

Libby R.W. Ives, Ph.D.

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glacierseds.com (professional website)

**Siliciclastic Sedimentology & Sedimentary Systems,
Geomorphology, Sequence Stratigraphy, Glacial Geology,
and Sedimentary Provenance**

Education







- 2021 **Ph.D. Geosciences** **University of Wisconsin – Milwaukee**
Dissertation Title: A South Polar View of Late Paleozoic Glaciation: Physical Sedimentology and Provenance of Glacial Successions in the Tasmanian and Transantarctic Basins
Advisor: John Isbell
- 2016 **M.S. Geology** **Iowa State University**
Thesis Title: Magnetic mineralogy and fabrics of small-scale glacial flutes, Múlajökull and Breiðamerkurjökull, Iceland
Advisor: Neal Iverson, Tom Hooyer
- 2013 **B.S. Earth Science** **Northern Michigan University** *summa cum laude*
Thesis Title: “Paleogeographic interpretation of the late Cambrian Groveland Mine stratigraphy, Dickinson County, Michigan”
Advisor: Robert Regis

Relevant Work Experience

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|----------------|--|-------------|---|
| 2024 – present | Research Geologist
Michigan Geological Survey
Western Michigan University
Gwinn, Michigan, USA | 2021 - 2022 | Geologist
Great Lakes Geologic Mapping Project
Florence Bascom Geoscience Center
United States Geological Survey
Reston, Virginia, USA |
| 2025 – present | Adjunct Assistant Professor
Department of Earth, Environmental,
and Geographical Sciences
Northern Michigan University
Marquette, Michigan, USA | 2018 – 2020 | Student/Project Geologist
Wisconsin Geological and Natural History
Survey
University of Wisconsin - Madison
Madison, Wisconsin, USA |
| 2022 – 2024 | JPL Postdoctoral Research Fellow
Mars 2020 Science Office
Jet Propulsion Laboratory
Caltech /NASA
Pasadena, California, USA | 2020 | Lecturer |
| 2023 | Expedition Sedimentologist
Expedition 400: Northwest Greenland
Glaciated Margin
Int'l. Ocean Discovery Program
Greenland/Baffin Bay | 2019 – 2020 | Distinguished Dissertator Fellow |
| | | 2018 – 2019 | Distinguished Graduate Fellow |
| | | 2017 – 2018 | Graduate Research Assistant |
| | | 2013 – 2014 | Graduate Research Assistant
Department of Geosciences
University of Wisconsin – Milwaukee
Milwaukee, Wisconsin, USA |
| | | 2015 – 2016 | Graduate Research Assistant |
| | | 2015 | Graduate Teaching Assistant
Department of Geologic and Atmospheric
Sciences
Iowa State University
Ames, Iowa, USA |

Peer-Reviewed Publications

 = Open Access

- Gwizd, S., Stack, K.M., Lamb, M.P., [Ives, L.R.](#), Gupta, S., and 22 others (*in review*). **Depositional history of the Otis Peak formation, Western fan, Jezero crater, Mars.** *Journal of Geophysical Research: Planets*.
- Williams, R.M.E., Gupta, S., Bhartia, R., Minitti, M.E., Kah, L.C., and 31 others (including [L.R.W. Ives](#)) (*in review*). **Environmental Conditions Associated with Carbonate-Bearing Rocks in Lower Hawksbill Gap, Jezero crater, Mars.** *Icarus*.
- Caravaca, G., Mangold, N., Williams, R.M.E., Gupta, S. and 24 others (including [L.R.W. Ives](#)) (*in review*). **Forced regression in Jezero Paleolake (Mars), recorded by downstepping deltaic geometries observed by Perseverance rover.** *Sedimentology*.
- Deahn, M.C., Horgan, B., and 30 others (including [L.R.W. Ives](#)) (*in review*). **Mapping the Jezero Crater Rim from Orbit: Connections to Regional Geologic Units and Context for Exploration by the Mars 2020 Rover.** *Journal of Geophysical Research: Planets*.
- --- --- --- ---
- Jones, A.J., Gupta, S., Barnes, R., Horgan, B., Williford, K., Paar, G., Stack, K.M., and 22 others (including [L.R.W. Ives](#)) (2026). **Stratigraphy of Carbonate-Bearing Rocks at the Margin of Jezero Crater, Mars: Evidence for Shoreline Processes?** *Journal of Geophysical Research: Planets*. <https://doi.org/10.1029%2F2025JE009111> 
- Alley, N.F., Flint, R.B., Bourman, R.P., [Ives, L.R.W.](#), Hou, B., and Francis, J.E. (2025). **Major paleogeographic and paleoclimatic changes during the Late Paleozoic, Early Cretaceous and Paleogene of central Australia and their influence on recycling of sediments.** *Australian Journal of Earth Sciences*. <https://doi.org/10.1080/08120099.2025.2582129>
- [Ives, L.R.W.](#), Stack, K.M., Geyman, E.C., Gupta, S., Caravaca, G., Siebach, K., Gwizd, S., Grotzinger, J.P., Lamb, M.P., Mangold, N., Kanine, O., Barnes, R., Russell, P., Núñez, J.I., Simon, J.I., Weiss, B.P., Yingst, A., Sharma, S., Le Mouélic, S., Huggett, J., Pascuzzo, A., Wogsland, B., Fischer, W.W., Randazzo, N. (2025). **Sedimentology and stratigraphy of the fluvial-deltaic Skrinkle Haven member, Tenby formation, Jezero crater, Mars.** *Journal of Sedimentary Research*, 95(6), 1080 - 1113. <https://doi.org/10.2110/jsr.2025.019> 
- Tebolt, M., Stack, K.M., Goudge, T.A., [Ives, L.R.W.](#), Gupta, S., Barnes, R., Caravaca, G. (2025). **Characterizing the Facies and Stratigraphy of the Enchanted Lake area in Jezero Crater, Mars.** *Journal of Geophysical Research: Planets*, 130, <https://doi.org/10.1029/2023JE008278>
- Broz, A., Horgan, B., Kalucha, H., 31 others (including [E. Ives](#)) and the Mastcam-Z and Supercam teams (2024). **Diagenesis of Hogwallow Flats, Jezero Crater, Mars as seen by the Mastcam-Z instrument on board Mars 2020 Perseverance Rover.** *Journal of Geophysical Research: Planets*. <https://doi.org/10.1029/2024JE008520> 
- Stack, K.M., [Ives, L.R.W.](#), Gupta, S., Lamb, M.P., Tebolt, M., Caravaca, G., Grotzinger, J.P., and 28 others (2024). **Sedimentology and Stratigraphy of the Shenandoah Formation, Western Sediment Fan, Jezero Crater, Mars.** *Journal of Geophysical Research: Planets*. <https://doi.org/10.1029/2023JE008187> 
- [Ives, L.R.W.](#) and Isbell, J.L. (2023) **Glacimarine sedimentation and sequence stratigraphy of the lower Wynyard Formation (Pennsylvanian – Early Permian, Tasmanian Basin).** *Sedimentary Geology*. <https://doi.org/10.1016/j.sedgeo.2023.106482>
- [Ives, L.R.W.](#) and Rawling, J.E. (2022) **Pleistocene Geology of Jefferson County, Wisconsin**, 1:100,000. Wisconsin Geological and Natural History Survey. (Map and Report) <https://wgnhs.wisc.edu/catalog/publication/000990> 
- [Ives, L.R.W.](#), Isbell, J.L., and Licht, K.J. (2022) **A “local first” approach to glacial sediment provenance demonstrated using U-Pb detrital zircon geochronology.** *The Sedimentary Record*. <https://doi.org/10.2110/001c.38180> 
- Isbell, J.L.; Vesely, F.F.; Rosa, E.L.M.; Pauls, K.N.; Fedorchuk, N.D.; [Ives, L.R.W.](#); McNall, N.B.; Litwin, S.A.; Borucki, M.K.; Malone, J.E., Kusick, A.R. (2021) **Evaluation of physical and chemical proxies used to interpret past glaciations with a focus on the late Paleozoic Ice Age.** *Earth Science Reviews*, 103756. <https://doi.org/10.1016/j.earscirev.2021.103756>

- Ives, L.R.W. and J.L. Isbell. (2021) **A lithofacies analysis of a South Polar glaciation in the early Permian: Pagoda Formation, Shackleton Glacier region, Antarctica.** Journal of Sedimentary Research, 91(6), 611-635. <https://doi.org/10.2110/jsr.2021.004>
- Ives, L. R. W. and Iverson, N. R. (2019). **Genesis of glacial flutes inferred from observations at Múljökull, Iceland.** Geology, 47(5), 387-390. <https://doi.org/10.1130/G45714.1>

Mission and Expedition Reports

- Knutz, P., Jennings, A., Childress, L.B., and the Expedition 400 Scientists, 2025. **NW Greenland Glaciated Margin.** Proceeding of the International Ocean Discovery Program, vol. 400, <https://doi.org/10.14379/iodp.proc.400.2025>
- Weiss, B.P., K. A. Farley, T. Bosak, F. J. Calef III, A. D. Czaja, E. M. Hausrath, C. D. K. Herd, L. R. W. Ives, L.E. Mayhew, D. L. Shuster, J. I. Simon, S. Siljeström, T. V. Kizovski, A. C. Allwood, M. L. Cable, B. N. Horgan, J. A. Hurowitz, G. Lopez-Reyes, L. Mandon, E. N. Mansbach, L. P. O'Neil, A. C. Pascuzzo, A. Udry, M. M. Tice, S. Sharma, A. H. Treiman, K. H. Williford, M.-P. Zorzano, and the Mars 2020 team, 2023. **Initial Report M2020-822-23 Otis Peak.** in Farley, K.A. and K.M. Stack, Jezero Upper Fan Campaign, Mars 2020 Initial Reports, v.3. https://pds-geosciences.wustl.edu/m2020/urn-nasa-pds-mars2020_sample_dossier/initial_reports/initial_reports_volume3.pdf
- Weiss, B.P., K. A. Farley, T. Bosak, F. J. Calef III, A. D. Czaja, E. M. Hausrath, C. D. K. Herd, L. R. W. Ives, L. E. Mayhew, L. P. O'Neil, D. L. Shuster, J. I. Simon, S. Siljeström, A. C. Allwood, J. A. Hurowitz, T. V. Kizovski, G. Lopez-Reyes, L. Mandon, E. N. Mansbach, A. C. Pascuzzo, S. Sharma, A. Udry, M. M. Tice, A. H., Treiman, K. H. Williford, M. J. Zawaski, M.-P. Zorzano, and the Mars 2020 team, 2023. **Initial Report M2020-749-22 Melyn.** in Farley, K.A. and K.M. Stack, Jezero Upper Fan Campaign, Mars 2020 Initial Reports, v.3. https://pds-geosciences.wustl.edu/m2020/urn-nasa-pds-mars2020_sample_dossier/initial_reports/initial_reports_volume3.pdf
- Knutz, P., Jennings, A., Childress, L.B., and the Expedition 400 Scientists, 2024. **Expedition 400 Preliminary Report: NW Greenland Glaciated Margin.** International Ocean Discovery Program. https://publications.iodp.org/preliminary_report/400/

Funding Record

See last page of CV for pre-dissertation funding record

Award/Active

- 3. PI:** Thomas Valachovics (MGS-WMU), **Co-PI:** Libby Ives (MGS-WMU)
Funding Organization: Michigan Department of Natural Resources
Program: United States Forest Service Good Neighbor Agreement (Hiawatha National Forest)
Title: Hiawatha National Forest Karst Mapping Project
Duration: FY26 – FY28
Amount: \$282,822.00
- 2. PI:** Nathan Erber (MGS-WMU), **Co-PI:** Libby Ives (MGS-WMU)
Funding Organization: United States Geological Survey
Program: Great Lakes Geologic Mapping Coalition
Title: Surficial Geologic Web Map of Muskegon County, Michigan (Erber) and Depth-to-bedrock Determination within the Green Bay Lobe Footprint, Upper Peninsula, Michigan (Ives)
Duration: FY26 – FY27
Amount: \$167,148.00

Expired

- 1. Science PI:** Libby Ives (JPL), **Admin. PI:** Kathy Licht (Indiana University – Indianapolis)
Funding Org: International Ocean Discovery Program (IODP) United States Science Support Program
Title: IODP Expedition 400 Post Expedition Award: Sedimentary Provenance of a Cenozoic Glaciated Shelf, Melville Bay, Northwest Greenland
Duration: 2024 - 2025
Amount: \$19,996.00

Teaching

F 2025	Adjunct Professor	Geomorphology (GC 370)	Northern Michigan University
S 2025	Adjunct Professor	Historical Geology (GC 365)	Northern Michigan University
S 2020	Lecturer	Sed-Strat (Geo Sci 511)	University of Wisconsin - Milwaukee
F 2015	Teaching Assistant	Surficial Processes (GEOL 479)	Iowa State University

Mentoring and Supervision

2025 – 2026	Northern Michigan University	Advised and supervised sedimentary geology and geomorphology capstone projects as needed
2025 - 2026	Michigan Geological Survey	Trained and supervised a seasonal positions for undergraduate students, graduate students, and recent graduates conducting geophysical surveys, glacial geology, and karst surveys
2024	Jet Propulsion Laboratory	Supervised Ph.D. intern research on landscape evolution modeling on Mars (See Sharmili et al., 2025 in abstracts)
2023	Jet Propulsion Laboratory	Supervised post-baccalaureate intern research on soft-sediment deformation of sedimentary rocks in Jezero crater, Mars (see Lesh et al., 2023 in abstracts)
2022	United States Geological Survey	Organized and supervised graduate intern Quaternary mapping fieldwork
2014	University of Wisconsin - Milwaukee	Organized and supervised undergraduate research experiences in laboratory and international fieldwork settings

Professional Recognition

2024	Voyager Award (individual)	Jet Propulsion Laboratory	Mars 2020 Mission
	<i>"For exceptional leadership and scientific analysis of the Upper Fan curvilinear unit"</i>		

Additional Training

2024	Planetary Science Summer School	Jet Propulsion Laboratory/NASA
2023	Bystander Intervention Training	USGS, Step-Up!
2023	Summer School for Sandstone Diagenesis	GeoZentrum NordBayern/Uni. of Iowa
2020 – 2021	Earth Data Analytics Certificate	University of Colorado – Boulder
2021	High-Resolution X-ray CT Facility	University of Texas – Austin
2020	Geology Image Processing w/ Python	Nordic Sedimentology Research Group
2020	Introductory Storytelling	The Story Collider
2020	How to Build Coupled Models	GSA Annual Meeting
2020	Geoscience & Society, Teaching Workshop	GSA Annual Meeting
2019	Glacial Isostatic Adjustment	Gävle, Sweden (POLENET/NSF)
2018	IAS Summer School of Sedimentology	Neuquén, Argentina
2018	Glacial and Marine Environmental History	UNIS, Svalbard
2017	U-Pb Geochronology	GSA Annual Meeting
2014	Geology Field Camp	Black Hills, USA
2012	Volcanology Field Camp	Kamchatka, Russia

Geologic Fieldwork Experience

2025 – onwards	Quaternary Geology and Surface Geophysics	Michigan, USA
2023	IODP Expedition 400 – Greenland Glaciated Margin	Northwest Greenland/Baffin Bay
2018 – 2022	Glacial Geology Mapping and Core Collection	Wisconsin & Michigan, USA
2020	Forest Soil Monitoring Surveys	Michigan, USA
2018	Sedimentology of Esquel and Valle Chico Fms	Patagonia, Argentina
2018	Sedimentology of Sierra de Tepuel	Patagonia, Argentina
2018 – 2017	Sedimentology of Permian – Triassic strata	Shackleton Glacier, Antarctica
2017	Sedimentology of the Wynyard Fm	Tasmania, Australia
2017	Sedimentology of Sierra de Tepuel	Patagonia, Argentina
2014	Glacial geology of Breiðamerkurjökull	Iceland

2014	Glacial geology of Múlajökull	Iceland
2014	Glacial geology of Múlajökull	Iceland

Relevant Computer Skills

GIS: ESRI ArcGIS Suite, QGIS

Languages: Python, Matlab, R

Abstracts

**presenting author, ^invited, ° student or intern*

- Valachovics, T.*, [L. Ives](#), T. Adams (2025). **Aggregating Data: Creating a Michigan State-wide Aggregate Map with Limited Historical Geologic Mapping**. Geological Society of America Joint Northeastern and North-Central Section Meeting, 27 – 30 March 2025, Erie, Pennsylvania, USA.
- Sharmili, N.*°, K.M. Stack-Morgan, [L.R.W. Ives](#), B.T. Cardenas, E.A. Hajek, S. Gwizd (2025) **Exploring the depositional and erosional morphology of Jezero Crater’s western fan using coupled numerical models of sediment deposition and erosion**. 56th Lunar and Planetary Science Conference, The Woodlands, Texas, USA. [Abstract #1193](#).
- Deahn, M.C.*; B. Horgan (and 30 others including [L. Ives](#)) (2025) **Compositional diversity of the Jezero Crater rim and links to regional units**. 56th Lunar and Planetary Science Conference, The Woodlands, Texas, USA. [Abstract #1801](#).
- Stack, K.M.*; K.S. Edgett, S. Gupta, S.G. Banham, G. Caravaca, B.T. Cardenas, M. Day, L.A. Edgar, C.M. Fedo, A.A. Fraeman, T.A. Goudge, J.P. Grotzinger, S. Gwizd, [L.R.W. Ives](#), E.S. Kite, M.P. Lamb, M.G.A. Lapôtre, N. Mangold, M.J. Meyer, R.W. Milliken, K.L. Siebach, M. Tebolt, A.R. Vasavada (2024). **The Martian sedimentary rock record: recent advances in our understanding of depositional processes and environments**. The Tenth International Conference on Mars, July 22- 25, Pasadena, California. [Abstract #3201](#).
- Gupta, S.*; K. Stack-Morgan, N. Mangold, [L.R.W. Ives](#), S. Gwizd, G. Caravaca, R.M.E. Williams, and 35 others (2024). **Sedimentary evolution of the Jezero western fan, Mars**. The Tenth International Conference on Mars, July 22- 25, Pasadena, California. [Abstract #3370](#).
- Mangold, N.*; G. Caravaca, S. Gupta, R.M.E. Williams, and 17 others (including [L. Ives](#)) (2024). **Constraints on Jezero paleolake history from its fluvial input**. The Tenth International Conference on Mars, July 22- 25, Pasadena, California. [Abstract #3079](#).
- Deahn, M.C.*; B. Horgan, F. Calef III, J. Schroeder, and 24 others (including [L. Ives](#)) (2024). **Jezero crater rim from orbit: Mapping Diverse Target for the Mars 2020 rover**. The Tenth International Conference on Mars, July 22- 25, Pasadena, California. [Abstract #3151](#).
- Barnes, R.*; S. Gupta, A.J. Jones, and 29 others (including [L. Ives](#)) (2024). **Gnaraloo Bay: Stratigraphic relationships at the apex of a martian fluvio-deltaic system at Jezero crater, Mars**. The Tenth International Conference on Mars, July 22- 25, Pasadena, California. [Abstract #3450](#).
- [Ives, L.R.W.*](#), K. Stack, J. Grotzinger, M. Lamb., E. Geyman, R. Barnes, S. Gupta, K. Siebach, G. Caravaca, R. Williams, N. Randazzo, J. Núñez, W. Fischer, S. Gwizd, J. Simon, S-E. Hamran (2024) **Reassessing the sedimentary depositional origin of the Jezero crater western fan’s curvilinear unit**. SEPM International Sedimentary Geology Congress, May 5 – 8, Flagstaff, Arizona. [Abstract #91](#).
- Stack, K.M. and the Mars 2020 Science Team (including [L. Ives*](#)) (2024). **The Mars 2020 Perseverance rover’s exploration of the sedimentary rock record in Jezero crater, Mars**. SEPM International Sedimentary Geology Congress, May 5 – 8, Flagstaff, Arizona. [Abstract #33](#).
- Gwizd, S.* (and 14 others, including [L. Ives](#)) (2024). **Depositional history of the blocky unit at Jezero crater, Mars**. SEPM International Sedimentary Geology Congress, May 5 – 8, Flagstaff, Arizona. [Abstract #41](#).
- Gupta, S.* (and 40 others, including [L. Ives](#)) (2024). **Going with the Flow: Sedimentary Evolution of the Jezero Western Fan, Mars**. 55th Lunar and Planetary Science Conference, March 11 – 15, The Woodlands, Texas. [Abstract #2607](#).
- Gwizd, S.* (and 23 others, including [L. Ives](#)) (2024). **Depositional History of the Upper Sequence of the Western Fan: Evidence for Late-Stage Fluvial and Potential Igneous Activity, Jezero Crater Mars**. 55th Lunar and Planetary Science Conference, March 11 – 15, The Woodlands, Texas. [Abstract #2117](#).

- Deahn, M.C.*; B. Horgan (and 24 others, including [L. Ives](#)) (2024). **An Orbital Photogeologic Map of the Jezero Crater Rim: Diverse Targets for Mars 2020 Future Exploration**. 55th Lunar and Planetary Science Conference, March 11 – 15, The Woodlands, Texas. [Abstract #2302](#).
- Mangold, N.*; G. Caravaca (and 18 others, including [L. Ives](#)) (2024). **Past variations of water level of the Jezero Paleolake**. 55th Lunar and Planetary Science Conference, March 11 – 15, The Woodlands, Texas. [Abstract #1555](#).
- Caravaca, G.* (and 20 others, including [L. Ives](#)) (2024) **Surface expression and geometries of deltaic deposits of Jezero western fan top (Mars)**. 55th Lunar and Planetary Science Conference, March 11 – 15, The Woodlands, Texas. [Abstract #1246](#).
- Broz A.P.* (35 others, including [L. Ives](#)) and the Mastcam-Z and SuperCam Teams (2024). **Biosignature preservation potential of sulfate-rich rocks from Hogwallow Flats, Jezero crater, Mars**. 55th Lunar and Planetary Science Conference, March 11 – 15, The Woodlands, Texas. [Abstract #1259](#).
- Jennings, A.E.*[^], P.C. Knutz, L.B. Childress, [Expedition 400 Scientists](#) (2023). **Preliminary Results of IODP Expedition 400 to Northwest Greenland**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- [Ives, L.R.W.*](#) (and 17 others) (2023c). **Reassessing the sedimentary depositional origin of the Jezero crater western fan's curvilinear unit: reconciling orbital and rover observations**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- Lesh, C. °*, [L.R.W. Ives](#), K.M. Stack (2023). **Characterization of soft sediment deformation within the Hogwallow Flats member, Shenandoah formation, Jezero crater, Mars**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- Broz, A.P.* (and 30 others, including [L.R.W. Ives](#)) (2023). **A comparison of diagenesis between sulfate-rich rocks at Jezero, Gale, and Victoria Craters, Mars: Implications for biosignature preservation**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- Farley, K.A.*; K.M. Stack, [Mars 2020 Science Team](#) (2023). **The Geologic History of Jezero Crater and Implications for the Perseverance MSR Sample Collection**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- Gwizd, S.* (and 11 others, including [L.R.W. Ives](#)) (2023). **Hydrology and depositional history of the blocky unit at Jezero crater**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- Siebach, K.* (and 22 others, including [L.R.W. Ives](#)) (2023). **Overview of Perseverance's Upper Fan Campaign**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- Weiss, B.P.* (and 31 others, including [L.R.W. Ives](#)) (2023). **An Ancient Detrital Rock Record from Outside Jezero Crater Collected by the Perseverance Rover**. American Geophysical Union Annual Meeting, December 11 – 15, San Francisco, USA.
- Kusick, A.R.* °, J.E. Rawling III, [L.R.W. Ives](#), E. Carson, J.L. Isbell (2023). **Glacial Lake Scuppernong in the southern footprint of the MIS 2 Green Bay Lobe**. Geological Society of America Connects 2023, 15 – 18 October, Pittsburgh, USA.
- Williams, R.* (and 10 others, including [L.R.W. Ives](#)) (2023). **Investigation of sedimentary fan deposits along the Beagle Gap traverse at Jezero crater, Mars**. Geological Society of America Connects 2023, 15 – 18 October, Pittsburgh, USA.
- [Ives, L.R.W.*](#) (and 29 others) (2023b). **Physical Sedimentology and Stratigraphy of the lower Western Fan (Shenandoah formation) Jezero Crater, Mars: Results from the Mars 2020 "Delta Front" Campaign**. International Conference on Fluvial Sedimentology 2023, July 2 – 8, Riva del Garda, Italy.
- [Ives, L.R.W.*](#), K.M. Stack, R. Barnes, S. Gupta, G. Caravaca, P. Russell, A.M. Annex (2023a). **Lithofacies, Flow Directions, and Preliminary Depositional Interpretations of Ledge-Forming Sandstones at Alagnak, Jezero Crater, Mars**. 54th Lunar and Planetary Science Conference, March 12 – 17, The Woodlands, Texas. [Abstract #2556](#).
- Stack, K.M.* (and 24 others, including [L.R.W. Ives](#)) (2023). **Sedimentology and Stratigraphy of the Lower Delta Sequence, Jezero Crater, Mars**. 54th Lunar and Planetary Science Conference, March 12 – 17, The Woodlands, Texas. [Abstract #1422](#).

- Ives, L.R.W.*, J.E. Rawling III, E.C. Carson, K.C. Stolzman (2022). **Reframing Glacial Lake Scuppernong: Lakes of the Laurentide Ice Sheet's Southern Green Bay Lobe in Jefferson County, Wisconsin.** American Quaternary Association Biennial Meeting, June 7-11, 2022 Madison, Wisconsin. [Abstract](#).
- Carson, E.C.*[^], L.R.W. Ives, K.C. Stolzman, J.E. Rawling III (2021). **Glacial lakes in the footprint of the southern Green Bay Lobe of the Laurentide Ice Sheet.** GSA Connects 2021.
- Carson, E.C.*[^], L.R.W. Ives, K.C. Stolzman, J.E. Rawling III (2021). **Tracking the evolution of glacial lakes Yahara and Scuppernong, south-central Wisconsin, USA.** Geological Society of America Annual North-Central and South-Central Joint Section Meeting.
- Ives, L.R.W. and J.L. Isbell (2019). **South Polar Glaciation during the Late Paleozoic: Observations from the Shackleton Glacier Region, Transantarctic Mountains.** U.S. Interdisciplinary Antarctic Earth Sciences Meeting and Deep Field Camp Planning Workshop, Julian, California, USA, October 13-16, 2019.
- Ives, L.R.W.* and N.R. Iverson (2019). **Genesis of glacial flutes: a case study from Múlajökull, Iceland.** International Symposium on Glacial Erosion and Sedimentation, Madison, Wisconsin, USA, May 12-17, 2019.
- Ives, L.R.W.* and J.L. Isbell (2019). **Preliminary sedimentology of the early Permian, glaciogenic Pagoda Fm., Mt. Butters, Shackleton Glacier Region, Central Transantarctic Mountains, Antarctica.** DEEPDUST ICDP Workshop, Norman, Oklahoma, USA, March 6 – 10, 2019.
- Isbell, J.L.[^] and L.R.W. Ives* (2018). **Antarctica, the heart of it all: a South Polar view of glaciation during the Late Paleozoic Ice Age.** American Geophysical Union Fall Meeting, Washington, DC, USA, December 10 – 14, 2018. [C22B-01](#).
- Ives, L.R.W.* and J.L. Isbell. (2018). **Preliminary sedimentological and stratigraphic analysis of the basal glaciogenic Wynyard Formation (Wynyard, Tasmania, Australia).** Geological Society of America, North-Central 52nd Annual Meeting, Ames, Iowa, USA, April 16-17, 2018. [Paper 31-4](#).
- Ives, L.R.W.* and J.L. Isbell. (2018). **Preliminary sedimentological and stratigraphic analysis of the basal glaciogenic Wynyard Formation (Wynyard, Tasmania, Australia).** VII Simposio del Paleozoico Superior; Esquel, Chubut, Argentina, March 26-28, 2018, [p. 13](#).
- Ives, L.R.W.*, T.S. Hooyer, N.R. Iverson, A. Schomaker (2014). **Measuring fabrics of glacial flutes using anisotropy of magnetic susceptibility, Múlajökull, Iceland.** Geological Society of America Annual Meeting, Vancouver, B.C., Canada, October 19-22, 2014. [paper # 137-22](#).
- Woodford, L.R.* and R.S. Regis (2013). **Paleogeographic interpretation of the late Cambrian Groveland Mine stratigraphy, Dickinson County, Michigan.** Geological Society of America North-Central Section, Kalamazoo, MI, USA, May 2-3, 2013. [paper # 28-32](#).

Invited Talks

2024	Sedimentology of the Jezero crater western fan, Mars	Caltech, Planetary Sciences
2024	High-latitude Glaciations of Gondwana	University of Nevada – Las Vegas
2024	Sedimentology of the Jezero crater western fan, Mars	Indiana University – Indianapolis
2023	Sedimentary Geology from Earth to Mars	University of Wisconsin – Eau Claire
2023, 2024	Upper Jezero Fan Sedimentology	Mars 2020 Science Team Meeting
2022	What is Till? ID-ing Subglacial Deposition in the Field	State of Michigan Geologists
2022, 2024	Karst Formation and Michigan Bedrock Geology	Hiawatha National Forest
2022	Glaciation in the Rock Record	University of Wisconsin – Eau Claire
2022	South Polar Glaciation during the Paleozoic	USGS

Professional Service

2025 - 2028	Headquarters Business Committee	SEPM
2024	Technical Session Co-Chair	2024 SEPM Sedimentary Geoscience Conference
2022 - 2024	Early Career Scientist Committee	International Association of Sedimentologists
2021	URGE Pod Organizer	Dept. of Geosciences, UW – Milwaukee
2017 - 2020	Sed. Group Meetings Coordinator	Dept. of Geosciences, UW – Milwaukee
2020	Technical Session Co-Chair	GSA2020
2019	Host, Special Lecture Tour	International Association of Sedimentologists
2018	Student Representative (Geoscience)	UW – Milwaukee Student Association
2018 - 2019	President, Great Lakes Chapter	Association for Women Geoscientists

2011 – 2013 President, Rock and Mineral Club
2012 – 2013 President, Gamma Theta Upsilon

Northern Michigan University
Northern Michigan University

Reviewer for

Journals

Earth and Planetary Science Letters
Journal of Sedimentary Research
GSA Bulletin
Journal of Geophysical Research – Planets
Sedimentary Geology
Palaeogeography, Palaeoclimatology, Palaeoecology
Frontiers in Earth Science
Geology
Journal of Quaternary Science
New Zealand Journal of Geology and Geophysics
Science Advances
Wisconsin Space Grant Consortium

Geologic Maps

USGS
Michigan Geological Survey
Wisconsin Geological and Natural History Survey

Grants

NSF Office of Polar Programs
Great Lakes Geologic Mapping Coalition (USGS)
JPL Internal Reviewer for NASA ROSES

Book Chapters

“Glacial Sediments” chapter in forthcoming Sedimentary Environments Process and Facies, Ed. Bruce Level (Oxford)

Outreach

Public Events

2026	Expert – Geology/Glaciology	Oceania Cruises	Chile, Argentina, Falklands, Antarctic Peninsula
2026	Science on Tap - Glacial Geology	Blackrocks Brewery	Marquette, MI
2025	Outreach Table (poster)	Marquette History Center Archaeology Fair	Marquette, MI
2025	Outreach Table	Ishpeming Rock and Mineral Show	Ishpeming, MI
2025	Field Trip Leader	Aldo Leopold Festival ,	Cedarville, MI
2024	Science Presenter	Making Space –Space, SciArt, and Society ,	Pasadena, CA
2024	Public Lecture	Northern California Geological Society	Orinda, CA
2023	Public Lecture	Geoscience Exchange, UW – Milwaukee	Milwaukee, WI
2023	JPL/Mars2020 Representative	DiscoverCaltech	Pasadena, CA
2023	JPL Outreach Booth	Yuri’s Night Los Angeles	Los Angeles, CA
2022	Les Cheneaux Field Trip	Aldo Leopold Festival	Cedarville, MI
2022	Public Lecture	Tap Talk	Mackinaw City, MI
2021	Dinosaurs of Antarctica Panel	Clarke Planetarium	Salt Lake City, UT
2021	Dinosaurs of Antarctica Panel	Awesomecon	Washington, DC
2021	Les Cheneaux Field Trip	Aldo Leopold Festival	Cedarville, MI
2021	Public Lecture	Mackinaw Area Historical Society	Mackinaw City, MI
2021	Public Lecture	Museum of Discovery & Science,	Ft. Lauderdale, FL
2020 – 2021	Voices for Science Fellow	American Geophysical Union	Virtual
2019	Public Lecture	P.E.O.	Mankato, MN
2019	Public Lecture	Kettle Moraine Geological Society	Pewaukee, WI
2019	Public Lecture	Wisconsin Geological Society	Milwaukee, WI
2014	“Science Bag” Assistant	University of Wisconsin – Milwaukee	Milwaukee, WI

Primary & Secondary Schools

2019 – 2020	Pen pal	Letters to a Pre-Scientist	
2020	Science-A-Thon	Earth Science Women’s Network	
2020	7th Grade Classroom Visit	Learn 6 Campus,	North Chicago, IL
2020	1st Grade Classroom Visit	Lake Bluff Elementary	Shorewood, WI
2011- 2012	LEGO Robotics Coach	Bothwell Middle School	Marquette, MI

Media

2025	Alumni Career Profile (UWM)	UWM researcher reconstructs ancient landscapes from the Midwest to Mars
2025	Speaker in Video	Geology that Powers Michigan (MGS Feature Video)
2023	Press Release and Conference	1,000 Days of Perseverance Press Release Press Conference
2023	Press Release, JPL	Martian River in Jezero Crater Press Release Short Video News Segment
2021	Print Interview, LiveScience	When did Antarctica become a Continent?
2021	Podcast Interview	Under Our Feet (S1:E8 – An Icy Visitor)
2017 – 2022	Science Adviser/Character	“Dinosaurs of Antarctica” (IMAX Film) Dinosaurs of the Frozen Continent (TV Series)

Blog Posts

Ives, L.R.W. and P. Matheny. “Cryo-Adventures – The Glacial Isostatic Adjustment (GIA) Training School: Personal and Virtual Attendance”, EGU Cryospheric Sciences Division Blog, October 4, 2019. [LINK](#)

Career

2024	Resume Reviewer – LET’S GEO	UW – Milwaukee, Department of Geosciences
2023	Mentor – LET’S GEO	UW – Milwaukee, Department of Geosciences
2023	Guest, Case Studies Course	UW – Milwaukee, Department of Geosciences
2023	Career Panel Participant	AWG – University of Wisconsin chapter
2022	Geoscience Career Discussion	Go FoRWARD , Milwaukee, WI

Pre-Dissertation Grants and Awards

Grants

2020	Travel Award, SEPM 2020	NSF-ISGC-SEPM	\$ 1,700
2020	Travel Award	SEPM	\$ 300
2019	Travel Grant, GIA Training School	POLENET/NSF	\$ 1,500
2019	Graduate School Conference Travel	University of Wisconsin - Milwaukee	\$ 1,000
2019	Department Travel Award	University of Wisconsin - Milwaukee	\$ 200
2018	Bighorn Basin Field Award	ExxonMobil/GSA	<i>declined</i>
2018	Summer School Travel Grant	IAS	\$ 570
2018	A.L. Medlin Research Scholarship	GSA Energy Division	\$ 1,500
2018	Research Grant	Wisconsin Geological Society	\$ 400
2018	Graduate Student Grant	Geological Society of America	\$ 1,900
2018	Tinker Research Grant	UWM Center for Latin American Studies	\$ 4,750
2018	Student Travel Grant	North-Central GSA	\$ 125
2014	Graduate Student Grant	Geological Society of America	\$ 1,500
2011	Spooner Student Research Grant	Northern Michigan University	\$ 500

Fellowships

2019 – 2020	P.E.O. Scholar Award	P.E.O.	\$ 15,000
2019 – 2020	Distinguished Dissertator Fellow	University of Wisconsin - Milwaukee	\$ 16,500
2018 – 2019	Distinguished Graduate Fellow	University of Wisconsin - Milwaukee	\$ 15,000
2015	U.S. Student Visiting Fellow	Institute for Rock Magnetism	\$ 500
2010 – 2013	Presidential Harden Scholar	Northern Michigan University	Full Tuition

Scholarships

2020 – 2021	Chancellor’s Scholarship	University of Wisconsin - Milwaukee	\$ 1,200
2019 – 2020	Chancellor’s Scholarship	University of Wisconsin - Milwaukee	\$ 1,200
2018 – 2019	Chancellor’s Scholarship	University of Wisconsin - Milwaukee	\$ 1,200
2018	Lukowicz Memorial Scholarship	University of Wisconsin - Milwaukee	
2018	American Federation of Mineralogical Soc.		\$ 4,000
2018	Wisconsin Geological Society	--	\$ 500
2017 - 2018	Chancellor’s Scholarship	University of Wisconsin - Milwaukee	\$ 1,200
2014	Nelson Memorial Scholarship	University of Wisconsin - Milwaukee	
2014	Graduate Field Work Scholarship	Wisconsin Geological Society	
2013 – 2014	Chancellor’s Scholarship	University of Wisconsin - Milwaukee	
2011 – 2013	Earth Science Award	Ishpeming Rock and Mineral Club	

Awards

2013	Outstanding Graduating Senior	Northern Michigan University
2012	Volunteer of the Month (March)	Northern Michigan University