

Dylan A. Vasey

Assistant Professor
Department of Earth and Climate Sciences
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Education

University of California, Davis – Ph.D., Earth and Planetary Sciences, 2023

University of California, Davis – M.S., Geology, 2018

Amherst College – B.A., *summa cum laude* with Distinction, Black Studies/History, 2014

Professional Experience

- 2023-Present **Assistant Professor, Tufts University**, Medford, MA
(Courses Taught: ECS 1 – Intro to Earth, Environment, and Resources, ECS 22 - Structural Geology, ECS 23 – Advanced Tectonics)
- 2016-2023 **Teaching Assistant, University of California, Davis**, Davis, CA
(Courses Taught: GEL 36 – Solar System, GEL 50 – Physical Geology Lecture, GEL 50L – Physical Geology Lab, GEL 60 – Earth Materials, GEL 101L – Structural Geology Lab, GEL 103 – Field Geology, GEL 105 – Igneous Rocks, GEL 106 – Metamorphic Rocks, GEL 110 – Summer Field Geology)
- 2020 **Associate Instructor (Instructor of Record), University of California, Davis**, Davis, CA (GEL 17 – Earthquakes and Other Natural Hazards)
- 2016 **Associate Instructor (Teaching Assistant), Indiana University Geologic Field Station**, Cardwell, MT (G429 – Field Geology in the Rocky Mountains)
- 2014-2015 **English Teaching Assistant (Instructor of Record), Faculté Polydisciplinaire de Ouarzazate**, Ouarzazate, Morocco
(Courses Taught: Debate, English/French Translation, English for Tourism, British and American Educational Systems, Educational Technology, Teaching Writing and Grammar)

Peer-Reviewed Manuscripts

- Vasey, D.A.**, Gouiza, M., Pomeroy, J.T., and VanTongeren, J.A., *in review*, The Western Moroccan Meseta as a transient intra-rift high within the Central Atlantic rift system: Tectonics.
- Zwaan, F., Brune, S., Glerum, A., **Vasey, D.A.**, Naliboff, J.B., Manatschal, G., and Gaucher, E., 2026, The impact of erosion efficiency on rift-inversion orogen evolution: Implications for serpentinitization-derived natural H₂ resources. *Journal of Geophysical Research: Solid Earth*, v. 131, no. 5, e2025JB033255, doi:10.1029/2025JB033255
- Vasey, D.A.**, Scully, P.M., Naliboff, J.B., and Brune, S., 2026, Technical note: Geodynamic Thermochronology (GDTchron) – A Python package to calculate low-temperature thermochronometric ages from geodynamic numerical models. *Geochronology*, v. 8, 209-222, doi:10.5194/gchron-8-209-2026

- Vasey, D.A.**, Cowgill, E., VanTongeren, J.A., and *Anderson, C.O.*, 2025, Relict back-arc basin crustal structure in the western Greater Caucasus. Georgia. *Geochemistry, Geophysics, Geosystems*, v. 25, no. 5, e2024GC012036, doi:10.1029/2024GC012036
- Zwaan, F., Brune, S., Glerum, A., **Vasey, D.A.**, Naliboff, J.B., Manatschal, G., and Gaucher, E., 2025, Rift-inversion orogens are potential hotspots for natural H₂ generation. *Science Advances*, v. 11, no. 8, eadr3418, doi:10.1126/sciadv.adr3418
- Vasey, D.A.**, Naliboff, J.B., Cowgill, E., Brune, S., Glerum, A., and Zwaan, F., 2024, Impact of rift history on the structural style of intracontinental rift-inversion orogens. *Geology*, v. 52, no. 6, 429-434, doi:10.1130/G51489.1
- Vasey, D.A.**, *Garcia, L.*, Cowgill, E., Trexler, C.C., and Godoladze, T., 2024, Episodic evolution of a protracted convergent margin revealed by detrital zircon geochronology in the Greater Caucasus. *Basin Research*, v. 36, no. 1, e12825, doi:10.1111/bre.12825.
- Trexler, C.C., Cowgill, E., **Vasey, D.A.**, and Niemi, N.A., 2023, Total shortening estimates across the western Greater Caucasus Mountains from balanced cross sections and area balancing. *Tektonika*, v. 1, no. 2, doi:10.55575/tektonika2023.1.2.50.
- Yao, J., Castro, A., Roberts, N.M., Wolfe, O., Brunet, I., and **Vasey, D.A.**, 2023, Phase equilibria evidence for intermediate P/T metamorphism in the Nashoba terrane and implications for Acadian tectonics in Ganderia. *Lithosphere*. V. 2023, no. 1, lithosphere_2023_105, doi:10.2113/2023/lithosphere_2023_105.
- Stahl, T. A., Cowgill, E., Boichenko, G., **Vasey, D. A.**, and Godoladze, T., 2022, Recent surface rupturing earthquakes along the south flank of the Greater Caucasus near Tbilisi, Georgia. *Bulletin of the Seismological Society of America*, v. 112, no. 4, 2170–2188, doi:10.1785/0120210267
- Trexler, C. C., Cowgill, E., Niemi, N. A., **Vasey, D. A.**, and Godoladze, T., 2022, Tectonostratigraphy and major structures of the Georgian Greater Caucasus: Implications for structural architecture, along-strike continuity, and orogen evolution. *Geosphere*, v. 18, no. 1, 211–240, doi:10.1130/GES02385.1
- Vasey, D.A.**, Cowgill, E., and Cooper, K.M., 2021, A preliminary framework for magmatism in modern continental back-arc basins and its application to the Triassic-Jurassic tectonic evolution of the Caucasus: *Geochemistry, Geophysics, Geosystems*, v. 22, e2020GC009490, doi:10.1029/2020GC009490.
- Vasey, D.A.**, Cowgill, E., Roeske, S.M., Niemi, N.A., Godoladze, T., Skhirtladze, I., and Gogoladze, S., 2020, Evolution of the Greater Caucasus basement and formation of the Main Caucasus Thrust, Georgia: *Tectonics*, v. 39, no. 3, e2019TC005828, doi:10.1029/2019TC005828.

Italics indicates undergraduate mentee co-author.

Theses Supervised (Undergraduate)

- Scully, P., 2025, Integrating models of rift-inversion orogens with forward modeling of low-temperature thermochronologic systems, Tufts University.
- Garcia, L., 2022, Detrital zircon provenance pushes back-arc basin suture to the frontal thrust of the North Georgia fault system in the Greater Caucasus, UC Davis.

Research Grants

- 2026 USGS Earth MRI (via Massachusetts Geological Survey)

(Pre-proposal submitted, PI)
 2025 NSFGEO-NERC (EAR-SPSE) 2614865
 (Declined, Lead PI, \$293,601 to Tufts, \$781,755 total)
 2024 NSF EAR-Geophysics 2510984
 (Declined, Lead PI, \$393,348 to Tufts, \$482,855 total)
 2024 Harvard Travellers Club Permanent Fund Grant
 (Funded, \$6,000)
 2023 NSF EAR-Geoinformatics 2411250
 (Declined, PI, \$47,537 to Tufts, \$395,673 total)
 2021 NSF EAR-Tectonics 2050623 (Funded, Graduate Student Co-Author)
 2017-2021 UC Davis Durrell Fund Grant
 2020 American Research Institute of the South Caucasus Research Grant
 2017, 2020 Sigma Xi Grants-in-Aid of Research
 2017, 2020 Geological Society of America Graduate Research Grant

Honors and Awards

2025, 2026 Tufts FRAC Open Access Publishing Award
 2022 Warren Hamilton Field Trip Award (GSA)
 2019 Geological Society of America Structural Geology and Tectonics Division Field Trip Grant
 2019 UC Davis Graduate Student Association Travel Award
 2018 UC Davis Graduate Student Travel Award
 2016-2018 John Mason Clarke 1877 Fellowship (Amherst College)
 2016 National Science Foundation Graduate Research Fellowship Honorable Mention
 2016 Inducted in Sigma Xi
 2014 Fulbright Fellowship (English Teaching Assistant – Morocco)
 2014 Edward Jones Prize (Amherst College)
 2014 John Petropoulos Prize in Historical Scholarship (Amherst College)
 2014 Elected to Phi Beta Kappa
 2013 Marshall Scholarship Finalist
 2012 Charles W. Cole Scholarship (Amherst College)

Invited Talks

Vasey, D.A., 2025, Mountain building and the creation of continents. Tufts Breakthrough Research Journal Speaker Series.
Vasey, D.A., 2024, Rift-inversion orogens: The interface of plate-boundary and intraplate deformation. University of Massachusetts Amherst Department of Earth, Geographic, and Climate Sciences Guest Lecture Series.
Vasey, D.A., 2024, Building continental lithosphere in convergent margins via basin closure and tectonic accretion: Insights from the Greater Caucasus Mountains. University of Wyoming Department of Geology & Geophysics Distinguished Lecture Series.
Vasey, D.A., 2022, Formation of the Greater Caucasus Mountains by ocean closure and collision of the Arabian/Eurasian tectonic plates. American Research Institute of the South Caucasus Online Event Series.

Conference Abstracts (First-Author Only)

- Vasey, D.A.,** Gouiza, M., and VanTongeren, J.A., 2025, Impact of Permian to Early Jurassic Rifting in the Western Moroccan Meseta on Subsequent Orogenesis in the Moroccan Atlas Mountains, Abstract 88-7 presented at 2025 Annual Meeting, GSA, San Antonio, TX, 19-22 Oct.
- Vasey, D.A.,** Naliboff, J.B., *Scully, P.M.*, Brune, S., Glerum, A., and Zwaan, F., 2025, Modeling structural styles and thermochronometric ages in rift-inversion orogens to test pre-orogenic conditions. Abstract EGU25-4863 presented at 2025 General Assembly, EGU, Vienna, Austria, 27 Apr.-2 May.
- Vasey, D.A.,** *Garcia, L.*, Cowgill, E., Trexler, C.C., and Godoladze, T., 2023, Episodic evolution of a protracted convergent margin revealed by detrital zircon geochronology in the Greater Caucasus. Presented at 2023 Geochronology Gordon Research Conference, West Dover, VT, 13-18 Aug.
- Vasey, D.A.,** *Garcia, L.*, Cowgill, E., and Godoladze, T., 2022, Episodic evolution of a protracted convergent margin revealed by detrital zircon geochronology in the Greater Caucasus, Abstract 148-4 presented at 2022 Annual Meeting, GSA, Denver, CO, 9-12 Oct.
- Vasey, D.A.,** Naliboff, J.B., and Cowgill, E., Continental rift inversion: Modeling the transition between intracontinental and plate boundary collisional orogenesis, Presented at 2022 Structure and Deformation at Plate Boundaries Synthesis Workshop, GeoPRISMS, Honolulu, HI, 16-18 Mar.
- Vasey, D.A.,** Naliboff, J.B., and Cowgill, E., Modeling the effects of initial continental rift structure on the symmetry and vergence of collisional orogens formed by rift inversion, Abstract 901290 presented at 2021 Fall Meeting, AGU, Virtual, 13-17 Dec.
- Vasey, D.A.,** Cowgill, E., and Cooper, K.M., Geochemistry of modern continental back-arc basins and Triassic-Jurassic collision-induced back-arc spreading in the Caucasus, Abstract 74-12 presented at 2020 Annual Meeting, GSA, Virtual, 26-30 Oct.
- Vasey, D.A.,** Cowgill, E., and Niemi, N.A., 2019, The geology of cryptic sutures: An example from the Western Greater Caucasus, Abstract 141-11 presented at 2019 Annual Meeting, GSA, Phoenix, AZ, 22-25 Sep.
- Vasey, D.A.,** Cowgill, E., Niemi, N.A., Godoladze, T., Javakhishvili, Z., Boichenko, G., and Skhirtladze, I., 2018, A microstructural and thermochronometric view of the early stages of continental collision from the Greater Caucasus in the Republic of Georgia, Abstract EGU2018-13030 presented at 2018 General Assembly, EGU, Vienna, Austria, 8-13 Apr.
- Vasey, D.A.,** Cowgill, E., Niemi, N.A., Godoladze, T., Javakhishvili, Z., Skhirtladze, I., and Boichenko, G., 2017, Did the basement-involved Main Caucasus Thrust form during Cenozoic Arabia-Eurasia collision?, Abstract T51H-06 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.

Service

2025	Reviewer for <i>Tektonika, Geology</i>
2024-Present	Member, Tufts University Education Abroad Committee
2024-Present	Transfer Credit Representative – Tufts University Earth and Climate Sciences
2024-Present	Van Steward – Tufts University Earth and Climate Sciences
2024	Reviewer for <i>Precambrian Reserach</i>
2023	Tufts University Search Committee – Assistant Professor in Surface Processes
2023	Reviewer for <i>Journal of Petrology</i>

2023	Discussion Leader, Gordon Research Seminar in Geochronology
2021-2022	UC Davis Department of Earth and Planetary Sciences Seminar Committee
2017-2021	UC Davis Graduate Student Association Representative
2017	Organizer for Structural Geology Activity at UC Davis Picnic Day