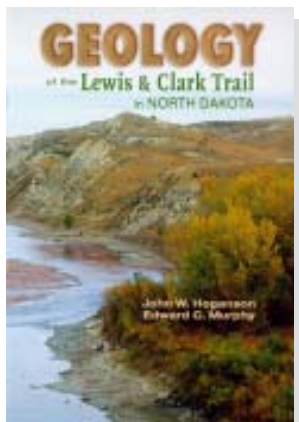

NEW PUBLICATIONS



New from Mountain Press Publishing Company: *Geology of the Lewis and Clark Trail in North Dakota*

The book, *Geology of the Lewis and Clark Trail in North Dakota*, by John Hoganson and Ed Murphy, was recently released by the publisher, Mountain Press Publishing Company of Missoula. This book is meant to provide visitors to North Dakota a unique view of the Lewis and Clark Expedition that traveled through the state in 1804-1805 and again in 1806. It will also be of interest to those just curious about the geology along the Missouri River and teachers of North Dakota science and history. Thomas Jefferson directed Lewis and Clark to make geological observations during their journey and many journal entries by Lewis and Clark and other members of the Corps of Discovery record those observations. These entries are reprinted in the book. In North Dakota, the Corps of Discovery recorded information about landforms, water ways and hydrology, economic resources such as lignite, clinker, and salts, rock types, fertile agricultural soils, and fossils. They also made detailed maps of the areas they explored. In fact, there are some areas in North Dakota where one can literally stand in the exact place where either Lewis or Clark stood 200 years ago. The authors identify those areas in the book.

Completion of this book was one contribution of the North Dakota Geological Survey in commemoration of the Lewis and Clark Expedition Bicentennial. The 247 page book contains 150 color maps and images. The images include on-the-ground photographs, aerial photographs, and reproductions of paintings by historic and contemporary artists. The text is easy to read with scientific geology jargon kept to a minimum, although a glossary is included at the end of the book. It is published in a 6" X 9" format so that it can be easily carried by people traveling by car or those biking, hiking, or canoeing the Lewis and Clark trail. John and Ed received grants from the National Park Service and State Historical Society of North Dakota for the project. The book is available through the publications division of the North Dakota Geological Survey and most local bookstores.

NDGS Publications

Geological Survey Publishes New Map Series by Ed Murphy

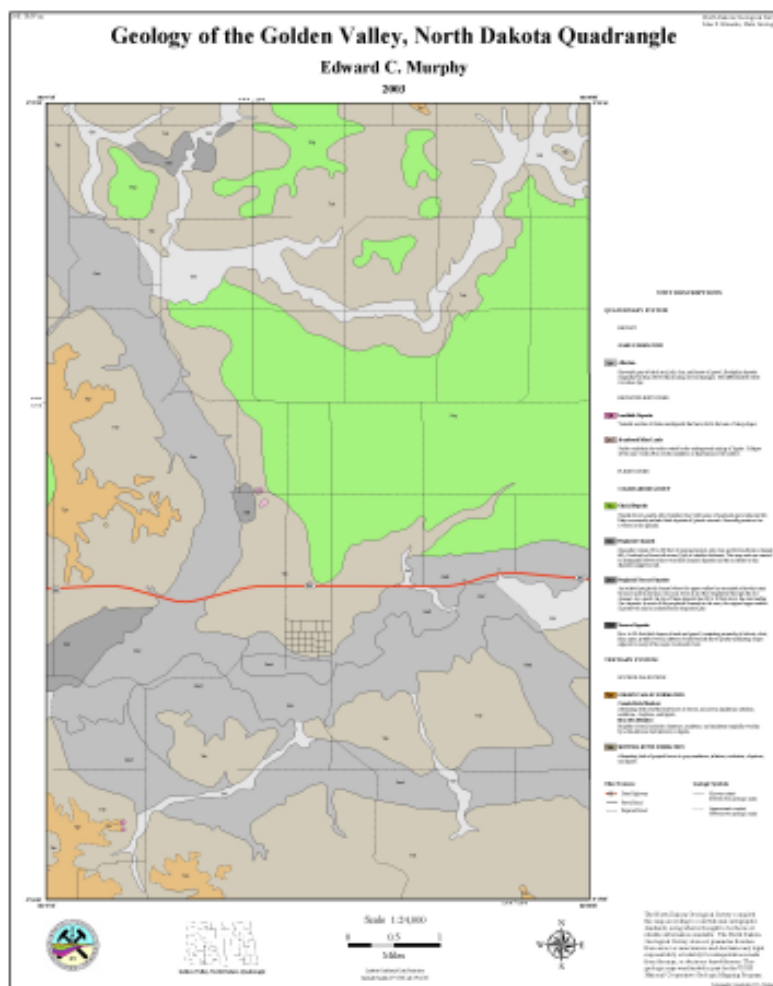
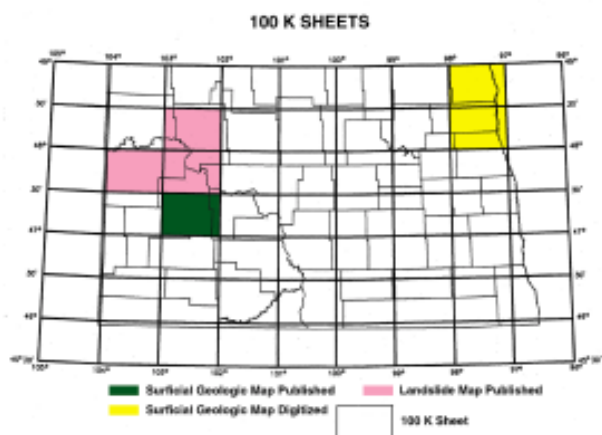
The North Dakota Geological Survey recently initiated two new map series. The **100K Map Series** includes 1:100,000-scale geologic maps that cover an area of one degree of longitude bounded by one-half degree of latitude. North Dakota is covered by 42 complete 100K sheets within an additional 21 partial sheets straddling the borders with Montana, South Dakota, and Minnesota. The major advantage of this map series over the county geologic maps (County Bulletin series) is that all of the map sheets will be the same size (24 x 36 inches). This enables us to standardize such things as legend, titles, text, etc., which was not possible when one map might be three times larger than another (North Dakota counties range in size from 450,000 to 1,300,000 acres). These geologic maps will be available on a topographic background depicted by either shaded relief or contour lines.

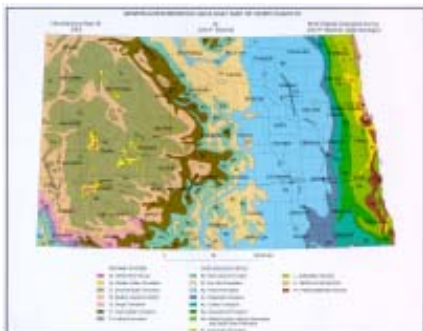
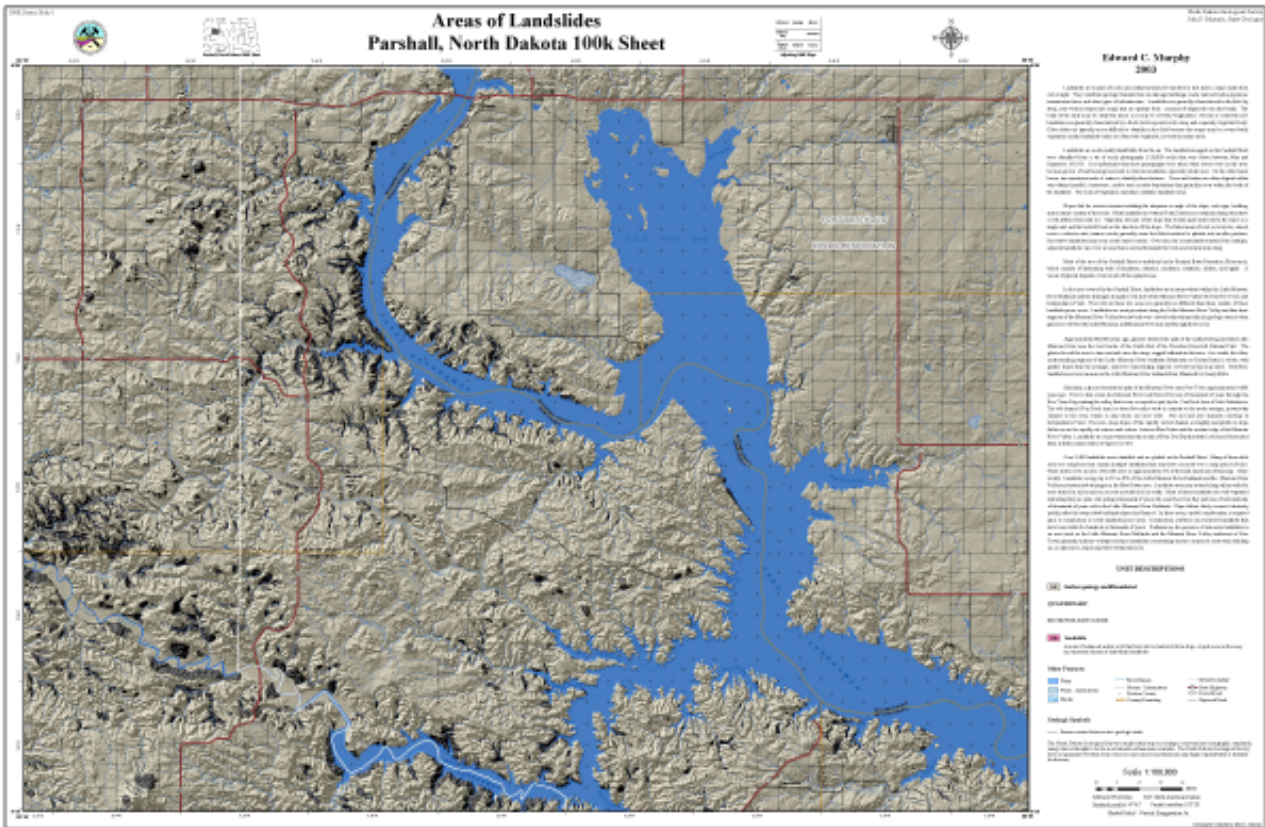
All of our field mapping is now done on 7.5 minute quadrangles (1:24,000 scale or 2.6 inches to the mile). Where geologic maps on this scale already exist, they form the base upon which the 100K series maps are compiled. Unfortunately, 7.5 minute quadrangle maps were not available for all of North Dakota until the 1980s. Prior to that time, our geologists often had to use the county maps (½ inch to the mile) printed by the North Dakota Department of Transportation as base maps. Therefore, although the 100K series will be close in scale to the old county geology maps (1:100,000 vs. 1:125,000) the 100K series will be more accurate because they will be based on mapping at a scale of 1:24,000.

The Killdeer Sheet is the first surface geology map available in the new 100K series. Landslide maps of the Killdeer and Parshall sheets have also been completed. In addition, 100K landslide maps are in press for the Watford City and Stanley sheets with the Williston Sheet to be completed this winter.

The **24K Map Series** consists of 1:24,000-scale 7.5 minute quadrangle maps. North Dakota is covered by 1,457 quadrangle maps. To date, the surface geology has been mapped on 75 quadrangles in North Dakota. In addition, landslides have been identified on another 97 quadrangles. Only 38 of these 172 quadrangle maps have been published the remaining maps have been digitized, but the legends are not in final format. We hope to eliminate this backlog in 2004. This map series will be available on either an orthophoto base or a topographic background.

Eventually, we envision both map series will consist of dozens of derivative maps identifying both surface and subsurface mineral deposits such as lignite, leonardite, salt, sand and gravel, volcanic ash, uranium, clay, oil, etc. Both map series will be print on demand and will range in price from \$6 for the 100K sheets to \$5 for the 24K maps. We also plan on providing digital print files of these maps on our website.





Generalized Bedrock Geologic Map of North Dakota (Miscellaneous Map 36) by John P. Bluemle

This map, which is a full-color 8½ x 11 sheet, supercedes Miscellaneous Map 28. Miscellaneous Map 36 is available from the North Dakota Geological Survey for \$1.00.

Devonian Isopach and Structure Maps, IEA Weyburn CO₂ Monitoring and Storage Project Area (Test Version, CD-ROM), (Saskatchewan Industry and Resources, Petroleum Geology Branch) by L.K. Kreis, P. Thomas, R.B. Burke, and S.G. Whittaker.

Devonian mapping results from the International Energy Agency's (IEA) Weyburn CO₂ Monitoring and Storage Project have been jointly published by Saskatchewan Industry and Resources and the North Dakota Geological Survey as a test version CD entitled "Devonian Isopach and Structure Maps; IEA Weyburn CO₂ Monitoring and Storage Project Area. This product contains computer-generated regional structural and isopach maps of the Devonian System in Saskatchewan, North Dakota, and Montana. These include the structural and isopach maps of ten formally recognized formations, and isopach maps of six halite (salt) sub-units, and four groups. In addition, stratigraphic tops data, a description of the Saskatchewan Land Survey System, and a questionnaire are included. Copies of the CD are available upon request at the addresses below. Comments and suggestions from this questionnaire will be used to develop future subsurface mapping products.

Contents:

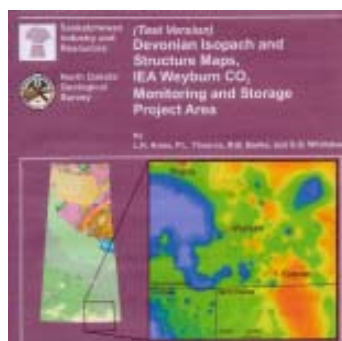
- Includes text and Appendices. All files in PDF, Excel, or Surfer 8 format
- Map Overview (PDF format)
- A - Geological Tops (Excel format)
- B - Isopach and Structure Maps (PDF format)

C - Isopach and Structure Maps (Surfer 8 format)
D - Questionnaire (RTF format)
PDF formatted files are viewable in Adobe Acrobat 4.0 (included)

To obtain a copy of the CD contact one of the following agencies:

Randy Burke, North Dakota Geological Survey, 600 East Boulevard Avenue, Bismarck, North Dakota, USA, 58505-0840.

Kim Kreis, Petroleum Geology Branch, Saskatchewan Industry and Resources, 201 Dewdney Avenue East, Regina, Saskatchewan, Canada, S4N 4G3.



To left: Geological map of Saskatchewan showing the location of the IEA Weyburn CO₂ Monitoring and Storage Project Area (referred to on maps as Weyburn Project Area). To right: Isopach map of the Prairie Evaporite Weyburn Project Area.

Outside Publications

Carpenter, S. J., Erickson, J. M., Hoganson, J. W., and Ludvigson, G. A., 2003, Alpine glaciation in the Laramide Mountains during the Late Cretaceous and Early Paleocene [abstract]: Geological Society of America Abstracts with Programs, v. 34, p. 291.

Hoganson, J. W., 2003, North Dakota rich in fossil resources, in Jaeger, A. A., ed., North Dakota Blue Book-2003-2005. p. 163-165.

Hoganson, J. W., 2003, Hell Creek Formation stratigraphy and paleontology at the Stumpf Site Natural Area, Morton County, south-central North Dakota, in Hartman, J. H., ed., Guidebook to the Vertebrate Paleontology of the High Plains-The Late Mesozoic/Cenozoic Record of North Dakota: Society of Vertebrate Paleontology 63rd Annual Meeting, St. Paul, Minnesota, October 15-18, p. 1-7.

Hoganson, J. W., 2003, Stratigraphy and paleontology of the White River Group, Little Badlands, Stark County, North Dakota, in Hartman, J. H., ed., Guidebook to the Vertebrate Paleontology of the High Plains-The Late Mesozoic/Cenozoic Record of North Dakota: Society of Vertebrate Paleontology 63rd Annual Meeting, St. Paul, Minnesota, October 15-18, p. 1-8.

Kreis, L. K., Thomas, P., Burke, R. B., and Whittaker, S.G., 2003, Subsurface Devonian Mapping Results from the IEA Weyburn CO₂ Monitoring Project, Southeastern Saskatchewan. Canadian Society of Petroleum Geology, May 27-30, 2003.

Kreis, L.K., Thomas, P.L., Burke, R.B., and Whittaker, S.G., 2003, Devonian Isopach and Structure Maps, IEA Weyburn CO₂ Monitoring and Storage Project Area. In Abstract Volume, 11th Williston Basin Horizontal Well and Petroleum Conference, Saskatchewan Geological Survey p. 7.

Murphy, E. C., and Hoganson, J. W., 2003, Geological observations made by the Lewis and Clark Expedition in North Dakota [abstract]: Geological Society of America Abstracts with Programs, v. 34, p. 605.