

# PROCEEDINGS OF THE KECK GEOLOGY CONSORTIUM

Volume 35  
2022-2023 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](mailto:Info@KeckGeology.org)*

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## 2022-2023 Projects

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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, Oberlin College, Pomona College, Trinity University, Union College, Washington & Lee University, Wesleyan University, Whitman College*

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## 2022-2023 GATEWAY PROJECTS

### EXPLORING LATE CRETACEOUS WETLAND ECOSYSTEMS PART 2: DINOSAURS AND VERTEBRATE MICROFOSSILS IN MONTANA

**Faculty:** KRISTI CURRY ROGERS and RAYMOND ROGERS, Macalester College

**Peer Mentor:** BROOKE NOONAN, Macalester College

**Students:** SOPHIA ESQUENET, Macalester College; REBECCA FLOWERS, Carleton College; BREANDA GOMEZ, Amherst College; AUTUMN JESTER, Reynolds Community College  
PEYTON LEWIS, Bowdoin College; MARISA LUFT, Macalester College; IRENE MÉNDEZ CURBELO, University of Puerto Rico Mayagüez; KATYA NICOLAYEVSKY, Colorado College

### LANDSCAPE AND ENVIRONMENTAL CHANGE IN GLACIER NATIONAL PARK (GNP), MONTANA

**Faculty:** KELLY MACGREGOR, Macalester College and AMY MYRBO, Amiable Consulting

**Peer Mentor:** LOU MILLER, Macalester College

**Students:** JOSHUA BRUNS, Williams College; ALLISON HIDALGO, Washington and Lee University; EVELYN SOLIS CABRERA, Pitzer College; REYDALIZ TORRES LOPEZ, SUNY Geneseo

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## 2022-2023 ADVANCED PROJECT

### STRUCTURAL EVOLUTION OF A SEGMENTED NORMAL FAULT TRANSFER ZONE, SEVIER FAULT, SOUTHERN UTAH

**Faculty:** BEN SURPLESS, Trinity University

**Students:** AUDREY JENNINGS, Trinity University; JASPER NEATH, Trinity University; MICHELLE NISHIMOTO, Wellesley College

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## Conference Presentations – Montana Gateway Project

- Mendez-Curbelo, I., Nicolayevsky, K., Luft, M., Flowers, R., Zugschwert, L., Curry Rogers, K., and Rogers, R.R., 2022, Tracking paleoenvironmental associations in vertebrate microfossil bonebeds in the upper Cretaceous (Campanian) Judith River Formation, Montana, Geological Society of America Abstracts with Programs, Vol 54, No. 5, doi:[10.1130/abs/2022AM-379052](https://doi.org/10.1130/abs/2022AM-379052).
- Noonan, B., Lewis, P., Gomez, B., Esquenet, S., Jester, A., Rogers, L., Curry Rogers, K., and Rogers, R.R., 2022, Tiny modification features on fossil bones from vertebrate microfossil bonebeds in the upper Cretaceous (Campanian) Judith River Formation, Montana, Geological Society of America Abstracts with Programs, Vol 54, No. 5, doi:[10.1130/abs/2022AM-379036](https://doi.org/10.1130/abs/2022AM-379036).

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## Conference Presentations – Glacier Gateway Project

- MacGregor, K., Bruns, J., Hidalgo, A., Miller, L., Solis Cabrera, E., Torres Lopez, R., and Myrbo, A., 2022, Sediment transport and deposition in Redrock and Fishercap lakes in Swiftcurrent Valley, Glacier National Park, Montana, USA, Geological Society of America Abstracts with Programs, Vol 54, No. 5, doi:[10.1130/abs/2022AM-377951](https://doi.org/10.1130/abs/2022AM-377951).
- Miller, L., MacGregor, K., Van Wyk De Vries, M., Ito, E., Shapley, M.D., Brignone, G., and Romero, M., 2022, Using cesium-137 to determine sedimentation patterns in two proglacial lakes - Lago Argentino, Southern Patagonian Icefield, Argentina, and Lake Josephine, Glacier National Park, Montana, USA, Geological Society of America Abstracts with Programs, Vol 54, No. 5, doi:[10.1130/abs/2022AM-377913](https://doi.org/10.1130/abs/2022AM-377913).

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## Short Contributions – Utah Advanced Project

### **STRUCTURAL EVOLUTION OF THE SEGMENTED SEVIER NORMAL FAULT, SOUTHERN UTAH**

BENJAMIN SURPLESS, Trinity University

### **MODELING FAULT-RELATED FRACTURING ASSOCIATED WITH A SEGMENTED NORMAL FAULT: IMPLICATIONS FOR GEOTHERMAL ENERGY POTENTIAL**

AUDREY JENNINGS, Trinity University

Project Advisor: Benjamin Surpless

### **MODELING THE SEVIER FAULT ZONE, SOUTHERN UTAH: VALIDITY TESTING AND 3D ANALYSIS**

JASPER NEATH, Trinity University

Project Advisor: Benjamin Surpless

### **NORMAL FAULT-TIP DAMAGE ZONE STRUCTURES AND GEOMETRIES FROM THE SEVIER FAULT, UTAH**

MICHELLE NISHIMOTO, Wellesley College

Project Advisor: Katrin Monecke