ESIC NEWS

Compiled by Fred J. Anderson
NDGS ESIC Coordinator

The NDGS is an affiliate of the Earth Science Information Center (ESIC) network. The U.S. Geological Survey coordinates the nationwide ESIC network, which provides information about geology, hydrology, topography, and land use in the form of maps, books, reports, and aerial, satellite, and radar images, and related products. ESIC also publishes and distributes earth-science data in digital form. As an ESIC office, the NDGS can assist the public in locating earth-science materials dealing with North Dakota. For more information, contact Fred Anderson, Donna Bauer, or Elroy Kadrmas by phone at (701) 328-8000.

GENERAL INFORMATION

The North Dakota Geological Survey continues to make the following maps available through our publications office:

Iraq Planning Map (1:2,000,000) $10.00
The Middle East Graphic (1:4,500,000) $15.00
Iraq (1:1,250,000) $10.00
Baghdad (1:40,000) $10.00
Tikrit, Al Basrah, Al Mawsil, Karkuk $15.00 each
Lewis and Clark: A Legacy of Science $10.00
National Wildlife Refuge System Map $7.00

RECENT PUBLICATIONS OF INTEREST IN NORTH DAKOTA

Coal Gas studies in the Powder River and Adjacent Basins in Wyoming and North Dakota

Recent coalbed methane resource (CBM) investigations have been conducted in the Powder River, Williston, Green River, and Big Horn Basins. These investigations focused on coal desorption characterization studies conducted on coals collected from this collaborative effort between industry, the USGS, and the U.S. Bureau of Land Management (BLM), for the purposes of proper resource management and assessment.

Title: Gas desorption and adsorption isotherm studies of coals in the Powder River basin, Wyoming and adjacent basins in Wyoming and North Dakota.
Scale: 1:30,000,000 (equatorial).
Item No.: Open File Report 2006-1174
Publication ID: Open File Report 2006-1174
Available online only at: http://pubs.usgs.gov/of/2006/1174/.

Surface and Ground-Water Quality on the Spirit Lake Reservation

Recent groundwater and surface-water hydrologic data for the Spirit Lake Reservation has been summarized in this recently completed open file report. Data on ground-water and surface-water quality, in addition to water-withdrawal was compiled from hydrologic databases of the USGS, North Dakota State Water Commission, and tribal agencies of the Spirit Lake Nation.

Title: Summary of Surface-Water Quality, Ground-Water Quality, and Water Withdrawals for the Spirit Lake Reservation, North Dakota
Item No.: Open File Report 2006-1144
Available online at: http://pubs.usgs.gov/of/2006/1144/.

EDUCATIONAL MATERIALS

A K-12 Teacher's Guide for Mineral Deposits

Now available online is a tremendous resource for educators related to the geology of mineral deposits that provides students with an understanding of the life cycle of an ore deposit through hands-on mineral education activities. This teacher's guide defines what a mineral deposit is and how a mineral deposit is identified and measured, how mineral resources are extracted, and how a mining site is reclaimed; how minerals and mineral resources are processed and used every day. Ten activity based learning exercises are included that educate students on basic geologic concepts including; the processes of finding, identifying, and extracting the resources from a mineral deposit; and the uses of minerals. The guide is intended for K through 12 Earth science teachers and students and is designed to meet the National Science Content Standards as defined by the National Research Council (1996). To assist in the understanding of some of the geology and mineral terms, a Glossary (appendix 1) and Minerals and Their Uses (appendix 2) section are included.

This general interest publication (GIP-17) is available online at: http://pubs.usgs.gov/gip/2005/17/.

Streaming Geoscience Videos

The USGS has recently made available a collection of streaming videos of historic and recent geoscience topics. These include:

The Future of Energy Gases

Originally released as Open File Report 94-642 in 1994 this video is the perfect primer for all ages and educational levels regarding our nation's energy use and resources. A carefully written script, beautiful scenery, engaging computer generated animations, professional score, and professional narration explain the different types of energy sources our nation has used over its history, with a focus on petroleum and natural gas. This video explains the technology, economics, and effects on the environment associated with each source.

Available online at: mms://video.wr.usgs.gov/movies/future_of_energy_gases.wmv.

Exploring Storm Surge

Exploring Storm Surge is an engaging preparedness movie about the dangers of storm surges associated with hurricanes. This is an excellent movie for understanding the aftermath of Hurricane Katrina.
14 minutes, 45 seconds long.
Available online at: mms://video.wr.usgs.gov/movies/exploring_storm_surge.wmv.

The Living Rock: the Earth's Continental Crust

Produced by Doug Prose, this is probably the most beautiful movie that has ever been released by the USGS. The viewer is treated to a global tour of geologic processes narrated by many USGS scientists. In addition to the beautiful imagery, which was filmed not videotaped, the movie includes advanced computer generated animations.
1 hour, 45 seconds long.
Available online at: mms://video.wr.usgs.gov/movies/living_rock.wmv.

GEOLOGIC HAZARDS, PHOTOGRAPHIC, AND REMOTE-SENSING RELATED WEBSITES

Geological Hazards in your own Backyard

Every year, natural hazards that occur in the United States can result in hundreds of lives lost and cost billions of dollars in the form of disaster aid, disrupted commerce and destroyed public and private properties. In an effort to help educate the public about the threat of natural hazards, the USGS has launched a new Web site that features seven easy-to-understand fact sheets on earthquakes, floods, hurricanes, landslides, tsunamis, volcanoes and wildfires. The hazards Web site highlights resources and information available from the USGS and provides links to the individual hazards Web pages for more detailed information.
The fact sheets can be accessed directly at http://www.usgs.gov/hazards/.

Historical Geoscience Photographic Database

The USGS Photographic Library contains an archival collection of still photographs dating from the 1870s including the works of such pioneer photographers as W.H. Jackson, J.K. Hillers, and T. Moran. Student employees are scanning pre-1955 images from that collection for the Web-accessible Earth Sciences Photographic Archive. The Historic Photo Web Site now has nearly 34,000 photographs ranging in age from 1868 through 1992. These public domain, copyright-free photos, can be viewed and downloaded free of charge. Approximately 400 new photos continue to be added weekly. Photos are available in 100, 700, and 1400 dots per inch (dpi) resolution and may be searched using a free-form string search engine allowing you to easily find the photo and caption of interest.
Access to this most interesting database is available by linking directly to: http://libraryphoto.cr.usgs.gov/.

Advanced Very High Resolution Radiometer Data

The Advanced Very High Resolution Radiometer (AVHRR) provides four- to six-band multispectral data from the NOAA polar-orbiting satellite series. AVHRR refers to a broad-band, four or five channel scanner that senses in the visible, near-infrared, and thermal infrared portions of the electromagnetic spectrum. Fairly continuous global coverage, with morning and afternoon acquisitions, since June 1979 is available. The resolution is 1.1 kilometer at nadir. The number of available bands is dependent on the satellite. Two products are currently available from the EROS archive:

Stitched Orbital Segments consist of single-scene AVHRR data stitched together within an orbit, and is available for limited dates only. Each segment is composed of five channels with a resolution of 1.1 kilometers at nadir. The data is provided in binary (10-bit packed) format, and is distributed via File download.

Georegistered (Level 1b) Single-Scene AVHRR is radiometrically and geometrically corrected single-scene AVHRR data that is processed according to user-specified parameters such as projection, resampling method, and pixel size. The data is available in binary (8- or 10-bit) format, and is distributed on CD-ROM or DVD.
Additional Information can be found on the AVHRR website at: http://edc.usgs.gov/products/satellite/avhrr.html.

NDGS Earth Science Information Center (ESIC) Affiliate

For assistance in finding and/or ordering a product, or if you have any questions related to North Dakota earth science data or maps, you may contact the North Dakota Geological Survey's, USGS Earth Science Information Center Coordinator, Fred J. Anderson, at: (701) 328-8000 or via email at: fjanderson@state.nd.us.

EarthNow – Near Real-Time Online Landsat Data Viewer

The USGS has recently made available online a near-real time Landsat data viewer which displays a scrolling image of Landsat images collected from the Landsat 5 and 7 satellites. The EarthNow image viewer shows continuous playback of image data collected during satellite traverses across the North American continent and is hosted at the USGS Center for Earth Resources Observation and Science (EROS) in South Dakota and at the Air and Space Museum in Washington, D.C. The EarthNow viewer is available at:
http://earthnow.usgs.gov/

USGS Homepage
http://www.usgs.gov