

EDUCATION

University of British Columbia, Vancouver, BC,

Sept. 2021 – Present

Ph.D. Candidate Forest Resources Management.

Advisor: Nicholas Coops

Thesis Research: Satellite monitoring of forest regeneration after wildfire to support resilient forests and adaptive management

ETH Zurich, Zurich, Switzerland

May. 2024 – Sept. 2024

Visiting PhD Forest Operations Research (FORM lab

Advisor: Verena Griess

University of British Columbia, Vancouver, BC,

Sept. 2019 – June 2021

MSc in Geography

Advisor: Dr. Naomi B. Schwartz

Thesis Research: 3D Models of Forest Structure to Explain Climate within Burnt and Regenerating Forests

Wellesley College, Wellesley, MA,

Sept 2015 – May 2019

BA in Geosciences, minor in Biological Sciences

(*Magna Cum Laude* w/ dept. honors)

Advisor: Dr. Jaclyn Hatala Matthes and Daniel J. Brabander

Honors Thesis: Alterations in Stream Flow Associated with Gypsy Moth Outbreaks

SEA Semester Oceans and Climate (S-278) Spring 2018

COMMUNITY INVOLVEMENT

American Geophysical Union Congressional Visit (Team Lead)

December 2024

Pacific Institute on Climate Solutions Disaster Workshops (Notetaker)

August – November 2024

UBC Wildfire Discussion Group (Principal Coordinator)

September 2024 - Current

European Space Agency (ESA) Technical Workshop.

Jul. 2024

Technical Needs for Space-Based Observation of Terrestrial Vegetation Structure

British Columbia Disaster Resilience Network. Interdisciplinary panel and working group researching and providing tools to address social risk of large-scale disasters

March 2022 - Current

Silva21 Research Programme. Provide data, tools, and practical solutions to improve resilience of forests across Canada

Sept. 2021 - Current

Wellesley Class of 2019 Class President. Organized fiscal fundraisers and planned 2024 class reunion

May 2019 – May 2024

UBC Geography Grad. Association Home Seminar Committee and *Social Committee*

Sept. 2019 - May. 2020

TEACHING EXPERIENCES AND MENTORSHIP

FRST 127: Course Development and Mentorship. Lead a team of three undergraduates to develop course material introduction remote-sensing for disaster resilience.	Sept 2023 - Current
FRST 599: Project Proposal Development and Proof of Concept: Mentored 4-10 students on diverse 1-year projects using Remote Sensing to solve community problems (# students = 18)	Sept. 2021 – May 2024

TEACHING ASSISTANTSHIPS (x# = number of terms)

UBC Forestry FRST 556: Land Information Acquisition and Analysis Remote Sensing for Ecosystem Management (x3) 443: Remote Sensing for Ecosystem Management (x4) 538 Advanced Geomatics (x2)	Jan 2021 – Present
UBC Geography GEOB 200: Atmospheric Environments GEOG 314: Environmental Impact Analyses	Sept. - Dec. 2020
Wellesley College GEOS 315: Environmental Geochemistry ES 100: Science, Systems, and Stakeholders	Jan. – May 2019

DIVERSE RESEARCH EXPERIENCES (* denotes field-based)

Cross-Canada Drone Acquisition; University of Laval <i>Remotely Piloted Aircraft Pilot in Command</i>	Summer 2022
Metro Vancouver; Watershed and Environmental Management Division <i>Remote Sensing Contractor</i>	Summer 2020
*University of New Mexico; Teakettle Experimental Forest <i>Forest Inventory Technician</i>	Summer 2019
Albright Institute for Global Affairs <i>Interdisciplinary Research Fellow on Global Crises</i>	January 2019
*Mongolian American Aquatic Research Initiative <i>Socioecological Research Assistant</i>	Feb. – July 2018
Woods Hole Oceanographic Institution <i>Guest Student in Chemical Oceanography</i>	Jan. – Feb. 2018
Alberta Parks Department <i>Trail Development and Ecology Intern</i>	May – July 2017
Wendy Paulson 69' Ecology of Place; <i>Interdisciplinary Research Assistant</i>	Sep. 2016 – April 2019

CONFERENCE PRESENTATIONS

- ***Smith-Tripp, S.,** Coops, N., White, J., Mulverhill, C., (2024) Early Landsat Spectral Responses Inform Temporal Patterns of Post-Fire Structural Development. American Geophysical Union. Washington DC, USA. Dec 9-13. Poster
- ***Smith-Tripp, S.,** Coops, N., White, J., (2022) Combining forest structure measurements with satellite spectral observations for forest recovery monitoring in burned environments of British Columbia, Canada. Forest Disturbance Symposium. Bertchesgarten, GE. Sept 21 – 24. Poster
- ***Smith-Tripp, S.,** Coops, N., Eskelson, B. I., Schwartz, N. B., (2021) T-07: Integrating Remote Sensing as a Tool to Model Canopy Influence on Microclimate Variation in Disturbed Forests. IALE-NA Annual Meeting. Reno, NV (remote). April 12-15. Presentation
- ***Smith-Tripp, S.,** Griffith, A. Matthes, J. H., (2019) Responses of ecosystem hydrology to gypsy moth defoliation in streams and watersheds. ESA Annual Meeting. Louisville, KY. Aug. 11 – 16. Poster
- ***Smith-Tripp, S.,** Matthes, J.H., Brabander, D.J., Griffith, A. (2019) 34-8 Gypsy Moth Defoliation Effects on Watershed Hydrology. Northeastern Section – 54th Annual Meeting of the Geological Society of America. Portland, ME. Mar. 15 – 19, 2019. Presentation.

- Brabander, D. J., Fitzstevens, M., Sharp, R., Oettgen, H., Passeretti, M., Jackman, M., Chia Yan Min, K., **Smith-Tripp, S.**, Wanzer, L., (2018) GH32A-01: Beyond Citizen Science: Models for Community Engagement, Environmental Justice, and STEM Education (Highlighted). AGU Annual Meeting. Washington, DC. Dec. 10-14, 2018. Presentation
- ***Smith-Tripp, S.**, Noelle-Kloeden, Taryn, Mendsaikhon, B.D., Hassan, A., Jensen, O.P., Golden, A. (2018) The local experience of climate change. New England Symposium on Sustainability and the Environment. Bridgewater, MA. 17 Nov. 17, 2018. Presentation
- *Chia Yan Min, K., **Smith-Tripp, S. M.** (2017) 225-11: Science, Systems, Stakeholders: Using Geosciences for Landscape Sustainability, Enhanced by Ecology of Place. Annual meeting of the Geological Society of America. Seattle, WA. October 22-25, 2017. Presentation

SCHOLARLY PUBLICATIONS

- Smith-Tripp, S.M.**, Spiess, J., Griess, V., Pedersen, D. Incorporating Indigenous Values in Forest Plan Development: A case study for paths forward (In-prep)
- Smith-Tripp, S.M.**, Coops, N. C., Mulverhill, C., White, J. C., & Gergel, S. Post-fire Climate Anomalies and Pre-fire Productivity Drive Recovery in Dry Sub-Alpine Forests (In-prep)
- Smith-Tripp, S.M.**, Coops, N. C., Mulverhill, C., White, J. C., & Gergel, S. (2024). Early spectral dynamics are indicative of distinct growth patterns in post-wildfire forests. *Remote Sensing in Ecology and Conservation*, <https://doi.org/10.1002/rse2.420>
- Smith-Tripp, S.M.**, Coops, NC, Mulverhill, C., White, JC, Axelson, J., 2024. Landsat assessment of variable spectral recovery linked to post-fire forest structure in dry sub-boreal forests. *ISPRS Journal of Photogrammetry and Remote Sensing* 208, 121–135. <https://doi.org/10.1016/j.isprsjprs.2024.01.008>
- Pletcher, E., **Smith-Tripp, S.**, Evans, D., Schwartz, NB, 2024. Evaluating global vegetation products for application in heterogeneous forest-savanna landscapes. *International Journal of Remote Sensing* 45, 492–507. <https://doi.org/10.1080/01431161.2023.2299278>
- Smith-Tripp, S.**, Coops, N., Eskelson, B. I., Schwartz, N. B. (2022) *Journal of Agriculture and Forest Meteorology*. Canopy height effects on growing season and monthly microclimate in a burned forest of British Columbia, Canada <https://doi.org/10.1016/j.agrformet.2022.109067>
- Lembrechts, J., van de Hoogen, J., Aalto, J., and many others, including **Smith-Tripp, S.** (2021), *Global Change Biology*. Global maps of soil temperature 10.32942/osf.io/pksqw
- Smith-Tripp, S.**, Griffith, A., Matthes, J.H., (2021). *Ecohydrology*. Impacts of a regional multiyear insect defoliation event on growing-season runoff ratios and instantaneous streamflow characteristics. <https://doi.org/10.1002/eco.2332>

COMMUNITY TALKS AND COMMUNICATIONS

- Smith-Tripp, S.**, Irwin, L., Wotherspoon, A., Getting your drone research off the ground (Part 1 & 2). Silva21 Extension. <https://www.silva21.com/extensionnotes?lang=en> Jun – Jul. 2024
- Smith-Tripp, S.(x2)** Public talk on Landsat science. Crofton Manor Retirement Facility. 7 Feb. 2023. & Dec.19th 2023
- Smith-Tripp, S.**, Stackhouse, L., Wotherspoon, A.R. (2023) 'Becoming a Foreign Pilot in Canada' Extension Note. Silva21 blog. Sept., 2023.
- Smith-Tripp, S.** (2023), *Collection of Blogs detailing cross-Canada Drone Acquisitions*. <https://sarahsmithtripp.github.io/blog/> Jul., 2023
- Smith-Tripp, S.** invited presentation on microclimate dynamics. GC401 Biogeography at Northern Michigan State University. Nov. 3, 2021
- Smith-Tripp, S.** (2020). 2020-22 Remote sensing as a tool for efficient forest health and landscape monitoring in Metro Vancouver water supply areas. UBC Sustainability Scholars Report.

AWARDS AND GRANTS

3MT Forestry 1st place, UBC semi-finalist, May 2023 (see link to presentation: [here](#))
Nora and Gordon Bailey Fellowship, September 2022 (\$120,000 CAD)
Professor Elizabeth K. Fisher Fellowship, May 2022 (\$3,000 USD)
UBC Forestry: Paul Heller Memorial Fellowship in Forestry (\$10,000 CAD)
IALE-NA Student Travel Award, April 2021 (\$200 USD)
UBC Arts Graduate Research Award, February 2020 (\$1000 USD)
Professor Elizabeth K. Fisher Fellowship, May 2019 (\$3,000 USD)
Wellesley College Geosciences: Margaret D. Thompson Award, May 2019
Albright Institute of Global Affairs Fellow, January 2019 (\$5,000 USD – *declined*)
Wellesley College Geosciences: Sara F. Langer Memorial Award, May 2018
American Institute of Professional Geologists (AIPG): Angelo Tagliacozzo Memorial Geological Scholarship, January 2018 (\$1,500 USD)
The Jeniam Foundation Internship Grant, January 2018 (\$500 USD)
Kathryn W. Davis 28 International Internship Grant, March 2017 (\$2,500 USD)

SKILLS AND INTERESTS

Field	Computer	Analyses	Laboratory
US Commercial Drone Pilot	R / Python	Mixed linear models	Instrument calibration
Soil sampling	ArcGIS / QGIS	Multivariate Analyses	Grain Size Analysis
Surveying	Photogrammetry	Machine learning	X-ray diffraction
Resource Inventory	Google Earth Engine	Database management	PCR
Wilderness First Aid (2022)	Github		

INTERESTS: Trail running (including coordinating trail races), road biking, marathon running, quilting.

PROFESSIONAL SERVICE AND AFFILIATIONS

REVIEWER: Landscape Ecology, Forest Resources and Management, Agricultural and Forest Meteorology, International Journal of Photogrammetry and Remote Sensing (ISPRS) I

AFFILIATIONS: American Geophysical Union (2024) , International Association of Landscape Ecology (IALE), 2021-2022 , Ecological Society of America, 2018-2020, American Institute of Professional Geologists 2018-2019, Geological Society of America, 2017