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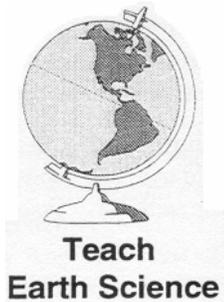
Nebraska Earth Systems Education Network Newsletter – Winter 1999

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WINTER 1999 NEWSLETTER **Issue Number 20**

Everything is Connected to Everything Else - Dave Gosselin, NESEN Director

Welcome back to a new year that will have many new challenges and opportunities. One of the important challenges that we face is creating opportunities for students to become actively engaged in their own education, to the point where they are generating questions and taking the responsibility for finding the answers. This challenge, of course, is one of the goals of the science education program being advocated at the state and national levels. It is not an easy goal to achieve because it requires a fundamental change in the way we approach education, from kindergarten through college. One simple way to begin this challenge is to ask yourself after completing a unit or a chapter, "Did I provide an opportunity for my students to ask questions about the material that were of interest to them?" Letting your students ask you questions for which you may not know the answer is rather frightening. However, it's okay to say you don't know the answer and to find the answer together. One place you can start is the NESEN membership guide. There are many post-secondary educators who can assist you in finding the information you need. Some would probably even be willing to come to your classroom. If you don't feel comfortable contacting them directly, go to the "Ask-a-NESEN Scientist" on our website. We will refer your question to an appropriate expert. When posing a question please be as specific as possible. The response to an inquiry may refer your students to reference materials, but this will help the students to become aware of resources, more independent, and, in the long run, successful. Have a great second half of the school year!

Encouraging Girls in the Sciences

Several exciting science-related activities and resources geared toward girls have recently been made available through various outreach programs at UNL.

Wonderwise Kits

The University of Nebraska State Museum Division of Public Programs in cooperation with Nebraska Education Telecommunications (NET), is making available a special series of science kits designed for elementary grades four through six. Each kit focuses on the work of a woman scientist and includes a video, CD-ROM, classroom activities, and the materials to support the activities. The following kits are now available:

Pollen Detective	Sea Otter Biologist	African Plant Explorer
Parasite Sleuth	Rainforest Ecologist	Urban Ecologist

To order a kit or for a more complete description, contact the Wonderwise Web site at <http://Hnet.unl.edu/wonder-wise>. For a brochure about Wonderwise, call the Great Plains National (GPN) at 1.800.228.4630.

Science Sleepovers

An overnight adventure for 5th and 6th grade girls from Lincoln area schools was held in Morrill Hall this past October. Students participated in activities featured in the Pollen Detective Wonderwise Kit, met with a panel of women scientists, and enjoyed a laser show in the planetarium. Education Coordinator, Marian Langan coordinated the October sleepover and is working on putting, together a similar January 22d sleepover to be held at a Lincoln public school. For more information about a science sleepover, please contact Marian at 402.472.6872 or Judy Diamond 402.472.4433.

Exploring Science Careers

UNL will be hosting a career exploratory session for high school girls beginning on Friday, April 23d in the late afternoon and carrying over to Saturday, April 24th. The time frame coincides with the National Academy of Science spring meeting at Nebraska Wesleyan University. This will be a great opportunity for young women to think about the importance of higher education as a pathway to a rewarding career. For more information, contact Sandra Scofield 402.472.7247 or scofield@unl.edu.

1999 Summer Workshops - Join us in July!

Registration for our sixth annual summer workshop series is now underway! Our workshops continue to be enthusiastically attended by teachers across the state interested in furthering their knowledge of Nebraska's natural resources through field trips and hands on activities. The workshops are hosted by scientists at LTNL, and graduate credit is available by prior arrangement with Dave Gosselin (gosselin@unlinfo.unl.edu) or 402.472.8919. The 1999 summer workshops are:

"Why Did the Chicken Change the Climate ... ?" July 7-8th

Is our climate changing? Well, sure, it is constantly changing! But is global warming occurring? Now that's the \$64,000 question. This workshop will not answer that question. But we will look at what governs the Climate System and how human impact on the atmospheric environment may be affecting the climate. This workshop will be loaded with hands-on activities that can be easily incorporated into the classroom. Join us and broaden your knowledge of a contemporary issue that is sure to be a "hot" topic well into the next millennium. Facilitators: Steve Meyer and Dave Gosselin.

"Virtual Nebraska-A New View" July 12-13th

Get a new perspective of Nebraska! Find out how you can use "Virtual Nebraska," an online archive of satellite imagery and aerial photography, in your classroom. Satellite and space shuttle imagery makes it possible for us to study our state's geography, learn about the history of your city, and map a variety of phenomena (ex. snow cover) across Nebraska--the possibilities are virtually unlimited. Participants will be guided through various applications of Virtual Nebraska and given education modules and 'building blocks' materials for teachers. Check out the Virtual Nebraska website via the NESEN homepage at <http://nesen.unl.edu>. Facilitator: Brent Hollinger

"The 'Dirt' on Soil" July 14-15th

Develop a better understanding about what makes up a soil. Find out why soil scientists scoff at the word 'dirt'. Activities will include soil interpretation, determining texture, organic-matter content, and soil type, and some mapping projects. We will also discuss the relationships between soil and agriculture, people, and the larger environment. Facilitator: Francis Belohlavy.

Workshops will be limited to 13 participants. To offset the cost associated with copying, field trips, lunches, snacks, and other logistical support, there will be a \$20 fee for the first workshop, and \$15 for each additional workshop. Participants will receive a certificate to document their successful completion of the workshop. You can register online at our website or by returning the enclosed form. Please include a check, written to UNL, for \$10 or the full amount, in order to hold your registration. Should you have further questions, please contact Lyn Harris at 402.472.0773; email: lharris@unlgradl.unl.edu.

Students and Teachers Exchanging Data, Information and Ideas (STEDII)

The STEDII weather project will conduct its winter FNP from January 25b - February 7th. We will continue exchanging weather data between schools via our online data entry form at <http://nesen.unl.edu/stedii/stedii.html>. As I was looking through the data collected during the fall FNP, I noticed that there are many schools who are accumulating an impressive record of weather data! I would especially like to congratulate the following schools for their sustained participation in STEDII:

Albion Public Schools - Polia Hartley
Arcadia Public Schools - Mary Ash
Holdrege Public Schools - Jerry Ott Lyons-
Decatur Public Schools - Mary Jane Bell
Niobrara Public Schools - John Niemoth O'Neill
Public Schools - Al Musson
Our Lady of Lourdes - Marianne Bonnemier
Pyrtle Elementary School - Mazy Ann Stallings

Rising City Public Schools - Lynne Ruth
Scotus Public Schools - Joan Lahm
Osmond Public Schools - Greg Pava
North Bend Public Schools - Bob Feurer
Pius X High School - Cindy Karel and Lois Mayo
Arapaho Public School - Diane Scriptor & George Probasco
St. ColombUI, St. nomas More Schools - MaryLou **Alfieri**
Petersburg Public Schools - Bill Trenhael & Carol Eischeid

NESEN Lending Library

Looking for a videotape, CD-ROM, map, rock sample, or an other miscellaneous resource? We just might have it! The contents of our lending library is available online at <http://nesen.unl.edu/projects/library.html>. If you see something that you would like to use in class, contact Lyn at 402.472.0773 or lharris@unlgradl.unl.edu and she will try to get it in the mail the same day the request - arrives.

The POSSE's on the Trail

The POSSE (Promoters of Science and Science Education) have been working to create a local support network for science teachers within their local ESU'S. In October, we sent out a letter to the POSSE representative for each ESU in order to get a feel for how things were going. From the responses we got back, it appears that the POSSE is doing a wonderful job of spreading the word about the professional development opportunities and other resources available through NESEN. We would like to thank the following POSSE representatives for their efforts:

John Niemoth - ESU 1	Junice Dagen - ESU 12
Mary Jane Bell - ESU 2	Carolyn Schla,-er - F-SU 13
Andy Christensen - ESU 14	James Fitzgibbon - ESU 15
Greg Pava - ESU 8	Ron Billings - ESU 17
Virgil King - ESU 10	Carmen Hood - ESU 3
George Probasco - FSU 17	
Polla Hartley - ESU 7 (Great Job in organizing the ESU 7 listserve!)	

We hope that the POSSE can help us spread the word about our 1999 summer workshops throughout their ESU'S, especially to any new teachers in your district. If you are interested in representing an ESU that currently does not have a representative (4,5,6,9,16,18,19), please contact Lyn Harris, 402.472.0773, lharris@unleradl.unl.edu.

EarthComm Reunion - March 19th & 20th

The participants in last June's "Earth Science in the Community" workshop have been especially busy in their efforts assisting the American Geological Institute with the development of a new earth science curriculum. Our group of twenty-three secondary level educators is in the process of evaluating instructional materials and using a few of these revised units in their classroom. Our EarthComm Reunion will be held March 19;h - 20" at the Clifford Harding Center for Continuing Education on East Campus at UNL. We will kick off the reunion with a 6:30 dinner at Valentino's on 3P and Holdrege. More information will be forthcoming. If you are interested in finding out more about what we've been up to with EarthComm, you can access the AGI website via our "EarthConun" link at our NESEN home page.

Earth Science on the Internet

As we are in the process of redesigning our NESEN website, I've been doing a lot of wandering around the NET and have stumbled across a few science-related websites that you and your students might enjoy:

Join Scientists at the South Pole

Students from around the world can check out what Lee Mauldin, a scientist from NCAR's headquarters in Boulder, Colorado has been up to at the South Pole's new Clean Air Facility. The Website <http://www.aed.ucar.edu/spole> is a "virtual field trip"-- frequently updated with student friendly language explaining the science, geography, and logistics behind a South Pole expedition.

Earth and Sky Radio Program

This is a terrific, brief, program broadcast at 3:50pm CT weekdays (7:45am weekends) on Nebraska Public Radio, 90.9 FM. Deborah Byrd and Joel Block discuss a science-related subject that affects our everyday lives. Their website at <http://www.earthskv.com> is especially cool--they even have resources specifically for teachers.

Earthquake Activity

This website, <http://athena.wednet.edu/curricAand/todaygkbt.html>, shows you an up-to-the-hour report on the location and magnitude of earthquake activity around the world. The epicenter of each earthquake is depicted on a world map, so you can see the proliferation of activity along plate boundaries.

Geological Time Machine

Jump into the University of California at Berkeley's time machine and take off on a paleontological journey from the present day to the birth of the planet. The trip is made extra enjoyable by the crisp text and good graphics. The web address is <http://www.ucmp.berkeley.edu/hei3/timeforin.htnd>

Dive into Ocean World

Ocean World, developed by Texas A&M, contains a number of resources related to oceans education, including a section of various ocean/Earth-science-related classroom activities. Check it out at <http://oceanworld.tamu.edu>

Journey to Planet Earth to Premier on PBS

Free Educational Materials Available

On April 6, 1999, at 9:00 p.m. CT this new program produced by Emmy-award-winning film makers Marilyn and Hal Weiner will debut as a three-part series examining the intense pressures being placed upon the world's rivers, farmlands, and mega-cities. In conjunction with the televised series, a free middle school teachers package is available which includes the video segments on VHS cassette and lesson guides for each of the three programs. The three segments are titled "Rivers of Destiny," "Land of Plenty, Land of Want," and "The Urban Explosion." Contact Michele Reap, South Carolina ETV Outreach, 803.737.3394; email: mreap@seetv.org.

Now Available from the Earth Science Information Center

As an ESIC, the Conservation and Survey Division handles over 80 USGS publications. These publications are of minimal cost or free. For a complete list of our ESIC publications, see the CSD website at <http://csd.unl.edu/csd.htn-fl>, and click on the ESIC button. If you do not have web access, contact the ESIC office and we will be happy to mail or fax you a listing of the titles.

Earth Science CD-ROM

The United States Geological Survey (USGS) has produced a new CD-ROM for educators entitled *Teaching Earth Science*. The CD contains 17 different tools grouped into three categories: Geologic Processes, Earthquakes and Faulting, and Map Projections and Globes. The CD was developed for the high school level, but younger students also can benefit from it. The CD is designed to run on Macintosh compatible computers. The CD-ROM (#DDs-50) is available for \$11.50 each, plus \$3.50 for handling. Orders should be sent to the USGS Information Services, Box 25286, Denver, CO, 80225. Credit card orders can be faxed to 303.202.4693. If you would like to preview the CD before purchasing it, the NESEN lending library should have the disk by February. Contact Lyn to check it out.

Water Science for School Kids

The United States Geological Survey (USGS) has a new web site for school kids to learn facts about water resources. The site offers information on water basics, earth's water supply and water use information. There is an activity center where students can test their water knowledge and picture gallery that illustrates many of the things that they read about. Easy to read and fun, this site can be reached at: <http://www.ga.usgs.gov/edu/>.

Indexes of Geological Maps

For most states, the USGS geological map indexes are out-of-print or have been discontinued. The Geologic Division on the USGS

is building an on-line database called the National Geologic Map Database. It is available on the web at <http://ngmdb.usgs.gov>. The database can be searched by geologic theme, geographic area, author, title or map number. When complete, the database will contain information about geologic maps of the United States produced by the USGS as well as other federal agencies, state governments, academic institutions and private firms.

New Resources from UNL's Conservation and Survey Division

The Groundwater Atlas of Nebraska (RA-4a)

This new atlas depicts many aspects of the state's groundwater, geology and land, including streamflow and surface reservoirs, observation wells, test holes, base of principal reservoir, water tables, saturated thickness of the groundwater reservoir, transmissivity, trends in groundwater use for irrigation, departures from average annual precipitation, annual installation of irrigation wells, rises and declines in groundwater levels, and groundwater management areas. A glossary is included. (44 pages, Charles Flowerday, Robert D. Kuzelka, and Darryll T. Pederson, compilers.) Cost: \$7 + \$2 S&H. Contact the CSD at 402.472.7523 to place a credit card order, or write to: The Conservation and Survey Division - LTNL, II 3 Nebraska Hall, Lincoln, NE 68588-0517.

Agate Resources on the Web

Thanks to Duane R. Mohhnan and Roger K. Pabian, a wealth of information about agates is now available via the web at <http://csd.unl.edulesd.html>.

The *Agates Page* includes 286 images of agates with descriptive text. Nearly half of the images are of agates from the United States. The other half includes images of agates from 15 foreign countries, spanning six of the seven continents.

The Nebraska Gems Page currently contains 30 images of Nebraska gems, almost all with descriptive text. Gems found in Nebraska were either formed in place or have been transported into the state by streams draining mountainous areas to the west or by glaciers that originated in the north. These diverse sources give Nebraska some unusual gemstones that provide the collector and lapidary with some interesting materials, as well as oppommities to learn about the geology of the state.

The serious agate collector might want to consult *The Agate Bibliography*, which contains nearly 3,300 literary citations. Also, the *Agate Lexicon* section of the website contains over 2,700 named agate varieties with citations.

Unless indicated, newsletter was written by Lyn Harris, Duane Mohhnan, Dave Gosselin and Mark Mesarch; and edited by Charles Flowerday, Conservation and Survey Division, University of Nebraska-Lincoln. Information for our spring 1999 issue of the *NESEN Newsletter* can be sent to Lyn Harris, see newsletter masthead for address, or e-mail to lharris@unlgradl.uni.edu.

NESEN's lead organizations are the 1) **Conservation and Survey Division**, 113 Nebraska Hall, University of Nebraska-Lincoln, Lincoln, Nebraska 68588-0517; Phone 402472-3471; FAX 402472-2410; web site: <http://csd.uni.edu/csd.html>; and the 2) **School of Natural Resource Sciences**, 303 Biochemistry Hall, University of Nebraska-Lincoln, Lincoln, Nebraska, 68583-0758; Phone 402472-9873; Fax 402-472-4915.