Dr. Robert G. Way

Nunatsiavut Beneficiary (Kallunângajuk) from Happy Valley-Goose Bay, Labrador

CURRENT POSITION: Associate Professor (tenured), Department of Geography and Planning, Queen's University, Kingston, Ontario, Canada, Email: robert.way@queensu.ca

INTERESTS: Northern science, Arctic and Subarctic ecosystem science, community-based research, climate change adaptation, ecohydrology, geocryology, glaciology, remote sensing, spatial analysis

ACADEMIC / EDUCATION BACKGROUND

Assistant Professor (Tenure-Track)	**Queen's University** Department of Geography and Planning Assistant Professor of Physical Geography	**2018-present**
Postdoctoral Fellowship	**Memorial University of Newfoundland** Hosted at the Labrador Institute W. Garfield Weston Postdoctoral Fellowship Project: *Implications of rapid shrub growth on permafrost environments in northern Labrador* Supervisor: Dr. Carissa Brown	**2017-2018**
Doctoral Degree (Ph.D.)	**University of Ottawa** Department of Geography, Environment and Geomatics Contributing graduate course(s) from University Centre in Svalbard Dissertation: *Field and modelling investigations of permafrost conditions in Labrador, northeast Canada* Supervisor: Dr. Antoni G. Lewkowicz	**2013-2017**
Master's Degree (M.Sc.) & Graduate Diploma in Teaching (2012)	**Memorial University of Newfoundland** Department of Geography Thesis: *The glaciers of the Torngat Mountains of northern Labrador* Supervisor: Dr. Trevor J. Bell	**2010-2013**
Undergraduate Degree (H. BA.) - *Magna Cum Laude*	**University of Ottawa** Department of Geography, Environment and Geomatics Honours Bachelor of Arts with specialization in geography, minor in geomatics and spatial analysis. Contributing undergraduate courses from ***Athabasca University*** (*Introduction to Statistics*), ***University of New Brunswick*** (*GIS and Forestry 1*; *GIS and Forestry 2*; *Digital Image Processing)* and ***University of Oslo*** (*Nordic Geomorphology*; *Glaciology*; *Glacial and Periglacial Geomorphology*; *Advanced Remote Sensing*; *Special Topics in Remote Sensing)*	**2007-2010**

EMPLOYMENT HISTORY

Assistant Professor (tenure-track)	Department of Geography and Planning, Queen's University	July 2018 – present
W. Garfield Weston Postdoctoral Fellow	Labrador Institute, Memorial University of Newfoundland	Fall 2017 – Summer 2018
Field Researcher and Research Assistant[1]	Department of Geography, University of Ottawa	Summer 2015
Field Researcher and Research Assistant[2]	Department of Geography, University of Ottawa	Summer 2013
Geographic Information System Specialist[3]	Institute for Environmental Monitoring and Research, Happy-Valley Goose Bay Labrador	Summer 2010
Geographic Information System (Student)[4]	Crown Lands Division, Department of Environment and Conservation, Government of Newfoundland and Labrador	Summer 2008

[1]Accompanied Dr. Antoni G. Lewkowicz as a field assistant in the southern Yukon and northern British Columbia. The primary goal of this contract was to assist in maintaining remote weather stations and permafrost monitoring locations across the southern Yukon and northern British Columbia.

[2] Conducted preliminary field research and organized logistics for initiation of the Labrador Permafrost Project. The primary goal was the establishment of a network of permafrost monitoring stations across the Labrador-Ungava region to support my doctoral research.

[3]Developed a primary database of ecological indicators being monitored as part of ongoing studies examining the effects of military activity on wildlife and ecosystems in central Labrador. Work primarily focused on ingesting and utilizing satellite collar-based tracking of movements of the George River and Red Wine caribou herds in support of low-level flying activities at 5-Wing Goose Bay. Field work comprised the establishment of small mammal monitoring stations in the lower Churchill River Valley near Muskrat Falls.

[4]Student position aimed at georeferencing aerial photography and mapping existing and prospective cabin dwellings in central and western Labrador. Field work consisted of visiting farmland dwellings to assess land parcel dimensions in support of mitigation activities for contaminants associated with 5-Wing Goose Bay.

TEACHING EXPERIENCE

Winter 2024	Instructor Processes in Northern Regions (GPHY 824)	Department of Geography and Planning, Queen's University
Fall 2023	Instructor Northern and Arctic Environments (GPHY 304) & Climate Change (GPHY 314)	Department of Geography and Planning, Queen's University
Winter 2023	Instructor Directed readings: Advanced studies in earth system science 1 (GPHY 890)	Department of Geography and Planning, Queen's University
Fall 2022-Winter 2023	Parental leave	Department of Geography and Planning, Queen's University
Spring 2022	Instructor Climate Change (GPHY 314)	Department of Geography and Planning, Queen's University
Fall 2021-Winter 2022	Bereavement leave	Department of Geography and Planning, Queen's University
Winter 2021	Instructor Applied Cold Regions Science (GPHY 305) & Approaches to Data in Geographic Enquiry (GPHY 854)	Department of Geography and Planning, Queen's University
Fall 2020	Instructor Climate Change (GPHY 314)	Department of Geography and Planning, Queen's University
Fall 2019	Instructor Weather and Climate (GPHY 209) & Climate Change (GPHY 314)	Department of Geography and Planning, Queen's University
Winter 2019	Instructor The North (GPHY 371)	Department of Geography and Planning, Queen's University
Fall 2017	Instructor Methodological and Theoretical Approaches in Geography and Environmental Studies (GEG4104)	Department of Geography University of Ottawa

Fall 2017	Instructor Introduction to Physical Geography (GEG 1301)	Department of Geography University of Ottawa
Spring 2015	MOOC lecturer Denial101x: Making Sense of Climate Science Denial	Administered through edX University of Queensland
Fall 2013	Teaching Assistant and Laboratory Instructor Introduction to Remote Sensing (GEG 3105)	Department of Geography University of Ottawa
Fall 2011	Teaching Assistant and Laboratory Instructor Introduction to Geographical Information Systems (GEOG 2195)	Department of Geography Memorial University of Newfoundland
Fall 2010	Teaching Assistant and Laboratory Instructor Physical Geography (GEOG 2102)	Department of Geography Memorial University of Newfoundland

ADMINISTRATIVE SERVICE

2019 – 2021 **2023 –**	**Academic Appointments Committee Member** Three completed searches, one incomplete search, one ongoing search.	Department of Geography and Planning, Queen's University
2018 – 2019 **2023 –**	**Queen's Northern Research Symposium Faculty Liaison**	Department of Geography and Planning, Queen's University

HIGHLY QUALIFIED PERSONNEL SUPERVISION, MENTORSHIP & EXAMINATION

Co-supervisor w/Dr. Andrew Trant	Katryna Barone, MSc Student School of Environment, Resources and Sustainability University of Waterloo	**2023 – Ongoing**
Principal Supervisor	Victoria Colyn, MSc Candidate Department of Geography & Planning, Queen's University	**2022 – Ongoing**
Principal Supervisor	Yifeng Wang, PhD Candidate (A.B.D.) Department of Geography & Planning, Queen's University	**2020 – Ongoing**
Principal Supervisor (Graduated)	Jordan Beer, Master of Science Department of Geography & Planning, Queen's University Thesis: *Evaluating peatland permafrost characteristics and vulnerability along the Labrador Sea coastline using uncrewed aerial vehicles* Current position: Resource Management Officer II, Wood Buffalo National Park	**2021 – 2023**

Principal Supervisor (Graduated)	Anika Forget, Master of Science Department of Geography & Planning, Queen's University Thesis: *Uncovering the Ground Thermal Regime of Coastal Labrador: The Influential Effects of Snow and Vegetation on Ground Temperatures* Current position: Canadian Ice Service, QC	**2020 - 2023**
Principal Supervisor (Graduated)	Rosamond Tutton, Master of Science Department of Geography & Planning, Queen's University Thesis: *Exploring measurement and ground thermal influences of snow depth in Nunatsiavut, NunatuKavut and Nitassinan* Current position: Cold Regions Hydrologist, YK	**2019 – 2021**
Mentor, Field Supervisor & Research Partner	Dr. Emma Davis, Weston Postdoctoral Fellow University of Waterloo (supervisor A. Trant) Current position: Forest Ecosystems Scientist, NL	**2020-2022**
Supervisory Committee Member & Thesis Examiner	Carolyn Bonta, PhD Thesis Department of Geography & Planning, Queen's University Thesis: *Recent changes in vegetation productivity on the Bathurst Caribou Range*	**2019 – 2023**
Supervisory Committee Member & Thesis Examiner	Madeleine Garibaldi, PhD Thesis Department of Geography, University of Lethbridge Thesis: *Understanding the spatial and temporal heterogeneity of permafrost at a range of scales across the Western Canadian Arctic and Subarctic*	**2018 – 2023**
Thesis Examiner (External)	Patrick Jardine, Master of Science Department of Geography and Environmental Studies, Carleton University, Ottawa, Canada Thesis: *Reduction of ground surface temperatures beside highway embankments by snow compaction, central Yukon, Canada*	**2023**
Thesis Examiner (Internal-External)	Thomas Stanton, Master of Science Department of Geography & Planning, Queen's University Thesis: *Soil properties and trace gas fluxes in a chronosequence of permafrost disturbances, Cape Bounty, Melville Island, Nunavut*	**2023**
Thesis Examiner (External)	Jason Dicker, Master of Arts Environmental Policy, Grenfell Campus, Memorial University of Newfoundland and Labrador Thesis: *Using integrated resource management and the public trust doctrine to examine wildlife management*	**2020**

practices in northern Labrador: A case study on the George River Caribou Hunting Ban

Thesis Proposal Examiner (External)	Frédéric Dwyer-Samuel, MSc Candidate Biology, University de Montréal	**2018**

REFEREED CONTRIBUTIONS IN PROGRESS (N=4)

Manuscript(s) submitted to refereed journals or other refereed venues (n=2)

[2] Johnson, A., Trant, A., Hermanutz, L., Davis, E., Siegwart Collier, L., **Way, R.G.**, Knight, T. and Saunders, M. (*In review*). Climate warming impacts Tuttuk (Caribou) forage availability in Tongait (Torngat) Mountains, Labrador. Submitted to *Arctic Science*. AS-2023-0047.

[1] Wang, Y. and **Way, R.G.** (*In review*). Future trajectories of peatland permafrost under climate and ecosystem change in northeastern Canada. Submitted to *Journal of Geophysical Research: Earth Surface*, 2024JF007930.

Manuscript(s) in preparation to be submitted to refereed journals or other refereed venues (n=2)

[2] Forget, A., **Way, R.G.**, Tutton, R., Colyn, V. and Wang, Y. (Stage: Final preparations for submission). A new method to determine snow cover duration from ground surface temperatures and machine learning. To be submitted to *Cold Regions Science and Technology*.

[1] Davis et al. (incl. **Way, R.G**.) (Stage: Early draft manuscript). Tundra dying linked to recent vegetation change in northern Nunatsiavut, Labrador. To be submitted to *Arctic Science*.

ACCEPTED OR PUBLISHED REFEREED CONTRIBUTIONS (N=49)

Articles published in refereed journals

[38] Beer, J., Wang, Y., **Way, R.G.**, Forget, A. and Colyn, V. (*in press*). Uncrewed aerial vehicle-based assessments of peatland permafrost resiliency along the Labrador Sea coastline, northern Canada. *Permafrost and Periglacial Processes*. DOI: 10.1002/ppp.2242

[37] Normandeau, A., Eamer, J., **Way, R.**, Harrison, E., Cyr, F., Algar, C., Eamer, J., Geizer, H., Kurylyk, B., Van Nieuwenhove, N., Pijogge, L., Robert, K., Saunders, M. and Limoges, A. (*in press*). Evidence for subsea permafrost in subarctic Canada linked to submarine groundwater discharge. *Nature Geoscience*. DOI: 10.1038/s41561-024-01497-z

[36] Herring, T., Lewkowicz, A.G., Chiasson, A., Wang, Y., **Way, R.G.**, Young, J.M., Froese, D., Smith, S.L., Andersen, B., Bellehumeur-Génier, O., Bevington, A.R., Bonnaventure, P.P., Duguay, M.A., Etzelmüller, B., Gooseff, M.N., Godsey, S.E. and Miceli, C.M. (*in press*). The Canadian Permafrost Electrical Resistivity Survey Database (CPERS): 15 years of permafrost resistivity data. *Arctic Science*. DOI: 10.1139/as-2023-0058

[35] Wang, Y., **Way, R.G.** and Beer, J. (2024). Multi-decadal degradation and fragmentation of palsas and peat plateau in coastal Labrador, northeastern Canada. *Environmental Research Letters*. 19: 014009. DOI: 10.1088/1748-9326/ad0138

[34] Wang, Y., **Way, R.G.**, Beer, J., Forget, A., Tutton, R. and Purcell, M.C. (2023). Significant underestimation of peatland permafrost along the Labrador Sea coastline. *The Cryosphere.* 17(1): 63-78. DOI: 10.5194/tc-2022-38

[33] Rixen, C., et al. (incl. **Way, R.G.**). (2022). Winters are changing: snow effects on Arctic and alpine tundra ecosystems. *Arctic Science*, 8(3): 572-608. DOI: 10.1139/AS-2020-0058 ****

[32] Lembrechts, J., et al. (incl. **Way, R.G.**). (2022). Global maps of soil temperature. *Global Change Biology*, 28(9): 3110-3144. DOI: 10.1111/gcb.16060

[31] Davis, E.L., Trant, A., **Way, R.G.**, Hermanutz, L. and Whitaker, D. (2021). Rapid ecosystem change at the southern limit of the Canadian Arctic, Torngat Mountains National Park. *Remote Sensing*, 13(11): 2085. DOI: 10.3390/rs13112085

[30] **Way, R.G.**, and Lapalme, C.M. (2021). Does tall vegetation warm or cool the ground surface? Constraining the ground thermal impacts of upright vegetation in northern environments. *Environmental Research Letters*. DOI: 10.1088/1748-9326/abef31.

[29] Larking, T., Davis, E. **Way, R.G.**, Hermanutz, L. and Trant, A. (2021). Recent greening driven by species-specific shrub growth characteristics in Nunatsiavut, Labrador, Canada. *Arctic Science*, 7(4): 781-797. DOI: 10.1139/AS-2020-0031.

[28] Tutton, R. J., and **Way, R. G.** (2021). A low-cost method for monitoring snow characteristics at remote field sites. *The Cryosphere*, 15: 1–15. DOI: 10.5194/tc-15-1-2021.

[27] Davis, E., Trant, A., Hermanutz, H., **Way, R.G.**, Lewkowicz, A., Siegwart Collier, L., Cuerrier, A. and Whitaker, D. (2021). Plant-environment interactions in the low Arctic, Torngat Mountains of Labrador. *Ecosystems*, 24: 1038-1058. DOI: 10.1007/s10021-020-00577-6

[26] Schang, K., Trant, A., Bohnert, S., Closs, A., Humchitt, M., McIntosh, K., **Way, R.** and Wickham, S. (2020). Ecological research should consider Indigenous peoples and stewardship. *FACETS*, 5: 534-537.

[25] Obu, J. et al. (incl. **Way, R.G.**). (2020). Reply to the comment: Northern Hemisphere permafrost extent: Drylands, glaciers and sea floor. *Earth-Science Reviews*.

[24] Haustein, K., Otto, F.E.L., Venema, V., Jacobs, P., Cowtan, K., Hausfather, Z., **Way, R.G.**, White, B., Subramanian, A. and Schurer, A.P. (2019). A limited role for unforced internal variability in 20th century warming. *Journal of Climate*, 32(16): 4893-4917.

[23] Obu et al. (incl. **Way, R.G.**). (2019). Northern Hemisphere permafrost map based on TTOP modelling for 2000-2016 at 1 km scale. *Earth-Science Reviews*, 193: 299-316.

[22] Lewkowicz, A.G. and **Way, R.G.** (2019). Extremes of summer climate trigger thousands of thermokarst landslides in a High Arctic environment. *Nature Communications*, 10: 1329. DOI: 10.1038/s41467-019-09314-7

[21] Anderson, D., Ford, J. and **Way, R.G.** (2018). The impacts of climate and social changes on Cloudberry (Bakeapple) picking: A case study from southern Labrador. *Human Ecology*, 46(6): 849-863.

[20] **Way, R.G.**, Lewkowicz, A.G. and Zhang, Y. (2018). Characteristics and fate of isolated permafrost patches in coastal Labrador, Canada. *The Cryosphere*, 12(8): 2667-2688. https://doi.org/10.5194/tc-2017-271.

[19] **Way, R.G.** and Lewkowicz, A.G. (2018). Environmental controls on ground temperature and permafrost in Labrador, northeast Canada. *Permafrost and Periglacial Processes*, 29(2): 73-85. DOI: 10.1002/ppp.1972

[18] Ladd, M., Viau, A.E., **Way, R.G.**, Gajewski, K. and Sawada, M.C. (2018). Variations in precipitation over North America during the past 2,000 years. *The Holocene*, 28(4): 667-675. DOI: 10.1177/0959683617735583

[17] Barrand, N.E., **Way, R.G.**, Bell, T., and Sharp, M.J. (2017). Recent changes in area and thickness of Torngat Mountain glaciers (northern Labrador, Canada). *The Cryosphere*, 11: 157-168. DOI: 10.5194/tc-11-157-2017

[16] **Way, R.G.**, Oliva, F. and Viau, A. (2017). Underestimated warming of northern Canada in the Berkeley Earth temperature product. *International Journal of Climatology*, 37(4): 1746-1757 DOI: 10.1002/joc.4808

[15] **Way, R.G.** and Lewkowicz, A.G. (2016). Modelling the spatial distribution of permafrost in Labrador-Ungava using TTOP. *Canadian Journal of Earth Sciences*, 53(10): 1010-1028. DOI: 10.1139/cjes-2016-0034

[14] **Way, R.G.**, Lewkowicz, A.G. and Bonnaventure, P.P. (2017). Development of moderate-resolution gridded air temperature and degree-day maps for the Labrador-Ungava region of northern Canada. *International Journal of Climatology*, 37(1): 493-508. DOI: 10.1002/joc.4721

[13] Cowtan, K., Hausfather, Z., Hawkins, E., Jacobs, P., Mann, M.E., Miller, S.K., Steinman, B., Stolpe, M. and **Way, R.G**. (2015). Robust comparisons of climate simulations with observations using blended land air and ocean sea surface observations. *Geophysical Research Letters*, 42(15): 6526-6534. DOI: 10.1002/2015GL064888

[12] **Way, R.G.**, Bell, T.J. and Barrand, N.E. (2015). Glacier change from the early Little Ice Age to present in the Torngat Mountains, northern Labrador, Canada. *Geomorphology*, 246(1): 558-569. DOI: 10.1016/j.geomorph.2015.07.006

[11] **Way, R.G.** and Bonnaventure, P.P. (2015). Testing a reanalysis-based infilling method for areas with sparse discontinuous air temperature data in northern Canada. *Atmospheric Science Letters*, 16(3): 398-407. DOI: 10.1002/asl2.574

[10] Ladd, M., **Way, R.G.** and Viau, A.E. (2015). The impact of using different modern climate datasets in pollen-based paleoclimate reconstructions of North America. *Quaternary Science Reviews, 112: 78-85. DOI:* 10.1016/j.quascirev.2015.01.020

[9] Cawley, G.C., Cowtan, K., **Way, R.G.**, Jacobs, P. and Jokimaki, A. (2015). On a minimal model for estimating climate sensitivity. *Ecological Modelling*, 297: 20-25. DOI: 10.1016/j.ecolmodel.2014.10.018

- Corrigendum to 'On a minimal model for estimating climate sensitivity' [Ecol. Model. 297 (2015) 20-25], DOI: 10.1016/j.ecolmodel.2014.10.018

[8] **Way, R.G.** (2015). Multidecadal recession of Grinnell and Terra Nivea ice caps, Baffin Island, Canada. *ARCTIC*, 68(1): 45-53. DOI: 10.14430/arctic4461

[7] **Way, R.G.** and Viau, A.E. (2015). Natural and forced air temperature variability in the Labrador region of Canada during the past century. *Theoretical and Applied Climatology, 121(3): 413-424*. DOI: 10.1007/s00704-014-1248-2

[6] Cook, J., Nuccitelli, D., Skuce, A., Jacobs, P., Painting, R., Honeycutt, R., Green, S.A., Lewandowsky, S., Richardson, M. and **Way, R.G.** (2014). Reply to 'Quantifying the consensus on anthropogenic global warming in the scientific literature: A re-analysis'. *Energy Policy*, 73: 706-708. DOI: 10.1016/j.enpol.2014.06.002

[5] Nuccitelli, D., Cowtan, K., Jacobs, P., Richardson, M., **Way, R.G.**, Blackburn, A.M., Stolpe, M. and Cook, J. (2014). Comment on 'Cosmic-ray-driven reaction and greenhouse effect of halogenated molecules: culprits for atmospheric ozone depletion and global climate change. *International Journal of Modern Physics B*, 28(13). DOI: 10.1142/S0217979214820037

[4] **Way, R.G.**, Bell, T.J. and Barrand, N.E. (2014). An inventory and classification of the glaciers of the Torngat Mountains, northern Labrador, Canada. *Journal of Glaciology*, 60(223): 945-956. DOI: 10.3189/2014JoG13J195

[3] Cowtan, K. and **Way, R.G.** (2014). Coverage bias in the HadCRUT4 temperature series and its impact on recent temperature trends. *Quarterly Journal of the Royal Meteorological Society*, 140(683): 1935-1944. DOI: 10.1002/qj.2297 ** ***

[2] Cook, J., Nuccitelli, D., Green, S.A., Richardson, M., Winkler, B., Painting, R., **Way, R.**, Jacobs, P. and Skuce, A. (2013). Quantifying the consensus on anthropogenic global warming in the scientific literature. *Environmental Research Letters*. 8(2): 1-7. DOI: 10.1088/1748-9326/8/2/024024 *

[1] Nuccitelli, D., **Way, R.**, Painting, R., Church, J. and Cook, J. (2012). Comment on Ocean heat content and Earth's radiation imbalance. II. Relation to climate shifts. *Physics Letters A*. 376(45): 3466-3468. DOI: 10.1016/j.physleta.2012.10.010

* Voted Top Paper in *Environmental Research Letters* for 2013
** Featured in *Science* ('Climate Outsider Finds Missing Global Warming')
*** Highlighted in *Nature Climate Change* ('Lack of coverage')
**** Top Article of 2022 published in *Arctic Science*

Edited book chapters and refereed conference papers

[11] Forget, A., **Way, R.**, Wang, Y., Beer, J., Colyn, V., Tutton, R., Trant, A. and Hermanutz, L. (2024). Evaluating local drivers of ground surface temperature variability in coastal Labrador. *Proceedings of the Twelfth International Conference on Permafrost*. Whitehorse, Yukon, Canada. Canadian Permafrost Association, 94-102.

[10] Wang, Y., **Way, R.G.**, Lewkowicz, A.G., Tutton, R., Beer, J., Colyn, V. and Forget, A. (2024). Assessing recent thaw and subsidence of peatland permafrost in coastal Labrador, northeastern Canada. *Proceedings of the Twelfth International Conference on Permafrost*. Whitehorse, Yukon, Canada. Canadian Permafrost Association, 469-476.

[9] Herring, T., Lewkowicz, A.G., **Way, R.G.**, Wang, Y., Chiasson, A. and Froese, D. (2024). Large-scale assessment of permafrost conditions using the Canadian Permafrost Electrical Resistivity Survey (CPERS) database. *Proceedings of the Twelfth International Conference on Permafrost*. Whitehorse, Yukon, Canada. Canadian Permafrost Association, 112-117.

[8] **Way, R.G.,** Lewkowicz, A., Wang, Y. and McCarney, P. (2021). Permafrost investigations below the marine limit at Nain, Nunatsiavut, Canada. *Proceedings of the 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering*. American Society of Civil Engineers. Boulder, Colorado, USA. American Society of Civil Engineers, 38-48. DOI: 10.1061/9780784483589.004
Open access at EarthArXiv: https://doi.org/10.31223/X5MP5S

[7] **Way, R.G.**, Wang, Y., Bevington, A.R., Bonnaventure, P.P., Burton, J., Davis, E., Garibaldi, M.C., Lapalme, C.M., Tutton, R. and Wehbe, M.A.E. (2021). Consensus-based rock glacier inventorying in the Torngat Mountains National Park, northern Nunatsiavut, Labrador. *Proceedings of the 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering*. Boulder, Colorado, USA. American Society of Civil Engineers, 130-141. DOI: 10.1061/9780784483589.012
Open access at EarthArXiv: https://doi.org/10.31223/X5C60W

[6] Tutton, R., **Way, R.G.**, Beddoe, R., Zhang, Y. and Trant, A. (2021). Soil temperature sensitivity to variable snow and vegetation conditions in low-relief coastal mountains, Nunatsiavut and NunatuKavut, Labrador. *Proceedings of the 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering*. Boulder, Colorado, USA. American Society of Civil Engineers, 71-81.
DOI: 10.1061/9780784483589.007
Open access at EarthArXiv: https://doi.org/10.31223/X5G03W

[5] Wang, Y., Lewkowicz, A.G., Holloway, J.E. and **Way, R.G.** (2021). Thermal modelling of post-fire permafrost under a warming coastal Subarctic climate, eastern Canada. *Proceedings of the 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering*. Boulder, Colorado, USA. American Society of Civil Engineers, 82-93. DOI: 10.1061/9780784483589.008
Open access at EarthArXiv: https://doi.org/10.31223/X5X62M

[4] Barrette, C., Brown, R., **Way, R.G.**, Mailhot, A., Diaconescu, E.P., Grenier, P., Chaumont, D., Dumont, D., Sévigny, C., Howell, S. and Senneville, S. (2020). Nunavik and Nunatsiavut regional climate information update. In Ropars, P., Allard, M. and Lemay, M. (eds.). *Nunavik and Nunatsiavut: From science to policy, an integrated regional impact study (IRIS) of climate change and modernization, second iteration*. ArcticNet Inc, Québec City, Canada.

[3] Bonnaventure, P.P., Smith, S.L., Lamoureux, S.F., **Way, R.G.**, Ednie, M., Bouchard, F., Fortier, D., Paquette, M. and Godin, E. (2018). Permafrost. In Bell, T. and Brown, T.M. (eds.). *From Science to Policy in the Eastern Canadian Arctic: An Integrated Regional Impact Study (IRIS) of Climate Change and Modernization*. ArcticNet, Québec City, Canada, 119–139.

[2] **Way, R.G.** and Lewkowicz, A.G. (2015). Investigations of discontinuous permafrost in coastal Labrador with DC electrical resistivity tomography. *Proceedings of GéoQuebec: 68th Canadian Geotechnical Conference and 7th Canadian Permafrost Conference*, Quebec City, Canada. DOI: 10.13140/RG.2.1.1647.8803

[1] Brown, B.R., Lemay, M., Allard, M., Barrand, N.E., Barrette, C., Bégin, Y., Bell, T., Bernier, M., Bleau, S., Chau-mont, D., Dibike, Y., Frigon, A., Leblanc, P., Paquin, D.,Sharp, M.J. and **Way, R.** (2012). Climate variability and change in the Canadian Eastern Subarctic IRIS region (Nunavik and Nunatsiavut). In Allard, M. and Lemay, M. (eds.). *Nunavik and Nunatsiavut: From science to policy. An Integrated Regional Impact Study (IRIS) of climate change and modernization.* ArcticNet, Québec City, Canada.

NON-REFEREED CONTRIBUTIONS

Technical reports

[7] RGI Consortium. (2017). Randolph Glacier Inventory (RGI) – A dataset of global glacier outlines: Version 6.0. Technical Report. Global Land Ice Measurements from Space, Boulder, Colorado, USA. DOI: https://doi.org/10.7265/N5-RGI-60

[6] Cowtan, K., Jacobs, P. and **Way, R.G.** (2015). Response to Gleisner et al (2015): 'Recent global warming hiatus dominated by low latitude temperature trends in surface and troposphere data'. Report no. 1. 9 pp. DOI: 10.13140/RG.2.1.2499.8483

[5] Lewkowicz, A.G. and **Way, R.G.** (2014). Overview report for Nunatsiavut Government on permafrost conditions in the Nain area. *Submitted to the Nunatsiavut Government*. 10 pp. DOI: 10.13140/RG.2.1.1910.0240

[4] Cowtan, K. and **Way, R.G.** (2014). Update to 'Coverage bias in the HadCRUT4 temperature series and its impact on recent temperature trends'. Report no. 4. Reconciling global temperature series. 27 pp. DOI: 10.13140/RG.2.1.4334.8564

[3] Cowtan, K. and **Way, R.G.** (2014). Update to 'Coverage bias in the HadCRUT4 temperature series and its impact on recent temperature trends'. Report no. 3. Hybrid temperature reconstructions by domain. 13 pp. DOI: 10.13140/RG.2.1.4990.2166

[2] Cowtan, K. and **Way, R.G.** (2014). Update to 'Coverage bias in the HadCRUT4 temperature series and its impact on recent temperature trends'. Report no. 2. Temperature reconstructions by domain: version 2.0 temperature series. 9 pp. DOI: 10.13140/RG.2.1.4728.0727

[1] Cowtan, K. and **Way, R.G.** (2013). Update to 'Coverage bias in the HadCRUT4 temperature series and its impact on recent temperature trends'. Report no. 1. Temperature reconstruction by domain: preliminary analysis. 6 pp. DOI: 10.13140/RG.2.1.1844.4880

Authored or co-authored data products published in online repositories (most recent version only)

[4] Wang,Y., **Way, R. G.**, Lewkowicz, A. G., Beer, J. 2024. Ground temperature records from a peatland permafrost borehole monitoring network in coastal Labrador, v. 1.0 (2014-2023). Nordicana D126, doi: 10.5885/45876XD-C1F55FCD3B95415D.

[3] CPERS Collective (incl. **R. G. Way**). (2023). The Canadian Permafrost Electrical Resistivity Survey Database (CPERS). *Nordicana D121*. DOI : 10.5885/45855XD-DC9883ABD609428B.

[2] **Way, R.G.** and Wang Y. (2022). Inventory of rock glaciers in the Torngat Mountains of northern Labrador, V1.0. *Nordicana D100*. DOI: 10.5885/45768XD-C1F53A9084E8494B.

[1] Wang Y., **Way R.G.** and Beer J. (2022). Coastal Labrador peatland permafrost inventory, V1.0. *Nordicana D98*. DOI: 10.5885/45762XD-1DB498A49B864CFB.

PRESENTATIONS TO SCHOLARLY AND OTHER GROUPS

Oral presentations (invited)

[14] **Way, R.G.*** (2022). Climate services in Canada's North: Are we doing enough? CMOS National Speaker Series, Canadian Meteorological and Oceanographic Society. Virtual Presentation.

[13] Trant, A.* and **Way, R.G.*** (2022). Changing tundra, permafrost, plants & people. Public lecture at Torngat Mountains Basecamp and Research Station. Saglek, Newfoundland and Labrador, Canada.

[12] **Way, R.G.*** (2022). The coastal Labrador climate and weather monitoring program. Peer-to-Peer Networking Workshop for the Indigenous Community-Based Climate Monitoring Program. Crown Indigenous Relations and Northern Affairs Canada & Cambium Indigenous Professional Services. Virtual Workshop.

[11] **Way, R.G.***, Wang, Y., Bevington, A.R., Bonnaventure, P.P., Burton, J., Davis, E., Garibaldi, M.C., Lapalme, C.M., Tutton, R. and Wehbe, M.A.E. (2021). Consensus-based rock glacier inventorying in the Torngat Mountains National Park, northern Nunatsiavut, Labrador. 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering. Boulder, Colorado, USA. Virtual Conference.

[10] **Way, R.G.*** (2020). Implications of environmental change in Arctic and Subarctic Labrador. Colloquium Series, Department of Geography, York University, Toronto, Canada.

[9] **Way, R.G.*** (2018). Climate change research projects in Nunatsiavut. Climate Change and Health Adaptation Workshop, Nain, Nunatsiavut, Canada.

[8] **Way, R.G.*** (2018). A career in research. Why choose to do research? Climate Change and Health Adaptation Workshop, Nain, Nunatsiavut, Canada.

[7] **Way, R.G.*** (2018). Impacts of environmental change for indigenous coastal communities in Labrador. Canadian Meteorological and Oceanographic Society 2018 meeting, Halifax, Canada.

[6] **Way, R.G.*** (2018). Is a road to Labrador's north coast feasible? Combined Councils of Labrador 2018 meeting. Happy Valley-Goose Bay, Canada.

[5] **Way, R.G.*** (2016). From glaciers to frozen ground: environmental change in Labrador. The Arctic Circle Speaker Series, Ottawa, Canada.

[4] **Way, R.G.*** and Cowtan, K. (2015). Underestimated Arctic warming in global temperature records. Philip Langlois Speaker Series, Department of Geography, University of Ottawa. Ottawa, Canada.

[3] **Way, R.G.*** (2014). From glaciers to frozen ground: Labrador's changing climate. Labrador Institute Speaker Series. Goose Bay, Labrador, Canada.

[2] **Way, R.G.*** and Bell, T. (2012). Torngat Mountains glacier change: Little Ice Age to present. Blue Box Seminar Series. Department of Geography, Memorial University of Newfoundland. St. John's, Canada.

[1] **Way, R.G.*** and Viau, A.E. (2010). Causes of climate variability in the Labrador region of northeastern Canada. Department of Geography Speaker Series, University of Ottawa, Ottawa, Canada.

Oral presentations (scholarly)

[50] Colyn, V.*, **Way, R.**, Wang., Y., Beer, J., Forget, A., Tutton, R., Lewkowicz, A. and Lapalme, C. (2023). Investigating spatial variability in the ground thermal regime across divergent ecosystems in Labrador, northeastern Canada. 6th European Conference on Permafrost. Puigcerdà, Spain.

[49] Wang, Y.*, Beer, J. and **Way, R.** (2023). Areal change in peatland permafrost landforms over 73 years in coastal Labrador, northeastern Canada. 6th European Conference on Permafrost. Puigcerdà, Spain.

[48] Beer, J.*, **Way, R.**, Wang, Y., Forget, A. and Colyn, V. (2023). Characteristics and vulnerability of peatland permafrost along its southern limit in eastern Canada. 6th European Conference on Permafrost. Puigcerdà, Spain.

[47] **Way, R.*** (2023). A critical assessment of climate and weather observations in the Canadian North. Canadian Meteorological and Oceanographic Society 57th Congress. St. John's, Newfoundland and Labrador, Canada.

[46] **Way, R.***, Tutton, R., Allen, E., Keefe, J., Wang, Y., Beer, J., Colyn, V., Forget, A. and Lapalme, C. (2023). Lessons learned from operating satellite-based remote automated weather stations in coastal Labrador. Canadian Meteorological and Oceanographic Society 57th Congress. St. John's, Newfoundland and Labrador, Canada.

[45] Normandeau, A.*, Eamer, A., Limoges, A., **Way, R.**, Eamer, J., Harrison, E., Van Nieuwenhove, N., Philibert, G., Pijogge, L., Robert, K., Saunders, M. and Webb, R. (2022). Thawing subsea permafrost south of 60ºN (Nain, Nunatsiavut). ArcticNet Annual Science Meeting 2022. Toronto, Canada.

[44] **Way, R.***, Trant, A., Leduc, M., Hermanutz, L., Siegwart Collier, L., Cuerrier, A., Laing, R., Whitaker, D., Zhang, Y., Beer, J., Colyn, V., Davis, E., Forget, A., Johnson, A., Lapalme, C., Larking, T., Lauriault, P., Le, N., Lewkowicz, A., Lightfoot, H., Mullally, S., Saunders, M., Smitas-Krass, M., Tutton, R. and Wang, Y. (2022). Understanding and predicting future climate-vegetation-cryosphere interactions in Nunatsiavut, Nunavik, and NunatuKavut. ArcticNet Annual Science Meeting 2022. Toronto, Canada.

[43] Forget, A.*, **Way, R.G.** and Tutton, R. (2022). Using machine learning to estimate snow cover from ground temperature measurements. 2022 CMOS-CGU-ESC Joint Congress. Oral Presentation. Virtual Conference.

[42] **Way, R.G.***, Tutton, R., Wang, Y., Forget, A. and Beer, J. (2022). The response of Labrador's climate system to the extreme warm year of 2020-2021. Labrador Research Forum 2022. Oral Presentation. Virtual Conference.

[41] Beer, J.*, **Way, R.G.** and Wang, Y. (2022). Investigating peatland permafrost in coastal Labrador. Labrador Research Forum 2022. Oral Presentation. Virtual Conference.

[40] Forget, A.*, **Way, R.G.**, Trant, A., Beer, J., Cuerrier, A., Davis, E., Hermanutz, L., Johnson, A., Lapalme, C., Le, N., Lightfoot, H., Laing, R., Larking, T., Lauriault, P., Lewkowicz, A., Mullally, S., Siegwart Collier, L., Saunders, M., Tutton, R., Wang, Y. and Whitaker, D. (2022). Understanding and predicting future climate-

vegetation-cryosphere interactions in Nunatsiavut, Nunavik, Nitassinan, and NunatuKavut. Labrador Research Forum 2022. Oral Presentation. Virtual Conference.

[39] Wang, Y.*, **Way, R.G.**, Beer, J., Forget, A., Tutton, R. and Purcell, M.C. (2022). Peatland permafrost mapping in coastal Nunatsiavut, NunatuKavut, and Nitassinan, Labrador. Labrador Research Forum 2022. Oral Presentation. Virtual Conference.

[38] Wang, Y.*, Beer, J., **Way, R.**, Forget, A. and Tutton, R. (2021). Field investigations in support of peatland permafrost inventorying activities in coastal Labrador. ArcticNet Annual Science Meeting 2021. Virtual Conference.

[37] Forget, A.*, **Way, R.**, Tutton, R., Wang, Y. and Zhang, Y. (2021). Investigating snow cover and ground temperature variability at the Pinware River Hills research basin, NunatuKavut, southern Labrador. ArcticNet Annual Science Meeting 2021. Virtual Conference.

[36] **Way, R.G.*,** Lewkowicz, A., Wang, Y. and McCarney, P. (2021). Permafrost investigations below the marine limit at Nain, Nunatsiavut, Canada. 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering. Boulder, Colorado, USA. Virtual Conference.

[35] Tutton, R.*, **Way, R.G.**, Beddoe, R., Zhang, Y. and Trant, A. (2021). Soil temperature sensitivity to variable snow and vegetation conditions in low-relief coastal mountains, Nunatsiavut and NunatuKavut, Labrador. 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering. Boulder, Colorado, USA. Virtual Conference.

[34] Wang, Y.*, Lewkowicz, A.G., Holloway, J.E. and **Way, R.G.** (2021). Thermal modelling of post-fire permafrost under a warming coastal Subarctic climate, eastern Canada. 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering. Boulder, Colorado, USA. Virtual Conference.

[33] Wehbe, M.*, Bonnaventure, P. and **Way, R.G.** (2021). Multi-method approach to inventorying rock glaciers and features of interest in Banff and Jasper National Parks, Alberta, Canada. 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering. Boulder, Colorado, USA. Virtual Conference.

[32] Wehbe, M.*, Bonnaventure, P. and **Way, R.G**. (2021). An estimation of water equivalent storage within rock glaciers in Banff and Jasper National Parks. WDCAG 2021: Beyond 2020: Geographical Research During Crises. Lethbridge, Alberta, Canada.

[31] Wehbe, M.*, Bonnaventure, P. and **Way, R.G**. (2021). Spatial distribution and potential water equivalent storage of rock glaciers in Banff and Jasper National Parks, Alberta, Canada. 42nd Canadian Symposium on Remote Sensing, Yellowknife, Northwest Territories.

[30] Wang, Y.*, **Way, R.G.**, Bevington, A.R., Bonnaventure, P.P., Burton, J.R., Davis, E.L., Garibaldi, M.C., Lapalme, C.M., Tutton, R.J. and Wehbe, M.A.E. (2021). Teamwork makes the (multi-stage mapping) dream work: An inventory of rock glaciers in the Torngat Mountains, northeastern Canada. 9th Annual Queen's Northern Research Symposium, Kingston, Ontario, Canada.

[29] Tutton, R.* and **Way, R.G.** (2019). Remote multi-variable monitoring of annual snow depth. ArcticNet

Annual Science Meeting 2019, Halifax, Nova Scotia, Canada.

[28] **Way, R.G.*** and Tutton, R. (2019). Enhanced climate and weather monitoring in Nunatsiavut and NunatuKavut. ArcticNet Annual Science Meeting 2019, Halifax, Nova Scotia, Canada.

[27] Wang, Y.*, Lewkowicz, A., **Way, R.G.** and Hermanutz, L. (2019). Trajectories of frozen ground following forest fire in Nunatsiavut, NL. ArcticNet Annual Science Meeting 2019, Halifax, Nova Scotia, Canada.

[26] **Way, R.G.*** (2019). New coastal Labrador climate and weather monitoring program. Labrador Research Forum, Happy Valley-Goose Bay/North West River/Sheshatshiu, Newfoundland and Labrador, Canada.

[25] Wang, Y.*, Lewkowicz, A., **Way, R.G.** and Hermanutz, L. (2019). Frost, fire and flora: impacts of surface change on discontinuous permafrost near Nain and Postville, Nunatsiavut. Labrador Research Forum, Happy Valley-Goose Bay/North West River/Sheshatshiu, Newfoundland and Labrador, Canada.

[24] Trant, A.*, **Way, R.G.** and Hermanutz, L. (2019). People, Plants, and Snow across Nunatsiavut and NunatuKavut. Labrador Research Forum, Happy Valley-Goose Bay/North West River/Sheshatshiu, Newfoundland and Labrador, Canada.

[23] **Way, R.G.***, Hermanutz, L., Lewkowicz, A., Trant, A. and Whitaker, D. (2018). Assessing permafrost-shrub interactions in the Torngat Mountains National Park, northern Labrador. ArcticNet Annual Science Meeting 2018, Ottawa, Ontario, Canada.

[22] Barrette, C.*, Brown, R. and **Way, R.G.** (2018). Updated climate information: Nunavik and Nunatsiavut IRIS region. ArcticNet Annual Science Meeting 2018, Ottawa, Ontario, Canada.

[21] Trant, A.*, **Way, R.G**., Hermanutz, L., Lewkowicz, A.G., Siegwart Collier, L., Lapalme, C. and Whitaker D. (2018). From shrubs to permafrost in the Torngat Mountains. '*Mountains in Transition*' symposium at the Canadian Society for Ecology and Evolution, Guelph, Canada.

[20] **Way, R.G.*** and Lewkowicz, A.G. (2018). Environmental controls on ground temperatures in Labrador, northeast Canada. 5th European Conference on Permafrost, Chamonix, France.

[19] Bonnaventure, P.P.*, Lewkowicz, A.G. and **Way, R.G.** (2018). Improved sensitivity analysis of permafrost models to projected changes in continentality, Yukon, Canada. 5th European Conference on Permafrost, Chamonix, France.

[18] Lewkowicz, A.G.*, **Way, R.G.**, Hermanutz, L., Trant, A., Siegwart Collier, L. and Whitaker, D. (2017). Interactions between shrubs and permafrost in the Torngat Mountains, northern Labrador, Canada. American Geophysical Union Fall Meeting, New Orleans, United States of America.

[17] **Way, R.G.***, Lewkowicz, A.G. and Zhang, Y. (2017). Characteristics and evolution of coastal peatland permafrost in southeastern Labrador, Canada. Arctic Change 2017, Québec City, QC, Canada.

[16] Brown, R.*, Barrette, C. and **Way, R.G.** (2017). Climate information for Nunavik and Nunatsiavut. Arctic Change 2017, Québec City, QC, Canada.

[15] **Way, R.G.*** and Lewkowicz, A.G. (2017). Permafrost model sensitivity to input snow datasets in Labrador. 74th Annual Eastern Snow Conference. Ottawa, Ontario, Canada.

[14] Hermanutz, L.*, Siegwart Collier, L. and **Way, R.G.** (2017). Are Coastal Mountains responding to climate change differently? Canadian Society for Ecology & Evolution Meeting. Victoria, British Columbia, Canada.

[13] Hermanutz, L., Brown, C., Cuerrier, A., Siegwart Collier, L. and **Way, R.G.*** (2017). What's happening in the forest and tundra in Labrador? Labrador Research Forum. Sheshatshiu/Happy Valley-Goose Bay/North West River, Newfoundland and Labrador, Canada.

[12] **Way, R.G.*** and Lewkowicz, A.G. (2016). Spatial variability in permafrost conditions in Subarctic and Arctic Labrador. ArcticNet Annual Science Meeting. Winnipeg, Manitoba, Canada. ABS359.

[11] **Way, R.G.*** and Lewkowicz, A. (2016). Field and model-based characterization of permafrost conditions in mountainous terrain in western Labrador. Tenth International Conference on Permafrost, Potsdam, Germany.

[10] Jacobs, P.*, Cowtan, K., Hausfather, Z., Hawkins, E., Mann, M.E., Miller, S.K., Steinman, B., **Way, R.G**. and Stolpe, M. (2015). Robust comparisons of climate simulations with observations using blended land air and ocean sea surface observations. American Geophysical Union Fall Meeting, San Francisco, United States of America.

[9] **Way, R.G.*** and Lewkowicz, A. (2015). A new map of permafrost distribution in the Labrador-Ungava region of northeastern Canada. Canadian Association of Geographers Ontario Division Annual Meeting, Ottawa, Canada.

[8] **Way, R.G.*** and Lewkowicz, A.G. (2015). Investigations of discontinuous permafrost in coastal Labrador with DC electrical resistivity tomography. GéoQuebec: 68th Canadian Geotechnical Conference and 7th Canadian Permafrost Conference, Quebec City, Canada.

[7] **Way, R.G.***, Lewkowicz, A.G. and Bonnaventure, P.P. (2015). Creating high-resolution spatially-distributed air temperature maps for Labrador. Ottawa-Carleton Northern Research Symposium, Ottawa, Canada.

[6] Cowtan, K.* and **Way, R.** (2014). Biases in the instrumental temperature record: the policy and communications context. American Geophysical Union Fall Meeting, San Francisco, United States of America. Oral Presentation.

[5] Bonnaventure P.P.*, Lewkowicz, A.G. and **Way, R.G.** (2014). Sensitivity of permafrost models to projected changes in continentality, Yukon, Canada. ArcticNet Annual Scientific Meeting. Ottawa, Canada.

[4] **Way, R.G.*** and Lewkowicz, A.G. (2014). Field and modelling investigations of permafrost conditions in the Labrador region of northeastern Canada. ArcticNet Annual Scientific Meeting. Ottawa, Canada.

[3] **Way, R.G.*** and Cowtan, K. (2013). Underestimated Arctic Warming in the Met Office (UK) and NOAA (US) Global Temperature Products. ArcticNet Annual Science Meeting, Halifax, Canada.

[2] Sharp, M.J.*, Barrand, N.E., Bell, T., **Way, R.**, Burgess, D., Cogley, J.G., Gardner, A.S. (2012). Glacier change in northern Canada from the IGY to the IPY. From Knowledge to Action – International Polar Year Conference 2012. Monteal, Canada.

[1] **Way, R.*** and Viau, A. (2010). Causes of Climate Variability in the Labrador Region of Northern Canada. Atlantic Division of the Canadian Association of Geographers Conference. St.John's, Canada.

Poster Presentations (scholarly)

[31] Beer, J.*, **Way, R.**, Wang, Y., Forget, A. and Colyn, V. (2022). Regional differences in peatland permafrost characteristics in coastal Labrador, northeastern Canada. ArcticNet Annual Science Meeting 2022. Toronto, Ontario.

[30] Colyn, V.*, **Way, R.,** Wang, Y., Beer, J., Forget, A., Tutton, R., Lewkowicz, A. and Lapalme, C. (2022). Investigating the influences of microclimate and ecosystem properties on near surface permafrost conditions in Labrador, northeastern Canada. ArcticNet Annual Science Meeting 2022. Toronto, Ontario.

[29] Wang, Y.*, **Way, R.**, Beer, J., Forget, A., Tutton, R., Colyn, V. and Purcell, M. (2022). The coastal Labrador peatland permafrost inventory: Revisiting peatland permafrost distribution in Labrador. ArcticNet Annual Science Meeting 2022. Toronto, Ontario.

[28] Davis, E.*, Trant, A., **Way, R.**, Hermanutz, L. and Whitaker, D. (2021). Past and future landcover change in the Torngat Mountains of Nunatsiavut and Nunavik, Canada. ArcticNet Annual Science Meeting 2021. Virtual Conference.

[27] Beer, J.*, Wang, Y., **Way, R.** and Forget, A. (2021). Examining differences in peatland permafrost features across coastal Labrador. ArcticNet Annual Science Meeting 2021. Virtual Conference.

[26] Garibaldi, M.C.*, Bonnaventure, P.P., Smith, S., Lamoureux, S., Lewkowicz, A., Bevington, A. and **Way, R.** (2021). TTOP model sensitivity and comparison to random forest permafrost temperature modelling across Western Canada. 2021 Regional Conference on Permafrost & 19th International Conference on Cold Regions Engineering. Boulder, Colorado, USA. Virtual Conference.

[25] Tutton, R.* and **Way, R.G.** (2021). Applying the snow characterization with light and temperature (SCLT) method to better understand the evolution of a winter snowpack. 77th Eastern Snow Conference. Virtual Conference.

[24] Forget, A.*, **Way, R.G.**, Tutton, R., Le, N. and Trant, A. (2021). The variability of snow density across ecotypes in the low-relief coastal mountains of NunatuKavut, and Nunatsiavut Labrador, Canada. 77th Eastern Snow Conference. Virtual Conference.

[23] Wang, Y.*, **Way, R.G.**, Tutton, R., Beer, J. (2021). Snow measurements from the first two years of the Coastal Labrador Climate and Weather Monitoring Program. 77th Eastern Snow Conference. Virtual Conference.

[22] Forget, A.*, **Way, R.**, Tutton, R., Le, N., Wang, Y., Trant, A., Hermanutz, L. and Zhang, Y. (2021). Impacts of local-scale variables on ground surface temperature and permafrost in NunatuKavut and Nunatsiavut, Labrador. 9th Annual Queen's Northern Research Symposium, Kingston, Ontario, Canada.

[21] Tutton, R.J.* and **Way, R.G.** (2020). Development of the snow characterization with light and temperature method. Arctic Change 2020 Virtual Conference.

[20] Wang, Y.*, **Way, R.G.**, Beer, J. Lewkowicz, A., Zhang, Y. and Tutton, R. (2020). Ongoing investigations of peatland permafrost in coastal Labrador. Arctic Change 2020 Virtual Conference.

[19] Le, N.*, **Way, R.G.**, Hermanutz, L., Lauriault, P., Davis, E. and Trant, A. (2020). Assessing lichen distribution patterns using Remotely Piloted Aircraft (RPA) data and object-based land classification, in Labrador, Canada. Arctic Change 2020 Virtual Conference.

[19] Davis, E.*, Trant, A., Hermanutz, L., Siegwart-Collier, L. and **Way, R.** (2020). Forty years of vegetation change at Nakvak Brook (Pitukkik) in the Torngat Mountains of Nunatsiavut, Labrador. Canadian Museum of Nature Symposium: Arctic Biodiversity in Canada and Beyond, Ottawa, Canada.

[18] Larking, T.*, Trant, A., Hermanutz, L., **Way, R.G.** and Wang, Y. (2019). Cross-scale approach for understanding climate change impacts on radial growth and productivity of dominant shrub species in Labrador, Canada. ArcticNet Annual Science Meeting 2019, Halifax, Nova Scotia, Canada.

[17] Trant, A.*, **Way, R.G.**, Davis, E., Hermanutz, L., Larking, T., Lauriault, P., Tutton, R. and Wang, Y. (2019). The changing landscapes of Labrador. ArcticNet Annual Science Meeting 2019, Halifax, Nova Scotia, Canada.

[16] Davis, E*, Trant, A., Hermanutz, L., Siegwart Collier, L. and **Way, R.G.** (2019). Recent impacts of climate change on vegetation dynamics in the Torngat Mountains of northern Labrador. ArcticNet Annual Science Meeting 2019, Halifax, Nova Scotia, Canada.

[15] Wang, Y.*, Lewkowicz, A., Hermanutz, L. and **Way, R.G.** (2018). Frost, Fire, and Flora in Nunatsiavut, Labrador. ArcticNet Annual Science Meeting 2018, Ottawa, Ontario, Canada. Poster Presentation.

[14] Lapalme, C.M.*, **Way, R.G.**, Lewkowicz, A.G., Hermanutz, L., Siegwart Collier, L., Trant, A., Whitaker, D. and Bonnaventure, P.P. (2018). Investigating permafrost-shrub interactions in Torngat Mountains National Park, northeast Canada. 5th European Conference on Permafrost, Charmonix, France.

[13] Hermanutz, L.*, Siegwart Collier, L., **Way, R.G.**, Trant, A. and Lewkowicz, A.G. (2017). Are northern coastal mountains responding to climate change differently? Arctic Change 2017, Québec City, QC, Canada.

[12] **Way, R.G.**, Hermanutz, L., Whitaker, D., Charron, L., Lewkowicz, A.G. and Lapalme, C.M. (2016). Shrub and permafrost interactions in coastal low-Arctic mountains. ArcticNet Annual Science Meeting. Winnipeg, Manitoba, Canada. Poster presentation. ABS361.

[11] **Way, R.G.** and Viau, A.E. (2014). Evaluating recent air temperature variability in the Labrador region of northeastern Canada. Arctic Change 2014. Ottawa, Canada.

[10] **Way, R.G.** and Lewkowicz, A.G. (2014). Modelling the distribution of permafrost in the Labrador region of northeastern Canada. 4th European Conference on Permafrost, Evora, Portugal.

[9] **Way, R.G.** and Lewkowicz, A.G. (2014). The Labrador Permafrost Project. Ottawa-Carleton Student Northern Research Symposium, Ottawa, Canada.

[8] **Way, R.G.** (2014). Recent decline of Grinnell and Terra Nivea ice caps, Baffin Island, Canada. Workshop on the Dynamics and Mass Budget of Arctic Glaciers & the IASC Network on Arctic Glaciology Annual Meeting, Ottawa, Canada.

[7] Cowtan, K. and **Way, R.** (2013). Coverage bias in the HadCRUT4 temperature series. Characterising surface temperatures in data-sparse and extreme regions – EarthTemp Workshop. Copenhagen, Denmark.

[6] Bell, T., **Way, R.**, Chadbourn, J., Melanson, A., Barrand, N.E., Sharp, M.J., Simpson, A. (2012). Fifty Years of Glacier Change in the Torngat Mountains, Labrador, Canada. From Knowledge to Action – International Polar Year Conference 2012. Montreal, Canada.

[5] **Way, R.**, Bell, T., Sharp, M.J. (2012). Significant ice loss from Torngat Mountain Glaciers since the Little Ice Age. From Knowledge to Action – International Polar Year Conference 2012. Montreal, Canada.

[4] Cook, J., Nuccitelli, D., Green, S.A., Richardson, M., Winkler, B., Painting, R., **Way, R.** and Jacobs, P. (2011). Quantifying the consensus on anthropogenic global warming in the scientific literature. 2011 American Geophysical Union Fall Meeting. San Francisco, USA.

[3] **Way, R.**, Bell, T., Sharp, M.J. (2010). Reconstructing late Holocene alpine glacier dynamics in the Torngat Mountains, northern Labrador. ArcticNet seventh Annual Scientific Meeting. Ottawa, Canada.

[2] **Way, R.** and Schlichting, L. (2010). Testing and correcting a biased digital elevation model for improved glacier volume change estimation in southern Norway. Atlantic Division of the Canadian Association of Geographers Conference. St-John's, Canada.

[1] Schlichting, L.., **Way, R.**, Nuth, C., Kääb, A. (2010). Abstract No 1755. International Polar Year Conference. Oslo, Norway.

ACADEMIC AWARDS AND DISTINCTION

Inuit Recognition Award, ArcticNet Inuit Advisory Committee	N/A	2019
W. Garfield Weston Postdoctoral Fellowship	$50,000	2017-2018
Postdoctoral Fellowship, Natural Sciences and Engineering Research Council of Canada (*declined*)	$90,000	2017-2019
W. Garfield Weston Award for Northern Research	$50,000	2016-2017
James Bourque Scholarship for Northern Research	$5,000	2016
Fellow, Cryosphere Working Group, International Arctic Science Committee	N/A	2015-2016
Northern Scientific Training Program, Canadian Polar Commission	$18,000	2011-2016

Northern Resident Scholarship, Association of Canadian Universities for Northern Studies	$10,000	2014-2015
Canada Graduate Scholarship, Natural Sciences and Engineering Research Council of Canada	$105,000	2014-2017
High North Scholarship, University Centre in Svalbard	$ 5,400	2014
Excellence Scholarship, University of Ottawa	$36,000	2013-2017
Best article of 2013, *Environmental Research Letters*	N/A	2013
Fellow of the School of Graduate Studies, Memorial University of Newfoundland	N/A	2013
W. Garfield Weston Award for Northern Research, Association of Canadian Universities for Northern Studies	$15,000	2011-2012
Featured in Canadian Geographic ('The cryosphere kid')	N/A	2010
Entrance scholarship, University of Ottawa.	$3,000	2007-2008

RESEARCH FUNDING SECURED (TOTAL FUNDING: > $1,800,000)

2023-2026	**Canada-Inuit Nunangat-United Kingdom Arctic Research Program** – Impacts of cryosphere-hydrosphere change on ecosystems and livelihoods in northern Nunatsiavut, Canada (Principal Investigator)	**$449,500**
2020-2021	**ArcticNet Inc., National Centres of Excellence** – Aircraft Support Fund for Understanding and predicting future climate-vegetation-cryosphere interactions in Nunatsiavut, Nunavik and NunatuKavut (Project leader)	**$15,000**
2020-2023	**Canadian Foundation for Innovation** – Ontario Research Fund-Queen's University (Principal Investigator).	**$256,291**
2020-2026	**Northern Research Supplement, Natural Sciences and Engineering Research Council of Canada Discovery Grants Program** - Susceptibility of peatland permafrost in coastal Labrador to future environmental change (Principal Investigator).	**$90,000**

2020-2026	**Natural Sciences and Engineering Research Council of Canada Discovery Grants Program** - Susceptibility of peatland permafrost in coastal Labrador to future environmental change (Principal Investigator).	**$150,000**
2019-2024	**ArcticNet Inc., National Centres of Excellence** - Understanding and predicting future climate-vegetation-cryosphere interactions in Nunatsiavut, Nunavik and NunatuKavut (Project leader)	**$360,239**
2022-2023	**Canada Centre for Remote Sensing, Natural Resources Canada** - Permafrost Observations in Labrador and Northeast Quebec to support Permafrost Modelling and Mapping for Cumulative Effects	**$23,360**
2020-2021	**Canada Centre for Remote Sensing, Natural Resources Canada** - Permafrost Observations in Labrador and Northeast Quebec to support Permafrost Modelling and Mapping for Cumulative Effects	**$15,281**
2018-2019	**W. Garfield Weston Foundation, Parks Canada (*in-kind*) and the Nunatsiavut Government** (Principal Investigator).	**$34,762**
2018-2021	**Indigenous Community-Based Climate Monitoring Program, Indigenous and Northern Affairs Canada** – Coastal and Labrador climate and weather monitoring program (Principal Investigator)	**$305,894**
2017-2019	**Polar Knowledge Canada** – Project title: *Food, fire and ice: Integrating local knowledge, plant response, and cryosphere dynamics to predict future food and fuel* (Co-applicant)	**$247,069**
2017-2018	**W. Garfield Weston Foundation, Parks Canada (*in-kind*) and the Nunatsiavut Government** (Co-Principal Investigator).	**$39,025**
2016-2017	**W. Garfield Weston Foundation, Parks Canada (*in-kind*) and the Nunatsiavut Government** (Co-Principal Investigator).	**$26,000**

SCHOLARLY AND PROFESSIONAL ACTIVITIES, ASSOCIATIONS & MEMBERSHIPS

2023-Present	Canadian Meteorological and Oceanographic Society (Member)
2022-Present	ClimAtlantic (Board of Director)
2020-Present	Canadian Permafrost Association (Lifetime Member)
2013-Present	Permafrost Young Researchers Network (Member)
2010-Present	Association of Polar Early Career Scientists (Member)
2010-2014	International Glaciological Society (Member)

REVIEWING ACTIVITY FOR ACADEMIC JOURNALS

2023	Reviewer for the journal *Journal of Climate*
2023	Reviewer for the journal *Environmental Research Letters*
2021	Reviewer for the journal *Weather, Climate and Society*
2020/2022/2023	Reviewer for the journal *Arctic Science*
2019	Reviewer for the journal *Nature Communications*
2018	Reviewer for the journal *Journal of Geophysical Research: Earth Surface*
2018	Reviewer for the journal *Remote Sensing Letters*
2018	Reviewer for the journal *Journal of Visualized Experiments*
2017/2020/ 2021/2022/2024	Reviewer for the journal *Permafrost and Periglacial Processes*
2017	Reviewer for the journal *Nature Climate Change*
2016 & 2017	Reviewer for the journal *Geografiska Annaler: Series A, Physical Geography*
2016	Reviewer for the journal *International Journal of Climatology*
2015/2016/2017	Reviewer for the journal *The Cryosphere*
2014	Reviewer for the journal *International Journal of Remote Sensing*
2014	Reviewer for the journal *Computers and Geosciences*
2013	Reviewer for the journal *Geomorphology*

OTHER REVIEWING ACTIVITY

2022	Peer Reviewer for the *Canadian Mountain Assessment*
2020	External Reviewer for *NSERC Discovery Grant Program*
2020	Review Committee Member for *Polar Continental Shelf Program*
2020	Chapter Peer Reviewer for the *Canadian National Climate Assessment*

SUMMARY OF OTHER RELEVANT ACTIVITIES AND SKILLS: I have completed a variety of courses relevant for field research activities including the student Arctic safety course at the University Centre in Svalbard and a Bear Safety Training program that qualifies me to be a certified bear guard within Inuit Nunangat. I hold an active pleasure craft operator card and an active emergency field aid certification. I also have an active firearms acquisition certificate and possession and acquisition licence. I have previously completed wilderness first aid and safety course, the trappers education course and a Polar Bear Safety course. I am an avid skier, snowshoer

and snowmobiler, and have extensive camping experience in remote environments. I have conducted field work or course activities in a variety of harsh environments including the Antarctic Peninsula, northern British Columbia, Iceland, southern Labrador, southern Norway, Patagonia, Svalbard, the Torngat Mountains, and the southern Yukon. I am also a contributing writer to the '*Scientific Guide to Global Warming Skepticism*' (downloaded >800,000 times). Author at the science communication website Skeptical Science (~20 articles) looking at various issues including the Antarctic and Greenland Ice Sheets, Arctic temperature changes, natural and anthropogenic climate variability, climate change impacts on Inuit, recent glacier changes and several other topics. I am a contributor to both the IRIS-2 and IRIS-4 ArcticNet working groups.

C.V. current to September 1st, 2024