

PROCEEDINGS OF THE KECK GEOLOGY CONSORTIUM

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2025-2026 Projects

Dr. Cameron Davidson and Dr. Karl Wirth, Editors
Co-Directors, Keck Geology Consortium

Theresa Klauer
Keck Geology Consortium Administrative Assistant
Macalester College

*Keck Geology Consortium
Macalester College
1600 Grand Ave, St. Paul, MN 55105
(651) 696-6108, Info@KeckGeology.org*

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2025-2026 Projects

Cameron Davidson Editor and Co-Director Carleton College	Keck Geology Consortium Macalester College 1600 Grand Ave. St Paul, MN 55105	Karl Wirth Editor and Co-Director Macalester College
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Keck Geology Consortium Member Institutions:

Amherst College, Beloit College, Carleton College, Colgate University, The College of Wooster, The Colorado College, Franklin & Marshall College, Macalester College, Pomona College, Trinity University, Washington & Lee University, Whitman College

2025-2026 GATEWAY PROJECTS

TRACE-METAL BEARING SULFIDES AND OXIDES IN CAMBRIAN STRATA OF WEST-CENTRAL WISCONSIN

Faculty: JAY ZAMBITO and JIM ROUGVIE, Beloit College

Peer Mentors: SIMONE DE MONTIGNY and LIA DIRKS, Beloit College

Students: DANIYAR ALI, Colgate University; MADELEINE DIESL, Mount Holyoke College; ANNABELLE DURBIN, Macalester College; ARIN GOLDSTEIN, Amherst College; SAMANTHA HUEPER, Penn State University; DONOVAN JENSEN, Univ Illinois-Urbana Champaign; ARAHAN LIM, Univ California-Berkeley; PARKER MARCHETTI, William & Mary; HALLIE STRAND, Columbia University; ZOE WEISSMAN, Hamilton College

ASSESSING PRE-ERUPTIVE CONTROLS ON EXPLOSIVE AND NON-EXPLOSIVE VOLCANIC ERUPTIONS

Faculty: KURT KNESEL, Trinity University

Peer Mentor: CHARLES LONG, Trinity University

Students: ELISA GARCIA, Franklin and Marshall College; WILLIAM HAMILTON, Trinity University; OWEN KALAPACA, Univ Texas-San Antonio; MATTHEW SANTOS, University of Houston; MORGAN TERPSTRA, Grand Valley State University

GEOLOGIC BOUNDARIES: IDENTIFYING THE TRANSITION TO THE ANTHROPOCENE IN LAKE WONONSCOPOMUC, CONNECTICUT

Faculty: DAVE JONES and ANNA MARTINI, Amherst College; TIM KU, Wesleyan University

Peer Mentor: MIA SANCHEZ, Amherst College

Students: LIAM CHAVEZ, Univ Texas-El Paso; ANTHONY COLLAZO, Univ Puerto Rico-Mayaguez; MOLLY GREANEY, Amherst College; RILEY HIGGINS, College of Wooster; DIVYANOOR KAUR, Rutgers University; JESSE LEBOLT, Amherst College; LILLIANNE MCCULLY, Beloit College; OSCAR SALAS ROMERO, Highline College; KATHRYN TESKE, Macalester College

2025-2026 ADVANCED PROJECTS

CLIMATE AND TREE GROWTH IN A TEMPERATE COASTAL RAINFOREST, SOUTHEAST ALASKA

Faculty: GREG WILES and NICK WIESENBERG, The College of Wooster

Students: LYNNSEY DELIO, The College of Wooster; ISABEL HELD, Scripps College; DEXTER PAKULA, Carleton College; LEV SUGERMAN-BROZAN, Colorado College; LANDON VAUGHAN, Trinity University

Conference Presentations – Wisconsin Gateway Project

- Ali, D., Weissman, Z., Rougvie, J., and Zambito, J., 2025, Magnetic Susceptibility Stratigraphy of the Cambrian Lone Rock Formation, Wisconsin, U.S.A., *in* Geological Society of America Abstracts with Programs, v. 57, p. 2025AM – 10677, doi:[10.1130/abs/2025AM-10677](https://doi.org/10.1130/abs/2025AM-10677).
- De Montigny, S., Diesl, M., Goldstein, A., Hueper, S., Rougvie, J., and Zambito, J., 2025, Trace-Metal Bearing Sulfides and Oxides Constrain Mississippi Valley Type Mineralization in the Cambrian St. Lawrence Formation, Western Wisconsin, *in* Geological Society of America Abstracts with Programs, p. 2025AM – 10701, doi:[10.1130/abs/2025AM-10701](https://doi.org/10.1130/abs/2025AM-10701).
- Dirks, L., Jensen, D., Marchetti, P., Rougvie, J., and Zambito, J., 2025, New Implications for Paleoenvironmental Reconstruction of the Eau Claire Formation in its Type Area, *in* Geological Society of America Abstracts with Programs, p. 2025AM – 10724, doi:[10.1130/abs/2025AM-10724](https://doi.org/10.1130/abs/2025AM-10724).
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Conference Presentations – Connecticut Gateway Project

- Greaney, M., Kaur, D., Chavez, L., Lebolt, J., Collazo, A., Higgins, R., Jones, D.S., Martini, A.M., Ku, T.C.W., Teske, K., McCully, L., Salas Romero, O., and Sanchez, M., 2025, Reconstructing Anthropogenic Activity Using Elemental Proxies in Sediment Cores from Lake Wononscopomuc, CT, Abstract PP51E-0414 presented at AGU25, 15-19 Dec.
- Lebolt, J., Teske, K., McCully, L., Salas Romero, O., Greaney, M., Kaur, D., Higgins, R., Collazo, A., Chavez, L., Sanchez, M., Jones, D.S., Martini, A.M., Ku, T.C.W., and Oostenink, C., 2025, A ^{210}Pb -based Age Model and Hg Record of Industrial Impact from Lake Wononscopomuc, CT, Abstract PP51E-0412 presented at AGU25, 15-19 Dec.

Conference Presentations – Texas Gateway Project

- Long, C., Gingerich, M., Hamilton, W., Kalapaca, O., Santos, M., Terpstra, M., and Knesel, K., 2025, Investigating the Effect of Nanolitization on Melt Viscosity using Raman Spectroscopy, *in* Abstracts with Programs - Geological Society of America, v. 57, p. 2025AM – 11234, doi:[10.1130/abs/2025AM-11234](https://doi.org/10.1130/abs/2025AM-11234).
- Santos, M., Kalapaca, O., Long, C., Gingerich, M., and Knesel, K., 2025, Modeling the Viscosity of Flow-banded Rhyolite using Raman Spectroscopy, *in* Abstracts with Programs - Geological Society of America, v. 57, p. 2025AM – 11212, doi:[10.1130/abs/2025AM-11212](https://doi.org/10.1130/abs/2025AM-11212).
- Terpstra, M., Hamilton, W., Long, C., Gingerich, M., and Knesel, K., 2025, Nano-scale Characterization of Rhyolite Lava using Raman Microscopy, *in* Abstracts with Programs - Geological Society of America, v. 57, p. 2025AM – 10288, doi:[10.1130/abs/2025AM-10288](https://doi.org/10.1130/abs/2025AM-10288).

Conference Presentations – Alaska Advanced Project

- Delio, L., Wiles, G.C., and Wiesenberg, N., 2025, Using alaskan tree-rings to reconstruct lake michigan-huron levels, *in* Abstracts with Programs - Geological Society of America, Geological Society of America (GSA), v. 57, p. Abstract no. 106-29, doi:[10.1130/abs/2025AM-6966](https://doi.org/10.1130/abs/2025AM-6966).
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- Pakula, D.C., Wiles, G.C., and Wiesenberg, N., 2025, Investigating tree-ring evidence for an indian ocean-gulf of Alaska teleconnection, *in* Abstracts with Programs - Geological Society of America, Geological Society of America (GSA), v. 57, p. Abstract no. 106-30, doi:[10.1130/abs/2025AM-6988](https://doi.org/10.1130/abs/2025AM-6988).
- Sugerman-Brozan, L., Lawman, A., and Wiles, G., 2025, Investigating volcanically forced shifts in North Pacific climate in model simulations and Alaska tree ring records, *in* Abstracts with Programs - Geological Society of America, Geological Society of America (GSA), v. 57, p. Abstract no. 106-33, doi:[10.1130/abs/2025AM-6983](https://doi.org/10.1130/abs/2025AM-6983).
- Vaughan, L., Wiles, G.C., and Wiesenberg, N., 2025, A protracted winter: tree-rings indicate an abrupt and persistent cooling in 1698 and 1699 Ce, Gulf of Alaska, *in* Abstracts with Programs - Geological Society of America, Geological Society of America (GSA), v. 57, p. Abstract no. 106-5, doi:[10.1130/abs/2025AM-6970](https://doi.org/10.1130/abs/2025AM-6970).

Short Contributions – Alaska Advanced Project

KECK SEAK25 - CLIMATE AND TREE GROWTH IN A TEMPERATE COASTAL RAINFOREST, SOUTHEAST ALASKA

GREG WILES AND NICK WIESENBERG, The College of Wooster

USING TREE RINGS FROM SOUTHEAST ALASKA TO RECONSTRUCT JANUARY – JUNE MICHIGAN HURON LAKE LEVELS

LYNNSEY DELIO, The College of Wooster

Project Advisor: Greg Wiles

ANALYSIS OF MENDENHALL RIVER DISCHARGE AND A PRELIMINARY TREE-RING BASED RECONSTRUCTION

ISABEL HELD, Scripps College

Project Advisor: Robert Gaines

INVESTIGATING THE INDIAN OCEAN DIPOLE–NORTHEAST PACIFIC TELECONNECTION WITH TREE-RING CHRONOLOGIES FROM ALASKA

DEXTER PAKULA, Carleton College

Project Advisor: Cameron Davidson

INVESTIGATING VOLCANICALLY FORCED SHIFTS IN NORTH PACIFIC CLIMATE IN MODEL SIMULATIONS AND ALASKA TREE RING RECORDS

LEV SUGERMAN-BROZAN, Colorado College

Project Advisor: Allison Lawman

SEVENTEENTH CENTURY VOLCANIC-INDUCED COOLING SIGNALLED BY TREE RING GROWTH, GULF OF ALASKA

LANDON VAUGHAN, Trinity University

Project Advisor: Benjamin Surpless