

BELLE PHILIBOSIAN
Curriculum Vitae

Research Geologist
Earthquake Science Center
U.S. Geological Survey
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EMPLOYMENT

2019–present Research Geologist, Earthquake Science Center, U.S. Geological Survey
2016–2019 Mendenhall Postdoctoral Research Geologist, Earthquake Science Center, U.S. Geological Survey
2015–2016 Columbia Science Fellow / Lecturer in Discipline, Columbia University
2013–2015 AXA Postdoctoral Researcher, Equipe de Tectonique, Institut de Physique du Globe de Paris

EDUCATION

2013 Ph.D. Geology, Division of Geological and Planetary Sciences, California Institute of Technology
2007 M.S. Geological Sciences, Department of Geological Sciences, University of Oregon
2005 B.S. Geology, Division of Geological and Planetary Sciences, California Institute of Technology

RESEARCH EXPERIENCE

The focus of my research is to understand the earthquake cycle, using techniques drawn from the fields of active tectonics and paleoseismology. In various projects I have employed imagery- and LiDAR-based fault mapping, paleoseismic trenching, GPS and InSAR observations, and coral microatoll paleogeodesy. I have worked to establish chronologies of earthquakes and tectonic deformation on the northern and southern San Andreas fault in California, the Sumatran Sunda megathrust in Indonesia, the Lesser Antilles megathrust in the Caribbean, and various more minor faults mostly in northern California. I also participated in mapping the 2019 Ridgecrest earthquake ruptures and have been a co-leader of the effort to more comprehensively map active faults in that vicinity.

I have a particular interest in earthquake rupture recurrence patterns and the high-temporal-resolution geologic records required to delineate those patterns. In addition to my expertise in the coral microatoll technique I am developing a project using dendrochronology for paleoseismic investigations. In 2020, I published a review paper cataloging evidence for persistent rupture segmentation and recurrence patterns from well-studied faults worldwide. I am continually pursuing studies to advance the dual goals of scientific understanding and hazard assessment of earthquakes.

KEY PUBLICATIONS – See <https://orcid.org/0000-0003-3138-4716> for full publication list

- 2022 **Philibosian, B.**, N. Feuillet, J. Weil-Accardo, E. Jacques, A. Guihou, A.-S. Mériaux, A. Anglade, J.-M. Saurel, and S. Deroussi. 20th-century strain accumulation on the Lesser Antilles Megathrust based on coral microatolls. *Earth and Planetary Science Letters* 579, Article 117343, <https://doi.org/10.1016/j.epsl.2021.117343>.
- 2021 Mongovin, D. and **B. Philibosian**. Creep on the Sargent fault over the past 50 yr from alignment arrays with implications for slip transfer between the Calaveras and San Andreas faults, California. *Bulletin of the Seismological Society of America* 111(6), 3189–3203, <https://doi.org/10.1785/0120210041>.
- 2020 Thompson Jobe, J.A., **B. Philibosian**, C. Chupik, T. Dawson, S.E.K. Bennett, R. Gold, C. DuRoss, T. Ladinsky, K. Kendrick, E. Haddon, I. Pierce, B. Swanson, and G. Seitz. Evidence of previous faulting along the 2019 Ridgecrest, California earthquake ruptures. *Bulletin of the Seismological Society of America* 110(4), Special Issue on the 2019 Ridgecrest, California, Earthquake Sequence, 1427–1456, <https://doi.org/10.1785/0120200041>.
- 2020 **Philibosian, B.**, and A.J. Meltzner. Segmentation and supercycles: A catalog of earthquake rupture patterns from the Sumatran Sunda Megathrust and other well-studied faults worldwide. **Invited review article** for *Quaternary Science Reviews* 241, Article 106390, <https://doi.org/10.1016/j.quascirev.2020.106390>.
- 2017 **Philibosian, B.**, K. Sieh, J.-P. Avouac, D. H. Natawidjaja, H.-W. Chiang, C.-C. Wu, C.-C. Shen, M. R. Daryono, H. Perfettini, B. W. Suwargadi, Y. Lu, and X. Wang. Earthquake supercycles of the Mentawai segment of the Sunda Megathrust in the 17th century and earlier. *Journal of Geophysical Research: Solid Earth* 122(1), 642–676, <https://doi.org/10.1002/2016JB013560>.
- 2011 **Philibosian, B.**, and M. Simons. A survey of volcanic deformation on Java using ALOS PALSAR interferometric time series. *Geochemistry, Geophysics, Geosystems* 12, Article Q11004, <https://doi.org/10.1029/2011GC003775>.
- 2011 **Philibosian, B.**, T. Fumal, and R. Weldon. San Andreas Fault earthquake chronology and Lake Cahuilla history at Coachella, California. *Bulletin of the Seismological Society of America* 101(1), 13–38.

HONORS

- 2020 Recognized as Exceptional Reviewer for *GSA Bulletin*
2016–2018 U.S. Geological Survey Mendenhall Postdoc Fellowship
2013–2015 AXA Research Fund Postdoc Fellowship
2005–2008 Graduate Research Fellowship, National Science Foundation

PROFESSIONAL MEMBERSHIPS

American Geophysical Union member since 2005
Geological Society of America member since 2009
Seismological Society of America member since 2007