

Tiegan E. Hobbs

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Education

PhD Geophysics (2014 – 2019)

School of Earth & Atmospheric Sciences, Georgia Institute of Technology

Thesis: *Using Dense Geodetic and Seismic Instrumentation to Characterize Postseismic Behavior of the Nicoya Megathrust* (Andrew Newman)

MSCE Geotechnical Engineering (2017 – 2019)

School of Civil & Environmental Engineering, Georgia Institute of Technology

MSc Geophysics (2012 – 2014)

School of Earth & Ocean Sciences, University of Victoria

Thesis: *Insights from the Mw 7.8 Haida Gwaii Earthquake: Static Stress Modelling and Empirical Green's Function Analysis* (John Cassidy and Stan Dosso)

BSc Geology (2008 – 2012)

Department of Earth & Planetary Science, McGill University

Honours Thesis: *Seismic Anisotropy in Southern Quebec using SkS Splitting* (Fiona Darbyshire)

Work Experience

Research Scientist *May 2020 – present*

Geological Survey of Canada, Vancouver, BC

Public Safety Geosciences Program

Full Time

Adjunct Professor *July 2020 – present*

University of British Columbia, Vancouver, BC

Department of Earth, Ocean, and Atmospheric Sciences

Full Time

Adjunct Professor *March 2022 – present*

University of Victoria, Victoria, BC

School of Earth and Ocean Sciences

Full Time

Consultant & Field Party Leader *May 2019 – May 2021*

Europa Seismic Package Science Development Team (NASA ICEE-2)

Washington Glacier Deployment

Part-time

Postdoctoral Researcher *June 2019 – April 2020*

Geological Survey of Canada, Vancouver, BC

Public Safety Geosciences Program

Full Time

Freelance Science Writer *January 2018 – April 2020*

Temblor, Inc., Redwood City, CA, USA

Earthquake News

Part Time

Teaching Assistant *January 2015 – April 2019*

Georgia Institute of Technology, Atlanta, GA, USA

Earth & Atmospheric Sciences Department

Part Time

Work Experience Continued

Field Technician *August 2018 – December 2018*
Georgia Institute of Technology, Atlanta, GA, USA
RISEUP Field Work in Antarctica (NASA PSTAR)
Full Time

Outreach Instructor *September 2015 – April 2017*
Georgia Institute of Technology, Atlanta, GA, USA
'Kids Interested in Discovering Science' Club
Part Time

Teaching Assistant *September 2012 – May 2014*
University of Victoria, Victoria, BC, Canada
School of Earth & Ocean Sciences
Part Time

Research Assistant *May 2012 – September 2012*
University of British Columbia, Vancouver, BC, Canada
Department of Civil Engineering
Full Time

Geological Assistant *May 2011 – August 2011*
Osisko Gold Royalties Ltd., Montréal, PQ, Canada
Hammond Reef Development
Full Time

Research Assistant, *May 2010 – September 2010*
L'Université du Québec à Montréal, Montréal, PQ, Canada
Département des sciences de la Terre et de l'atmosphère
Full Time

Published Work

Hobbs, T.E., Journeay, J.M., Rao, A., Kolaj, M., Martins, L., LeSueur, P., Simionato, M., Silva, V., Pagani, M., Johnson, K., Rotheram, D., Chow, W. (2022), *A National Seismic Risk Model for Canada: Methodology and Scientific Basis*. Earthquake Spectra. *Accepted*.

Hobbs, T.E., Journeay, J.M., Rao, A., Martins, L., LeSueur, P., Kolaj, M., Simionato, M., Silva, V., Pagani, M., Johnson, K., Rotheram, D. (2022), *Scientific Basis of Canada's First Public National Seismic Risk Model*. Geological Survey of Canada, Open File 8918, 57 pages, doi:10.4095/330927.

Hastings, N., **Hobbs, T.E.** (2022), *Earthquakes*, in Resilient pathways report: co-creating new knowledge for understanding risk and resilience in British Columbia; Safaie, S. (ed.), Johnstone, S. (ed.), Hastings, N.L. (ed.). Geological Survey of Canada, Open File 8910, 23 pages, doi:10.4095/330532.

van Ulden, J., Chow, W., Rotheram, D., Ulmi, D., Fok, A., **Hobbs, T.E.** (2022), *Open disaster risk reduction data platform* in Resilient pathways report: co-creating new knowledge for understanding risk and resilience in British Columbia; Safaie, S. (ed.), Johnstone, S. (ed.), Hastings, N.L. (ed.). Geological Survey of Canada, Open File 8910, 9 pages, doi:10.4095/330541.

Journeay, J.M., Yip, J.Z.K., Wagner, C.L., LeSueur, P., **Hobbs, T.E.**, (2022), *Social vulnerability to natural hazards in Canada*. Geological Survey of Canada, Open File 8902, 84 pages, doi:10.4095/330295.

Hobbs, T.E., Journeay, J.M., Rao, A.S, Kolaj, M., Martins, L., Simionato, M., Silva, V., Pagani, M., Johnson, K., Rotheram, D., LeSueur, P. (2022), *The First Public National Canadian Seismic Risk Model: Scientific Underpinnings and Preliminary Results for the Pre-release*. Proceedings of the 12th National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Salt Lake City, UT.

Published Work Continued

Hilt, M., Molina Hutt, C., **Hobbs, T.E.**, Wen, F. (2022), *A methodology to Leverage Seismic Risk Assessments to Inform Seismic Policy Development, the Case of the City of Vancouver*. Proceedings of the 12th National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Salt Lake City, UT.

Hobbs, T.E. (2022), *Seismic Risk in the National Capital Region*. Geological Survey of Canada, Presentation 132-gsc (PMT ID 1936).

Hobbs, T.E. (2021), *A Selection of Earthquake Scenarios for Government Planning Purposes in 2021*. Geological Survey of Canada, Open File 8853, 9 pages, doi:10.495/323397.

Hobbs, T.E., Journeay, J.M., LeSueur, P. (2021), *Developing a retrofit scheme for Canada's Seismic Risk Model*. Geological Survey of Canada, Open File 8822, 10 pages, doi:10.4095/328860.

Hobbs, T.E., Journeay, J.M., Rotheram, D. (2021), *An Earthquake Scenario Catalogue for Canada: A Guide to Using Scenario Hazard and Risk Results*. Geological Survey of Canada, Open File 8806, 22 pages, doi:10.4095/328364.

Colvin, C., **Hobbs, T.E.** (2021). Finance Canada, Confidential Document.

Hobbs, T.E., Newman, A.V., Protti, M. (2019), *Enigmatic Upper-Plate Sliver Transport Paused by Megathrust Earthquake and Afterslip*. Earth and Planetary Science Letters, PII:S0012-821X(19)30285-7.

Hobbs, T.E., Kyriakopoulos, C., Newman, A.V., Protti, M., Yao, D. (2017), *Large and Primarily Updip Afterslip following the 2012 Mw 7.6 Nicoya, Costa Rica earthquake*. Journal of Geophysical Research: Solid Earth, 122, doi:10.1002/2017JB014035.

Yao, D., Walter, J.I., Meng, X., **Hobbs, T.E.**, Peng, Z., Newman, A.V., Schwartz, S.Y., Protti, M. (2017), *Detailed Spatio-Temporal Evolution of Microseismicity and Repeating Earthquakes following the 2012 Mw7.6 Nicoya Earthquake*. Journal of Geophysical Research: Solid Earth, doi:10.1002/2016JB013632.

Bird, A.L., Cassidy, J.F., Kao, H., Leonard, L.J., Allen, T.I., Nikolaishen, L., Dragert, H., **Hobbs, T.E.**, Farahbod, A.M., ... and Rogers, G.C., (2016), *The October 2012 magnitude (MW) 7.8 earthquake offshore Haida Gwaii, Canada*. Summary of the Bulletin of the International Seismological Centre, 49, 7-12.

Darbyshire, F.A., Bastow, I.D., Forte, A.M., **Hobbs, T.E.**, Calvel, A., Gonzalez-Monteza, A., Schow, B. (2015), *Variability and Origin of Seismic Anisotropy Across Eastern Canada: Evidence from Shear-wave Splitting Measurements*. Journal of Geophysical Research: Solid Earth, 120, 8404–8421, doi:10.1002/2015JB012228.

Hobbs, T.E., Cassidy, J.F., Dosso, S.E., and Brillon, C. (2015), *Coulomb Stress Changes Following the Mw 7.8 2012 Haida Gwaii, Canada Earthquake: Implications for Seismic Hazard*. Bulletin of the Seismological Society of America, 105, 2B. doi: 10.1785/0120140158.

Hobbs, T.E., Cassidy, J.F., and Dosso, S.E. (2015), *Rupture Process of the Mw 7.8 2012 Haida Gwaii Earthquake from an Empirical Green's Function Method*. Bulletin of the Seismological Society of America, 105, 2B. doi: 10.1785/0120140175.

Hobbs, T.E. and Darbyshire, F.A (2012), *Point Estimates of Crustal Thickness Using Receiver Function Stacking*. McGill Science Undergraduate Research Journal, 7, p. 19–25.

Work In Preparation

Hobbs, T.E., Yao, D., Neves, M.J.G.F.G., Newman, A.V., Peng, Z., Protti, M., Kemmerlin, M.S. (2023), *Defining the Relationship Between Afterslip and Aftershocks Using Dense Seismic and Geodetic Networks in Nicoya, Costa Rica*. Journal of Geophysical Research. *In Prep*.

Hobbs, T.E., Journeay, J.M., Rao, A. (2023), *Validating Scenario Performance in the First Canadian Seismic Risk Model*. Earthquake Spectra. *In Prep*.

Bird, A.L., Journeay, J.M., **Hobbs, T.E.**, Cassidy, J.F., Wagner, C., Bristow, D., Deelstra, A., Chouinard, P. (2022), *Exercise Coastal Response 2022: Scenario Earthquake and its Potential Impacts*. Geological Survey of Canada, Open File #, # pages, DOI. *Prepared for release in 2023*.

Conference Proceedings

Patchett, M., **Hobbs, T.E.** *Rapid Earthquake Damage Estimation to Save Lives in Canada*. SAGE GAGE Community Workshop, Pasadena, CA, USA, 2023. *Poster Presentation*.

Hobbs, T.E. *The Geological Survey of Canada's National Seismic Risk Assessment (CanSRMI)*. CatIQ Connect, Toronto, ON, Canada, 2023. *Panelist*.

Hobbs, T.E., Journeay, J.M., Rao, A., Kolaj, M., Martins, L., LeSueur, P., Simionato, M., Silva, V., Pagani, M., Johnson, K., Rotheram, D., Chow, W. *Presenting the Newly Released Canadian Seismic Risk Model and the RiskProfiler Web Interface*. USGS Subduction Zone Science Workshop, Seattle, WA, USA, 2023. *Oral Presentation*.

Vanacore, E.A., Donkor, F.K., Bohon, W., Jackson, N.D., **Hobbs, T.E.** *Geohazards and Society: Striving Toward Improved Natural Hazard Resilience for All*. American Geophysical Union Fall Meeting, Chicago, IL, USA, 2022. *Oral and Poster Sessions*.

Velasco, A.A., Karplus, M.S., Weidner, J., Bilek, S.L., Chandrsekhar, D., Ebel, J., **Hobbs, T.E.**, Hurtado Jr, J.M., Jaume, S.C., Jones, E., Kafka, A.L., Nunez, A., Pankow, K.L., Peng, Z., Savvaidis, A., Vanacore, E.A., Valencius, C.B., Brudzinski, M. *Center for Collective Impact in Earthquake Science (C-CIES): Building Inclusive Excellence, Diversity, Equity, and Community into Earthquake Science*. American Geophysical Union Fall Meeting, Chicago, IL, USA, 2022. *Poster Presentation*.

Rimando, J., **Hobbs, T.E.**, Peace, A., Goda, K. *A comparative analysis of approaches to expanding Canada's earthquake scenario catalogue*. European Geophysical Union, Vienna, Austria, 2022. doi:10.5194/egusphere-egu22-1341. *Oral Presentation*.

Hobbs, T.E., Journeay, J.M., Rao, A.S., Kolaj, M., Martins, L., Simionato, M., Silva, V., Pagani, M., Johnson, K., Rotheram, D., LeSueur, P. *The First Public National Canadian Seismic Risk Model: Scientific Underpinnings and Preliminary Results for the Pre-release*. 12th National Conference on Earthquake Engineering, Salt Lake City, UT, USA, 2022. *Oral Presentation*.

Hilt, M., Molina Hutt, C., **Hobbs, T.E.**, Wen, F. *A Methodology to Leverage Seismic Risk Assessments to Inform Seismic Policy Development, the Case of the City of Vancouver*. 12th National Conference on Earthquake Engineering, Salt Lake City, UT, USA, 2022. *Oral Presentation*.

Hobbs, T.E., Sumy, D.F., Tepp, G., Flanagan, M.P., Kakoty, P., Chen, T.Y., von Hillebrandt-Andrade, C.G., Bartel, B. *A Summary of Existing Resources and Roadmap for the Hazards Equity Working Group of the American Geophysical Union's Natural Hazards Section*. Annual Meeting of the Seismological Society of America, Bellevue, WA, USA, 2022. *Poster Presentation*.

Hobbs, T.E., Kolaj, M., Journeay, J.M., Rao, A. *'We're Gonna Need a Bigger Boat': Wrestling a Large Seismic Hazard Model for Seismic Risk Assessment in Canada*. Annual Meeting of the Seismological Society of America, Bellevue, WA, USA, 2022. *Oral Presentation*.

Hobbs, T.E. *Coming Together for "Smarter Solutions"*. Sustainability Research & Innovation Congress, Hybrid Virtual, Brisbane, Australia, 2021. *Invited Presentation*.

Hobbs, T.E., Journeay, J.M., Rotheram, D., Chow, W., van Ulden, J., Wagner, C., LeSueur, P., Bird, A., Rao, A., Simionato, M. *Earthquake Scenarios for Community Resilience*. Vancouver Island Emergency Preparedness Virtual Conference, Virtual, Canada, 2021. *Invited Presentation*.

Hobbs, T.E., Journeay, J.M., van Ulden, J., Rotheram, D., Chow, W., Herring, J., Pagani, M., Johnson, K., Rao, A. *A First Public National Seismic Risk Model for Canada*. Annual Meeting of the Seismological Society of America, Virtual, USA, 2021. *Oral Presentation*.

Styron, R., **Hobbs, T.E.**, Harrichhausen, N., Journeay, J.M. *Estimating Fault Slip Rates in the Cascadia Region of North America Using Joint Geologic-Geodetic Block Modeling*. Annual Meeting of the Seismological Society of America, Virtual, USA, 2021. *Oral Presentation*.

Wong, S., **Hobbs, T.E.**, Geertesema, M. *Evaluating Landslide Forecasting in British Columbia, Canada*. Annual Meeting of the Seismological Society of America, Virtual, USA, 2021. *Poster Presentation*.

Conference Proceedings Continued

Hobbs, T.E. *The Geological Survey of Canada's Earthquake Risk Assessment Framework to Support Canada's Emergency Management Strategy.* The Lands and Minerals Sector Science Advisory Committee – Science Policy Forum on Safety & the Environment, Ottawa, ON, Canada, 2021. *Oral Presentation.*

Hobbs, T.E., Journeay, J.M., Yip, J.Z.K., Rao, A. *Benchmarking Scenario Performance in the First Generation Canadian Seismic Risk Assessment.* American Geophysical Union Fall Meeting, San Francisco, CA, USA, 2020. *Poster Presentation.*

Hobbs, T.E., Kaya, Y., Journeay, J.M., Singh, G., Bird, A.L., Cassidy, J.F., van Ulden, J., and Rotheram-Clarke, D. *Improving Situational Awareness During Early Earthquake Response Using Existing Seismic Risk Models to Rapidly Estimate Damage.* American Geophysical Union, San Francisco, CA, USA, 2020. *Poster Presentation.*

Kedar, S., Panning, M.P., Standley, I.A., Blaes, B.R., Walsh, W., Calcutt, S.B., Pike, W.T., Pierce, D.R., Schmidt, B.E., **Hobbs, T.E.,** Badalian, M., Liu, J., and Franklin, G.W. *The Europa Seismic Package.* American Geophysical Union, San Francisco, CA, USA, 2020. *Poster Presentation.*

Newman, A.V., Protti, M., Schwartz, S.Y., Dixon, T.H., **Hobbs, T.E.,** Voss, N.K., Kyriakopoulos, C., Yao, D., Chaves, E.J., Jiang, Y., Feng, F., DeShon, H., Walter, J.I., Yang, H., Xie, S., and Gonz'alez, V.M. *Two Decades of Geodetic and Seismological Insight into the Seismogenic Zone: A View from Nicoya, Costa Rica.* American Geophysical Union, San Francisco, CA, USA, 2020. *Oral Presentation.*

Pol, K., Journeay, J.M., and **Hobbs, T.E.** *Mainstreaming Seismic Resilience: Transforming Earthquake Risk Information into Plans for Resilient Communities.* Understanding Risk British Columbia Symposium, Vancouver, BC, Canada, 2020. *Workshop.*

Hobbs, T.E., Journeay, J.M., and Singh, G. *Test Driving a Rapid Disaster Modelling Methodology for British Columbia Earthquakes.* Understanding Risk British Columbia Symposium, Vancouver, BC, Canada, 2020. *Workshop.*

Journeay, J.M., Yip, J.Z.K., **Hobbs, T.E.,** Safaie, S., Bristow, D., Deelstra, A., and Chouinard, D. *Black Swans Over Vancouver: From Understanding Risk to Identifying Interventions and Related Risk Reduction Targets.* Understanding Risk British Columbia Symposium, Vancouver, BC, Canada, 2020. *Workshop.*

Hobbs, T.E., Kaya, Y., Journeay, J.M., Singh, G., Bird, A.L., Cassidy, J.F., van Ulden, J. and Rotheram-Clarke, D. *Developing a Rapid Disaster Modelling Methodology for Earthquakes in British Columbia.* Natural Hazards Center Workshop, Boulder, CO, USA, 2020. *Poster Presentation.*

Hobbs, T.E., Hughson, K.H.G., Quartini, E.S., Schmidt, B.E., Panning, M.P., Washam, P.M., Dichek, D.J.G., Hurwitz, B.C., Lawrence, J.D., Hulbe, C.L., Horgan, H.J. *Today Antarctica, Tomorrow Europa: Testing Broadband Seismometers in Icy Earthly Analogs.* Annual Meeting of the Seismological Society of America, Albuquerque, NM, USA, 2020. *Oral Presentation.* *Cancelled for COVID19.

Hobbs, T.E., Journeay, J.M., Rao, A. *Benchmarking the First Generation Canadian National Seismic Risk Assessment.* Annual Meeting of the Seismological Society of America, Albuquerque, NM, USA, 2020. *Oral Presentation.* *Cancelled for COVID19.

Bombardier, M., **Hobbs, T.E.,** Cassidy, J.F., Kao, H., Dosso, S.E. *Analysis of the Atypical 2018 and 2019 Episodic Tremor and Slip Events in Northern Cascadia.* Annual Meeting of the Seismological Society of America, Albuquerque, NM, USA, 2020. *Poster Presentation.* *Cancelled for COVID19.

Hobbs, T.E., Journeay, J.M., Bird, A.L. *Assessing and Communicating Risk from Low-Activity Faults in British Columbia, Canada.* SAGE GAGE Workshop, Portland, OR, USA, 2019. *Poster Presentation.*

Hobbs, T.E., Newman, A.V., Protti, M. *Unexpected forearc sliver translation during relocking of the Nicoya, Costa Rica megathrust.* Megathrust Modeling Workshop (Modeling Collaboratory for Subduction Research Coordination Network), Eugene, OR, USA, 2019. *Poster Presentation.*

Lawrence, J.D., Schmidt, B.E., Glass, J.B., Hamerton, E.K., Bowman, J.S., Lawrence, J.P., Meister, M.R., Dichek, D., Ramey, C., Mullen, A.D., Bryson, F.E., Hurwitz, B., Spears, A., **Hobbs, T.E.** *Water Circulation and Microbial Diversity in Antarctic Ocean World Analog Environments.* AGU Astrobiology Science Conference, Seattle, WA, USA, 2019. *Oral Presentation.*

Conference Proceedings Continued

Mullen, A.D., Schmidt, B.E., Dichek, D., Lawrence, J., Meister, M.R., Ramey, C., Bryson, F.E., **Hobbs, T.E.**, Spears, A., Hurwitz, B., Serabyn, E., Bedrossian, M., Rider, S., Wallace, J.K., Nadeau, J.L., Lindensmith, C.A. *Digital Holographic Microscopy for the Icefin Underwater Vehicle: Initial Progress and Future Steps*. AGU Astrobiology Science Conference, Seattle, WA, USA, 2019. *Oral Presentation*.

Lawrence, J.D., Schmidt, B.E., Meister, M.R., Dichek, D.J.G., Ramey, C.D., Hurwitz, B., Spears, A.M., Mullen, A.D., Bryson, F.E., Buffo, J.J., Glass, J.B., Stockton, A.M., **Hobbs, T.E.** *Observations of Variable Basal Ice Morphology in Antarctica*. Ocean Worlds, Columbia, Maryland, 2019. LPI Contribution No. 2168, i.d. 6029. *Oral Presentation*.

Newman, A.V., **Hobbs, T.E.**, Kyriakopoulos, C., Protti, M., Dixon, T., Schwartz, S.Y. *Translating megathrust behavior into the Nicoya Crust, revealing a dynamic dance across the seismic cycle*. Annual Meeting of the Seismological Society of America, Seattle, WA, USA, 2019. *Oral Presentation*.

Schmidt, B.E., Lawrence, J., Meister, M., Dichek, D., Ramey, C., Spears, A., Mullen, A., Bryson, F., **Hobbs, T.E.** *In Situ Observations of the Erebus Glacier Tongue Grounding Zone by the Icefin HROV*. European Geophysical Union General Assembly, Vienna, Austria, 2019. *Oral Presentation*.

Hobbs, T.E., Yao, D., Newman, A.V., Peng, Z., Protti, M. *Investigating Apparent Anticorrelation of Repeating Aftershocks and Afterslip in Nicoya, Costa Rica*. American Geophysical Union Fall Meeting, Washington, DC, USA, 2018. ID: T52B-03. *Oral Presentation*.

Hobbs, T.E., Newman, A.V., Protti, M. *Transient Forearc Sliver Transport Found During Postseismic Recovery*. Wegener 2018: 19th General Assembly of WEGENER, Grenoble, France, 2018. *Oral Presentation*.

Hobbs, T.E., Newman, A.V., Protti, M. *Episodic forearc sliver translation during relocking of the Nicoya, Costa Rica megathrust: an unexpected observation*. Joint Meeting of the Latin American and Caribbean Seismological Commission and the Seismological Society of America, Miami, FL, USA, 2018. *Invited Presentation*.

Hobbs, T.E., Newman, A.V., Protti, M. *Unexpected forearc sliver translation during relocking of the Nicoya, Costa Rica megathrust*. UNAVCO Science Workshop, Boulder, CO, USA, 2018. *Poster Presentation*.

Hobbs, T.E., Newman, A.V., Protti, M. *Accelerated sliver transport during transition from postseismic to interseismic conditions*. American Geophysical Union Fall Meeting, New Orleans, LA, USA, 2017. ID: G43A-0902. *Poster Presentation*.

Voss, N.K., Liu, Z., **Hobbs, T.E.**, Schwartz, S.Y., Malservisi, R., Dixon, T., Protti, M. *Aseismic Slip Throughout the Earthquake Cycle in Nicoya Peninsula, Costa Rica*. American Geophysical Union Fall Meeting, New Orleans, LA, USA, 2017. ID: T13E-02. *Oral Presentation*.

Hobbs, T.E., Newman, A.V., and Peng, Z. *Defining the Temporal Relationship Between Afterslip and Aftershocks Using Dense Seismic and Geodetic Networks in Nicoya, Costa Rica*. Seismological Society of America Annual Meeting, Denver, CO, USA, 2017. *Oral Presentation*.

Hobbs, T.E., Kyriakopoulos, C., Newman, A.V., Yao, D., Dixon, T., Protti, M. *Recovering the Full Afterslip Following the 2012 Mw 7.6 Nicoya, Costa Rica Earthquake*. American Geophysical Union Fall Meeting, San Francisco, CA, USA, 2016. ID: 137120. *Oral Presentation*.

Newman, A.V., Yao, D., Kyriakopoulos, C., Moore-Driskell, M.M., **Hobbs, T.E.**, Peng, Z., Schwartz, S., Protti, M., Gonzalez, V. *The Possible Decapitation of a Megathrust Indenter: Evidence from Imaging of Time-dependent Microseismic Structures before and after the 2012 Mw 7.6 Nicoya, Costa Rica*. American Geophysical Union Fall Meeting, San Francisco, CA, USA, 2016. ID: 149139. *Oral Presentation*.

Newman, A.V., **Hobbs, T.E.**, Kyriakopoulos, C., Dixon, T., Schwartz, S.Y., Protti, M. *Partitioning of the Total Slip Signal through the Seismic Cycle: Results from the Nicoya Seismic Cycle Observatory (NSCO)*. Subduction Zone Observatory Workshop, Boise, ID, USA, 2016. *Poster Presentation*.

Hobbs, T.E., Newman, A.V., Yao, D., Protti, M. *Continued Trenchward Progression of Upper Plate GPS Sites Following the 2012 Mw 7.6 Nicoya Earthquake*. General Assembly of the Latin American and Caribbean Seismological Commission, San Jose, Costa Rica, 2016. Paper Number 230. *Oral Presentation*.

Conference Proceedings Continued

Walter, J.I., Kao, H., Meng, X., Peng, Z., **Hobbs, T.E.**, Dotray, P., Newman, A.V., Mulder, T. *Dynamic interactions between the October 28th 2012 Haida Gwaii and January 5th 2013 Craig earthquakes and other faults in Southeast Alaska*. American Geophysical Union Fall Meeting, San Francisco, CA, USA, 2015. Abstract ID: S13D-07. *Oral Presentation*.

Hobbs, T.E., Newman, A.V., Protti, M. *Continued Trenchward Procession of Upper Plate GPS Sites Following the 2012 Mw 7.6 Nicoya Earthquake*. American Geophysical Union Fall Meeting, San Francisco, CA, USA, 2015. Abstract ID: T43C-3017. *Poster Presentation*.

Newman, A.V., Kyriakopoulos, C., Feng, L., **Hobbs, T.E.**, Dixon, T.H., Malservisi, R., Protti, J.M. *The Continuum of Slip along the Subduction Megathrust: Observations and Understanding Gained from the Nicoya Seismic Cycle Observatory*. Seismological Society of America Annual Meeting, Pasadena, CA, USA, 2015. *Invited*.

Hobbs, T.E., Cassidy, J.C., and Dosso, S.E. *Possible Interactions between the 2012 Mw 7.8 Haida Gwaii Subduction Earthquake and the Transform Queen Charlotte Fault*. American Geophysical Union Fall Meeting, San Francisco, CA, USA, 2014. Abstract ID: S23A-4483. *Poster Presentation*.

Hobbs, T.E., Cassidy, J.C., and Dosso, S.E. *Rupture Properties of the Mw 7.7 2012 Haida Gwaii Earthquake from an Empirical Green's Function Method*. Seismological Society of America Annual Meeting, Anchorage, AK, USA, 2014. Abstract ID: 14-003. *Oral Presentation*.

Hobbs, T.E., Cassidy, J.C., and Dosso, S.E. *Coulomb Stress Changes Resulting from the Mw 7.7 2012 Haida Gwaii Earthquake*. Seismological Society of America Annual Meeting, Anchorage, AK, USA, 2014. Abstract ID: 14-002. *Poster Presentation*.

Hobbs, T.E., Brillon, C., Cassidy, J.C., Dosso, S.E., and Dragert, H. *Coulomb Stress Changes Following the Mw 7.7 2012 Haida Gwaii Earthquake*. Canadian Geophysical Union Annual Meeting, Saskatoon, SK, Canada, 2013. Abstract ID: 3D4.3--6606. *Oral Presentation*.

Hobbs, T.E., and Darbyshire, F.A. *SkS Splitting Measurement of Seismic Anisotropy in Southern & Central Quebec*. Canadian Geophysical Union Annual Meeting, Banff, AB, Canada, 2012. *Poster Presentation*.

Darbyshire, F.A., and **Hobbs, T.E.** *Crustal Thickness Variations Across Central and Southern Québec From Receiver Function Analysis*. Canadian Geophysical Union Annual Meeting, Banff, AB, Canada, 2011. *Poster Presentation*.

Hobbs, T.E., and Darbyshire, F.A. *Crustal Thickness Variations Across Eastern Canada and Maine From Receiver Function Analysis*. American Geophysical Union Fall Meeting, San Francisco, CA, USA, 2010. Abstract ID: T33D-2285. *Poster Presentation*.

Invited Speaking Engagements

Hobbs, T.E. *EAS Career Development and Engagement Session*, Panelist for Department of Earth and Atmospheric Sciences at Georgia Institute of Technology, Virtual, 2023.

Hobbs, T.E. *Earthquake Risk in Canada*, Presentation to Dunbar Earthquake and Emergency Preparedness Organization, Virtual, 2023.

Hobbs, T.E. *Earthquake Risk in Canada*, Presentation to Brockton House Society, Virtual, 2023.

Hobbs, T.E., Wenezenki, M. *The Geological Survey of Canada's National Earthquake Risk Assessment Framework*, Presentation to the Chiefs Committee of the Assembly of First Nations of Canada, Virtual, 2023.

Hobbs, T.E., Boucher, C. *Quebec Earthquake Preparedness Workshop*, Presentation to the Government Operations Centre Quebec Working Group, Montreal, QC, 2022.

Hobbs, T.E. *Update from the Seismic Risk Team*, Presentation to the Global Earthquake Model (GEM) Canada Steering Committee, Vancouver, BC, 2022.

Hobbs, T.E. *The Canadian Seismic Risk Model: Updates for Risk Characterization in BC*, Presentation to the British Columbia Seismic Safety Commission, Victoria, BC, 2022.

Invited Speaking Engagements Continued

Hobbs, T.E., Stacey, C., Pirenne, B. *Living with Marine Hazards: From Landslides to Earthquake Early Warning*, Lecture and Lab for the University of British Columbia PRODIGY Ocean Data Science Course, Vancouver, BC, 2022.

Hobbs, T.E. *Seismic Hazard and Risk Modelling for the Federal Government*, Lecture for the University of British Columbia, Course CIVL 504, Vancouver, BC, 2022.

Hobbs, T.E. *Advice from Early Career Mentors*, Panelist for Seismological Society of America Connects, United States, 2022.

Hobbs, T.E. *British Columbia Earthquake Immediate Response Plan 2021/2022 Revision*. Presentation to Catastrophic Preparedness Working Group Scenario Workshop, Victoria, BC, Canada, 2021.

Hobbs, T.E. *Seismic Risk in the National Capital Region*. Presentation to Government Operations Centre Ontario Working Group, Ottawa, ON, Canada, 2021.

Talwar, S., **Hobbs, T.E.** *Update from Canada*. Public Partner Presentation to the Global Earthquake Model Foundation Governing Board Meeting, Pavia, Italy, 2021.

Hobbs, T.E. and Bevington, A. Panelist for the University of Northern British Columbia, Course GEOG 212, Prince George, BC, Canada, 2021.

Hobbs, T.E., Journeay, M., van Ulden, J., Rotheram, D., Chow, W., Herring, J., Pagani, M., Johnson, K., Rao, A. *Canada's National Seismic Risk Model*. Keynote Speaker for the Graduate Student Symposium for Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA, USA, 2021.

Hobbs, T.E., Journeay, M., van Ulden, J., Rotheram, D., Chow, W., Herring, J., Pagani, M., Johnson, K., Rao, A. *Earthquake Scenarios*. Presentation to Vancouver Emergency Community Telecommunications Organization (VECTOR), Vancouver, BC, Canada, 2021.

Hobbs, T.E., Journeay, M., van Ulden, J., Rotheram, D., Chow, W., Herring, J., Pagani, M., Johnson, K., Rao, A. *Earthquake Scenarios for Task Force 2*. Presentation to Canadian Task Force 2, Calgary, AB, Canada, 2021.

Hobbs, T.E. *Canada's Seismic Risk Profile: A Path to Disaster Risk Reduction*. Carl Heiland Lecture at the Colorado School of Mines, Golden, CO, USA, 2021.

Hobbs, T.E. *Communication and Effectiveness in Disaster Risk Reduction*. Lecture for the Colorado School of Mines, Engineering, Design & Society, Golden, CO, USA, 2021.

Hobbs, T.E., Campbell, A., Reyes, B., Nasser, A., Gregory, D., Kolaj, M., Seyhan, E., *Canada's New Earthquake Science: Learning from Loss Models*. Panelist at Institute for Catastrophic Loss Reduction Workshop, 'Tail Risk' and 'Canada's 6th Generation Seismic Hazard Model' sessions, London, ON, Canada, 2020.

Hobbs, T.E., Journeay, J.M., Kolaj, M., Podlaha, A., and Trendafiloski, G. *New Perspectives on Earthquake Risk in Canada*. Panelist at CatIQ Connect session, moderated by John Schneider, Toronto, ON, Canada, 2020.

Hobbs, T.E., and Hilt, M.P. *Regional Seismic Risk Modelling and its Impact on Policy Development*. Lecture for the University of British Columbia, Course CIVL 506, Vancouver, BC, Canada, 2020.

Hobbs, T.E. *Earthquake Scenarios for Community Resilience*. Presentation to the Board of the Mid Island Emergency Coordinators and Managers, Qualicum Beach, BC, Canada, 2020.

Hobbs, T.E. *Earthquake Scenarios for Community Resilience*. Presentation to the Strathcona Emergency Program Committee, Campbell River, BC, Canada, 2020.

Hobbs, T.E., Journeay, J.M., Bird, A.L., Cassidy, J.F. *Seismic Scenarios in British Columbia*. Presentation to the British Columbia Seismic Safety Commission, Victoria, BC, Canada, 2020.

Hobbs, T.E., Journeay, J.M. *Implementing Updated Fragility & Vulnerability Functions in Scenario Earthquakes*. Presentation to City of Vancouver Seismic Engineering Review Committee, Vancouver, BC, Canada, 2020.

Hobbs, T.E. *Using Dense Seismic and Geodetic Networks to Examine [Unexpected] Postseismic Behaviour of the Nicoya, Costa Rica Megathrust*. Tectonics Seminar Series at the Pacific Geoscience Centre, Sidney, BC, Canada, 2020.

Invited Speaking Engagements Continued

Hobbs, T.E., Journeay, J.M. *An Earthquake Risk Profile of Canada: Knowledge to Inform Disaster Resilience Planning*. Seminar presentation for the Canadian Hazards Information Service, Ottawa, ON, Canada, 2020.

Hobbs, T.E., Journeay, J.M., Cassidy, J.C. *Earthquakes in British Columbia: Preparing for the ‘Big One’ and the ‘Other Ones’*. Presentation to the Metro Vancouver Regional District & Regional Engineers Advisory Committee Utility Tabletop Exercise, Burnaby, BC, Canada, 2019.

Hobbs, T.E., Journeay, J.M. *An Earthquake Risk Profile of Canada: Knowledge to Inform Disaster Resilience Planning*. Presentation to the Director General Interdepartmental Table on Earthquake Risk, Government of Canada, Ottawa, ON, Canada, 2019.

Hobbs, T.E., Journeay, J.M. *Eastern Canada Earthquake Scenarios*. Workshop presentation for ‘Earthquake Risk Modeling in Canada: From Knowledge to Action’, London, ON, Canada, 2019.

Hobbs, T.E. *Seismicity in British Columbia*. Presentation to the Union of British Columbia Municipalities Convention, Vancouver, BC, Canada, 2019.

Science News Publications

Hobbs, T.E. (2020), *Dual disaster planning, communication and reason for hope: a discussion with professor Sam Montano*, Temblor, <http://doi.org/10.32858/temblor.086>

Hobbs, T.E., Shinji, T. (2020), *Significant Idaho earthquake unlikely to cause unrest in Yellowstone*, Temblor, <http://doi.org/10.32858/temblor.081>

Hobbs, T.E. (2020), *Earthquake strikes Utah amid COVID-19 pandemic*, Temblor, <http://doi.org/10.32858/temblor.078>

Hobbs, T.E. (2020), *Shaking on Mars Creating Good Vibrations On Earth*, Temblor, <http://doi.org/10.32858/temblor.075>

Eyidoğan, H., **Hobbs, T.E.** (2020), *Recovery Underway Following Damaging 24 January 2020 Elazığ Earthquake in Eastern Turkey*, Temblor, <http://doi.org/10.32858/temblor.070>

Hobbs, T.E. (2020), *More unrest in the Caribbean as Jamaica is struck by a magnitude 7.7 earthquake*, Temblor, <http://doi.org/10.32858/temblor.069>

Hobbs, T.E. (2019), *Can science tell when a large earthquake will be followed by an even larger one?*, Temblor, <http://doi.org/10.32858/temblor.056>

Hobbs, T.E. (2019), *Over 66 million people participate in international ShakeOut; prompts evaluation of personal preparedness*, Temblor, <http://doi.org/10.32858/temblor.052>

Hobbs, T.E. (2019), *Indonesian “Black Swan” quake: a painful reminder of last year’s M 7.5 Palu shock*, Temblor, <http://doi.org/10.32858/temblor.044>

Hobbs, T.E. (2019), *August 1, 2019, magnitude-6.8 Chile earthquake reveals stress is building on the megathrust*, Temblor, <http://doi.org/10.32858/temblor.042>

Hobbs, T.E. (2019), *How Apollo 11’s moonquakes changed our understanding of earthquakes*, Temblor, <http://doi.org/10.32858/temblor.041>

Stein, R.S., Rollins, C., Sevilgen, V. **Hobbs, T.E.** (2019), *M 7.1 SoCal earthquake triggers aftershocks up to 100 mi away: What’s next?*, Temblor, <http://doi.org/10.32858/temblor.038>

Stein, R.S., **Hobbs, T.E.**, Rollins, C., Ely, G., Sevilgen, V., Toda, S. (2019), *Magnitude 7.1 earthquake rips northwest from the M6.4 just 34 hours later*, Temblor, <http://doi.org/10.32858/temblor.037>

Hobbs, T.E., Rollins, C. (2019), *Earthquake Just North of Cascadia is Felt Along Canada’s West Coast*, Temblor, <http://doi.org/10.32858/temblor.036>

Hobbs, T.E., Rollins, C. (2019), *Earthquake early warning system challenged by the largest SoCal shock in 20 years*, Temblor, <http://doi.org/10.32858/temblor.035>

Science News Publications Continued

- Hobbs, T.E.** (2019), *The first Marsquake is recorded*, Temblor, <http://doi.org/10.32858/temblor.031>
- Hobbs, T.E.**, Stein, R.S. (2019), *El Salvador Earthquake: A Moderate Event in An Area of Extreme Seismic Risk*, Temblor, <http://doi.org/10.32858/temblor.025>
- Hobbs, T.E.** (2019), *Deep earthquake in Peru is felt along the length of South America*, Temblor, <http://doi.org/10.32858/temblor.024>
- Hobbs, T.E.** (2019), *Large Earthquake in Papua New Guinea re-ruptures major fault in just 19 years: More to follow?*, Temblor, <http://doi.org/10.32858/temblor.022>
- Hobbs, T.E.** (2018 – present) *T. Hobbs Field Research Blog* Retrieved from <https://thobbsfield.wordpress.com>
- Hobbs, T.E.** (2018, October-December) *Planetary Habitability & Technology Blog* Retrieved from <https://nobusinesslikesnowbusiness.wordpress.com>
- Hobbs, T.E.** (2018, July 11-25) *Alaska Amphibious Community Seismic Experiment Blog* Retrieved from <https://alaskaamphibious.wordpress.com/2018/07/11/> ; <https://alaskaamphibious.wordpress.com/2018/07/18/>
- Hobbs, T.E.**, Toda, S. (2018), *Did Tuesday's M 7.9 Kodiak earthquake nudge the Alaskan Megathrust closer to failure?*, Temblor, <http://doi.org/10.32858/temblor.005>
- Hobbs, T.E.** (2018, January 23) *M 7.9 Alaska earthquake strikes off the coast of Kodiak Island, triggering a tsunami and questions*. Retrieved from <http://temblor.net/earthquake-insights/m7-9-alaska-earthquake-strikes-off-the-coast-of-kodiak-island-triggering-a-tsunami-and-questions-6143/>

Techniques

GPS & seismic fieldwork	Risk Modelling (OpenQuake)	Coulomb stress analysis
Geodetic inversion	Slope Stability Analysis	Instrument design
GIS Software	Tableau Data Visualization	InSAR processing
SkS splitting	Receiver function stacking	Waveform Matching

Training

- Short Course** Wilderness First Aid (Coast Wilderness Medical Training), 2022
- Short Course** Remotely-Piloted Aircraft System Ground School (Coastal Drone Co.), 2021
- Online Course** Indigenous Canada (University of Alberta), 2021
- Short Course** Bear Aware (St. John's Ambulance), 2021
- Short Course** Avalanche Safety Training (AST) Level 1 (Canada West Mountain School), 2019
- Short Course** 5-day Mountaineering Course (Northwest Mountain School), 2019
- Short Course** Wilderness First Aid (Coast Wilderness Medical Training), 2019
- College Course** Introduction to GIS (Fanshawe College), 2019
- Short Course** Advanced Webinar: SAR for Disasters and Hydrological Applications (NASA), 2019
- Apply-to-Sail Participant** Alaska Amphibious Community Seismic Experiment (GeoPRISMS), 2018
- Short Course** Aftershock Forecasting (SSA), 2018
- Short Course** Probabilistic Seismic Hazard Analysis with Slab 2.0 (SSA), 2018
- Short Course** Communicating Science for Impact (UNAVCO), 2018
- Short Course** Gipsy-X User Training (JPL), 2017
- Short Course** Probabilistic Seismic Hazard Analysis (SSA), 2017

Training Continued

Short Course Advanced INSAR Processing (UNAVCO), 2015

Short Course Practical Sequence Stratigraphy: Concepts and Applications (CSPG), 2012

Awards & Funding

NSF Track 1: Center for Collective Impact in Earthquake Science (C-CIES): Building Inclusive Excellence, Diversity, Equity, and Community into Earthquake Science

Co-PI

PI: Aaron Velasco

2022 – 2024

NSERC Alliance: Pacific Alliance

Federal Partner

PI: Michael Bostock

2021 – 2026

NSERC Alliance: Quantifying the Seismic Resilience of the Transportation Network in the Lower Mainland, BC

Federal Partner

PI: Carlos Molina-Hutt

2021 – 2026

NSERC Discovery Grant: Identifying Potentially Active Faults in Mainland British Columbia Using Available Datasets

Principal Investigator

2022 – 2027

NSERC CREATE: Pacific Rim Ocean Data Mobilization and Technology (PRODIGY)

Non-academic Partner

PI: Philippe Tortell

2021 – 2027

Award for Outstanding Service

Georgia Institute of Technology, School of Earth and Atmospheric Sciences

2019

Student Presentation Award

Seismological Society of America

2018

NSERC Post-Graduate Doctoral Fellowship

Natural Sciences and Engineering Research Council of Canada

2016 – 2018

Kurt Frankel Award for Excellence in Field Work

Georgia Institute of Technology, School of Earth and Atmospheric Sciences

2017

Student Travel Award

Seismological Society of America

2017

Invitation for Dean's Lecture Series

University of Victoria, Faculty of Graduate Studies

2014

Awards & Funding Continued

Fellowship for Graduate Students

University of Victoria, Faculty of Science
2012, 2013

Student Travel Award

Canadian Geophysical Union
2012, 2013

Introduction to Research Scholarship

GEOTOP, Montréal, Quebec
2012

Logan Award, Frederick M. Connell Award, and Graham Scholarship in Science

McGill University, Faculty of Science
2011

Service

Integrative Group Member, Building Equity and Capacity in Geoscience Group

Subduction Zone 4D Initiative
2022 – present

Editor, Fast Reports

Diamond Open Access Journal *Seismica*
2021 – present

Co-Chair, Hazards Equity Working Group

American Geophysical Union Natural Hazards Section
2020 – present

Scientist, Skype A Scientist Program

<https://www.skypeascientist.com/>
2018 – present

Expert Reviewer, Seismic Microzonation Guidelines

Engineers and Geoscientists British Columbia
2023

Expert Contributor, Earthquake Immediate Response Plan

Emergency Management British Columbia
2021

Expert Reviewer, Seismic Retrofit Guidelines

Engineers and Geoscientists British Columbia
2020

Leader, Unlearning Racism in Geoscience

Geological Survey of Canada Pacific Division Informal Pod
2020

Coordinator, Georgia Tech Science Showcase Series

Ponce City Farmers Market, Atlanta, GA
2018

Science Coordinator, Graduate Student Symposium

Georgia Institute of Technology, School of Earth and Atmospheric Sciences
2017

Service Continued

Member, Society of Exploration Geophysicists
Georgia Institute of Technology Chapter
2015 – 2018

First Year Mentoring Chair, Graduates in Earth and Atmospheric Sciences Council
Georgia Institute of Technology
2015 – 2017

Vice President, Graduates in Earth and Atmospheric Sciences Council
Georgia Institute of Technology
2014 – 2016

Volunteer, 'Let's Talk Science' National Outreach Program
University of Victoria
2013 – 2014

President, Environmental Residence Council
Vice President of Environment, University Residence Council
McGill University
2008 – 2009

Teaching Experience

Teaching Assistant
EOS 120: Dynamic Earth
School of Earth & Ocean Sciences
University of Victoria, Victoria, BC, Canada

Teaching Assistant
EOS 170: Natural Hazards
School of Earth & Ocean Sciences
University of Victoria, Victoria, BC, Canada

Teaching Assistant
EOS 201: Sedimentary Geology
School of Earth & Ocean Sciences
University of Victoria, Victoria, BC, Canada

Teaching Assistant, Lab Coordinator
EAS 2600: Earth Processes
Earth & Atmospheric Sciences Department
Georgia Institute of Technology, Atlanta, GA, USA

Professor
EOAS 595B: Directed Studies — Seismology and Seismic Hazard
Earth, Ocean and Atmospheric Sciences Department
University of British Columbia, Vancouver, BC, Canada

Professor
EOSC 448: Directed Studies — Scientific Python and Seismic Hazard
Earth and Ocean Sciences Department
University of Victoria, Victoria, BC, Canada

Manuscript, Proposal, and Guideline Reviews

2022 – Seismica Fast Reports (Submission 2641)

2022 – Seismica Fast Reports (Submission 2335)

Manuscript, Proposal, and Guideline Reviews Continued

2022 – Geological Survey of Canada Open File (internal review)
2022 – Engineers and Geoscientists of British Columbia Guideline Review
2022 – Canadian Journal of Civil Engineering (cjce-2021-0499)
2021 – Natural Sciences and Engineering Research Council Alliance Proposal (#567023-2021)
2021 – GEOLOGY (G48675)
2020 – Nature Communications (NCOMMS-20-45887-T)
2020 – National Science Foundation Collaborative Research Proposal (#2025104)
2019 – Journal of South American Earth Sciences (SAMES_2019_275)
2018 – Nature Scientific Reports (SREP-18-23971-T)
2018 – Tectonics (2017TC004771RRRR)

Thesis Committees

2023 – Ann Abraham (PhD), University of British Columbia, BC, Canada
2021 – Megan Caston (MSc), University of Victoria, BC, Canada

Professional Organizations

American Geophysical Union (*AGU*)
Seismological Society of America (*SSA*)
Latin American and Caribbean Seismological Coalition (*LACSC*)
Earthquake Engineering Research Institute (*EERI*)

Highly Qualified Personnel

M.S. Kemmerlin — Undergraduate Student (2018)
S. Wong — Undergraduate Student (2020)
J. Rimando — Postdoctoral Researcher (2022)
A. Abraham — PhD Student (2020 – 2023)
R.B. Mendoza — MS Student (2022 – present)
M. Patchett — MS Student (2022 – present)
A. Podhorodeski – MS Student (2023 – present)
S. Asadi Shekafti – Graduate Student Intern (2023 – present)