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Nebraska Earth Systems Education Network Newsletter – Winter 1995/96

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Winter 1995-1996 Newsletter

Issue Number 9

NESEN at NATS:

Thanks to all NESEN members who participated in NESEN at NATS 95. NESEN/CSD hosted an information booth. We saw many new faces, old friends and exchanged a lot of information. In fact, we added 61 new members to NESEN. Current membership now exceeds 275. We look forward to your participation next year. Any suggestions as to how we can improve our activities would be appreciated.

Nearly 30 individuals participated in Thursday (October 26, 1995) afternoon's NESEN workshop. Dave Gosselin presented his first annual "State of NESEN Address" followed by a general "Where Do We Go From Here" discussion. Steve Meyer, Assistant Professor in Agricultural Meteorology then presented An Introduction to *ClimProb* (see additional article about *ClimProb* later in this newsletter). Brian Tolk of CALMIT (CSD) then gave a presentation entitled "Applying Space Data to Education: The CASDE Project". The 3-hour workshop was concluded with an informal round-table discussion about the STEDII Project "Integrating Weather and Internet Resources in the Classroom: An Introduction to Students and Teachers Exchanging Data, Information and Ideas (STEDII)".

On Friday (October 27, 1995), Dave Gosselin presented a session on "Nebraska River Systems" and coordinated the third annual "NESEN Share-a-Thon". The Share-a-Thon and River's session were attended by about 50 teachers. Information was exchanged earth science activities, lesson plans and programs. Many of these activities were developed by NESEN teachers during the 1995 NESEN Summer Workshops. We look forward to more teachers participating in the Share-a-thon next year. So start preparing now.

Other earth science sessions included: "Project Atmosphere Teaching Module" by Ed Schafer; "Inquiry Activities in Earth Science For Middle and Secondary Schools" by Donn Carlson, Roger Carlson, Ryan Carlson, Charles Carpenter; "Maury Project Ocean Studies" by Carol Williamson; "What a Relief! - It's Nebraska" by Sara Morris; "Changing Weather" by Robert Sweetland, Coralynn Malmberg; "Making Rock Thin Sections for the Classroom" by Gayle Ellison; "Energy, Environment, and Policy Choices" by Carmen Hood, Melinda Ernich; and a field trip to new National Weather Service office at Valley, NE by Ed Schafer.

STEDII Project:

Interested in using data in your classroom and getting you kids actively involved in data collection? NESEN has recently undertaken the STEDII Project "Students and Teachers Exchanging Data, Information and Ideas (STEDII)" to undertake this task. We are currently focussing on weather. We have been able to supply participants with some basic weather data collection instruments. Schools participating include: Diller (Liz Snyder); Albion (Polla Hartly); Northbend (Bob Feurer); Scottsbluff (Mike Sarchett), Mockingbird (Ed Schafer); O'Neill (Al Musson); Holdrege (Jerry Ott); Lexington (Virgil King); Raymond (Sue Frack), St. Thomas More (Mary Lou Alfieri); Valentine (Deb Meyer); and Omaha Westside (Carmen Hood). For more information contact Dave Gosselin, 402-472-8919 or gosselin@unlinfo.unl.edu.

Summer Workshop Schedule:

The following NESEN Workshops will be offered during the 1996 Summer:

- 1) *Chili Today, Hot Tomale: Let's Look at Nebraska's Weather* - July 8-9, 1996.
- 2) *Nebraska's Dynamic Water System: A Geoscientist's Approach* - July 10-11, 1996.

See enclosed flier for further details and registration instructions.

Third Edition of *NESEN Resources Guide and Membership Directory* Coming Soon:

Included in this mailing is a NESEN Membership Update Form. Please carefully check this information and make any necessary corrections. Return your form in the enclosed self-addressed, stamped envelope. By promptly returning this form, you will ensure that your membership information is accurate in the upcoming third edition.

Resource Notes Recently Mailed:

Resource Notes, the annual report of the Conservation and Survey Division was recently mailed to all NESEN members. This 54-page report features several current issues concerning the geosciences, and an article specifically featuring NESEN teachers and activities (pgs. 46-47).

NESEN Homepage: <http://nesen.unl.edu/nesen.html>

The NESEN Homepage continues to grow and now contains an extensive amount of earth science information. Recently, we incorporated the University of Nebraska Secondary Science Education program (Dr. Ron Bonnsetter, Director) into our NESEN Homepage. They have many interesting links to other homepages, requirements for various programs within Teachers College, and 120 science activities. Additionally, each of the students has constructed their own individual homepages.

Your students may be interested in the "NESEN Ask-a-Scientist" feature. Students can click on this feature and e-mail their geoscience questions directly to the Conservation and Survey Division at UNL. The question comes to Dave Gosselin, NESEN Project Manager, who, if necessary, will forward the question onto the appropriate person(s). Answers will be e-mailed back to the student(s) as soon as possible.

Climprob

By Dr. Steven Meyer, Department of Agricultural Meteorology, UNL

Climprob is a software package that develops probabilities of climatic events based on the long-term history of a particular weather station. To use *Climprob*, you simply choose a time window that you're interested in (for example, an entire year, a season, a month, a week, a single day), choose a location, then choose the type of analysis you want to perform. You can select from 17 different temperature options, 6 precipitation options, or 8 degree day options. *Climprob* was originally developed for extension educators to answer questions of a climatological nature from their clientele. However, *Climprob* is now being used in K-12 classrooms around the State.

Hardware requirements include an IBM PC or compatible computer running DOS Version 3.3 or higher. An 80286 processor is the minimum requirement, but a 386, 486, or pentium processor is highly recommended. The size of the program is 360K, thus, a machine with the standard 640K RAM will do fine. A graphics card is required if you want to plot graphs. Tables and graphs can be printed on an HP laser jet printer or Epson dot matrix printer. A mouse can be used but is not required.

Most data sets date back to at least 1930, many date back to 1900 and several even date back to 1890. Over 800 data sets from the continental US are available for use with *Climprob*. Nebraska alone has 55 data sets, however, about half of those only date back to 1949.

Normal cost is \$40 which includes the software, Users Guide, and all data sets for one state. The \$40 is to recoup our investment for development of the software and data sets, program time, etc. However, for teachers wanting to use *Climprob* in the classroom, the software is provided free of charge.

For further information, or if you wish to order *Climprob*, please contact Dr. Steven Meyer, by calling him at 402-472-8768, or email agme007@unlvm.unl.edu.

Sandcastle Moats and Petunia Bed Holes...A New Book About Groundwater:

By Dawna Yannacci, Pennsylvania Geological Survey

A colorful and interesting introduction to the basics of groundwater is now available free of charge from the Department of Environmental Protection. This 28-page booklet is entitled *Sandcastle Moats and Petunia Bed Holes... A Book About Groundwater*. The booklet is geared toward junior high school students; however, it could also be used by teachers at all levels as a source of ideas on how to explain and demonstrate basic groundwater concepts. It is filled with colorful illustrations and helpful analogies designed to aid in the understanding of this potentially confusing subject. Simple experiments, which demonstrate a water table, porosity, permeability, groundwater acidity, leaching, and landfills, are also described. Follow-up questions based on these experiments are provided. Adults may find the tone of this booklet somewhat condescending, but those who keep in mind that it was written for school children will find a fun and understandable introduction to groundwater principles. The booklet was originally written by Pat Nickinson for the Virginia Environmental Resources Center and has been adapted by James Ulanoski, Nancy Spangenberg, and Stuart Reese of the Bureau of Water Quality Management for use in Pennsylvania. This adaptation includes a special section in which the groundwater characteristics of the seven regions (physiographic provinces) of Pennsylvania are briefly discussed. In this section, the reader is given an overview of the major rock types and corresponding aquifer types, potential and known water-quality problems, and yielding capability of each region. *Sandcastle Moats and Petunia Bed Holes...A Book About Groundwater* may be obtained by writing the Department of Environmental Protection, Bureau of Water Quality Management, PO Box 8465, Harrisburg, PA 17105-8465, or by calling Marilyn Keifer at 717-787-9633.

Queens College Professor Introduces a New Educational Groundwater Game *WATER! WATER!*

Will be available for sale soon!

Ever wonder where water comes from? Do you think that hurricanes affect water supplies? Maybe you'll learn the answers to these and other questions about water resources by playing a newly developed game. Bonnie Blackwell, a Geology Professor at City University of New York's Queen College, will soon unveil the new game that she and Andrew Pope, a Queens education student, developed. Dr. Blackwell presented *Water! Water! A new educational game to develop enlightened self interest about groundwater in people*", at the recent Geological Society of America Annual Meeting in New Orleans, LA. The game requires players to find enough water to support their population. To do this, they may lease watersheds or utilities, drill wells, build dams to create reservoirs, and make lifestyle adjustments to conserve water. Disasters and increasing populations, however, demand they continue to find more water. Players win the game by being the best water managers. We will let you know when the game becomes available.

NESEN Earth Science Resources Available:

Brian Lang, part-time NESEN Coordinator, has been compiling a rather lengthy list of NESEN earth science resources. Note that when the list is completed it will be posted to the NESEN Homepage

Newsletter was written by Duane Mohlman, Dave Gosselin, and Brian Lang, Conservation and Survey Division, UNL. If you have information that you would like included in the next newsletter (tentatively scheduled for Spring 1996) please inform any of these individuals.