SOPHIE COULSON

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Department of Earth and Planetary Sciences,
Harvard University,
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EDUCATION

2016 – 2021 **Harvard University, USA**
PhD in Earth and Planetary Sciences
Thesis Advisor: Prof. Jerry X Mitrovica

2012 – 2016 **University of Liverpool, UK**
MESci Geophysics (North America) (with First Class Honors)
Integrated Masters and Bachelors with a year in North America
Thesis Advisor: Prof. Andreas Rietbrock

2014 – 2015 **McGill University, Canada**
Visiting Student, Department of Earth and Planetary Sciences

AWARDS AND FELLOWSHIPS

2017, 2018 Harvard Bok Center's *Certificate for Distinction in Teaching*
2016-2018 Frank Knox Memorial Fellowship
2016 James Mills Peirce Fellowship, Harvard University
2016 University of Liverpool *Undergraduate Geophysics Prize*
2016 *British Geophysical Association Undergraduate Prize* for outstanding theses
2012 Scarborough Sixth Form College's *Glauert Award* for highest achieving female in mathematics

PUBLICATIONS

In print:

2020 Mitrovica, J.X., Austermann, J., **Coulson S.**, Creveling, J.R., Hoggard, M.J., Jarvis, G.T., and Richards, F.D., Dynamic Topography and Ice Age Paleoclimate, Annual Review of Earth and Planetary Sciences 48, 585-621 https://doi.org/10.1146/annurev-earth-082517-010225

2019 **Coulson, S.**, Pico, T., Austermann, J., Powell, E., Moucha, R., Mitrovica, J.X., The role of isostatic adjustment and gravitational effects on the dynamics of the Messinian salinity crisis, Earth and Planetary Science Letters 525, 115769 https://doi.org/10.1016/j.epsl.2019.115760

2018 Rowe, C.D., Ross, C., Swanson, M.T., Pollock, S., Backeberg, N.R., Barshi, N.A., Bate, C.E., Carruthers, C., **Coulson, S.**, Dascher-Cousineau, K., Harrichhausen, N., Peña Castro, A. F., Nisbet, H., Rakoczy, P., Scibek, J., Smith, H., Tarling, M. S., Timofeev, A., Young, E., Geometric complexity of earthquake rupture surface preserved in pseudotachylyte networks, Journal of Geophysical Research: Solid Earth 123 (9), 799-8015 https://doi.org/10.1029/2018JB016192

2018 **Coulson, S.**, Garth, T., Rietbrock, A., Velocity structure of the subducted Yakutat terrane, Alaska: Insights from guided waves, Geophysical Research Letters 45(8), 3420-3428 https://doi.org/10.1002/2017GL076583

In review:

2020 **Coulson, S.**, Al-Attar, D., Pico, T., Mitrovica, J.X., An extended ice-age sea-level equation: Incorporating water flux across sills, Geophysical Journal International.

CONFERENCE ORAL PRESENTATIONS

*Indicates invited talk

2020 *__Coulson, S__., Pico, T., Austermann, J., Powell, E., Moucha, R., Mitrovica, J.X., The role of isostatic adjustment and gravitational effects on the dynamics of the Messinian salinity crisis, MEDSALT Final Symposium, Piran, Slovenia.

2020 *__Coulson, S__., Austermann, J., Hoggard, M., Richards, F., Borreggine, M.J., Mitrovica, J.X., The role of dynamic topography on glacial inception in North America, ASPECT Virtual User Meeting 2020.

2019 **Coulson, S**., Austermann, J., Hoggard, M., Richards, F., Borreggine, M.J., Mitrovica, J.X., The role of dynamic topography on glacial inception in North America, American Geophysical Union Fall Meeting 2019, San Francisco.

2018 **Coulson, S.**, Pico, T., Austermann, J., Moucha, R., Mitrovica, J.X., The effect of geophysical feedbacks on sea level during the Messinian salinity crisis, American Geophysical Union Fall Meeting 2018, Washington DC.

2017 **Coulson, S.**, Garth, T., Rietbrock, A., Velocity structure of the subducted Yakutat terrane, Alaska: Insights from guided waves, American Geophysical Union Fall Meeting 2017, New Orleans.

2017 **Coulson, S.**, Pico, T., Austermann, J., Mitrovica, J.X., Revisiting the dynamics of the Messinian salinity crisis, PALSEA2 Workshop 2017, Playa del Carmen, Mexico.

ADDITIONAL WORKSHOP ATTENDANCE

2020 New England Future Faculty Workshop, Northeastern University (Virtual)

2019 ASPECT Hackathon, Computational Infrastructure for Geophysics, Heber City, Utah

2018 ASPECT Hackathon, Computational Infrastructure for Geophysics, Petaluma, California

TEACHING

2020 Short-term Summer Student Adviser
Talon Flodman '25: *"Interaction between Mountains and Glaciers"*, Harvard University

2020 Teaching Fellow for *EPS 52 – Introduction to Global Geophysics*
- with Prof. Jerry X Mitrovica, Harvard University

2018, 2020 Teaching Fellow and Head TF for *EPS 10 – A Brief History of the Earth*
- with Prof. Jerry X Mitrovica, Harvard University

2017 Teaching Fellow for *EPS 10 – A Brief History of the Earth*
- with Prof. Jerry X Mitrovica, Harvard University

SERVICE

2020 Primary Session Convener AGU 2020 - Links between mantle dynamics and evolution of the Earth's surface, atmosphere and biosphere.

2019 – 2021 Diversity, Inclusion and Belonging Committee Member, Department of Earth and Planetary Sciences, Harvard University.

2019 Graduate Student Field Trip Leader (8 days in Mt Baker, Olympic Peninsula and Mt Rainier, Washington), Department of Earth and Planetary Sciences, Harvard University.

2018, 2019 Mentor through 'G2 Buddy Program' for students taking qualifying exam, Department of Earth and Planetary Sciences, Harvard University.

2017-2018 Graduate Student and Postdoc Seminar series organiser, Department of Earth and Planetary Sciences, Harvard University.

2015-2016 Treasurer of the Herdman Society (for geologists and geophysicists), Department of Earth Science, University of Liverpool.

2015-2016 Study Abroad Ambassador, University of Liverpool.