

James S. Neely
Department of the Geophysical Sciences, The University of Chicago
5734 S. Ellis Avenue, Chicago, IL 60637
jneely@uchicago.edu (857) 222-7660 <https://sites.northwestern.edu/neelyj/>

Professional Appointments

NSF Earth Sciences Postdoctoral Fellow, <i>The University of Chicago</i>	2022-2024
Institute for Policy Research Graduate Research Assistant, <i>Northwestern University</i>	2019-2022
Dept. of Earth and Planetary Sciences Graduate Research Assistant, <i>Northwestern University</i>	2017-2022
Visiting Research Assistant, <i>University of Michigan</i>	2016-2017
Petroleum Geosystems Initiative Fellow, <i>The Pennsylvania State University</i>	2014-2016

Education

Ph.D. Earth and Planetary Sciences, <i>Northwestern University</i>	2022
M.S. Applied Statistics, <i>Northwestern University</i>	2022
M.S. Geosciences, <i>The Pennsylvania State University</i>	2016
B.A. Physics, <i>Bowdoin College</i>	2010
B.A. History, <i>Bowdoin College</i>	2010

Awards and Honors

Best Student Presentation Award, Eastern Section Seismological Society of America	2020
Seismological Society of America Student Presentation Award	2019
AAPG Imperial Barrel Award International Competition 2 nd place team	2016
Dr. Gabriel & Mrs. Katherine Leblanc Fellowship in Geophysics, Penn State	2015
Chesapeake Energy Scholarship in Geoscience, Penn State	2015
Paul D. Krynine Scholarship, Penn State	2015
Magna cum Laude, Bowdoin College	2010
Phi Beta Kappa, Bowdoin College	2010
Honors in History for Senior Thesis, Bowdoin College	2010

Peer-Reviewed Publications

- [12] Neely, J.S., Salditch, L., Spencer, B.D., Stein S. (2022), A more realistic model for the probability of large earthquakes. *Bulletin of the Seismological Society of America*. doi:10.1785/0120220083.

- [11] Gallahue, M.M., Salditch, L., Lucas, M.C., **Neely, J.S.**, Stein S., Abrahamson, N., Williams, T., Hough, S.E. (2022), On the effect of site response for California seismic hazard map assessment. *Frontiers in Earth Science*. doi:10.3389/feart.2022.931340
- [10] **Neely, J.S.**, Stein S. (2021), Why do continental normal fault earthquakes have smaller maximum magnitudes? *Tectonophysics* 809. doi:10.1016/j.tecto.2021.228854
- [9] Hough, S.E., Page, M., Salditch, L., Gallahue, M.M., Lucas, M.C., **Neely, J.S.**, Stein, S. (2021), Revisiting California's past great earthquakes and long-term earthquake rate, *Bulletin of the Seismological Society of America* 111(1), 356-370. doi:10.1785/0120200253
- [8] Salditch, L., Gallahue, M.M., Lucas, M.C, **Neely, J.S.**, Hough, S.E., Stein, S. (2020), California Historical Intensity Mapping Project (CHIMP): A consistently reinterpreted dataset of seismic intensities for the past 162 years and implications for seismic hazard map, *Seismological Research Letters* 91(5), 2631-2650. doi:10.1785/0220200065
- [7] **Neely, J.S.**, Stein, S., Spencer, B.D. (2020), Large uncertainties in earthquake stress-drop estimates and their tectonic consequences, *Seismological Research Letters* 91(4), 2320-2329. doi:10.1785/0220200004
- [6] Salditch, L., Stein, S., **Neely, J.S.**, Spencer, B.D., Brooks, E.M., Agnon, A., Liu, M. (2020), Earthquake supercycles and Long-Term Fault Memory, *Tectonophysics* 774. doi:10.1016/j.tecto.2019.228289
- [5] **Neely, J.S.**, Huang, Y., Fan, W. (2019), Earthquake rupture characteristics along a developing transform boundary, *Geophysical Journal International* 219(2), 1237-1252. doi:10.1093/gji/ggz357
- [4] Brooks, E.M., **Neely, J.S.**, Stein, S., Spencer, B.D., Salditch, L. (2019), Assessments of the performance of the 2017 one-year seismic hazard forecast for the central and eastern United States via simulated earthquake shaking data, *Seismological Research Letters* 90(3), 1155-1167. doi:10.1785/0220190007
- [3] **Neely, J.S.**, Stein, S., Merino, M., Adams, J. (2018), Have we seen the largest earthquakes in eastern North America? *Physics of the Earth and Planetary Interiors* 284, 17-27. doi:10.1016/j.pepi.2018.09.005
- [2] Salditch, L., Hough, S.E., Stein, S., Spencer, B.D., Brooks, E.M., **Neely, J.S.**, Lucas, M.C. (2018), The 1952 Kern County, California earthquake: A case study of issues in the analysis of historical intensity data for estimation of source parameters. *Physics of the Earth and Planetary Interiors* 283, 140-151. doi:10.1016/j.pepi.2018.08.007
- [1] **Neely, J.S.**, Furlong, K.P. (2018), Evidence of displacement-driven maturation along the San Cristobal Trough transform plate boundary. *Earth and Planetary Science Letters* 485, 88–98. doi:10.1016/j.epsl.2017.12.044

Manuscripts In Review

Gallahue, M.M., Salditch, L., Lucas, M.C., **Neely, J.S.**, Stein S., Abrahamson, N., Hough, S.E., Exploring the effect of minimum magnitude on California seismic hazard models. *Seismica*.

Manuscripts In Preparation

Neely, J.S., Salditch, L., Spencer, B.D., Stein S., The Generalized Long-Term Fault Memory model and applications to paleoseismic records.

Teaching

Northwestern University , Graduate Teaching Assistant	
Earth Systems Revealed	2022
Earth's Interior	2021
Introductory Physics Undergraduate Lab	2020
Earth: A Habitable Planet	2019
Data Analysis for Earth and Planetary Sciences	2018
Pennsylvania State University , Graduate Teaching Assistant	
Geology of Oil and Gas	2015
Earth History	2016
Natural Disasters	2016
Bowdoin College , Writing Assistant	2008-2010

Service to Community

Manuscript Reviewer

Earth and Planetary Science Letters, Eos, GSA Books, Journal of Geophysical Research – Solid Earth, Science Advances, Terra Nova

Conference Session Convener

Science and Society: Science Policy (AGU 2022 Fall Meeting)

Science and Society: Science Policy (AGU 2020 Fall Meeting)

Centennial Overview: Data Science and the Future of Natural Hazards Science (AGU 2019 Fall Meeting)

Earthquakes and Deformation in Eastern North America and Other Continental Interiors: What We Know, What We Don't, What We Think, and Which is Which? (GSA 2018 Annual Meeting)

Outreach

Student Representative on AGU Science and Society Section Executive Committee	2019-Present
Board Member of Science Policy Outreach Taskforce (SPOT)	2018-2022

Lead Organizer of SPOT's 2 nd Annual SciPol Symposium	2020
Co-Founder of SPOT's Science One-Pager Initiative	2019
Geoscience Congressional Visit Day	2018
Illinois State House Lobby Day for SPOT	2018

Grants

NSF Earth Sciences Postdoctoral Fellowship	2022-2024
<i>EAR-PF: Are large earthquakes like small earthquakes? Using synthetic earthquakes to resolve discrepancies in observations of earthquake stress drop magnitude-invariance</i>	

Invited Talks

GYP SUM Seminar Series	2022
University of Illinois Chicago, Department of Earth and Environmental Sciences, Departmental Seminar	2022
The University of Chicago, Department of the Geophysical Sciences, Departmental Seminar	2021

Society Memberships

American Geophysical Union	2015-Present
Seismological Society of America	2017-Present

Presented Conference Abstracts

- Neely, J.S., Salditch, L., Stein, S., Spencer, B.D. (2022) A new earthquake recurrence model that better reflects the strain accumulation and release processes that produce earthquakes. Abstract presented at 2022 AGU Fall Meeting, Chicago, 12-16 Dec.
- Neely, J.S., Park, S., Baltay, A. (2022) Assessing the accuracy of earthquake stress drop estimation methods for complex ruptures using synthetic earthquakes. Abstract presented at 2022 AGU Fall Meeting, Chicago, 12-16 Dec.
- Neely, J.S., Salditch, L., Stein, S., Spencer, B.D. (2021) A more realistic model for the probability of large earthquakes. Abstract presented at 2021 SCEC Meeting, virtual, 12-17 Sep.
- Neely, J.S., Salditch, L., Stein, S., Spencer, B.D. (2021) Modeling earthquake occurrence and recurrence for supercycles and clusters. Abstract presented at 2021 SSA Meeting, virtual, 19-23 Apr.
- Neely, J.S., Stein, S. (2020) Continental normal fault earthquakes and their maximum magnitudes. Abstract T035-07 presented at 2020 AGU Fall Meeting, virtual, 1-17 Dec.
- Neely, J.S., Stein, S. (2020) Why do continental normal fault earthquakes have smaller maximum magnitudes? Abstract presented at 2020 Seismological Society of America Eastern Section meeting, virtual, 14-15 Oct.

- Neely, J.S.,** Stein, S. (2020) Continental normal fault earthquakes and their maximum magnitudes. Abstract presented at 2020 GSA Annual Meeting, virtual, 26-30 Oct.
- Neely, J.S.,** Stein, S., Brooks, E.M., Spencer, B.D., Salditch, L., Adams, J. (2019) What does the past tell us about the future? Using simulations to explore earthquake hazard model parameters. Abstract NH31D-0869 presented at 2019 AGU Fall Meeting, San Francisco, CA, 9-13 Dec.
- Neely, J.S.,** Stein, S., Spencer, B.D. (2019) Large uncertainties in stress drop estimates and their tectonic consequences. Abstract S53F-0535 presented at 2019 AGU Fall Meeting, San Francisco, CA, 9-13 Dec.
- Neely, J.S.,** Stein, S. (2019), Uncertainties in stress drop estimates and their tectonic consequences. Abstract presented at 2019 SSA Meeting, Seattle, WA, 23-26 Apr.
- Neely, J.S.,** Stein, S. (2019), What controls the maximum magnitude of continental normal faulting earthquakes? Abstract presented at 2019 SSA Meeting, Seattle, WA, 23-26 Apr.
- Neely, J.S.,** Stein, S., Merino, M., Adams, J. (2018), Have we seen the largest earthquakes in eastern North America? Abstract G23C-0621 presented at 2018 AGU Fall Meeting, Washington, DC, 10-14 Dec.
- Neely, J.S.,** Stein, S. (2018), What controls normal faulting earthquakes' maximum magnitude? Abstract T51H-0276 presented at 2018 AGU Fall Meeting, Washington, DC, 10-14 Dec.
- Neely, J.S.,** Stein, S. (2018), What controls normal faulting earthquakes' maximum magnitude? Abstract 174-7 presented at 2018 GSA Annual Meeting, Indianapolis, IN, 4-7 Nov.
- Neely, J.S.,** Stein, S., Merino, M., Adams, J. (2018), Have we seen the largest earthquakes in eastern North America? Abstract 158-5 presented at 2018 GSA Annual Meeting, Indianapolis, IN, 4-7 Nov.
- Neely, J.S.,** Huang, Y., Furlong, K.P. (2017), The implications of strike-slip earthquake source properties on the transform boundary development process. Abstract T44C-03 presented at 2017 AGU Fall Meeting, New Orleans, LA, 11-15 Dec.
- Neely, J.S.,** Huang, Y., Furlong, K.P. (2017), Variations in earthquake source properties along a developing transform plate boundary. Abstract presented at 2017 SSA Meeting, Denver, CO, 18-20 Apr.
- Neely, J.S.,** Furlong, K.P. (2016), Observations of displacement-driven maturation along a Subduction-Transform Edge Propagator fault. Abstract T33C-3052 presented at 2016 AGU Fall Meeting, San Francisco, CA, 12-16 Dec.
- Neely, J.S.,** Furlong, K.P. (2015), An examination of seismicity linking the Solomon Islands and Vanuatu subduction zones. Abstract T21D-2850 presented at 2015 AGU Fall Meeting, San Francisco, CA, 14-18 Dec.