Watershed, Greene County, Missouri

RESEARCH AND TEACHING INTERESTS

- Soils and soil geomorphology
- Quaternary stratigraphy and geomorphology
- Agricultural landscapes
- Paleoclimates and environmental change

PEER-REVIEWED PUBLICATIONS

Bowen, Mark W. and Luis Lepe. 2021. Examining patterns and drivers of spatial and temporal variability in playa water status on the High Plains of western Kansas, 2016-2019. *Midcontinent Geoscience*.

Collins, J., **Mark. Bowen**, T. Gill, and R. Langford. 2021. Stratigraphic relationship between Rimrock Lake and Hay Lake playas, Harney Basin, eastern Oregon, USA. *Journal of Paleolimnology*.

Bowen, Mark W. and William C. Johnson. 2019. Sediment accumulation and sedimentation rates in playas on the High Plains of western Kansas, USA. *Geomorphology*, Vol. 342, No. 1, Pg. 117-126

Johnson, William C., Randy L. Stotler, **Mark W. Bowen**, Jude H. Kastens, Daniel R. Hirmas, Dakota J. Burt, and Kaitlin A. Salley. 2019. Assessing Playas as Point Sources for Recharge of the High Plains Aquifer, Western Kansas. Kansas Geological Survey Open-File Report, No. 2019-2.

- Bowen, Mark W., William C. Johnson, and Dylan A. King. 2018. Lunette Dunes on the High Plains of Western Kansas as Foci for Geoarchaeological and Paleoenvironmental Research. *Physical Geography*, Vol. 39, No. 1, Pg. 21 – 37.
- Bowen, Mark W. and William C. Johnson. 2017. Anthropogenically-accelerated sediment accumulation within playa wetlands as a result of land cover change on the High Plains of the central United States. *Geomorphology*, Vol. 294, Pg. 135 – 145.
- Bowen, Mark W. and William C. Johnson. 2015. Holocene Records of Environmental Change in High Plains Playa Wetlands, Kansas, USA. *The Holocene*, Vol. 25, No. 11, Pg. 1838 – 1851.
- Bowen, Mark W. and William C. Johnson. 2012. Lunette distribution on the High Plains of Kansas – a guide to seeking Paleoindian sites. *Current Research in the Pleistocene*, Vol. 28.
- Bowen, Mark W. and William C. Johnson. 2012. Late-Quaternary Environmental Reconstructions throughout Playa-Lunette Evolution on the Central High Plains of Kansas, United States. *Geological Society of America Bulletin*, Vol. 124 (1-2): 146-161.
- Bowen, Mark W. and Kyle E. Juracek. 2011. Assessment of the Geomorphic Effects of Large Floods using Stream-Gage Information. *Physical Geography*, Vol. 32 (1): 52-77.
- Johnson, William C., Terri L. Woodburn and **Mark W. Bowen**. 2011. Revised Geologic Map, Norton County. Kansas Geological Survey, Map Series.
- Bowen, Mark W., William C. Johnson, Stephen L. Egbert, Scott T. Klopfenstein. 2010. A GIS-Based Approach to Identify and Map Playa Wetlands on the High Plains, Kansas, USA. *Wetlands*, Vol. 30 (4): 675-684.
- Juracek, Kyle E., and **Mark W. Bowen**. 2010. Channel Geomorphic Responses to Disturbances Assessed Using Streamgage Information. *Proceedings, Second Joint Federal Interagency Conference -- Ninth Federal Interagency Sedimentation Conference*, Las Vegas, NV, June 27-July 1, 2010. 10 p.
- Bowen, Mark W. 2010. Differential Heating. In *Encyclopedia of Geography*, Barney Warf (Ed.). Sage Publications.
- Bowen, Mark W., W.C. Johnson, S.T. Klopfenstein, and J.W. Dunham. 2009. Developing a Geospatial Database of Playas within the High Plains of Kansas. *Current Research in the Pleistocene*, Vol. 26: 191-193.
- Contributing author. 2008. A Laboratory Guide to Meteorology, 3rd Ed. Cengage Learning.

Campbell, J. S., W. C. Johnson, and **M. W. Bowen**. 2007. Mapping High Plains Playas as a Means to Identifying Potential Paleoindian Archaeological Sites. *Current Research in the Pleistocene*, Vol. 24: 194-195.

Bowen, Mark W. 2003. Consequences of Reservoir Drainage on Sediment and Nutrient Transport. *Papers of the Applied Geography Conference* Vol. 26: 424-433.

PROFESSIONAL REPORTS

Johnson, William C., Randy L. Stotler, **Mark W. Bowen**, Jude H. Kastens, Daniel R. Hirmas, Dakota J. Burt, and Kaitlin A. Salley. 2018. Playa Mapping and Assessment – Playa Lake Recharge. *Report for the Kansas Water Office Wetland Development Program*.

Bowen, Mark W. and William C. Johnson. 2017. Evaluating the long-term impacts of land cover, climate, and buffer condition change on sediment delivery and playa storage volume. *Report for the Great Plains Landscape Conservation Cooperative*.

Bowen, Mark W. and William C. Johnson. 2014. Evaluating the impacts of land use and climate change on playa form and function and effectiveness of grass buffers to mitigate these impacts. *Playa Lakes Joint Venture Research Report*.

Johnson, William C., **Mark W. Bowen**, and Stephen A. Egbert. 2012. Playas on the High Plains of Western Kansas – Mapping and Characterization of Playa Basins on the High Plains of Western Kansas and Development of a Regional Subclass-Specific Guidebook for Applying the Hydrogeomorphic (HGM) Approach to Assessing Wetland Functions of Playa Basin Depressional Wetlands. *EPA Region 7, Hydrogeomorphic Approach Guidebook series*.

OPEN-ACCESS TEACHING MANUALS

Bowen, Mark W. 2020. Introductory Physical Geography Online Laboratory Manual, Creative Commons copyright. Available at: <https://tinyurl.com/yalz8dms> (self-published, non-peer reviewed).

Bowen, Mark W. 2020. Introductory Physical Geography Laboratory Manual, Creative Commons copyright. Available at: <https://tinyurl.com/yaaogxo4> (self-published, non-peer reviewed).

Bowen, Mark W. 2019. Soils Geomorphology Exercise Manual, Creative Commons copyright. Available at: <https://tinyurl.com/ycrt6d4> (self-published, non-peer reviewed).

Bowen, Mark W. 2016. Principles of Soil Science Exercise Manual, Creative Commons copyright. Available at: <https://www.uwosh.edu/facstaff/bowenm/Labmanual-GEOG304.pdf> (self-published, non-peer reviewed).

Bowen, Mark W. 2016. Water Resource Management Exercise Manual, Creative Commons copyright. Available at: <https://www.uwosh.edu/facstaff/bowenm/Labmanual-GEOG364.pdf> (self-published, non-peer reviewed).

Bowen, Mark W. 2014. Landforms and Soils Laboratory Manual, Creative Commons copyright. Available at: <http://www.uwosh.edu/facstaff/bowenm/Labmanual-GEOG221.pdf> (self-published, non-peer-reviewed).

Bowen, Mark W. 2014. Landforms and Soils Online Laboratory Manual, Creative Commons copyright. Available at: <http://www.uwosh.edu/facstaff/bowenm/Labmanual-GEOG221online.pdf> (self-published, non-peer-reviewed).

PROFESSIONAL PRESENTATIONS

Shandonay, K.L., **Mark W. Bowen**, P.H. Larson, and G.L. Running. 2021. Stratigraphy and Geomorphic Evolution of Sand Stringers in the Upper Mississippi River Basin. Geological Society of America Annual Meeting.

Shandonay, K.L., **Mark W. Bowen**, P.H. Larson, and G.L. Running. 2020. Holocene records of environmental change in sand stringers of the Upper Mississippi River Basin. American Quaternary Association Virtual Meeting.

Bowen, Mark W. and William C. Johnson. 2020. Late Quaternary Environmental Change and Lunette Dune Formation and Evolution. Geological Society of America North-Central Section Meeting *Abstracts with Programs* 52.

Shandonay, K.L., R.J. Mataitis, L. Burds, P.H. Larson, **Mark W. Bowen**, G.L. Running, R.J. Schaetzl, and T. Rittenour. 2020. Geomorphology of aeolian sand stringers in western Wisconsin and southeastern Minnesota. Geological Society of America North-Central Section Meeting *Abstracts with Programs* 52.

Bowen, Mark W. and William C. Johnson. 2019. Anthropogenically accelerated sediment accumulation within High Plains playa wetlands. 50th Annual Binghamton Geomorphology Symposium.

Bowen, Mark W. and William C. Johnson. 2019. Quantifying sediment thickness and pre- and post-settlement sedimentation rates for High Plains playa wetlands utilizing ²¹⁰Pb and ¹⁴C dating techniques. Geological Society of America Annual Meeting *Abstracts with Programs* 51(5).

- Mataitis, R.J, P.H. Larson, G.L. Running, R.J. Schaetzl, **Mark W. Bowen**, D.J. Faulkner, T.M. Rittenour, M.S. Nelson, L. Burds, and R.C. Schirmer. 2019. Revisiting the distribution and geomorphology of sand stringers beyond the ice margin. Geological Society of America Annual Meeting *Abstracts with Programs* 51(5).
- Bowen, Mark W. and William C. Johnson. 2019. Late Quaternary deposition-deflation cycles preserved within playa-lunette systems on the High Plains, Kansas, USA. 20th Congress of the International Union for Quaternary Research, Dublin, Ireland.
- Beseler, Brianna and **Mark W. Bowen**. 2019. Characterizing the geomorphology of coastal montane streams – Robbins River, Jamaica. University of Wisconsin Oshkosh *Celebration of Scholarship*
- Marcou, Nicole, Adria Slade, Ricky Mataitis, Jason Millett, Phillip Larson, Douglas Faulkner, Randy Schaetzl, **Mark Bowen**, and Garry Running. 2019. Sand Stringers in southeastern Minnesota and west-central Wisconsin: A Progress Report. American Association of Geographers *Annual Meeting Abstracts – Washington, D.C.*
- Swanson, Melissa, Kira Kuehl, Rainier Bergstrom-Conley, Jason Millett, Andrew Wickert, Carrie Jennings, **Mark Bowen**, Phillip Larson, and Karen Gran. 2019. Revisiting the post-glacial landscape evolution of the Minnesota River valley: Preliminary Results. American Association of Geographers *Annual Meeting Abstracts – Washington, D.C.*
- Bowen, Mark W., Matthew H. Connolly, Toby Dogwiler, Robert T. Pavlowsky, and Brianna Beseler. 2019. Geomorphic Assessment of a Coastal Montane River in Southwest Jamaica. American Association of Geographers *Annual Meeting Abstracts – Washington, D.C.*
- Bowen, Mark W. 2019. Soil, Water, and Agriculture: A Sustainable Future for America's Breadbasket? Minnesota State University, Mankato, College of Social and Behavioral Sciences *Frontier Forum*.
- Bowen, Mark W. 2019. Soils as Environmental Barometers: From the Pleistocene to the Anthropocene. University of Minnesota Twin Cities, Department of Soil, Water, and Climate *Seminar Series*.
- Collins, Joe, **Mark W. Bowen**, T.E. Gill, and R. Langford. 2018. Using the Lithostratigraphic Record Preserved within Two Playa Wetlands to Reconstruct Paleoenvironmental Change and Geomorphic Response, Harney Basin, Oregon (USA). Geological Society of America Annual Meeting *Abstracts with Programs* 50(6).

- Collins, Joe, R. Langford, T.E. Gill, and **Mark W. Bowen**. 2018. Using End-Member Mixing Analysis (EMMA) of grain sizes to model transportational and depositional processes and determine stratigraphic relationships at Rimrock Lake and Hay Lake playas, Harney Basin, eastern Oregon, USA. American Geophysical Union 2018 Fall Meeting, Abstract EP13D-2129.
- Collins, Joe, **Mark W. Bowen**, T.E. Gill, and R. Langford. 2018. Using the Lithostratigraphic Record Preserved within Two Playa Wetlands to Reconstruct Paleoenvironmental Change and Geomorphic Response, Harney Basin, Oregon (USA). 49th Annual Binghamton Geomorphological Symposium.
- King, Dylan A., Robert T. Pavlowsky, **Mark W. Bowen**, Scott A. Leece, Douglas J. Faulkner, and Peter M. Jacobs. 2018. Long-term mining-zinc contamination and remediation effectiveness of stream sediments in the Galena Watershed, SW-Wisconsin and NW-Illinois. American Association of Geographers *Annual Meeting Abstracts – New Orleans*.
- Bowen, Mark W., William C. Johnson, and Melissa Goldade. 2017. Distribution and Geomorphology of Lunette Dunes on the Kansas High Plains. Geological Society of America Annual Meeting *Abstracts with Programs* 49(7).
- Stotler, Randy L., William C. Johnson, Dakota J. Burt, **Mark W. Bowen**, Kaitlin Salley. 2017. Investigations of Playa Basins as Point Source Recharge to the High Plains Aquifer. 22nd Annual Rainwater Basin Joint Venture Informational Seminar, Grand Island, NE.
- Bowen, Mark W. 2016. Evaluating the Effects of Environmental Change on Wetlands and Water Resources of the Central High Plains. University of Wisconsin Oshkosh, College of Letters and Science Dean's Symposium.
- Johnson, William C., Dakota J. Burt, **Mark W. Bowen**, Randy Stotler, and Kaitlin Salley. 2016. An Investigation into Playa Basins as a Point Source of Recharge of the High Plains Aquifer, Kansas. Governor's Conference on the Future of Water in Kansas. Manhattan, KS.
- Johnson, William C. and **Mark W. Bowen**. 2016. Playa Basins as a Point Source for Recharge of the High Plains Aquifer, Central Great Plains, USA. Geological Society of America *Abstracts with Programs* 48(7).
- Bowen, Mark W. and William C. Johnson. 2016. Lunette Dunes on the High Plains of Western Kansas: High-Resolution Records of Paleoenvironmental Change and Geomorphic Evolution. Geological Society of America *Abstracts with Programs* 48(7).
- Bowen, Mark W. and William C. Johnson. 2016. Evaluating the Effects of Environmental Change on High Plains Playa Wetlands from the Pleistocene-Holocene Transition through the Anthropocene. American Quaternary Association 24th Biennial Meeting, Santa Fe, New Mexico.

- Alexander, Laurie, Genevieve Ali, Nandita Basu, **Mark W. Bowen**, and others. 2016. North American Analysis and Synthesis of the Connectivity of Wetlands to Downstream Waters. USGS Powell Center Symposium, Fort Collins, Colorado.
- Goldade, Melissa M., William C. Johnson, Jude H. Kastens, **Mark W. Bowen**, Daniel R. Hirmas. 2016. Morphometric and Spatial Perspectives on Playa Basins in the Kansas High Plains. Association of American Geographers *Annual Meeting Abstracts - San Francisco 2016*.
- Bowen, Mark W. Impacts of Environmental Change on High Plains Playa Wetlands. Kansas State University, Department of Geography Symposium Series, February 2016.
- Bowen, Mark W. and William C. Johnson. 2015. Historical Sediment Accumulation within High Plains Playa Wetlands as a Result of Human Modification of the Short Grass Prairie. Geological Society of America *Abstracts with Programs* 47(5).
- Burt, Dakota, **Mark W. Bowen**, and Dylan King. 2015. Carbon Sequestration within Wetland, Cropland, and Grassland Soils of the High Plains. Association of American Geographers *Annual Meeting Abstracts - Chicago 2015*.
- King, Dylan, **Mark W. Bowen**, and Dakota Burt. 2015. Distribution and Morphometry of Playa-Lunette Systems on the High Plains of Kansas. Association of American Geographers *Annual Meeting Abstracts - Chicago 2015*.
- Johnson, William C., and **Mark W. Bowen**. 2014. Progressive Loss of Kansas Playas: Sources of Biodiversity and Potential Groundwater Recharge. Governor's Conference on the Future of Water in Kansas. Manhattan, KS.
- Johnson, William C., **Mark W. Bowen**, and Melissa M. Goldade. 2014. Hydrogeomorphic Attributes of the High Plains Playas, Western Kansas, 59th Annual Midwest Ground Water Conference, Lawrence, KS.
- Johnson, William C., Melissa M. Goldade, and **Mark W. Bowen**. 2014. Playas on the High Plains of Kansas. Kansas Academy of Science 146th Annual Meeting, Emporia, KS.
- Bowen, Mark W. and William C. Johnson, 2013. Late Quaternary Climate Changes on the Central High Plains Recorded in Playa-Lunette Systems. Geological Society of America *2013 Annual Meeting Abstracts* 45(7).
- Bowen, Mark W., William C. Johnson, and Chelsy A. Herring, 2012. Evaluating the Impacts of Environmental Change on Playa Form and Function. Geological Society of America *Abstracts with Programs* 44(5).

- Herring, Chelsy A. and **Mark W. Bowen**, 2012. Evidence of Rapid Climate Change Events Preserved within Playa Wetlands on the Central High Plains, Kansas, USA. American Quaternary Association 22nd Biennial Meeting, Duluth, MN.
- Bowen, Mark W. and William C. Johnson, 2011. Lithostratigraphy and Paleoenvironments of Playa-Lunette Systems on the Kansas High Plains. Geological Society of America *Abstracts with Programs* 43 (5).
- Bowen, Mark W. and William C. Johnson, 2010. Spatial Distribution and Geomorphic Evolution of Playa-Lunette Systems on the Kansas High Plains. Geological Society of America *Abstracts with Programs* 42 (5).
- Bowen, Mark W. and William C. Johnson, 2010. Late-Quaternary Paleoenvironment and Playa-Lunette System Evolution on the Central High Plains. Association of American Geographers Great Plains-Rocky Mountain Regional Meeting, Lawrence, Kansas.
- Johnson, William C. and **Mark W. Bowen**, 2010. Playas of Kansas – Form, Function, and History. Kansas Alliance for Wetlands and Streams Annual Meeting.
- Bowen, Mark W. and William C. Johnson, 2009. Playa Lake Response to Rapid Climate Changes during the Late-Pleistocene and Holocene on the High Plains of Kansas. Geological Society of America *Abstracts with Programs* 41 (6): 247.
- Bowen, Mark W. and William C. Johnson, 2008. Environmental History of Playas: The Eolian-Fluvial Systems of the High Plains of Kansas. 39th Annual Binghamton Geomorphology Symposium.
- Bowen, Mark W. and William C. Johnson, 2008. Playa-Lunette Systems and Paleoenvironmental Changes on the Central High Plains. Geological Society of America *Abstracts with Programs* 40 (6): 146.
- Bowen, Mark W. and William C. Johnson, 2008. Landscape Response to Climate Change Recorded within Playa-Lunette Systems on the Central High Plains, Kansas. American Quaternary Association 20th Biennial Meeting.
- Bowen, Mark W., 2008. Stratigraphic Investigations of High Plains Playas for Landscape Reconstruction. Association of American Geographers *Annual Meeting Abstracts – Boston 2008*.
- Bowen, Mark W., 2007. University of Kansas GIS Day Symposium: Identifying and Mapping Playa Basins on the Kansas High Plains.

- Bowen, Mark W. and W.C. Johnson. 2007. Mapping and Stratigraphic Investigations of Playa Basins on the High Plains of Kansas. Geological Society of America *Abstracts with Programs* 39 (6):302.
- Bowen, Mark W., W.C. Johnson, and A. Gray, 2007. Identification and Mapping of Playa Lakes within a GIS Environment for the High Plains of Kansas. Geological Society of America *Abstracts with Programs* 39 (3):26.
- Bowen, Mark W., 2007. Human Constructs, Channel Morphology, and the 100-Year to 500-Year Flood along the Colorado Front Range. Association of American Geographers *Annual Meeting Abstracts – San Francisco 2007*.
- Bowen, Mark W., 2006. Impact of Bridge Structures on Channel Morphology during a Flood Event along the Colorado Front Range. Invited Lecturer, University of Missouri, Department of Geography and Center for Arts and Humanities, Fall Colloquium Series.
- Bowen, Mark W., 2005. Short-Term Water Quality Variation in a Karst Spring, Southwest Missouri. Association of American Geographers *Annual Meeting Abstracts – Denver 2005*.
- Bowen, Mark W., 2003. Spatial Distribution of Nitrogen and Phosphorus in the Valley Mill Reservoir Study Area, Greene County, Missouri. 26th Annual Applied Geography Conference – Colorado Springs.
- Bowen, Mark W., 2003. Consequences of Reservoir Drainage on Sediment and Nutrient Transport. 26th Annual Applied Geography Conference – Colorado Springs.
- Bowen, Mark W., 2003. Effects of Reservoir Drawdown on Water Quality in a Small Reservoir, Southwest Missouri. Association of American Geographers *Annual Meeting Abstracts – New Orleans 2003*.

GRANTS AND AWARDS

- Bowen, Mark W. and Joe Collins. Collaborative Research: Late Quaternary paleohydrology and paleoclimate records of Silver Lake playa complex on the Owyhee Plateau, Northern Nevada, Great Basin. National Science Foundation, Paleo Perspectives on Climate Change. **Amount Requested for Minnesota State University: \$202,088 (Not Awarded)**
- Bowen, Mark W. 2020. Minnesota State University, Mankato Grant Writing Incentive. Resolving Discrepancies in Regional Responses to Climatic Fluctuations in The Great Basin: A study of the Evolution of Playas and Playa-Lunette Systems. **Award Amount: 5 additional days pay**

- Larson, Phillip H. and **Mark W. Bowen**. 2020. College of Social and Behavioral Sciences Special Funding Request. Support to travel and present research for Larson, Bowen, and four graduate students at Geological Society of America North-Central Section Meeting. **Award Amount: \$1,750**
- Bowen, Mark W. and Phillip H. Larson. 2020. College of Social and Behavioral Sciences Special Funding Request. Acquisition of equipment and supplies for GEOG 101 – Introductory Physical Geography. **Award Amount: \$1,900**
- Larson, Phillip H. and **Mark W. Bowen**. 2020. College of Social and Behavioral Sciences Online Differential Funding Request. Developing online laboratories and tutorials for GEOG 101 – Introductory Physical Geography. **Award Amount: \$4,111**
- Tjelmeland, Kirk (Kansas Water Office) (on behalf of Randy Stotler, University of Kansas, and **Mark W. Bowen**, Minnesota State University, Mankato). 2019. Evaluating Playas in Western Kansas: Recharge to the High Plains Aquifer and Economics of Cropping. U.S. Environmental Protection Agency Region 7 Wetland Program Development Grant. *Total Funds: \$277,615; MSU, Mankato Award Amount: \$32,500.*
- Larson, Phillip H. and **Mark W. Bowen**. 2019. College of Social and Behavioral Sciences Online Differential Funding Request. Developing online teaching material and virtual exercises for GEOG 101 – Introductory Physical Geography. **Award Amount: \$5,140**
- Bowen, Mark W. 2019. College of Social and Behavioral Sciences Special Funding Request. Support to travel and present research at the American Association of Geographers Annual Meeting. **Award Amount: \$1,400**
- Bowen, Mark W. 2019. Minnesota State University, Mankato Faculty Improvement Grant. Participate in workshops at Geological Society of America meeting and 2019 Binghamton Geomorphology Symposium (BGS), enabling me to serve on the 2020 BGS Planning Committee. **Award Amount: \$2,981**
- Bowen, Mark W. 2019. Minnesota State University, Mankato Faculty Research Grant. Distribution, stratigraphy, chronology, and paleoenvironmental significance of late Quaternary deposits and landforms of the Upper Mississippi River Basin. **Award Amount: \$4,996**
- Collins, Joe, **Mark W. Bowen**, Brian Coddling, and David Sammeth. *Submitted October 2018, Rejected. Collaborative Research: Resolving Discrepancies in Regional Responses to Climatic Fluctuations in The Great Basin: A study of the Evolution of Playas and Playa-Lunette Systems.* National Science Foundation, Paleo Perspectives on Climate Change. **Amount Requested for Minnesota State University: \$160,693 (Not Awarded)**

- Bowen, Mark W. 2018. Minnesota State University, Global Education Advisory Council, Global Education Faculty Travel Grant. *Participating in a field expedition experience in Ireland to explore developing a new study abroad course in the Department of Geography.* **Award Amount: \$1,000**
- Beseler, Brianna and **Mark W. Bowen**. 2018. Undergraduate Student/Faculty Collaborative Research Grant Proposal Competition. *Characterizing the Geomorphology of Coastal Montane Streams in Jamaica: Implications of Land Use Change and Increased Hurricane Frequency.* **Award Amount: \$3,000 stipend plus \$550 for supplies**
- King, Dylan and **Mark W. Bowen**. 2016. UW Oshkosh, Undergraduate Student/Faculty Collaborative Research Small Grants Proposal Competition. *Examining the effects of low-head dams in eastern Wisconsin on the upstream and downstream morphology of rivers.* **Award Amount: \$516**
- Bowen, Mark W. 2015. University of Wisconsin Oshkosh College of Letters and Sciences Excellence in Mentoring Award. **Award Amount: \$250**
- King, Dylan and **Mark W. Bowen**. 2015. Undergraduate Student/Faculty Collaborative Research Grant Proposal Competition. *Developing a geospatial database of lunette distribution and morphometry on the High Plains.* **Award Amount: \$3,000 stipend plus \$535 for supplies**
- Mushet, David, Charles Lane, Mark Rains, and Scott Leibowitz. 2014. United State Geological Survey Powell Center Proposal Competition. *North American Analysis and Synthesis on the Connectivity of "Geographically Isolated Wetlands" to Downstream Waters.* **Award Amount: \$43,084.** *I participated in the drafting and review of this proposal as a member of the research group, although I am not listed as a PI or Co-PI.*
- Baker, Debra S., **Mark W. Bowen**, Johannes J. Feddema, Craig C. Freeman, Daniel R. Hirmas, Donald G. Huggins, William C., Johnson, Diane Knowles, Dana L. Peterson, Randy L. Stotler, Susan Stover, and Pamela L. Sullivan. 2014. United States Environmental Protection Agency, Region 7 Wetlands Program Development Grant Proposal Competition. *Project 1. Conversion of existing farm ponds to wetlands in agricultural landscapes for mitigation, land use treatment and conservation with a perspective toward climate change; Project 2. Investigation of playa lake recharge in the Ogallala Aquifer.* **Award Amount: \$297,227**
- Bowen, Mark W. 2014. University of Wisconsin Oshkosh, Faculty Development Program Teaching Grant Proposal Competition. *Enhancing Instruction in a Large-Enrollment STEM Course by Developing a Laboratory Manual that Incorporates High Impact Teaching Practices and by Utilizing Improved Assessment Techniques.* **Award Amount: \$2,445 plus 7.5% salary**

- Bowen, Mark W. 2014. University of Wisconsin Oshkosh, Faculty Development Fund Off-Campus Travel Component, *Integrating Undergraduate Research into the Curriculum Institute*, Council on Undergraduate Research, **Award Amount: \$1,763.50**
- Bowen, Mark W. 2013. University of Wisconsin Oshkosh, College of Letters and Science, Social Sciences Division, Permanent Property Request. Konica Minolta CM-700d Spectrophotometer, **Award Amount: \$12,968**
- Bowen, Mark W. and William C. Johnson. United States Fish and Wildlife Service, Playa Research Grant Proposal Competition, 2013 – 2016. *Evaluating the long-term impacts of land cover, climate, and buffer condition change on sediment delivery and playa storage volume.* **Award Amount: \$113,901**
- Courtney, Paige and **Mark W. Bowen**. 2013. UW Oshkosh, Undergraduate Student/Faculty Collaborative Research Small Grants Proposal Competition. *Linking changes in climate to changes in sedimentation patterns within playa wetlands.* **Award Amount: \$548**
- Herring, Chelsy and **Mark W. Bowen**. 2012. UW Oshkosh, Undergraduate Student/Faculty Collaborative Research Small Grants Proposal Competition. *Evidence of Rapid Climate Change Events Preserved within Playa Wetlands.* **Award Amount: \$498**
- Bowen, Mark W. and William C. Johnson. 2012. Playa Lakes Joint Venture, Playa Lakes Joint Venture/ConocoPhillips Grant Proposal Competition. *Evaluating the impacts of land use and climate change on playa form and function and effectiveness of grass buffers to mitigate these impacts.* **Award Amount: \$12,705**
- Bowen, Mark W. 2012. UW Oshkosh, Faculty Development Program Research Grant Proposal Competition. *Evaluating the impacts of land use and climate change on playa wetland form and function.* Award Amount: **\$5,922 plus 15% salary**
- Bowen, Mark W., 2010. Geological Society of America. Annual Meeting Student Travel Grant.
- Bowen, Mark W., 2009. University of Kansas Summer Research Fellowship.
- Bowen, Mark W., 2009. University of Kansas, Department of Geography, Kollmorgen Graduate Research Scholarship. *Evidence of Rapid Climate Change Events Preserved within Playa-Lunette Systems.* **Award amount: \$1,000**
- Bowen, Mark W., 2009. Geological Society of America. Annual Meeting Student Travel Grant.
- Bowen, Mark W., 2008. University of Kansas, Department of Geography, Kollmorgen Graduate Research Scholarship. *Linking Playa Sedimentation Rates to Land Use and Global Climate Changes.* **Award amount: \$2,000**

Bowen, Mark W. and William C. Johnson, 2008. The Nature Conservancy, Nebraska Chapter of the J. E. Weaver Competitive Grants Program. *Mapping and Evaluation of Playa Wetlands on the High Plains of Kansas*. **Award amount: \$2,500**

Bowen, Mark W., 2007. Geological Society of America. Annual Meeting Student Travel Grant.

Bowen, Mark W., 2007. Association of American Geographers, Graduate Student Research Grant Proposal Competition, Water Resources Specialty Group, 103rd Annual Association of American Geographers Conference. *Role of Playa Lakes in Focusing Recharge to the Ogallala Aquifer on the High Plains of Western Kansas*. **Award amount: \$500**

Bowen, Mark W., 2007. Association of American Geographers, Dissertation Research Grant Proposal Award. *Soil Variability as an Indicator of Paleoclimate, Paleohydrology, and Playa Evolution on the High Plains of Kansas*. **Award amount: \$500**

Bowen, Mark W., 2007. Geological Society of America, Graduate Student Research Grant Proposal Award. *Soil Variability as an Indicator of Modern Hydrology, Paleohydrology, and Playa Origin and Evolution on the High Plains of Kansas*. **Award amount: \$2,400**

Bowen, Mark W., 2006. University of Kansas Graduate School Student Travel Grant.

PROFESSIONAL ASSOCIATIONS

American Quaternary Association

Binghamton Geomorphology Symposium

American Association of Geographers

- Geomorphology Specialty Group
- Paleoenvironmental Change Specialty Group

Geological Society of America

- Quaternary Geology and Geomorphology Division
- Soils and Soil Processes Interdisciplinary Interest Group

PROFESSIONAL DEVELOPMENT

Minnesota State University, Mankato, Center for Excellence in Teaching and Learning, Conducting Research with Undergraduates Certificate, October 2020

American Quaternary Association, Earth Science Publishing in the 21st Century virtual workshop, June 2020

Geological Society of America and National Association of Geoscience Teachers, Using Gigapan for Remote Teaching workshop, June 2020

National Science Foundation, Growing the Critical Zone Research Network workshop, February 2020

Sensors and Software, The Basics of Interpreting GPR Data Parts 1 and 2 webinar, January 2020

Minnesota State University, Mankato, Research and Sponsored Programs, Introduction to Grant Seeking workshop, October 2019

Minnesota State University, Mankato, Advising 201 workshop, February 2019

Minnesota State University, Mankato, Advising 101 workshop, February 2019

Minnesota State University, Mankato, Introduction to MavConnect workshop, January 2019

Minnesota State University, Mankato, Professional Development Day, Interdisciplinary Opportunities and MSU, Mankato, December 2018

Minnesota State University, Mankato, Faculty Research Grant workshop, September 2018

National Science Foundation, Division of Undergraduate Education, *What Does the Geoscience Landscape Look Like in the Badger State?* Faculty as Change Agents Workshop, November 2017

Wisconsin Council on Undergraduate Research, Take the Big Leap! Incorporating Research into Your Teaching Curriculum, October 2017

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. *Online Teaching Certificate*, Spring 2016

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. *Advising as Teaching Best Practices Certificate*, Spring 2016

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. *One Session Wonder – Advanced D2L*, December 4, 2014

University of Wisconsin System, Women and Science Program, *Opening Workshop for New STEM Educators*, Wisconsin Dells, WI, October 2 – 3, 2014

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. University Studies Program Explore Teaching Communities Workshop Series, spring 2014

Council on Undergraduate Research, *Integrating Undergraduate Research into the Curriculum*, Lakeland, FL, March 28 – 30, 2014

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. *One Session Wonder – Facilitating and Managing Classroom Discussions*, March 10, 2014

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. *One Session Wonder – Using ePortfolios in Your Course*, February 24, 2014

Malvern Instruments. *Masterclass 1: Understanding Laser Diffraction Particle Size Analysis Webinar*. January, 2014.

Malvern Instruments. *From the Application Laboratory – Lost in Statistics? Webinar*. December, 2013.

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. *One Session Wonder – Open Textbooks*, November 14, 2013

Occupational Safety and Health Administration and University of Wisconsin System. *Globally Harmonized System for Identification and Labeling of Hazardous Chemicals, HazComm 2012 Online Training*. November, 2013.

Council on Undergraduate Research, *Getting Started in Undergraduate Research for New, Future, and Current Faculty*, Denver, CO, October 26, 2013

University of Wisconsin Oshkosh. STEM Best Practices in Gateway Courses Workshop Series Certification. Spring semester, 2013.

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. *One Session Wonder – Assessment of Student Learning Online*, December, 2012

University of Wisconsin Oshkosh, College of Letters and Science. *Innovations in Pedagogy Workshop – Innovations in Global Pedagogy*, October, 2012

University of Wisconsin Oshkosh. University Studies Program Quest 1 Course Development Faculty College. May, 2012.

Council on Undergraduate Research Institute. *Beginning a Research Program in the Natural Sciences at a Predominantly Undergraduate Institution*. Hope College, November, 2011.

University of Wisconsin Oshkosh, College of Letters and Science. *Innovations in Pedagogy Workshop – Integrating Sustainability into your Classroom and Syllabus*, October, 2011.

University of Wisconsin Oshkosh, Center for Excellence in Teaching and Learning. One Session Wonder – Leading Discussion, Fall, 2011.

University of Wisconsin Oshkosh, Office of Grants and Faculty Development. Faculty Development Research/Teaching workshop. September, 2011.

University of Wisconsin Oshkosh. How to be a Competitive Grant Seeker in the Current Funding Climate webinar. September, 2011.

National Science Foundation. On the Cutting Edge – Preparing for an Academic Career in the Geoscience workshop. University of Nebraska, Lincoln, June, 2011.

SERVICE

Environmental Consultant (volunteer) for Missouri Department of Conservation and U.S. Forest Service (2020 – Present)

College of Social and Behavioral Sciences and College of Arts and Humanities, Minnesota State University, Mankato, College Merger Committee member (2021 – Present)

Department of Geography, Minnesota State University, Mankato, Graduate Coordinator (2019 – Present)

College of Social and Behavioral Sciences, Minnesota State University, Mankato, Research, Teaching, and Student Success Committee member (2020 – Present)

School of Applied Agriculture, Minnesota State University, Mankato Workgroup member (2020 – Present)

FarmAmerica, Junior Achievement Ag Career Program Presenter (2019 – Present)

Binghamton Geomorphology Symposium, Steering and Planning Committee member (2019 – Present)

Department of Geography, Minnesota State University, Mankato, Webmaster (2019 – Present)

Department of Geography, Minnesota State University, Mankato, Recruitment and Retention Coordinator (2019 – Present)

Department of Geography, Minnesota State University, Mankato, Social Media Coordinator (2019 – Present)

Co-Director, EARTH Systems Lab (2018 – Present)

College of Social and Behavioral Sciences, Minnesota State University, Mankato, Future Programmatic Development Committee member (2018 – Present)

Agriculture, Food, and Natural Resources Affinity Group member (2018 – Present)

Earth Science Program Curricular Revision member (2018 – Present)

- Earth Science Geography Department Representative

Regular Graduate Faculty Graduate Faculty member (2018 – Present)

Agriculture Minor Development Committee member (2018 – 2020)

- Essential Learning Outcomes Subcommittee member

Department of Geography, Minnesota State University, Mankato, Population Geographer Search Committee member (2018 – 2019)

Manuscript Reviewer – I typically provide one to two manuscript reviews per year for professional journals including Geomorphology, Journal of Environmental Management, Wetlands, Environmental Monitoring and Assessment, Journal of the American Water Resources Association, and others

07/16/2021