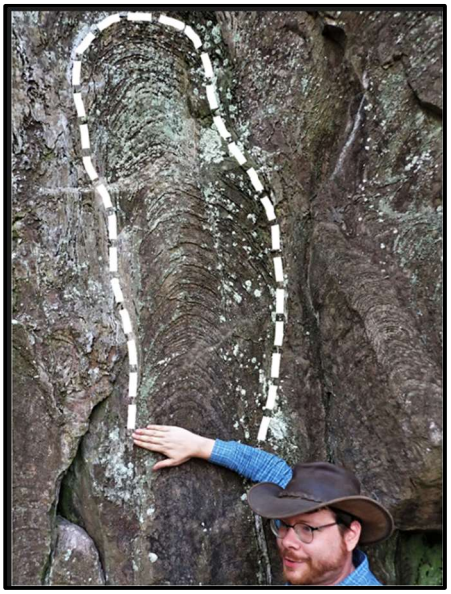
Michigan Basin Geological Society

February MBGS Membership Meeting

FREE



WHEN **Tuesday February 10th, 2026**
7:15 PM - 8:30 PM

WHERE **East Lansing Public Library**
950 Abbot Rd, East Lansing, Michigan 48823

WHO **Dylan Wilmeth**
Visiting Assistant Professor
Geology Dept, GVSU
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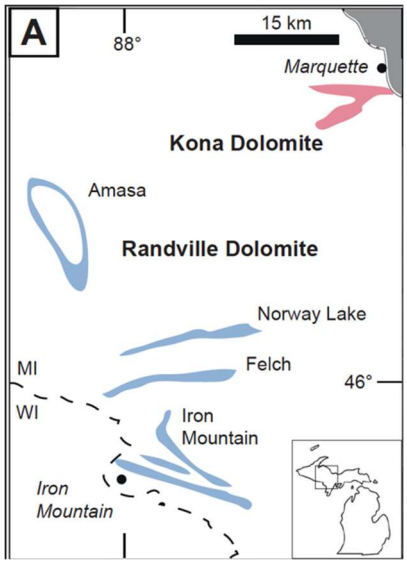
The Upper Peninsula 2.2 Billion Years Ago: Salty Seas, Giant Fossils, and Carbon Swings

ABSTRACT: Halfway through Earth's history, the world 2.2 billion years ago was going through extreme changes. Notable events included rising oxygen, and mysterious shifts in Earth's carbon cycle, which links life with rocks, water, and air. The carbon cycle's balance was completely upended 2.2 billion years ago, in ways never seen before or since. What happened?

This carbon mystery hasn't been fully solved in over 50 years. To solve it, we must look closer at the few rocks left from this era. Dr. Wilmeth studies two locations in Michigan's Upper Peninsula: Marquette and Iron Mountain. These are perfect spots to study: they're abundant, carbon-rich, fossil-rich, and are very understudied. Despite their closeness, Marquette and Iron Mountain were very different 2.2 billion years ago: different fossils, different habitats, different chemistry. One was a harsh salt flat, while the other a pleasant shallow sea.

Which was which? Drop on by to find out. Come learn about the Earth's Middle Ages, ancient life, and how Michigan might hold the key to one of geology's biggest mysteries.



BIOGRAPHY: Dylan is a Visiting Assistant Professor of Geology at Grand Valley State University. He is open to new positions in academia, science communication, or other corners of geology- especially in Michigan. Dylan grew up in the Midwest, with a B.Sc. in Geology from UW-Milwaukee. After getting his Ph.D. in 2018 from USC, he spent two European Research Council postdoctoral positions in France: one in Paris, and another in Brest.

Dylan is a sedimentologist and geobiologist, interested in the connections between life and surrounding environments. His research focuses on stromatolites, the preserved remains of microbial mats or "pond scum". His most significant research has pushed the origins of oxygenic photosynthesis back to 2.9 billion years ago, examining fossils in northern Ontario and South Africa. Other work includes the Triassic-Jurassic mass extinction as a parallel for modern climate change, Earth's largest carbon isotope excursion 2.2 billion years ago, and the preservation of microfossils throughout deep time.

Dylan is also the host and writer for Bedrock: Earth's Earliest History, the world's most popular geology podcast. https://www.bedrockpodcast.com/about. The show starts with Earth's formation and works forward through time, telling Earth's story over billions of years. Bedrock has a 4.9-star rating with over 1,000 reviews, and averages 30,000 listens every month.