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## Nebraska Earth Systems Education Network – Winter 2002

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"Teach Earth Science"

## **Nebraska Earth Science Education Network**

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# **Winter 2002 Newsletter**

Issue Number 29

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### **"Everything is Connected to Everything Else." By Dave Gosselin**

It is hard to believe that NESEN officially began its activities over nine years ago. Since then we have been involved in a wide variety of activities that are designed to improve Earth science education in Nebraska. I know that many of you are involved with the implementation of the state science education standards in your communities. Because we are a "network," we should share our collective experiences related to how the Earth science components are being dealt with in our school districts. In the next issue of the NESEN newsletter, which will be come out in late April, we would like to have several articles on what is going on in your school district related to Earth science and the standards. If you would be willing to provide a brief synopsis of your experiences, please let me know by phone (402-472-8919) or email ([dgosselin2@unl.edu](mailto:dgosselin2@unl.edu)). Hopefully, we will have plenty of volunteers; otherwise we may be contacting you for help. To improve what we all do, we need to communicate and learn from one another's experiences. Please share your experiences, whether they are positive or negative, with your NESEN colleagues.

### **NESEN Workshops: Yes or No - Please Reply By March 8, 2002**

When NESEN was first formed, the teacher's on our Steering Committee indicated that professional development activities such as two-day hands-on, minds-on workshops would be useful for K-12 educators. Many of you have participated over the years, but our numbers, and apparent interest, have dropped off to the point where we are considering the possibility of no longer offering them. We would really like your input on this topic. Go to the NESEN homepage ([nesen.unl.edu](http://nesen.unl.edu)) and fill out the survey featured under "Hot Topics." If you would prefer to respond directly to me with your responses to the following questions, you can contact me at 402-472-8919 or [dgosselin2@unl.edu](mailto:dgosselin2@unl.edu). The survey questions are: **1.** Should we continue our two-day NESEN workshop series: Yes or No? An explanation or background related to your response would be appreciated. **2.** What are the challenges (e.g., cost, financial, transportation, location, child-care, etc.) that you are faced with when you consider a NESEN workshop? **3.** What are your thoughts on how to minimize these challenges so that you would be willing to attend a NESEN workshop? **4.** Could you provide ideas on other venues or opportunities through which workshops could be offered? **5.** What topics would you like to see covered in a workshop? For more information about current workshop format, past topics, and related information, Please refer to the workshop website. <http://nesen.unl.edu/communication/profdev/nesenworkshop.html>

### **UPDATE YOUR NESEN MEMBERSHIP!**

NESEN is updating its membership records. Please help us by visiting the NESEN website and correcting your information. The web address is <http://nesen.unl.edu>; once there, click on the COMMUNICATION drop down menu and stop at Membership Directory. You will have to specify whether you are a K-12 member or a post secondary/ non-educator. The names are listed alphabetically by last name. Find your name and review the information. If any part of it is incorrect, please let us know by clicking BACK on your browser and then going to the Membership Enrollment Form. Fill in at least your name and the information needing to be corrected on the form. In the box labeled "Additional Comments," type "member update" and then click SUBMIT. Similarly, if you no longer wish to be a member of NESEN, send an e-mail to [NESEN@unl.edu](mailto:NESEN@unl.edu) requesting that your name be removed from NESEN membership. Your help is greatly appreciated.

### **Nebraska Completes National Geologic Map Data Base by Duane Mohlman and Ed Pfeifer, CSD**

This summer the Nebraska Geological Survey, part of the Conservation and Survey Division (CSD), completed compiling its statewide data for the National Geologic Map Data Base (NGMDB, of the U.S. Geological Survey). The data can be found at <http://ngmdb.usgs.gov/>. This database will help the user to identify maps appropriate to their needs and provide information on how to obtain paper or digital copies of the maps.

Duane Mohlman, CSD data systems coordinator, Charlie Flowerday, CSD editor and publications officer, and Melinda St. Clair, formerly of CSD, compiled the detailed list of more than 550 Nebraska geology-related maps. All CSD maps published individually or as part of other CSD publications are included. The majority of the maps are of all or part of Nebraska. The database has three parts. The main one is the Geologic Map Catalog, a searchable list of geologic maps that include geophysics, mineral resources, geochemistry, groundwater geology, natural hazards, paleontology, general geology and stratigraphy. Geologic Names, is an index of formation names and references. New Mapping documents current mapping activities funded under the FedMap, StateMap, and EdMap programs. More than 99 percent of the USGS geologic map data is included into the database. About 35 percent of all state geological survey data has been loaded.

#### **New NESEN Website On-Line** by Mark Mesarch, NESEN

The new NESEN website is now on-line. What has changed? First, Navigation through the site is accomplished by the drop down menu tabs at the top of each page. These are broken down into 5 main areas: Home, Lessons, Resources, Communication and Projects. HOME includes contact information, bibliography, sponsors and an on-line membership application. LESSONS contains teacher-created lessons and activities and information about submitting your own lessons. Lessons are organized by topic area, age appropriateness, and include a short lesson summary and implementation ideas. RESOURCES includes NESEN-based products such as teaching tools and our lending library, as well as other educational and database web links. The links are organized by topic area and show which are most frequently visited. Users can submit links that they think are appropriate. COMMUNICATION lists our NESEN membership directory, professional development opportunities, the NESEN newsletter, and science fairs. PROJECTS is the jumping off point to ClimProb (the climate probability web-based tool with over 800 locations), the Universal Data Visualizer (a web-based tool to graph data from selected databases), STEDII (the weather data collection and dissemination project) and SWIK (the Severe Weather Information Kit to teach K-6 audiences about severe weather preparedness.) A web page is provided with a list of the most recently added lessons to our collection. If you have any comments on the new web site, please drop us an email at [nesen@unl.edu](mailto:nesen@unl.edu).

#### **Asteroids, Craters and Candy** by Sandra Wever Ferichs, Nebraska State Museum

Space Geologist, is the latest kit in the Wonderwise, Women in Science Learning Series, made possible through a grant from the National Science Foundation. This multimedia series for fourth through sixth grade youth includes a video of a female scientist, an activity guide and CD-ROM. Space Geologist introduces youth to Adriana Ocampo, a scientist who works for NASA as a planetary geologist. Students take a virtual field trip to see Adriana at work. Then they apply what they learned as they study images from space, create and investigate craters, take core samples and physically create their own geologic time line. The inquiry activities prompt students to question and investigate geology. The University of Nebraska State Museum produces the Wonderwise Series in cooperation with Nebraska 4-H and Nebraska Educational Television (NET). For more information on all eight kits, see the web site at [wonderwise.unl.edu](http://wonderwise.unl.edu). To purchase a kit for \$39.95, call 1-800-228-4630. Contact the museum at (402) 472-6302 or [elephant@unl.edu](mailto:elephant@unl.edu) to rent a kit for \$10 a week.

#### **Awesome Aquifer Club, a Groundwater Education Tool** by Carla Mansfield, Groundwater Foundation

Groundwater is a vital resource that is often taken for granted. Not many people realize that 51% of America's drinking water and 37% of agricultural water comes from groundwater. Groundwater is threatened by contamination, and once polluted it is very costly and difficult to clean up. The best solution for safe water is awareness of these issues through educational programs like the Awesome Aquifer Club (AAC). The Awesome Aquifer Club (AAC) provides you, the educator, with a fun and easy to use kit filled with a variety of hands-on activities, games, and experiments focused on groundwater and related topics. The Awesome Aquifer Club is designed for 4th and 5th grade levels, but it works well for groups of all ages. Groups involved in the AAC include school classrooms, environmental clubs, scout troops, and utility outreach programs. To learn more about the AAC visit <http://www.groundwater.org/KidsCorner/AAC.htm>, e-mail [info@groundwater.org](mailto:info@groundwater.org), or call The Groundwater Foundation at 1-800-858-4844.

#### **Groundwater University: Serious Science, Serious Fun!** by Carla Mansfield, Groundwater Foundation

Groundwater University (GU) is a three-day adventure camp that educates youth (ages 12-15) about groundwater and related environmental studies. Through experiments, tours, games, and team challenges, students will have loads of fun while discovering the science behind groundwater from professional hydrologists, chemists, geologists, and other experts.

GU will be held June 18-20, 2002, at Platte River State Park located near Louisville, Nebraska. Enrollment is limited to 25 students; applications are due April 19, 2002. For more information and a free application contact The Groundwater Foundation at 1-800-858-4844, [info@groundwater.org](mailto:info@groundwater.org), or <http://www.groundwater.org/KidsCorner/GU.htm>.

### **Meteorite Crater Not Supported by the Facts** by Charles Flowerday, CSD

University of Nebraska scientists have determined that a possible meteorite crater, located in central Nebraska, was probably caused by wind. A research team from the University of Kansas (KU) identified this site as the youngest, high-magnitude impact site in the United States at a 1992 meeting of the Geological Society of America (GSA). Their proposal of a meteorite impact sometime between 3,000 and 500 years ago near Merna, in Custer County, was based on inadequate evidence and faulty theory, NU researchers said after doing enough drilling and related research, they believe, to put the theory to rest. The theory made considerable headlines because it could have led scientists to revise timetables of meteorite impacts, including the likelihood of any such future impact. The crater impact theory was promoted by Wakefield Dort, of the KU geology department, and colleagues from the KU natural history museum and space technology center. Doing some shallow drilling, Dort and colleagues based much of their theory on finding microscopic metal-rich fragments and glass shards they said were unusual for the region and pointed to a meteorite origin. NU's Mark Kuzila, Conservation and Survey's director and head soil scientist, and geologists Jim Swinehart and Joe Mason presented their refutation at this year's GSA meeting in Boston.

Swinehart, who has researched much of central and west-central Nebraska, said the area has a fairly high percentage of glass shards and small magnetic minerals from ancient volcanoes. Deeper drilling by NU showed that this depression has much more in common with the smaller Bartak Depression near Ong, Neb., about 120 miles southeast of Merna. Both reflect an ancient landscape formed in wind-blown silt called "loess". The drilling by the NU team also showed that the depression was at least 20,000 years old, not more recent as Dort suspected. There has always been a big scientific debate about evidence that resembles meteor impacts. However, Nebraska scientists say that for every impact site there are many thousands of depressions in Nebraska and elsewhere that have some crater-like features but are not meteorite craters.

### **SNRS Extension Forestry Courses Offered by UNL** by Scott Josiah, School of Natural Resource Sciences

The University of Nebraska, Lincoln offers three non-traditional courses to those interested in landscape and tree care and management. They are the Nebraska Forestry Shortcourse, the Nebraska Tree Care Workshops, and the Arborist Seminar. The Nebraska Forestry Shortcourse is a one-week intensive and comprehensive field course in forestry and forest management. Session leaders are primarily foresters from the Nebraska Forest Service (NFS) and other professionals from Chadron State, Game and Parks Commission, and other organizations. It is held alternately at Chadron State and Peru State. The course can be taken for UNL undergraduate or graduate credit (2 credit hours).

The Nebraska Tree Care Workshops are a partnership between the School of Natural Resource Sciences (SNRS), the NFS, and The Statewide Arboretum. They train tree and landscape care professionals, nursery staff, master gardeners, agency and extension reps, and homeowners in the technical aspects of proper tree care. One-day workshops are held in six locations statewide every March. This training event is also a part of the training program for Master Gardeners.

The Arborist Seminar is another partnership of SNRS, the NFS, and the Nebraska Arborist Association (NAA). They conduct a 2 1/2 day training for arborists and tree care professionals leading to certification by NAA and/or the International Society of Arboriculture. The seminar is usually held in December. For more information on these programs contact Scott Josiah at 402-472-6511.

### **Education Opportunities in Wildlife Conservation** by Ron Johnson, School of Natural Resource Sciences

Here is a preview of wildlife education programs going on this year. Information on these and on Project WET and Project Learning Tree will be sent to all the 4<sup>th</sup> through 6<sup>th</sup> grade teachers in Nebraska, all designated science/natural resource teachers in middle and high schools, Nebraska Resource Districts, extension educators, and others. The information is a part of Wildlife Week, April 22<sup>nd</sup> to April 28<sup>th</sup>, 2002, and in cooperation with the Nebraska Wildlife Federation.

The Wildlife Habitat Evaluation Program is for youth 9-19 and their coaches. Students will learn about wildlife while developing life skills. It is an annual event/contest developed jointly with Kansas. It is usually scheduled for the first week in June. The top senior team goes to the national invitational with expenses paid by sponsors. Contact Jeanine Lackey (402-472-4907) or Dallas Virchow (402-472-8961) for more information.

The Tern and Plover Conservation Partnership offers a program that includes education, outreach, and volunteer participation (Adopt-A-Colony program) related to birds and river habitats. For more information, visit their web site at <http://ternandplover.unl.edu/>.

The Bird Conservation and Education Partnership is a new partnership program with the Game and Parks Commission that will foster support and appreciation for the birds of Nebraska. Included is coordination of International Migratory Bird Day activities (<http://www.ngpc.state.ne.us/wildlife/intmbd.html>), completing and enhancing a web page on Nebraska's birds (<http://www.ngpc.state.ne.us/homepage.html>), and other educational activities. The coordinator is Jeanine Lackey (402-472-4907).

**New Items Available Through CSD Maps and Publications Office** by Judy Otteman, CSD

There is a new Educational Circular entitled Geology of Pioneers Park Lancaster County, Nebraska (#EC-14). A new guidebook called Late Quaternary Landscape Evolution in the South Fork of the Big Nemaha River Valley, Southeastern Nebraska and Northeastern Kansas (#GB-11) is also available. Two new maps are General Reference Map of the USA (#GIM-135), and Ecoregions of Nebraska and Kansas (#GIM-136). The Division is carrying an atlas published at UNK: A Prairie Mosaic: An Atlas of Central Nebraska's Land, Culture and Nature. There are some packets left from Earth Science Week (Celebrate Earth Science Week Please check the Earth Science Information Center (ESIC) on our web site (<http://csd.unl.edu/mappub.html>) or contact our office (402-472-7523) for the availability of these materials.

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**Attention:** If this member is no longer at this address, please e-mail [NESEN@unl.edu](mailto:NESEN@unl.edu) to remove them from our list. Thank you!

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