

# On the Rocks



## *A Newsletter of the Michigan Basin Geological Society*

2003-2004 Number 9

[www.mbgs.org](http://www.mbgs.org)

April 2004

## EVENTS

**April 14, 2004:** MBGS Meeting.

**April 18-21, 2004:** AAPG Annual Meeting, "Embrace the Future – Celebrate the Past" at the Dallas Convention Center, Dallas, Texas; for more information go online at [www.aapg.org/meetings/dallas04](http://www.aapg.org/meetings/dallas04). The pre-registration deadline is March 17, 2004.

**April 30 – May 2, 2004:** Northeast Lower Peninsula Field Conference. For more information see the registration form in this Newsletter or the MBGS website at: [www.mbgs.org](http://www.mbgs.org)

**September 26-29, 2004:** Society of Petroleum Engineers annual meeting Houston, Texas

**October 3-6, 2004:** 33<sup>rd</sup> Annual AAPG Eastern Section Meeting Ramada Plaza Hotel Columbus, Ohio. The theme of this year's meeting is "Still Economic after all these Years."

**May 5-16, 2005:** MBGS Grand Canyon Field Trip.

### ***A Few Good People***

**Please consider running for office as part of the 2004-2005 MBGS Executive Committee. The Society is only as good as its members and in order to remain vibrant the MBGS needs active members to provide leadership. The elected officers are President, Vice-President, Secretary, Treasurer, and Business Manager. This year we are also looking for a Newsletter Editor. Contact any officer if you are interested.**

#### **New MBGS Members:**

Matthew Johnston  
West Bay Expl.

Scott Lundstrom  
USGS

Sandra Rutherford  
Eastern Mich. Univ.

# MBGS Meeting

**April 14, 2004**

Location: Holiday Inn (South)  
6820 S. Cedar St., Lansing, MI.

Schedule: 4:30-5:30 PM Executive Committee Meeting  
5:30-6:15 PM Cash Bar  
6:15-7:15 PM Dinner  
Presentation after Dinner

Cost \$25.00/member \$10.00 Student (includes dinner)

Topic: "Can Coastal Bluff Erosion Be Stopped?"

By  
Dr. Ron Chase, Western Michigan University

## MBGS Dinner Meeting Reservation

Name \_\_\_\_\_

Number attending \_\_\_\_\_ Society \_\_\_\_\_

Enclosed Registration Fee \_\_\_\_\_

Please make your check out to the MBGS by April 12, 2004 and send to:

Ms. Pat Poli  
Energy Operations Division  
6545 Mercantile Way  
Lansing, MI 48909

Phone: 517-241-6141, Fax 517-241-6071, E-Mail : [pmpoli@michigan.gov](mailto:pmpoli@michigan.gov)

## **2003-2004 MBGS Officers**

**The Executive Committee meeting minutes are available on the website.**

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ELECTRONIC PUBLICATIONS, MARK WOLLENSAK  
(see above)

WEBMASTER: GREG VARNUM  
[me@gregvarnum.com](mailto:me@gregvarnum.com)

## **University Talks and Seminars Websites**

Western Michigan University:  
[www.wmich.edu/geology/SeminarGeos.html](http://www.wmich.edu/geology/SeminarGeos.html)

Michigan State University:  
[www.glg.msu.edu/news/lectures.html](http://www.glg.msu.edu/news/lectures.html)

University of Michigan, Turner Lecture Series:  
[www.geo.lsa.umich.edu/announce/turner02b.html](http://www.geo.lsa.umich.edu/announce/turner02b.html)

Michigan AIPG Section website: [www.aipg-mi.org](http://www.aipg-mi.org).

## **MEETING CANCELLATION POLICY**

Monthly meetings will be automatically cancelled whenever the National Weather Service issues a "Storm Warning" for the Lansing area. If driving conditions are poor but a "Warning" has not been issued please contact any member of the Executive Committee for the status of the meeting.

## **MICHIGAN BASIN GEOLOGICAL SOCIETY PUBLICATIONS**

**Historical CD #1: Nine out-of-print publications from 1949 through 1965 and 1998**, Devonian to Silurian Rock Fieldtrips to MI, WI, IL and Ontario, 2000, \$15

**Historical CD #2: Four out-of-print publications from 1947, 1959, 1983 and 1991**, Northern Devonian and UP Fieldtrips in MI, 2001, \$10

**Historical CD #3: Six out-of-print publications from 1947, 1959, 1983 and 1991**, Northern Devonian and UP Fieldtrips in MI, 2001, \$12

**Special Price - Historical CD #1, #2 & #3, \$30**

**Stratigraphic Lexicon for Michigan**, 2001, prepared by MBGS and published by DEQ, 56 pp., chart, \$2.65 picked up or \$4 mailed, Can be ordered from MBGS or Geological Survey Div. of the DEQ

Price Includes postage, handling and any applicable sales tax. MBGS Members receive a 10% discount on MBGS publications.  
Orders for publications should be prepaid in U.S. Funds and addressed to:  
MBGS - Publications  
c/o Dept. of Geological Sciences  
206 Natural Sciences Building  
Michigan State University  
East Lansing, Michigan 48824-1115

## **MBGS Mug and Jacket Sale**

The Michigan Basin Geological Society is offering mugs and jackets with the society logo for sale. The mugs are \$5.00 each. The jackets are \$60.00 each plus postage. Please contact Dan McGuire at: Phone (517) 772-5219, Fax (517) 772-7021, or [danmcguire@sensible-net.com](mailto:danmcguire@sensible-net.com). Remember to include the correct size of the jacket and the quantity of each item. Checks should be made out to the MBGS.

## MSU Geology Department Field Trip to Marquette

The MSU Geology Department is running a field trip to Marquette, August 27 - 29, 2004 (Labor Day weekend). Friday the 27th will only have an evening meeting to discuss the next two days of field trip, discussion by Dr. F. William Cambray. The cost of the trip will be \$75.00 per person. Included in that cost will be a dinner on Saturday night with the speaker being Dr. Dave Hindle who will discuss the current interpretations of what is happening geologically in the Marquette Super Group. Not included will be transportation to Marquette, lodging and all other meals. Everyone is welcome. This is not just a trip for MSU alumni. I would appreciate it if you would let MBGS members know about this trip and give them my email address and phone number, should they have questions.  
Sincerely,

Chuck Julian  
GeoLogic Computer Systems  
2505 Williams Dr.  
Waterford, MI 48328-1869  
248-634-3513 home  
248-335-8863 work

The alumni of the Department of Geological Sciences at MSU are planning a reunion in the field. We will meet at the Holiday Inn, Marquette, on August 27th and spend Saturday and Sunday going over some of the old field camp locations and putting the latest interpretation on them. We promise fine sunshine, no mosquitoes and no final reports due next day! This is a wonderful opportunity to renew acquaintance with old friends and make new ones. The Upper Peninsula of Michigan geology has undergone some remarkable reinterpretations in the years since you were students. The plate margin origin is now well accepted, rift valley geometry and basin inversion has been documented but many aspects remain to be understood. Even the age of the rocks and the deformation leaves room for discussion. It is one of the best areas in the world to study Proterozoic tectonics and to make comparison with modern plate scenarios. The trip will be led by MSU's new structural geologist Dave Hindle and retired structural geologist Bill Cambray. A relaxed and informative trip is planned. Join alumni, their families and friends, to see what they are up to these days and find out the latest developments in the department. For more information contact the field trip co-chairs Chuck Julian or Dave Robbins at the numbers below. The field trip will include breathtaking views along the shore of Lake Superior.

### Questions? Contact the Geology Field Trip Co-Chairs:

Chuck Julian (Class of '75) Dave Robbins (Class of '73)  
Phone: 248-634-3513 Phone: 734-737-4693  
Chuck.Julian@GeoLogic3d.com David.Robbins2@unisys.com

## SCHEDULE

### Friday, August 27, 2004

7:00 p.m. -9:00 p.m. - Welcome & Presentation by Dr. Cambray on Marquette area geology.

### Saturday, August 28, 2004

8:00 a.m. -5:00 p.m. - Excursions to various sites led by Dr. Hindle & Dr. Cambray. Transportation provided. Sites include: Jasper Knob, Harvey Quarry, Tilden Mine, and other sites.

7:00 p.m. -9:00 p.m. - Banquet Dinner at the Holiday Inn with presentation by Dr. Hindle on current research and initiatives at the MSU Department of Geological Sciences.

### Sunday, August 29, 2004

8:00 a.m. -11:00 a.m. Excursion to area sites, including: Lighthouse Point, Presque Isle

*Locations subject to change.*

This old basin inversion shows very early plate tectonics.

Evidence of old microbes: the Banded Iron Formation at Jasper Knob.

## GRAND CANYON FIELD TRIP 2005

A date has been set: *May 5 through 16, 2005*

We have dates for the trip so mark your calendars from May 5-16, 2005. We put in the river on May 7 am. John Warne was able to book only one boat for the MBGS on these dates. There is a possibility of obtaining a second boat toward the end of the year (December 2004). Attendance on this trip is on a first-come-first-served basis. Presently we have 12 registrations and have an additional 2 openings to fill a 14 passenger boat. Any additional interested attendees will be placed on a waiting list *if* a second boat becomes available. Those determined to attend should make reservations with Mark Nida ASAP. **Deposits of \$100 are required by April 1, 2004**

We believe this will be a monumental experience for anyone wanting to go back in time.

**The cost will be approximately \$2200 plus transportation cost to Las Vegas. If you are interested in joining MBGS members on this trip, email Mark Nida at [mcnida@michigan.gov](mailto:mcnida@michigan.gov) or Mark Wollensak at [mark@mbgs.org](mailto:mark@mbgs.org).**

## **GEOLOGY SCHOLARSHIPS AVAILABLE**

The Michigan Basin Geological Society (MBGS) is announcing the availability of Geology Scholarships to be awarded in May 2004. Up to \$500 will be awarded in cash to one or more applicants.

These scholarships will be based on merit, need, and relevance of the area of interest to current and future needs of society or to how this area of interest increases the geological community's understanding of the topic.

The MBGS is affiliated with the American Association of Petroleum Geologists (AAPG) and uses their Grants-in-Aid form to review applications. An application may be printed or filled out on-line at <http://www.aapg.org/foundation/gia/forms.cfm>. Please disregard the deadline dates on that application page and DO NOT SUBMIT the application to AAPG. Since this is an MBGS scholarship, not all portions of the form may be relevant. Applications may be made on behalf of specific graduate studies, undergraduate areas of study, field camp, or summer classes. An endorsement of the Chairperson of the Department is not necessary but an endorsement of a geology professor is required (found at the end of the form). APPLICATIONS MUST BE RECEIVED BY MAY 3, 2004.

Please mail application forms to:

Thomas Wellman  
Geological and Land Management Division, DEQ  
P.O. Box 30256  
Lansing, MI 48909-7756

E-mail applications may be submitted to [wellmant@michigan.gov](mailto:wellmant@michigan.gov) but must be followed up by the written copy of the signature of the applicant and endorsement of a geology professor. Please address all questions to me at [wellmant@michigan.gov](mailto:wellmant@michigan.gov) or contact me at 517-241-1530.

The AAPG is starting its annual membership drive. Cash awards go to the top 3 local societies which recruit the most members.

## Employment Opportunities

The Ohio Department of Natural Resources, Division of Geological Survey is seeking applicants for two Geographic Information Management Systems Specialist positions.

Employment Type: Full Time, Temporary (Project Employee), Bargaining-Unit,  
Classified Position  
Expected Duration: Approximately 6 months  
Starting Salary: \$18.97/hr.

### **Closing date: March 24, 2004**

For more information contact: Doug Crowell at 614-265-6594 or Sharon Stone at 614-265-6988

The Ohio Department of Natural Resources is an Equal Opportunity Employer M/F/H. Consideration shall be granted only to individuals who meet one of the following criteria: (a) must be a U.S. citizen, or; (b) must hold form I551 or Green Card. To view complete posting and to apply: <http://www.dnr.state.oh.us/> then click on "Job Opportunities.

## Can Coastal Bluff Erosion Be Stopped?"

**Dr. Ron Chase  
Department of Geosciences  
Western Michigan University**

A significant part of the U.S. Great Lakes coast contains unstable bluffs underlain by heterogeneous glacial materials, including till, fluvial sand and gravel, and lacustrine silt/clay. Tri-weekly measurements during the past eight years of soil displacements and ground water potentiometric surface elevations at six hydro-stratigraphically diverse sites has shown that the bluffs move as slow earth slides where interlayered sand and clay contain perched ground water. Progressive, three-dimensional modeling of these slides reveals a typical internal deformation of the blocks that resembles fault propagation folding. Conversely, the bluffs show greater stability where sandy soil and fractured clay soil are too permeable to develop perched water systems. Most bluff displacements occur during winter months when the bluff faces are frozen; potentiometric surfaces rise because normal discharge is retarded. More rapid displacements persist into the spring months as the backed-up ground water combines with snow melt plus spring rain and discharges through soil weakened by freeze-thaw during the previous winter. Very little bluff movement normally occurs during the summer/fall months. Aerial photograph records dating back to 1938 show that the bluffs recede in amphitheater-shaped depressions at perched water zones followed by "catch up" where headlands between amphitheaters are eventually attacked by waves or additional ground water activity.

Using a combination of empirical data and limit equilibrium computer models, it is possible to calculate the levels of potentiometric surface rise needed to trigger bluff movements. Remotely accessible, electronic monitoring and dewatering systems have been installed at three sites on the coast of southeastern Lake Michigan. During the next five years, discharge rates, potentiometric surface elevations, and resulting downslope movements will be regulated, particularly during the winter and spring months, in a manner that is potentially reversible and amenable to extensive numerical modeling.

## Biography

Dr. Ron Chase received a B.S. from DePauw University, and M.S. and Ph.D. degrees from the University of Montana. He taught at Marshall University and the University of Southern Colorado before joining the faculty at Western Michigan University in 1973. He has published extensively in structural petrology and tectonics in crystalline terranes, and has most recently been involved with publication and research on aspects of slope stability. His current work, which is being funded by the U.S. Army Corps of Engineers, is related to slope stability analysis of coastal bluffs along the Great Lakes. Ron has been a member of the International Geodynamics Committee, Vice-Chair of the North Central section of the Geological Society of America, and has been named Outstanding Educator by the WMU Alumni Association.

## NORTHEAST LOWER PENINSULA FIELD CONFERENCE

### Sponsors:

**Michigan Basin Geological Society (MBGS),  
American Institute of Professional Geologists, Michigan Chapter (AIPG)  
Michigan Association of Environmental Geologists (MAEP)**

**Friday, April 30**

**Saturday, May 1**

**Sunday, May 2**

The conference will open Friday evening with presentations followed by all day Saturday and Sunday morning field excursions. Each excursion day will end at Gaylord.

Stops on the field excursion will visit natural gas seeps, glacial features (kames, eskers, kettle lakes, moraines) karst features (sinkholes), a local quarry to discuss the Dundee Limestone, geomorphic surface expressions, oil & gas production and some local history. The trip will take us through Alpena, Montmorency, Otsego and Presque Isle Counties.

### Friday evening presentations:

#### **Gas Seeps of Northeastern Lower Peninsula**

By Tyrone Black, Michigan DEQ Geological and Land Management Division.

#### **Evaluation of Relationships between Hydrogeologic Environment and Petroleum**

**Hydrocarbon Remediation in Quaternary Glacial Sediments** by Lisa M. Boettcher and Arden D. Davis, South Dakota School of Mines and Technology.

#### **A Poster Presentation: The Glaciated Landscape in the Grand Traverse Bay Region of Michigan and the Nature of the Greatlakean Advance of the Laurentide Ice Sheet in Michigan, USA**

By S.C. Lundstrom, U.S. Geological Survey.

#### **The Traverse Group from the Outcrop to the Subsurface: A New View combining the Historical Literature with Log Curve Amplitude Slicing to Identify Exploration Opportunities**

By Albert S. Wylie, Jr., Department of Geological and Mining Engineering and Sciences, Michigan Technological University.

**How Michigan Got it's Thumb**

By David Baxter, Consultant.

**Precambrian Basement Structures and Their Possible Role in Karstic Activity Across the Northern Michigan Basin**

By David Baxter, Consultant.

**REGISTRATION INCLUDES:**

Friday evening presentations, Saturday continental breakfast, Saturday field trip, Saturday lunch, Sunday continental breakfast and field guidebook. Registrants are responsible for their own lodging, meals other than those listed above and transportation both to the Otsego Inn and during the field excursion. We encourage carpooling during the field excursion to minimize the number of vehicles in the caravan.

**CONFERENCE FACILITY AND LODGING:**

The conference will take place at the Otsego Club in Gaylord, Michigan. Registrants are responsible for their own lodging. Group rates for the conference registrants have been arranged for. A rate of \$65 per night will be given to those mentioning the MBGS Conference when booking their room. The Otsego Club (800-752-5510 or 989-732-5181) is located on M-32 one mile east of Gaylord.

**Registration begins at 6:00 pm on Friday, April 30**

**Friday evening presentations from 7:00 pm to 9:00 pm  
in the Spitzman Room, Otsego Club.**

**Saturday field excursion from 9:00 am to 4:00 pm**

**Sunday field excursion from 9:00 am to 12:00 pm.**

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**NORTHEAST LOWER PENINSULA FIELD CONFERENCE  
REGISTRATION FORM**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

e-mail address: \_\_\_\_\_

Daytime Phone: \_\_\_\_\_

MBGS Member  AIPG Member  MAEP Member

**Registration Fee (per person): \$45.00 US, a confirmation will be sent by e-mail  
Limit of 40 registrants. Registration must be received by April 15, 2004.**

**One registration form per person.**

Mail form with payment to (check payable to "MBGS"):

NELP Field Conference, MBGS

5711 Ambler Street, Holt Michigan 48842

Attn: Mark Wollensak

Direct any questions to Mark at (517) 719-8321 or [mark@mbgs.org](mailto:mark@mbgs.org).