



GEOLOGICAL SOCIETY OF MINNESOTA

NEWS

SUMMER 1996 *XLIX*
VOLUME XLIX NO. 3

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ANNUAL MEETING
MONDAY
SEPTEMBER 23, 1996
OLD COUNTRY BUFFET
3000 White Bear Avenue
Maplewood, Minnesota
ELECTION OF 1997 DIRECTORS
Slides and Photos
of '96 Summer Field Trips

1997 GSM DIRECTORS TO BE ELECTED AT ANNUAL MEETING

It's that time again. You, as members of the Geological Society of Minnesota, will be asked to elect your Board members at the Annual Meeting on September 23.

GSM Directors may serve two 2-year terms and must be elected each term.

Nominees and their present terms are as follows:

- Charlie Brennecke - 2nd half, 1st term
- Dick Heglund - 2nd half, 1st term
- Rick Hosterman - 2nd half, 1st term
- Pat Johnson - 1st half, 1st term
- Alex Lowe - 1st half, 2nd term
- Marlys Lowe - 1st half, 1st term
- Don Swensrud - 1st half, 1st term
- Douglas Zbikowski - 1st half, 2nd term
- Don Mattsson - new nominee

Ed Huppler is an outgoing Board member as his two 2-year terms expire December 31.

Nominations will be accepted from the floor at the meeting.

And of course, after stuffing ourselves at the Old Country Buffet steam tables, and after the business meeting is over, we will show slides and talk about our summer field trips. See you at the meeting!

Judy Hamilton

GSM EXHIBIT BOOTH ROCKS THE FAIR

As usual, the Great Minnesota Get Together proved to be a successful endeavor for GSM. Although any new memberships resulting from the Fair are unknown as this newsletter goes to print, the interest shown in the booth has once again reached great proportions.


The kids really loved the rocks and were especially excited with the magnets that our president provided. Hardly a child old enough to see the table walked by without passing the little red magnet over our beautiful polished stromatolitic rock of jasper and magnetite. Several bigger kids (aka adults) took their turn at lifting and dropping or sliding the magnet across the rock.

A huge thanks goes out to all the people involved in making the Fair Exhibit a success. Again this year, some folks worked two shifts, but there were always two people on a shift.


Accolades to the Fair Committee which included Chairpersons Rick & Jean Hosterman, who were responsible for staffing and mailing tickets and generally overseeing the exhibit, Conrad Nelson for his help in getting folks to sign up, Doug Zbikowski, Dick Heglund, Tom Lonsky, and Daryl Lucas for setting up the exhibit and the display materials and then taking it all down and hauling it away. Thanks also to Bob Handschin who has been responsible for reserving and mailing in the check for the exhibit space every year since time began.

Listed below are the people without whom we would not have had an exhibit - the staffers. The (2) after the name indicates double duty. We just can't say thanks enough.


Rick and Jean Hosterman




Bob Handschin
Rosie O'Donovan
Barb Gudmundson
Marty Collier(2)
Conrad Nelson(2)
Ev Luhmann
Charlie Brennecke
Dee Schmalz
Doris Luhmann
Dick Heglund(2)
Bruce Goetteman
Tom Schoenecker
John Howell
Larry DeMark
Fran Corcoran
Bill Rickman
Jane Richardson
John Bussard
Rick Hosterman
Paul Lemke
Dode Wonson



Jean Hosterman
Tom Lonsky
Bob Gunville
Jay Hutchinson
Eva Selander
Macy Gunville
Val O'Malley
Dick Selander
Galen O'Connor
Louis Asher
Alan Siekmeier(2)
Alan Smith
Carol Osterbauer
Lorraine Cook
Kay Smith
Doug Zbikowski
Genie Yaffe(3)
Pat Johnson
Warren Fieber
Judy Hamilton(2)
Don Swensrud(2)



Delores Lam
Alex Lowe
Dwight Robinson
Marlys Lowe
Iris VonBargen
Margaret Rodina
Roger Willette
Gary Joselyn
Clarence Ooten
Dorothy Kuether
Aida Robbins
Orell Jensen
Bill Robbins
Paul Larson
Monica Clement
Karen Larson
Kip Smith
Sylvia Huppler
Nora Mattsson(2)
Don Mattsson(2)



GEOLOGICAL SOCIETY OF MINNESOTA



1996-97 Program

Free Lectures & Labs held at 7:30 P.M. Mon. on the Minneapolis Campus of the Univ. of Minnesota. See map on reverse side. For more info. call 724-2101

23 Sep 96 **Fall Annual Meeting** - Slide program of this past summer's field trips.
Dinner at 5 P.M. / Meeting at 7 P.M. - the Old Country Buffet, Maplewood (612) 779-1957

Lecture Theme: **PLATE TECTONICS**

- 7 Oct 96 #1 **Overview of Plate Tectonics** - Room B-75 in Amundson Hall.
James Stout, Ph.D. (*Geology/Geophysics Dept. - Univ. of MN*)
- 21 Oct 96 #2 **Development of the Plate Tectonic Theory, Part I: 1780-1928** - Recognition of a Dynamic Earth - Room B-75 in Amundson Hall.
James Miller, Ph.D. (*Minnesota Geological Survey*)
- 4 Nov 96 #3 **Development of the Plate Tectonic Theory, Part II: 1928-1966** - Drifting Continents, Expanding Oceans - Room B-75 in Amundson Hall.
James Miller, Ph.D. (*Minnesota Geological Survey*)
- 11 Nov 96 **LABORATORY: Paleogeographic Maps** - Shifting Patterns of Land and Sea
Room 185 in Ford Hall. Dick Heglund, M.Ed. (*Geological Society of Minnesota*)
- 18 Nov 96 #4 **Internal Mechanisms: Mantle Convection and Mantle Plumes** - Room B-75 in Amundson Hall. David Kohlstedt, Ph.D. (*Geology/Geophysics Dept. - Univ. of MN*)
- 2 Dec 96 #5 **Divergent Plate Boundaries: Triple Junctions, Spreading Ridges, Ophiolites** - Room B-75 in Amundson Hall. Karl Wirth, Ph.D. (*Geology Dept. - Macalester College*)
- 13 Jan 97 #6 **Convergent Plate Boundaries: Subduction, Underplating, Transgression** - Room to be announced. James Welsh, Ph.D. (*Geology Dept. - Gustavus Adolphus College*)
- 27 Jan 97 #7 **Role of Exotic Terranes in the Assembly of Continents** - Room to be announced. Karen Kleinspehn, Ph.D. (*Geology/Geophysics Dept. - Univ. of MN*)
- 3 Feb 97 **LABORATORY: Rocks Related to Their Plate-Tectonic Origins** - Room to be announced. Rick Uthe, Ph.D. (*Geological Society of Minnesota*)
- 10 Feb 97 #8 **Mountain Building in the Archean and Early Proterozoic Eons** - Room to be announced. David Southwick, Ph.D. (*Minnesota Geological Survey*)
- 24 Feb 97 #9 **Rift-Related Tectonics and Subsequent Processes in the Middle and Late Proterozoic Eon** - Room to be announced. David Southwick, Ph.D. (*Minnesota Geological Survey*)
- 10 Mar 97 #10 **Paleozoic Plate Tectonics: Gondwana and the Alleghenian Orogeny** - Room to be announced. Kent Kirkby, Ph.D. (*Geology/Geophysics Dept. - Univ. of MN*)
- 24 Mar 97 **LABORATORY: Rock Structures Related to Their Plate-Tectonic Origins** - Room to be announced. Rick Uthe, Ph.D. (*Geological Society of Minnesota*)
- 31 Mar 97 #11 **Mesozoic and Cenozoic Plate Tectonics: Break-up of Pangaea and the Laramide Orogeny** - Room to be announced. Brian Mahoney, Ph.D. (*Geology Dept. - Univ. Of WI, Eau Claire*)
- 14 Apr 97 #12 **Role of Plate Tectonics in the Origin of Ore Deposits** - Room to be announced. William Seyfried, Ph.D. (*Geology/Geophysics Dept. - Univ. of MN*)
- 28 Apr 97 **Kimball Memorial Banquet** - Location to be announced.
Role of Plate Tectonics in the Origin & Evolution of Life - the Pele Hypothesis
Robert Sloan, Ph.D. (*Geology/Geophysics Dept. - Univ. of MN*)

THE GEOLOGICAL SOCIETY OF MINNESOTA

Supporting and Promoting Public Interest
in the Geological Sciences since 1938.



Want to Learn More About Geology and Earth Science?

The **Geological Society of Minnesota** is a public-spirited, nonprofit educational organization that sponsors an annual program of stimulating lectures, labs, and field trips. **These enriching activities may all provide CEUs for teachers.**

Winter Lectures and Labs -

GSM's exciting, illustrated **lectures** are presented by leading professionals in their fields of geology or earth science. These engaging talks are **free and open to the public**, and are especially valuable for enthusiastic learners from secondary school students to adults. A question and answer opportunity is always included. **Where else can you enjoy an intriguing exchange with a leading scientist or educator?**

Our novice-friendly **labs**, demonstrate at a comfortable pace, the ideas and principles of Geology and Earth Science. They allow an involved, hands-on learning experience for beginners, or a helpful refresher for the seasoned enthusiast. These instructive sessions are also **free and open to the public**. **Where else can you actively practice science, under expert guidance, for free?**

Summer Field Trips -

During the months of May through October, GSM conducts a series of professionally-guided, statewide and regional **field trips**. These are one to three day excursions made to points of geologic interest not usually experienced by the casual traveler. They afford a very memorable and satisfying learning experience as there are always plenty of question-answering and hands-on opportunities. A comradery with enthusiastic learners and people curious about their natural environment is always a reward in itself. There is a small charge for any shared expense, and a liability waiver must be signed for each participant.

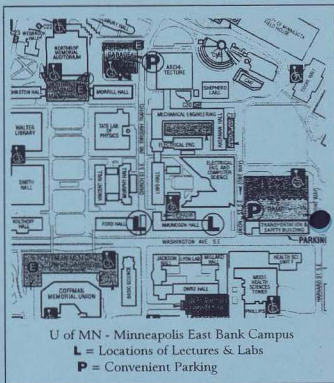
School Classroom Presentations -

Classroom presentations for Metro area elementary schools are available through the **Public Service Committee** to help enrich the education of young students, particularly the 2nd to 4th grade levels. A sample collection of Minnesota's rocks and minerals will soon be available as a follow-up reward for the classroom, after the students submit letters describing: *Two new things I learned today about rocks and/or fossils.*

Member Benefits also Include:

- **Extensive Media Library** - GSM maintains a collection of more than 100 geological videos and a growing number of interactive, multimedia CD-ROMs for both Windows and Macintosh computers. These are available to the members at lectures or through the mail, for a nominal rental fee.
- **GSM Newsletter** - A quarterly publication containing: announcements of upcoming activities, interesting and informative articles on the earth sciences, GSM project and activity reports, and general club news and notices.
- **GSM Directory** - An annual book that is a handy information resource, and makes it easy to access your organization.
- **Rocky Roots . . . Three Geology Walking Tours of Downtown St. Paul** - A free copy of this popular guidebook!
- **The Opportunity to Meet Others** - of diverse backgrounds, who share an enthusiasm for learning and a curiosity for the natural world around them.
- **The Rewarding Feeling** - of supporting a public-spirited, nonprofit organization dedicated to public education.

Join Today! - For a membership application or further information just phone (612) 724-2101, and leave a message; or write: GSM, c/o Fran Corcoran, 4105 - 41st Ave. S., Minneapolis, MN 55406. **Do it now! Your adventure awaits!**



1996-97 GSM Membership Renewal

The membership year begins Oct. 1. Questions? Call (612) 724-2101

Name _____ Phone (h) _____
Address _____ Apt _____
City _____ State _____ Zip _____
Occupational Background _____ Retired? _____
If a Practicing Teacher, please complete the next two lines.
Grade Level(s) taught _____ Subject(s) _____
School _____ Phone _____ District # _____

Areas of Special Interest: Please rank by number all the topics of interest to you. (1's are most important.)

- | | |
|---|---|
| <input type="checkbox"/> rock and mineral types | <input type="checkbox"/> oil and gas exploration and recovery |
| <input type="checkbox"/> laboratory techniques (sample identification, thin-sectioning, dating methods, etc.) | <input type="checkbox"/> seismic reflection surveying |
| <input type="checkbox"/> volcanoes | <input type="checkbox"/> Minnesota related topics. Suggest your field trip ideas: _____ |
| <input type="checkbox"/> earthquakes | <input type="checkbox"/> tectonics (major deformational features) |
| <input type="checkbox"/> meteor impacts | <input type="checkbox"/> plate tectonics (continental rifting and movement, collision zones, sea floor spreading, etc.) |
| <input type="checkbox"/> fossils | <input type="checkbox"/> the surface of the earth over geologic time |
| <input type="checkbox"/> dinosaurs | <input type="checkbox"/> history of the subject of Geology |
| <input type="checkbox"/> evolution of early life | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> depositional processes of sedimentary rocks | |
| <input type="checkbox"/> mineral mining and processing | |
| <input type="checkbox"/> environmental issues (mining tailings, waste disposal, aquifer contamination, etc.) | |

Rewarding Activities: I am interested in participating in the following committees and activities.

- | | |
|--|---|
| <input type="checkbox"/> Public Education | <input type="checkbox"/> Social (planning/arranging events, travels) |
| <input type="checkbox"/> elementary school outreach projects | <input type="checkbox"/> Field Trips (planning/arranging, writing notices, mailings, directing) |
| <input type="checkbox"/> geological plaques project | <input type="checkbox"/> Video Library (planning, writing reviews, librarians) |
| <input type="checkbox"/> State Fair Booth (planning, assembling, staffing) | <input type="checkbox"/> Program: Lectures and Labs (planning) |
| <input type="checkbox"/> Newsletter (writing, proof-reading, assembly, mailing) | <input type="checkbox"/> GSM Board Member |
| <input type="checkbox"/> Membership (planning drives, mailings) | <input type="checkbox"/> Your Speciality _____ |
| <input type="checkbox"/> Fundraising (planning projects, product design, managing sales) | |

Resources For Members:

- Please contact me regarding a *classroom presentation* for a Metro area elementary school.

For Teacher Members Only:

- Please mail me a free copy of *Digging into Minnesota Minerals*; Minerals Division, Minnesota DNR, 1995.
Please include \$1.15 for P/H.

Membership: Your generosity is needed and appreciated! Please make your check out to: **GSM**

Regular Memberships:

- Student (full time)\$10
 Individual\$20
 Family (# included _____)\$30

Patronage Memberships:

- Sustaining (# included _____).....\$50
 Supporting (# included _____).....\$100
 Guarantor (# included _____).....\$250

- I would like to contribute funds/materials to a specific GSM Educational Activity. Contact me.

Please mail to: Geological Society of Minnesota
c/o Fran Corcoran
4105 - 41st Ave. S.
Minneapolis, MN 55406

Thank you for your membership in the Geological Society of Minnesota!!

NEW GEOLOGICAL PLAQUES !

In March 1996, The **Geological Society of Minnesota** successfully received \$162,000 in Federal Transportation Enhancement Funds from the Minnesota Department of Transportation, for the renovation of thirty-four geological plaques located throughout the state. Included in the proposal was an allotment for the construction of **ten new descriptive markers**. The Society requests your help in identifying candidate sites for these new geological plaques, which are scheduled for construction as early as Summer 1997.

Positive attributes of candidate sites:

- **Heavily traveled** trunk highway routes or State Parks. Scenic overlooks or wayside rests are excellent choices.
- **Adequate parking** must be feasible if not already in existence- as **public safety** is a must.
- A geological story that is **uncommon or unique** to Minnesota.
- A site where **topographically evident features** can be suitably explained.
- A geological feature/outcome that **impacted human history**.
- A geological description that can be made **layperson understandable** in about 125-185 words.

Sites already suggested:

- The proposed overlook at the longer Silver Cliff Tunnel near Two Harbors.
- An additional plaque in Jay Cooke or Gooseberry Falls State Parks.

Please forward your suggestions by Oct. 15, 1996 to:

GSM Public Service Committee
c/o Doug Zbikowski
7833 Able St. NE
Spring Lake Park, MN 55432

phone (612) 784-0201
fax (612) 784-0423

BEWARE: PAINTED ROCKS AHEAD

Rock varnish just got a whole new meaning. It seems the U.S. Forest Service has been busy painting newly exposed rock surfaces along the scenic highways in Washington State whenever they have been laid bare by construction or landslides. The idea is to stain them shades of gray and brown to simulate that weathered look we "expect" of rocks along our highways.

Were those nasty gashes of fresh rock so jolting that unsuspecting drivers were running off the road? Or perhaps it was another species of traveler they were after. This type has been known to car caravan, sometimes in large numbers, park precariously on narrow shoulders and gaze at fresh outcrops for minutes on end - causing passers by to gaze equally intently at them and in at least one instance do an impromptu impact test on the car in front of it. (I think it was Missouri in 1992).

Whatever the motivation, when Representative Jack Metcalf (Washington State) got wind of these "rock colorization" projects, he was prompted to intervene - not to save "face" so much as to save money. The Forest Service in cahoots with the Washington State Department of Transportation were about to start dying rocks along a stretch of U.S. Highway 2 as it crosses the Cascade Mountains. Estimated cost was \$18,000. The bid came in at \$37,000.

Both agencies agreed to postpone the paint job for 12 to 18 months to see how the rocks could do on their own. Perhaps they can relieve some of that creative pressure by redoing the Painted Desert.

*commentary inspired by Reader's Digest,
November 1995*

Dwight Robinson

NONCREDIT COURSES

MINNESOTA GEOLOGICAL SURVEY

CSch 0550 DRIFTING CONTINENTS/EXPANDING OCEANS: AN INTRODUCTION TO THE DYNAMIC EARTH. \$70 (age 62, \$63)

Learn about milestones in geologic thought that led to the breakthrough theory of plate tectonics just 30 years ago. Learn why the Himalayas are the highest mountains in the world, why the Pacific Ocean is surrounded by volcanoes called the "ring of fire", and why California is so prone to earthquakes while Minnesota is not.

Winter Spec Term, Sec 1, Th, 6:30-8:30, Jan. 16-Feb. 6. Minnesota Geological Survey, 2642 University Ave., St. Paul. Instructor: Jim Miller, Senior Geologist.

CSch 0551 MINNESOTA'S GEOLOGIC HISTORY: THE FIRST 4 BILLION YEARS. \$185 (age 62, \$166.50)

Discover the diverse and calamitous geologic history of Minnesota's first 4 billion years. Includes a full-day Saturday field trip to the Minnesota River Valley (June 1) and an overnight weekend trip to northeastern Minnesota (June 7-8). Overnight involves additional costs.

Spring Spec Term Sec 1, Th, 6:30-8:30, May 22-June 5. Minnesota Geological Survey, 2642 University Ave., St. Paul. Instructor: Jim Miller, Senior Geologist.

To register call extension. classes 625-3333.

The second half of the Marker Project story will appear in the next issue of the *News*. However, be sure to review the INSERT included in this issue regarding the New Geological Plaques and send your suggestions to the Public Service Committee.

MEMBERSHIP RENEWAL TIME

RENEW NOW AND AVOID THE RUSH!!

It's renewal time for almost everyone's membership in the Geological Society of Minnesota. The renewal year begins October 1, 1996. For those who joined after April 1 and before October 1, membership will be good through September 30 of next year.

So, send your check for \$20.00 for an individual membership or \$30.00 for a family membership, payable to:

GEOLOGICAL SOCIETY OF MINNESOTA
4105 - 41ST AVENUE SOUTH
MINNEAPOLIS, MN 55406.

Look for the handy renewal form enclosed with this newsletter for a quick overview of why your membership's in GSM can mean so much. If you have questions about the GSM or any of the benefits of membership, call

Fran Corcoran at 612-724-2101 or E-Mail Fran

FRANCORCORAN@ALEX.STKATE.EDU

Fran Corcoran

LECTURES TO BEGIN OCTOBER 1

Included with this issue of the *News* is a copy of the 96-97 Lecture Program. This season's theme is PLATE TECTONICS. The lectures will be held in Room B-75, Amundson Hall at the U of M, 7:30 p.m., every other Monday evening, October 7th through December 2nd. The room location for January through April 1997 will be announced at a later date. This lecture series is surely going to be exciting. Hope to see you there.

The purpose of this newsletter is to inform the members and friends of the activities of the Geological Society of Minnesota. *NEWS* is published four times a year: February 15th, May 15th, August 15th and November 15th. Deadline for article submission is the first day of the month of publication.

Officers: Doug Ziskowski, *president*, Nancy Lowe, *Vice president*, Ed Huppert, *Treasurer*, Pat Johnson, *Secretary*

Directors: Charles Herznocke, Dick Hegland, Rick Hosterman, Alex Lowe, Don Swensrud

Membership Chair and Information: Fran Corcoran 724-2101



Judy Hamilton
1439 Sargent Avenue
St. Paul MN 55105

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