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Spring 2003 Newsletter

Issue Number 33

NESEN Name Change

The name of the Nebraska Earth Science Education Network has been modified to recognize that we live on a planet in which there is a dynamic interaction between many physical, biological, and social systems. To recognize these dynamic interactions that go beyond science, we have substituted systems for science in our name. Welcome to the Nebraska Earth **Systems** Education Network.

NATS Annual Fall Conference, Looking for Presenters

The Nebraska Association of Teachers of Science (NATS) annual fall conference will be held on October 23-25 at Camp Calvin Crest in Fremont, Nebraska. Presenting at NATS is a great opportunity to share your successful educational strategies with colleagues from across the state. The conference is attended by educators at various levels of career development who could benefit from your expertise. NATS is still accepting new presenters for this fall's conference. If you would like to submit a proposal form, please contact Dave Gosselin at 402-472-8919 or dgosselin2@unl.edu or Wanda Clarke, NATS program chair, at 402-557-2456 or clarkew@ops.org. The deadline for submitting a proposal is May 15. Participating in the NATS conference not only gives you personally a great experience for professional growth, but it will also help to improve science education in the state of Nebraska.

AASG Meeting to be Held in Lincoln

The Association of American State Geologists will hold their 95th annual meetings in Lincoln at the Embassy Suites Hotel and Convention Center on June 13 through June 19. The event is being hosted by the Conservation and Survey Division, and Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln. A variety of field trips will be offered to participants, including those focusing on the inspection of geological sites and also the development of Nebraska's groundwater and mineral wealth.

USGS Fact Sheet on Lincoln Ground Water

The U.S. Geological Survey recently released fact sheet 091-02. The publication is titled *Age of Ground Water at City of Lincoln's Municipal Well Field near Ashland, Nebraska*, and was written by G.V. Steele. Copies are available from USGS, Water Resources Division, Federal Building, Room 406, 100 Centennial Mall North, Lincoln, NE 68508 or by contacting USGS Technical Editor Kathy Wilson at 402-437-5663 or kewilson@usgs.gov.

Nebraska Forestry Shortcourse
By Christine Meyer, Information and Education Assistant

The Forestry Shortcourse is a practical and intensive learning experience for natural resource professionals, teachers, college students, forest landowners and others. The course will help increase your knowledge and skills related to the principles of forestry, forest ecology and management and agroforestry. The Forestry Shortcourse is held every two years and will fill up fast. Registration is limited to 35 people; so don't miss the 2003 session! It will run from June 22-27 and is being held at Northeast Community College in Norfolk,

Nebraska. Costs will be approximately $250 for the week. The course can be taken for two UNL undergraduate or graduate credits. Scholarships covering registration costs may be available from your local NRD. This event is sponsored by the University of Nebraska-Cooperative Extension, UNL School of Natural Resources and the Nebraska Forest Service. For more information, contact: Christine Meyer, 107 PI, UNL-East Campus, Lincoln, NE 68583-0814; (402)-472-9869, cmeyer3@unl.edu.

An Exciting New Inquiry-Based Geoscience Field Course at UNL
By Richard Levy, Department of Geosciences

Geology 107, Geoscience Fundamentals in the Field, is a new inquiry-based field course that is offered through the Department of Geosciences at the University of Nebraska-Lincoln. The two-week excursion begins June 25 and ends July 10. Participants will learn concepts and skills related to the Earth's history as recorded in rock and sediments, developing and applying classification systems, developing a scientific investigation, working within a research team, using various technologies (e.g. digital photography, microscopes, science equipment), and effective teaching practices. Participants will see first hand, many examples of subject materials that are often used in textbooks and illustrated during lectures. The course will take participants through a diverse range of spectacular landscapes along the Platte River valley to the mountains and basins of Wyoming, and back through the Black Hills of South Dakota and Badlands of Nebraska. Sites to be visited include: the Grand Tetons, Yellowstone, Toadstool Park, the Niobrara River Valley, and Ashfall State Recreation Area, among others.

This course is taught by a team of experienced scientists and teaching professionals. The cost is $400 plus tuition and participants will receive UNL course credit. If you are interested in this course and would like more information, please contact Dr. David Harwood or Dr. Richard Levy, Department of Geosciences, 214 Bessey Hall, University of Nebraska Lincoln, Phone: (402) 472-2663, email: dharwood1@unl.edu or rlevy2@unl.edu.

Bonnstetter Wins National Honor
By Kylee Anderson, NESEN Coordinator

Throughout Ron Bonnstetter's career, he has pursued effective and innovative ways to help prepare Nebraska's future teachers. Bonnstetter's devotion to improving science education has recently earned him the first ever Outstanding Science Teacher Educator of the Year award. The award is given by the Association for the Education of Teachers of Science to exceptional science educators who have at least 10 years of experience. Bonnstetter has been an integral part of NESEN's development. He was one of the original members of the NESEN Steering Committee. He continues to offer support for many of NESEN's projects. Regarding the award, Bonnstetter said, "It's about the program and the students we have, and the things we've accomplished here." For more information about his secondary education class and the UNL science education program, go to: http://nerds.unl.edu.

NESEN Web Features 'Sites of the Week'
By Kylee Anderson, NESEN Coordinator

The NESEN website has recently added a new feature for science educators. Each week several websites with topics that are typically taught in introductory Earth science or physical geography classes will be highlighted. To view the site list and read their summaries, just click the 'Sites of the Week' link under 'Hot Topics' on NESEN's home page (http://nesen.unl.edu). Mark Francek of Central Michigan University selects and sends the sites to NESEN each week. They are selected based on image quality, ease with which lesson plans can be developed, organization, authenticity, scope, and format. If there are Earth science-related websites that you use frequently and would like to share with your fellow educators, please send your suggestions to Mark at Mark.Francek@cmich.edu.

Studying disease ecology in ancient cultures leads to lessons in health management
By Karen Stork, Communications Associate, NRBC

After working in a relatively obscure specialty for most of his career, Karl Reinhard and his work in disease ecology have increasingly been celebrated in a number of popular articles. This attention is the result of more than a decade of research on ancient diseases, diets and environments. Reinhard, an environmental

anthropologist with the University of Nebraska-Lincoln School of Natural Resources, has been working in the unique field of pathoecology. It involves looking at the emergence of disease in the context of behavior and environment. While he wants to shed light on the lifestyles of past civilizations, he is also concerned about translating those facts into useful information to improve present conditions.

In a recent application of his work in Nebraska, working with Dennis Hastings, director of the Omaha Tribal Historical Research Project, he has examined skeletons of Omaha ancestors prior to the reburial of those remains. Based on this work, Reinhard co-authored a book called *Learning from the Ancestors: The Omaha Tribe Before and After Lewis and Clark,* which corrects misinterpretations of the tribe's history. In 1800, the tribe was ravaged by smallpox, one of the diseases that accompanied Europeans. By the time that Lewis and Clark visited in 1804, the Omaha culture that survived was decidedly different from the one first encountered by Europeans in 1750. The skeletal analysis revealed that after the epidemic, women worked harder and died younger, fewer children were born and men were thrust into roles in tribal leadership at an earlier age than before. Burial artifacts tell more tales about changes in social status and roles after the epidemic, as well as in trading patterns. Another effort is a 10-year project studying the ancient Inca civilization in Peru. In it, he hopes to shed light on the evolution of pathogens and the origins of ancient plagues. A more detailed description of this work is available from the SNR web site, under "Newsletters" (then "SNRS newsletter – Links," winter 2003) at: http://snrs.unl.edu.

UNL Leads Program to Help Schools With Pesticide Use
By Steve Ress, Communications Coordinator, SNRS

The University of Nebraska is working with school officials to help them make better and safer decisions on pest control in and around their buildings. Nationally, concerns are growing about child exposure to pesticides, leading state and national legislators to focus attention on this gap in pesticide regulation and certification of pesticide applicators. "We are leading a campaign to reduce pesticide exposure in Nebraska's approximately 750 public and private school districts and more than 1,500 schools and educational facilities," said Clyde Ogg, UNL extension pesticide education specialist.

Ogg and UNL School of Natural Resources vertebrate pest specialist Scott Hyngstrom are promoting adoption of integrated pest management (IPM) practices in Nebraska schools as an alternative to legislation. They recently surveyed Nebraska school districts to examine current pesticide use policies and are using the results to develop a guidebook that will help school officials make the best possible decisions about pest control and pesticide use in and around their schools. Initial survey results indicate that 75 percent of responding districts contract for indoor pest control, but 53 percent have staff members that apply outdoor pesticides. Of those, nearly two-thirds are not trained or certified. Sixty-one percent of responding districts also said they schedule routine pesticide applications, with more than two-thirds saying they don't currently use IPM practices.

More than three-fourths of the responding districts (76 percent) said they currently do not notify parents before pesticides are applied in or around school buildings. "The largest perceived barriers to schools in adopting an IPM plan are cost, time involved and administration of the program. We can help alleviate their concerns in all those areas," Educators may find it interesting to have students research pesticide practices at their school, including implications for soils or groundwater, and examine IPM alternatives. For more information on the program, go online at http://schoolipm.unl.edu/brochure.pdf.

Governor to Proclaim 'State Geology Week' for Gathering of State Geologists
By Aine Gianoli, School of Natural Resources

Nebraskans will recognize geology, state geologists, and the state geological surveys they direct during the month of June. Home of fossils, glacial deposits, sand dunes and many other fascinating geologic features, Nebraska will now have a week that officially honors the state's geology and state surveys across the nation during State Geology Week June 15-21. On May 21, the proclamation by Gov. Mike Johanns, R-Neb., will make the honor official. State Geology Week will also recognize the many contributions geologists have made to Nebraska in the last 150 years. This week coincides with the gathering of state geologists from across the country as part of the Association of American State Geologists 95th Annual Meeting in Lincoln.

AGI Announces Theme and Kick-Off Activities for Earth Science Week 2003

The American Geological Institute (AGI) has initiated planning for Earth Science Week 2003 by announcing this year's theme, "Eyes on Planet Earth: Monitoring Our Changing World." It focuses on the important work performed every day by geoscientist throughout the world. Earth Science Week 2003 will be celebrated October 12-18, and will have four national contests that are associated with the theme. The contests include a visual arts contest for elementary-school children, an essay contest for middle-and high-school students, a photography contest open to the public, and a lesson plan design contest for teachers.

Entries in the visual arts, essay, and photography contests must be received by October 1, 2003, and a Grand Prize winner in each contest will receive a cash award of $300. Elementary-school students in grades K-4 are eligible to submit drawings, paintings, or other two-dimensional artwork depicting the topic, "Earth Science in Your World," in the Earth Science Week Visual Arts contest. Winning entries in this category will be displayed at AGI and at the national headquarters of the U.S. Geological Survey near Washington, D.C. The Earth Science Week essay contest is open to students in grades 5-12. Entitled "Your Career as an Earth Scientist," entries are limited to 500 words and are to be creative works that describe a geoscience career they might like to have. The First Prize essay will be published in a future issue of *Geotimes* magazine and finalists will be featured on the Earth Science Week web site. Contestants of all ages are invited to submit photographs to the Earth Science Week photography competition. Entries should capture next year's Earth Science Week theme, "Living on a Restless Earth: Natural Hazards and Mitigation." The winning photograph will be used in the 2004 Earth Science Week logo. Entries in three categories - grades 1-4, grades 5-12, and college level - will be accepted until September 1, 2003. Winning lesson plans will be posted on the Earth Science Week web site. First place winners in each category will receive $300 worth of AGI publications and classroom resources, and a one-year subscription to *Geotimes*, AGI's monthly newsmagazine of the Earth sciences.

The Earth Science Week 2003 celebration marks the sixth year for this annual event. For up-to-date information on Earth Science Week activities, visit http://www.earthsciweek.org.

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UPDATE YOUR E-MAIL!!!
In order to keep in good contact with our members, we ask that you help us update our membership records. If your e-mail has changed since you joined NESEN, please send a blank e-mail from your current account to kander20@bigred.unl.edu. Give your full name as the subject. Thank you!!!

The NESEN Newsletter is compiled by Kylee Anderson and edited by Charles Flowerday of the Conservation and Survey Division, University of Nebraska-Lincoln. Information for the NESEN Newsletter can be sent to Kylee Anderson at 9 NE Hall, Lincoln, NE 68588-0517 or *kander20@bigred.unl.edu*. NESEN's lead organizations are the 1) Conservation and Survey Division, 113 Nebraska Hall, University of Nebraska-Lincoln, NE 68588-0517; phone 402-472-3471; fax 402-472-4608; website *http://csd.unl.edu/csd.html* and the 2) School of Natural Resource Sciences, 303 Biochemistry Hall, University of Nebraska-Lincoln, NE 68583-0758; phone 402-472-9873.