2019 AWG Field Trip – Western Great Lakes

Thank you for your interest in this year’s AWG field trip to the Western Great Lakes! Here's the information you need in order to decide if you want to come and how to register.

Geologic setting:

This trip is set near the middle of the North American Craton, but that doesn’t mean wild and crazy geologic events haven’t happened here! We just have to go back far enough.

**Part 1: The Midcontinent Rift Rocks!**

The Midcontinent Rift is one of the world’s best-preserved continental rifts and one of the largest igneous provinces in the world. A vast amount of volcanic and plutonic rock was created in this rift system when the craton started to split open 1100 million years ago. The failed rift is filled with volcanic rocks and sediments preserved in an upside-down U-shaped rift valley extending southward as far as both Oklahoma and Alabama, where the rocks are deeply buried by cratonic sedimentary deposits and recognized mainly through magnetic anomaly mapping. In northern Wisconsin and the Upper Peninsula of Michigan, ice sheets obligingly carved out the sedimentary overburden, leaving these rocks and associated mineral deposits well exposed.

Following the south shore of Lake Superior, this trip will explore the beautifully preserved lava flows and interlayered sedimentary rocks deposited on the flanks of the rift volcanoes. We will also explore the famous Keewenaw Peninsula and learn about the various mineral resources hosted by these volcanic and sedimentary rocks, which include the world’s largest and best-known native copper deposit. We’ll see spectacular scenery along the rocky shore of Lake Superior and visit one of the Midwest’s finest mineral museums.

Our leader on the first part of the trip will be Tom Fitz, Professor of Geoscience at Northland College in Ashland, WI.

**Part 2: Ancient Reefs, Gentleman Naturalists, and The Niagara Escarpment: Silurian Rocks of Eastern Wisconsin and their Role in the History of Geology, Mining, and Tourism**

This trip will examine the Silurian rocks of eastern Wisconsin, focusing on the important historical role they played in the early identification and correlation of mid-Paleozoic rocks from New York through the Great Lakes. Beginning in the 1840’s, a number of the most prominent American geologists of the 19th and early 20th centuries, including James Hall and Thomas Chamberlin, studied the rocks of eastern Wisconsin. They established an accurate correlation with the “New York System” and documented for the first time ancient reefs in North America. These studies were inspired by the discoveries of local gentleman naturalists, who assembled the vast fossil collections needed for this research, providing an example of the important role these people had in science at the time. In turn, the local stone industry not only contributed to the local economy, but was the primary source of these fossils and provided many of the exposures these scientific studies were based on. Natural exposures of these Silurian rocks, including the Niagara Escarpment, not only had a role in the Quaternary glaciation of the region,
but also in its settlement. More recently, it provides the scenic landscape that is the basis of the geotourism industry for which Door County is famous.

Centered on the Silurian rocks of the Niagara Escarpment in Wisconsin’s Door Peninsula, this trip will highlight the depositional, research, and economic history of these rocks, but we’ll also include stratigraphically adjacent Ordovician and Devonian rocks. We will visit active and abandoned quarries and state and local parks, starting at the Weis Earth Science Museum and concluding in Milwaukee.

This trip is in memory of, and honors the work of, geologist Joanne Kluessendorf, Gaea editor in the late 1990s and early 2000s. Many of you met Joanne during her several years enthusiastically managing the AWG booth at GSA’s annual meetings. She was founding Director of the Weis Earth Science Museum and wife of our leader on the second part of the trip, Don Mikulic, geologist with the Weis Earth Science Museum. Local naturalist Julie Hein will assist Don at the Door County stops.

Suggested Reading/Viewing:

New Insights into North America’s Midcontinent Rift, EOS 2016
https://eos.org/features/new-insights-into-north-americas-midcontinent-rift

The article includes an embedded link to a 14 minute YouTube video on Lake Superior and the Midcontinent Rift by lead author Seth Stein and his wife (and co-author), AWG member Carol Stein (Univ. of Illinois at Chicago).

Lecture on the Geology of Wisconsin’s Penokee Range by trip leader Tom Fitz (51 min)
https://www.pbs.org/video/geology-of-wisconsins-penokee-range-k0bmnl/

This is aimed at non-geologists, so it’s fairly basic but a nice introduction to the Midcontinent Rift.

In Memorium – Joanne Kluessendorf, Gaea 2018. Includes link to her obituary and guest book.

There are a number of publications on the Weis Earth Science museum’s website relevant to several of our stops at http://weismuseum.org/publications.html.
Trip price and what’s included:

The base trip fee for AWG members is $1900. This includes 10 nights of hotel/motel accommodations (double occupancy) from Aug. 15 through 24, inclusive (i.e., the night before and during the trip). Our lodgings are in motel/hotel rooms with 2 beds and en suite bathrooms. (Please make sure Marcia knows if you’re a couple; we’ll try to make sure you have a queen or king sized bed.) A very limited number of single rooms will be available for an extra $800 ($2700 total), payable when the trip balance is due. The price also includes many meals: all but two breakfasts (at motels), all lunches (sandwich makings from coolers), and two group dinners. (When you fill out your medical information form, please include a list of food allergies or intolerances. If you don’t think you’ll be able to eat the typical lunch fare (sandwiches, fruit, veggies, cookies, chips), please let us know. We’ll try to make sure we buy foods that you can eat.) All days will have guided activities with Tom Fitz in the Upper Peninsula of Michigan and with Don Mikulic in Door County, WI and the Milwaukee area. All entrance fees for parks and the two museums we’ll visit are included in the trip price. Tom and Don will assemble guidebooks for us.

The price also includes all transportation during the trip (but not to/from or within Milwaukee outside the trip). Because we’ll have only two vans, one large van and one minivan, the trip is limited to 14 participants, and AWG members will be given preference. Non-members of AWG may register as space allows but will pay an extra $100. AWG membership costs only $50 ($20 for students and retirees in the “reduced income” category) – you do the math and decide whether to join. The membership fee can be paid when you register (please mail in a membership form with a separate check or your credit card information) or online at www.awg.org if you do it a few days before you register for the trip.

There are three available types of discounts. We’re offering two $400 student discounts (resulting in a price $1500) to AWG student members, which will be first come, first served (contact Marcia to see if one’s available). We’ll also offer two primary van driver discounts of 10% off the applicable AWG member base price ($190 / $150 for students 25 or older) and a $100 discount for a food coordinator to help Marcia with the grocery shopping.

What’s NOT included in the trip fee:

- Transportation to/from Milwaukee, WI, or transportation within Milwaukee (our hotel has a complimentary airport van)
- Two breakfasts and most dinners during the field trip
- Hotel accommodations for the night of the last field trip day (Aug. 25)

We’re asking participants to pay a deposit of $500 by March 15. This will hold your space and will be mostly refundable until the balance due date, May 31 (after which time all payments become non-refundable). After March 15, please pay the full fee. Registration will close when the trip fills or by July 12, when we have to finalize our lodging reservations. You have several payment options:
Download and fill out the registration form (available on the AWG website’s field trip page [www.awg.org/fieldtrips](http://www.awg.org/fieldtrips))

Print out the form and mail it to the AWG office with a check

Fax or mail the form with your credit card information

Email your form and call the AWG office (303-412-6219) to provide your credit card information

Register with a credit card through the AWG online store

Please be aware that AWG gets to keep more of your money if you mail in a check, especially if it’s a large one. If you have problems downloading forms from the website, you can have Marcia email them to you.

**Arrival/departure logistics:**

**Arrival:** We’d like everyone to arrive in Milwaukee, WI by the evening of Thursday Aug. 15, 2019. An airport shuttle is available but you’ll need to call the hotel (414-762-4240, then press “0” to get the front desk) to have them send it out to the airport when you arrive. The cost of the Hampton Inn Milwaukee Airport that first night is included in the field trip fee. For organizational reasons, we prefer that people stay at the hotel the night before, which is why we include that night in the price, but if you live in or have friends in the Milwaukee area and wish to arrive the morning of Aug. 16, please contact Marcia. IF it allows AWG to cancel a room, we can give you a refund of that cost. If you wish to drive to Milwaukee, long-term parking is available for up to 2 weeks at the hotel for $35 – please make arrangements directly with the hotel.

**Departure:** We’ll return to the same hotel the late afternoon of Sunday Aug. 25. Since it’s a Sunday, we shouldn’t get too hung up in traffic, but we really can’t guarantee a particular arrival time. However, we’ll probably have two vans, so if some people wish to fly out that evening, we can have one van head back early and drop people off at the airport. Because some participants may wish to start their journey home that that evening, the hotel cost for this last night is **NOT** included in the trip fee. However, we’ve arranged a block of rooms at our group rate ($125.35, incl. tax) if you wish to stay at the Hampton Inn that night, but you’ll need to make your own reservations. To do that online, go to [www.hilton.com](http://www.hilton.com) and, on the booking page, select the drop down for Group Code and enter the booking code **WG3** – this will pull up availability at our discounted rate. If you call the hotel directly, make sure to specify that you’re part of the AWG group and provide the booking code (ask to speak with Mary Alice if the front desk is clueless). This discount applies **only** to the night of August 25 and expires on August 1.

Once you’ve bought your plane/train tickets, please provide Marcia with your arrival/departure information or your anticipated arrival time if you’re driving, and whether you plan to stay at the Hampton Inn our last night in Milwaukee. (If you’re a primary van driver, we’ll be picking up the vans at 8:30 am on the 16th, so we’ll probably need to catch an 8 am hotel shuttle to the airport. Please make sure you’ve eaten and gotten packed by then. We’ll be returning the vans at 9:30 am on the 26th, but if you need to leave the evening of the 25th, we could return one van early.)

**Trip transportation:** We will be traveling in two vans, one 15-person van with up to 11 people in it and a 7-person van with up to 5 in it. Please try to minimize the space your luggage will take
up, especially if the trip fills. Plan on bringing 2 bags: a carry-on or slightly larger suitcase and a day pack.

**Travel paperwork:** Please make sure your state’s driver’s license is compliant with the requirements of the REAL ID Act if you don’t have a passport. It’s a good idea to put a copy of information on how to cancel any credit or debit cards you bring in a different bag or leave a copy with someone you can call at home, just in case you lose everything. We recommend obtaining **trip cancellation / travel insurance**, as soon as you know how much you’ll be paying for the trip fee (and for airfare to/from Milwaukee, if you wish to cover that as well). If you get insurance, make sure it includes adequate **medical evacuation coverage** – things like broken legs have been known to happen on field trips (one little misstep and there you are, getting a ruinously expensive helicopter ride). To get medical coverage for any pre-existing conditions, you'll probably need to obtain your policy within 2 to 3 weeks of your initial payment for the trip. Here’s a good website that gives quotes (costs are usually around $200 – frankly a bargain if you need to use it) and ratings for different companies: [http://www.travelinsurancereview.net/reviews/](http://www.travelinsurancereview.net/reviews/). Please acquaint yourself with your health insurer’s policies on covering any medical care you may receive while traveling. All field trip participants **must** fill out and sign an AWG liability release form and fill out a medical information form. Please send or email them to the addresses listed on the forms (the AWG office for the liability release, Marcia for the medical form) by the time you pay the trip balance. These forms can be downloaded from the AWG website’s field trip page.

**Money:** All but two breakfasts are included during the trip (although some may be a bit minimalistic, being hotel breakfasts), but all but two dinners are NOT included. Restaurant meals, especially in touristy places, will likely be more expensive. You should bring a **debit card** to access cash during the trip and a **credit card** to pay for your meals, post-trip lodgings, and for emergencies (e.g., for airfare home if you need to go home early). Many credit card companies freeze accounts if they see unusual activity, which may include activity outside your home state. You should call the toll-free numbers on the back of both your debit and credit cards a few days before you leave and let them know the dates you’ll be in Wisconsin and Michigan (Aug. 15-25 or 26) so you won’t have to figure out how to get your card unfrozen when you first try to use it. Some cards through major banks now allow you to do this online.

**Health:** Diseases shouldn’t be a problem, but it’s easy to catch colds on planes and in airports. Don’t be stingy with the hand sanitizing gel and alcohol wipes (we’ll have bottles of sanitizing gel in each van). Assume you could pick up something and bring enough of your usual medications to get you by until you can find a drug store. Anything you can take to keep symptoms down also helps reduce transmission, and we’ll all be in pretty close contact in the vans. Also, be sure to bring enough of any prescription drugs you use – if it’s REALLY essential, you may wish to bring a copy of the prescription, as well. We shouldn’t be doing anything terribly dangerous or strenuous, but some of the terrain could be fairly steep and rocky, and beaches can be quite slippery. If you’re sensitive to poison ivy, be aware that it’s not uncommon in this area. In addition, ticks that carry Lyme Disease are fairly common, so plan to inspect yourself every night. We’ll have a can of DEET spray in each van, but you may wish to bring your own repellent. We may also encounter flies and mosquitos, so a bug-screen hat or scarf might come in handy. The medical information form is where you can tell us about any dietary restrictions or
allergies you may have. We’ll carry copies of the medical form with us in case of accident or serious illness, but you should also carry a copy with you in your day pack in case of separation.

**Weather:** In the Midwest in mid-late August, warm (possibly hot) and muggy weather typically prevails, but the Great Lakes help moderate the temperatures. However, you should be prepared for rain.

**Packing suggestions:** Please see the appended list. This isn’t a particularly long trip, so you should be able to fit everything into a day pack and a carry-on (or slightly larger) bag, especially if you wear your boots on the plane. Space for luggage is likely to be tight in the vans, so please don’t bring any huge bags. A few of our hotels have guest laundry facilities, but access is likely to be competitive, so it’s best not to count on it. If you bring a small bottle of liquid laundry detergent and are willing to do some hand wash, you may be able to reduce the clothing you need to bring. We’ll be spending 2 nights in Houghton (the hotel has a guest laundry) and 3 nights in Sturgeon Bay, so the first nights there will be your best bet for getting clothes dry. Still, it tends to be humid there, so it’s best to bring items that can dry quickly. Some people bring well-worn clothes and discard along the way. The leaders will presumably bring a rock hammer along on the trip, so consider not bringing one if you’re flying. If you do, make sure you have it and any jack knife you bring packed in checked luggage, or be prepared to forfeit it at the airport (or ship it home to yourself if you have time to go through the security lines again).

We hope this is enough information to help you get started with your trip preparations. If you have additional questions, you can contact field trip organizer Marcia Knadle at marciaAWG@aol.com (425-432-9645 - home or 206-718-3183 - cell). If you have questions for Tom or Don regarding what we’ll be seeing, you can contact them directly at tfitz@northland.edu or mikulicdon@gmail.com, respectively.
Detailed Itinerary:

As planning progresses, there may be revisions. If so, an updated itinerary will be distributed to all participants before the trip. All our hotels have free wifi and hair dryers in the rooms. We’ve requested a few rooms on the ground floor at any hotel without an elevator.

Day 0 – Thurs Aug 15:
Arrive Milwaukee, WI hotel.
Lodging at Hampton Inn Milwaukee Airport, 1200 West College Avenue, Milwaukee; Phone: 414-762-4240. Amenities include airport shuttle (414-762-4240, then press “0” to get the front desk), elevator, and indoor heated pool.

Day 1 – Fri Aug 16:
Breakfast at hotel, included -- but get there by 7 am (commenters complain that food runs out shortly after). If not, McDonalds is nearby. Be ready to load up vans between 9 and 9:30. Drive to Appleton, WI, where we’ll pick up Don. Continue to Ashland, where we’ll meet Tom.
Lodging at Quality Inn, 30600 US Hwy 2, Ashland, WI; Phone: 715-682-5235. Amenities include an indoor pool.
Group dinner at Deep Water Grille, followed by presentation by Tom at Northland College.

Day 2 – Sat Aug 17:
Breakfast is available for a surcharge. There’s also a coffee shop.
Depart Ashland and head toward Porcupine Wilderness State Park, MI.
Lodging at AmericInn by Wyndham, Silver City, 120 Lincoln Ave, Ontonagon, MI; Phone: 906-662-9111. Amenities include elevator, pool, and laundry facilities and “services.”
Dinner on your own.

Day 3 – Sun Aug 18:
Breakfast at motel, included.
Depart Silver City and head toward Houghton, MI.
Lodging at Country Inn & Suites by Radisson, 919 Razorback Dr, Houghton, MI; Phone: 906-487-6700. Amenities include indoor pool, and laundry facilities.
Dinner on your own.

Day 4 – Mon Aug 19:
Breakfast at motel, included.
Explore Keweenaw area. Visit A.E. Seaman Museum in morning (admission included). We’ll say goodbye to Tom at the end of the day.
Lodging again at Country Inn and Suites by Radisson.
Dinner on your own.

Day 5 – Tues Aug 20:
Breakfast at motel, included.
Depart Houghton and drive to Appleton, WI. Visit the Weis Earth Science Museum.
Lodging at Best Western Bridgewood Resort Hotel, 1000 Cameron Way Neenah, WI; Phone: 920-720-8000. Amenities include indoor pool, elevator.
Dinner on your own.
Day 6 – Wed Aug 21:
Breakfast is NOT included at this hotel, but there is an on-site restaurant.
Depart Appleton and head to Sturgeon Bay.
 Lodging at **AmericInn by Wyndham, Sturgeon Bay**, 622 S Ashland Ave, Sturgeon Bay, WI; Phone: 920-743-5898. Amenities include indoor pool, elevators, and laundry facilities.
Dinner on your own.

Day 7 – Thurs Aug 22:
Breakfast at hotel, included.
Stops around Door County
Lodging again at **AmericInn by Wyndham, Sturgeon Bay**
Dinner on your own or 2nd group dinner?

Day 8 – Fri Aug 23:
Breakfast at hotel, included.
Stops around Door County
Lodging again at **AmericInn by Wyndham, Sturgeon Bay**
Dinner on your own or 2nd group dinner?

Day 9 – Sat Aug 24:
Breakfast at hotel, included.
Depart Sturgeon Bay and drive down the west coast of Lake MI to Milwaukee.
Lodging again at **Hampton Inn Milwaukee Airport** (our last night included in the trip)
Dinner on your own or group dinner?

Day 10 – Sun Aug 25:
Breakfast at hotel, included (again, get there early).
Stops around Milwaukee. We may be joined by members of the local Great Lakes Chapter.
*If you stay the night in Milwaukee, we have a group rate ($125.35, incl. tax) at the **Hampton Inn Milwaukee Airport**. Either call 1-414-762-4240 or go to [www.hilton.com](http://www.hilton.com) to reserve a room using the booking code **WG3**. The discount expires on Aug 1. The hotel has a business center with complimentary printing service, if you want to print out your boarding pass, and a coin laundry in case you want to take home clean clothes.*
Dinner on your own. Some members of the local Great Lakes Chapter may join us. We'll likely have some leftover cooler food for anyone who wants to improvise (and can face that same food selection after a week...).
What to bring:

- Plane tickets and ID to get on plane, if flying
- Money, credit card (ideally the one you used to purchase the airfare), cash (debit) card.
- Travel insurance papers, incl. claim info
- Medications (be sure to carry prescription medications in carry-on luggage)
- Spare glasses and/or prescription for any corrective lenses
- Motion sickness drugs (if you’re prone to it); the 12-hour non-drowsy kind is good – meclizine HCl, AKA Bonnine and “less-drowsy formula” Dramamine.
- Camera, spare memory chips, extra batteries (especially if they’re not standard types), battery charger.
- Sun screen – fresh is best
- Insect repellent
- Sunglasses
- Hats for sun and possibly for cool evenings and mornings. Make sure your sun hat can stay on in the wind (clips or string under the chin).
- Hat with screen drape, in case we run into mosquitos or gnats
- Water-proof / wind proof jacket
- Rain pants
- Fleece or micro-fleece jacket or sweater
- Sleepwear
- Short-sleeved shirts or tee-shirts (most days should be warm or even hot)
- Long-sleeved shirts (mainly for sun and insect protection)
- Long pants (or pants that can convert to shorts)
- Swim suit (many of our hotels have pools). Again for sun and insect protection
- Comfortable shoes for walking
- Comfortable hiking boots for rough ground and beaches (light hiking boots should work).
- Good socks, both light and heavy weight
- Day pack
- Small binoculars
- Hand lens
- Small flashlight, spare batteries
- Water bottle (~1 liter). We’ll have gallons of bottled water along for refills on the road. We’ll also have some smaller individual bottles to start, so you can reuse one of those.
- Notebook or pad, pens/pencil
- A few extra quart-sized Ziplock-type plastic bags for rocks and fossils (the heavy ones with the double zipper on top work really well.)
- A small bookmark reading light would be considerate if you like to read at night when sharing rooms.
- Ear plugs (especially if you’re sharing accommodations or in case we’re near a busy road).
- Toiletries
- High-visibility vest, if you have one
- Cell phone, if you have one. Otherwise, bring a travel alarm clock.