

Jessica L. Conroy

CURRICULUM VITAE

Department of Earth Science & Environmental Change
 University of Illinois at Urbana-Champaign
 3030 Natural History Building
 1301 West Green Street
 Urbana, IL 61801
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ACADEMIC APPOINTMENTS & LEADERSHIP

2026–present Department Head
 Earth Science & Environmental Change, University of Illinois at Urbana-Champaign

2025–present Professor
 Earth Science & Environmental Change, University of Illinois at Urbana-Champaign

2020–2025 Associate Professor
 Geology, University of Illinois at Urbana-Champaign

2013–2020 Assistant Professor
 Geology, University of Illinois at Urbana-Champaign

2011–2013 NSF Postdoctoral Fellow
 Earth and Atmospheric Sciences, Georgia Institute of Technology

EDUCATION

2011 Doctor of Philosophy, The University of Arizona
 Major: Geosciences
 Minor: Global Change

2006 Master of Science, The University of Arizona
 Major: Geosciences

2003 Bachelor of Arts, *summa cum laude*, The College of Wooster
 Major: Geology (with Honors)
 Minor: Classical Studies

HONORS & AWARDS

2015, 2017, 2018, 2020, 2022–2025 List of Teachers Ranked as Excellent, UIUC

2023 Arnold O. Beckman Award, UIUC Campus Research Board

2020 Campus Distinguished Promotion Award

2019 NSF CAREER award

2017 Kavli Frontiers of Science Fellow, National Academy of Sciences

2013 Arnold O. Beckman Award, UIUC Campus Research Board

2011–2013 NSF Postdoctoral Fellow

2007–2008 NSF IGERT Fellow

2003–2006 NSF Graduate Research Fellow

2002 Phi Beta Kappa

PEER-REVIEWED PUBLICATIONS

¹ Graduate student advised by Conroy; ² Undergraduate student advised by Conroy

ACCEPTED / IN PRESS

1. Cole, J.E., Thompson, D.M., Dyez, K.A., Tripp, C.J., Tudhope, A.W., Lofverstrom, M., Stevenson, S., Okun, J.M., Lawman, A.E., **Conroy, J.L.**, Jimenez, G., Edwards, R.L. Recent intensification of eastern Pacific ENSO is unprecedented across the last millennium. *Science* (accepted)

IN REVIEW

2. ¹Lusk, S. **Conroy, J.L.**, Curry, B.B., Smith, K., and Gonzalez, N. Common Era Central Pacific Climate Variability and Emerging Anthropogenic Signals. In revision for *Nature Communications Earth & Environment*
3. **Conroy, J.L.**, ²Rank, S., ¹Murray, N.K., Colin, P., Stevenson, S., Cobb, K.M. Marine boundary layer vapor and precipitation stable isotopes in the western Pacific Warm Pool during the 2023-24 El Niño. In review at *Journal of Geophysical Research-Atmospheres*

PUBLISHED

4. Hlohowskyj, S.R., Thompson, D., Gowrisankaran, S., Lofverstrom, M., **Conroy, J.L.**, Sainudeen, A.B., Rodbell, D.T., Bush, M. 2026. El Niño events recorded by redox sensitive trace elements in sedimentary records from Genovesa Lake, Galápagos. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2026.181743>
5. Grimley, D.A., and **Conroy, J.L.** 2026. Last Glacial Maximum Summer Temperature Gradients from Terrestrial Gastropod Assemblages in Peoria Silt (loess), Midcontinent USA. *Quaternary Science Reviews*. <https://doi.org/10.1016/j.quascirev.2026.109934>
6. Mukhopadhyay, S., Pandey, P., Sukumaran, P., Phartiyal, B., Verma, S., Vyas, V., Naidoo, N., Binani, A., **Conroy, J.L.**, Chauhan, P.R., 2025. Late Quaternary fluvio-aeolian interactions and possible aridification in west-central India: Implications for prehistoric human adaptations in the Central Tapi Valley. *Quaternary International*. 739, 109878.
7. ¹Wallin, A.M., **Conroy, J.L.**, Ford, T., Atkins, J., Karamperidou, C. 2025. Recent wind stilling and variability in Illinois. *Journal of Applied Meteorology and Climatology*. 64(10):1447-1465. <https://doi.org/10.1175/JAMC-D-24-0250.1>
8. ¹Wyman-Feravich, D.A., **Conroy, J.L.**, ¹Lusk, S., He, R., Ingalls, M. 2025. Anomalously cool clumped isotope temperatures in tropical lagoon carbonates. *The Depositional Record*. <https://doi.org/10.1002/dep2.70024>
9. ¹Murray, N.K., **Conroy, J.L.**, Colin, P., Cobb, K.M., Noone, D.C. 2025. The temporal seawater $\delta^{18}\text{O}$ response to hydroclimate in the Western Pacific Warm Pool. *Geophysical Research Letters*. <https://doi.org/10.1029/2024GL113366>
10. **Conroy, J.L.**, Karamperidou, C.K., Grimley, D.A. 2025. Near-surface winds at the southern Laurentide ice margin through the last deglaciation. *Quaternary Research*. <https://doi.org/10.1017/qua.2024.62>
11. Bailey, A., Noone, D., Dee, S., Nusbaumer, J., **Conroy, J.L.**, Stevenson, S., Atwood, A. 2025. Toward a process-oriented understanding of water in the climate system: recent insights from stable isotopes. *Environmental Research: Climate*. 4 <https://doi.org/10.1088/2752-5295/ada17b>
12. ¹Dendy, S.N., Guenther, W.R., Grimley, D.A., **Conroy, J.L.** 2024. Quantifying Pleistocene loess provenance in midcontinental North America using a mixing model: implications for glacial lobe evolution along the southern Laurentide Ice Sheet. *Geosphere*. <https://doi.org/10.1130/GES02770.1>
13. Grimley, D.A., Loope, H., Jacobs, P., Nash, A., ¹Dendy, S., **Conroy, J.L.** 2024. Updated chronology for Peoria Silt (loess) accumulation in Illinois and western Indiana from radiocarbon dating of terrestrial gastropod shells. *Quaternary Research*. 1-19. <https://doi.org/10.1017/qua.2024.15>

14. Konecky, B.L., McKay, N.P., Falster, G.M., Stevenson, S.L., Fischer, M.J., Atwood, A.R., Thompson, D.M., Jones, M.D., Tyler, J.J., DeLong, K.L., Martrat, B., Thomas, E.K., **Conroy, J.L.**, Dee, S.G., Jonkers, L., Churakova, O.V., Kern, Z., Opel, T., Porter, T.J., Sayani, H.R., Skrzypek, G., and Iso2k Project Members. 2023. Temperature-driven changes in the global water cycle during the past two millennia, *Nature Geoscience*. 16, 997-1004. <https://doi.org/10.1038/s41561-023-01291-3>
15. ¹Murray, N.K., Muñoz, A.R., **Conroy, J.L.**, 2023. Machine learning solutions to regional surface ocean $\delta^{18}\text{O}$ - salinity relationships for paleoclimatic reconstruction. *Paleoclimatology and Paleoceanography*. 38, e2023PA004612. <https://doi.org/10.1029/2023PA004612>
16. ¹Murray, N. K., **Conroy, J.L.**, ²O'Brien, K., Grimm, E.C., Donovan, J.J. 2023. Holocene relationships between climate, waterfowl, and lacustrine nutrient cycling at Kettle Lake, North Dakota, USA, *The Holocene*. 33(9). <https://doi.org/10.1177/095968362311764>
17. ¹Chen, M., **Conroy, J.L.**, Sanford, R., ¹Wyman, D.A., Chee-Sanford, J.C., Connor, L.M. 2023. Tropical lacustrine sediment microbial community response to an extreme El Niño event, *Scientific Reports*. 13, 6868. <https://doi.org/10.1038/s41598-023-33280-2>
18. Dee, S. G., A. Bailey, **J.L.Conroy**, A. Atwood, S. Stevenson, J. Nusbaumer, and D. Noone. 2023. Water isotopes, climate variability, and the hydrological cycle: recent advances and new frontiers. *Environmental Research: Climate*. 2. <https://doi.org/10.1088/2752-5295/acbbe1>.
19. **Conroy, J.L.**, ¹Murray, N. K., ²Patterson, G.S., Schore, A.I.G., Ikuru, I., Cole, J.E., Chillagana, D., Echeverria, F. 2023. Equatorial Undercurrent influence on seawater $\delta^{18}\text{O}$ values in the Galápagos. *Geophysical Research Letters*. 50, e2022GL102074. <https://doi.org/10.1029/2022GL102074>
20. Thompson, D.M., **Conroy, J.L.**, Stevenson, S., DeLong, K., Konecky, B., Dassié, E. 2022. Salinity information in coral $\delta^{18}\text{O}$ records. *Geophysical Research Letters*. <https://doi.org/10.1029/2021GL096153>
21. ¹Chen, M., **Conroy, J.L.**, Geyman, E.C., Sanford, R., Chee-Sanford, J.C., Connor, L.M., 2022. Stable carbon isotope values of syndeositional carbonate spherules and micrite record spatial and temporal changes in photosynthesis intensity, *Geobiology*. 20(5):667-689
22. Bush, M.B, Conrad, S., Restrepo, A., Thompson, D.M., Lofverstrom, M., **Conroy, J.L.** 2022. Human-induced ecological cascades: extinction, restoration, and rewilding in the Galápagos highlands. *Proceedings of the National Academy of Sciences*. 119(24): e2203752119
23. ¹Dendy, S.N., Guenther, W.R., Grimley, D.A., **Conroy, J.L.**, Counts, R.C. 2021. Detrital zircon geochronology and provenance of Pleistocene loess and contributing glacial sources, Midcontinental USA, *Quaternary Science Reviews*. 273(6): 107201 <https://doi.org/10.1016/j.quascirev.2021.107201>
24. ¹Wyman, D.A., **Conroy, J.L.**, Osburn, M.R., Atwood, A.R. 2021. Coeval drying across the central tropical Pacific over the last millennium, *Paleoceanography and Paleoclimatology*. <https://doi.org/10.1029/2021PA004311>
25. ¹Chen, M., **Conroy, J.L.**, Sanford, R.S., Chee-Sanford, J.C., Connor, L.M. 2021. Interpreting lacustrine bulk sediment 15N values using metagenomics in a tropical hypersaline lake system, *Journal of Paleolimnology*. 65(1): 151-168.
26. ¹Wyman, D.A., **Conroy, J.L.**, and Karamperidou C. 2020. The tropical Pacific ENSO-mean state relationship in climate models over the last millennium. *Journal of Climate*. 33(17):7539-7551 <https://doi.org/10.1175/JCLI-D-19-0673.1>
27. Konecky, B.L., McKay, N.P., Churakova (Sidorova), O.V., Comas-Bru, L., Dassié, E.P., DeLong, K.L., Falster, G.M., Fischer, M.J., Jones, M.D., Jonkers, L., Kaufman, D.S., Leduc, G., Managave, S.R., Martrat, B., Opel, T., Orsi, A. J., Partin, J.W., Sayani, H.R., Thomas, E.K., Thompson, D.M., Tyler, J.J., Abram, N.J., Atwood, A.R., **Conroy, J.L.**, Kern, Z., Porter, T.J., Stevenson, S.L., von Gunten, L., and the Iso2k Project Members. 2020. The Iso2k Database: A global compilation of paleo- $\delta^{18}\text{O}$ and $\delta^2\text{H}$ records to aid understanding of Common Era climate, *Earth System Science Data*. <https://doi.org/10.5194/essd-2020-5>
28. Grimley, D.A., Counts, R., **Conroy, J.L.**, Wang, H., ¹Dendy, S.N., ²Nield, C. 2020. Last glacial maximum ecology and climate from terrestrial gastropod assemblages in Peoria loess, western Kentucky, *Journal of Quaternary Science*. <https://doi.org/10.1002/jqs.3206>

29. Grothe, P.R., Cobb, K.M., Liguori, G., Di Lorenzo, E., Capotondi, A., Lu, Y., Cheng, H., Edwards, R.L., Southon, J.R., Santos, G.M., Deocampo, D.M., Lynch-Stieglitz, J., Chen T., Sayani, H.R., Townsend, K., Hagos, M., O’Conner, G., Thompson, D.M., Toth, L.T., **Conroy, J.L.**, and Moore, A.L. 2020. Enhanced central Pacific El Niño–Southern Oscillation in recent decades. *Geophysical Research Letters*. <https://doi.org/10.1029/2019GL083906>
30. **Conroy, J.L.**, Karamperidou, C., Grimley, D.A., and Guenther, W.R. 2019. Westerly winds across eastern and mid-continental North America during the Last Glacial Maximum: A new data-model assessment, *Quaternary Science Reviews*. 220:14-29.
31. ¹Schmitt, S.J., **Conroy, J.L.**, Flynn, T., Sanford, R., ¹Higley, M.C., and Fouke, B.W. 2019. Salinity, microbe, and carbonate mineral relationships in brackish to hypersaline lake sediments: a case study from the tropical Pacific coral atoll of Kiritimati. *The Depositional Record*. <https://doi.org/10.1002/dep2.71>
32. ¹Higley, M.C., and **Conroy, J.L.** 2019. The hydrological response of surface water on Kiritimati Island, Kiribati to recent climate variability. *Hydrological Processes*. <https://doi.org/10.1002/hyp.13465>
33. Curry, B.B., ¹Bruegger, A.R., **Conroy, J.L.** 2018. High stands and overflow history of glacial Lake Chicago and downstream impacts on Gulf of Mexico $\delta^{18}\text{O}$ values. *Geology*. 46 (7) <https://doi.org/10.1130/G40170.1>
34. Schaetzl R.J., Bettis E.A., Crouvi O., Fitzsimmons K.E., Grimley D.A., Hambach U., Lehmkuhl F., Marković S.B., Mason J.A., Owczarek P., Roberts H.M., Rousseau D.-D., Stevens T., Vandenberghe J., Zárate M., Veres D., Yang S., Zech M., **Conroy J.L.**, Dave A.K., Faust D., Hao Q., Obrecht I., Prud’homme C., Smalley I., Tripaldi A., Zeeden C., Zech, R. 2018. Approaches and challenges to the study of loess—Introduction to the LoessFest Special Issue. *Quaternary Research*. 89, 563-618. <https://doi.org/10.1017/qua.2018.15>
35. ¹Higley M.C., **Conroy, J.L.**, ¹Schmitt, S. 2018. Last millennium hydroclimate shifts in the central tropical Pacific. *Paleoceanography and Paleoclimatology*. <https://doi.org/10.1002/2017PA003233>
36. ¹Martin, N.J., **Conroy, J.L.**, Noone, D., Cobb, K.M., Konecky, B., and Rea, S. 2018. Seasonal and ENSO influences on the stable isotopic composition of Galápagos precipitation. *Journal of Geophysical Research-Atmospheres*. <https://doi.org/10.1002/2017JD027380>
37. ¹Nash, T.A., **Conroy, J.L.**, Grimley, D.A., Guenther, W.R., Curry, B.B. 2018. Episodic deposition of Illinois Valley Peoria Silt in association with Lake Michigan Lobe fluctuations during the Last Glacial Maximum. *Quaternary Research*. <https://doi.org/10.1017/qua.2017.66>
38. Thompson, D.M., **Conroy, J.L.**, Collins, A., Hlohowskyj, S., Overpeck, J.T., Riedinger-Whitmore, M., Cole, J.E., Bush, M.B., Whitney, H., Corley, T.L., Steinitz-Kannan, M. 2017. Tropical Pacific climate variability over the last 6000 years revealed from Bainbridge Crater Lake, Galápagos. *Paleoceanography*. <https://doi.org/10.1002/2017PA003089>
39. **Conroy, J.L.**, Thompson, D.M., Cobb, K.M., Noone, D., and Rea, S. 2017. Spatiotemporal variability in the salinity-oxygen isotope relationship of seawater across the tropical Pacific Ocean. *Paleoceanography*, <https://doi.org/10.1002/2016PA003073>
40. **Conroy, J.L.**, Hudson, A.M., Overpeck, J.T., Liu, K.-B., Wang, L., and Cole, J.E. 2017. The primacy of multidecadal to centennial variability over late-Holocene forced change of the Asian Monsoon on the southern Tibetan Plateau. *Earth and Planetary Science Letters*. <https://doi.org/10.1016/j.epsl.2016.10.044>
41. Karamperidou, C., Jin, F.F., and **Conroy, J.L.** 2017. The Importance of ENSO Nonlinearities in Tropical Pacific Response to External Forcing. *Climate Dynamics*. <https://doi.org/10.1007/s00382-016-3475-y>
42. **Conroy, J.L.**, Noone, D., Cobb, K. M., Moerman, J.W., and Konecky, B.L. 2016. Paired stable isotopologues in precipitation and vapor: A case study of the amount effect within western tropical Pacific storms. *Journal of Geophysical Research-Atmospheres*. <https://doi.org/10.1002/2015JD023844>
43. **Conroy, J.L.**, Collins, A., Overpeck, J.T., Bush, M.B., Cole, J.E., and Anderson, D.J. 2015. A 400-year isotopic record of seabird response to eastern tropical Pacific productivity. *Geo: Geography and Environment*. <https://doi.org/10.1002/geo2.11>
44. **Conroy, J.L.**, Thompson, D.M., Collins, A., Overpeck, J.T., Cole, J.E., and Bush, M.B. 2014. Climate influences on water and sediment properties of Genovesa Crater Lake, Galápagos *Journal of Paleolimnology*. <https://doi.org/10.1007/s10933-014-9797-z>
45. **Conroy, J.L.**, Cobb, K.M., Lynch-Stieglitz, J., and Polissar, P.J. 2014. Constraints on the salinity-oxygen isotope relationship in the central tropical Pacific Ocean. *Marine Chemistry*. 161C pp. 26-33 <https://doi.org/10.1016/j.marchem.2014.02.001>

46. Abraham, J.P., Baringer, M., Bindoff, N., Boyer, T., Cheng, L.J., Church, J.A., **Conroy, J.L.**, Domingues, C.M., Fasullo, J.T., Gilson, J., Goni, G., Good, S., Gorman, J.M., Gouretski, V., Isjii, M., Johnson, G.C., Kizu, S., Lyman, J.M., MacDonald A., W.J. Minkowycz, Moffitt, S.E., Palmer, M., Piola, A., Reseghetti, F., Trenberth, K.E., Velicogna, I., Wijffels, S.E., Willis, J. 2013. A review of global ocean heat content observations: Implications for climate change. *Review of Geophysics*. <https://doi.org/10.1002/rog.20022>
47. Carolin, S., Cobb, K.M., Adkins, J.F., Clark, B. **Conroy, J.L.**, Lejau, S., Malang, J. and Tuen, A.A. 2013. Varied response of western tropical Pacific hydrology to abrupt climate changes. *Science*. 340(6140):1564-1566
48. **Conroy, J.L.**, Cobb, K.M., and D. Noone. 2013. Precipitation isotope variability across the tropical Pacific in the SWING2 model simulations. *Journal of Geophysical Research-Atmospheres*. <https://doi.org/10.1002/jgrd.50412>
49. **Conroy, J.L.**, Overpeck, J.T., Cole, J.E., Liu, K.-B., Wang, L., and Ducea, M.N. 2013. Dust and temperature influences on glaciofluvial sediment deposition in southwestern Tibet during the last millennium. *Global and Planetary Change*. 10.1016/j.gloplacha.2013.04.009
50. Restrepo, A., Colinvaux, P., Bush, M., Correa-Metrio A., **Conroy, J.**, Gardner, M.R., Jaramillo, P., Steinitz-Kannan, M., and Overpeck, J.T. 2012. Impacts of climate variability and human colonization on the vegetation of the Galápagos Islands. *Ecology*. 93(8):1853-1866.
51. **Conroy, J.L.**, and Overpeck, J.T. 2011. Regionalization of present-day precipitation across the greater monsoon region of Asia. *Journal of Climate*. <https://doi.org/10.1175/2011JCLI4033.1>.
52. **Conroy, J.L.**, Overpeck, J.T., and J.E. Cole. 2010. El Niño/Southern Oscillation and changes in the zonal gradient of tropical Pacific sea surface temperature over the last 1200 years. *Pages News*. 18(1):32-34.
53. Bush, M.B., Colinvaux, P.A., Steinitz-Kannan, M., Overpeck, J.T., Sachs, J., Cole, J.E., Collins, A., **Conroy, J.L.**, Restrepo A., and Zhang, Z. 2010. Forty years of paleoecology in the Galápagos. *Galápagos Research*. p. 55-61.
54. **Conroy, J.L.**, Overpeck, J.T., Cole, J.E., and Steinitz-Kannan, M. 2009. Variable oceanic influences on western North American drought over the last 1200 years. *Geophysical Research Letters*. <https://doi.org/10.1029/2009GL039558>
55. **Conroy, J.L.**, Restrepo, A., Overpeck, J.T., Steinitz-Kannan, M., Cole, J.E., Bush, M.B., and Colinvaux, P.A. 2009. Unprecedented recent warming of surface temperatures in the eastern tropical Pacific Ocean. *Nature Geoscience*. 2(1):46-50.
56. **Conroy, J.L.**, Overpeck, J.T., Cole, J.E., Shanahan, T.M., and Steinitz-Kannan, M. 2008. Holocene changes in eastern tropical Pacific climate inferred from a Galápagos lake sediment record. *Quaternary Science Reviews*. 27(11-12): 1166-1180.
57. Neff, J.C., Ballantyne, A.P., Farmer, G.L., Mahowald, N.M., **Conroy, J.L.**, Landry, C.C., Overpeck, J.T., Painter, T.H., Lawrence, C.R., Reynolds, R. 2008. Recent increases in eolian dust deposition due to human activity in the western United States. *Nature Geoscience*. 1(3): 189-195.

RESEARCH FUNDING

ACTIVE

J.L Conroy (lead PI) with C. Karamperidou (**co-PI, University of Hawaii**) **NSF-P2C2**. Collaborative Research: P2C2: A paleowind synthesis of models and data to constrain the response of extratropical atmospheric circulation to external forcing

9/1/2022-8/31/2027, \$430k total, \$319k to Illinois

J.L Conroy (lead PI) with **S. Stevenson (UC Santa Barbara)** and **K. Cobb (Brown University)**. **NSF MG&G**. Collaborative Research: Stable isotope constraints on the hydrologic expression of the El Niño/Southern Oscillation in the tropical Pacific Ocean. 8/4/2025-8/3/2028, \$975k total, \$363k to Illinois

COMPLETED

NSF-OCE-MG&G, J.L Conroy (sole PI). CAREER: Ocean-atmosphere interactions through the lens of stable water isotopologues

6/15/2019-5/31/2024, \$698k

J.L. Conroy (sole PI). **UIUC Campus Research Board**. Tropical Pacific climate variability from Kiritimati lagoon sediments: Bridging the gap between fossil coral and lake

sediment inferences of past climate change. 1/1/2023-6/30/2025, \$30k

ACS-PRF-DNI, J.L. Conroy (sole PI). The role of sulfate reduction in microbial carbonate formation across a restricted lagoonal carbonate facies: A modern analog investigation. 7/1/2017-6/30/2021 \$110k

NSF-EAR-GLD, J.L. Conroy (lead PI), W.R. Guenther, D.A. Grimley. Chronologies and mechanisms of last glacial loess deposition in the central lowlands of North America. 8/1/2016-7/31/2021 \$349.5k

NSF-EAR-P2C2, J. Conroy (sole PI). A terrestrial perspective of last millennium hydroclimate variability in the central tropical Pacific. 5/1/2016-4/30/2021 \$367.5k

NSF-AGS-P2C2, J. Conroy (lead PI, UIUC, with C. Karamperidou (lead PI) and F.F. Jin, U. Hawaii). Collaborative Research: The role of ENSO nonlinearities and asymmetries in modulating tropical Pacific climate. 5/15/2016-4/30/2020 \$133k to UIUC

BRIDGE (BiRmingham Illinois Partnership for Discovery, EnGagement, and Education) Award, J. Conroy (PI, UIUC with J. Bendle, PI, Birmingham). Unlocking new geochemical toolboxes for detecting climate change. 5/10/2018-5/31/2019 \$3.2k

UIUC Campus Research Board, J. Conroy. (sole PI). Development of a new, high-resolution paleoclimate record from Kiritimati lake sediments

5/1/2014-11/1/2015. \$27k

DOE-ARM, J. Conroy, (lead PI), K. Cobb, and D. Noone. Manus Water Isotope Investigation. 4/2013-4/2016. \$41k (facilities and logistics)

NSF-AGS-P2C2, K. Cobb, J. Conroy (co-PI), and D. Noone: Collaborative Research: Controls on Water Isotope Variability in the Tropical Pacific: A Strategy to Improve Paleoclimate Interpretations. 10/1/2012-9/30/2016 \$226k

NSF-AGS/EAR-PRF, J. Conroy (sole PI). Large-scale climate controls on water isotopes in the tropical Pacific: an integrated observational and modeling strategy to improve paleoclimate interpretations. 9/1/2011-8/31/2013. \$170k

SELECTED CONFERENCE PRESENTATIONS (2016–PRESENT)

¹Supervised graduate student, ²Supervised undergraduate student

1. Bryce, L. Cobb, K.M., Conroy J.L., Murray, N.K., Hollan, E.A., Xu, M., Esquivel-Hernandez, G., Sanchez-Murrillo, R., Levin, S., Hardt, M 2025. Constraining tropical Pacific Rainwater and Seawater $\delta^{18}\text{O}$ Relationships through the 2023–2025 ENSO cycle American Geophysical Union Fall Meeting, New Orleans, LA
2. ¹Smith, K. Conroy, J.L., Parent, C.E. 2025. Stable isotopes in Galápagos Islands' terrestrial gastropods track ecology and climate variability American Geophysical Union Fall Meeting, New Orleans, LA
3. ¹Wallin, A. Conroy, J.L. 2025. Using CESM2 Wind Simulations and Paleowind Direction Proxy Data to Examine the Consistency of Large-Scale Atmospheric Circulation in Different Climate States American Geophysical Union Fall Meeting, New Orleans, LA
4. ¹Lusk, S. Conroy, J.L., Curry, B.B. 2025. Central Tropical Pacific Mean State and Decadal Variability Over the Common Era From a Lagoonal Ostracode $\delta^{18}\text{O}$ Record. American Geophysical Union Fall Meeting, New Orleans, LA
5. Beddow, H. Anderson T. F., Christie, M., Elrick, S.D., Johnson, T.M., Conroy, J.L., Punyasena, S.W. 2025. Global Coal Ball Stable Isotope Analysis to Define Permineralizing Environments GSA Connects San Antonio, TX
6. ¹Murray, N.K., Conroy, J.L., Colin, P., Cobb, K.M. Noone, D.C. 2024 Western Pacific Warm Pool seawater and precipitation $\delta^{18}\text{O}$ response to ENSO-driven changes in hydroclimate and ocean circulation. American Geophysical Union Fall Meeting Washington, D.C.
7. Bryce, L., Cobb, K.M., Conroy J.L., Murray, N.K., Hollan, E.A., Xu, M., Esquivel-Hernandez, G., Sanchez-Murrillo, R., Levin, S., Hardt, M. 2024. Water Isotopologue Time Series across Six Tropical Sites during the 2023–2024 El Niño. American Geophysical Union Fall Meeting Washington, D.C.
8. Dee, S., Bailey A., Conroy, J.L., Atwood, A., Stevenson, A., Nusbaumer, J., Noone, D.C. 2024. Water isotopes, climate variability, and the hydrological cycle: recent advances and new frontiers. (Invited) American Geophysical Union Fall Meeting Washington, D.C.

9. Lusk, S., Conroy, J.L., Curry, B.B. 2024. Ostracode $\delta^{18}\text{O}$ Values From Kiritimati Island Reconstruct Central Tropical Pacific Climate Over the Past 1700 Years. American Geophysical Union Fall Meeting Washington, D.C.
- 10.¹Wallin, A., Conroy, J.L., Ford, T., Atkins, J. Karamperidou, C. 2024. Recent wind stilling across Illinois. American Geophysical Union Fall Meeting Washington DC.
11. Conroy, J.L., Karamperidou, C., Grimley D. 2024. A proxy data-model comparison of near-surface winds at the southern Laurentide ice margin through the last deglaciation. American Geophysical Union Fall Meeting Washington, D.C.
- 12.¹Dendy, S., Guenthner W., Grimley, D., Conroy, J.L. 2024. Quantifying Pleistocene Loess Provenance in Midcontinental North America Using Multiple Sediment Sources and a Mixing Model: Implications for Glacial Lobe Evolution Along the Southern Laurentide Ice Sheet. Geological Society of America Connects, Anaheim, CA.
13. Conroy, J.L. Murray, N.K., Chillagana, D., Echeverria F., Colin, P.L. Cole J.E., 2024. Long time series of stable oxygen isotopes in seawater: records of ocean circulation and atmospheric hydrology. V.M. Goldschmidt Meeting, Chicago, IL
14. Grimley, D.A., Conroy, J.L. 2024. Last glacial maximum summer temperature gradient in the central USA from terrestrial gastropod assemblages in Peoria silt (loess). Geological Society of America Southeastern Section Meeting, Asheville, NC.
- 15.¹Murray, N.K., Conroy, J.L., Colin, P. 2024. The temporal seawater $\delta^{18}\text{O}$ response to hydroclimate and ocean circulation in the Western Pacific Warm Pool. American Geophysical Union Ocean Sciences Meeting, New Orleans, LA.
- 16.¹Wallin, A., Conroy, J.L., Ford, T., Karamperidou, C. 2023. Recent wind stilling across Illinois. American Geophysical Union Fall Meeting, San Francisco, CA.
17. Conroy, J.L. Murray, N.K., Chillagana, D., Echeverria, F., Colin, P., Noone, D., Cobb, K.M., Cole, J.E. 2023. Reflections on a decade of continuous stable water isotope monitoring in the tropical Pacific: What have we learned? American Geophysical Union Fall Meeting, San Francisco, CA. (invited)
18. Murray, N.K., Conroy, J.L., Colin, P. 2023. Water isotopologue insights into tropical Pacific hydroclimate: seawater and precipitation $\delta^{18}\text{O}$ in the Indo-Pacific Warm Pool. V.M. Goldschmidt Meeting, Lyon, France
19. Conroy, J.L. Murray, N.K.¹, Cole J.E., Chillagana, D., Echeverria F. 2023. Influence of the Pacific Equatorial Undercurrent on Galápagos Seawater $\delta^{18}\text{O}$ Values. Annual V.M. Goldschmidt Conference, Lyon, France
20. Conroy, J.L., 2022 Common Era Hydroclimate Variability in the Central Tropical Pacific. AGU Fall Meeting, Chicago, IL (invited)
21. Conroy, J.L. Murray, N.K.¹, Cole J.E., Chillagana, D., Echeverria F. 2022. Influence of the Pacific Equatorial Undercurrent on Galápagos Seawater $\delta^{18}\text{O}$ Values. AGU Fall Meeting, Chicago, IL.
22. Cole, J.E., Thompson, D. Tudhope A.W., Dyez, K., Okun, J. Tripp C., Conroy J.L., Jimenez, G. and Edwards, L.R. 2022. Galápagos Corals Reveal Unusually Strong Modern ENSO Compared to the Last Millennium. AGU Fall Meeting, Chicago, IL
23. Conroy, J.L. Murray, N.K.¹, Patterson, G.S.², Schore, A.I.G.¹, Ikuru, I.², Cole J.E., Chillagana, D., Echeverria F. 2022. Galápagos seawater $\delta^{18}\text{O}$ values: An Equatorial Undercurrent Proxy? Island Systems Integration Consortium All Hands Meeting, Cincinnati, OH
24. Conroy, J.L., Kiritimati Lakes: Windows into Past Atoll Hydrology, Microbial Community Dynamics, and Central Pacific Climate. 2021. AGU Fall Meeting, New Orleans, LA (invited)
- 25.¹Murray, N.K., Muñoz, A., Conroy, J.L. 2021. Surface ocean $\delta^{18}\text{O}$ – salinity regions as revealed by machine learning. AGU Fall Meeting, New Orleans, LA
26. Thompson, D.M., Conroy, J.L., Williams, B., Konecky, B.L., Stevenson, S., DeLong, K.L., McKay, N., Dassie, E.P., Fischer, M., Jonkers, L., Martrat, B., Iso2K members. 2021. Salinity information from hydro-sensitive, biogenic marine carbonate $\delta^{18}\text{O}$ records. AGU Fall Meeting, New Orleans, LA (invited)
- 27.¹Chen, M., Geyman, E., Conroy, J.L., Sanford, R.A., Chee-Sanford, J.C., Connor, L.M. 2021. Stable carbon isotope values of syndepositional ooids and micrite record photosynthesis intensity. AGU Fall Meeting, New Orleans, LA
- 28.¹Chen, M., Conroy, J.L., Sanford, R.A., Wyman, A., Chee-Sanford, J.C., Connor, L.M. 2021. Lacustrine sediment microbial community response to an extreme El Niño event. AGU Fall Meeting, New Orleans, LA
- 29.¹Dendy, S. Conroy, J.L., Grimley, D., Guenthner, W., Kerr, P., Pigati, J.S. 2021. LGM ISOSCAPE OF CENTRAL NORTH AMERICA: IMPLICATIONS FOR AN ICE-PROXIMITY CLIMATE GRADIENT. GSA Connects, Portland, OR

- 30.¹Dendy, S., Guenther, W., Conroy, J.L., Grimley, D., Counts, R.C. 2021. DETRITAL ZIRCON GEOCHRONOLOGY AND PROVENANCE OF PLEISTOCENE LOESS AND CONTRIBUTING GLACIAL SOURCES, MIDCONTINENTAL USA. GSA Connects, Portland, OR
- 31.Grimley, D., Nash T.A., ¹Dendy, S., Rech, J.A. Curry, B., Conroy, J.L., Guenther, W.R. 2021 UPDATED CHRONOLOGY OF PEORIA SILT ACCUMULATION IN ILLINOIS FROM RADIOCARBON DATING OF TERRESTRIAL GASTROPOD SHELLS AND VEGETATION. GSA Connects, Portland, OR
- 32.Conroy, J.L., Thompson, D.M., DeLong, K.L., Stevenson, S., Konecky, B., Murray, N.K., Dassié, E.P., 2021. Leveraging seawater $\delta^{18}\text{O}$ values to extract paleosalinity information from coral $\delta^{18}\text{O}$ records, Tropical Pacific Observing Needs Workshop (online)
- 33.Cobb, K.M., and CLIVAR Water Isotopes Working Group (including Conroy), 2021. Water Isotope Observations as Dynamical Bridge from the Past to the Future, Tropical Pacific Observing Needs Workshop (online)
- 34.¹Murray, N.K., Muñoz, A.R., Conroy, J.L. 2020. . American Geophysical Union Fall Meeting (online)
- 35.¹Chen, M., Conroy, J.L., Fouke, B. 2020. . Geological Society of America Annual Meeting (online)
- 36.¹Chen, M., Conroy, J.L., Fouke, B. 2020. . American Geophysical Union Fall Meeting (online)
- 37.¹Wyman, D.A., Conroy, J.L., Osburn M.R., Atwood, A.R. 2020. Reconstructing last millennium hydroclimate from Kiritimati sediments. American Quaternary Association Biennial meeting (online)
- 38.¹Chen, M., Conroy, J.L., Sanford, R., Chee-Sanford, J.C., Connor, L.M. 2019. Interpreting lacustrine bulk sediment $\delta^{15}\text{N}$ values using metagenomics: A case study from a hypersaline lake system. American Geophysical Union Fall Meeting, San Francisco, CA.
- 39.¹Murray, N., Conroy, J.L., Punyasena, S. W., Grimm, E.C., Donovan, J.J. 2019. Mid-Holocene guano influences on eutrophication and lacustrine ecology at Kettle Lake, North Dakota. American Geophysical Union Fall Meeting, San Francisco, CA.
- 40.Falster, G., Konecky, B., McKay, N., Atwood, A.R., Conroy, J.L., Fischer, M., Jones, M., Jonkers, L., Stevenson, S., Thompson, D.M., Tyler, J.J., and Pages Iso2K Project Members. 2019. New insights into spatial and temporal dynamics of the global water cycle from the Iso2k database. American Geophysical Union Fall Meeting, San Francisco, CA.
- 41.Conroy, J.L., Karamperidou, C., Grimley, D.A., and Guenther, W.R. 2019. Westerly winds across the North American mid-continent during the Last Glacial Maximum. American Geophysical Union Fall Meeting, San Francisco, CA.
- 42.¹Dendy, S.N., Guenther, W.R., Grimley, D.A., Conroy, J.L., and Counts, R.C. 2019. Detrital Zircon Geochronology and Provenance of Quaternary Loess in Central North America. Geological Society of America Abstracts with Programs.
- 43.Atwood, A., Konecky, B., McKay, N. Conroy, J., Fischer, M., Jones, M., Jonkers, L. Stevenson, S., Thompson, D., Tyler, J., and Iso2k Project Members. 2019. PAGES Iso2k: A global synthesis of water isotope proxies from multiple archives over the Common Era. CLIVAR Water Isotopes Workshop, Boulder, CO.
- 44.¹Wyman, D.A., Conroy, J.L., Osburn M.R., Atwood, A.R. 2019. Reconstructing last millennium hydroclimate from Kiritimati sediments using lipid biomarkers. International Union for Quaternary Research 20th Congress, Dublin, Ireland.
- 45.¹Chen, M., Conroy, J.L., Sanford, R., Chee-Sanford, J.C., Connor, L.M., ²Sivapalan, V. 2018. Microbially-mediated nitrogen isotope fractionation in hypersaline lakes. American Geophysical Union Fall Meeting, Washington, D.C.
- 46.¹Higley, M.C. and Conroy, J.L. 2018. Sediment characteristics and chronology of aeolian sediments on a tropical Pacific coral atoll. Geological Society of America Abstracts with Programs. Vol. 50, No. 6
- 47.¹Dendy, S.N., Grimley, D.A., Guenther, W., and Conroy, J.L. 2018. U-Pb age density distributions as an indicator of glacial loess provenance in midwestern North America. Geological Society of America Abstracts with Programs. Vol. 50, No.6
- 48.Grimley, D.A., ¹Dendy, S., Conroy, J.L., Pigati, J. 2018. Last glacial climatic and ecological gradients in the central USA based on fossil terrestrial gastropod assemblages. Geological Society of America Abstracts with Programs. Vol. 50, No. 6
- 49.Conroy, J.L., Karamperidou, C., Grimley, D.A., and Guenther, W.R. 2018. Westerly winds across the North American mid-continent during the Last Glacial Maximum: A new data-model assessment. Geological Society of America Abstracts with Programs. Vol. 50, No. 6 (invited)

50. Conroy, J.L., ¹Wyman, D.A., Bell, L.J. 2018. Assessing bias in the representation of ENSO in precipitation stable isotope values. Annual V.M. Goldschmidt Conference, Boston, MA (invited)
51. Thompson, D.M., Conroy, J., Konecky, B., McKay, N., Stevenson, S. 2018. Indo-Pacific hydroclimate change over the past 2000 years: new insights from the Iso2k synthesis. Annual V.M. Goldschmidt Conference, Boston, MA (invited)
52. ²Sivapalan, V. and Conroy, J.L. 2018. Biogeochemical insights into controls on lacustrine stable nitrogen isotope ratios. North-Central Geological Society of America Conference, Ames, IA.
53. ¹Higley, M. and Conroy, J.L. 2018. The hydrological response of surface water on Kiritimati, Kiribati, to recent climate variability. North-Central Geological Society of America Conference, Ames, IA.
54. ¹Dendy, S., Conroy, J.L., Grimley, D.A., Loope, H. 2018. Regional paleoclimate inferences from Succineidae gastropod stable isotope analysis in Last Glacial Maximum loess: Ward Quarry, Plainfield, and Clayton Sections. North-Central Geological Society of America Conference, Ames, IA.
55. Grimley, D.A., Lebel, C., ¹Dendy, S., Conroy, J.L., and Loope, H. 2018. Paleoenvironmental and paleoclimatic inferences from gastropod assemblages in last glacial loess: Illinois, Indiana, and Kentucky. North-Central Geological Society of America Conference, Ames, IA.
56. Curry, B.B., Wang, H., Lowell, T., Bates, B., Norris, N., and Conroy, J.L. 2018. Last glacial loess deposition in central Illinois abruptly slows at ca. 18750 cal yr BP in response to the Kankakee Torrent. North-Central Geological Society of America Conference, Ames, IA.
57. Wilkins, B.P., Woo, D. Li, J., Michalski, G., Kumar, P., Conroy, J.L., Keefer, D.A., Keefer, L.L., Hodson, T.O. 2017. Nutrient Concentrations and Stable Isotopes of Runoff from a Midwest Tile-Drained Corn Field. American Geophysical Union Fall Meeting, New Orleans, LA.
58. ¹Wyman, D.A., Conroy, J.L., Karamperidou, C. 2017. Last Millennium ENSO-Mean State Interactions in the Tropical Pacific. American Geophysical Union Fall Meeting, New Orleans, LA.
59. Konecky, B.L., Partin, J.W., Conroy, J.L., Fisher, M., Jones, M., Jonkers, L., McKay, N., Stevenson, S., Thompson, D.M., Tyler, J.J., Churakova, O., Comas-Bru, L., Dee S. DeLong, K., Falster, G., Martrat, B. 2017. Global Synthesis of Common Era Hydroclimate using Water Isotope Proxies from Multiple Archives: First Results from the PAGES Iso2k Project. American Geophysical Union Fall Meeting, New Orleans, LA.
60. Conroy, J.L., Thompson, D.M., Dassie, E.P., Stevenson, S., Konecky, B., DeLong, K., Sayani, H., Partin, J.W., Abram, N.J., Martrat, B. 2017. Salinity information in coral $\delta^{18}\text{O}$ records. American Geophysical Union Fall Meeting, New Orleans, LA.
61. Thompson, D.M., Conroy, J.L., ¹Wyman, D.A., Read, D. 2017. Spatial $\delta^{18}\text{O}_{\text{sw}}$ -SSS relationship across the western tropical Pacific Ocean. American Geophysical Union Fall Meeting, New Orleans, LA.
62. Conroy, J.L., ¹Nash, T.A., Grimley, D.A., Guenther, W.R., and Curry, B.B. 2017. Loess accumulation and hydroclimate variability in association with Lake Michigan Lobe fluctuations during the Last Glacial Maximum. Geological Society of America Abstracts with Programs. Vol. 49, No. 6.
63. Conroy, J.L., Hudson, A.M., Overpeck, J.T., Liu, K.B., Wang, L., and Cole, J.E. 2017. The primacy of internal variability over late Holocene forced change of the Asian monsoon on the southern Tibetan Plateau. Past Global Changes (PAGES) Open Science Meeting, Zaragoza, Spain.
64. Conroy, J.L., Collins, A.F., Bush, M.B., Overpeck, J.T., Cole, J.E., Anderson, D.J. 2017. A 400-year isotopic record of seabird response to eastern tropical Pacific productivity. Past Global Changes (PAGES) Open Science Meeting, Zaragoza, Spain.
65. ¹Higley, M.C., Conroy, J.L., ¹Schmitt, S. 2017. Last millennium meridional shifts in hydroclimate in the central tropical Pacific. Past Global Changes (PAGES) Open Science Meeting, Zaragoza, Spain.
66. Karamperidou, C. and Conroy, J.L. 2017. Using multi-resolution proxies to assess ENSO impacts on the mean state of the tropical Pacific. Past Global Changes (PAGES) Open Science Meeting, Zaragoza, Spain.
67. ¹Higley, M.C., Conroy, J.L. 2017. Hydrological response of lakes on Kiritimati Island, Kiribati, to recent climate variability. Northeastern-North Central Geological Society of America Annual Meeting, Pittsburgh, PA.
68. Karamperidou, C., and Conroy, J.L. 2016. Using multi-resolution proxies to assess ENSO impacts on the mean state of the tropical Pacific. American Geophysical Union Fall Meeting, San Francisco, CA.
69. ¹Higley, M.C., Conroy, J.L., ¹Schmitt, S. 2016. Medieval aridity in the central tropical Pacific. American Geophysical Union Fall Meeting, San Francisco, CA.

70. Conroy, J.L., Hudson, A.M., Overpeck, J.T., Liu, K.-B., Wang, L., and Cole, J.E. 2016. The Primacy of Multidecadal to Centennial Variability Over Late Holocene Forced Change of the Asian Monsoon on the Southern Tibetan Plateau. American Geophysical Union Fall Meeting, San Francisco, CA. (invited)
71. Schmitt, S., Conroy, J.L., Sanford, R., Flynn, T., and Fouke, B. 2016. Response of microbial community structure to environmental gradients within interior atoll lakes of Kiritimati, Republic of Kiribati, Northern Line Islands, Pacific Ocean Midwest Geobiology 2016 Symposium, Cincinnati, OH.
72. Grimley, D.A., Nash, T.A., Conroy, J.L., Wong, H., and Curry, B.B. 2016. Episodic deposition of last glacial (OIS2) Peoria Loess along the Illinois Valley in association with Lake Michigan Lobe ice margin fluctuations. International Quaternary Association Loessfest, Eau-Claire, WI.
73. Conroy, J.L., Nash, T.A., Grimley, D.A., Guenther, W.R., and Curry, B.B. 2016. Forward proxy model insights into controls on the stable oxygen isotopic composition of gastropod carbonate in Illinois Valley loess deposits. International Quaternary Association Loessfest, Eau-Claire, WI.
74. Conroy, J.L., Hudson, A.M., Overpeck, J.T., Liu, K.-B., Wang, L., and Cole, J.E. 2016. The Primacy of Multidecadal to Centennial Variability Over Late Holocene Forced Change of the Asian Monsoon on the Southern Tibetan Plateau. American Quaternary Association biennial meeting, Santa Fe, NM. (invited)
75. Nash, T.A., Conroy, J.L., and Grimley, D.A. 2016. The formation of the Jules soil and its implication for the Last Glacial Maximum climate of west-central Illinois. North-Central Geological Society of America Annual Meeting, Champaign, IL.
76. Martin, N.J., Conroy, J.L., Noone, D., Cobb, K.M., Konecky, B. 2016. Capturing climate variability in stable isotopic proxies from the eastern equatorial Pacific: What can and can't stable isotopes record? North-Central Geological Society of America Annual Meeting, Champaign, IL.

INVITED LECTURES & SEMINARS

- 2026** American Rock Salt Lecturer, SUNY Geneseo, Geneseo, NY
- 2026** Department of Climate, Meteorology and Atmospheric Sciences, UIUC
- 2025** Department of Natural Resources and Environmental Science, UIUC
- 2023** AGU Fall Meeting, San Francisco, CA
- 2023** Climate | Change Workshop, UIUC
- 2023** Department of Earth Sciences, University of Southern California
- 2022** AGU Fall Meeting, Chicago, IL
- 2022** Coral Reef Research Foundation, Koror, Palau
- 2022** Department of Earth and Atmospheric Sciences, Iowa State University
- 2021** AGU Fall Meeting, New Orleans, LA
- 2021** Charles Darwin Foundation, Puerto Ayora, Galápagos, Ecuador
- 2021** Department of Plant Biology, UIUC
- 2021** Kaler Lecture, Staerck Planetarium, Parkland College
- 2020** Department of Earth and Planetary Sciences, Washington University in St. Louis
- 2018** GSA Fall Meeting
- 2018** V.M. Goldschmidt Meeting
- 2018** Department of Geology, Southern Illinois University
- 2018** Department of Geology, University of Cincinnati
- 2018** Department of Geology and Geography, Illinois State University
- 2018** Hydrosystems Seminar, UIUC
- 2017** Department of Earth and Atmospheric Sciences, Indiana University-Bloomington
- 2017** Intensively Managed Landscapes Critical Zone Observatory Annual Meeting, UIUC
- 2017** Indonesian-American Kavli Frontiers of Science Symposium, Ambon, Indonesia
- 2017** Department of Earth, Environmental, and Planetary Sciences, Brown University
- 2017** Program in Ecology, Evolution, and Conservation Biology, UIUC
- 2016** AGU Fall Meeting

2016 AMQUA Biennial Meeting
2016 Department of Plant Biology, UIUC
2016 Department of Earth Sciences, University of Iowa
2016 Department of Earth Sciences, Indiana University-Purdue University Indianapolis
2016 Department of Earth and Planetary Sciences, Northwestern University
2015 INQUA Congress
2015 Illinois State Geological Survey
2014 Department of Natural Resources and Environmental Studies, UIUC
2014 Department of Earth and Environmental Sciences, University of Illinois at Chicago
2014 International Pacific Research Center, University of Hawai'i at Manoa
2014 Illinois State Museum
2014 Department of Geology, Northern Illinois University
2014 33rd Annual Osgood Memorial Lecture, The College of Wooster
2013 Department of Plant Biology, UIUC
2013 International Association for Tibetan Studies Meeting
2013 Department of Geography, University of Georgia
2012 AMQUA Biennial Meeting
2012 Department of Geography, University of Minnesota
2011 AGU Fall Meeting
2010 School of Earth and Atmospheric Sciences, Georgia Tech
2006 College of Science, The University of Arizona

TEACHING & MENTORING

COURSES TAUGHT

Geology 100: Planet Earth (Spring 2014, 2016, 2017, 2019, 2021)
 Geology 107: Physical Geology (Fall 2024)
 Geology 415/515: Advanced Field Methods: Palimpsests of the Jura and Alps: Tectonics, Karst, and Human Landscapes (Spring 2026)
 Geology 484/IB 484: Paleoclimatology
 (Fall 2014, 2016, 2018, 2020, Spring 2022, Fall 2023, 2025)
 Geology 493: Water Cycle Course-Based Research Experience for Undergraduates
 (Fall 2021)
 Geology 593: Stable Isotopes in the Hydrologic Cycle (Spring 2020, Spring 2025)
 Geology 593: Paleolimnology (Spring 2015, Fall 2017)
 Geology 593: Paleoclimate Data-Model Comparison (Spring 2018)
 Geology 593: Structure of Scientific Revolution in the Earth Sciences (Spring 2024, Spring 2026)
 Geology 593: Coal Ball Geology (Fall 2026)

GRADUATE STUDENTS — PRIMARY ADVISOR

Current

Shan Qi (PhD, ESEC, 2026–present)
 Shane Lusk (PhD, ESEC, 2023–present)
 Allison Wallin (PhD, ESEC, 2022–present)

Completed

KeMia Smith (MS, ESEC, 2024-2026)
 Nicole Murray (MS, Geology, 2018, PhD, Geology 2018-2024)
 Sarah Dendy (PhD, Geology, 2023)
 Mingfei Chen (PhD, Geology, 2022)
 Davina Allie Wyman (PhD, Geology, 2021)
 Melinda Higley (PhD, Geology, 2018)
 Thomas Andrew Nash (MS, Geology, 2016)
 Nicholas Martin (MS, Geology, 2016)
 Susan Schmitt (MS, Plant Biology, 2016)
 Alison Bruegger (MS, Geology, 2016)

GRADUATE STUDENT COMMITTEES

Cassandra Wesselin (MS, Plant Biology)
 Jacklyn Rodriguez (MS, Plant Biology)
 Ingrid Romero (PhD, Plant Biology)
 Charles Monson, (PhD, Geology)
 Nathan Webb (PhD, Geology)
 Rose Aubrey, (MS, Plant Biology)
 Hannah Beddow, (MS, Plant Biology)
 Scott Lakeram, (PhD, Plant Biology)
 Nooreen Meghani, (PhD, Geology)
 Jennifer Feng (MS, Plant Biology)
 Jon Golla (PhD, Geology)
 Celia Aranda Reina (PhD, ESEC)
 Mikell Warms, (PhD, Department of Atmospheric and Oceanic Sciences, University of Colorado-Boulder)
 Sasake Maile (MS, CLIMAS)
 Navashni Naidoo, (PhD, Anthropology)
 Aabhash Bhattari (PhD, ESEC)
 Carleigh Wachtel (MS, ESEC)
 Rose Malanga (PhD, ESEC)
 Kay Sivaraj (PhD, ESEC)
 Carlee Scott (MS, ESEC)
 Marcus Brown (PhD, Plant Biology)

UNDERGRADUATE MENTORING

Nicole Choquette, Integrative Biology
 Tiffany Vlahopoulous, Geology
 Vino Sivapalan, Geology
 Helena Igbo, Microbiology
 Don McKendry, Earth, Society & Environment
 Catherine Nield, Geology
 Tyler Blackwell, Integrative Biology and Geography-GIS
 Ryan Oeste, Geology
 Gillian Patterson, Physics

Kate O'Brien, Integrative Biology
 Sofie Rank, ESEC
 Sam Levenhagen, ESEC
 Naomi Gonzalez, ESEC
 Greg Neppl, Integrative Biology
 Alyssa Guzman, Parkland College

FIELD EXPERIENCE

Member, Proyecto Pakbeh Regional Economy Project, Chunchucmil, Mexico (2000)
 Member, lake coring expeditions to western Ireland (1998), Galápagos (2004, 2012), western Tibetan Plateau (2007), Peruvian Amazon (2009)
 Leader, water isotope campaigns in Kiritimati (2012), Galápagos (2012, 2015, 2021), Papua New Guinea (2013), Palau (2022)
 Leader, lake and lagoon-focused scientific expeditions to Kiritimati (2014, 2017, 2025)

LEADERSHIP, SERVICE & PUBLIC ENGAGEMENT

DEPARTMENT LEADERSHIP & SERVICE

2026: Department Head
2025: Committee chair, ESEC faculty promotion committee
2025: Member, ESEC faculty promotion committee
2021-2026: Chair, Graduate admissions committee
2023-2026: Ombudsperson
2014-present: Research poster judge, School of Earth, Society, and Environment Annual Research Review
2023-2024: Chair, climate and natural hazards faculty search committee
2021: Department Advisory Board
2018-2021: UIUC Academic senate (Department of Geology senator)
2017: Member, paleobiology lecturer search committee
2016-2020: Member, Graduate Admissions committee
2013-2016: Chair, colloquium committee
2013-2018: Member, Graduate studies committee
2014-2022: coordinator, Phillips Lecture in paleoscience
2013: Member, hydrogeology search committee

COLLEGE & UNIVERSITY SERVICE

2023-present: Member, College of Liberal Arts and Sciences Faculty Appeals Committee
2018-2025: Member, faculty advisory board, Carver Biotechnology Center
2021-2025: Steering committee member, Institute for Sustainability, Energy, and the Environment
2021: Member, SESE AGU Bridge proposal development team
2020-2022: Member, Academic Standards Committee, College of Liberal Arts and Sciences
2020, 2025: Proposal reviewer: UIUC-University of Birmingham BRIDGE program
2018: Member, School of Earth, Society & Environment Director search committee
2016-2019: Member, iSEE Earth Week Lecture committee

2014: Internal reviewer, University of Illinois NSF-MRI proposals

2014-present: Reviewer of proposals for the Prairie Research Institute and UIUC Campus Research Board

2014: Panelist, Postdoctoral Development Workshop, University of Illinois

2014: Coordinator of campus-wide Paleo Research Group, University of Illinois

2010–2011: Mentor for incoming freshman from low-income families, AZ Assurance Program, The University of Arizona.

2010–2011: Mentor for under-represented students in geosciences, SAGUARO Program, The University of Arizona.

PROFESSIONAL SERVICE & PUBLIC ENGAGEMENT

2025–present: Expert witness/scientific consultant

2023–present: Advisor, Paleoher (Paleoclimate, Ecology and Heritage Research Foundation), India.
<https://paleoher.org/>

2023-present: Activity development and presentation on wind and weather, Next Generation 4th grade science, Champaign, IL

2024: Session convener, “Water Isotope Systematics”, V.M. Goldschmidt Geochemistry Meeting, Chicago, IL.

2023: Panel reviewer for NSF-GEO directorate

2021–2025: Steering committee member, Galápagos Research Coordination Network, Island Systems Integration Consortium (ISIC)

2022–2025: Organizing committee member, Galápagos Island Systems Integration ISIC All Hands Meetings

2021: Panel reviewer for NSF-GEO directorate

2021: Mentor, Oak Park-River Forest High School

2021: Speaker, Women in STEM student group, University High School, Urbana, IL

2020–2021: Mentor and reviewer for STEMSEAS program

2020: Panel reviewer for NSF-GEO directorate

2018–2020: Core member, World Climate Research Programme CLIVAR (Climate Variability and Predictability Program) Water Isotopes Working Group

2018: Outreach project on seawater stable isotope geochemistry, STEMSEAS program (Science, Technology, Engineering and Math Student Experiences Aboard Ships)

2018: Session convener, “Where Does the Wind Blow? Aeolian Systems in Time and Space” GSA Annual Meeting

2017–2018: Member, PAGES Iso2k data synthesis project

2017: Session convener, “Water Isotope Systematics” AGU Fall Meeting

2016: Outreach project on Champaign-Urbana water chemistry with ELL (English Language Learner) students, Urbana High School, Urbana, IL

2016: Outreach project on IL Pleistocene landscape, “Digging Through Time” with STEAM (Science, Technology, Engineering, Arts, Math) Studio afterschool program, Champaign, IL

2016: Session convener, “Limnogeology and Paleoclimatology—Investigating Past Environments and Reconstructing Past Climates,” North-Central GSA Meeting

2014: Session convener, “Water Isotope Systematics: Improving Paleoclimate Interpretations,” AGU Fall Meeting

2014: Outstanding Student Paper Award Judge, AGU Fall 2014 Meeting

2014: Guest instructor and coordinator of student water isotope research, Tennessee Primary School, Kiritimati, Republic of Kiribati

2014: Member, External Advisory Board, Department of Geosciences, The University of Arizona

2016: Panel reviewer for NSF-GEO directorate

2014: Panel reviewer for NSF-GEO directorate

2012: Curriculum development and guest lecturer for oceanography class, Grady Public High School, Atlanta, GA

2012: NSF Expert Witness Testimony Academy, William Mitchell College of Law

2012-2013: Science Fair Mentor, North Springs High School, Sandy Springs, GA

Reviewer of manuscripts for peer reviewed journals including *Climate Dynamics*, *Earth and Planetary Science Letters*, *Earth Surface Processes and Landforms*, *EOS-Transactions of the American Geophysical Union*, *Estuarine Coastal and Shelf Science*, *Geochemistry Geophysics Geosystems*, *Geology*, *Geophysical Research Letters*, *Global Change Biology*, *The Holocene*, *Journal of Arid Environments*, *Journal of Climate*, *Journal of Geophysical Research-Atmospheres*, *Journal of Geophysical Research-Earth Surface*, *Journal of Geophysical Research-Oceans*, *Journal of Marine Systems*, *Journal of Paleolimnology*, *Journal of Quaternary Science*, *Marine Chemistry*, *Nature*, *Nature Communications Earth & Environment*, *Nature Geoscience*, *Nature Communications*, *Nature Scientific Reports*, *Palaeogeography Palaeoclimatology Palaeoecology*, *Paleoceanography & Paleoclimatology*, *Quaternary Research*, *Quaternary Science Reviews*, *Science Advances*, *Tellus B*, *Water Resources Research*.

Reviewer of proposals for the U.S. National Science Foundation, National Geographic Society, American Chemical Society Petroleum Research Fund, Natural Sciences and Engineering Research Council of Canada, Netherlands Organisation for Scientific Research, Earth Observatory of Singapore

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