

## Brief Curriculum Vitae

### Jon F. Bartholic

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### EDUCATION

Ph.D. (Soil Physics), South Dakota State University, Brookings, South Dakota, 1974

B.S. (Soil Science), Michigan State University, East Lansing, Michigan, 1959

### EMPLOYMENT

1996-Present - Director, Institute of Water Research; Professor, Departments of Community, Agriculture, Recreation, and Resource Studies (CARRS -- formerly Resource Development) and Crop and Soil Sciences, Michigan State University

1989-1996 - Director, Institute of Water Research; Coordinator, Center for Remote Sensing; Professor, Departments of Crop and Soil Sciences and Resource Development, Michigan State University

1983-1989 - Chairperson and Professor, Department of Resource Development; Director, Institute of Water Research; Coordinator, Center for Remote Sensing; Professor, Department of Crop and Soil Sciences, Michigan State University; Associate Program Director, W. K. Kellogg Foundation, March 1987

1978-1983 - Assistant/Associate Director, Michigan Agricultural Experiment Station; Acting Director, Institute of Water Research; Acting Coordinator, Center for Remote Sensing; Professor, Departments of Crop and Soil Sciences and Resource Development, Michigan State University

1971-1978 - Professor of Climatology, Department of Fruit Crops, Institute of Food and Agricultural Sciences (IFAS), University of Florida

1966-1971 - Research Scientist, U.S. Department of Agriculture, Research Service, Weslaco, Texas

1964-1966 - United States Armed Forces

### PROFESSIONAL INTERESTS

Regional and Environmental Planning; Spatial Information Systems; Hydrology; Agricultural Meteorology and Climatology; Remote Sensing; Resource Development; Land Use Management and Education from a Watershed Perspective

### SIGNIFICANT HONORS/AWARDS

Universities Council on Water Resources, 8/95 received highest honorary award Friends of UCOWR

John Hannah Award for Program Excellence, 1998, as one of four cooperators in the development of CoastWatch (an internet based program providing Great Lakes surface water temperature information to Charter Boat captains)

Honored in "The Laureate-Journal of Computerworld Honors Program: A Search for New Heroes," June 2002 – for outstanding contributions in creating a benefit for society; *MSU Landscan CD* – a set of 143 CD-ROMS providing access to more than 80,000 aerial

photographs, helping to guide on-land action decisions by several hundred diverse organizations (Nominated by Morgan Stanley)  
MDEQ recognized USGS Team (IWR part of this team) for “their outstanding contributions to the Groundwater Mapping Project” so noted in USGS’s “internal weekly ‘highlights’, Sept. 2005.”

## **COURSES/TEACHING/LECTURES**

RD 491 – Adaptive Spatial and Environmental Processes (Methods and Modeling in Regional Analysis – a Primer)  
ANR 489 - Integrated Approaches to Agriculture and Natural Resources Problems (Implemented Fall Semester 2000)  
Virtual University Watershed Courses: **RD452**-Watershed Concepts; **RD891/section 731**- Building and Implementing Watershed Management Plans; **RD891/section 732**-Watershed Assessments and Tools; **RD891/section 733**-Legal, Financial and Institutional Frameworks for Watershed Management; **RD491/section 732**-Soil Erosion and Sedimentation Control; **RD491/section 731**-Watershed Concepts and Management for Local Officials, Public Administrators and Practitioners – [www.iwr.msu.edu/vu/watershed.html](http://www.iwr.msu.edu/vu/watershed.html) – All courses are offered each semester; ongoing  
ANS 490 – Comprehensive Nutrient Management Planning - Guest Lecture, SS2001

## **MOST RECENT RESENTATIONS/PAPERS/LECTURE/DISCUSSION/INVITED SPEAKER/RADIO-TV INTERVIEWS-PRODUCTIONS** (submitted/invited)

Presented at “Agriculture’s Conference on the Environment: Hard Questions. Straight Answers,” *The Future of Atrazine in Michigan*, March 24, 2003  
Presented at Water Management Association of Ohio (WMAO) Conference, Columbus, OH. Connecting Ohio’s Watersheds 2003 - Moving from Planning to Action: Integrating and Implementing Watershed Management Planning --- *An On-Line Watershed Decision Support System: What Is Its Structure and What Is Available?* Rick Farnsworth, Bernie Engel, Purdue University; Jon Bartholic, Michigan State University. June 3-4, 2003.  
Presented at 45<sup>th</sup> Annual Regulatory Studies sponsored by Institute of Public Utilities. *Water Supply and Resource Management*. August 11, 2003.  
Presented at Lake Michigan: State of the Lake Conference, Muskegon, Michigan. *Lake Michigan Basin Hydrology and Geology*. Da Ouyang and Jon Bartholic, Michigan State University. October 21, 2003.  
Presented at Town Meeting on Water Quality hosted by Waterloo Citizens in Action (WCIA). *Digital Watershed Website*. October 23, 2003.  
Presented at Winter Irrigation Workshop, Shipshewana, Indiana sponsored by Michiana Irrigation Association. *Models of Weather Patterns: Where Does Irrigation Water Go? Consumptive Use*. December 4, 2003  
Presented at Southwest Michigan Irrigation Workshop, Southwest Michigan Research and Extension Center, Benton Harbor, Michigan. MSU 2003 Research Results - *Sustainability of our Water Resources*. January 27-28, 2004.  
Attended Michigan Land Use Summit, Michigan State University. February 2-3, 2004.  
Presented at conference for Sediment Reduction in the Great Lakes Basin: A Strategic View sponsored by U.S. Army Corps of Engineers and the NACD Great Lakes Committee. *Using*

*Applied Research as a Tool for Assessing Soil Erosion and Sedimentation in the Great Lakes Basin.* Jon Bartholic and Da Ouyang, Michigan State University. March 2, 2004.

Presented at MSU-Water Spring Seminar Series; Highlighting Water Resources Research and Education Efforts on the Michigan State University Campus. *Sharing Red Cedar River Data and Information via the MSU-WATER Website.* April 30, 2004

Presented at Irrigation and Water Use Update sponsored by Michigan Groundwater Stewardship Program, Michigan State University Extension. *Changing aspects of Michigan's Water Use Regulation and Monitoring.* Dave Lusch and Jon Bartholic, Michigan State University. May 12, 2004.

Presented at 45<sup>th</sup> Annual Regulatory Studies Program sponsored by the Institute of Public Utilities (IPU). Kellogg Center, East Lansing, Michigan. August 6-7, 2004.

Participated in stakeholders and partners meeting sponsored by Center for Global Change & Earth Observations, Michigan State University. October 7, 2004

Presented at Great Lakes Regional Data Exchange. Marriott Renaissance Center, Detroit, Michigan. *A Unique Federal-State-Local Government Partnership.* Richard J. Zdanowicz, Water Division, US EPA Region 5 and Jon F. Bartholic, Institute of Water Research, Michigan State University. October 26-28, 2004.

Presented at 2004 Legislative Leadership Program, Michigan State University. *Water Issues: Quantity and Quality.* December 1-3, 2004.

Participated in debate presented by The Environmental Law Society of Michigan State University College of Law. *Michigan's Water Debate: A Discussion on the Future of Water Law and Policy.* February 10, 2005

Participated in "Smart Growth for Clean Water" Conference produced by Michigan Environmental Council. February 24, 2005.

Attended The Nonpoint Source Pollution Prevention (NPS) Program Reengineering Initiative hosted by Department of Environmental Quality (DEQ). March 3, 2005.

Attended Agricultural Partnership for Great Lakes Basin Conservation meeting at Kellogg Center, East Lansing, Michigan. March 11, 2005.

Participated in the Michigan Land Use Summit, Lansing Center, Lansing, Michigan. May 2005.

Participated in Greater Lansing Watershed Management Plan Stakeholders Meeting. June 3, 2005.

Presented at a hearing of the Senate Natural Resources and Environmental Affairs Committee hosted by Senator Patricia L. Birkholz, Saugatuck High School, Saugatuck, Michigan. July 14, 2005.

Presented at the Institute of Public Utilities' 47<sup>th</sup> Annual Regulatory Studies Program. *Water Resources Management and Planning.* August 1-12, 2005.

Provided Public Testimony at Scheduled Meeting for Committee on Natural Resources and Environmental Affairs in Northville, Michigan, chaired by Senator Patricia L. Birkholz. *Conservation of Michigan's Ground & Surface Water.* September 6, 2005

Cable Television Program Interview with Senator Patricia L. Birkholz, Michigan Senate, discussing groundwater withdrawal. October 6, 2005.

Presented at North Oakland Headwaters Land Conservancy 2005 Annual Meeting, Independence Oaks Lewis E. Wint Nature Center, Clarkston, Michigan. *Clean Water . . . Coming Soon to a Town Near You?* Dr. Jon Bartholic, MSU Institute of Water Research; Dr. John Warbach, Planning & Zoning Center, Inc. October 8, 2005.

## **PUBLICATIONS (2000 to present)**

Bartholic, J.F., et al. MSU-IWR 1999-2000 List of Accomplishments completed for USGS Greenbook Report to Congress.

Bartholic, J.F. 2000. "Congressional Testimony of Jon Bartholic on Behalf of the National Institutes for Water Resources Subcommittee on Interior Appropriation Committee on Appropriation, U.S. House of Representatives" in support of the National Institutes for Water Resources Water Institutes Program, April 6.

Ouyang, D. and J.F. Bartholic. 2000. Project Progress Report MICL01838 for Michigan Agricultural Experiment Station. "Development of a Knowledge Based Decision Support System for Integrated Landscape/Watershed Planning." Completed 1/26/2001.

Brown, E.M., D. Ouyang, A.J. Asher, J.F. Bartholic. 2001. Interactive Distributed Conservation Planning. Poster presented at the Integrated Decision-Making for Watershed Management Symposium: Processes and Tools, Blacksburg, VA, January 7-9. Proceedings on CD, 10 pp.

Witter, S.G., R. Kline-Robach, D.T. Long, J.F. Bartholic, and F. Poston. 2001. "MSU-Water: A New Way of Addressing Water Quality Challenges." Published in the University Council on Water Resources, Feb. 2001, pp. 47-59.

Brown, E.M., D. Ouyang, A.J. Asher, J.F. Bartholic. 2001. "Interactive Distributed Conservation Planning," Institute of Water Research, Michigan State University. Presented at the Watershed Management Symposium, "Interactive Distributed Conservation Planning," in Chevy Chase, MD, January 7-9. In Proceedings.

Bartholic, J., K. Wayland, L. Bruhn, S. Witter, C. Fridgen. 2001. MSU's Virtual Watershed Program: An Internet-based Academic Credit or Professional Certificate Program in Watershed Management. Presented at the National Association of Environmental Professionals 26<sup>th</sup> Annual Conference, Arlington, VA, June 24-28; in press.

Ma, Y., J. Bartholic, A.J. Asher, Y. Shi, O. Da, J. Grigar, 2001. "NPS Assessment Model: An Example of AGNPS Application for Watershed Erosion and Phosphorus Sedimentation," Institute of Water Research, Michigan State University. Published in the Journal of Spatial Hydrology, on-line at [www.spatialhydrology.com/journal/index.htm](http://www.spatialhydrology.com/journal/index.htm), Current Issue: Vol. 1, No. 1 Fall 2001, (must have Adobe Acrobat Reader), 8 pp.

Brown, E.M., D. Ouyang, A.J. Asher, J.F. Bartholic. 2002. "Interactive Distributed Conservation Planning," Institute of Water Research, Michigan State University. *Journal of American Water Resources Association: Special Issue on Integrated Decision-Making for Watershed Management* to be published in August 2002.

Kerr, J., D. Ouyang, and J. Bartholic. 2002. "Targeting Watershed Interventions for Reduction of Nonpoint Source Pollution." Department of Resource Development and Institute of Water Research, Michigan State University. *Journal of Soil and Water Conservation*; submitted

paper. Research funded by the U.S. Geological Survey with technical assistance from the Michigan Natural Resource Conservation Service-Steve Law.

Bruhn, L., K. Wayland, J. Bartholic, S. Witter, C. Fridgen. 2002. "Michigan State University's Virtual Watershed Program: Development and Delivery of an Internet-Based Academic Credit or Professional Certificate Program in Watershed Management." Commentary in the Journal of National Association of Environmental Professionals *Environmental Practice*, Vol. 4, No. 4, December 2002, ISSN 1466-0466, pp. 236-243.

Allen, L.H. Jr., K.F. Heimburg, R.G. Bill Jr., J.F. Bartholic, and K.J. Boote. 2004. "Remotely Sensed Temperatures and Evapotranspiration of Heterogeneous Grass and Citrus Tree-Canopy Surfaces." Proceedings from the Soil and Crop Science Society of Florida, Vol. 63, 20 pp.

Kettren, L.P., S. Miller, P.K.B. Hunt, A. Simard, J. Bartholic. 2004. "Investigating the Groundwater Quantity Effects on Ecosystems and Human Activities for Informed Groundwater Policy." Presented at Universities Council on Water Resources 2004 Conference, July 20-22, in Portland, OR. In Proceedings, 11 pp.

Bartholic, J.F., 2004. "Anticipating the Effects of Local Land Use Decisions." In Proceedings of Digital Watershed Changing Landscapes 2: workshop, Madison, Wisconsin, January 22-23, pp. 45-49.

Ouyang, D., J. Bartholic, and J. Selegan. 2005. Assessing Sediment Loading from Agricultural Croplands in the Great Lakes Basin. *The Journal of American Science*, Vol. 1(2): pp. 14-21.

Shi, Y., J. Bartholic, A.J. Asher, J-Y Choi, B. Engel, R. Farnsworth. 2005. "An On-line Web GIS-based Hierarchical Watershed Decision Support System for United States," ISEIS 2004 International Conference, Journal of Environmental Informatics Archives, ISEIS Publication #002, Volume 2 (2004), pp. 838-845.

## **Project Descriptions**

1. National Parks
2. USACE Sediment Modeling
3. USACE Sediment Runoff
4. Groundwater Inventory and Mapping
5. Building Capacity of E-Coli
6. GLPF Conservation Credits
7. Facilitating Michigan Source Water Protection
8. Know Your Coastal Areas
9. Facilitating Michigan Source Water Protection
10. USGS Annual Base Program

## Graduate Students

### MASTER OF SCIENCE THESES/PhD DISSERTATIONS COMMITTEE CHAIR/MEMBER

Kittleson, Kyle M., 1983. Bioenergy Industrial Location Decisions Emphasizing Raw Material Transportation Costs. PhD. Dissertation, Department of Resource Development, Michigan State University, East Lansing, MI 48824.

Kearns, Kimberly A., 1992. The Possibility and Procedures Used for Implementing a Biological Control Program to Manage Purple Loosestrife (*Lythrum salicaria L.*) in Wetland Habitat. Master of Science Plan B Research Paper, Department of Resource Development, Michigan State University, East Lansing, MI 48824.

Zimont, Ben A., 1992. The National Wetland Inventory and the Michigan Resource Information System: A Review and Digital Comparison of Wetlands Using Geographic Information Systems. Master of Science Plan B Research Paper, Department of Resource Development, Michigan State University, East Lansing, MI 48824.

He, Chansheng, 1992, An Adaptive Water Resources Management System for Water Policy Development in the Saginaw Bay Area of Michigan, PhD Dissertation, Department of Resource Development, Michigan State University, East Lansing, MI 48824.

Chou, Tiang Hong, 1993. Energy and Economic Analyses of Comparative Sustainability in Low-Input and Conventional Farming Systems. Master of Science Thesis, Department of Resource Development, Michigan State University, East Lansing, MI 48824.

Lee, Yuan Shuing, et al. 1997. Estimating Spatial Distribution of Nitrate: Case of Kalamazoo and Livingston Counties, Michigan--Applying GIS and Spatial Statistical Methods. Master of Science Degree-Plan B, Department of Resource Development, Michigan State University, East Lansing, MI 48824, May 4.

Ma, Kin M., 1997. Water Quality Assessment of the Chilung River Using Landsat Thematic Mapper and Airborne Multi-Spectral Scanner Images: Taipei, Taiwan. Master of Science Degree, Department of Resource Development, Michigan State University, East Lansing, MI 48824.

Lee, Kyung-Hyuk, 1998-1999. PhD, College of Engineering

Prapassara, Nilagupta, 1997-1999. PhD, Department of Resource Development; Modeling Future Demand for Energy Resources: A Study of Residential Electricity Usage in Thailand.

Lee, Yuan-Shuing, 1993-1997. Master of Science, Department of Resource Development.

Kang, Yung-Tsung, 1989-1999. PhD., Department of Resource Development; . A Watershed Based Optimization Approach for Agricultural Non-Point Source Pollution Management

Machemer, Patricia, 1996-1999. PhD, Department of Resource Development; . Evaluating Transfer of Development Rights Programming in Landscape Management

Moen, Thomas, 1996-1998. PhD. Department of Resource Development—Transferred to Crop and Soil Sciences, obtained degree 1999.

Zylstra, David, 1994-1996. Master of Science, Department of Resource Development; Local Environmental Decision Making.

Ouyang, Da, 1998-present. PhD, Crop and Soil Sciences; Modeling Sediment and Phosphorus Loading in a Small Agricultural Watershed.

Ann Wilson, 2000, PhD, Department of Resource Development-committee member

Leroy P. Kettren, PhD, 2000-Present, Department of Resource Development, Tentative Topic: Michigan's regulation of high-capacity groundwater withdrawal and the technology to support regulations - major advisor

Yi Shi, 2001-present, PhD, Department of Geography-committee member

Laura C. Bruhn, 2002, Master of Science, Department of Resource Development-major advisor

Diane Hickling-Hornbrook, 2002, Master of Science, Department of Resource Development-major advisor

Chia-Yii Yu, 2002, PhD, Department of Agricultural Engineering, committee member

Betsy Brantley, 2002-present, PhD

Michael Lang, 2003, PhD, Department of Resource Development, committee member.

Aurela Binjaku, 2003-present, M.S., Department of Community, Agriculture, Recreation, and Resource Studies, major advisor.

Patricia Harlow, 2003-present, M.S., Department of Community, Agriculture, Recreation, and Resource Studies, committee member.