

May 1994

Nebraska Earth Systems Education Network Newsletter – Spring 1994

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"Nebraska Earth Systems Education Network Newsletter – Spring 1994" (1994). *Nebraska Earth Systems Education Network*. 43.
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Spring 1994 Newsletter

Issue Number 2

NESEN MEMBERSHIP and RESOURCES DIRECTORY AVAILABLE

Enclosed is the membership directory including names, addresses, phone numbers and email addresses of your NESEN colleagues. The membership directory includes 90 K-12 educators, which represents almost 30 percent of the earth science teachers in the Nebraska. The resource directory contains a list of sources for earth science information and educational opportunities in Nebraska and the United States.

NESEN TO SPONSOR K-12 EARTH SCIENCE EDUCATION ACTIVITIES AT NORTH CENTRAL/SOUTH CENTRAL SECTION MEETING OF THE GEOLOGICAL SOCIETY OF AMERICA.

One of the primary purposes of GSA is to foster communication between academic researchers, industry, and college and precollege geoscience educators. Over the past five years earth science education activities at the national and regional GSA meetings have experienced varying degrees of success. However, interaction between the pre-college educators and the other professional members is still limited. Because of their local connections, participation in general public-oriented education and a variety of research activities, state geological surveys provide a logical means for promoting and enhancing communication among the geoscience community. We will feature a "poster session" that will consist of a share-a-thon of public information and educational materials available at the state surveys. Concurrently, a lesson plan share-a-thon where teachers exchange and discuss lesson plan activities with their creators will take place. Having these two share-a-thon activities in the same location will give teachers the opportunity to see what materials are available for other states and give the state surveys an opportunity to see the types of materials and methodologies teachers use for earth science instruction. An interactive forum on trends in Earth Science Education will also be held. This will include short presentations on national reform movements, state systemic initiatives, and, most importantly, views from the classroom. To keep with the "fostering communication" theme, an interactive panel discussion between the presenters and the audience will follow the oral presentations. Mark April 26 and 27, 1995 on your calendars now.

1994 EARTH SCIENCE WORKSHOPS: A BASIS FOR LESSON PLAN DEVELOPMENT

Register now for the NESEN workshop series to be held in July 1994. The two workshops being offered this summer are **Nebraska's Dynamic Water System: A Geoscientist's Approach** and **What's in a Rock?** Descriptions of the individual workshops and registration forms are enclosed with this newsletter. Workshops are designed to be interactive and provide hands-on experience for teachers on earth science topics as they relate to the natural resources systems in Nebraska. Emphasis will be on where and how to get earth science information in Nebraska.

TEACHERS GUIDE NOW AVAILABLE

A Teachers Guide for using maps illustrating Nebraska's geology, groundwater, topography, and soils is also enclosed. The objectives of this guide are to familiarize students with the relationship between geology,

groundwater, topography, and soils and how it relates to them. This teacher resource was compiled by Dave Gosselin, Duane Mohlman, and Francis Belohlavy and highlights maps and illustrations from CSD publications "The Groundwater Atlas of Nebraska" and "Geology, Geologic Time and Nebraska". We would appreciate any constructive comments on how these "guide" materials can be improved and made more useful for teachers. Send comments to Dave Gosselin c/o NESEN.

NESEN AT NEBRASKA ASSOCIATION OF TEACHERS OF SCIENCE ANNUAL MEETING

Plan now on participating in Earth Science related activities at the 1994 NATS meeting to be held October 27-29, 1994. The second annual NESEN-sponsored Lesson Plan Share-a-Thon will be held, and NESEN members are being actively recruited to participate. All NESEN members are strongly encouraged to present activities or programs to share your expertise and knowledge with your colleagues.

ROCK COLLECTING FIELD TRIP

Three rock collecting field trips are scheduled for the following Saturdays: May 14, June 4, June 25, and July 10, 1994. Maps with field trip locations are enclosed. These trips provide an opportunity not only to collect some interesting specimens and talk geology, but socialize with your colleagues. If you are planning on going on any of the field trips, contact Ed Schafer, work (402) 331-6954, home (402) 895-3080, to confirm field trip arrangements. Participants will want to wear appropriate clothing (including heavy shoes or boots). Bring lunch, water, specimen and sample containers, rock pick and a magnifying glass.

NEW PUBLICATION FROM CONSERVATION AND SURVEY DIVISION, UNL

Fundamentals of Groundwater Contamination outlines the complexities of cleaning up or living with groundwater contamination. Dr. Darryll Pederson, author of the 18-page circular, describes the hydrologic cycle, groundwater movement and types of contaminants as well as their possible behaviors. The contamination vulnerability of five separate and diverse hydrogeologic areas of Nebraska is presented. For example, water travels rapidly in hydrogeologic areas with coarse, permeable materials, such as the Sand Hills. In eastern Nebraska, where glaciers deposited layers of dense materials, water moves through fractures in these layers. Five common examples of groundwater contamination are discussed: industrial site spillage, underground storage tank failure, landfill leaching, nitrates in irrigation wells and flooding. Illustrations and maps depict the topography and bedrock of Nebraska, groundwater flow systems, and various contaminant paths. Removing contaminants from groundwater is a difficult and expensive process that is often developed at the cleanup site. This publication presents hydrogeologic information about Nebraska that suggests preventing groundwater contamination is preferable to cleaning it up. *Fundamentals of Groundwater Contamination* (EC-11) can be ordered by writing: Conservation and Survey Division, 113 Nebraska Hall, Lincoln, Nebraska, 68588-0517, or by calling 402-472-7523. Cost per copy is \$4.50. Please add \$1.50 for postage AND appropriate city and state sales tax.

"EARTH HAS A HISTORY" - A Videotape from GSA

Produced by the GSA, the film uses areas around Boulder, Colorado, to show how the principles of original horizontality and superposition can let a student unravel the major geologic features of a region. This 20-minute videotape can be borrowed from the Conservation and Survey Division, University of Nebraska-Lincoln. Please call Dave Gosselin, 402-472-8191 to make arrangements to borrow this tape.

THOUGHTS ON EARTH SCIENCE EDUCATION

To make informed decisions about protection from floods and earthquakes, about maintaining sources of water, minerals, and energy, and about the threats from hazardous and radioactive wastes, acid rain, and global climate change, the average citizen needs a better appreciation for natural processes and phenomena. Creating an appreciation and awareness in young people of the importance of earth sciences in developing workable solutions for environmental and natural resource problems cannot be over emphasized.