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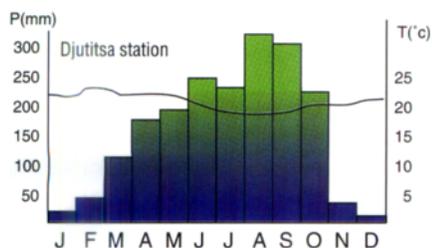
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JOURNAL OF SOIL AND WATER Conservation

NOVEMBER-DECEMBER 1997

VOLUME 52, NUMBER 6

FEATURES



404

400 Farming with computers

Valerie White

402 How small farmers use advanced research

Leslie Ozawa

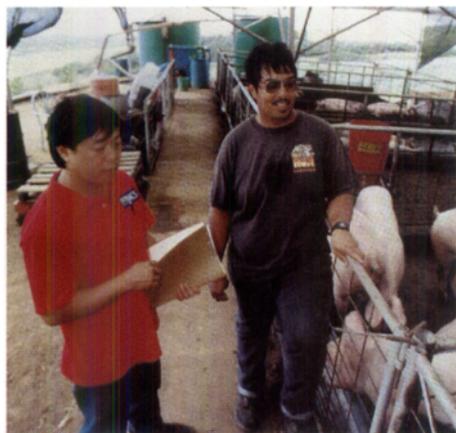
404 Impacts of industrialized agriculture on land in Bafou, Cameroon

P. Tematio and K.R. Olson

406 Industrialization of poultry and swine production: Implications for natural resource management

T.J. Hoban, M. McMillan, J. Molnar, and J.D. Parrish

RESEARCH



402

426 Phytoremediation of selenium laden soils: A new technology

G.S. Bañuelos, H.A. Ajwa, N. Terry, and A. Zayed

431 Construction of a year-round operating gauging station for sediment and water quality measurements of small watersheds

Farhad Salehi, Robert Lagacé, and Alain R. Pesant

437 Design and calibration of tipping bucket system for field runoff and sediment quantification

Ahmed A.H. Khan and Chin K. Ong

443 Sediment movement within a strip intercropping system

J.E. Gilley, L.A. Kramer, R.M. Cruse, and A. Hull

447 Comparative performance of forage sorghum, grain sorghum, kenaf, switchgrass, and silt-fence windbarriers in reducing wind velocity

J.D. Bilbro and D.W. Fryrear

452 Potential for soil erosion from decreased litterfall due to riparian clearcutting: Implications for boreal forestry and warm- and cool-water fisheries

R.L. France

DEPARTMENTS

398 SWCS view

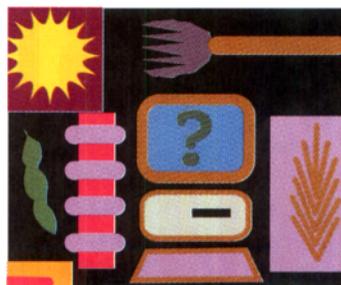
410 Pen Points

414 Product news

420 Books, etc.

421 Upcoming

456 Index



Cover
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EDITORIAL

In this issue

In this issue of the *Journal*, we take a look at different aspects of the introduction of new technology into the agricultural sector and how this process affects farms and ranches of different sizes. In contrast to earlier technological revolutions, the spread of information technology is taking the agricultural sector, as well as other sectors of the world economy, in divergent directions. While improvements in technology can lead to increased industrialization, less diversification, and the absorption of family farms into the larger agribusiness corporations, either by purchase or through contract alliances, another result is the creation of inexpensive networks of communication for family farmers to exchange information about current research to help them produce more effectively or sell at a better price. The environmental effects can also be viewed as positive or negative.

A report on "Reorganizing U.S. Agriculture: The rise of industrial agriculture and direct marketing," published recently by the Henry A. Wallace Institute for Alternative Agriculture, also comments on these divergent trends, pointing out that the trend away from industrialized agriculture is strong and vigorous, offering a viable alternative. An article in *CHOICES*, (Third Quarter 1997) ("Cyberfarm gains a foothold" by Steve Sonka and Karen Coaldrake) gives an example of a sophisticated electronic community, originating in Champaign County, Illinois, that was founded to create electronic access to support precision agriculture for producers, providing a place to share production information. (In the box on the right we show you a sampling of the web sites available to promote discussion and information sharing throughout the agricultural community.)

Authors in this issue of the *Journal of Soil and Water Conservation* take a look at a variety of agricultural communities and at the effect that improved technology, dissemination of research, and industrialization is having on agriculture and the environment—in Hawaii, Cameroon, the southern states of the US—and show that the effects are as various as the communities and the people involved.

Next issue of JSWC

Next issue your *Journal* will have a new look. Mainly, it will be heavier. We are going to a

quarterly publication schedule in January, so your First Quarter 1998 *Journal of Soil and Water Conservation* will be at least half as thick again as usual, because we have committed to publish at least as many papers, if not more, than last year, even with two fewer issues a year.

In addition, you'll see changes and innovations throughout the year. We plan to increase the number of comprehensive book reviews that we carry, to give you a better overview of the new books available in the natural resources field. And we hope to bring you more commentary and legislative analysis, as well as keeping you up to date with the latest research in your particular field and related resource conservation fields.

One reason we're doing this is because members have told us over the last several years that they want diversity from the SWCS publications. We have tried for a long time to meet all our members' needs with one publication and realize that it is no longer possible to reflect the breadth of membership interests in one journal. Therefore, beginning in February 1998, we will be offering a second publication, *Conservation Voices: Listening to the land*. This magazine will address issues of resource conservation as they relate to the practitioner. Look for articles about conflicts and their resolution between rural and urban dwellers, community supported agriculture, and case studies of conservation projects. Even if you would like to keep the *Journal of Soil and Water Conservation* as your primary member publication, you can still subscribe to *Conservation Voices*, and receive that bimonthly, four-color publication. If you're not ready to subscribe yet, then we'll make sure that you get to see a copy of it sometime during the first year. We're sure you'll like it. If you don't like it, let us know. Let us know if you do like it, too.

—Sue Ballantine, Director of Publications

Web links that help promote agricultural "cyberspace community"

Agriculture online:
<http://www.agriculture.com>

Ontario Agricultural Forum:
<http://www.farmshow.ca/chat/ontag>

Chicago Board of Trad market charts:
<http://www.cbot.com/mri/botpag.htm>

Precision Agriculture discussion sites:
http://www.agriculture.com/agtalk/Ag_Groups.html

ag/INNOVATOR:
<http://www.agriculture.com/technology/index.html>

Precision Ag Illustrated:
<http://www.precisionag.com/illus.html>

Precision Agriculture Magazine:
<http://www.wbm.ca/targetfarming>

Agri-Alternatives:
<http://www.agrialt.com>

Modern Agriculture:
<http://www.modernmag.com/index.htm>

Crop Reports:
gopher://usda.mannlib.cornell.edu/11/reports/erssor

Bean Prices:
<http://ianrwww.unl.edu/markets/grain.html>

John Reifsteck's Home Page:
<http://w3.aces.uiuc.edu/InfoAg/CyberFarm/Reisteck/index.htm>

Kent Krukewitt's Home Page:
<http://w3.aces.uiuc.edu/InfoAg/CyberFarm/krukewitt>

Steve Groff's Home Page:
<http://www2.epix.net/~cmfarm>

Cyberfarm:
<http://w3.aces.uiuc.edu/InfoAg/CyberFarm/cfarm.html>

American Crop Protection Association:
<http://www.acpa.org>

StratSoy homepage:
<http://www.ag.uiuc.edu/~stratsoy/new>

InfoAg conference:
<http://w3.aces.uiuc.edu/InfoAg>

Ontario Agriculture:
<http://www.tdg.ca/ontag>



P E N P O I N T S

Innovations in resource modeling: Remembering Arlin D. Nicks

For workers in any branch of science, it is always good to know something of the history and development of their subject. Modeling of erosion, hydrology and climate are still relatively new scientific activities; yet a chapter in their histories ended with the death of Arlin D. Nicks on July 2, 1997.

Arlin was involved with models of soil erosion by water for almost the whole of his 33-year working life as an Agricultural Engineer with USDA-ARS. During that time, he participated in the development of most of the major US models: if you have used or learned from CREAMS, GLEAMS, EPIC, SWRRB, or WEPP, you have reason to be grateful to him. And as we look forward to a new century and wonder about the implications of future global climate change, we have another reason to remember Arlin Nicks. He was a major player in the development and application of stochastic weather generators, an essential tool for erosion/climate change studies.

Career

It is difficult to do full justice in any article of reasonable length to Arlin's long and productive career. Here, some highlights are summarized.

Arlin Dwight Nicks was born into a farming community at Frederick, Oklahoma on December 26, 1934. His early education was in Oklahoma and Texas; he obtained BS and MS degrees in Agricultural Engineering from Oklahoma State University, and then in 1975 a PhD from the University of Oklahoma. From 1961 until his retirement he worked for USDA-ARS as an Agricultural Engineer, first at Chickasha, OK (until 1981) and subsequently at the National Agricultural Water Quality Laboratory in Durant, OK.

During the late seventies, Arlin was a member of the ARS team which developed the CREAMS model. He subsequently worked on the model's implementation and documentation. This is remembered by Jimmy Williams (formerly USDA-ARS; now at Texas Agricultural Experiment Station, Temple, Texas).

"Arlin Nicks served as lead scientist for hy-

drology during the development of the CREAMS model by a team of ARS scientists across the United States from 1978 to 1980. He was instrumental in implementing all of the model components on a number of mainframe and mini-computers, and he co-authored some sections of the model documentation. Following publication and release of CREAMS, Arlin worked with NRCS specialists at Fort Worth, Texas, to implement CREAMS on the USDA computers via terminals in the State Offices and National and National Technical Centers. During 1980-82, he was assigned to work with NRCS in conducting numerous workshops to train their specialists across the country in model applications, and help write a model users' manual for their agency. The users' manual was extremely helpful to CREAMS users, and it was distributed internationally."

"Arlin worked with CREAMS model users around the world, and made many varied and unique applications that furthered its use internationally. He also was the first to micro-base CREAMS for application on a personal computer, using his own Radio Shack computer for test implementation. Arlin's work on climate databases and development of the climate generator model, CLIGEN, not only aided CREAMS model users, but users of other ARS models such as GLEAMS, SWRRB, EPIC, SWAT, and WEPP. He will long be remembered for his work by modelers and model users around the world."

Arlin and the other team members received the USDA Superior Service Award in 1981 for their development of CREAMS.

Next, Arlin participated in the development of the EPIC model in the early eighties, most notably in the development of EPIC's stochastic weather generator. Clarence Richardson (Texas Agricultural Experiment Station) comments on this.

"The development of the weather generator enabled EPIC to be applied at any site in the US, whether or not actual weather data were available at the site. This development, led by Arlin, permitted a nationwide analysis of the effect of soil erosion on the nation's capacity to produce food and fiber. The EPIC analysis provided the basis for important national policy decisions regarding erosion control programs."

Pen Points is a forum for readers to comment on material that has been published in the JSWC or on land and water management issues in general. Readers are invited to express their views in a letter to the editor. Letters are judged on their clarity and pertinence to natural resource issues. Letters may be edited. Send letters to Editor, JSWC, 7515 Northeast Ankeny Road, Ankeny, Iowa 50021-9799; fax (515) 289-1227; email swcs@swcs.org or check our web site at <http://www.swcs.org/> —Editor

As a result, Arlin and the other team members received the USDA Distinguished Service Award in 1984.

In the latter part of the decade Arlin worked on WEPP, and created the CLIGEN weather generator. This is summarised by John M. Laflen (formerly of the USDA-ARS National Soil Erosion Research Laboratory; now at the USDA-ARS National Soil Tilth Center, Ames, Iowa).

"Arlin Nicks was one of the original twelve members of the WEPP core team charged with developing the technology to replace the USLE. Arlin's particular expertise was in providing a climate generator that would produce a climate database for WEPP use in the United States, including the Pacific Islands and Puerto Rico. The technology he developed, and the extensive database that supported it, was a major achievement of the WEPP project, making it possible to use WEPP nearly any place in the US. Arlin, however, did not confine his activities to the US. In 1992, he provided climate files for WEPP for five cities in Eastern Europe (Warsaw, Budapest, Prague, Belgrade and Sofia). In 1993, working with an Italian visiting scholar in the National Soil Erosion Research Laboratory, Arlin furnished WEPP files for 25 stations in Italy. Many other times he responded to requests for information for various locations in the world."

"Those of us that worked with him knew of his prodigal knowledge of the world's climate, and the immense database that he accessed to provide needed climate information. In addition, Arlin's work addressed many other needs in WEPP. He showed us how back calculation of R values using WEPP erosion predictions and generated weather matched well with the USLE's R values. He showed us that a reasonable prediction of soil erosion, sufficient for selection of conservation practices, could be made by running WEPP for twice the length of a rotation. He showed us that the climate files used in WEPP that were produced by his generator resembled natural weather. He taught us a lot about climate, and he was dedicated to producing a good product."

"Arlin was always a lot of fun to work with. He had a nice sense of humor, but not a lot of patience. When we had talked long enough about a problem, he'd say it was time to get to the 'rat-killing', an expression from his days on the farm in Oklahoma. It was his way of expressing his impatience with all talk and no action."

For this work, Arlin and other WEPP Core Team members were awarded the USDA-ARS Superior Service Award in 1990.

As well as his involvement in model development, Arlin had extensive experience of applying models of hydrology and erosion. Here is one example, described by Robert D. Williams

(USDA-ARS, El Reno, Oklahoma).

"Arlin Nicks was both a friend and a colleague. He and I started working together determining the impact of vegetative filter strips on erosion control and water quality in runoff from agricultural fields. The first of these studies was done with the CREAMS model, but before we were finished we had completed various studies using the GLEAMS, EPIC and WEPP models. Coming into the work with a background in plant science, Arlin was patient while I worked up the learning curve. Most of the knowledge I have gained in erosion and hydrology came from working with him. The work on vegetative filter strips led to co-operative work on the effects of climate change on erosion and water quality and quantity studies, again using various models. In this work he stressed the use of historical climate data, as well as model outputs, to generate the effects of possible climate change. Arlin had a sense of historical databases and was an advocate of keeping the connections to the previous work established. He preferred a balanced approach, and practical applications to the problem at hand. He was interesting to work with, enthusiastic about his work, and was willing to help anyone who showed the same interest and motivation. His work on erosion modeling and climate generation has made a significant scientific impact. As both colleague and friend, he will be missed."

While his roots were firmly in Oklahoma, Arlin travelled widely, usually along with his wife Janet. One early visit took him to Brazil, where he worked as a technical consultant with government agencies and the World Health Organisation. Subsequent working trips took in Hong Kong, Finland, the UK, Belgium, Switzerland, Indonesia, Kenya and Australia. A visit to Russia is described here by Professor Alexey Sidorchuk (Moscow State University, Russia).

"Dr Arlin Nicks visited Russia for the first time in the autumn of 1992, with a large group of specialists from the USDA. The purpose of visit was to attend an International Workshop on Quantitative Assessment of Soil Erosion, organized by the Geographical Faculty of Moscow

Acronyms used

CLIGEN	CLimate GENERator model
CREAMS	Chemicals, Runoff and Erosion from Agricultural Management Systems
EPIC	Erosion-Productivity Impact Calculator
GCTE	Global Change and Terrestrial Ecosystems
GLEAMS	Groundwater Loading Effects of Agricultural Management Systems
IGBP	International Geosphere-Biosphere Programme
SWAT	Soil and Water Assessment Tool
SWRRB	Simulator for Water Resources in Rural Basins
WEPP	Water Erosion Prediction Project

State University, Russia and the USDA-ARS National Soil Erosion Research Laboratory. As usual, Arlin was very active during the Workshop. His questions and comments during the proceedings showed us his great professional and human interest in the problems of global soil erosion and soil conservation. He and his wife Janet were very friendly, and enjoyed informal contacts with Russian colleagues, long talks and discussions long after the main time of the workshop."

"Also in this period, Arlin began his last work: to build up a global database of meteorological information which could be used for the estimation of global soil erosion and associated water quality problems, under different climate change scenarios. He was very much interested in the availability of existing data for the Russian territory which could be compiled into this database. During 1993-1995 a small joint project was run for collection of such information from the main meteorological stations in Russian territory."

"Arlin was a man of very wide knowledge. My colleagues and myself discussed with him the parallels between Russian and American history, mainly from the point of view of land colonisation and land use. He was always very critical of the approach to land use which had developed in both our countries for the last two or three hundred years, which is based only on short-term interests and leads to soil degradation and destruction on a large scale. At the same time, he always was very practical in his ideas of how to change this situation. Arlin had a fine sense of humour and was a skilful storyteller. I always enjoyed the evenings which I was lucky enough to spend with him."

My own first meeting with Arlin was at the 'CREAMS/ GLEAMS Symposium' in Athens, Georgia in 1989. However, I got to know him better — and first met his wife Janet — due to Arlin's participation in the IGBP-GCTE Focus 3.3 Soil Erosion Task. Arlin was invited to speak at the first meeting in 1994 in Paris, France (a meeting which ended for me, I recall, with a bar-room sing-song involving Arlin, Janet, my girlfriend Nicole and myself and a platoon of French gendarmes).

Arlin was subsequently invited to join the Steering Committee of the GCTE Soil Erosion Network. His years of experience with erosion models contributed greatly to GCTE's ongoing evaluation of erosion models, begun at a NATO Advanced Research Workshop in Oxford, UK in 1995. Arlin's contribution to GCTE is described by Christian Valentin (ORSTOM, Paris, France: Leader, IGBP-GCTE Soil Erosion Task).

"Arlin had very relevant ideas on the way to integrate experimentalists and modellers. The GCTE Soil Erosion Network is very much indebted towards him for this. Because of the

mutual discrimination between the two communities of modellers and experimentalists, it was essential that an 'open-minded modeller' represented the modeling community on the Network's committee. Arlin took on this role. He had so much experience in modeling (and experimentation) that he knew very well not only the value, but also the limitations, of the models."

"He was a very enthusiastic and nice man, accompanied by a lovely wife—and he had the very good sense to keep many cold drinks in his bedroom during the GCTE Workshops!"

At the time of his retirement from ARS in 1995, Arlin had authored or co-authored 97 publications and made over 40 presentations. However, he still remained active, keeping up his involvement in GCTE. In addition, Arlin continued his work of amassing an archive of weather data from his home in Durant. He also continued to pass on his knowledge to those who will continue his work. On the day that a heart attack claimed his life, Arlin had worked a full day with a former colleague, updating parameters for his weather generator database.

Arlin as a friend

However detailed the list of Arlin's achievements, it must surely fail to sum him up as he was known to his colleagues and friends. How can I put it? For me, Arlin's attitude to his life's work — erosion research — might be summed up in two words, which appear oddly contradictory at first glance: practical and visionary. Practical, because he was a man who preferred to solve a problem rather than talk about solving it; visionary, because he took the long view, and saw erosion as something that could steal food and resources from future generations. It seems to me that the two central elements of Arlin's nature were his deep belief in the necessity for mankind to do something conserve its soil, the soil that gives us our daily bread; and his practical nature, which led him to actually do something about it. The energy that he put into this is all the more remarkable when Arlin's physical health is considered: he had a leg amputated in 1957 after doctors diagnosed cancer; and cancer continued to trouble him throughout the remainder of his life. Maybe the memory of Arlin which I will keep for longest is of a car stop near some weirs on the Willamette River, Oregon. Standing by the silty, roaring flow, Arlin said to me, "Do you know why it's important that we work on erosion? So that future generations will have something to eat!"

Two other words also spring to mind: modest and kind. For all his great experience of erosion and erosion modeling, Arlin always emphasised how much more we still have to learn. His kindness is evident from the long list of the many people that he helped and taught. This

includes the present writer: I have lost count of the number of e-mails which we've swapped on CLIGEN, model validation, and other subjects.

A final word: fun. Arlin was witty and humorous, both in public and in private. In his keynote presentation 'Worldwide climate data availability for modeling' at the GCTE meeting 'Global Change: Modeling Soil Erosion by Water at the Catchment Scale' in Utrecht, The Netherlands (in April 1997: the last international meeting he attended), he had the audience laughing out loud. And in private—especially over a beer or two—Arlin could be hilarious.

With his passing, hydrological and erosion research have lost a great soul as well as a fine scientist. I am truly grateful for the opportunity to have worked with and learned from this remarkable man.

—David Favis-Mortlock, *Environmental Change Unit, University of Oxford, Oxford, UK*

To the Editor:

I have just read your website on manure management. I have been reading for a long time about the problem of manure—odor, disposal, spills, etc.—and its liability to society generally.

This is all nonsense. There's no problem with manure; the animals and land have had a reciprocal relationship for centuries. The problem is in concentrating animals by the thousands in one small spot. Thousands of farmers raising livestock over millions of acres cause some environmental problems, but not like the hog factories, the dairy feedlots, the beef feedlots, the poultry factories we have today. This is idiocy!

You spend millions of dollars trying to find solutions to a problem created by the corporate craving to own every pig, chicken, duck, cow and anything else that used to move. So Wendell Murphy joins Tyson as a billionaire.

That's the problem. Why not deal with the cause—the corporate invasion of agriculture—and stop fooling around with the results.

These factory farms have nothing to recommend them. Consumers are justified in their fear of the quality of food coming from sick and drugged animals, and people see what an ugly piece of work corporate agriculture is.

Why is it so many agricultural and environmental organizations spend their time finding remedies for something that should never exist in the first place? You're trying to make a pact with the devil. You're going to lose.

Get an understanding of a decent agriculture and fight for it.

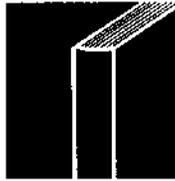
—Jane Alexander, *Chicago, IL*

To the Editor:

I feel compelled to write and voice my disappointment at having read Ian McHarg's essay, "Natural factors in planning," in the January/February issue of the *JSWC*. While I respect the author's right to overtly smatter his essay with blatant political rhetoric, I resent seeing his tripe in a supposed scientific journal.

Imagine my surprise at reading that the men who served as president and vice president during the administration which brought us the most far-reaching conservation provisions of any Farm Bill in U.S. history were opposed to the environment! And that the author's declining program at Penn State University was their fault as well! I expect many of the hard-working employees of the U.S. Forest Service and Bureau of Land Management would be surprised to find that, according to the author, their agencies are "charged with exploiting our national forests" and rangelands. His solution to short-sighted planning is straight out of liberal academia's handbook—that his "initiative should receive massive support." In other words, throw more money at the problem. His call for a "master agency" is absolutely frightening! There is a reason federal agencies' responsibilities are fractured—it is called checks and balances. And, of course, what essay wouldn't be complete without an attack on the Speaker of the House! I think the editor should check with the author to see if the Democratic National Committee was a ghost writer. Surely NRCS has more pressing budgetary needs than funding political attacks disguised as science-based essays.

—Dave Copeland, *Oronoco, MN*

**Agriculture**

Agricultural resources and environmental indicators, an Economic Research Service report. (AH-712). 347 pp., 1997. USDA/ERS/NRED, 1301 New York Ave. NW, Room 532, Washington, DC, 20005. Orders call 1-800-999-6779; Internet: <http://www.econ.ag.gov>. \$21.00, softcover.

Beef cattle science, seventh edition. by M.E. Ensminger. 1,084 pp., 1997. Interstate Publishers Inc.; order to Agriservices Foundation, 648 West Sierra Avenue, P.O. Box 429, Clovis, CA 93613. \$89.95, hardcover.

Swine Science, sixth edition. by M.E. Ensminger. 566 pp., 1997. Interstate Publishers Inc.; order to Agriservices Foundation, 648 West Sierra Avenue, P.O. Box 429, Clovis, CA 93613. \$73.25, hardcover.

Knott's handbook for vegetable growers, by Donald Maynard and George Hochmuth. 1997. John Wiley and Sons, Inc., 605 Third Avenue, New York, NY 10158-0012. Phone: 1-800-225-5945. \$75.00, hardcover.

Land

Placing nature: Culture and landscape ecology (ISBN 1-55963-559-2), Joan Nassauer, ed. 215 pp., 1997. Island Press, Box 7, Dept. 2PR, Covelo, CA 95428. Phone: 1-800-828-1302. \$30.00, softcover.

Range management: Principles and practices (ISBN 0-13-626988-5), by Holechek, Pieper, and Herbel. 542 pp., 1998. Prentice Hall, One Lake Street, Upper Saddle River, NJ 07458. Phone: 1-800-643-5506; fax: 1-800-835-5327. Internet: <http://www.prenhall.com>. \$ N/A, hardcover.

On rims and ridges: The Los Alamos area since 1880 (ISBN 0-8032-8966-9), by Hal Rothman. 384 pp., 1997. University of Nebraska Press, 312 North 14th Street, Lincoln, NE 68588-0484. Phone: (402)

472-3581. \$17.95, softcover.

Creating the prairie xeriscape: Low maintenance, water efficient gardening, by Sara Williams. U-Learn, Room 125 Kirk Hall, 117 Science Place, University of Saskatchewan, Saskatoon, SK S7N 5C8. Phone: (306) 966-5565; fax: (306) 966-5567. \$29.95, bind N/A

Biological indicators of soil health (ISBN 0-85199-158-0), Pankhurst, Doube, and Gupta, eds. 451 pp., 1997. Oxford University Press, 198 Madison Avenue, New York, NY 10016. Phone: (212) 726-6490; fax: (212) 686-7993; email: cabi-nao@cabi.org. \$ N/A, hardcover.

Policy

Privatization of information and agricultural industrialization (ISBN 1-57444-104-3), Steven Wolf, ed. 299 pp., 1997. CRC Press / Soil and Water Conservation Society. Orders contact SWCS, 7515 NE Ankeny Road, Ankeny, IA 50021-9764. Phone: (515) 289-2331, ext. 24; fax: (515) 289-1227; email: pubs@swcs.org; Internet: <http://www.swcs.org>. \$59.95, hardcover.

Framing a coherent climate change policy, by Frederick H. Ructer. 24 pp., 1997. Center for the Study of American Business, Washington University, Campus Box 1027, One Brookings Drive, St. Louis, MO 63130-4899. Phone: (314) 935-5630. Free, softcover.

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Environmental engineering and science: An introduction (ISBN 0-86587-548-0), by Ram Gupta. 498 pp., 1997. Government Institutes, 4 Research Place, Suite 200, Rockville, MD 20850-3226. Phone: (301) 921-2355; fax: (301) 921-0373; email: giinfo@govinst.com; Internet: <http://www.govinst.com>. \$79.00, hardcover.

Environmental guide to the Internet, 3rd edition (ISBN 0-86587-578-2), by Carol Briggs-Erickson and Toni Murphy. 384 pp., 1997. Government Institutes, 4 Research Place, Suite 200, Rockville, MD 20850-3226. Phone: (301) 921-2355; fax: (301) 921-0373; email: giinfo@govinst.com; Internet: <http://www.govinst.com>. \$59.00, softcover.

Recycling and waste management guide to the Internet (ISBN 0-86587-582-0), Roger Gurtentag. 276 pp., 1997. Government Institutes, 4 Research Place, Suite 200, Rockville, MD 20850-3226. Phone: (301) 921-2355; fax: (301) 921-0373; email: giinfo@govinst.com; Internet: <http://www.govinst.com>. \$49.00, softcover.

Uncertainty modeling and analysis in civil engineering (ISBN 0-8493-3108-0), Bilal Ayyub, ed. 528 pp., 1997. CRC Press LLC, 2000 Corporate Blvd., N.W., Boca Raton, FL 33431. Phone: 1-800-272-7737; fax: 1-800-373-3401; email: or-

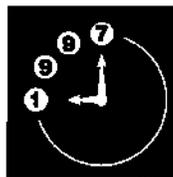
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Pinus (Pinaceae) (ISBN 0-89327-411-0), by Aljos Farjon and Brian Styles. 286 pp., 1997. Scientific Publications, The New York Botanical Garden, Bronx, NY 10458-5126. Phone: (718) 817-8721; fax: (718) 817-8842; email: scipubs@nybg.org. \$31.00, hardcover.

Water resources

Core and periphery: A comprehensive approach to Middle-Eastern water (ISBN 0-19-564062-4), by Biswas et al. 160 pp., 1997. Oxford University Press, 198 Madison Avenue, New York, NY 10016. Phone: (212) 726-6490; fax: (212) 686-7993; email: cabi-nao@cabi.org. \$24.95, hardcover.

Cleaning up the Great Lakes: From cooperation to confrontation (ISBN 0-87580-225-7), by Terence Kehoe. 264 pp., 1997. Northern Illinois University press, 320 A Williston Hall, DeKalb, IL 60115.



U P C O M I N G

Phone: (815) 753-1826; fax: (815) 753-1845. \$32.00, hardcover.

Wetland mitigation: Mitigation banking and other strategies for development and compliance (ISBN 0-86587-534-0), by Mark Dennison and James Schmid. 305 pp., 1997. Government Institutes, 4 Research Place, Suite 200, Rockville, MD 20850-3226. Phone: (301) 921-2355; fax: (301) 921-0373; email: giinfo@govinst.com; Internet: <http://www.govinst.com>. \$75.00, hardcover.

November 22-24, 1997. Groundwater Foundation annual groundwater guardian designation conference and education workshop.

Oak Brook, Illinois.
For more information, contact the Foundation at 1-800-858-4844 or visit their website at www.groundwater.org.

December 4-5, 1997. Restoration genetics workshop.

St. Petersburg, FL
Contact: University of Florida, Office of Conferences. Phone: (352) 392-5930; Internet: <http://www.ifas.ufl.edu/~conferweb>

February 10-12, 1998. Managing Manure in Harmony with the Environment and Society.

Ames, IA
Contact: Bob Ball, Program Task Force, C/o Natural Resources Conservation Service, Parkade Center, Suite 250, 601 Business Loop 70 West, Columbia, MO 65203; phone: (573) 876-0900; fax: (573) 876-0913; email: bobb@mo.nrcs.usda.gov.

Feb 11-15, 1998. The National Society of Consulting Soil Scientists annual conference. Savannah, Georgia.

For more information, call 1-800-535-7148; or contact Charlie Persinger at (515) 289-2331, ext. 12; email: charliep@swcs.org.

February 18-20, 1998. 11th Annual Missouri Forest, Fish, and Wildlife conference: Building Conservation Partnerships.

Lake of the Ozarks, MO
Contact: Mike Krusc, Missouri Dept. of Conservation, 1110 S. College Ave, Columbia, MO 6521; phone: (573) 882-9880; fax: (573) 882-4517; email: krusem@mail.conservaion.state.mo.us

February 20-22, 1998. Workshop on recycling of waste and its management.

New Delhi, India
Contact: Desh Bandhu, Indian Environmental Society, U-112, 3rd Floor, Vikas marg, Shakarpur, Deli - 110 092, India. Phone: (91-11) 222-3311; fax: (91-11) 331-7301; email: iesenro@del2.vsnl.net.in

March 17-21, 1998. 13th annual U.S. landscape ecology meeting: Applications of Landscape Ecology in Natural Resource Management.

East Lansing, Michigan
Contact: Jianguo Liu and William W. Taylor, Department of Fisheries and Wildlife, 13 Natural Resources Bldg.,

Michigan State University, East Lansing, MI 48824; phone: (517) 355-1810; fax (517) 432-1699; email: iale98@pem3.fw.msu.edu; <http://www.fw.msu.edu/iale98>

March 20-24, 1998. 63rd North American wildlife and natural resources conference: Changing Resource Values in Challenging Times.

Orlando, Florida
Contact: Wildlife Management Institute, 1101 14th Street, NW, Suite 801, Washington, DC 20005; Phone (202) 371-1808; fax: (202) 408-5059

April 15-17, 1998. 2nd American Wetlands Month conference, "Team Wetlands: 101 Ways to Win the Game."

Arlington, Virginia.
For more information, contact the Terrene Institute, 4 Herbert St., Arlington, VA 22305. Phone: (703) 548-5473; email: terrinst@aol.com.

April 26-May 1, 1998. Institute of Environmental Sciences and Technology 44th annual meeting.

Phoenix, AZ
Contact: IEST, 940 E. Northwest Highway, Mount Prospect, IL 60056. Phone: (847) 255-1561; fax: (847) 255-1699.

July 5-9, 1998. SWCS Annual Conference: Balancing Resource Issues: Land, Water, People

San Diego, CA
Contact: Soil and Water Conservation Society, 7515 NE Ankeny Rd., Ankeny, Iowa, 50021; Phone (515) 289-2331 ext. 12; fax (515) 289-1227, email: charliep@swcs.org