

## Table of Contents

### A SECTION

#### FEATURES

- 5A The 2011 Ohio River flooding of the Cache River Valley in southern Illinois**  
Kenneth R. Olson and Lois Wright Morton
- 11A Nitrogen transport within an agricultural landscape: Insights on how hydrology, biogeochemistry, and the landscape intersect to control the fate and transport of nitrogen in the Mississippi Delta**  
Jeannie R.B. Barlow and Robert Kröger
- 17A IDEAS & INNOVATIONS**
- An ecologically based landscape classification system for monitoring and assessment of pastures**  
Sarah Goslee, Matt Sanderson, Kenneth Spaeth, Jeffrey Herrick, and Kevin Ogles
- 22A CONSERVATION IN PRACTICE**
- Profitable prairie restoration: The EcoSun Prairie Farm experiment**  
Cody Zilverberg, W. Carter Johnson, David Archer, Scott Kronberg, Thomas Schumacher, Arvid Boe, and Craig Novotny

### A SECTION Call for Papers

Are you working on cutting edge research in soil and water conservation? Does your work involve new tools, technologies, or materials that others should be aware of? Have you observed or been a part of conservation practices that are worth sharing with the journal audience?

If you answered “Yes” to any of these questions, you are invited to submit your article ideas for the A Section of the *Journal of Soil and Water Conservation*.

Your work could be published in one of the A Section topic areas: Conservation in Practice, Viewpoint, Ideas & Innovations, Conservation in Action, In the News, Feature, etc.

To submit your article ideas or for more information, contact editor Annie Binder at [annie.binder@swcs.org](mailto:annie.binder@swcs.org)



#### On the Cover

Ice crystals and air pockets form natural abstract patterns in the frozen surface of Spring Creek in Springbrook Prairie Forest Preserve, DuPage County, Illinois. Photo by Mark Baldwin.



Printed on 100% post-consumer waste recycled paper with vegetable-based inks.

## RESEARCH SECTION

- 1 Nitrate fate and transport through current and former depressional wetlands in an agricultural landscape, Choptank Watershed, Maryland, United States**  
J.M. Denver, S.W. Aator, M.W. Lang, T.R. Fisher, A.B. Gustafson, R. Fox, J.W. Clune, and G.W. McCarty
- 17 Effect of poultry litter application method on ammonia volatilization from a conservation tillage system**  
D.H. Pote and J.J. Meisinger
- 26 Nutrient delivery from the Mississippi River to the Gulf of Mexico and effects of cropland conservation**  
M.J. White, C. Santhi, N. Kannan, J.G. Arnold, D. Harmel, L. Norfleet, P. Allen, M. DiLuzio, X. Wang, J. Atwood, E. Haney, and M. Vaughn Johnson
- 41 A study of cattle producer preferences for best management practices in an East Tennessee watershed**  
D.M. Lambert, C.D. Clark, N. Busko, F.R. Walker, A. Layton, and S. Hawkins
- 54 Nutrient removal by prairie filter strips in agricultural landscapes**  
X. Zhou, M.J. Helmers, H. Asbjornsen, R. Kolka, M.D. Tomer, and R.M. Cruse
- 65 Runoff and soil loss in a typical subtropical evergreen forest stricken by the Wenchuan earthquake: Their relationships with rainfall, slope inclination, and vegetation cover**  
J. Wang, G. Sun, F. Shi, T. Lu, Q. Wang, Y. Wu, N. Wu, and K.P. Oli
- 75 Simulation of stream nitrate-nitrogen export using the Soil and Water Assessment Tool model in a dairy farming watershed with an external water source**  
R. Jiang, C. Y. Wang, R. Hatano, A. Hayakawa, K.P. Woli, K. Kuramochi

JOURNAL OF SOIL AND WATER  
**CONSERVATION**  

---

**o n l i n e**

The *Journal of Soil and Water Conservation* is online.

#### AUTHORS

Please submit manuscripts using the online manuscript review system.

#### MORE INFORMATION

Go to [www.jswconline.org](http://www.jswconline.org)

## EXECUTIVE DIRECTOR

Jim Gulliford  
Soil and Water Conservation Society  
Ankeny, Iowa, USA

## EDITOR & DIRECTOR OF PUBLICATIONS

Annie Binder  
Soil and Water Conservation Society  
Ankeny, Iowa, USA

## RESEARCH EDITOR & CHAIR OF EDITORIAL BOARD

Jorge A. Delgado  
Soil Plant Nutrient Research Unit  
USDA Agricultural Research Service  
Fort Collins, Colorado, USA

## EDITORIAL ASSISTANT

Amy Thompson  
Soil and Water Conservation Society  
Ankeny, Iowa, USA

## EDITORIAL BOARD

Verónica Acosta-Martinez  
Cropping Systems Research Laboratory  
USDA Agricultural Research Service  
Lubbock, Texas, USA

J. Gordon Arbuckle, Jr.  
Department of Sociology  
Iowa State University  
Ames, Iowa, USA

Francisco Arriaga  
Department of Soil Science and UW—Extension  
University of Wisconsin-Madison  
Madison, Wisconsin, USA

James C. Ascough II  
Agricultural Systems Research Unit  
USDA Agricultural Research Service  
Fort Collins, Colorado, USA

Karl Auerswald  
Technische Universität München  
Freising, Germany

Claire Baffaut  
Cropping Systems and Water Quality Research Unit  
USDA Agricultural Research Service  
Columbia, Missouri, USA

Meni Ben-Hur  
Institute of Soil, Water and Environmental Sciences  
Agricultural Research Organization, Volcani Center  
Bet-Dagan, Israel

Lorenzo Borselli  
Autonomous University of San Luis Potosí  
San Luis Potosí, Mexico

Kathryn J. Brasier  
Department of Agricultural Economics & Rural Sociology  
The Pennsylvania State University  
University Park, Pennsylvania, USA

Adrian Chappell  
Digital Soil Mapping Team  
Commonwealth Science & Industry Research Organisation  
Canberra, Australia

Zhibao Dong  
Key Laboratory of Desert and Desertification  
Chinese Academy of Sciences  
Lanzhou, Gansu Province, China

Moustafa A. Elrashidi  
National Soil Survey Center  
USDA Natural Resources Conservation Service  
Lincoln, Nebraska, USA

Clark J. Gantzer  
Soil, Environmental, and Atmospheric Sciences  
University of Missouri  
Columbia, Missouri, USA

Margaret W. Gitau  
Biological and Agricultural Systems Engineering  
Florida A&M University  
Tallahassee, Florida, USA

LeRoy Hansen  
USDA Economic Research Service  
Washington, DC, USA

Katharina Helming  
Leibniz Centre for Agricultural Landscape Research (ZALF)  
Müncheberg, Germany

Chunsheng Hu  
Center for Agricultural Resources Research  
Shijiazhuang, Hebei, China

Jane M.F. Johnson  
North Central Soil Conservation Research Laboratory  
USDA Agricultural Research Service  
Morris, Minnesota, USA

Amy L. Kaleita  
Agricultural and Biosystems Engineering  
Iowa State University  
Ames, Iowa, USA

Peter J.A. Kleinman  
Pasture Systems & Watershed Management Research Unit  
USDA Agricultural Research Service  
University Park, Pennsylvania, USA

Andreas Klik  
Institute of Hydraulics and Rural Water Management  
BOKU-University of Natural Resources and Life Sciences  
Vienna, Austria

Raúl S. Lavado  
College of Agronomy  
University of Buenos Aires  
Buenos Aires, Argentina

Birl Lowery  
Department of Soil Science  
University of Wisconsin—Madison  
Madison, Wisconsin, USA

Loretta M. Lynch  
Department of Agricultural and Resource Economics  
University of Maryland  
College Park, Maryland, USA

Machito Mihara  
Faculty of Regional Environmental Science  
Tokyo University of Agriculture  
Tokyo, Japan

Tom Mueller  
Department of Plant and Soil Sciences  
University of Kentucky  
Lexington, Kentucky, USA

Mark A. Nearing  
Southwest Watershed Research Center  
USDA Agricultural Research Service  
Tucson, Arizona, USA

Sharon K. Papiernik  
North Central Agricultural Research Laboratory  
USDA Agricultural Research Service  
Brookings, South Dakota, USA

Linda S. Prokopy  
Department of Forestry and Natural Resources  
Purdue University  
West Lafayette, Indiana, USA

Zeyuan Qiu  
Department of Chemistry and Environmental Science  
New Jersey Institute of Technology  
Newark, New Jersey, USA

Felix Kolawole Salako  
Department of Soil Science and Land Management  
University of Agriculture  
Abeokuta, Nigeria

M.S. Srinivasan  
National Institute of Water and Atmospheric Research Ltd.  
Christchurch, New Zealand

Peter Strauss  
Institute for Land and Water Management Research  
Federal Agency for Water Management  
Pöchlarn, Austria

R. Scott Van Pelt  
Wind Erosion and Water Conservation Research Unit  
USDA Agricultural Research Service  
Big Spring, Texas, USA

John Westra  
Department of Agricultural Economics and Agribusiness  
Louisiana State University  
Baton Rouge, Louisiana, USA

John D. Williams  
Columbia Plateau Conservation Research Center  
USDA Agricultural Research Service  
Pendleton, Oregon, USA

Wanhong Yang  
Department of Geography  
University of Guelph  
Guelph, Ontario, Canada

## BOARD OF DIRECTORS

Dan Towney, President & At-Large Director  
Steve Young, Vice President & At-Large Director  
Cheryl Simmons, Secretary & Southwestern Director  
Mark Steffek, Treasurer & Western Director  
Mark Berkland, Southeastern Director  
William W. Boyer, Northeastern Director  
Michael Collins, Northern Plains Director  
Gregory Johnson, South Central Director  
Susan Meadows, East North Central Director  
Pete Nowak, West North Central Director  
Tom Prout, Canada Director  
John Rissler, At-Large Director  
Miranda Yoose, Student Director

The *Journal of Soil and Water Conservation* (print ISSN 0022-4561, online ISSN 1941-3300) is published bimonthly by the Soil and Water Conservation Society. © 2014 by the Soil and Water Conservation Society. All rights reserved.

For subscriptions or membership, please visit [www.swcs.org](http://www.swcs.org) or call 800-THE-SOIL. POSTMASTER: Send address changes to *Journal of Soil and Water Conservation*, 945 SW Ankeny Road, Ankeny, IA 50023 USA. Periodicals postage paid at Ankeny, IA, and additional mailing offices.

Submit comments, contributions, advertising queries, and requests for reprints and permissions to the editor at [pubs@swcs.org](mailto:pubs@swcs.org). Articles in the Research Section have undergone peer review. The Soil and Water Conservation Society assumes no responsibility for statements and opinions expressed by contributors.

## Soil and Water Conservation Society Corporate Membership

### GOLD CORPORATE MEMBERS

Agri Drain Corporation  
[www.agridrain.com](http://www.agridrain.com)

DuPont Pioneer  
[www.pioneer.com](http://www.pioneer.com)

Hickenbottom Inc.  
[www.hickenbottominc.com](http://www.hickenbottominc.com)

### SILVER CORPORATE MEMBERS

Agren Inc.  
[www.agren-inc.com](http://www.agren-inc.com)

The Fertilizer Institute  
[www.tfi.org](http://www.tfi.org)

### BRONZE CORPORATE MEMBERS

Conservation Technology  
Information Center  
[www.ctic.org](http://www.ctic.org)

Ecosystem Services Exchange  
[www.ecosystemservicesexchange.com](http://www.ecosystemservicesexchange.com)

Forrest Keeling Nursery  
[www.fknursery.com](http://www.fknursery.com)

The Nature Conservancy  
[www.nature.org](http://www.nature.org)

Validus Ventures LLC  
[www.validuservices.com](http://www.validuservices.com)

White River Irrigation District

For information on becoming a  
corporate member, please contact

Christine Rhodes  
515-289-2331 ext. 114  
[corporate.info@swcs.org](mailto:corporate.info@swcs.org)