



# ***ON THE ROCKS***

*A Newsletter of the Michigan Basin Geological Society*



2023-2024 Edition 1

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

September 2023

## **ANNOUNCEMENTS**

**MBGS Membership September 13<sup>th</sup>, 2023:** The Michigan Basin Geologic Society meeting will be hosted at Western Michigan University in the Michigan Geological Repository for Research and Education Building, Kalamazoo, Michigan. A Texas style BBQ dinner (2 meats and three sides) will be available for members. Cost: \$25 members; \$10 students. Come early for a social hour at 5:00 PM. Dinner will be available at 6:00 PM and the presentation will start at 7:00PM. Reservations are requested. Please RSVP to Peter Rose at [delta13cpupik@gmail.com](mailto:delta13cpupik@gmail.com).

Autumn Haagsma, Director of Michigan Geological Repository for Research and Education and Assistant Director of the Michigan Geological Survey, will present "Carbon Capture, Utilization, and Storage in the Michigan Basin".

**Opportunity for Members:** MBGS is seeking members who are interested in getting involved. We need a Vice President, Treasurer, and a Secretary for the 2023-2024 year. If you are interested in these opportunities, please reach out to any of the executive committee members.

**Opportunity for Presenters:** MBGS is seeking presenters for Michigan Basin geologically-related topics for our 2023-2024 membership meetings. If interested, please contact Andrea Munoz-Hernandez at [munozhernandez@michigan.gov](mailto:munozhernandez@michigan.gov).

## **OTHER NEWS**

### **MBGS E.Z. MANOS MEMORIAL SCHOLARSHIP AVAILABLE**

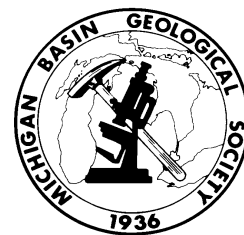
Michigan Basin Geologic Society is proud to offer two scholarships of up to \$500 to students conducting graduate or undergraduate research in geology related to Michigan. Candidates should complete and submit the scholarship application form by December 20, 2023 to John Yellich ([john.a.yellich@wmich.edu](mailto:john.a.yellich@wmich.edu)). Title the email to Mr. Yellich: RE: MBGS Scholarship Application. Applications and more information can be found on MBGS's website: [www.mbgs.org](http://www.mbgs.org)

### **EARTH SCIENCE WEEK 2023**

The American Geosciences Institute (AGI) is pleased to announce that the theme will be "Geoscience Innovating for Earth and People." The event, to be held October 8-14, 2023, will emphasize the many ways that innovations in the geosciences are helping communities create healthier and increasingly sustainable lives, while accelerating environmental problem-solving around the world. [About Earth Science Week | Earth Science Week \(earthsciweek.org\)](#)



## Michigan Basin Geological Society September 2023 Membership Meeting



### Carbon Capture, Utilization, and Storage in the Michigan Basin

**Who:** Autumn Haagsma, Director of Michigan Geological Repository for Research and Education and Assistant Director of the Michigan Geological Survey

**Costs (includes dinner):** \$25 members; \$10 students.

**When:** September 13<sup>th</sup>, 2023, Social hour - 5:00 PM , dinner – 6:00 PM, presentation - 7:00PM. Reservations are requested. Please RSVP to Peter Rose at [delta13cpupik@gmail.com](mailto:delta13cpupik@gmail.com).

#### ABSTRACT

The Michigan Basin has been identified as one of the top locations for large-scale storage of CO<sub>2</sub> in the United States and will be a key contributor to reducing greenhouse gas emissions and meeting state and national climate goals. This presentation will provide an overview of the Carbon Capture, Utilization, and Storage (CCUS) process and review the work which laid the foundation for CCUS in Michigan. We will explore the top opportunities for storage, including saline reservoirs and depleted oil and gas fields, unexplored and potential reservoirs, data gaps, and upcoming research.

#### BIOGRAPHY

Autumn Haagsma is the Director of the Michigan Geological Repository for Research and Education and Assistant Director of the Michigan Geological Survey. She is responsible for leading research, team building, conducting outreach and engagement, and mentoring and training students. Prior to her current role, Autumn was a lead geologist at Battelle focusing on CCUS research including reservoir characterization, 3D modeling, risk assessments, data analytics, and outreach. Autumn is also a PhD candidate at Miami University, earned her M.S. in geophysics from University of Minnesota, and B.S. in geology and physics from Central Michigan University.



<https://www.mbgs.org>

## **MBGS has a new President, Andrea Munoz-Hernandez**

### ***A Note from Jen Trout***

At our July 11th meeting of the executive committee, we announced that Autumn Haagsma, new director of MGRRE, had volunteered to be our Alternate House of Delegates delegate at the June 1, 2023 HOD meeting. At the HOD meeting, they talked about how Eastern Section AAPG has been having trouble getting volunteers to host the annual meetings. They have discussed going to every other year for ESAAPG meetings with only workshops or a field-based event in between. Autumn suggested that Michigan could host a workshop titled **“Back to the Rocks”** in the spring of 2024. However, these types of events are required to have an affiliated society lead the planning. Autumn negotiated that MBGS would receive 65% of the profits. She asked if MBGS would be willing to help with this since they are the affiliate society in Michigan. The executive committee decided that it was too much for us to handle all by ourselves, but we would be willing to help. More information on this will be forthcoming.

MBGS received a request from Eric Portenga for financial support for a joint alumni reception for Michigan’s “small” colleges and universities at this year’s GSA Annual meeting in Pittsburgh. The exec comm decided to donate \$200 toward this reception.

MBGS was also approached by William Rose for a donation toward a Jacobsville Sandstone historical marker in the UP. The exec comm was willing to put forth \$500 for this cause, keeping in mind that we still need to raise funds for the Jackson coal historical marker. Jen T will also ask W Rose if he would be willing to lead a field trip when the marker is installed. Speaking of the Jackson coal marker, Bennie See has completed the paperwork and sent it to the exec com. We will start fundraising after we get approval to put up the marker.

For the September 13<sup>th</sup> MBGS meeting, we will hold our annual BBQ at MGRRE. We also discussed having a couple of in-person meetings at a college/university that is not in Lansing to get more student involvement. Chris C. will reach out to Calvin College.

The latest update on a field trip for fall of 2023 to Hocking Hills is that the date we proposed coincides with Earth Science Week (Oct 2-14) and is not a good time for the folks at the Ohio survey. John E will reach out to them to find a better date (possibly Oct 21).

MBGS needs new officers, especially a VP!!! The exec comm will try to get speakers, but this team has been rotating through the positions and need help!

## **EVENTS**

*Links are provided for your reference. Please visit these sites to learn more about specific events and happenings. If you have an event to share, let us know!*



American Institute of Professional Geologist – Michigan Section – <http://mi.aipg.org/newsletters.htm>  
Central Michigan Lapidary and Mineral Society - <http://www.michrocks.org/>  
Eastern Section AAPG - <https://www.esaapg.org/>  
EGLE Calendar of Events - [Calendar \(michigan.gov\)](Calendar (michigan.gov))  
Flint Rock and Gem - <https://flintrockandgem.org/events>  
Michigan Association of Environmental Professionals - <https://www.maep.org/>  
Michigan Basin Geological Society – <www.mbgs.org>  
Michigan Clean Water Corps - <https://micorps.net/about/>  
Michigan Mineralogical Society - <https://www.michmin.org/>  
Midwest Mineralogical and Lapidary Society - <http://www.mmls.us/>  
Rock Clubs in USA - [All Mineral, Rock, Gem Shows, GeoSites, Rock Clubs in USA \(rockandmineralshows.com\)](All Mineral, Rock, Gem Shows, GeoSites, Rock Clubs in USA (rockandmineralshows.com))  
Society of Petroleum Engineers - <https://www.spe.org/events/calendar/>

## **Currently Schedule Events**

**September 8-10, 2023** Toledo Gem and Rockhound Club Pratt Pavilion, County Fairgrounds, 13800 W. Poe, Bowling Green, Ohio,

**September 9-10, 2023** Grand Marais Rock and Mineral Show Burt Township Community Center, E21738 Brazel St., Grand Marais, MI

**September 23-24th, 2023:** Grand Traverse Area Rock and Mineral Club Rock, Mineral, Jewelry and Fossil show, VFW Hall, Traverse City [Grand Traverse Area Rock and Mineral Club, Traverse City, Michigan \(tcrockhounds.com\)](Grand Traverse Area Rock and Mineral Club, Traverse City, Michigan (tcrockhounds.com))

**October 4, 2023: 7<sup>th</sup> Annual Joint** AIPG & MAEP Joint Meeting, Waldenwoods Conference Center, Howell, MI, [Michigan Association of Environmental Professionals - Events \(maep.org\)](Michigan Association of Environmental Professionals - Events (maep.org))

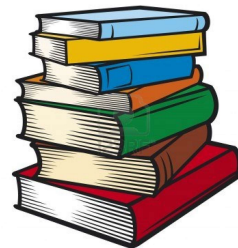
**September 16-17, 2023:** Livingston Gem and Mineral Society, Howell, Michigan, <https://livingstongems.com/>

**October 13-15, 2023:** Detroit Gem, Mineral & Fossil Show, Macomb Community College Expo Center [Michigan Mineralogical Society | Show Information \(michmin.org\)](Michigan Mineralogical Society | Show Information (michmin.org))

**October 8-14, 2023:** Earth Science Week 2023, The American Geosciences Institute (AGI) is pleased to announce that the theme will be "Geoscience Innovating for Earth and People." [About Earth Science Week | Earth Science Week \(earthsciweek.org\)](About Earth Science Week | Earth Science Week (earthsciweek.org))

**October 20, 21 and 22, 2023:** Central Michigan 56<sup>th</sup> Annual Gem, Mineral, Fossil, Lapidary and Jewelry Show, Ingham County Fairgrounds, Mason, Michigan [2023 Flier.pdf \(michrocks.org\)](2023 Flier.pdf (michrocks.org))

**December 5-7, 2023:** Great Lakes PFAS Summit, virtual, [2023 Great Lakes PFAS Summit \(michigan.gov\)](2023 Great Lakes PFAS Summit (michigan.gov))



## ONLINE RESOURCES

- American Geoscience Institute – Interactive Michigan Geology Maps: [Interactive map of the geology of Michigan | American Geosciences Institute](#)
- CMU, Clarke Historical Library, Michigan Geology: [https://www.cmich.edu/library/clarke/ResearchResources/Michigan Material Statewide/Michigan Oil and Gas Industry/History of Michigan Oil and Gas/Pages/Michigan-Geology.aspx](https://www.cmich.edu/library/clarke/ResearchResources/Michigan%20Material%20Statewide/Michigan%20Oil%20and%20Gas%20Industry/History%20of%20Michigan%20Oil%20and%20Gas/Pages/Michigan-Geology.aspx)
- Digital Geology Library Mining Overview: [https://www.michigan.gov/documents/deq/GIMDL-Catalog-2013\\_06\\_22\\_mining\\_425595\\_7.pdf](https://www.michigan.gov/documents/deq/GIMDL-Catalog-2013_06_22_mining_425595_7.pdf)
- Digital Geology Library Overview: [https://www.michigan.gov/documents/deq/GIMDL-Catalog-2010-01-20\\_307979\\_7.pdf](https://www.michigan.gov/documents/deq/GIMDL-Catalog-2010-01-20_307979_7.pdf)
- GeoWebFace: [GeoWebFace \(michigan.gov\)](#)
- Michigan Department of Environment, Great Lakes and Energy – Calendar [Calendar \(michigan.gov\)](#)
- Michigan Geological Survey: [Michigan Geological Survey | Western Michigan University \(wmich.edu\)](#)
- USGS Michigan Geological Map Data: [Michigan geologic map data \(usgs.gov\)](#)



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

**MICHIGAN BASIN GEOLOGICAL SOCIETY OFFICERS**  
**2023-2024**

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**PUBLICATIONS: VACANT**

**ELECTRONIC PUBLICATIONS:** Please contact an officer for information

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# MBGS PUBLICATIONS

<http://www.mbgs.org/publications.html>

**Historical publications now available on USB Flash Drives". Each USB Flash Drive is 8GB**

Prices include postage, handling and any applicable sales tax.  
Orders for publications should be prepaid in U.S. Funds and addressed to:

MBGS — Publications  
P.O. Box 14044  
Lansing, MI 48901-4044

## **Historical CD #1: Nine out-of-print publications from 1949 through 1965 and 1998, 2000, \$15**

- The Stratigraphy of Manitoulin Island, Ontario, Canada, June 19-20, 1954
- The Devonian and Silurian Rocks of Parts of Ontario, Canada and Western New York, June 22-23, 1951
- The Traverse Group of the Northern Part of the Southern Peninsula of Michigan, June 16-17, 1949
- The Devonian Strata of the London-Sarnia Area, Southwestern Ontario, Compiled by Erwin C. Stumm, Lewis B. Kellum and Jean Davies Wright, June 9-10, 1956
- The Ordovician Rocks of the Escanaba-Stonington Area, Led by R. C. Hussey, June 2-3, 1950
- The Niagara Escarpment of Peninsular Ontario, Canada, June 18-19, 1955
- Lower Paleozoic and Pleistocene Stratigraphy Across Central Wisconsin, Compiled by C. E. Prouty, Led by L. M. Cline, J. L. Hough and R. F. Black, 1960
- Classic Silurian Reefs of the Chicago Area, by Donald G. Mikulic and Joanne Kluessendorf, June 27, 1998
- Geology of Central Ontario, Canada, 1965

## **Historical CD #2: Four out-of-print publications from 1947, 1959, 1983 and 1991, 2001, \$15**

- Copper Country Field Trip, Michigan, June 20-22, 1947
- Geology of Mackinac Island and Lower and Middle Devonian, South of the Straits of Mackinac, June 12-14, 1959
- Tectonics, Structure and Karst in Northern Lower Michigan, August 1983
- Geology of the Pictured Rocks, Upper Peninsula, Michigan, July 11-13, 1991

## **Historical CD #3: Six out-of-print publications from 1948, 1952, 1990 - 1995, 2001, \$15**

- Pleistocene and Early Paleozoic of the Eastern Part of the Northern Peninsula of Michigan, June 18-21, 1948
- Stratigraphy and Structure of the Devonian Rocks in Southeastern MI and Northwestern OH, June 20-21, 1952
- Lower Ordovician and Upper Cambrian of Wisconsin, May 10-12, 1990
- Guidebook to the Precambrian Geology and Metallogeny of the Central Upper Peninsula of Michigan September 12-13, 1991

## **Historical CD #4: Six out-of-print publications from 1957, 1958, 1961, 1967, 1968 and 1970, 2004, \$15**

- Silurian Rocks of the Northern Peninsula of Michigan, 1957
- Cambrian Geology of Parts of Dickinson and Iron Counties, Michigan, June 1958
- Geologic Features of Parts of Houghton, Keweenaw, Baraga and Ontonagon Counties, Michigan, May 19-21, 1961
- Correlation Problems of the Cambrian and Ordovician Outcrops Areas, Northern Peninsula of Michigan 1967
- The Geology of Manitoulin Island, June 1968
- Devonian Strata of Alpena and Presque Isle Counties, Michigan 1970

## **Historical CD #5: Five out-of-print publications from 1971, 1989, 2001, and Oil & Gas Fields Vol. 1 & 2, 1969 & 1992, 2006, \$50**

- Oil & Gas Fields Symposium, Volume 1, April 1969, 200 pp., maps, illus., second printing with updates
- Oil & Gas Fields Manual of the Michigan Basin, Volume 2, 1992, 520 pp., maps, illus.
- Glacial Geology of Southwestern Michigan, 1989, 53 pp. by A. Kehew, L. J. Schmaltz, and W. T. Straw
- Geology of the Lake Erie Islands and Adjacent Shores, 1971, 65pp., maps, illus. by Jane L. Forsyth
- Glacial Geology of Southwestern Michigan, Landforms of the Lake Michigan Lobe, Southwestern Michigan, 2001, AAPG Eastern Section Meeting Field Trip, 32 pp., maps, illus. by A Kehew and A. Kozlowski

**Historical CD #6: Six out-of-print publications from 1946, 1953, 1963, 1966, 1978 & 1987 plus the Richfield Challenge, 1952 & Tom Knapp's MS Thesis, 2007 \$15.**

- Guidebook for Ordovician Stratigraphy of the Cincinnati, Ohio and Richmond, Indiana Areas, June 12, 13, 1953 by W. H. Shideler and B. T. Sandefur
- Guidebook for Ontario Geological Excursion to Kettle Point – Owen Sound- Waubauskene, June 21, 22, 23 1946 by W. A. Roliff, C.S. Evans and J.F. Caley
- Guidebook for the Stratigraphy of the Silurian Rocks in Western Ohio, May 31- June 2, 1963 by C. H. Summerson, Jane L. Forsyth, Karl V. Hoover and J. R. Ulteig
- Guidebook for Cambrian Stratigraphy in Western Wisconsin, May 21, 22, 1966 by Merideth E. Ostrom
- Geology of the Manitoulin Area, Special Papers #3, September 29, 30 and October 1, 1978 by J. T. Sanford and R. E. Mosher
- Middle Devonian Cratonic Carbonates and Shales in Southwestern Ontario, November 14, 1987 by Bruce Wilkinson
- The Richfield Challenge, A Review of the Richfield Developments in Michigan, 1952 by Gordon H. Hautan
- A Theory of Rogers City and Dundee Relationships in Central Michigan, Masters Thesis, 1947 by Tom Knapp

**Historical CD #7: Field Guidebooks from 1962, 1969, 1977, 1980, 1985 & 1988, \$15**

- Silurian Rocks of the Southern Lake Michigan Area, 1962, James H. Fisher, Chairman, MBGS Annual Field Conference
- Studies of the Precambrian of the Michigan Basin, by Harold B. Stonehouse, 1969
- The Geology of the Marquette District: a Field Guide By F. W. Cambray, 1977
- Ordovician and Silurian Geology of the N. Peninsula of Michigan, 1980, R.B. Votaw, 40 pp., illus., maps
- Special Paper #4: Ordovician and Silurian Rocks of the Michigan Basin and its Margins, 1985 K.R. Cercone and J.M. Budai (eds.), 96 pp., illus.
- Upper Keweenaw Rift-Fill Sequence, Mid-Continent Rift System, Michigan, 1988, P.A. Daniels and R.D. Elmore, M.S. Wollensak, ed., 150 pp., illus., maps

**OTHER SPECIAL OFFERS**

- **Historical CD Set - # 1 – 7 (detailed above) for a special purchase price of \$95**
- **NE Lower Peninsula Geological Field Conf.**, 2004, T. Black, M. Wollensak, On CD \$10
- **Stratigraphic Lexicon for Michigan**, 2001, prepared by MBGS and published by DEQ, \$4
- **Robert E. Mosher Geological Studies** A lifetime of geological research on Silurian Rocks with John T. Sanford. The disks are organized chronologically and include field work in North America and Europe. 2007, 2 CDs \$35.





# Central Michigan 56<sup>th</sup> Annual Gem, Mineral, Fossil, Lapidary and Jewelry Show

***OCTOBER 20, 21, 22, 2023***

Main Arena, Ingham County Fairgrounds  
700 E Ash, Mason, Michigan

**Admission:**

Adults - \$5.00

Teens - \$3.00

12 & under Free w/Adult

Scouts in Uniform Free

**Hours:**

Friday 1 PM – 7 PM

Saturday 10 AM – 6 PM

Sunday 10 AM – 4 PM

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