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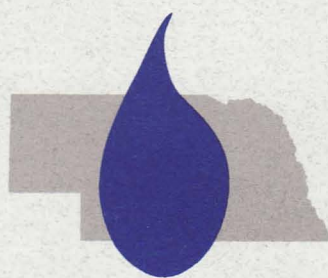


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# Water Current

University of Nebraska Water Center/Environmental Programs

Vol. 26 No. 1  
February 1994

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## UWIN offers forum for water information

Looking for water-related information? UWIN may be just what you're looking for.

The Universities Water Information Network (UWIN) was set up by the U.S. Geological Survey and the Universities Council on Water Resources.

UWIN's main objective is to provide a forum for the dissemination of information in the water resources community for both individuals and organizations.

There is no fee to either post information or to use the system. Current services include an expert directory, a

directory of abstracts of water resources research since 1967 and a



directory of the National Institutes for Water Resources.

UWIN can be accessed via Internet or modem. For more information, contact the Water Center/Environmental Programs unit.

## Register now for conference

Conjunctive use of groundwater and surface water is the theme of the 1994 Nebraska Water Conference.

The conference will be March 14-16 at the Cornhusker Hotel and Convention Center in Lincoln.

Deadline for registration is March 10. (Form included on Page 7 of this newsletter)

For more information about the program, contact the Water Center/Environmental Programs unit at (402) 472-3305.

## Sixth annual festival set for March

by Amy Killham  
**Groundwater Foundation**

Plans are well underway for the 1994 Children's Groundwater Festival scheduled for Tuesday, March 8, at Central Community College and College Park in Grand Island. The festival will take place from 8 a.m. to 4:30 p.m.

The sixth annual festival is sponsored by the Nebraska-based Groundwater Foundation

with presentations, demonstrations and entertainment by more than 200 water and natural resources professionals and performing artists.

An additional 150 volunteers from the Grand Island area will assist in making the event run smoothly.

The Omaha Symphony will conduct three mini-concerts at the festival this year. The

concerts will offer children a new way of learning about water. The symphony conductor will select music with water imagery and discuss the connections between the music and water with the children. In addition, the symphony will play a piece written especially for the festival called "Thunder Gods and Water Monsters." An evening concert for the

See Festival, Page 6.



# From the Director



**Bob G. Volk**

Best wishes for the new year to all of our readers from the staff at the Water Center/Environmental Programs unit at the University of Nebraska-Lincoln.

We have been busy making plans for the new year, and I would like to review a few of them with you.

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We are preparing a 16-page publication called "Water — Sharing a Resource" for insertion in several Nebraska newspapers.

We will distribute more than 400,000 copies, and local Natural Resources Districts will assist in development and distribution.

For more information on this educational publication, see story on Page 5.

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Education is also the goal of another project envisioned by the Water Center/Environmental Programs unit.

We have written a proposal and hope to receive funds to begin a new educational program to strengthen science education in the broad subject of water. The proposal seeks to develop new approaches to active student learning. Our goals are to:

1. Produce a television series on water to be broadcast statewide to science teachers over Neb\*Sat.

2. Support a statewide science experiment on water involving 7,500 primary and secondary students and 75 teachers per year.

3. Generate a permanent base of information on water available to

Nebraska teachers, students and residents.

To help us meet our goals, state agencies, the Groundwater Foundation and faculty in many departments would take part in program development and production.

Primary and secondary science teachers are a key to improving science literacy.

To help students learn decision-making, teachers need to gain more expertise in science by increasing their science knowledge and gaining a better appreciation of how science is done.

Teachers need powerful alternatives to the classic telling of how science is done. Teachers and students need to experience science as a way of thinking rather than as a collection of facts.

Environmental issues such as water quality and

quantity deserve increased prominence in the science curriculum. Besides being of intrinsic importance, these issues are ideal vehicles for changing how science is taught: they are appealing to students and to the whole community, and they lend themselves to an interdisciplinary approach to science teaching.

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Please feel free to contact us at any time for information on water resources in Nebraska.

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This issue of the Water Current also contains a pre-registration form for the annual Nebraska Water Conference. If you haven't attended it in the past, consider attending this year's conference, which focuses on a topic of concern to all Nebraskans: conjunctive use.

## *Water Current*

is a publication of the Water Center/Environmental Programs at the University of Nebraska-Lincoln.

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# High Plains groundwater as a sustainable resource

by **Robert D. Kuzelka**

The book "Ogallala: Water for a Dry Land" by John Opie is the first in a University of Nebraska Press series on our sustainable future.

The series editors are to be commended for addressing a current and controversial sustainability dilemma — the use of groundwater for agriculture production in an area which otherwise has an insufficient water supply.

The author presents a well-researched background on the formation and physical capabilities of the Ogallala/High Plains aquifer which underlies land from South Dakota to Texas. He then reviews the history of human discovery and use of this water supply source.

As a result of technology the resource in many areas has been, or is being, depleted to an inaccessible state.

John Opie is a professor of history at the New Jersey Institute of Technology and director of its Center for Technology Studies.

His philosophy about sustainability is expressed in the book's introduction with "... rethinking the Ogallala and reworking High Plains agriculture could provide America with a model for sustainable development."

The setting for Opie's explorations and proposals is southwest Kansas

and the Oklahoma and Texas panhandles.

The development of irrigated agriculture and existing management systems in the area are well summarized. A human perspective is added through studies of specific farm families.

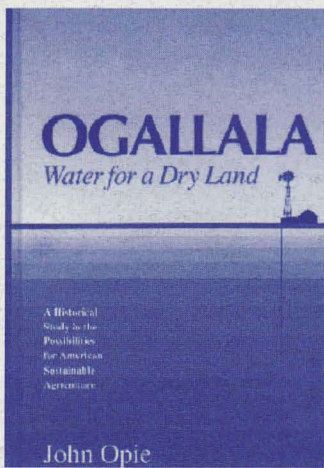
In looking to the future the author catalogues the various physical proposals which have been made for bringing more water into the area.

In 18 chapters, Opie traces the history of water use from the farmer's frontier in the 1870s to center-pivot irrigation, to more recent plans for obtaining water

policies are not adequate to solve the problem, and physical remedies seem unlikely.

"Pumping the Ogallala remains a one-time experiment," Opie states. The 412-page book concludes with the author's thoughts about a "shift to sustainable development" for the area.

"Ogallala" provides another perspective on the future of the High Plains and its agriculture. Limited in detailed solutions, it will either encourage or irritate the reader. An added bonus is the appendix which annotates writings about the High Plains from



*Opie's analysis is that there will be less groundwater with increasing needs to sustain conventional farming.*

from river basins.

He also explores the potential effect of global warming on the area. His analysis is that there will be less groundwater with increasing needs to sustain conventional farming.

Existing management

John Wesley Powell (1878) to the present.

"Ogallala: Water for a Dry Land" is available from the University of Nebraska Press, 901 N. 17th St., Lincoln, NE 68588-0520 for \$35 plus tax.

## Nitrogen conference proceedings available

ORONO, Maine — The University of Maine Water Resources Program has published papers presented at an Oct. 8, 1993 conference titled "Nitrogen in the Environment: Sources • Impacts • Management."

The 17 papers contain information about nitrogen fate and transport in New England's forests, soils, urban areas and coastal waters. The proceedings also contain a summary of the effect of nitrogen on human health and the results of groundwater monitoring efforts in Maine.

Copies may be ordered from the Water Resources Program, University of Maine, (207) 581-1490, and orders may be faxed to 207-581-1426. Cost is \$7 each plus postage.



# CALENDAR

## Tropical water center set up

A water center for the humid tropics of Latin America and the Caribbean began operation this year under an agreement between the Republic of Panama and the UNESCO International Hydrological Programme (IHP).

The center's official name is CATHALAC, short for Centro del Agua del Tropico Humedo de America Latina y el Caribe.

The center is designed to coordinate research projects and put them in an international perspective, as well as make research results available to a wide audience.

The humid tropics, as defined by IHP, make up 22 percent of the earth's land area. They hold 1,282 million hectares of tropical rain forests and a large portion of the world's estimated 30 million plant and animal species.

Source: University of Minnesota Water Resources Research Center.

## February

• **Feb. 11:** Water Research Brown Bag Session by Water Sciences Laboratory, NU Water Center/Environmental Programs, 11:30 a.m. to 1 p.m., East Campus, UNL, Lincoln.

• **Feb. 16:** UNL Water Seminar Series "Changes in Irrigation Technology" — Les Sheffield, 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

• **Feb. 23:** UNL Water Seminar Series "Industry" — Charles Lamphear, 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

## March

• **March 2:** UNL Water Seminar Series "Resource Allocation During Scarcity" — Steve Schafer, 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

• **March 7-10:** National Agricultural Pesticide Management Conference and Workshop, St. Louis, Mo. Cosponsored by Conservation Technology Information Center, U.S. EPA, USDA Soil Conservation Service and others. For more information, call (317) 494-9555.

• **March 8:** Children's Groundwater Festival, 8 a.m. to 4:30 p.m., Central Community College and College Park, Grand Island. Contact: The Groundwater Foundation, 1-800-858-4844 or (402) 434-2740.

• **March 9:** UNL Water Seminar Series "Outreach: Water Education in Nebraska" — Bob G. Volk, 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

• **March 11:** Water Research Brown Bag Session by UNL Department of Electrical Engineering, 11:30 a.m. to 1 p.m., City Campus, UNL.

• **March 15-16:** Nebraska Water Conference, "Conjunctive Use — Sharing the Resource," Cornhusker Hotel, Lincoln. Contact: Les Sheffield, (402) 472-1773.

• **March 27-30:** Second International Conference on Groundwater Ecology, Atlanta, Ga. Sponsored by U.S. Environmental Protection Agency and others. Contact: John Simons, U.S. EPA, Ground Water Protection Division, Washington, D.C. (202) 260-7091.

• **March 30:** UNL Water Seminar Series "Environment" — Charles Flowerday, 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

## April

• **April 6:** UNL Water Seminar Series "Politics and Policy" — Steve Gaul, 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

• **April 8:** Water Research Brown Bag Session, Department of Plant Pathology, 11:30 a.m. to 1 p.m., East Campus, UNL, Lincoln.

• **April 13:** UNL Water Seminar Series "Farm Families: Vaseys and Germans" — Don McCabe and Douglas German, 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

• **April 20:** UNL Water Seminar Series "Future Uses and Controls of Nebraska Water" — Panel members Kent Wolgamott, Roy Frederick and John Janovy. 3:30 p.m. to 4:30 p.m., East Campus Union, Lincoln.

## May

• **May 11-13:** "Drought Management in a Changing West: New Directions for Water Policy," Portland, Ore. Sponsored by International Drought Information Center, UNL. Contact: IDIC, Department of Agricultural Meteorology, 246 Chase Hall, UNL, Lincoln, NE 68583-0728, (402) 472-3679.

## July

• **July 17-22:** Second International Symposium on Artificial Recharge of Groundwater, Orlando, Fla. Organized by ASCE. Discussion of design, construction and operation of wells, spreading basins and other recharge facilities, and recharge with various qualities of potable water, surface water and reclaimed wastewater into consolidated, unconsolidated, confined and unconfined aquifers. Contact: Ivan Johnson, Arvada, CO, (303) 425-5610.



## Brochure describes water laboratory

A new brochure produced by the Water Center/Environmental Programs unit describes the Water Sciences Laboratory at the University of Nebraska-Lincoln.

The Water Sciences Laboratory, directed by Roy Spalding, is a world-class facility for the analysis of pesticides.

For a copy of the brochure, contact the Water Center/Environmental Programs unit.

## Water focus of insert

A 16-page newspaper insert will help get out the word on urban and rural water issues this spring.

"Water — Sharing a Resource" is being produced by the Water Center/Environmental Programs unit with funding and assistance from several sponsors.

The insert will be available to readers of the Omaha World-Herald, Lincoln Journal-Star, Scottsbluff Star-Herald and the Norfolk Daily News in early March.

A four-page insert will feature information related to the state's Natural Resources Districts.

The inserts in the Scottsbluff and Norfolk papers will contain information particular to the NRDs of those areas.

Designed as an easy-to-read introduction to water issues, the publication addresses a wide range of topics ranging from drinking water quality to recommended farming practices for producers.

## High school primer out

"Geology, Geologic Time and Nebraska," a new primer intended for junior high and high school students, is now available from the Conservation & Survey Division at the University of Nebraska-Lincoln.

The 59-page primer was written by Marvin P. Carlson, a research geologist with the Conservation & Survey Division. The richly-illustrated volume serves as an easy introduction to geology.

"If there's anything we want to convey, it's the immensity of geologic time," Carlson said.

Cost for the primer is \$5.50 plus postage and tax.

For more information or to order, contact the Conservation & Survey Division at (402) 472-7523.

## National fellowships available in water sciences

National Needs Graduate Fellowships of the U.S. Department of Agriculture are available at the University of Nebraska for doctoral studies in the water sciences.

Strong research programs are available for study in:

- irrigation engineering
- water resources engineering
- waste management
- fate of agricultural chemicals
- solute transport
- nitrogen cycling and management
- groundwater quality
- soil physics
- agricultural best management practices.

Fellows will have access to excellent field, laboratory and computer facilities. Interdisciplinary research will be stressed during the period of study.

Faculty in several departments within the Institute of Agriculture and Natural Resources and the College of Engineering Technology have various well-funded research

projects where candidates can participate.

Fellows will receive an annual stipend of \$17,000. Tuition will be waived. Funding is available for three years. Funds are also available for travel to professional meetings and other research sites to enhance the education.

Applicants must be U.S. citizens and should have strong academic credentials. Applicants must have completed a master's degree in Agricultural Engineering, Civil Engineering, Agronomy, Soil Science or Hydrology. Minorities are strongly encouraged to apply. Applications will be accepted until suitable candidates are found. Send resume, transcript, a list of three references and a short narrative of your career plans related to water to:

Derrel Martin  
Biological Systems Engineering  
University of Nebraska  
231 LW. Chase Hall  
Lincoln, NE 68583-0726  
(402) 472-1586.



## Valmont offers grants

Valmont Industries Inc. is offering registration grants for the 1994 Nebraska Water Conference.

This year's conference focuses on conjunctive use. It will take place March 14-16 in Lincoln.

Grant applicants must be non-paid representatives of a non-profit organization and must register by March 1 (See form Page 7).

Grants cover registration only cost (\$45).

The conference is sponsored by the Institute of Agriculture and Natural Resources, Cooperative Extension and the Water Center/Environmental Programs unit of the University of Nebraska-Lincoln; and the Nebraska Water Conference Council.

# Symphony to add new note to children's groundwater festival

## Festival.

Continued from Page 1

public called "A Festival Finale" will take place Tuesday evening.

Other new activities will include "Doing the Right Thing," a role-playing session on groundwater use ethics; and "The Economics of Thirst," where students will learn about water use in other countries.

Popular activities back from last year include "Where in Nebraska is Carmen Sandiego?," a groundwater and geography trivia tournament hosted by Nebraska Educational Television and folk singer Ann Bailey's "Excuse Me Sir, That's My Aquifer" and other groundwater songs.

Cosponsors of the

1994 festival are the U.S. Environmental Protection Agency's Office of Water, the U.S. Geological Survey and the Central Nebraska Public Power and Irrigation District.

Anyone interested in visiting the festival may call or write: The Groundwater Foundation, P.O. Box 22558, Lincoln, NE 68542, 1-800-858-4844.

## National forum participants to visit festival

The Nonpoint Source Forum Education Working Group will meet in Omaha March 6-7 and attend the Children's Groundwater Festival on March 8 in Grand Island, said Susan Seacrest, foundation president.

National Geographic President Gil Grosvenor and U.S. Environmental Protection Agency

Administrator Carol Browner have been invited to attend.

The National Nonpoint Source Forum was created by the National Geographic Society as a follow-up to the Fresh Water Initiative sponsored in 1993.

Nebraska Governor Ben Nelson will chair the Nebraska session of the

forum, host national water experts and showcase Nebraska's commitment to groundwater protection.

Following forum meetings at ConAgra on March 6-7, participants will ride a train, provided by Union Pacific, to Grand Island for the sandhill crane migration and a tour of the festival.

### Mailing List Update

We are updating our mailing list. If you have a change of title, name, and/or address, or would like to have your name added or removed from the Water Current mailing list, please complete this form. If you know of individuals who might be interested in receiving our publications, please submit their names.

Please: ☐ revise my address ☐ delete me from your list  
☐ add to your list

Name: \_\_\_\_\_

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City, State, Zip: \_\_\_\_\_

### Send update to:

Water Center/Environmental Programs  
103 Natural Resources Hall, University of Nebraska-Lincoln  
P.O. Box 830844 • Lincoln, NE 68583-0844  
Phone (402) 472-3305; Fax (402) 472-3574



# Registration for 1994 Nebraska Water Conference

March 14-16, Cornhusker Hotel, Lincoln, Nebraska

## Hotel Information

For hotel reservations, contact the Cornhusker Hotel & Convention Center at (402) 474-7474 or 1-800-793-7474. Conference rate (1 to 4 persons per room) is \$72 plus tax. A limited number of rooms will be available at government rate (must show government I.D. at check-in). Deadline for block of rooms at convention rate is Feb. 25, 1994.

## Registration Options

Option No.	Includes Following	Price Per Person
1	Full registration for March 15-16 with 4 meals and breaks	\$85
2	March 15 registration, 1 lunch, 1 dinner & breaks	\$55
3	March 16 registration, 1 breakfast, 1 lunch & breaks	\$40
4	Registration only both days with breaks, no meals	\$45
5	March 15 registration only with breaks, no meals	\$35
6	March 16 registration only with breaks, no meals	\$20
7	March 15 luncheon ticket only	\$12
8	March 15 banquet ticket only (buffet)	\$20
9	March 16 breakfast ticket only (buffet)	\$10
10	March 16 luncheon ticket only	\$12
11	Optional tour to Lincoln Water System facilities in Ashland 2-5 p.m. on March 16 (Tour not included in 1-10)	Add \$5
	Late registration after March 10	Add \$20

## Registration Form

To attend the 1994 Nebraska Water Conference, please fill out one form for each person. **Mail completed form by March 10, 1994 to: Les Sheffield, 304-B Filley Hall, University of Nebraska-Lincoln, Lincoln, NE 68583-0922, Phone (402) 472-1773 or 472-1742. Checks payable to Nebraska Water Conference Council.**

Circle Option(s): 1 2 3 4 5 6 7 8 9 10 11      Amount Enclosed: \$ \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_ Organization: \_\_\_\_\_

Address: \_\_\_\_\_

Town, State & Zip Code: \_\_\_\_\_

Tuesday afternoon, participants will be asked to break into four discussion groups, which will address conjunctive use potential in the Platte and Republican river basins. Please indicate your basin preference:

\_\_\_\_\_ Republican \_\_\_\_\_ Platte

\_\_\_\_\_ Check here if interested in a grant to cover registration only cost (\$45). To be considered you must be a non-paid representative of a non-profit organization and must register by March 1. Registration grants are funded by Valmont Industries Inc.



# Water, drought management focus of Western conference

How can drought management become an integral part of water management in a changing West?

This question will be explored during a conference planned by the International Drought Information Center (IDIC) of the University of Nebraska-Lincoln.

The IDIC is organizing a conference, "Drought Management in a Changing West: New Directions for Water Policy," to take place May 11-13 in Portland, Ore.

Co-hosts for the conference will be the Western Regional Climate Center, West

National Technical Center/Soils Conservation Service/U.S. Department of Agriculture, and the IDIC.

In addition to these organizations, sponsors include the Climate Analysis Center/NOAA, Bureau of Reclamation/DOI, Western States Water Council, Corps of Engineers and High Plains Climate Center.

The conference is being organized to capitalize on lessons learned from recent droughts and recommendations of several recent studies.

The conference program will seek to provide substantive input to the comprehensive

review of federal activities in the 19 western states that affect the allocation and use of water resources called for in the Western Water Policy Review Act of 1992.

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## **Drought Management in a Changing West: New Directions for Water Policy**

**May 11-13  
Portland, Ore.**

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Technical and policy representatives of water resource, natural re-

source, agriculture and emergency management agencies of local, state and federal government; regional organizations; academics; special and public interest groups; industry representatives; and the media are targeted to attend the conference.

For more information about the conference and a complete program brochure with registration form, contact the International Drought Information Center, Department of Agricultural Meteorology, 236 Chase Hall, University of Nebraska, Lincoln, NE 68583-0728. Phone: (402) 472-3679; Fax: (402) 473-6614.

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