

Jordan Landers

PHD STUDENT · EARTH SCIENCES

University of Southern California, Los Angeles, CA

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Interests

paleoclimate, chemical oceanography, isotope geochemistry, nonlinear dynamics, regime shifts, fractals, empirical dynamical modeling, scientific Python (e.g. Numpy, Scikit-Learn, Pandas, Matplotlib, Cartopy, Xarray), machine learning, cluster analysis, database design, data visualization, pedagogy, neurodiversity in education...

Education

University of Southern California

PH.D CANDIDATE (QUALIFIED: 12/2024)

- Advisor: Julien Emile-Geay

Los Angeles, CA

1/2022 - present

Columbia University

MA EARTH AND ENVIRONMENTAL SCIENCE

- Advisors: Samar Khatiwala, Bob Anderson, Steve Goldstein

New York City, NY

9/2010 - 8/2013

Williams College

BA MATHEMATICS

- Concentration: Maritime Studies (w/ Paleoceanography thesis)
- Honors thesis/undergrad research advisor: Mea Cook

Williamstown, MA

9/2004 - 6/2009

Professional Experience

- 2020-2022 **Data Scientist/Product Manager (Haptics Consulting)**, SynTouch Inc, Montrose, CA
- 2019 **Data Scientist (Neuroscience)**, GreenWings Biomedical/UCLA
- 2019 **Entrepreneurial Lead, NSF iCorp**, GreenWings Biomedical/UCLA
- 2014 **Freelance Educational Testing Consultant (Environmental Charter High School)**, Lawndale, CA
- 2014 **Freelance Educational Technology Consultant (Palisades Charter High School)**, Los Angeles, CA
- 2010 **Research Assistant (Delia Oppo & Bill Curry)**, Woods Hole Oceanographic Institution, Woods Hole, MA
- 2009 **Summer Student Fellow**, USGS/Woods Hole Oceanographic Institution, Woods Hole, MA

Publications

PEER-REVIEWED

- [1] **Landers, J.**, Emile-Geay, J., James, A., Munch, S., and Khider, D. 2025a. "A causal examination of the solar influence on Holocene climate". *Geophysical Research Letters*. In revision.
- [2] Khider, D., Emile-Geay, J., Zhu, F., James, A., **Landers, J.**, Ratnakar, V., and Gil, Y. 2022. "Pyleoclim: Paleoclimate Timeseries Analysis and Visualization With Python". *Paleoceanography and Paleoclimatology* 37.10, e2022PA004509.
- [3] Guilderson, T., Allen, K., **Landers, J.**, Ettwein, V., and Cook, M. 2021. "Can We Better Constrain the Timing of GNAIW/UNADW Variability in the Western Equatorial Atlantic and Its Relationship to Climate Change During the Last Deglaciation?" *Paleoceanography and Paleoclimatology* 36.8, e2020PA004187.
- [4] Zorick, T., **Landers, J.**, Leuchter, A., and Mandelkern, M. 2020. "EEG multifractal analysis correlates with cognitive testing scores and clinical staging in mild cognitive impairment". *Journal of Clinical Neuroscience* 76, pp. 195–200.

CONFERENCE PROCEEDINGS

- [1] **Landers, J.**, Emile-Geay, J., James, A. K., Munch, S. B., and Khider, D. 2025b. “Did the Sun influence Holocene climate?” *15th International Conference on Paleoceanography (ICP15)*. Bengaluru, India.
- [2] Khider, D., Ratnakar, V., Emile-Geay, J., Zhu, F., James, A., **Landers, J.**, Gil, Y., Osorio, M., Vargas, H., and McKay, N. Dec. 2023. “PaleoCube: Enabling cloud-based paleoclimatology”. *AGU Fall Meeting Abstracts*. Vol. 2023. 603. San Francisco, CA, IN23B–0603.
- [3] **Landers, J.**, Emile-Geay, J., and Khider, D. 2023a. “PaleoBooks: A Library of JupyterBooks for Paleoclimate Research”. *Building upon the EarthCube Community*. Information Sciences Institute, Marina del Rey, CA.
- [4] **Landers, J.**, Emile-Geay, J., and Khider, D. Dec. 2023. “Water mass classification by clustering passive tracer distributions - a first foray”. *AGU Fall Meeting Abstracts*. Vol. 2023. San Francisco, CA, OS41C–1762.
- [5] Guilderson, T., Allen, K., Cook, M., Ettwein, V., and **Landers, J.** Dec. 2019. “Can we better constrain the timing of GNAIW variability in the Western Equatorial Atlantic and its relationship to high North Atlantic climate during the last deglaciation? (PP13B-1430)”. *AGU Fall Meeting Abstracts*. San Francisco, CA.
- [6] **Landers, J.**, Hartman, A., Goldstein, S., Anderson, R., Khatiwala, S., and Gersonde, R. Nov. 2011. “Toward a better understanding of Nd isotopes in the North Pacific: observations and modeling of Nd in the North Pacific basin”. *3rd GEOTRACES Data-Model Synergy Workshop*. Barcelona, Spain.
- [7] **Landers, J.**, Cook, M., Sikes, E., and Guilderson, T. Feb. 2010. “Reconstruction of radiocarbon of intermediate water from the SW Pacific during the last deglaciation(PA25B-16)”. *Association for the Sciences of Limnology and Oceanography (ASLO), Ocean Sciences Meeting*. Portland, OR.
- [8] **Landers, J.**, Terenzi, F., and Khatiwala, S. Dec. 2010. “Transient response of the CO₂ airborne fraction to fluctuations in emissions: the role of climate-carbon feedbacks versus emissions growth rate”. *AGU Fall Meeting Abstracts*. San Francisco, CA.

EDUCATIONAL MATERIALS

- [1] **Landers, J.** 2022. *C-iTRACE (and friends) PaleoBook*, https://linked.earth/citrace_paleobook/README.html.
- [2] **Landers, J.** and Emile-Geay, J. 2022. *LMR-CMIP6 Paleobook*, https://linked.earth/LMR_CMIP_paleobook/README.html.

Presentations

CONFERENCE TALKS

- [1] **Landers, J.**, Emile-Geay, J., James, A., Munch, S., and Khider, D. 2025c. “Detecting Nonlinear Solar–Climate Linkages over the Holocene with Convergent Cross-Mapping”. Abstract PP11A-03, 08:50–09:00, December 15, 2025. New Orleans, LA.

SEMINARS

- [1] **Landers, J.** 2025. *Nothing like the Sun? A causal examination of the solar influence on Holocene climate*. Seattle, WA.
- [2] **Landers, J.** 2024. *Nothing like the Sun? A causal examination of the solar influence on Holocene climate*. Los Angeles, CA.

Teaching Experience

Spring 2022, 2024, 2026 **GEOL351: Climate Dynamics**, Teaching Assistant

University of Southern California

Co-developed, ran, and graded weekly labs exploring different aspects of dynamical systems using Jupyter Notebooks for primarily late-undergraduate students with minimal prior exposure to Python. Also held weekly office hours.

June 2023 **Bring Your Own Data Workshop**, Instructor

Information Sciences Institute/USC

Mentored graduate students with various levels of programming proficiency in analyzing and visualizing their data using Python. Taught mini lectures on introduction to Pyleoclim, navigating the diverse world of cloud accessible data, and working with model output in Xarray.

Spring 2023 **GEOL150: Climate Change**, Teaching Assistant

University of Southern California

Collaborated with an instructional team to redesign lab materials for and teach three weekly lab sections of introductory climate science.

Spring 2013 **Chemical Oceanography**, Teaching Assistant

Columbia University

Ran weekly office hours and graded problem sets as the only T.A. supporting a mix of undergraduate and graduate students prepare for exams and complete problem sets. Designed final project and accompanying lecture about the fundamentals of Ocean Data View. Did all non-exam grading.

Fall 2010 **Introduction to Atmospheric Science**, Teaching Assistant

Columbia University

Ran weekly office hours and graded problem sets as the only T.A. supporting a mix of undergraduate and graduate students prepare for exams and complete problem sets.

Department Service

DEPARTMENT SERVICE

Paleo/Environmental Seminar Series

University of Southern California

CO-ORGANIZER

2024-2025

Scheduled, coordinated and hosted speakers for year-long Friday seminar series

Graduate Student Council

University of Southern California

REPRESENTATIVE

2023-2024

Served as liaison with department between graduate students and faculty

Community Engagement

OPEN SOURCE SOFTWARE

Pyleoclim

DEVELOPER

2022-present

Maintain and develop functionality for paleoclimate timeseries analysis and visualization Python package (<https://pyleoclim-util.readthedocs.io>)

Pangeo-Forge

CONTRIBUTOR

2022-present

Write recipes to facilitate cloud access to memory-intensive multi-part datasets (<https://pangeo-forge.org>)

OUTREACH

PaleoBooks Library

LEAD

2022-present

Designed and built PaleoBooks library using sphinx-design framework and JupyterBooks publishing.

(<http://linked.earth/PaleoBooks/index.html>)

Demerara Rise Cruise Blog

CONTRIBUTOR

2010

Participated as an undergraduate blogger and photographer connecting the paleoceanographers at sea to the non-science community back on land through photographs and accessible science writing.

(<http://science.whoi.edu/GG/demarara/DemararaRise-Knorr2010>)