

Theodore R. Them II

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EDUCATION

Virginia Tech, Blacksburg, Virginia

Doctor of Philosophy in Geosciences, 2016

Texas A&M University, College Station, Texas

Master of Science in Geological Oceanography, 2012

Shippensburg University of Pennsylvania, Shippensburg, Pennsylvania

Bachelor of Science in Geoenvironmental Studies, *Cum Laude*, 2008

Major: Geoenvironmental Studies

Certificate: Geographic Information Systems

RESEARCH EXPERIENCE

- Department of Earth, Ocean and Atmospheric Science, Florida State University August 2016 – Present
- Arts and Sciences Postdoctoral Fellow
 - Geochemistry of Mesozoic oceanic anoxic events (OAEs)
Mentor: Jeremy D. Owens
- Department of Geosciences, Virginia Tech August 2012 – July 2016
- Thesis: Biogeochemical cycling and paleoenvironmental reconstructions of the Toarcian Oceanic Anoxic Event from western North America
Advisor: Benjamin C. Gill
 - Graduate Research Assistant
- Statoil, Austin, Texas September 2015 – December 2015
- Fall Intern
 - Carbonate system response to OAEs
- ConocoPhillips, Houston, Texas May 2015 – August 2015
- Summer Intern
 - Elemental and organic carbon analysis of the Permian Wolfcamp
- Geohazards Technical Consultant May 2012 – June 2012
- Geohazards Technical Consultant for ExxonMobil
- Department of Oceanography, Texas A&M University January 2010 – May 2012
- Thesis: Tropical North Atlantic hydrologic cycle variability in the Florida Straits during the last ice age
Advisor: Matthew W. Schmidt
 - Graduate Research Assistant
- R/V Marcus G. Langseth, Multi-channel seismic interpretation of Shatsky Rise March 2012 – April 2012
- Watchstander

TEACHING EXPERIENCE

- Texas A&M University, Virginia Tech, and Florida State University 2010- 2016
- Mentor
- Department of Geosciences, Virginia Tech January 2013 – May 2013
- Teaching Assistant
- Department of Oceanography, Texas A&M University January 2010 – May 2012
- Teaching Assistant

PUBLICATIONS

(*) Undergraduate student

Them, T.R. II, Gill, B.C., Caruthers, A.H., Gröcke, D.R., *Tulsky, E.T., Martindale, R.C., Poulton, T.P., Smith, P.L., 2017, High-resolution carbon isotope records of the Toarcian Oceanic Anoxic Event (Early Jurassic) from North America and implications for the global drivers of the Toarcian carbon cycle, *Earth and Planetary Science Letters*, 459, 118 – 126.

Martindale, R.C., **Them, T.R. II**, Gill, B.C., Marroquín, S.M., Knoll, A.H., (*in press*), A new Early Jurassic fossil Lagerstätte from Ya Ha Tinda, Canada (~183 Ma), *Geology*. doi: 10.1130/G38808.1.

Them, T.R. II, Schmidt, M.W., and Lynch-Stieglitz, J., 2015, Millennial-scale tropical atmospheric and Atlantic Ocean circulation change from the Last Glacial Maximum and Marine Isotope Stage 3, *Earth and Planetary Science Letters*, 427, 47 – 56.

Schmidt, M.W., Chang, P., Hertzberg, J.E., **Them II, T.R.**, Ji, L., and Otto-Bliesner, B.L., 2012, Impact of abrupt deglacial climate change on tropical Atlantic subsurface temperatures, *Proceedings of the National Academy of Sciences*, 109 (36), 14348 – 14352.

PUBLICATIONS (in review)

Them, T.R. II, Gill, B.C., Selby, D., Gröcke, D.R., Friedman, R.M., Owens, J.D., (*in review*), Evidence for rapid weathering response to climatic warming during the Toarcian Oceanic Anoxic Event, *For: Nature Scientific Reports*.

PROFESSIONAL ACTIVITIES

Participant, Demystifying the IODP Process for Early Career Scientists: Northern Atlantic and Gulf of Mexico, January 2017, Austin, Texas.

Executive Secretary, NASA Exobiology Program proposal review panel, October 2016, Scottsdale, Arizona.

Co-chair, Organic carbon burial and seawater oxygenation: From past changes to future challenges, 2016, Goldschmidt, Yokohama, Japan.

CONFERENCE PRESENTATIONS

Martindale, R.C., **Them, T.R. II**, Gill, B.C., Knoll, A.H., 2016, Authigenic carbonate fans from Lower Jurassic marine shales (Alberta, Canada), American Geophysical Union Fall Meeting, San Francisco, California.

Them, T.R. II, Forkner, R., Fildani, A., Gill, B.C., Gröcke, D.R., Caruthers, A.H., 2016, Regional variability in the stratigraphic response of carbonates to the Toarcian Oceanic Anoxic Event, SEPM Research Conference: Oceanic Anoxic Events, Austin, TX.

Selby, D., Du Vivier, A.D.C., Sageman, B.B., Jones, M., Jarvis, I., Gröcke, D.R., Voigt, S., Takashima, R., Schroder-Adams, C.J., Herrle, **Them, T.R. II**, Gill, B.C., 2016, Potential oil-source fingerprinting of OAE 2 sourced oil: insights from osmium isotopes, SEPM Research Conference: Oceanic Anoxic Events, Austin, TX.

Martindale, R.C., Aberhan, M., **Them, T.R. II**, Gill, B.C., Caruthers, A., Marroquín, S.M., 2016, Faunal response of macrobenthic assemblages to the Early Jurassic (Toarcian) Oceanic Anoxic Event in Alberta, western Canada, SEPM Research Conference: Oceanic Anoxic Events, Austin, TX.

Them, T.R. II, Gill, B.C., *Grove, H.L., Gröcke, D.R., Selby, D., Owens, J.D., 2016, Geochemical evidence for persistent anoxia in eastern Panthalassa during the Early Jurassic, Geological Society of America Annual Meeting, Denver, Colorado.

Gill, B.C., **Them, T.R. II**, 2016, Reexamining the carbon cycle during the Toarcian Oceanic Anoxic Event, Geological Society of America Annual Meeting, Denver, Colorado.

Martindale, R.C., Aberhan, M., **Them, T.R. II**, Gill, B.C., Caruthers, A., Marroquín, S.M., 2016, Evolutionary and ecological dynamics of macrobenthic communities across the Toarcian Oceanic Anoxic Event in northeast Panthalassa (Alberta, Canada), Geological Society of America Annual Meeting, Denver, Colorado.

Them, T.R. II, Selby, D., Gill, B.C., Gröcke, D.R., 2016, Re and Os evidence of widespread anoxia and increased continental weathering during the Toarcian Oceanic Anoxic Event, Goldschmidt2016, Yokohama, Japan.

Martindale, R.C., Aberhan, M., **Them, T.R. II**, Gill, B.C., Caruthers, A., Marroquín, S.M., 2016, Response of benthic community to the Toarcian Oceanic Anoxic Event in the Ya Ha Tinda Lagerstätte (Alberta, Canada), IAS Meeting of Sedimentology, Marrakech, Morocco.

Them, T.R. II, Gill, B.C., Gröcke, D.R., Caruthers, A.H., *Tulsky, E.T., Martindale, R.C., Selby, D., 2015, Evidence for global biogeochemical changes during the Toarcian Oceanic Anoxic Event, American Geophysical Union Fall Meeting, San Francisco, California.

Gill, B.C., **Them, T.R. II**, Caruthers, A.H., Gröcke, D.R., 2015, The global record of the Toarcian Oceanic Anoxic Event: Perspectives from the eastern Panthalassic Ocean, American Geophysical Union Fall Meeting, San Francisco, California.

Marroquín, S.M., Martindale, R.C., Fuchs, D., Gill, B.C., **Them, T.R. II**, 2015, Exceptionally preserved octobranchia coleoids from the first Early Jurassic lagerstätte in North America, Geological Society of America Annual Meeting, Baltimore, Maryland.

Them, T.R. II, Gill, B.C., Gröcke, D.R., Selby, D., 2015, Significant increase in global continental weathering rates during the Toarcian Oceanic Anoxic Event, Goldschmidt2015, Prague, Czech Republic.

Them, T.R. II, Gill, B.C., *Tulsky, E.T., 2015, Carbon and Sulfur Cycle Changes Across the Toarcian Oceanic Anoxic Event in Western North America, American Association of Petroleum Geologists Annual Convention and Exhibition, Denver, Colorado.

Wu, M., **Them, T.R. II**, Gill, B.C., 2015, Environmental perturbations during the Early Jurassic (Pliensbachian to Toarcian) in Western Canadian Sedimentary Basin indicated by inorganic and organic geochemistry, Geological Society of America South-Central Meeting, Stillwater, Oklahoma.

Mason, C.C., **Them, T.R. II**, Romans, B.W., 2014, Are catchment denudation signals stored in alluvial-fan stratigraphy? Measuring paleodenudation rates Using cosmogenic radionuclides in the Pleistocene Pleasant Canyon Complex, Panamint Mountains, California, American Geophysical Union Fall Meeting, San Francisco, California.

- Them, T.R. II**, Gill, B.C., *Tulsky, E.T., Gröcke, D.R., 2014, Rapid environmental changes during the Early Jurassic (Pliensbachian to Toarcian Stages) in western North America recorded in the geochemistry of organic-rich mud rocks, Geological Society of America Annual Meeting, Vancouver, British Columbia.
- Martindale, R.C., **Them, T.R. II**, Gill, B.C., Knoll, A.H., 2014, A new Jurassic Lagerstätte from Alberta, Canada, preserved during the Toarcian Ocean Anoxic Event, Geological Society of America Annual Meeting, Vancouver, British Columbia.
- Gröcke, D.R., Caruthers, A.H., Katalinic, V., Trabucho-Alexander, J., Gill, B.C., **Them, T.R. II**, Smith, P.L., 2014, Early Jurassic paralic to shallow marine microbial environments of Nevada: A unique record of the Toarcian Oceanic Anoxic Event, Geological Society of America Annual Meeting, Vancouver, British Columbia.
- Gröcke, D.R., Caruthers, A.H., Gill, B.C., Trabucho-Alexander, J., **Them, T.R. II**, Smith, P.L., 2014, Expression of the Toarcian carbon isotope event in a siliceous black shale from New York Canyon, Nevada, Geological Society of America Annual Meeting, Vancouver, British Columbia.
- Caruthers, A.H., Smith, P.L., Gröcke, D.R., Gill, B.C., **Them, T.R. II**, 2014, Ammonite biostratigraphy of the Early Jurassic (Pliensbachian-Toarcian) Sunrise Formation, Gabbs Valley and Clan Alpine Mountains, Western-Central Nevada, Geological Society of America Annual Meeting, Vancouver, British Columbia.
- Them, T.R.**, Gill, B.C., Gerhardt, A.M., *Tulsky, E.T., 2014, Assessment of the geographic extent of the Toarcian Oceanic Anoxic Event: Implications for Early Jurassic hydrocarbon source rock deposition, American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Gerhardt, A.M., Gill, B.C., **Them, T.R.**, 2014, A high-resolution investigation of the relationship between the Steptoean Positive Carbon Isotope Excursion and the end-Marjuman trilobite extinction in the Southern Appalachians, American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Them, T.R.**, *Tulsky, E.T., Gerhardt, A.M., Gill, B.C., 2014, A global perturbation to the carbon cycle during the Early Jurassic, 1st Annual Southeastern Biogeochemistry Symposium, Atlanta, Georgia.
- Gerhardt, A.M., Gill, B.C., **Them, T.R.**, 2014, A high-resolution investigation of the relationship between the Steptoean Positive Carbon Isotope Excursion and the end-Marjuman extinction within the Nolichucky Formation of the Southern Appalachians, 1st Annual Southeastern Biogeochemistry Symposium, Atlanta, Georgia.
- Them, T.R.**, Gill, B.C., Gerhardt, A.M., Martindale, R.C., 2013, Assessing the reach of the Toarcian Oceanic Anoxic Event: New insights from western North America, American Geophysical Union Fall Meeting, San Francisco, California.
- Schmidt, M.W., **Them, T.R. II**, Lynch-Stieglitz, J., 2013, Investigating the link between Dansgaard-Oeschger Cycles and ocean circulation changes, American Geophysical Union Fall Meeting, San Francisco, California.
- Martindale, R.C., **Them, T.R.**, Gill, B.C., Knoll, A.H., 2013, Sea-floor carbonate fans from the Early Jurassic (Pliensbachian-Toarcian): a sedimentological signature of carbon cycle perturbation in deep time, American Geophysical Union Fall Meeting, San Francisco, California.
- Gill, B., Owens, J., **Them, T.R.**, Jenkyns, H., Lyons, T.W., 2013, A refined investigation into the sulfur and iron cycles during the Toarcian OAE, 2013, American Geophysical Union Fall Meeting, San Francisco, California.
- Gerhardt, A.M., Gill, B.C., **Them, T.R.**, 2013, A high-resolution investigation of the relationship between the Steptoean Positive Carbon Isotope Excursion and the end-Marjuman trilobite extinction in the Southern Appalachians, American Geophysical Union Fall Meeting, San Francisco, California.
- Schmidt, M.W., Hertzberg, J.E., and **Them, T.R.**, 2013, Foraminiferal Ba/Ca ratios and $\delta^{18}\text{O}_{\text{sw}}$ values from the southern Caribbean reflect hydrologic cycle variability over the past 21 kyr, 11th International Conference on Paleoceanography, Barcelona, Spain.
- Schmidt, M.W., Hertzberg, J.E., **Them, T.**, Parker, A.O., Chang, P., 2011, Deglacial subsurface temperature change in the tropical North Atlantic linked to Atlantic meridional overturning circulation variability, American Geophysical Union Fall Meeting, San Francisco, California.
- Them, T. R. II**, Schmidt, M.W., Lynch-Stieglitz, J., 2011, Tropical hydrologic cycle variability in the Florida Straits during Marine Isotope Stages 2 and 3, Goldschmidt2011, Prague, Czech Republic.
- Them, T. R. II**, Cornell, S. R., Woodlief, V.A., 2009, Using Chincoteague Bay as a model for place-based education: Teaching the impacts of groundwater flows on estuarine ecosystems and their fisheries, Geological Society of America Annual Meeting, Portland, Oregon.
- Woodlief, V.A., Cornell, S.R., **Them, T.R. II**, 2009, Investigating the realized and potential impacts of storm surge events on three different Atlantic and Caribbean coastlines: Delmarva Peninsula, Virginia; Florida Keys, Florida; and Curacao, Netherlands Antilles, Geological Society of America Annual Meeting, Portland, Oregon.

HONORS AND AWARDS

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| Arts and Sciences Postdoctoral Fellowship, Florida State University | 2016 – 2018 |
| American Association of Petroleum Geologists Grants-in-Aid recipient, John Teagle Memorial Grant (\$2,000) | 2015 – 2016 |
| ExxonMobil/Geological Society of America Research Grant (\$7,500) | 2015 – 2016 |
| ConocoPhillips Graduate Fellowship, Virginia Tech | 2014 – 2015 |
| Make-a-Difference Scholarship for Graduate Study, Virginia Tech College of Science (\$10,000) | 2014 – 2015 |
| International Association of Sedimentologists Postgraduate Grant (€1,500) | 2014 – 2015 |

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| Society for Sedimentary Geology Student Assistance Grant (\$750) | 2014 – 2015 |
| Graduate Research Development Program, Virginia Tech (\$700) | 2014 – 2015 |
| Society for Sedimentary Geology Student Assistance Grant (\$1,000) | 2013 – 2014 |
| Geological Society of America Research Grant (\$1,874) | 2013 – 2014 |
| Summer Research Award, Virginia Tech (\$1,000) | Summer 2013 |
| Sigma Gamma Epsilon Honor Society | Spring 2013 |
| Scherk Fellowship from the Department of Oceanography, Texas A&M University | Fall 2011 |
| S-STEM Scholarship from the Department of Oceanography, Texas A&M University | 2010 – 2011 |
| GPE Graduate Scholarship from the College of Geosciences, Texas A&M University | Spring 2010 |

FIELDWORK

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|---|-------------------------------------|
| Early Jurassic black shales and carbonates of Canada | August 2013, July 2014, August 2015 |
| Early Jurassic carbonates of Nevada | June and September 2014 |
| Late Pleistocene alluvial fan and lacustrine systems of the Panamint Valley, California | March 2014 |
| Late Cambrian carbonates of southwest Virginia and eastern Tennessee | March 2013 |