

## David McGee

Department of Earth, Atmospheric and Planetary Sciences  
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### Education

- 2006-2009 **Columbia University**, New York, New York  
Ph.D. in Earth and Environmental Sciences  
Advisors: Robert F. Anderson, Wallace S. Broecker, Gisela Winckler
- 2004-2006 **Tulane University**, New Orleans, Louisiana  
M.S. in Earth and Environmental Sciences  
Advisor: Franco Marcantonio
- 1999-2003 **Chatham College**, Pittsburgh, Pennsylvania  
M.A. in Teaching with certification in Environmental Education
- 1993-1997 **Carleton College**, Northfield, Minnesota  
B.A. in Geology

### Appointments

- 2024- **William R. Kenan, Jr. Professor**  
Department of Earth, Atmospheric and Planetary Sciences  
Massachusetts Institute of Technology
- 2017-2024 **Associate Professor**, MIT (tenure granted 2019)
- 2014-2017 **Kerr-McGee Career Development Assistant Professor**, MIT
- 2012-2014 **Assistant Professor**, MIT
- 2009-2011 **NOAA Climate and Global Change Postdoctoral Research Fellow**  
University of Minnesota  
Mentor: R. Lawrence Edwards

### Teaching Experience

- 2012- **Massachusetts Institute of Technology**, Cambridge, MA  
Courses taught or co-taught: Solving Complex Problems; The History of Earth's Climate; Paleooceanography; Climate Science; Global Warming Science; Assembling Cambridge (First-year Advising Seminar); Teaching Methods in Earth Science.
- 2008-2009 **High School for Arts, Imagination and Inquiry**, New York, New York  
NSF Graduate Teaching Fellow; designed and led field and lab activities.
- 2003-2004 **Marion Abramson High School**, New Orleans, Louisiana  
High school physical science teacher.
- 2002-2003, 1997-2001 **The Ellis School**, Pittsburgh, Pennsylvania  
Middle and high school science/math teacher, outdoor education coordinator.
- 2001-2002 **Mennonite Central Committee**, Phnom Penh, Cambodia  
English language teacher at the Royal University of Phnom Penh.

**Publications** (\*: student or postdoctoral advisee)

- Dawson, R.R., Castañeda, I.S., Burns, S.J., Salacup, J.M., Scroxton, N., McGee, D., Faina, P., Godfrey, L.R., Ranivoharimanana, L. **Investigating the application of organic geochemical techniques to tropical Anjohibe (Madagascar) stalagmites.** *Organic Geochemistry*, in press.
- O'Mara, N., Skonieczny, C.\*, McGee, D., Winckler, G., Bory, A., Bradtmiller, L., Malaizé, B., Polissar, P., 2024. **Constraining Plio-Pleistocene shifts in Northwest African hydroclimate, ecosystem distributions, and marine productivity: new paleo-records during the Mid-Pleistocene Transition.** *Paleoclimatology & Paleoceanography*, 39, e2023PA004777. <https://doi.org/10.1029/2023PA004777>.
- Batchelor, C.J.\*, McGee, D., Shakun, J.D., Woodhead, J., Jost, A.B.\*, Arnold, S., Horne, G., Kinsley, C.W.\*, Freudenburg-Puricelli, M.\*, 2024. **Insights into changing interglacial conditions in subarctic Canada from MIS 11 through MIS 5e from seasonally-resolved speleothem records.** *Geophysical Research Letters* 51, e2024GL108459. <https://doi.org/10.1029/2024GL108459>
- Dawson, R.R., Burns, S.J., Tiger, B.H.\*, McGee, D., Faina, P., Scroxton, N., Godfrey, L.R., and Ranivoharimanana, L., 2024. **Zonal control on Holocene precipitation in northwestern Madagascar based on a stalagmite from Anjohibe.** *Scientific Reports* 14, 5496. <https://doi.org/10.1038/s41598-024-55909-6>
- Williams, B.L., Burns, S.J., Scroxton, N., Godfrey, L.R., Tiger, B.H., Yellen, B., Dawson, R.R., Faina, P., McGee, D., Ranivoharimanana, L., 2024. **A speleothem record of hydroclimate variability in northwestern Madagascar during the mid-late Holocene.** *The Holocene*, 1-11. <https://doi.org/10.1177/09596836231225>.
- Tiger, B.H.\*, Burns, S.J., Dawson, R., Scroxton, N., Godfrey, L.R., Ranivoharimanana, L., Faina, P., McGee, D., 2023. **Zonal Indian Ocean variability at the millennial scale recorded in a speleothem from Madagascar.** *Paleoceanography & Paleoceanography* 38, e2023PA004626. <https://doi.org/10.1029/2023PA004626>
- Travis-Taylor, L., Medina-Elizalde, M., Karmalkar, A.V., Polanco-Martinez, J., Serrato Marks, G.\*, Burns, S., Lases-Hernández, F., McGee, D., 2023. **Last glacial hydroclimate variability in the Yucatán Peninsula not just driven by ITCZ shifts.** *Scientific Reports* 13, 14356. <https://doi.org/10.1038/s41598-023-40108-6>
- Bush, M., Schiferi, J., Kingston, M., Akesson, C., Valencia, B., Rozas-Davila, A., Woods, A., Chen, C., Hatfield, R., Rodbell, D., Abbott, M., McGee, D., 2023. **A neotropical perspective on the uniqueness of the Holocene among interglacials.** *Nature Communications* 14, 7404. <https://doi.org/10.1038/s41467-023-43231-0>
- Redmond, N.A., Hayes, C.T., Glasscock, S.K., Rohde, E., Anderson, R.F., McGee, D., 2023. **Anomalous  $^{234}\text{U}/^{238}\text{U}$  Isotopic Composition in Southern Ocean Sediments.** *Geochimica et Cosmochimica Acta*. <https://doi.org/10.1016/j.gca.2023.09.015>
- Mollica, N., Cohen, A., Horton, F., Oppo, D., Solow, A., McGee, D. **Capturing equatorial Pacific variability with multivariate Sr-U coral thermometry.** *Paleoceanography & Paleoceanography* 38(10), e2022PA004508. <https://doi.org/10.1029/2022PA004508>
- Abell, J.T., Winckler, G., Pullen, A., Kinsley, C.\*, Kapp, P., Middleton, J., Pavia, F., McGee, D., Ford, H., Raymo, M., 2023. **Evaluating the drivers of Quaternary dust fluxes to the western North Pacific: East Asian dustiness and Northern Hemisphere gustiness.** *Paleoceanography & Paleoceanography* 38(9), e2022PA004571. <https://doi.org/10.1029/2022PA004571>

- Wolf, A., Ersek, V., Braun, T., French, A., McGee, D., Bernasconi, S., Skiba, V., Griffiths, M.L., Johnson, K.R., Fohlmeister, J., Breitenbach, S.F.M., Pausata, F.S.R., Tabor, C., Longman, J., Roberts, W.H.G., Chandan, D., Peltier, W.R., Salzmann, U., Limbert, D., Trinh, D.A., 2023. **Deciphering local and regional hydroclimate resolves contradicting evidence on the Asian monsoon evolution.** *Nature Communications* 14, 5697. <https://doi.org/10.1038/s41467-023-41373-9>
- Patterson, E.W., Johnson, K.R., Griffiths, M.L., Kinsley, C.W.\*, McGee, D., Du, X., Pico, T., Wolf, A., Ersek, V., Mortlock, R.A., Yamoah, K.A., Bui, T., Xuan, M.T., Đỗ-Trọng, Q., Tri, V.V., Tri, D., 2023. **Glacial changes in sea level modulated millennial-scale variability of the Southeast Asian autumn monsoon.** *Proceedings of the National Academy of Sciences* 120(27), e2219489120. <https://doi.org/10.1073/pnas.2219489120>
- Fendrock, M.\*, Condrón, A., McGee, D., 2023. **Modeling the Production of Heinrich Layers with a Sediment-Enabled Iceberg Model.** *Paleoceanography & Paleoclimatology* 38, e2022PA004583. <https://doi.org/10.1029/2022PA004583>
- Wright, K., Johnson, K.R., Serrato Marks, G.\*, McGee, D., Bhattacharya, T., Goldsmith, G.R., Tabor, C.R., Lacaille-Muzquiz, J.-L., Lum, G., Beramendi-Orosco, L., 2023. **Dynamic and thermodynamic influences on precipitation in Northeast Mexico on orbital to millennial timescales.** *Nature Communications* 14, 2279, <https://doi.org/10.1038/s41467-023-37700-9>.
- Stroup, J.S.\*, Olson, K.J., Lowenstein, T.K., Jost, A.B., Mosher, H.M., Peaple, M.D., Feakins, S.J., Chen, C.Y.\*, Lund, S.P., McGee, D., 2023. **A > 200 ka U-Th based chronology from lacustrine evaporites, Searles Lake, CA.** *Geochemistry, Geophysics, Geosystems* 24, e2022GC010685. <https://doi.org/10.1029/2022GC010685>
- Pedone, V., Oviatt, C.G., McGee, D., 2023. **Late Quaternary carbonate microbialite complex on the west shore of Great Salt Lake, Utah, USA.** *Journal of Quaternary Science* 38 (3), 319-332.
- Scroton, N.\*, Burns, S.J., McGee, D., Godfrey, L.R., Ranivoharimanana, L., Faina, P., Tiger, B.H.\*, 2023. **Hydroclimate variability in the Madagascar and Southeast African summer monsoons at the Mid- to Late-Holocene transition.** *Quaternary Science Reviews* 300, 107874. <https://doi.org/10.1016/j.quascirev.2022.107874>.
- Scroton, N.\*, Burns, S.J., McGee, D., Godfrey, L.R., Ranivoharimanana, L., Faina, P., Tiger, B.H.\*, 2023. **Tropical Indian Ocean basin hydroclimate at the Mid- to Late-Holocene transition and the double drying hypothesis.** *Quaternary Science Reviews* 300, 107837. <https://doi.org/10.1016/j.quascirev.2022.107837>.
- Peaple, M.D., Bhattacharya, T., Lowenstein, T.K., McGee, D., Olson, K.J., Stroup, J.S.\*, Tierney, J.E., Feakins, S.J., 2022. **Biomarker and pollen evidence for Late Pleistocene pluvials in the Mojave Desert.** *Paleoceanography & Paleoclimatology* 37(10), <https://doi.org/10.1029/2022PA004471>.
- Wright, K.T., Johnson, K.R., Bhattacharya, T., Serrato Marks, G.\*, McGee, D., Elsbury, D., Peings, Y., Lacaille-Muzquiz, J.-L., Lum, G., Beramendi-Orosco, L., Magnusdottir, G., 2022. **Precipitation in Northeast Mexico primarily controlled by the relative warming of Atlantic SSTs.** *Geophysical Research Letters* 49(22), <https://doi.org/10.1029/2022GL098186>.
- Fendrock, M.\*, Condrón, A., McGee, D., 2022. **Modeling iceberg longevity and distribution during Heinrich Events.** *Paleoceanography & Paleoclimatology* 37(6), <https://doi.org/10.1029/2021PA004347>.

- Fendrock, M.\*, Chen, C.Y.\*, Olson, K., Lowenstein, T.L., McGee, D., 2022. **A computer vision algorithm for interpreting lacustrine carbonate textures at Searles Valley, USA.** *Computers and Geosciences* 166, <https://doi.org/10.1016/j.cageo.2022.105142>.
- O'Mara, N.A., Skonieczny, C.\*, McGee, D., Winckler, G., Malaizé, B., Bory, A.J.-M., Bradtmiller, L.I., Polissar, P.J., 2022. **Past and future drivers of Northwest African climate and vegetation.** *Nature Communications* 13, <https://doi.org/10.1038/s41467-022-31120-x>.
- Rodbell, D., Hatfield, R.G., Abbot, M., Chen, C.Y.\*, Woods, A., Stoner, J.S., McGee, D., et al., 2022. **A 700,000-year record of northern high latitude forcing of glaciation in the tropical Andes.** *Nature* 607, 301-306, <https://doi.org/10.1038/s41586-022-04873-0>.
- Medina, M., Perritano, S., DeCesare, M. Polanco-Martinez, J., Serrato Marks, G.\*, McGee, D., 2022. **Holocene hydroclimate in the Southeastern United States during abrupt climate events: evidence from new speleothem isotopic records.** *Paleoceanography and Paleoclimatology* 37, e2021PA004346.
- Kinsley\*, C., Bradtmiller, L.I., McGee, D., Galgay, M., Stuut, J.-B., Tjallingii, R., Winckler, G., deMenocal, P.B., 2022. **Orbital- and millennial-scale variability in northwest African dust emissions over the past 67,000 years.** *Paleoceanography and Paleoclimatology* 37, e2020PA004137.
- Burns, S.J., McGee, D., Scroxton\*, N., Kinsley\*, C.W., Godfrey, L.R., Faina, P., Ranivoharimanana, L., 2021. **Southern Hemisphere controls on pluvial periods in southwest Madagascar over the past 117,000 years.** *Quaternary Science Reviews* 276, 107317.
- Huth, T., Passey, B.H., Cole, J.E., Lachniet, M.S., McGee, D., Denniston, R.F., Truebe, S., Levin, N.E., 2021. **A framework for triple oxygen isotopes in speleothem paleoclimatology.** *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2021.11.002.
- Faina, P., Burns, S.J., Godfrey, L.R., Crowley, B.E., Scroxton\*, N., McGee, D., Sutherland, M.R., Ranivoharimanana, L., 2021. **Comparing the paleoclimates of northwestern and southwestern Madagascar during the late Holocene: Implications for the role of climate in megafaunal extinction.** *Malagasy Nature* 15, 108-127.
- Brovkin, V., et al., 2021 **Past abrupt changes, tipping points and cascading impacts in coupled climate-ecological-social systems: Lessons for the future.** *Nature Geoscience* 14, 550-558.
- Serrato Marks\*, G., Medina-Elizalde, M., Burns, S., Weldeab, S., Lases-Hernandez, F., Cazares, G., McGee, D., 2021. **Evidence for reduced precipitation variability in the Yucatán Peninsula during the mid-Holocene.** *Paleoceanography and Paleoclimatology* 36, e2021PA004219.
- People, M., Tierney, J., Bhattacharya, T., Lowenstein, T.L., McGee, D., Feakins, S., 2021. **Reconstructing vegetation during the last glacial period from Southern California using machine learning.** *Organic Geochemistry* 156, 104222, doi:10.1016/j.orggeochem.2021.104222.
- Biller-Celander, N., Shakun, J., McGee, D., Wong, C.I., Reyes, A.V., Hardt\*, B., Tal\*, I., Ford, D., Lauriol, B., 2021. **Increasing Pleistocene permafrost stability and carbon cycle conundrums inferred from Canadian speleothems.** *Science Advances* 7, eabe5799.
- Munroe, J., Kimble, K., Spötl, C., Serrato Marks\*, G., McGee, D., Herron, D., 2021. **Winter Wonderland Cave, Utah, USA: A natural laboratory for the study of cryogenic cave carbonate and thawing permafrost.** *Scientific Reports* 11, 6430, doi:10.1038/s41598-021-85658-9.

- Rowland, G.H., Robinson, L.F., Hendry, K.R., Ng, H.C., McGee, D., McManus, J.F., 2021. **The spatial distribution of aeolian dust and terrigenous fluxes in the tropical Atlantic Ocean since the Last Glacial Maximum.** *Paleoceanography and Paleoclimatology* 36(2), doi:10.1029/2020PA004148.
- Akam, S., Lyons, T.W., Coffin, R.B., McGee, D., Naehr, T.H., Bates, S.M., Clarkson, C., Reese, B.K., 2021. **Carbon-sulfur signals of methane versus crude oil diagenetic decomposition and U-Th age relationships for authigenic carbonates from asphalt seeps, southern Gulf of Mexico.** *Chemical Geology* 581, 120395.
- Yuan, T., Yu, H., Chin, M., Remer, L.A., McGee, D., Evan, A., 2020. **Anthropogenic decline of African dust: Insights from the Holocene records and beyond.** *Geophysical Research Letters* 47 (22), doi:10.1029/2020GL089711.
- Woods, A., Rodbell, D.T., Abbott, M.B., Hatfield, R.G., Chen, C.Y.\*, Lehmann, S.B., McGee, D., Weidhaas, N.C., Tapia, P.M., Valero-Garces, B.L., Bush, M.B., Stoner, J.S., 2020. **Andean drought and glacial retreat tied to Greenland warming during the last glacial period.** *Nature Communications* 11, 5135.
- Chen, C.Y.\*, McGee, D., Woods, A., Pérez, L., Hatfield, R.G., Edwards, R.L., Cheng, H., Valero-Garcés, B.L., Lehmann, S.B., Stoner, J.S., Schwalb, A., Tal\*, I., Seltzer, G.O., Tapia, P.M., Abbott, M.B., Rodbell, D.T., 2020. **U-Th dating of lake sediments: Lessons from the 700 kyr sediment record of Lake Junín, Peru.** *Quaternary Science Reviews* 244, 106422.
- Pico, T., McGee, D., Russell, J., Mitrovica, J.X., 2020. **Recent constraints on MIS 3 sea level support role of continental shelf exposure as a control on Indo-Pacific hydroclimate.** *Paleoceanography and Paleoclimatology* 35(8), doi:10.1029/2020PA003998.
- Hatfield, R.G., Stoner, J. S., Solada, K. E., Morey, A. E., Woods, A., Chen, C. Y.\*, McGee, D., Abbott, M.B. and Rodbell, D. T., 2020. **Paleomagnetic constraint of the Brunhes age sedimentary record from Lake Junín, Peru.** *Frontiers in Earth Science* 8.
- Costa, K.M., Hayes, C.M., Anderson, R.F., et al., 2020. **<sup>230</sup>Th normalization: New insights on an essential tool for quantifying sedimentary fluxes in the modern and Quaternary ocean.** *Paleoceanography and Paleoclimatology* 35(2), doi:10.1029/2019PA003820.
- McGee, D., 2020. **Glacial-interglacial precipitation changes.** *Annual Review of Marine Science* 12, 525-557.
- Bice, D., Lacroce, M., McGee, D., Montanari, A., 2019. **Late Pleistocene tectonic tilting of the Frasassi anticline from offset stalagmites in the Grotta Grande del Vento (Marche, Italy).** GSA Special Paper 542, doi: 10.1130/2019.2542(25).
- Tissot\*, F.L.H., Ibanez-Mejia, M., Boehnke, P., Dauphas, N., McGee, D., Grove, T.L., Harrison, T.M., 2019. **<sup>238</sup>U/<sup>235</sup>U measurement in single-zircon crystals: Implications for the Hadean environment, magmatic differentiation and geochronology.** *Journal of Analytical Atomic Spectrometry*, 34, 2035-2052.
- Ward, B.M., Wong, C., Novello, V., McGee, D., Silva, L., Santos, R.V., Wang, X., Edwards, R.L., Cheng, H., 2019. **Reconstruction of Holocene coupling between the South American Monsoon System and local moisture variability from speleothem  $\delta^{18}\text{O}$  and  $^{87}\text{Sr}/^{86}\text{Sr}$  records.** *Quaternary Science Reviews* 210, 51-63, doi: 10.1016/j.quascirev.2019.02.019

- Godfrey, L.R., Scroxton\*, N., Crowley, B.E., Burns, S.J., Sutherland, M.R., Pérez, V.R., Faina, P., McGee, D., Ranivoharimanana, L., 2019. **A new interpretation of Madagascar's megafaunal decline: the "Subsistence Shift Hypothesis."** *Journal of Human Evolution* 130, 126-140.
- Anderson, C.H., Murray, R.W., Dunlea, A.G., Giosan, L., Kinsley\*, C.W., McGee, D., Tada, R., 2019. **Eolian delivery to Ulleung Basin, Korea (Japan Sea) during development of the East Asian Monsoon through the last 12 Ma.** *Geological Magazine*, 1-12, doi: 10.1017/S001675681900013X.
- Scroxton\*, N., Burns, S., McGee, D., Hardt\*, B., Godfrey, L.R., Ranivoharimanana, L., Faina, P., 2019. **Competing temperature and atmospheric circulation effects on southwest Madagascan rainfall during the last deglaciation.** *Paleoceanography and Paleoclimatology* 34, doi: 10.1029/2018PA003466.
- Skonieczny\*, C., McGee, D., Winckler, G., Bory, A., Bradtmiller, L.I., Kinsley\*, C.W., Polissar, P.J., De Pol-Holz, R., Rossignol, L., Malaizé, B., 2019. **Monsoon-driven Saharan dust variability over the last 240,000 years.** *Science Advances* 5, doi: 10.1126/sciadv.aav1887.
- McGee, D., Moreno-Chamarro, E., Marshall, J., Galbraith, E.D., 2018. **Western U.S. lake expansions during Heinrich stadials linked to Pacific Hadley circulation.** *Science Advances* 4, doi: 10.1126/sciadv.aav0118.
- McGee, D., 2018. **Shifting summer rains (Perspective).** *Science* 342, 518-520.
- Ferreira, D., Marshall, J., Ito, T., McGee, D., 2018. **Linking glacial-interglacial cycles to multiple equilibria of climate.** *Geophysical Research Letters* 45, doi: 10.1029/2018GL077019.
- Anderson, C.H., Murray, R.W., Dunlea, A.G., Giosan, L., Kinsley\*, C.W., McGee, D., Tada, R., 2018. **Climatically driven changes in the supply of terrigenous sediment to the East China Sea.** *Geochemistry, Geophysics, Geosystems* 19, doi: 10.1029/2017GC007339.
- Scroxton\*, N., Burns, S.J., Dawson P.A., Rhodes, J.M., Brent\*, K., McGee, D., Heijnis, H., Gadd, P., Hantoro, W.S., Gagan, M.K., 2018. **Rapid measurement of strontium in speleothems using core-scanning micro x-ray fluorescence.** *Chemical Geology* 487, 12-22.
- Omta, A.W., Ferrari, R., McGee, D., 2018. **An analytical framework for the impact of carbonate compensation on atmospheric CO<sub>2</sub>.** *Global Biogeochemical Cycles* 32, 720-735.
- McGee, D., Moreno-Chamarro, E., Green, B., Marshall, J., Galbraith, E., Bradtmiller, L., 2018. **Hemispherically asymmetric trade wind changes as signatures of past ITCZ shifts.** *Quaternary Science Reviews* 180, 214-228.
- McGee, D., deMenocal, P.B., 2017. **Climatic changes and cultural responses during the African Humid Period recorded in multi-proxy data.** *Oxford Research Encyclopedia of Climate Science*, Oxford University Press, doi:10.1093/acrefore/9780190228620.013.529.
- Rowland, G.H., Ng, H.C., Robinson, L.F., McManus, J.F., Mohamed, K.J., McGee, D., 2017. **Investigating the use of <sup>232</sup>Th/<sup>230</sup>Th as a dust proxy using co-located seawater and sediment samples from the low-latitude North Atlantic.** *Geochimica et Cosmochimica Acta* 214, 143-156.
- Scroxton\*, N., Burns, S.J., McGee, D., Hardt\*, B., Godfrey, L., Ranivoharimanana, L., Faina, P., 2017. **Hemispherically in-phase precipitation variability over the last 1700 years in a Madagascar speleothem record.** *Quaternary Science Reviews* 164, 25-36.
- Wortham, B.E., Wong, C.I., Silva, L.C.R., McGee, D., Montañez, I.P., Rasbury, E.T., Cooper, K.M., Sharp, W.D., Glessner, J.G., 2017. **Assessing response of local moisture conditions in central**

- Brazil to regional variability in monsoon intensity using speleothem  $^{87}\text{Sr}/^{86}\text{Sr}$  values.** *Earth and Planetary Science Letters* 463, 310-322.
- Hayes\*, C.T., Rosen\*, J., McGee, D., Boyle, E.A., 2017. **Thorium distributions in high and low dust regions and the significance for iron supply.** *Global Biogeochemical Cycles* 31, doi:10.1002/2016GB005511.
- Williams\*, R.H., McGee, D., Ridley, D.A., Kinsley\*, C.W., Hu, S., Fedorov, A., Tal\*, I., Murray, R., deMenocal, P.B., 2016. **Glacial to Holocene changes in trans-Atlantic Saharan dust transport and dust-climate feedbacks.** *Science Advances* 2, doi:10.1126/sciadv.1600445.
- Hayes\*, C.T., McGee, D., Boyle, E.A., Mukhopadhyay, S., Maloof, A.C., 2016. **Helium and thorium isotope constraints on African dust transport to the Bahamas over recent millennia.** *Earth and Planetary Science Letters* 457, 385-394.
- Albani, S., Mahowald, N.M., Murphy, L.N., Raiswell, R., Moore, J.K., Anderson, R.F., McGee, D., Bradtmiller, L.I., Delmonte, B., Hesse, P.P., Mayewski, P.A., 2016. **Paleodust variability since the Last Glacial Maximum and implications for iron inputs to the ocean.** *Geophysical Research Letters* 43, doi:10.1002/2016GL067911.
- Burns, S.J., Godfrey, L.R., Faina, P., McGee, D., Hardt\*, B., Ranivoharimanana, L., Randrianasy, J., 2016. **Rapid human-induced landscape transformation in Madagascar at the end of the first millennium CE.** *Quaternary Science Reviews* 134, 92-99.
- Bradtmiller, L.I., McGee, D., Awalt, M., Evers, J., Yerxa, H., Kinsley\*, C.W., deMenocal, P.B., 2016. **Changes in biological productivity along the northwest African margin over the past 20,000 years.** *Paleoceanography* 31, doi:10.1002/2015PA002862.
- McGee, D., Winckler, G., Borunda, A., Serno, S., Anderson, R.F., Recasens, C., Bory, A., Gaiero, D., Jaccard, S.L., Kaplan, M., McManus, J.F., Revel, M., Sun, Y., 2016. **Tracking eolian dust with helium and thorium: Impacts of grain size and provenance.** *Geochimica et Cosmochimica Acta* 175, 47-67.
- Hayes\*, C.T., Fitzsimmons, J.N., Boyle, E.A., McGee, D., Anderson, R.F., Weisend, R., Morton, P.L., 2015. **Thorium isotopes tracing the iron cycle at the Hawaii Ocean Time-series station ALOHA.** *Geochimica et Cosmochimica Acta* 169, 1-16.
- Cross, M., McGee, D., Broecker, W.S., Quade, J., Shakun, J.D., Cheng, H., Lu, Y., Edwards, R.L., 2015. **Great Basin hydrology, paleoclimate, and connections with the North Atlantic: A speleothem stable isotope and trace element record from Lehman Caves, NV.** *Quaternary Science Reviews* 127, 186-198.
- Steponaitis\*, E., Andrews\*, A., McGee, D., Quade, J., Broecker, W.S., Hsieh\*, Y.-T., Shuman, B., Burns, S.J., Cheng, H., 2015. **Mid-Holocene drying of the U.S. Great Basin recorded in Nevada speleothems.** *Quaternary Science Reviews* 127, 174-185.
- Albani, S., Mahowald, N.M., Winckler, G., Anderson, R.F., Bradtmiller, L.I., et al., 2015. **12,000 years of dust: The Holocene global dust cycle constrained by natural archives.** *Climate of the Past* 11, 869-903.
- Donohoe, A., Marshall, J., Armour, K., Ferreira, D., McGee, D., 2014. **The inter-annual variability of tropical precipitation and inter-hemispheric energy transport.** *Journal of Climate* 27, 3377-3392.

- McGee, D., Donohoe, A., Marshall, J., Ferreira, D., 2014. **Changes in ITCZ location and cross-equatorial heat transport at the Last Glacial Maximum, Heinrich Stadial 1, and the Mid-Holocene.** *Earth and Planetary Science Letters* 390, 69-79.
- Serno, S., Winckler, G., Anderson, R.F., Hayes, C.T., McGee, D., Machalett, B., Ren, H., Straub, S.M., Gersonde, R., Haug, G.H., 2014. **Eolian dust input to the Subarctic North Pacific.** *Earth and Planetary Science Letters*, 387, 252-263.
- Marshall, J., Donohoe, A., Ferreira, D., McGee, D., 2014. **The ocean's role in setting the mean position of the Inter-Tropical Convergence Zone.** *Climate Dynamics* 42, 1967-1979.
- Donohoe, A., Marshall, J., Ferreira, D., McGee, D., 2013. **The relationship between ITCZ location and cross equatorial heat transport: From the seasonal cycle to the Last Glacial Maximum.** *Journal of Climate*, 26, 3597-3618.
- McGee, D., deMenocal, P.B., Winckler, G., Stuut, J.-B., Bradtmiller, L.I., 2013. **The magnitude, timing and abruptness of changes in North African dust deposition over the last 20,000 years.** *Earth and Planetary Science Letters*, 371-372, 163-176.
- Broecker, W.S., McGee, D., 2013. **The  $\delta^{13}\text{C}$  record for atmospheric  $\text{CO}_2$ : What is it trying to tell us?** *Earth and Planetary Science Letters*, 368, 175-182.
- McGee, D., Mukhopadhyay, S., 2013. **Extraterrestrial He in sediments: From recorder of asteroid collisions to timekeeper of global environmental changes.** In: P. Burnard (Ed.), *The Noble Gases as Geochemical Tracers*. Berlin: Springer-Verlag, p. 155-176.
- McGee, D., Quade, J., Edwards, R.L., Broecker, W.S., Cheng, H., Reiners, P.W., Evenson, N., 2012. **Lacustrine cave carbonates: Novel archives of paleohydrologic change in the Bonneville Basin (Utah, USA).** *Earth and Planetary Science Letters* 351-352, 182-194.
- McGee, D., Marcantonio, F., McManus, J.F., Winckler, G., 2010. **The response of excess  $^{230}\text{Th}$  and extraterrestrial  $^3\text{He}$  to sediment redistribution at the Blake Ridge, western North Atlantic.** *Earth and Planetary Science Letters* 299, 138-149.
- McGee, D., Broecker, W.S., Winckler, G., 2010. **Gustiness: the driver of glacial dustiness?** *Quaternary Science Reviews* 29, 2340-2350.
- Broecker, W.S., McGee, D., Adams, K.D., Cheng, H., Edwards, R.L., Oviatt, C.G., Quade, J., 2009. **A Great Basin-wide dry episode during the first half of the Mystery Interval?** *Quaternary Science Reviews* 28, 2557-2563.
- Marcantonio, F., Thomas, D.J., Woodward, S., McGee, D., Winckler, G., 2009. **Extraterrestrial  $^3\text{He}$  in Paleocene sediments from Shatsky Rise: constraints on sedimentation rate variability.** *Earth and Planetary Science Letters* 287, 24-30.
- Winckler, G., Anderson, R.F., Fleisher, M.Q., McGee, D., Mahowald, N., 2008. **Covariant glacial-interglacial dust fluxes in the equatorial Pacific and Antarctica.** *Science* 320, 93-96.
- Siddall, M., Anderson, R.F., Winckler, G., Henderson, G.M., Bradtmiller, L.I., McGee, D., Franzese, A., Stocker, T.F., Müller, S.A., 2008. **Modeling the particle flux effect on distribution of  $^{230}\text{Th}$  in the equatorial Pacific.** *Paleoceanography* 23, doi:10.1029/2007PA001556.
- McGee, D., Marcantonio, F., Lynch-Stieglitz, J., 2007. **Deglacial changes in dust flux in the eastern equatorial Pacific.** *Earth and Planetary Science Letters* 257, 215-230.



**Undergraduate Student Research Supervision**

>30 undergraduate researchers supervised

**Graduate Students Advised (with current positions)**

Madison Wittmer, MIT, 2022-

Benjamin Tiger, MIT-WHOI Joint Program, 2020-

Michaela Fendrock, MIT-WHOI Joint Program, 2017-2022; Assistant Professor, Alfred University

Gabriela Serrato Marks, MIT-WHOI Joint Program, 2015-2020; Partner at Stellate Communications (science communications)

Christine Chen, MIT-WHOI Joint Program, 2013-2019; Research Scientist, Lawrence Livermore National Laboratory

Christopher Kinsley, MIT-WHOI Joint Program, 2012-2019; Postdoctoral Researcher at Berkeley Geochronology Center

Elena Steponaitis, MIT, 2012-2015; Research Scientist, NASA Earth Systems Division

**Postdoctoral Researchers Advised (with current positions)**

Cameron Batchelor, 2022-2024, Wisconsin Department of Natural Resources

Nicholas Scroxton, joint with UMass, 2015-2019, Lecturer, Maynooth University

Francois Tissot, 2016-2018, Assistant Professor, California Institute of Technology

Justin Stroup, 2016-2017, Assistant Professor, SUNY-Oswego; Visiting Scholar, Dartmouth College

Charlotte Skonieczny, 2016, Associate Professor, Université Paris-Saclay, France

Benjamin Hardt, 2014-2015, Secondary school teacher

Christopher Hayes, 2013-2015, Associate Professor, U. Southern Mississippi

Yu-Te Alan Hsieh, 2012-2013, Assistant Professor, National Taiwan University

**Field Experience**

Bonneville Basin, Utah: Lake deposit and cave sampling, total 10 weeks, 2008-2013

Central Andes, Chile: Lake shoreline mapping and sampling, 2 weeks, 2015

Northern and Central Vietnam caves: Reconnaissance and stalagmite sampling, 4 weeks, 2014-2016

Searles and Death Valleys, California: Drilling and shoreline sampling, 5 weeks, 2017-2020

Nahanni National Park Reserve, Northwest Territories: Cave sampling, 1 week, 2019

Great Basin National Park, Nevada: cave sampling, 1 week, 2023

**Professional Activities and Awards**

- William R. Kenan, Jr. Professorship, 2024-
- AGES geochronology program Steering Committee, 2024-
- MIT Morningside Academy of Design Faculty Steering Committee, 2024-
- MIT School of Science Teaching Prize for Undergraduate Education, 2023
- MIT Campus Preview Weekend keynote, 2023; Tech Day speaker 2016, 2024; Phi Beta Kappa keynote, 2024
- MIT Climate Nucleus Climate Education Working Group Co-Chair, 2022-2024; Co-organizer of MIT Symposium for Advancing Climate Education, April 2023
- Associate Department Head for Diversity, Equity and Inclusion, 2020-present; Chair of departmental Diversity, Equity and Inclusion Committee
- Director, MIT Terrascope Learning Community, 2015-present; program engages ~50 first-year students each year in exploring environmental challenges through project-based classes; led six spring break trips examining sustainable agriculture in southwestern U.S./Navajo Nation, urban sustainability in Mexico City, climate change adaptation in the Netherlands, and other topics (terrascope.mit.edu)

- MacVicar Faculty Fellow, 2022, for outstanding contributions to undergraduate education
- Ad Hoc Committee for Leveraging Best Practices from Remote Teaching for On-Campus Education, 2021-2022
- MIT Climate and Sustainability Consortium Faculty Steering Committee, 2020-present
- MIT Festival of Learning panelist, 2020
- MIT Sustainability Leadership Steering Committee Co-Chair, 2019-2020
- MIT Environmental Solutions Initiative and MIT Environment and Sustainability Minor Faculty Advisory Boards, 2019-present
- Co-organizer of Lorenz Center Workshop on “Water and Climate Change: Connecting the Paleoclimate Record to Future Changes”, June 2018
- NOAA Climate and Global Change Postdoctoral Fellowship Program Steering Committee, 2014-2017; Chair, 2016-2017
- Regular outreach talks to community groups; paleoclimate-related outreach at Cambridge Science Festival, 2016-present
- MIT first-year advisor, Fall 2012-present; Excellence in Mentoring Award, 2018