Matthew Salinas

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SUMMARY

Current graduate student pursuing a PhD in Earth Sciences. My current research utilizes paleoseismology to advance our understanding of seismic hazard in spatiotemporally variable fault systems. My previous work focused on evaluating driving mechanisms of geothermally induced earthquakes. My passion lies in advancing our understanding of what drives earthquakes and how to examine seismic hazard.

EDUCATION

Ph.D. Earth Sciences, University of Southern California (USC) *2025-*
B.S. Earth and Environmental Science, Highest Honors, University of Michigan (UM) *2021-2025*

RESEARCH EXPERIENCE

Research Assistant – Active Tectonics Group, USC *2025-*
Student Researcher – Huang Group, UM *2023-2025*
Summer Intern – NSF REU (RORD), UC Santa Cruz *2023*
Assistant Researcher – Isotopologue Paleosciences Laboratory (IPL), UM *2022-2023*
Student Researcher – Undergraduate Research Opportunities Program, UM *2021-2022*

RESEARCH PRODUCTS

Publications

Kelson, J. R., Huth, T. E., Andrews, K., Bartleson, M. N., Cerling, T. E., Jin, L., Salinas, M. P., & Levin, N. E. (2025). Pedogenic carbonate as a transient soil component in a humid, temperate forest (Michigan, USA). *Quaternary Research*, *124*, 105–120. https://doi.org/10.1017/qua.2024.41

Posters

"Linking Spatiotemporal b-Value Evolution to Physical Mechanisms Influencing EGS Induced…" *(SSA25)*
"Analysis of Spatiotemporal B-Value Evolution Across Different EGS Induced Seismicity Sequences" *(AGU24)*
"Nature's Kiln: How clay gouge evolves from frictional heating during earthquakes" *(AGU23)*

Honors Thesis

"EGS Induced Seismicity Through the Lens of Spatiotemporal b-values"

TEACHING EXPERIENCE

Teaching Assistant – Geol 240: Earthquakes, USC *2025*
Undergraduate Instructional Aid – Earth 132: Earth Math, UM *2024*
Undergraduate Instructional Aid – Earth 118: Introduction to Earth Sciences, UM *2024*
Camp Counselor – Earth Camp, UM *2022*

SERVICE AND TRAINING

Undergraduate Representative – Geoclub, UM 2024-2025
Foundational Course Initiative – CRLT, UM 2024
URGE – Dept. Earth and Environmental Sciences, UM 2023

SKILLS

Data Visualization
Python, MATLAB, QGIS
Programming
Python, MATLAB, C++, Java
Mapping
Field mapping, QGIS, Google Earth Pro
Math
Multivariate Calculus, Ordinary Differential Equations, Applied Linear Algebra
Communications
Teaching, Club Leadership, Public Speaking, Newsletter coordination