

## Table of Contents

### A SECTION

#### VIEWPOINT

- 31A **What contributions are invasive plant species making to ecosystem services?**  
Stephen L. Young

#### IDEAS & INNOVATIONS

- 33A **People in Ecosystems/Watershed Integration: A dynamic watershed tool for linking agroecosystem outputs to land use and land cover**  
Lisa Schulte, James Donahey, Luke Gran, Thomas Isenhardt, and John Tyndall

#### FEATURES

- 37A **Hugh Hammond Bennett and the creation of the Soil Conservation Service**  
Douglas Helms

- 48A **Ode to Soil**  
Graeme Buchan

#### TECH TRANSFER BRIEFING

- 55A **Does pesticide use in rice production in Arkansas lead to environmental problems?**  
John Mattice

- 56A **Why is China's Blue Revolution so "Blue"? Conservation tillage adoption in China**  
Jinxia Wang

- 57A **Riparian forests established by the Conservation Reserve Enhancement Program in Virginia: Implications for managers**  
W. Michael Aust

### 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 the editor Oksana Gieseman at [oksana.gieseman@swcs.org](mailto:oksana.gieseman@swcs.org).



**On the Cover**  
Big white cloud over the river.  
Photo by Andy Z.



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

## RESEARCH SECTION

- 63** **Effects of the resolution of soil dataset and precipitation dataset on SWAT2005 streamflow calibration parameters and simulation accuracy**  
D.N. Moriasi and P.J. Starks
- 79** **Assessment of production losses due to water erosion in rainfed areas of India**  
V.N. Sharda, P. Dogra, and C. Prakash
- 92** **Spatial resolution of soil data and channel erosion effects on SWAT model predictions of flow and sediment**  
R. Mukundan, D.E. Radcliffe, and L.M. Risse
- 105** **Evaluation of riparian forests established by the Conservation Reserve Enhancement Program (CREP) in Virginia**  
B.N. Bradburn, W.M. Aust, C.A. Dolloff, D. Cumbia, and J. Creighton
- 113** **Why is China's Blue Revolution so "Blue"? The determinants of conservation tillage in China**  
J. Wang, J. Huang, L. Zhang, S. Rozelle, and H.F. Farnsworth
- 130** **Analysis of river water for rice pesticides in eastern Arkansas from 2002 to 2008**  
J.D. Mattice, B.W. Skulman, R.J. Norman, and E.E. Gbur Jr.
- RESEARCH EDITORIAL**
- 141** **Sustainable use of soils and time**  
K. Kümmerer, M. Held, and D. Pimentel

JOURNAL OF SOIL AND WATER  
**CONSERVATION**  

---

**o n l i n e**

The *Journal of Soil and Water Conservation* has launched online.

#### AUTHORS

Please submit manuscripts using the new 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

Oksana Gieseman  
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

Jacqueline Pohl  
Soil and Water Conservation Society  
Ankeny, Iowa, USA

EDITORIAL BOARD

Mahdi M. Al-Kaisi  
Department of Agronomy  
Iowa State University  
Ames, Iowa, USA

Francisco Arriaga

National Soil Dynamics Laboratory  
USDA Agricultural Research Service  
Auburn, Alabama, USA

Darrell J. Bosch

Department of Agricultural and Applied Economics  
Virginia Polytechnic Institute and State University  
Blacksburg, Virginia, USA

Warren J. Busscher

Coastal Plains Soil, Water, and Plant Research Center  
USDA Agricultural Research Service  
Florence, South Carolina, USA

Grant E. Cardon

Extension  
Utah State University  
Logan, Utah, 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

LeRoy Hansen

USDA Economic Research Service  
Washington, DC, USA

Chunsheng Hu

Center for Agricultural Resources Research  
Shijiazhuang, Hebei, China

Roberto César Izaurralde

Joint Global Change Research Institute  
University of Maryland  
College Park, Maryland, USA

Peter J.A. Kleinman

Pasture Systems & Watershed Management Research Unit  
USDA Agricultural Research Service  
University Park, Pennsylvania, USA

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

Maurice J. Mausbach

Soil Survey and Resource Assessment  
USDA Natural Resources Conservation Service  
Fort Collins, Colorado, USA

Machito Mihara

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

Thanos Papanicolaou

Department of Civil and Environmental Engineering  
The University of Iowa  
Iowa City, Iowa, USA

Kenneth N. Potter

Grassland Soil and Water Research Laboratory  
USDA Agricultural Research Service  
Temple, Texas, USA

Felix Kolawole Salako

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

Peter Strauss

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

Mary E. Stromberger

Department of Soil and Crop Sciences  
Colorado State University  
Fort Collins, Colorado, USA

R. Scott Van Pelt

Wind Erosion and Water Conservation Research Unit  
USDA Agricultural Research Service  
Big Spring, Texas, USA

Anita Veihe

Department of Environmental, Social and Spatial Change  
University of Roskilde  
Roskilde, Denmark

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

Gary Steinhart, President & East North Central Director

William W. Boyer, Vice President & Northeastern Director

Clark Gantzer, Secretary & At Large Director

Peggie James, Treasurer & West North Central Director

Theo Dillaha, Southeastern Director

Danny Hughes, South Central Director

Melinda L. McClanahan, At Large Director

Mary Miller, Northern Plains Director

Colby Moorberg, Student Director

Marsha L. Paley, Canada Director

Jerry Pearce, Southwestern Director

Dan Towery, At Large Director

Don Wysocki, Western 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. © 2009 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.

IN MEMORY

In memory of Guy R. Mehuys, JSWC Associate Editor

Dr. Guy Roberts Mehuys passed away on February 6, 2010, at 64 years of age. Dr. Mehuys was an Associate Professor of Soil Science at McGill University, Montreal, Quebec, Canada. He served on the Editorial Board of the *Journal of Soil and Water Conservation* as Associate Research Editor from 2004 to 2009. The position of Associate Editor is a voluntary but extremely valuable service to the Soil and Water Conservation Society. Associate Editors are responsible for overseeing the peer-review process, including finding reviewers for submitted manuscripts. Dr. Mehuys was an effective Associate Editor who always performed high-quality, quick reviews and was an engaged participant at the Editorial Board Annual Meetings, doing his part to ensure that our journal was always held to the highest scientific standards.

Born in Great Britain, Dr. Mehuys completed most of his precollegiate education in Brussels, Belgium. He earned his BS with Distinction and his Ing. Agron. (Agr. Eng.) with Great Distinction at the Faculté des Sciences Agronomiques, Gembloux, Belgium. Dr. Mehuys earned his PhD in Soil Physics at the University of California, Riverside.

Dr. Mehuys was heavily involved in academia. In addition to teaching undergraduate and graduate courses, he often served as an academic adviser and over the course of his career supervised more than 30 thesis projects.

Dr. Mehuys was a highly productive scientist and writer, having authored or coauthored more than one hundred publications. Some of his areas of research were soil erosion, nitrate leaching, water qual-

ity, tillage erosion, and green manuring. Dr. Mehuys gave numerous presentations on his areas of expertise throughout his career, speaking in locations throughout the United States, Canada, Europe, and other international sites.

Dr. Mehuys was fluent in both English and French and has published works in each language. He also assisted in the English translation of Philippe Duchaufour's *Ecological Atlas of Soils of the World*.

Dr. Mehuys' professional achievements have made a significant impact in the fields of soil science, conservation, and agriculture, and will continue to make a difference for years to come. The *Journal of Soil and Water Conservation* deeply appreciates all of his contributions to the Soil and Water Conservation Society as a scientist, Associate Editor, and writer.