Eric O. Lindsey

Assistant Professor
Department of Earth and Planetary Sciences
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Employment and Education

2021 - present: Assistant Professor, University of New Mexico.

2015 – 2020: Research Fellow, Earth Observatory of Singapore.

2015 – 2017: Visiting Scholar, University of California, Berkeley.

2015: Ph.D. Earth Sciences, Scripps Institution of Oceanography, University of California, San Diego.

2010: M.S. Physics, University of Oregon, Eugene, Oregon.

2008: B.A. Physics, Reed College, Portland, Oregon.

Publications:

*adivsed student, †advised postdoctoral scholar

40. **Lindsey, E. O.**, Kuo, Y.-T., Wang, Y., Thant, M., Tin, T. Z. H., Mature fault mechanics revealed by the highly efficient 2025 Mandalay earthquake, *Nat. Comms.*, 16, 10937, doi:10.1038/s41467-025-65942-2, 2025.

39. Qiu, Q., **Lindsey, E. O.**, Feng, L., Li, L., Zhang, P., Lin, J., A new hybrid method illuminates frictional properties of tsunami earthquakes, *Comms. Earth Env.*, 6, 888, doi:10.1038/s43247-025-02873-2, 2025.

38. Glehman, J., Gabriel, A.-A., Ulrich, T., Ramos, M. D., Huang, Y., **Lindsey, E. O.**, Partial ruptures governed by the complex interplay between geodetic slip deficit, rigidity, and pore fluid pressure in 3D Cascadia dynamic rupture simulations, *Seismica*, 2, 4, doi:10.26443/seismica.v2i4.1427, 2025.

37. Maier, N., Rodriguez, E. E., Grapenthin, R., Newman, A., Donahue, C., **Lindsey, E. O.**, Roberts, P., **Devine, S. C.***, Limited surface deformation, seismicity, and seismic velocity changes observed in Valles Caldera over decadal timescales, *J. Volcanol. Geotherm. Res.*, 460, 108283, doi:10.1016/j.jvolgeores.2025.108283, 2025.

36. **Chong, J.-H.***, Oryan, B., Steckler, M., **Lindsey, E. O.**, Interseismic uplift of anticlines above the Rakhine-Bangladesh Megathrust from ALOS-2 InSAR, *J. Geophys. Res. Solid Earth*, 130, e2024JB030003. doi:10.1029/2024JB030003, 2025.

35. **Panda, D.**† and **Lindsey, E. O.**, Variation in interseismic plate coupling and long-term fault behavior along the Himalayan megathrust, *J. Geophys. Res. Solid Earth*, 129, e2024JB029819, doi:10.1029/2024JB029819, 2024.

34. **Devine, S. C.***, **Lindsey, E. O.**, Maier, N., Grapenthin, R., Newman, A., Using InSAR and GNSS Observations to Investigate Vertical Motions in the Valles Caldera, Northern New Mexico, *NMGS Fall Field Conference Guidebook*, 74, 271–279, doi:10.56577/FFC-74.271, 2024.

33. Bruzewski, S., Dowell, J., Taylor, G. B., **Lindsey, E.O.**, A Bifrost Accelerated Intermittent Small Baseline Subset Analysis Pipeline for InSAR Ground Deformation. *Remote Sens.*, 16(14), 2554, doi:10.3390/rs16142554, 2024.

32. Senapati, B., **Lindsey, E. O.**, Kundu, B., **Panda, D.**†, Tiwari, D. K., Yadav, R. J., "Double Puzzle" at the Shumagin seismic gap, Alaska Peninsula: intra-slab strike-slip faulting loaded by lateral variations in megathrust fault friction, *Geophys. J. Int.*, 236, 1471–1483, doi:10.1093/gji/ggae002, 2024.

31. Rui, X., **Lindsey, E. O.**, Wu, J. P., Geodetic slip rate partitioning in the central Anninghe and Daliangshan faults: Effects of fault geometry, elastic heterogeneity, and viscoelastic rheology, *Tectonophys.*, 872, 230174, doi:10.1016/j.tecto.2023.230174, 2024.

30. **Lindsey, E. O.**, Wang, Y., Aung, L. T., **Chong, J.-H.***, Qiu, Q., Mallick, R., Feng, L., Aung, P. S., Htet Tin, T. Z., Min, S. M., Bradley, K., Than, O., Oo, K. M., Thant, M., Masson, F., Bürgmann, R., Hill, E. M., Active subduction and strain partitioning in western Myanmar revealed by a dense survey GNSS network, *Earth Planet. Sci. Lett.*, 622, 118384, doi:10.1016/j.epsl.2023.118384, 2023.

29. Oryan, B., Betka, P. M., Steckler, M. S., Nooner, S., **Lindsey, E. O.**, Mondal, D., Akhter, H., Singha, S., New GNSS and geological data from the Indo-Burman subduction zone indicate active convergence on both a locked megathrust and the Kabaw Fault. *J. Geophys. Res. Solid Earth*, 128, e2022JB025550, doi:10.1029/2022JB025550 2023.

28. Tay, C., **E. O. Lindsey**, Chin, S. T., McCaughey, J. W., Bekaert, D., Nguyen, M., Hua, H., Manipon, G., Karim, M., Horton, B. P., Li, T., Hill, E. M., Sea-level rise from land subsidence in major coastal cities, *Nat. Sustain.*, 5, 1049–1057, doi:10.1038/s41893-022-00947-z, 2022.

27. Htet Tin, T. Z., Nishimura, T., Hashimoto, M., **Lindsey, E. O.**, Aung, L. T., Min, S. M, Thant, M., Present-day Crustal Deformation and Slip Rate Along Southern Sagaing fault by GNSS Observation in Myanmar, *J. Asian Earth Sciences*, 228, 105125, doi:10.1016/j.jseaes.2022.105125, 2022.

26. Meilano, I., Salman, R., Rahmadani, S., Susilo, S., **Lindsey, E. O.**, Supendi, P., Daryono, D., Source characteristics of the 2019 Mw 6.5 Ambon earthquake, eastern Indonesia inferred from seismic and geodetic data, *Seismol. Res. Lett.*, 92, 3339–3348, doi:10.1785/0220210021, 2021.

25. Fadil, W., **Lindsey, E. O.**, Wang, Y., Maung, P. M., Luo, H., Aung, H. H., Tun, P. P., Swe, T. L., Than, S. H., Wei, S., The 11th January 2018, Mw 6.0 Bago-Yoma, Myanmar earthquake: A shallow thrust event within the deforming Bago-Yoma Range, *J. Geophys. Res. Solid Earth*, 126, e2020JB021313, doi:10.1029/2020JB021313, 2021.

24. **Lindsey, E. O.**, Mallick, R., Hubbard, J. A., Bradley, K. E., Almeida, R., Moore, J. D. P., Bürgmann, R., Hill, E. M., Slip rate deficit and earthquake potential on shallow megathrusts, *Nat. Geosci.*, 14, 321-326, doi:10.1038/s41561-021-00736-x, 2021.

23. Mallick, R., Meltzner, A. J., Tsang, L. L. H., **Lindsey, E. O.**, Feng, L., Hill, E. M., Long-lived Shallow Slow-slip Events on the Sunda Megathrust, *Nat. Geosci.*, 14, 327-333, doi:10.1038/s41561-021-00727-y, 2021.

22. Materna, K., Feng, L., **Lindsey, E. O.**, Hill, E. M., Ahsan, A.,Khorshed Alam, A. K. M., Oo, K. M., Than, O., Aung, T., Khaing, S. N., Bürgmann, R., GNSS characterization of hydrological loading in South and Southeast Asia, *Geophys. J. Int.*, 224, 1742-1752, doi:10.1093/gji/ggaa500, 2021.

21. Mallick, R., Hubbard, J. A., **Lindsey, E. O.**, Bradley, K. E., Moore, J. D. P., Hill, E. M., Subduction initiation and the rise of the Shillong Plateau, *Earth Planet. Sci. Lett.*, 543, 116351. doi:10.1016/j.epsl.2020.116351, 2020.

20. Salman, R., **Lindsey, E. O.**, Lythgoe, K. H., Bradley, K. E., Muzli, M., Yun, S.-H., Chin, S. T., Tay, C. W., Costa, F. R., Wei, S., Hill, E. M., Cascading partial rupture of the Flores thrust during the 2018 Lombok earthquake sequence, Indonesia, *Seismol. Res. Lett.*, 91, 2141–2151, doi:10.1785/0220190378, 2020.

19. Park, E., Merino, E., Lewis, Q. W., **Lindsey, E. O.**, Yang, X., A Pathway to the Automated Global Assessment of Water Level in Reservoirs with Synthetic Aperture Radar (SAR). *Rem. Sens.*, 12, 1353, doi:10.3390/rs12081353, 2020.

18. Salman, R., **Lindsey, E. O.**, Feng, L., Bradley, K., Wei, S., Wang, T., Daryono, M. R., Hill, E. M., Structural controls on rupture extent of Sumatran Fault Zone earthquakes, Indonesia, *J. Geophys. Res. Solid Earth*, 125, e2019JB018101, doi:10.1029/2019JB018101, 2020.

17. Mallick, R., **Lindsey, E. O.**, Feng, L., Hubbard, J., Banerjee, P., Hill, E. M., Active convergence of the India-Burma-Sunda plates revealed by a new continuous GPS network, *J. Geophys. Res. Solid Earth*, 124, e2018JB016480, doi:10.1029/2018JB016480, 2019.

16. Xu, X., Ward, L., Jiang, J., Smith-Konter, B., Tymofyeyeva, E., **Lindsey, E. O.**, Sylvester, A. G., Sandwell, D. T., Surface Creep Rate of the Southern San Andreas Fault Modulated by Stress Perturbations from Nearby Large Events, *Geophys. Res. Lett.*, 45, 10259–10268, doi:10.1029/2018GL080137, 2018.

15. **Lindsey, E. O.**, Almeida, R., Mallick, R., Hubbard, J., Bradley, K., Tsang, L. L. H., Liu, Y., Bürgmann, R., Hill, E. M., Structural Control on Down-dip Locking Extent of the Himalayan Megathrust, *J. Geophys. Res. Solid Earth*, 123, 5265–5278, doi:10.1029/2018JB015868, 2018.

14. Almeida, R., **Lindsey, E. O.**, Bradley, K., Hubbard, J., Mallick, R., Hill, E. M., Can the up-dip limit of frictional locking on megathrusts be detected geodetically? Quantifying the effect of stress shadows on near-trench coupling, *Geophys. Res. Lett.*, 45, 4754–4763, doi:10.1029/2018GL077785, 2018.

13. Wei, S., Chen, M., Wang, X., Graves, R., **Lindsey, E. O.**, Wang, T., Karakas, C., Helmberger, D., The 2015 Gorkha (Nepal) Earthquake sequence: I. Source modeling and deterministic 3D ground shaking, *Tectonophysics*, 722, 447–461, doi:10.1016/j.tecto.2017.11.024, 2018.

12. Salman, R., Hill, E. M., Feng, L., **Lindsey, E. O.**, Veedu, D. M., Barbot, S., Banerjee, P., Hermawan, I., Natawidjaja, D. H., Piecemeal rupture of the Mentawai patch: The 2008 Mw 7.2 North Pagai earthquake sequence, *J. Geophys. Res. Solid Earth*, 122, 9404–9419, doi:10.1002/2017JB014341, 2017.

11. Moore, J. D. P., Yu, H., Tang, C.-H., Wang, T., Barbot, S., Peng, D., Masuti, S., Dauwels, J., Hsu, Y., Lambert, V., Nanjundiah, P., Wei, S., **Lindsey, E. O.**, Feng, L., Shibazaki, B., Imaging the distribution of transient viscosity after the 2016 Mw 7.1 Kumamoto earthquake, *Science*, 356, 163–167, doi:10.1126/science.aal3422, 2017.

10. Wang, Y., Wei, S., Xin, W., **Lindsey, E. O.**, Tongkul, F., Bradley, K., Chan, C., Hill, E., Sieh, K., The 2015 M_W 6.0 Mt. Kinabalu Earthquake: An Infrequent Fault Rupture within the Crocker Fault System of East Malaysia. *Geosci. Lett.*, 4, 6, doi:10.1186/s40562-017-0072-9, 2017.

9. Morgan, P., Feng, L., Meltzner, A. J., **Lindsey, E. O.**, Tsang, L. L. H., Hill, E. M., Sibling earthquakes generated within a persistent rupture barrier on the Sunda megathrust under Simeulue Island, *Geophys. Res. Lett.*, 44, 2159–2166, doi:10.1002/ 2016GL071901, 2017.

8. Qiu, Q., Hill, E. M., Barbot, S., Hubbard, J., Feng, W., **Lindsey, E. O.**, Feng, L., Dai, K., Samsonov, S., Tapponnier, P., The mechanism of partial rupture of a locked megathrust: The role of fault morphology, *Geology*, 44, 875–878, doi: 10.1130/ G38178.1, 2016.

7. **Lindsey, E. O.** and Fialko, Y., Geodetic constraints on frictional properties and earthquake hazard in the Imperial Valley, southern California, *J. Geophys. Res. Solid Earth*, 121, 1097–1113, doi: 10.1002/2015JB012516, 2016.

6. Feng, W., **Lindsey, E. O.**, Barbot, S., Samsonov, S., Dai, K., Li, P., Li, Z., Almeida, R., Chen, J., Xu, X., Source characteristics of the 2015 M_W 7.8 Gorkha (Nepal) earthquake and its M_W 7.2 aftershock from space geodesy, *Tectonophysics*, 712–713, 747–758, doi:10.1016/j.tecto.2016.02.029, 2016.

5. Galetzka, J., Melgar, D., Genrich, J. F., Geng, J., Owen, S., **Lindsey, E. O.**, Xu, X., Bock, Y., Avouac, J.-P., Adhikari, L. B., Upreti, B. N., Pratt-Sitaula, B., Bhattarai, T. N., Sitaula, B. P., Moore, A., Hudnut, K. W., Szeliga, W., Normandeau, J., Fend, M., Flouzat, M., Bollinger, L., Shrestha, P., Koirala, B., Gautam, U., Bhatterai, M., Gupta, R., Kandel, T., Timsina, C., Sapkota, S. N., Rajaure, S., Maharjan, N., Slip pulse and resonance of Kathmandu basin during the 2015 M_W 7.8 Gorkha earthquake, Nepal imaged with space geodesy. *Science*, 349, 1091–1095, doi:10.1126/science.aac6383, 2015.

4. **Lindsey, E. O.**, Natsuaki, R., Xu, X., Shimada, M., Hashimoto, H., Melgar, D., Sandwell, D., Line of Sight Deformation from ALOS-2 Interferometry: M_W 7.8 Gorkha Earthquake and M_W 7.3 Aftershock. *Geophys. Res. Lett.*, 42, 6655–6661, doi:10.1002/2015GL065385, 2015.

3. **Lindsey, E. O.**, Sahakian, V. J., Fialko, Y., Bock, Y., Barbot, S., Rockwell, T. K., Interseismic strain localization in the San Jacinto fault zone, *Pure Appl. Geophys.*, 171, 2937–2954, doi:10.1007/s00024-013-0753-z, 2014.

2. **Lindsey, E. O.**, Fialko, Y., Bock, Y., Sandwell, D. T., Bilham, R., Localized and distributed creep along the southern San Andreas Fault. *J. Geophys. Res. Solid Earth*, 119, 7909–7922, doi:10.1002/ 2014JB011275, 2014.

1. **Lindsey, E. O.** and Fialko, Y., Geodetic Slip Rates in the Southern San Andreas Fault System: Effects of Elastic Heterogeneity and Fault Geometry, *J. Geophys. Res. Solid Earth*, 118, 689–697, doi:10.1029/2012JB009358, 2013.

Research awards and Funding

NSF Marine Geology & Geophysics – Collaborative Research: Improved Understanding of Subduction Zone Tsunami Genesis Using Sea Floor Geodesy Offshore Central America Role: Institutional lead PI. 01/2024 – 12/2026, $321,948 to UNM.

NSF Cultural Transformation in the Geosciences Community – Planning Grant: Expanding academic Careers through Inclusive Transitions in Environmental Science (EXCITES). Role: Co-PI. 10/2023 – 03/2026 (Cancelled by NSF: 04/2025). $300,000 to UNM.

NASA Earth Surface & Interior – GNSS and InSAR Surface Deformation Constraints on a 3-D Geodetic Model of the IndoBurma Subduction Zone. Role: Institutional lead PI. 01/2023 – 12/2025. $64,465 to UNM.

NASA FINESST – Investigating the mechanics of strain partitioning with L-band InSAR time-series: A study of the Rakhine-Bangladesh megathrust and crustal faults in South and Southeast Asia. Role: Lead PI. 09/2022 – 08/2025. $150,000 to UNM.

NSF EAR Instrumentation & Facilities – Acquisition of Computing Facilities to support Collaborative Geophysics Research at the University of New Mexico. Role: Lead PI. 04/2022 – 03/2023. $94,997 to UNM.

Students and mentorship

Mohammad Zayed Abdur Razzak, Ph.D. (expected grad. 2029)

Lexi Kenis, Ph.D. (expected grad. 2028)

Jeng Hann Chong, Ph.D. 2025

Dibyashakti Panda, Fulbright-Nehru Postdoctoral Fellow, 2022 - 2024

Savannah Devine, M.S. 2024

Lina Rodriguez Castillo, B.S. Honors Thesis, 2024

Dustin Schwartz, B.S. Honors Thesis, 2023

Teaching

Courses:

ENVS 1130, The Blue Planet (S2023, S2024).

ENVS 315, Statistics and Data Analysis (S2025, S2026).

ENVS 320L, Environmental Systems (S2022, F2022, F2023, F2025).

EPS 400/522, Computational Methods for Geoscience Data (F2022, F2023, S2025, F2025).

EPS 400/522, Satellite-based geophysical methods (F2021).

Workshops and meetings:

UNM Earth Sciences Computing and Programming Experience (ESCAPE) - two-week NSF-funded annual workshop for 15-25 undergraduates (2022 - 2024); one week version in 2025.

Myanmar Institute of Earth and Planetary Sciences: Statistics and Data Analysis for Earth Science, 7-week virtual course (2025).

CIG Crustal Deformation Modeling Workshop, Organizing Commitee (2024).

EarthScope Short Course: InSAR Processing and Theory using GMTSAR (2021 - 2025).

EarthScope Short Course: InSAR Interpretation and Analysis for Non-Specialists (2023, 2024).

GAGE/SAGE Community Science Workshop, Science Program Commiteee (2023).

Geodesy training in Myanmar. 2016 (2 days), 2017 (3 days), 2018 (5 days), 2019 (4 + 5 days).

Scripps Community Outreach Program for Education (2011 - 2015).

Service and Advisory roles

EarthScope Board of Directors (2026 – present).

Myanmar Institute of Earth and Planetary Sciences, Advisory Committee (2023 – present).

AGU Fall Meeting Program Committee, Geodesy section (2024 – 2025).

EarthScope Data Products and Services Advisory Committee (2023 – 2025).

Chair, Western North America InSAR (WInSAR) Consortium Exec. Committee (2021 – 2023).

UNAVCO Geodetic Data Services Advisory Committee (2021 – 2022).

CIG Short-term dynamics working group committee (2014 – 2018).

Reviewer: NSF, NASA, Academica Sinica, J. Geophys. Res. Solid Earth, Earth Planet. Sci. Lett., Tectonics, Frontiers Earth Sci., J. Geodesy, Seismica, Comms. Earth Env., Sci. Adv.

Invited Seminars and Presentations

"The Active Role of the Overriding Plate: How Internal Deformation Modulates Geodetic Observations and Controls Megathrust Hazard." **2025 AGU Fall Meeting**, December 2025.

"Imaging the Shallow Megathrust Slip Deficit: From Onshore Archives to Offshore Needs." **NSF SAGE-GAGE workshop**, May 2025.

"A stress-free way to think about megathrusts: locking, coupling and future earthquake potential." **USGS Subduction Zone Science Meeting**, January 2025.

"Locked or Coupled? The semantics and science of future earthquake potential on the shallow megathrust." **CRESCENT Topical Workshop:** From Hazard to Risk: the Science of Planning for Future Tsunamis, November 2024.

"Geodesy, Plate Motions, and Earthquake Hazards across South and Southeast Asia," **Myanmar Institute of Earth and Planetary Sciences**, Special Lecture series, September 2024 (virtual).

"Unlocking the physics of faulting: geodetic insights into fault properties, stress and slip on megathrusts," **Lamont-Doherty Earth Observatory** MPG/SGT seminar, May 2024.

"Unlocking the physics of faulting: geodetic insights into fault properties, stress and slip on megathrusts," **University of Oklahoma**, October 2023.

"Unlocking the physics of earthquake hazards: New insights from geodesy," **New Mexico Tech**, April 2023.

"Geodetic imaging of the stress shadow: Large slip deficit on shallow megathrusts and implications for future ruptures." **USGS Powell Center workshop**, August 2022 (virtual).

"InSAR for the study of earthquakes and tectonic processes." **InSAR Karyashala 2022**, IIT Roorkee, India, May 2022 (virtual).

"InSAR imaging of land subsidence induced by groundwater extraction across Asia and New Mexico." **UNM Water Grand Challenge seminar**, April 2021 (virtual).

"Unlocking the physics of megathrusts: geodetic insights into fault properties, stress and slip near the trench." **University of California San Diego**, March 2021 (virtual).

"Unlocking the physics of megathrusts: geodetic insights into fault properties, stress and slip offshore." **University of Oregon**, February 2021 (virtual).

"Coastal subsidence in Asian megacities: monitoring rapid relative sea-level rise with InSAR." **University of Colorado, Boulder**, October 2020 (virtual).

"Unlocking the physics of earthquake hazards with geodesy: megathrusts, mountains and Myanmar." **University of California Berkeley**, April 2020 (virtual).

"Life in the stress shadow: Stress-constrained inversion for interseismic coupling on shallow megathrusts." **Géoazur, Observatoire de la Côte d'Azur, Nice, France**, September 2018.

"Combination of geodetic data and structural models to understand earthquake hazard along the Himalayan megathrust." Keynote speaker, **Myanmar National Conference on Earth Sciences**, November 2017.

"Structural control on the seismic and interseismic behaviour of the Himalayan megathrust." **Institute de Physique du Globe de Paris, France**, June 2017.

"Creep on the Imperial Fault and new faults in the Salton Trough." **SCEC SoSAFE Workshop**, September 2016.

"Geometric controls on fault behavior revealed by high resolution space geodesy: fault creep, earthquake rupture and interseismic deformation." **UNAVCO Science Meeting**, March

2016.

"Geodetic constraints on earthquake hazard and frictional properties in the Imperial Valley." **2015 AGU Fall Meeting**, December 2015.

"Geodetic constraints on frictional properties and earthquake hazard in the Imperial Valley, southern California." **USGS Menlo Park**, September 2015.

"Geodetic observations of fault slip rates and fault zone deformation in southern California." **Géoazur, Observatoire de la Côte d'Azur, Nice, France**, November 2014.

"High-resolution geodetic observations of fault zone deformation on the San Andreas and San Jacinto faults in southern California." **2013 AGU Fall Meeting**, December 2013.

"Fault Creep: GPS and InSAR opportunities." **SCEC Community Geodetic Model workshop**, Menlo Park, CA, May 2013.

"Geodesy in HD: Slip rates, fault geometry, and fault zone properties in Southern California." **Caltech Seismolab Seminar**, May 2013.

"Geodetic Models of the Southern San Andreas Fault: Sensitivity to Elastic Heterogeneity and Fault Geometry." **San Diego State University Geology Dept. Seminar**, November 2011.

FIELD WORK

2025: Deployment of 4 GNSS-A sites offshore Nicaragua and Costa Rica, aboard R/V Atlantis.

2022: Campaign GPS survey of monuments in Valles Caldera, NM, in collaboration with Los Alamos National Labs.

2016 – 2019: Led campaign GPS surveys of more than 100 existing and newly established monuments in Myanmar, focusing on the central and southern Sagaing fault and Rakhine (Arakan) megathrust.

2010 – 2015: Led periodic occupation and processing of $\sim$100 campaign GPS monuments throughout southern California and northern Baja California, Mexico.

2014: Participant in iMUSH active-source seismic imaging project on Mt. St. Helens, WA.

2012: Kinematic GPS survey of Salar de Uyuni, Bolivia. Collection of dense, high precision elevation data for satellite altimeter calibration.