Christopher K. Jones, PhD

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Professional Summary

Geochemist and early-career researcher specializing in marine sediment biogeochemistry, trace element cycling, and Earth's evolving habitability. PhD from UC Riverside with postdoctoral research at UC Riverside; strong record of lead-author publications, competitive national fellowships, and multi-institution international field and sea-going expeditions. Committed educator and mentor with sustained undergraduate and graduate mentorship experience and formal pedagogical training.

Education

University of California, Riverside *June 2026*
Doctor of Philosophy, Earth and Planetary Sciences
Oklahoma State University *May 2020*
Bachelor of Science in Geology, Minor in History, summa cum laude

Experience

Postdoctoral Researcher July 2026 – Present
University of California, Riverside
Graduate Student Researcher and Teaching Assistant
2020-2026
University of California, Riverside

- GEO 002: Earth's Climate through Time (Head TA 2021, 2024; TA 2022) | Head TA: develop instructional and assessment content; coordinate laboratory exercises
- GEO 080: Astrobiology (2022, 2023)
- GEO 137: Chemistry of Natural Waters (2025) (Co-instructor)
- GEO 102: Summer Field, Eastern Sierra, CA (June 20-July 20, 2025) | TA: guide construction of paper and digital geologic maps, cross sections, and geologic history reports

Student Research Assistant, Riedinger Biogeochemistry Lab January 2017 – May 2020
Boone Pickens School of Geology, Oklahoma State University
Assistant Director and Peer Consultant August 2017 – May 2020
Oklahoma State University Writing Center

- Coordinator MICR 3333: Molecular Life Science Writing (August 2018 – May 2020)

Visiting Lab Assistant, Department of Geosciences June – July 2018
University of Bremen, Bremen, Germany

Awards and Honors

- Woods Hole Oceanographic Institution Postdoctoral Scholarship (November 2026-May 2028)
- President's Dissertation Year Fellow, University of California, $68,912 (2025-2026)
- Trunzo-Bergquist Endowed Graduate Fellowship, UCR $900 (2025)
- Schlanger Fellowship – US Science Support Program, $30,000 (2024-2025)
- US Science Support Program PEA, $20,000 (NSF OCE-1450528) (2023-2024)
- NSF Graduate Research Fellowship Program – Honorable Mention (2021)
- Chancellor's Distinguished Fellowship, UCR, $40,412 (2020-2021)
- Goldwater Scholar (2019)
- GSA Undergraduate Research Grant, $300 (2019)
- AAPG Austin L. Weeks Undergraduate Research Grant, $500 (2019)

- Oklahoma State University College of Arts and Sciences Orange Gown (2020)
- Wentz Research Scholar, $4500 (2019 –2020)
- Niblack Research Scholar, $8000 (2018 –2019)

Sea-going and Field Experience

- Nilpena Paleontological Site, Nilpena Ediacara National Park, South Australia (June 21 – July 3, 2026)
- R/V SONNE Expedition SO316 (Geochemistry working group leader), Panama City, Panama – San Diego, California (November 21 – December 26, 2025)
- University of California, Riverside Field Camp (Teaching Assistant) Eastern Sierra and White Mountains, California (June 20 – July 20, 2025)
- IODP Expedition 398 (Inorganic Geochemist) Tarragona, Spain – Heraklion, Greece (December 11, 2022 – February 10, 2023)
- Fayetteville Green Lake (Biogeochemistry) Syracuse, New York, USA (August 14 –19, 2022)
- R/V John Strickland (Biogeochemistry) Effingham Inlet, Canada (September 10 – 12, 2021)
- Oklahoma State University Field Camp, Cañon City, Colorado (June 5 – 21, 2019)
- R/V POLARSTERN Expedition PS119 (Biogeochemist) Punta Arenas, Chile – Port Stanley, Falkland/Malvinas Islands (April 15 – June 4, 2019)
- R/V SONNE Expedition SO260 (Biogeochemist) Buenos Aires, Argentina (January 12 – February 14, 2018)

Publications

*Lead Author (*denotes co-first author)*

- Jones CK, Leung M*, Ebadirad S, Sneed E, Lyons TW (2026). Evolution of Earth's Atmosphere. In: Robinson, WA, eds. *Encyclopedia of Atmospheric Sciences.* Third Edition. Elsevier. https://doi.org/10.1016/B978-0-323-96026-7.00226-5
- Jones CK, Leung M, Tu C, Ebadirad S, Marshall N, Tan L, and Lyons TW (2026). Setting the stage: Building and maintaining a habitable world and the early conditions that could favor life's beginnings on Earth and beyond. In: Homann, M, eds. *Archean Earth.* Elsevier. https://doi.org/10.1016/B978-0-323-95547-8.00003-3
- Jones CK, Labonté JM, Haygood LA, Torres ME, Bohrmann G, Lyons TW, and Riedinger N (2025). Impacts on sedimentary microbial communities related to temporal changes in trace element concentrations. Geobiology. https://doi.org/10.1111/gbi.70027
- Jones CK, Riedinger N, Lyons TW, and Torres ME (2021). Data report: Pore water and solid-phase trace element distribution in sediments from IODP Expedition 334 Sites U1378 and U1379. Proceedings of the International Ocean Discovery Program. http://dx.doi.org/10.2204/iodp.proc.334.204.2021
- *Jones CK, Riedinger N, Torres ME, Lyons TW (In preparation). Local controls on marine silicate weathering, alkalinity production, and carbon cycling in surface sediments from the Argentine Basin. Earth and Planetary Science Letters.*

Contributing author

- Klonicki-Ference E, Waters T, **Jones CK**, Hung C, Diamond CW, McCormick M, Lyons TW, and Treude T (Submitted). The potential role of marine biogenic methane cycling on the early Earth biosphere: insights from Green Lake in Fayetteville, New York. Geobiology.
- Papadimitriou V, Polymenakou PN, Nomikou P, Kilias S…*including* ***Jones CK*** (Submitted). Million-year-old metagenomes reveal a hydrothermal biosphere in the deep subseafloor. Nature Communications.

- Yoshimoto T, Yamamoto Y, Tanikawa W, Bowden S, and the Expedition 398 Scientists *including* ***CK Jones*** (Submitted). Excess pore pressure in marine sediments caused by large volcanic eruptions. Journal of Geophysical Research: Solid Earth.
- Della Salla S, Papadamitriou V, Polymenakou P, Kutterolf S, Frieling J, Pyle D, Kilias S, **Jones CK**, and the Expedition 398 scientists (2026). A prolonged and heightened hydrothermal past at Santorini Caldera. Nature Communications. https://doi.org/10.1038/s41467-026-75931-8
- Kutterolf S, Krastel S, Belo J, and the Expedition SO316 Scientists *including* ***Jones CK*** (2026). Rhythms, Magnitude, and Impacts of Volcanic Ash from Explosive Central American Arc Eruptions: IODP3 pre-site survey, CAVA Tephras, Cruise No. SO316, 21.11.2025 - 26.12.2025, Balboa (Panama) - San Diego (USA). In *SONNE-Berichte* (SO316, pp. 1-89). https://doi.org/10.48433/cr_so316
- Metcalfe A, Pank K, Druitt T and the Expedition 398 Scientists *including* ***Jones CK*** (2026). Temporal linkages of explosive activity of Kolumbo and Santorini Volcanoes (Greece). Geology. https://doi.org/10.1130/G53965.1
- McCanta MC, Leight CJ, Camp M, and the Expedition 398 Scientists *including* ***Jones CK*** (2025). Data Report: Visible to shortwave infrared (VSWIR) scanning of selected cores from drill sites U1589 and U1591, IODP Expedition 398, Hellenic Arc Volcanic Field. Proceedings of the International Ocean Discovery Program, 398: College Station, TX (International Ocean Discovery Program). https://doi.org/10.14379/iodp.proc.398.2024
- Metcalfe A, Druitt T, Pank K, and the Expedition 398 Scientists *including* ***Jones CK*** (2025). Tectonic Modulation of Caldera Volcanism on the South Aegean Island Arc. Earth and Planetary Science Letters. https://doi.org/10.1016/j.epsl.2025.119633
- Manga M, Wright V, Cadena and the Expedition 398 Scientists *including* ***Jones CK*** (2025). Contrasting Seismic Velocity and Compaction of Marine Calcareous Oozes and Volcaniclastic Deposits on the South Aegean Volcanic Arc. Geochemistry, Geophysics, Geosystems. https://doi.org/10.1029/2025GC012327
- Kane SR, Ernst S, Gillmann C, **Jones CK**, Lyons TW, and Tino C (2025). "Our Solar System Neighborhood: Three Diverging Tales of Planetary Habitability and Windows to Earth's Past and Future." In: Homann, M, eds. *Archean Earth.* Elsevier. https://doi.org/10.1016/B978-0-323-95547-8.00005-7
- Metcalfe A, Druitt T, Pank K, and the Expedition 398 Scientists *including* ***Jones CK*** (2025). Far-travelled Ash Megaturbidite Fed by Shoreline-crossing Pyroclastic Currents from a Large Explosive Volcanic Eruption. Science Advances. https://doi.org/10.1126/sciadv.ads9642
- Manga M, Tominaga M, Preine J, and the Expedition 398 Scientists *including* ***Jones CK*** (2025). Low heat flow in the Anhydros Basin, Aegean Sea, recorded by deep subsurface temperatures. Geophysical Research Letters. https://doi.org/10.1029/2025GL115919
- Preine J, Crutchley G, Hübscher C, and the Expedition 398 Scientists *including* ***Jones CK*** (2025). Data report: core-seismic integration and time-depth relationships at IODP Expedition 398 Hellenic Arc Volcanic Field sites. Proceedings of the International Ocean Discovery Program, 398: College Station, TX (International Ocean Discovery Program). https://doi.org/10.14379/iodp.proc.398.201.2025
- Ronge TA, Kutterolf S, Fernandez-Perez TI, and the Expedition 398 Scientists *including* ***Jones CK*** (2024). "Data report: X-ray fluorescence scanning of Sites U1591 and U1599, IODP Expedition 398, Hellenic Arc Volcanic Field." Proceedings of the International Ocean Discovery Program, 398: College Station, TX (International Ocean Discovery Program). https://doi:10.14379/iodp.proc.398.204.2024
- Druitt, TH, Kutterolf, S, Ronge, TA, and the Expedition 398 Scientists *including* ***Jones CK*** (2024). Hellenic Arc Volcanic Field. Proceedings of the International Ocean Discovery Program, 398:

College Station, TX (International Ocean Discovery Program). https://doi.org/10.14379/iodp.proc.398.2024

- Priene J, Karstens J, Hübscher C, and the Expedition 398 Scientists *including* ***Jones CK*** (2024). Hazardous explosive eruptions of a rejuvenating multi-cyclic island arc caldera. Nature Geoscience. https://doi.org/10.1038/s41561-024-01392-7
- Druitt T, Kutterolf S, Ronge T, and the Expedition 398 Scientists *including* ***Jones CK*** (2024). Giant offshore pumice deposit records a shallow marine explosive eruption of ancestral Santorini. Nature Communications Earth and Environment. https://doi.org/10.1038/s43247-023-01171-z
- Herbert LC, Zhu Q, Michaud AB, Laufer K, **Jones CK**, Riedinger N, Stooksbury ZS, Klingensmith I, Aller RC, Jørgensen BB, and Wehrmann LM (2021). Benthic iron flux influenced by climate-sensitive interplay between organic carbon availability and diagenetic mineral formation in Arctic fjords (Spitsbergen, Svalbard). Limnology and Oceanography. https://doi.org/10.1002/lno.11885
- Steinmann JW, Grammer GM, Brunner B, **Jones CK,** and Riedinger N (2020). Assessing the application of trace metals as paleoproxies and a chemostratigraphic tool in carbonate systems: A case study from the "Mississippian Limestone" of the Midcontinent, United States. Marine and Petroleum Geology. https://doi.org/10.1016/j.marpetgeo.2019.104061
- Kasten S, Schwenk T, Aromokeye D, and the Expedition SO260 Scientists *including* ***Jones CK*** (2019). Dynamics of sedimentation processes and their impact on biogeochemical reactions on the continental slope off Argentina and Uruguay (MARUM), Cruise No. SO260/Leg 1 & Leg2, Leg 1: January 12 - January 30, 2018, Buenos Aires (Argentina) - Montevideo (Uruguay), Leg 2: February 2 - February, 14, 2018, Montevideo (Uruguay) - Buenos Aires (Argentina), DosProBio. In SONNE-Berichte (SO260, pp. 1-195). https://doi.org/10.2312/cr_so260

Invited Talks

- Jones CK, Lyons TW, Della Salla S, Fernandez-Perez T, and the Expedition 398 Scientists (2026). Biogeochemistry in paradise: constraining the role of volcano-tectonic processes on sedimentary geochemical archives in the Cristiana-Santorini-Kolumbo Volcanic Field. Scripps Institute of Oceanography Marine Geology and Geophysics Seminar.
- Jones CK (2025). What are we actually sampling? University of California, Riverside NASA Alternative Earths Astrobiology Institute Seminar.
- Jones CK (2024). Marine sediments and their carbon cycling, storage, and sequestration capacities. Association of Environmental and Engineering Geologists, Rancho Cucamonga, California.
- Jones CK (2022). The role of trace elements in controlling microbial ecology in marine sediments. University of California, Riverside NASA Alternative Earths Astrobiology Institute Seminar.

Selected Talks, Presentations, and Abstracts (+ denotes student)

Lead author

- **Jones CK**, Lyons TW, Fernandez Perez TI, Joshi KB, McCanta MC, Bernard A, Metcalfe A, Yoshimoto T, Druitt TH, Kutterolf S, Ronge TA, and the IODP Expedition 398 Scientists (2026). Non-traditional biogeochemical redox cascades in extensional basins of the Cristiana-Santorini-Kolumbo Volcanic Field. Abstract ID: 37553. Goldschmidt.
- **Jones CK,** Della Salla S, Polymenakou PN, Kilias S, Fernandez Perez TI, Joshi KB, McCanta MC, Bernard A, Druitt TH, Kutterolf S, Ronge TA, Lyons TW, and Expedition 398 Scientists (2025). Evolving volcano-tectonic and biogeochemical processes controlling hydrothermal iron deposits of the Cristiana-Santorini-Kolumbo Volcanic Field. International Geobiology Conference. (Oral)
- **Jones CK,** Della Salla S, Polymenakou PN, Kilias S, Fernandez Perez TI, Joshi KB, McCanta MC, Bernard A, Druitt TH, Kutterolf S, Ronge TA, Lyons TW, and Expedition 398 Scientists (2025). The interplay of evolving volcano-tectonic and biogeochemical processes in hydrothermal iron deposits of the Cristiana-Santorini-Kolumbo Volcanic Field. SoCalGeoBio. (Oral)

- **Jones CK,** Della Salla S, Polymenakou PN, Kilias S, Fernandez Perez TI, Joshi KB, McCanta MC, Bernard A, Druitt TH, Kutterolf S, Ronge TA, Lyons TW, and Expedition 398 Scientists (2024). Hydrothermal iron in the Santorini caldera – insights from iron speciation and implications for ancient banded iron formations. Geological Society of America. Abstract ID: 404723 (Oral)
- **Jones CK,** Riedinger N, Torres ME, Lyons TW (2024). Local controls on marine silicate weathering and alkalinity production in surface sediments from the Argentine Basin. Goldschmidt. Abstract ID: 24190 (Oral) https://doi.org/10.46427/gold2024.24190
- **Jones CK**, IODP Expedition 398 Scientific Party, TW Lyons (2023). Diagenetic cycling of trace elements in mixed volcaniclastics, hemipelagic muds, and organic-rich oozes of the Hellenic Arc Volcanic Field. Astrobiology Graduate Conference. (Poster)
- **Jones CK**, Labonté JM, Thompson MA, Provenza CM, Torres ME, Bohrmann G, Lyons TW, and Riedinger N (2022). Impact on the sedimentary microbial community related to temporal changes in trace element concentrations. Geobiology Gordon Research Conference and Seminar. (Oral – Seminar; Poster - Conference)
- **Jones CK**, Labonté JM, Thompson MA, Provenza CM, Torres ME, Bohrmann G, Lyons TW, and Riedinger N (2021). Impact on the sedimentary microbial community related to temporal changes in trace element concentrations. American Geophysical Union. Abstract ID 950135. (Poster)
- **Jones CK,** +Archer J (presenting), Riedinger N, Melcher AC, Köster M, Volz J, Dohrmann I, Henkel S and Kasten S (2020). Impact of physical properties on biogeochemical trace metal cycling in modern marine surface sediments of the Argentine Basin. Geological Society of America – South Central. (Poster)
- **Jones CK,** Riedinger N, Labonté J, Köster M, Bohrmann G and Torres M (2020). Potential impact on the sedimentary microbial community related to temporal changes in trace metal concentrations. Gordon Geobiology Research Conference. (Poster)
- **Jones CK,** Riedinger N, Melcher AC, Köster M, Volz J, Dohrmann I, Henkel S and Kasten S (2019). Local and temporal variability of biogeochemical trace metal cycling in marine surface sediments. American Geophysical Union. Abstract ID 600403. (Poster)
- **Jones CK,** Smith C, Lee KJ (2019). STEM Inquiry Group developing best practices for working with STEM Writers. South Central Writing Centers Association. (Oral)
- **Jones CK** (2019). Local and temporal variability of biogeochemical trace metal cycling in marine surface sediments. Niblack Research Symposium, OSU. (Oral)
- **Jones CK** (2018). Microbes and Metals: Incorporation or Inhibition. Hanse Wissenschaftskolleg, Delmenhorst, Germany. (Oral)

Contributing author

- Swing MR, Gregory DD, Perea DE, Taylor SD, Wirth MG, Bougoure JJ, Figueroa MC, **Jones CK**, and Lyons TW (2025). Distribution of trace elements in framboidal pyrite at the nanoscopic scale from modern euxinic and seasonally anoxic environments. Geological Association of Canada-Mineralogical Association of Canada.
- Della Salla S, Frieling J, Pyle D, Mather T, Druitt TH, Kutterolf S, Ronge TA, and Expedition 398 scientists *including* **Jones CK** (2024). Evidence for a Byzantine-era Hydrothermal Event in Santorini's Caldera from Hg in IODP expedition 398 sediments. Geological Society of America. Abstract ID: 401835 (Oral)
- Klonicki-Ference E, Treude T, Waters T, **Jones CK**, Hung C, Diamond CW, Lyons TW (2024). The potential role of marine biogenic methane cycling on the early Earth biosphere: insights from Green Lake in Fayetteville, New York. EGU General Assembly 2024.
- Riedinger N, Haygood L, Shook E, **Jones CK**, Lichtschlag A, Köster M, Torres ME, and Bohrmann G (2023). Sedimentary accumulation of critical metals nearby hydrothermal vent fields and volcanic islands. Goldschmidt. Abstract ID: 20164

- Haygood L, **Jones CK**, Troxel A, Huck L, Provenza CM, Veresh A, Quan T, Lichtschlag A, Köster M, Torres ME, Bohrmann G, and Riedinger N (2023). Iron oxides as trace metal carriers near hydrothermal vents: a potential indicator for local oceanographic changes. Goldschmidt. Abstract ID: 20457
- Provenza, CM, **Jones CK**, Haygood L, Torres ME, Bohrmann G, and Riedinger N (2022). Sedimentary noble metal signals as tracers for hydrothermal vent input. Goldschmidt. Abstract ID: 13142
- Riedinger N, **Jones CK**, Köster M, Bohrmann G, Colwell FS, and Torres ME (2020). Trace metal cycling in the upper sedimentary redox zones in an ocean desert. Goldschmidt.
- Riedinger N, **Jones CK,** Volz J, Köster M, Melcher AC, Dohrmann I, Henkel S, Schwenk T and Kasten S (2019). The impact of depositional conditions and bathymetric features on trace metal cycling in continental margin sediments. American Geophysical Union. Abstract ID 598464.
- Smith C, **Jones CK** (2019). Promoting undergraduate involvement in the writing center through participating in the interviewing and hiring process: an elastic application of our staff and resources. South Central Writing Centers Association Annual Conference (Oral)

Advised and Mentored Students

- Mickayla Martinez – UCR (B.S. Earth Science) (2023-2024)
- Jacob Archer – OSU (B.S. Geology; M.S. Structural Geology) (2019-2020)
- Goldwater Scholarship Program Mentees (*denotes awarded scholar):
- Ceyda Kara* (2026), Xander Rouk (2026), Adriahna Blackburn* (2025), Nash Nevels* (2025), Angelique Robinson* (2025), Zakaria Khan* (2024), Christine Swanson* (2023), Rayyan Ayoub* (2023), Annabelle Recinos* (2022), Georgia Frances Eastham* (2022), Ibrahim Maaz* (2022), Andrea Ceja (2022), Madalyn Hernandez* (2022), Kathy Tran (2022), Advyth Ramachandran* (2022), Zoe Dietrich* (2022)

Educational and Pedagogical Training

- Power of the Peers Conference (2025)
- University of California, Riverside Teaching Certificate Program (2023-2024 cohort; 20-week training)
- University of California, Riverside Teaching Assistant Development Program Workshops: Decolonization in Pedagogical Practice, Effective Instruction in a Laboratory Setting, New Technologies in the Classroom to Foster Student Engagement, Providing Constructive Feedback

Service, Outreach, and Community Involvement

University of California, Riverside

- Earth and Planetary Sciences Hewett Seminar – Organizer (2023-2024)
- Undergraduate Prestigious Awards and Fellowships Panelist (November 21, 2023)
- Geoscience Outreach Program (GEOP) (September 2021 – June 2026)
- Earth and Planetary Sciences Graduate Student Representative (2021 – 2022)
- Southern California Geobiology Symposium - Organizer (2022, 2026)
- Goldwater Scholarship Mentor (January 2021 – Present)

International Ocean Discovery Program

- IODP Interstitial Water Workshop (September, 2024)
- IODP FOCUS Workshop (May, 2024)
- IODP Science Mission Requirements Workshop (May, 2022)

Oklahoma State University

- OSU Prestigious Fellowships Writer's Workshop – Mentor (January 2025, 2026)
- Windows on the World – Mentor (September 2022 – Present)
- Marine Geology Camp – Instructor (July 2019)
- Undergraduate Student Representative to Geology Faculty (2017-2019)

Broader Society and Community Involvement

- Referee for *Geobiology*, *American Journal of Science, Journal of the Geological Society of London, Paleoceanography and Paleoclimatology, Bulletin of Geosciences, Marine Geology*
- Invited Podcast: Tales from the Deep (September 15, 2025)
- Riverside-Sendai Sister City Committee, Riverside City Council (January 2024 – Present)
- Organizer – Riverside Chapter, International Front Runners (July 2023 – July 2024)
- Letters to a Prescientist (August 2022 - May 2023)
- Executive Secretary – NASA Review Panel (2021, 2024)
- Judge, Riverside Unified School District Science Fair (January 12, 2021)
- Skype a Scientist (January 2021 – Present)
- Science Streams – Connected Conversations (February 10, 2021)

Professional Organizations

- Geochemical Society (2024 – present)
- Geological Society of America (2019 – present)
- American Geophysical Union (2018 – present)

Relevant Certifications

- Wilderness First Aid, CPR, Epinephrine