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Nebraska Earth Science Education Network

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Spring 1998 Newsletter

Issue Number 18

Earth Science in the Community - A New Professional Development Opportunity,

David C. Gosselin, NESEN Director

The earth sciences have gained a new national focus through the National Science Education Standards (NSES) and are an integral part of the proposed Nebraska K-12 science standards. Teachers will need to be familar with earth science content, curriculum, and laboratory methods to be able to provide their students with an understanding of Earth processes. **Earth Science in the Community** (EarthComm) is being developed by the American Geological Institute to provide a complete secondary (grades 9-12) educational program that will include learning materials, teacher resources, and assessment tools for a hands-on, student inquiry driven instructional program that is interdisciplinary and can be implemented in a modular format. NESEN is one of four groups that have been selected as national pilot sites for the development of EarthComm.

Being selected as a pilot site is a tremendous opportunity for Nebraska teachers to assist in the development of a nationally recognized program that will allow teachers to customize and more easily incorporate earth systems concepts into their current curriculum. In the first phase of this project, a professional development opportunity for up to 30 participants from grades 9-12 will be provided from June 15 to 19, 1998. Participants will be provided a $75/day stipend plus meal and travel allowances. During this summer program, participants will be provided with: 1) an overview of EarthComm's goals, philosophy, curriculum, supporting materials, and assessment strategies; 2) Standards-based earth science concepts that complement EarthComm's "Earth Systems" and other relevant modules that may be available at the time of the workshop; and 3) materials and activities that will help teachers customize EarthComm materials to Nebraska-related systems so that the relevance to students can be maximized. Instruction will include field trips and discussion of timely regional issues that may include water quality, groundwater and surface water supplies, river processes, and waste disposal among others.

If you are interested in becoming involved in what I am sure will be a very beneficial professional development activity, please contact me as soon as possible at 402-472-8919 (office); 402-472-2410 (fax); or gosselin@unlinfo.unl.edu.

Terrestrial Trivia

What is the most common reason that animal species become extinct?

Loss of habitat.

What is the largest source of carbon monoxide in the U.S.?

Motor vehicles.(1997 NEETF/Roper Survey of Environmental Attitudes and Knowledge)

1998 Summer Workshops - Join Us in July

We would like to see you this summer at NESEN's fifth annual summer workshop series. Our workshops are set up to combine scientific expertise, hands-on experience, and the K-12 teacher's talent in translating information into classroom activities. The 1998 Summer Workshops are:

Nebraska's Dynamic Water System - July 7-8

Inquiry-based classroom activities and field trips will be used to investigate the surface water and groundwater resources of Nebraska. Topics will include: water and environmental issues; groundwater-what does it look like?; surface water-where and why?; water chemistry-every groundwater tells a story; and the geology-groundwater connection.

What's In That Soil? - July 9-10

An activity-driven workshop for teachers of all grade levels, designed to increase students' knowledge of what makes up a soil. Activities will include determining texture, organic-matter content, soil testing (chemical & mechanical), air/water relationships and micro-organisms. Relationships of soil to environmental, agriculture and people will be covered.

Chili Today, Hot Tamale: Let's Look at Nebraska's Weather - July 14-15

Emphasis will be on hands-on activities that can be incorporated directly into your classroom. Topics include: the role of weather in the redistribution of energy in the atmosphere; weather and the water cycle; using standard two-dimensional and building three-dimensional weather maps; incorporating data into the classroom; examining Nebraska's climate using software (ClimProb) that participants can take home with them.

Virtual Nebraska - Putting Remotely Sensed Data To Work in the Classroom - July 17-18

Participants will be engaged in activities ranging from hands-on low-tech image interpretation through image processing using high tech, state-of-the-art tools. The activities used in the workshop are designed around imagery readily available through Virtual Nebraska. Virtual Nebraska was developed to make Nebraska-specific space and air-borne imagery easily accessible to those interested in learning more about Nebraska, remote sensing/image processing, the environment, and technology.

You can register through our web site (http://nesen.unl.edu) or contact Dave Gosselin, 402-472-8919.

Students Make Waves at International Groundwater Summit

Children from all over the world met in Grand Island for the 1998 Children's Groundwater Festival March 21-24 to learn about groundwater and its relationship to children's environmental health, wildlife, and global climate change. The four day summit culminated in the creation of an international summit declaration, written entirely by the children, which called for an increased global dialogue and international cooperation in addressing environmental issues. U.S. EPA Administrator Carol Browner took the students' declaration on her trip to Europe to meet with leading European environmental officials. Indeed, the students' consensus-building work at the summit had a far- reaching impact and demonstrated a high level of maturity. The summit was sponsored by the Groundwater Foundation and the Bureau of Reclamation's, Nebraska-Kansas office.

A STEDII Spring

So far, our April weather has been fairly typical and calm. (At least, this is my perception of things here in Lincoln.) It will be interesting to watch the data come in from other parts of the state to see if my local observation is a valid generalization across Nebraska. I would like to congratulate everyone for your effort and collective achievements in STEDII throughout the year. Your continued active participation in NESEN is greatly appreciated I would be interested in hearing from those of you who were able to incorporate your STEDII activities and learning with the observance of Earth Day. Actually, any feedback about STEDII or NESEN is always appreciated. Send your comments/suggestions to us at info@nesen.unl.edu.

The Nebraska Earth Science Information Center

The Nebraka Earth Science Information Center (ESIC) serves as a clearinghouse for information on maps, remote sensing, and digital cartographic data. Since April, 1979, the Conservation and Survey Division (CSD) has maintained a formal agreement with the United States Geological Survey (USGS) by which CSD is the ESIC office for Nebraska. Assistance in locating and ordering earth science information is available upon request.

Recently, CSD has been actively working to expand and enhance its ESIC activities. Establishing a Nebraska ESIC web site was the top priority. As of mid-April, our new web site http://csd.unl.edu/csd.html had photographs and descriptions of nearly 70 ESIC publications. The vast majority of ESIC's materials are free. To give you a taste of what is available, the ESIC publications are divided into the following publication: activity books, general interest booklets, pamphlets, posters, solar system and planetary maps, teacher packets, U.S. maps, water-resources materials, and world maps.

To order materials, or find out more about what ESIC has to offer, please visit the CSD web site or contact Judy Otteman in the ESIC office at:

The Nebraska Earth Science Information Center
113 Nebraska Hall
University of Nebraska-Lincoln
Lincoln, NE 68588-0517
Phone - (402) 472-7523
Fax - (402) 472-2410
E-mail - csdsales@unl.edu

Now at ESIC:

Free Colorful Water-Resources Posters Available:

ESIC is offering a stimulating series of posters to help educate students about water resources. The nine posters available were created in a cartoon format and may be linked to form a colorful wall mural. Two versions of each poster series are available: the grade school edition (grades 3-5) and the middle school edition (grades 6-8). The reverse side of the posters offer a variety of educational activities on the topic of water resources.

The nine posters are:

1. Ground Water: The Hidden Resource!
2. Hazardous Waste: Cleanup & Prevention
3. How Do We Treat our Wastewater?
4. Navigation: Traveling the Water Highway

5. Water: The Resource That Gets Used and Used for Everything
6. Watersheds Where We Live
7. Wetlands-Water, Wildlife, Plants and People!
8. Oceans-Coastal Hazards: Hurricanes, Tsunamis, Coastal Erosion
9. Water Quality: Potential Sources of Pollution.

Do You Know "What's Under Your Feet"?
Interested in "Helping Your Child Learn Geography"?

These terrific activity books are now available through ESIC. Helping Your Child Learn Geography, (FREE) offers many simple, fun activities to teach children about the fundamentals of geography. Similarly, What's Under Your Feet? ($4.00) introduces concepts like erosion, volcanoes, and geologic time in a creative and interesting manner. Combat summer apathy and mind-numbing hours spent in front of the T.V. with the exciting outdoor activities presented in these books.

Old Versions of Topographic Maps Available free at CSD

Occasionally, the United States Geological Survey updates a topographic map. Copies of the old topographic maps are then made available at no charge to educational groups. Teachers and scout leaders will find these maps helpful in teaching map reading and other map-related skills. Current maps are available at CSD for $4 each plus tax and postage.

Teacher Packets From ESIC

The following teacher packets are available:

- Caves
- Map Adventures
- Volcanoes!
- Exploring Maps
- What Do Maps Show?
- Global Change

More Summer Opportunities:

Nebraska Range Short course - June 14-19

Learn about principles of range management and earn graduate credit. See enclosed brochure for more details.

Global Information Systems and Satellite Mapping for Wetlands Education in Middle Grades Science and Geography - June 22-26

Experience a standards-based workshop with field activities using global information systems (GIS) and global positioning satellite (GPS), maps and aerial photograph interpretation technology. This five-day residential workshop offered by Chadron State College is geared toward 6th through 9th grade teachers who are interested in learning more about GIS and GPS capabilities. Participants will have the opportunity to engage in field work and interact with scientists who use GIS and GPS technology. Sponsors of the workshop will underwrite all expenses except optional college tuition, payable during registration on the first day of class. Also, each participant will receive a kit of materials including WETMAAP and a $350 GPS unit; total value is $550, at no cost to participants. For more information, contact Dr. Lois Veath, Dept. of Science, Chadron State College, 1000 Main Street, Chadron, NE 69337 or call (308) 432-6210, email: lveath@csc1.csc.edu.

Platte River Trails Workshop - July 6-11

A unique, interdisciplinary workshop for teachers explores Great Plains natural history, ecology and cultural heritage. Participants will travel and camp the Platte River and Oregon Trail from the Lone Grave northwest of Hastings to the Snowy Range west of Laramie, WY. For more information, contact Dr. Will Locke, at (402) 463-2402 or via email at wlocke @ hastings.edu.

USGS Volunteers Wanted

The United States Geological Survey needs you! Combine your recreational interests with volunteer service this summer byjoining the earth science corps annotation project. Provide map updates for your local area and help promote the National Mapping Program in your community. The Earth Science Corps consists of private citizens who devote some of their time to provide science information to the federal government. Members may be invited to participate in projects with mutually determined work areas. In a few cases, they may be invited to work in other areas with expenses paid. For an application form or more information, write to Earth Science Corps, MS 513, U.S. Geological Survey, Reston, Virginia 20192 Phone: 800-254-8040. Email: escorps@usgs.gov.

Earth Science Week - October 11-17

Make plans now to participate in the first annual "Earth Science Week." The American Geological Institute is in the process of developing materials and activities for the event to increase awareness of issues and career opportunities within the earth sciences. The opportunities for celebrating Earth Science Week in your classroom are really open ended. More information and creative ideas about possible classroom instruction is available on the AGI web site at www.earthsciweek.org. If you would like an Earth Science Week Information Kit, send your request to:

Earth Science Week
American Geological Institute
4220 King Street
Alexandria, VA 22302
Phone: (702) 379-2480
Fax: (703) 379-7563

NESEN geoscientists are available to share their knowledge and enthusiasm about the earth and how it works. To arrange for a classroom visit, contact Dave Gosselin (402) 472-8918.

NATS Fall Conference - October 22-24

The 1998 NATS fall conference will be held at Camp Calvin Crest near Fremont. Please submit your presentation proposal by May 15 to: Kim Soper, HC 86 Box 1, Keystone NE 69144, (308) 726- 3158 Email: lsoper@lakemac.net.

Unless indicated, our newsletter was written by Lyn Harris, Duane Mohlman, Dave Gosselin, and Mark Mesarch; and edited by Charles Flowerday, Conservation and Survey Division, University of Nebraska-Lincoln. Information for our Summer 1998 issue of the NESEN Newsletter can be sent to Lyn Harris, 9 NE Hall, Lincoln, NE 68588-0517, email lharris@unlgrad1.unl.edu'. NESEN's lead organizations are the 1) Conservation and Survey Division, 113 Nebraska Hall, University of Nebraska-Lincoln, Lincoln, Nebraska 68588-0517; Phone 402-472-3471; FAX 402-472- 2410; Web Site http://csd.unl.edu/csd.html; and the 2) School of Natural Resource Sciences, 303 Biochemistry Hall, University of Nebraska-Lincoln, Lincoln, NE, 68583-0758; Phone 402-472-9873