

## Prof. Isla H. Myers-Smith, FRSE

Canada Excellence Research Chair in Global Change Ecology of Northern Ecosystems  
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*I investigate global change drivers and impacts with a focus on tundra ecosystems. I work at sites in the Yukon Territory and conduct data syntheses at tundra-biome and global scales. I communicate to broad audiences and work collaboratively with local communities to better understand environmental change in the Arctic and beyond.*

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### Education and Employment

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| 2023 - cont. | University of British Columbia, Professor, Canada Excellence Research Chair, Department of Forest & Conservation Sciences, Faculty of Forestry                                     |
| 2022 - cont. | University of Edinburgh, Professor (honorary as of 2023), Global Change Research Institute, School of GeoSciences  |
| 2016 - 2022  | University of Edinburgh Chancellor's Fellow (Senior Lecturer - equivalent of associate professor), School of GeoSciences   |
| 2013 - 2016  | University of Edinburgh Chancellor's Fellow (Lecturer - equivalent of assistant professor), School of GeoSciences  |
| 2012         | University of British Columbia Post doc., Department of Geography (GR Henry) Estimating tundra shrub expansion: Growth of willows across climate and latitudinal gradients         |
| 2011 - 2012  | Université de Sherbrooke Post doc., Département de Biologie (M. Vellend) Shrub expansion in tundra ecosystems: A synthesis of annual growth ring data from sites around the Arctic |
| 2006 - 2011  | University of Alberta Ph.D. Ecology (DS Hik) Shrub encroachment in Arctic and alpine tundra: Patterns of expansion and ecosystem impacts   |
| 2002 - 2005  | University of Alaska Fairbanks M.Sc. Biology (AD McGuire, JW Harden, FS Chapin) Carbon exchange and permafrost collapse: Implications for a changing climate                       |
| 2000 - 2002  | University of British Columbia B.Sc. Agroecology   |
| 1998 - 2000  | Trent University Biology   |

### Research Findings

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My recent findings and key papers are cited in global impact assessments including the IPCC (WG1 and WG2) and IPBES IPCC-IPBES and IPCC Polar Regions reports. Highlights of my research findings to date indicate that:

- Shrub cover is increasing in the tundra<sup>1,2</sup>, growth is climate sensitive<sup>2-4</sup> contributing to climate feedbacks.
- Tundra vegetation is increasing and bare ground is decreasing<sup>4,5</sup>, and where plants were already present, they are now growing taller<sup>4,6</sup> altering ecosystem processes<sup>7</sup>.
- At focal Arctic field research sites, plants are greening up to two weeks earlier in spring<sup>4,8</sup>, but the period of plant growth is not always becoming longer over time<sup>4</sup> or with experimental warming<sup>9</sup> with implications for carbon cycling<sup>7</sup> and Arctic food webs<sup>8</sup>.
- Tundra greenness trends observed by satellites are not just a result of increases in plant productivity, but represent complex land-surface dynamics at high latitudes<sup>10</sup>.
- Globally, a broad spectrum of population and biodiversity change is occurring across the planet<sup>11-15</sup> driven by a wide range of drivers<sup>16</sup>.
- It is the traits of species<sup>6,17,18</sup> that are influencing the functioning of ecosystems as global change intensifies.

- Ecological monitoring of biodiversity responses to global change requires collaboration among researchers, environmental management agencies and Indigenous people<sup>4</sup>.

1. Myers-Smith, I.H. *et al. Environ. Res. Lett.* **6**, 045509 (2011).
2. García Criado, M., Myers-Smith, I.H., Bjorkman, A.D., Lehmann, C.E.R. & Stevens, N. *Glob. Ecol. Biogeogr.* **29**, 925–943 (2020).
3. Myers-Smith, I.H. *et al. Nat. Clim. Change* **5**, 887–891 (2015).
4. Myers-Smith, I.H. *et al. Ecol. Monogr.* **89**, e01351 (2019).
5. Elmendorf, S.C. *et al. Nat. Clim. Change* **2**, 453–457 (2012).
6. Bjorkman, A.D. *et al. Nature* **562**, 57–62 (2018).
7. Mekonnen, Z. & *et al. Environ. Res. Lett.* (2021).
8. Assmann, J.J. *et al. Glob. Change Biol.* **25**, 2258–2274 (2019).
9. Collins, C.G. *et al. Nat. Commun.* **12**, 3442 (2021).
10. Myers-Smith, I.H. *et al. Nat. Clim. Change* **10**, 106–117 (2020).
11. Vellend, M. *et al. Annu. Rev. Plant Biol.* **68**, 563–586 (2017).
12. Blowes, S.A. *et al. Science* **366**, 339–345 (2019).
13. Daskalova, G.N. *et al. Science* **368**, 1341–1347 (2020).
14. Daskalova, G.N., Myers-Smith, I.H. & Godlee, J.L. *Nat. Commun.* **11**, 4394 (2020).
15. Vellend, M. *et al. Proc. Natl. Acad. Sci.* **110**, 19456–19459 (2013).
16. Daskalova, G.N., Bowler, D., Myers-Smith, I. & Dornelas, M. (2021).doi:10.32942/osf.io/db4s7
17. Thomas, H.J.D. *et al. Nat. Commun.* **11**, 1351 (2020).
18. Myers-Smith, I.H., Thomas, H.J.D. & Bjorkman, A.D. *New Phytol.* **221**, 1742–1748 (2019).

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**Funding successes - Total: > \$12 million CAD** (~\$12M CAD as sole PI, ~\$30M CAD as a co-investigator)

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2024 - 2029	IH Myers-Smith. Tundra plant community responses to a rapidly warming Arctic. <a href="#">NSERC Discovery Grant</a>	\$275,000.00 CAD
2024 - 2029	IH Myers-Smith. Tundra plant community responses to a rapidly warming Arctic. <a href="#">NSERC Discovery Grant Northern Research Supplement</a>	\$87,500.00 CAD
2024 - 2026	IH Myers-Smith, JT Kerby, M Edström. Communicating Arctic climate change impacts using immersive virtual reality from local to global engagement (NGS-107236T-24). <a href="#">National Geographic Society</a>	\$136,000 USD
2023 - 2031	IH Myers-Smith. Canada Excellence Research Chair: Global Change Ecology of Northern Ecosystems. <a href="#">NSERC – Tri-Agency Funding</a>	\$8,000,000 CAD (\$1M/yr for 8 years)
2023 - 2027	M Rietkerk, A Doelman, IH Myers-Smith, E Meron. Pathways of resilience and evasion of tipping in ecosystems. <a href="#">European Research Council Synergy Grant</a>	€9,829,821 EUR (€1,951,723 EUR to Myers-Smith)
2022 - 2026	IH Myers-Smith. TundraTime: Plant phenology change as a driver of Arctic greening trends. <a href="#">NERC</a> (NE/W006448/1, sole PI)	£771,763 GBP (Myers-Smith is sole PI)
2021 - 2024	T Lantz, M Sutor, <i>et al.</i> IH Myers-Smith. Ecological Change and Livelihoods in the Porcupine Caribou Summer Range. <a href="#">Canadian Mountain Network</a>	\$480,000 CAD (\$58K CAD to Myers-Smith)
2020 - 2024	B Forbes, <i>et al.</i> IH Myers-Smith. CHARTER: Drivers and Feedbacks of Changes in Arctic Terrestrial Biodiversity. <a href="#">Horizon 2020</a>	5,899,931 EUR (~300K EUR to Myers-Smith)
2021 - 2023	JT Kerby, IH Myers-Smith, M Edström. Accessing ‘Our Island’ (Qikiqtaruk) in a rapidly changing Arctic using immersive virtual reality for community engagement (NGS-82542T-20). <a href="#">National Geographic Society</a>	24,655 USD

2020 - 2021	IH Myers-Smith, E Laliberté, A Bjorkman, <i>et al.</i> Capturing tundra responses to warming across microclimates. <u>United Kingdom &amp; Canada Arctic Partnership: 2020 Bursaries Programme</u>	20,000 GBP
2019 - 2020	IH Myers-Smith, GHR Henry, TC Lantz, J Kerby, <i>et al.</i> Disentangle the drivers of Arctic greening across spatial scales. <u>United Kingdom &amp; Canada Arctic Partnership: 2019 Bursaries Programme</u>	19,350 GBP
	IH Myers-Smith, JT Kerby <i>et al.</i> Disentangle the drivers of Arctic greening (NGS-60126R-19). <u>National Geographic Society</u>	25,600 USD
2018 - 2022	E Laliberté, <i>et al.</i> IH Myers-Smith (International Partner). The Canadian Airborne Biodiversity Observatory. <u>NSERC Discovery Frontiers Program</u>	4,000,000 CAD (~50K CAD to Myers-Smith and PhD position)
2018 - 2022	IH Myers-Smith, GN Daskalova. Coding Club: Data Science for ecologists and environmental scientists. <u>DataLab Scotland online learning funding</u>	30,000 GBP
2018 - 2019	IH Myers-Smith. Testing the links between permafrost disturbances and vegetation change. Walters Kundert Fellowship, <u>Royal Geographical Society</u>	10,000 GBP
	IH Myers-Smith, GHR Henry, TC Lantz, J Kerby. Capturing the landscape-context of long-term records of tundra vegetation change. <u>United Kingdom &amp; Canada Arctic Partnership: 2018 Bursaries Programme</u>	19,350 GBP
2017 - 2018	IH Myers-Smith, TC Lantz, R Fraser, A Cunliffe, J Kerby. Quantifying the drivers of rapid tundra vegetation change: Knowledge transfer between UEdinburgh and UVictoria for enhanced drone-based ecological monitoring in the western Canadian Arctic. <u>United Kingdom &amp; Canada Arctic Partnership: 2017 Bursaries Programme</u>	19,350 GBP
2016	IH Myers-Smith, <i>et al.</i> Experimental assessment of growth, traits and phenological plasticity of Arctic tundra shrubs. <u>Moray Endowment Fund</u>	1360 GBP
2015 - 2018	IH Myers-Smith. NERC ShrubTundra: Climate as a driver of shrub expansion and tundra greening. New Investigator Standard Grant, <u>UK Natural Environment Research Council</u> (NE/M016323/1, sole PI)	FEC 667,445 GBP
2014	IH Myers-Smith. <u>Carnegie Trust Travel Award</u>	2485 GBP
	IH Myers-Smith. <u>Percy Sladen Memorial Fund</u>	1000 GBP
	IH Myers-Smith, <i>et al.</i> sTUNDRA II: Scaling shrub expansion from site to biome. <u>Synthesis Centre for Biodiversity Science (sDiv)</u>	10,395 EUR
2013	IH Myers-Smith, <i>et al.</i> Tundra ecosystem change: Scaling shrub expansion from site to biome. <u>Synthesis Centre for Biodiversity Science (sDiv)</u>	30,823 EUR
2010	Forbes B, IH Myers-Smith, M Wilmking, M Hallinger, M Macias-Fauria. Does summer warming promote circumpolar tundra shrub expansion? A synthesis of shrub annual growth ring chronologies from sites around the Arctic. <u>International Arctic Science Committee</u>	7500 EUR
2007 - 2011	Myers-Smith IH. Shrub line advance in alpine tundra of the Kluane region: mechanisms of expansion and ecosystem impacts. <u>Canon Parks Science Scholars Program</u>	80,000 USD
	Myers-Smith IH. Shrub expansion in alpine tundra of the Kluane Region. <u>Alberta Ingenuity Research Stipend, Alberta Ingenuity Fund</u>	1500 CAD p.a.

	Myers-Smith IH. Shrub expansion in alpine tundra of the Kluane Region. <u>Northern Scientific Training Program Grant</u>	3500 CAD p.a.
	Myers-Smith IH. Shrub expansion in alpine tundra of the Kluane Region. <u>Circumpolar/Boreal Alberta Research Grant</u>	1500 CAD p.a.
	Myers-Smith IH. 2007. Shrub expansion in alpine tundra of the Kluane Region. <u>Yukon College Northern Research Institute Grant</u>	2000 CAD
2002 - 2005	E Betts, H Ciliverd, E Kane, N Lisuzzo, IH Myers-Smith, J O'Donnell, J Vogel. Watershed nitrogen retention across biomes: a synthesis of Long-term Ecological Research. <u>Long-term Ecological Research Program Workshop Funding</u>	5000 USD

### Peer-reviewed publications (<https://teamshrub.com/publications/>)

\* indicates senior authorship and (PhD/Postdoc/MSc/Undergrad) indicates an ECR in my research group

**Selected Publications** Feb 2025: total: 114, [Google Scholar](#) citations = 23,328, h-index = 65, ORCID citations = 15,740, h-index = 56, ORCID: <https://orcid.org/0000-0002-8417-6112>

2026 Verdonen M, *et al.* IH Myers-Smith. 2026. Borealization of tundra ecosystems with climate and land-use change. *Environmental Research Letters*, 21(1), p.013002. doi: <https://doi.org/10.1088/1748-9326/ae2e18>

Preprints and in review manuscripts:

Everest J (PhD), *et al.* IH Myers-Smith\*. Functional diversity of tundra vascular plants over space and time. In review at *GEB*. Manuscript available upon request.

Anderson MJ (PhD), **IH Myers-Smith\***, E Zaja, HJ Thomas, M García Criado, GN Daskalova, E Gallois, JJ Šubrt, M Vellend. Earlier and increased growth of tundra willows after a decade of growth in a warmer common garden environment. *EcoEvoRxiv*. Submitted to *Journal of Functional Ecology*. doi: <https://doi.org/10.32942/X2132Q>

Daskalova GD (former PhD), *et al.* **IH Myers-Smith\***... Representation of global change drivers across biodiversity datasets. In revision at *Nature Ecology and Evolution* (NATECOLEVOL-210613960A) *EcoEvoRxiv*. doi: <https://doi.org/10.32942/osf.io/db4s7>

Thomas HD (former PhD), J Borderieux (Postdoc), **IH Myers-Smith\***, *et al.* Litter quality and climate drive tundra litter decomposition. In revision at *Nature Communications* (NCOMMS-20-09746-T) *EcoEvoRxiv* doi: <https://doi.org/10.32942/X28W2T>

Walker ER (former Undergrad), Thomas HD, **IH Myers-Smith\***. Experimental evidence of soil moisture rather than temperature as the key driver of litter decomposition along a high-latitude elevational gradient. *EcoEvoRxiv* In revision at *Functional Ecology* (FE-2018-00143) doi: <https://doi.org/10.32942/X2M880>

2025 García Criado M (postdoc), **IH Myers-Smith\***, *et al.*. 2025. Plant diversity dynamics over space and time in a warming Arctic. *Nature*. pp.1-9. doi: <https://doi.org/10.1038/s41586-025-08946-8>

García Criado M (postdoc), IC Barrio, JD Speed, AD Bjorkman, SC Elmendorf, **IH Myers-Smith**, *et al.*, 2025. Borealisation of Plant Communities in the Arctic Is Driven by Boreal-Tundra Species. *Ecology Letters*, 28(9), p.e70209. doi: <https://doi.org/10.1111/ele.70209>

Gallois E (PhD), **IH Myers-Smith\***, *et al.* 2025. Tundra Vegetation Community Type, Not Microclimate, Controls Asynchrony of Above-and Below-Ground Phenology. *Global Change Biology*. doi: <https://doi.org/10.1111/gcb.70153>

Hoad C (PhD), **IH Myers-Smith\*** *et al.* 2025. Snow persistence lowers and delays peak NDVI, the vegetation index that underpins Arctic greening analyses. *Environmental Research Letters*. doi: <https://doi.org/10.1088/1748-9326/adacf>

Lechler L (MSc), ÅØ Pedersen, **IH Myers-Smith**, M Le Moullec, LE Loe, BB Hansen, LT Beumer, V Ravolainen. 2025. Basal ice but not summer temperature affects land surface greenness in parts of

- the landscape in high Arctic tundra. *Environmental Research Letters*. 20(12):124058. doi: <https://doi.org/10.1088/1748-9326/ae2141>
- Fälthammar de Jong G (PhD committee), E Gallois E, JS Boyle, M Grenier, **IH Myers-Smith**, A Bjorkman. Time-lapse cameras bridge the gap between remote sensing and in situ observations of tundra phenology. *Methods in Ecology and Evolution*. 2025 Dec;16(12):2919-30. doi: <https://doi.org/10.1111/2041-210X.70188>
- Tattersall E (PhD committee), W Cardinal-McTeague, **IH Myers-Smith**, DA Jenkins, AC Burton. Affirming Indigenous data sovereignty in collaborative wildlife conservation in the era of open data. *People and Nature*. 2025 Nov;7(11):2659-77. doi: <https://doi.org/10.1002/pan3.70161>
- Phoenix GK, *et al.* **IH Myers-Smith**... 2025. Browning events in Arctic ecosystems: Diverse causes with common consequences. *PLOS Climate*. 4(1), p.e0000570. doi: <https://doi.org/10.1371/journal.pclm.0000570>
- Schwieger S, *et al.* **IH Myers-Smith**... 2025. Macro-environment strongly interacts with warming in a global analysis of decomposition. *Ecology Letters* 28 (1), e70026 doi: <https://doi.org/10.1111/ele.70026>
- Webb H, E Pierce, BA Abbott, WB Bowden, Y Chen, Y Chen, TA Douglas, JF Eklof, ES Euskirchen, M Langer, **IH Myers-Smith**, *et al.* A Comprehensive Database of Thawing Permafrost Locations Across Alaska. *Earth System Science Data Discussions*. 2025 Nov 11;2025:1-22. doi: <https://doi.org/10.5194/essd-2025-557>
- Dance M, *et al.* **IH Myers-Smith**... Molecular footprints of quaternary climate fluctuations in the circumpolar tundra shrub dwarf birch. *Molecular Ecology*. 2025 Oct;34(19):e70082. doi: <https://doi.org/10.1111/mec.70082>
- Dornelas M, *et al.* **IH Myers-Smith**... BioTIME 2.0: Expanding and improving a database of biodiversity time series. *Global Ecology and Biogeography*. 2025 May;34(5):e70003. doi: <https://doi.org/10.1111/geb.70003>
- Miller CE, *et al.* **IH Myers-Smith**... Airborne imaging spectroscopy surveys of Arctic and boreal Alaska and northwestern Canada 2017–2023. *Scientific Data*. 2025 Apr 25;12(1):692. doi: <https://doi.org/10.1038/s41597-025-04898-w>
- 2024 Dechant B, *et al.* **IH Myers-Smith**... Intercomparison of global foliar trait maps reveals fundamental differences and limitations of upscaling approaches. *Remote Sensing of Environment*. 2024 311, 114276. doi: <https://doi.org/10.1016/j.rse.2024.114276>
- Elphinstone C, *et al.* **IH Myers-Smith**... 2024. Multiple Pleistocene refugia for Arctic Bell-Heather revealed with genomic analyses of modern and historic plants. *Journal of Biogeography*. 2024. doi: <https://doi.org/10.1111/jbi.14961>
- Barbero-Palacios L, *et al.* **IH Myers-Smith**... Herbivore diversity effects on Arctic tundra ecosystems: a systematic review. *Environmental Evidence* 13(1), 6. doi: <https://doi.org/10.1186/s13750-024-00330-9>
- Wolter J, *et al.* **IH Myers-Smith**... Post-drainage vegetation, microtopography and organic matter in Arctic drained lake basins. *Environmental Research Letters* doi: <https://doi.org/10.1088/1748-9326/ad2eeb>
- Sarneel J *et al.* **IH Myers-Smith**... Reading tea leaves: Uncoupled drivers of initial decomposition rates and stabilization. *Ecology Letters* 27(5), e14415. doi: <https://doi.org/10.1111/ele.14415>
- 2023 Gallois E (PhD), **IH Myers-Smith**, GN Daskalova, JT Kerby, Haydn JD Thomas, AC Cunliffe. Summer litter decomposition is moderated by scale-dependent microenvironmental variation in tundra ecosystems. *Oikos* e10261. doi: <https://doi.org/10.32942/osf.io/crup3>
- García Criado M (Postdoc), **IH Myers-Smith**\* *et al.* Plant traits poorly predict winner and loser shrub species in a warming tundra biome. *Nature Communications* 14: 3837. doi: <https://doi.org/10.1038/s41467-023-39573-4>
- Dornelas M, Chase JM, Gotelli NJ, Magurran AE, McGill BJ, Antão LH, Blowes SA, Daskalova GN, Leung B, Martins IS, Moyes F. Looking back on biodiversity change: lessons for the road ahead.

- Philosophical Transactions of the Royal Society B 378(1881):20220199. doi: <https://doi.org/10.1098/rstb.2022.0199>
- Barnhill K, JM Roberts, IH Myers-Smith, M Williams, K Dexter, C Ryan, U Wolfram and S Hennige. 2022. Incorporating Dead Material in Ecosystem Assessments and Projections. Nature Climate Change 13: 113-115. doi: <https://doi.org/10.1038/s41558-022-01565-5>
- 2022 Heijmans M *et al.* **IH Myers-Smith**... 2022. Tundra vegetation change and impacts on permafrost. Nature Reviews Earth & Environment 3: 68-84. doi: <https://doi.org/10.1038/s43017-021-00233-0>
- Boyle JS (undergrad), S Angers-Blondin (PhD), JJ Assmann (PhD), **IH Myers-Smith\***. 2022. Summer temperature—but not growing season length—influences radial growth of *Salix arctica* in coastal Arctic tundra. Polar Biology 45(7): 1257-1270. doi: <https://doi.org/10.1007/s00300-022-03074-9>
- Vuorinen K, *et al.* **IH Myers-Smith**... 2022. Growth rings show limited evidence for ungulates' potential to suppress shrubs across the Arctic. Environmental Research Letters 17(3): 034013. doi: <https://doi.org/10.1088/1748-9326/ac5207>
- Lindén E, *et al.* **IH Myers-Smith**..., 2022. Circum-Arctic distribution of chemical anti-herbivore compounds suggests biome-wide trade-off in defence strategies in Arctic shrubs. Ecography, p.e06166. doi: <https://doi.org/10.1111/ecog.06166>
- Curasi S, *et al.* **IH Myers-Smith**... 2022. Range shifts in a foundation sedge potentially induce large Arctic ecosystem carbon losses and gains. Environmental Research Letters 17:045024 doi: <https://doi.org/10.1088/1748-9326/ac6005>
- Rixen C, *et al.* **IH Myers-Smith**... Winters are changing: snow effects on Arctic and alpine tundra ecosystems. Arctic Science 8(3). doi: <https://doi.org/10.1139/AS-2020-0058>
- 2021 Stanski K (MSc), **IH Myers-Smith\***, CG Lucas. 2021. Flower detection using object analysis: New ways to quantify plant phenology in a warming tundra biome. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing 14: 9287-9296. doi: <https://doi.org/10.1109/JSTARS.2021.3110365>
- Cunliffe AM *et al.* **IH Myers-Smith**... 2021. Global application of an unoccupied aerial vehicle photogrammetry protocol for predicting aboveground biomass in non-forest ecosystems. Remote Sensing for Biodiversity & Conservation 8(1): 57-71. doi: <https://doi.org/10.1002/rse2.228>
- Collins CG *et al.* **IH Myers-Smith**... 2021. Experimental warming differentially affects vegetative and reproductive phenology of tundra plants. Nature Communications 12:1-12 doi: <https://doi.org/10.1038/s41467-021-23841-2>
- Prevéy J, *et al.* **IH Myers-Smith**... 2021. The tundra phenology database: More than two decades of tundra phenology responses to climate change. Arctic Science 1-14. doi: <https://doi.org/10.1139/AS-2020-0041>
- Mekonnen ZA *et al.* **IH Myers-Smith**... 2021. Arctic tundra shrubification: a review of mechanisms and impacts on ecosystem carbon balance. Environmental Research Letters 16(5), p.053001. doi: <https://doi.org/10.1088/1748-9326/abf28b>
- Daskalova GN (PhD), AB Phillimore and **IH Myers-Smith\***. 2021. Accounting for year effects and sampling error in temporal analyses of invertebrate population and biodiversity change: a comment on Seibold *et al.* 2019. Insect Conservation and Diversity 14:149-154. doi: <https://doi.org/10.1111/icad.12468>
- Lembrechts JJ, *et al.* **IH Myers-Smith**... 2021. Global maps of soil temperature. Global Change Biology. doi: <https://doi.org/10.1111/gcb.16060>
- Staudé IR, *et al.* **IH Myers-Smith**... 2021. Directional turnover towards larger-ranged plants over time and across habitats. Ecology Letters 25(2): 466-482. doi: <https://doi.org/10.1111/ele.13937>
- Barrio IC *et al.* **IH Myers-Smith**... 2021. Developing common protocols to measure tundra herbivory across spatial scales. Arctic Science 1-42. doi: <https://doi.org/10.1139/AS-2020-0020>
- 2020 **Myers-Smith IH**, JT Kerby, *et al.* 2020. Complexity revealed in the greening of the Arctic. Nature Climate Change 10:106-117. doi: <https://doi.org/10.1038/s41558-019-0688-1>

- Assmann JJ (PhD), **IH Myers-Smith\*** *et al.* 2020. Drone data reveal fine-scale variation of tundra greenness and phenology not captured by satellite and ground-based monitoring. Environmental Research Letters 15:125002. doi: <https://doi.org/10.1088/1748-9326/abf7d>
- Daskalova GN (PhD), **IH Myers-Smith\***, AD Bjorkman, SA Blowes, SR Supp, A Magurran, M Dornelas. 2020. Landscape-scale forest loss as a catalyst of population and biodiversity change. Science 368:1341-1347. doi: <https://doi.org/10.1126/science.aba1289>
- Daskalova GN (PhD), **IH Myers-Smith\***, JL Godlee. 2020. Rare and common vertebrates span a wide spectrum of population trends. Nature Communications 11:4394. doi: <https://doi.org/10.1101/272898>
- García Criado M (PhD), **IH Myers-Smith\***, AD Bjorkman, CE Lehmann, N Stevens. 2020. Woody plant encroachment intensifies under climate change across tundra and savanna biomes. Global Ecology and Biogeography 29:925-943. doi: <https://doi.org/10.1111/geb.13072>
- Cunliffe AM (Postdoc), **IH Myers-Smith\***, *et al.* 2020. Aboveground biomass corresponds strongly with drone-derived canopy height but weakly with greenness (NDVI) in a shrub tundra landscape. Environmental Research Letters 15:125004. doi: <https://doi.org/10.1088/1748-9326/aba470>
- Berner L, *et al.* **IH Myers-Smith...** 2020. Summer warming drives widespread but not uniform greening in the Arctic tundra biome. Nature Communications 11:4621. doi: <https://doi.org/10.1038/s41467-020-18479-5>
- Kropp H, *et al.* **IH Myers-Smith...** 2020. Shallow soils are warmer under trees and tall shrubs across Arctic and Boreal ecosystems. Environmental Research Letters 16(1): 015001. doi: <https://doi.org/10.1088/1748-9326/abc994>
- Buchwal A, *et al.* **IH Myers-Smith...** 2020. Divergence of Arctic shrub growth associated with sea ice decline. PNAS 117 (52) 33334-33344. doi: <https://doi.org/10.1073/pnas.2013311117>
- Bowler D, *et al.* **IH Myers-Smith...** 2020. Mapping human pressures on biodiversity across the planet uncovers anthropogenic threat complexes. People and Nature 2(2):380-394. doi: <https://doi.org/10.1002/pan3.10071>
- Thomas HD (PhD), Bjorkman AD (Postdoc), **IH Myers-Smith\***, SC Elmendorf, J Kattge, *et al.* 2020. Global plant trait relationships extend to the climatic extremes of the tundra biome. Nature Communications 11:1351. doi: <https://doi.org/10.1038/s41467-020-15014-4>
- Kattge J, *et al.* **IH Myers-Smith...** 2020. TRY plant trait database-enhanced coverage and open access. Global Change Biology 26(1):119-188. doi: <https://doi.org/10.1111/gcb.14904>
- Lembrechts JJ *et al.* **IH Myers-Smith...** 2020. SoilTemp: a global database of near-surface temperature. Global Change Biology 26(11): 6616-6629. doi: <https://doi.org/10.1111/gcb.15123>
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- Kerby JT, **IH Myers-Smith**, JJ Assmann, L Berner, G Schaeppman-Strub, S Normand and HiLDEN data contributors. Satellite observed Arctic greening trends mask landscape responses to warming. In prep.
- Everest JJ (PhD), **IH Myers-Smith\***, AD Bjorkman, SC Elmendorf, M García Criado, ArcFunc Working Group and ITEX and TTT Data Contributors. Shrubification and not climate is the main driver of functional diversity change across the tundra biome. In Prep.
- Daskalova GN (PhD), **IH Myers-Smith**, C Rixen, AD Bjorkman and ITEX species pool protocol contributors. Landscape-scale biodiversity predicts local-scale changes in composition but not in richness. In Prep.
- Grabowski MM (MSc), **IH Myers-Smith\***, *et al.* Contrasting boreal and tundra shrub growth responses to climate and competition.

**Selected Awards, Nominations and Scholarships**

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- 2025 Elected as a member of The College of New Scholars, Artists and Scientists of the Royal Society of Canada
- 2023 Elected as a Fellow of the Royal Society of Edinburgh
- 2022 Philip Leverhulme Prize (Geography), Leverhulme Foundation, 100 000 GBP  
Nominated as a Fellow of the Royal Geographical Society  
Nominations for University of Edinburgh Student Association Teaching Awards for Teacher of the Year, Supervisor of the Year, Outstanding Course Data Science in Ecology and Environmental Sciences
- 2020 Nomination for University of Edinburgh Student Association Teaching Awards for Teacher of the Year
- 2018 Walters Kundert Fellowship, Royal Geographical Society, 10 000 GBP  
Nominations for University of Edinburgh Student Association Teaching Awards for Best Course Award, Best Overall Teacher Award, Best Supervisor Award
- 2017 University of Edinburgh Student Association Impact Award winner for best student - staff collaboration for Coding Club (see <https://teamshrub.wordpress.com/2017/04/10/coding-club-goes-to-aberdeen-and-the-impact-awards/>)  
EdinburghU Student Association Teaching Awards finalist for Innovative Assessment, nominations for Best Course
- 2016 Canadian Society for Ecology and Evolution Early Career Award  
University of Edinburgh Student Association Teaching Awards winner for Innovative Assessment for Conservation Science, nominations for Best Course, Best Overall Teacher (see <http://www.teaching-matters-blog.ed.ac.uk/?p=571>)  
University of Edinburgh Student Association Teaching Awards nominations for Best Course, Best Overall Teacher
- 2012 Garfield Weston Postdoctoral Fellowship in Northern Research, 50 000 CAD p.a.
- 2011 - 2012 EnviroNorth Postdoctoral Fellowship, NSERC CREATE Grant, 40 000 CAD p.a.

- 2010 Steve and Elaine Antoniuk Graduate Scholarship in Arctic Research, 4500 CAD
- 2009 - 2011 Garfield Weston Ph.D. Award for Northern Research, 40 000 CAD p.a.
- 2008 - 2011 The President's Doctoral Prize of Distinction, 4500 CAD p.a.
- 2007 - 2009 Canon National Parks Scholars Program, 80 000 USD
- 2007 - 2011 Honorary Izaak Walton Killam Memorial Scholarship
- 2007 - 2011 Alberta Ingenuity PhD Student Scholarship, 7000 CAD p.a.
- 2007 Jennifer Robinson Scholarship, Arctic Institute of North America, 5000 CAD
- 2006 - 2009 NSERC Canadian Graduate Scholarship, University of Alberta, 35 000 CAD p.a.
- 2006 Graduate Entrance Scholarship, University of Alberta, 2000 CAD

### Teaching Experience

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I taught three courses per year and have supervised 22 undergraduate honours research dissertations/theses and student research experiences funded through NSERC USRA and other programs.

I ran the Postgraduate Training Programme and contributed to the Postgraduate Research Policy Committee at the University of Edinburgh. I have received positive feedback on my teaching and lectures from students, commenting on my engaging style, enthusiasm, approachability, and the positive learning environment that I encourage. I have been nominated for university-level teaching awards in 2016-2020 and 2022, and was the winner of the Innovative Assessment Award for the Conservation Science course that I lead in 2016 and was runner up with the GeoScience Outreach Course of the Innovative Assessment Award in 2017 (see above for teaching awards and university-level nominations).

I have been running the [Coding Club](#) Initiative to overcome "code fear" and "statistics anxiety" that can prevent people from engaging with quantitative skills (2014 – ongoing). In 2023, this initiative is reaching over 1 million users around the world (Google Analytics). Coding Club won the [EUSA 2017 Impact Award](#) for best student-staff collaboration. I have received over £50K for the development of Coding Club through schemes such as the [Principal's Teaching Award Scheme](#), [DataLab Scotland](#) and [Innovation Initiative Grants](#).

- 2023 - cont. Alpine module of the Conservation Field School (three-week intensive course module)
- 2019 - 2023 PhD and MSc training course (course organizer, PhD and MSc course, sole instructor)
- 2018 - 2022 Data Science in Ecology and Environ. Science (course organiser, 4<sup>th</sup> year, sole instructor)
- 2014 - 2022 Conservation Science (course organiser, 4<sup>th</sup> year, lectures, field trip, marking)
- 2013 - 2018 GeoScience Outreach (course organiser, 4<sup>th</sup> year, workshops, project supervision, marking)
- 2014 - 2020 Principles of Ecology (2<sup>nd</sup> year, 1 week and part of the exam)
- 2015 - 2020 Critical Thinking in Ecology and Environmental Sciences (4<sup>th</sup> year, full-semester)
- 2015 - 2017 Current Issues in Ecology and Environmental Sciences (4<sup>th</sup> year, 1 week)
- 2013 - 2015 Land-Atmosphere Interactions (4<sup>th</sup> year, 3 weeks)
- 2015 - 2017 Climate Change Ecology and Evolution (4<sup>th</sup> year, 1 lecture)
- 2013 Conservation Management (4<sup>th</sup> year, 1 week)
- 2008 Co-taught Yukon College 2<sup>nd</sup> year Field Course, Qikiqtaruk - Hershel Island, YT

### Graduate Student Supervision

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I have supervised 13 PhD students, 13 MSc students & 20 undergraduate theses. I have graduated 7 PhD students, who are all now working in related fields (assistant professors, Yukon Government, UK government, data scientist, postdocs).

- 2025 - cont. B. Bingham (PhD), S. Coats (PhD), M. Cloutier (PhD), C. Ethier (MSc), C. Norton (MSc), A. Kellas (MSc), A Beauchemin (MSc), I Janzen (MSc)
- 2024 - cont. J. Seider (PhD), M. Eckert (MSc), S. Naughtin (MSc), M. Wade (MSc), R MacNeil (MSc)
- 2024 - 2028 G Canchon (co-supervised PhD, UEdinburgh) Capturing Arctic heat waves in climate models
- 2023 - 2027 L Pilkinton (co-supervised PhD, UEdinburgh) Mechanisms and implications of climate-induced shrub expansion in the Arctic
- 2022 - 2026 M Stamp (co-supervised PhD, UEdinburgh) The drivers and consequences of community phenological cohesion
- 2022 - 2023 E Zaja (MScR, UEdinburgh) Shrub encroachment with warming in the summer range of the porcupine caribou herd
- 2021 - 2022 L Lechler (MSc, UEdinburgh), L Pilkinton (co-supervised MSc, UGlasgow), N Oley (co-supervised MSc, UGlasgow)
- 2021 - 2023 D Jerome (MPhil, UEdinburgh/UHelsinki) Climate sensitivity of shrub growth across the tundra-forest ecotone  
M Anderson (co-supervised PhD, USherbrooke) Plant phenology influences on tundra plant spectral diversity and traits
- 2020 - 2024 C Hoad (PhD, UEdinburgh) Snow melt as a driver of Arctic greening trends  
J Everest (PhD, UEdinburgh) Functional diversity in a warming Arctic  
G de Jong (co-supervised PhD, UGothenburg) Winter and microclimate influences on tundra plant phenology
- 2019 - 2023 E Gallois (PhD, UEdinburgh) Microclimate influences on tundra plant growth and phenology
- 2017 - 2021 G Daskalova (PhD, UEdinburgh) Drivers of biodiversity change in the Anthropocene  
M García Criado (PhD, UEdinburgh) Macroecological patterns of vegetation change across a warming tundra biome
- 2017 - 2019 K Stanski (co-supervised MSc, Edinburgh - School of Informatics) Flower detection using object analysis: new ways to quantify plant phenology in a warming tundra biome
- 2015 - 2018 S Angers-Blondin (PhD, UEdinburgh) Climatic and biotic controls of shrub growth and expansion in the Arctic  
H Thomas (PhD, UEdinburgh) Climate change as a driver of Arctic tundra shrub expansion  
J Assmann (PhD, UEdinburgh) Phenology shifts and greening of Arctic tundra vegetation with climate change
- 2013 - 2015 M Grabowski (MSc Committee, UBC) Boreal Shrub Growth Responses to Fertilization, Herbivory, and Climate  
B Marquis (MSc Committee, USherbrooke) Sugar maple sensitivity to climate along altitudinal gradients

### Postdoc Supervision

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I have supervised four postdocs, I have two current postdocs and I will be recruiting additional postdocs in the coming year.

- 2025 - cont. H Travers-Smith, Resilience Project postdoc
- 2024 - cont. J Borderieux, Resilience Project postdoc
- 2022 - 2024 M García Criado, CHARTER Project postdoc
- 2015 - 2017 A Bjorkman, Current position: Senior Lecturer/Associate Prof., University of Gothenburg
- 2016 - 2018 A Cunliffe, Current position: Oppenheimer Senior Research Fellow, University of Exeter

### Academic Service

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- 2024 - cont. Chair of the UBC Northern Studies Committee responsible for managing the Northern Supplement Training Program for logistical funding for graduate and undergraduate field research in the North
- 2023 - cont. Postdoc Faculty Liaison for the Faculty of Forestry and the Northern Scientific Training Program Academic Representative for UBC and Chair of the UBC Polar and Alpine Committee, Review Committee member for Northern Research Supplements for NSERC Discovery Grants
- 2019 - 2023 Head of Post-graduate Research (Training & Progress) in the School of GeoSciences (I provide training for >200 PhD and Masters by Research students and contribute to the Postgraduate Policy Committee)
- Previous* Member of the Global Change Seminar Organisation Committee, School of GeoScience Facilities Committee, School of Geosciences Equality & Diversity Committee, School of GeoScience Digital Communications and Web Working Group, Edinburgh Ecology Network organising committee

### Meetings and Working Group Leadership and Participation

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- 2024 Co-led the International Tundra Experiment meeting in Loon Lake, BC  
<https://itexmeeting2024.wixsite.com/itex2024>  
 NordBorN Nordic Borealization Network meeting, Iceland <https://nordborn.lbhi.is/>
- 2021 sTraits working group, German Synthesis Centre for Biodiversity Science (sDiv), Leipzig, Germany  
<https://www.idiv.de/en/straits.html>
- 2019 High Latitude Drone Ecology Network (HiLDEN) working group, Dartmouth College, Hannover, VT; sREplot working group, German Synthesis Centre for Biodiversity Science (sDiv), Leipzig, Germany  
[https://www.idiv.de/sdiv/working\\_groups/wg\\_pool/sreplot.html](https://www.idiv.de/sdiv/working_groups/wg_pool/sreplot.html)
- 2017 Tundra Browning workshop, University of Sheffield; Arctic Functional Diversity (ArcFunc) working group, Aarhus University, Denmark; Decomposition Workshop, Lund University, Sweden; sChange working group writing retreat, St. Andrews, UK
- 2016 sChange working group, German Synthesis Centre for Biodiversity Science (sDiv), Leipzig, Germany  
[https://www.idiv.de/sdiv/working\\_groups/wg\\_pool/schange.html](https://www.idiv.de/sdiv/working_groups/wg_pool/schange.html)
- 2015 sTUNDRA II working group (lead PI), iDiv Centre for Biodiversity Research, Leipzig, Germany (organiser); SynergyDrOne Workshop: Methods in drone ecology, Denmark; US Department of Energy: Incorporating plant traits into ecosystem models, Maryland, US; ShrubHub Meeting, Vancouver, BC
- 2014 sTUNDRA working group (lead PI) [https://www.idiv.de/sdiv/working\\_groups/wg\\_pool/stundra.html](https://www.idiv.de/sdiv/working_groups/wg_pool/stundra.html), iDiv Centre for Biodiversity Research, Leipzig, Germany (organiser); sChange working group, German Synthesis Centre for Biodiversity Science (sDiv), Leipzig, Germany
- 2013 Arctic Freshwater Synthesis, Arctic Remote Sensing Workshop
- 2011 Shrub Hub Research Network Data Synthesis Workshop (lead PI), Davos, Switzerland, International Tundra Experiment data synthesis

### Meetings/Symposia Co-convened

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- 2024 International Tundra Experiment Network (ITEX) synthesis workshops, Loon Lake, BC, Canada
- 2020 British Ecological Society 2020 Festival of Ecology Thematic Session “Capturing ecology across scales using new technology”, Online
- 2017 New Phytologist 39<sup>th</sup> Trait covariance symposium (organising committee), Exeter, UK

- 2016 High Latitude Drone Ecology Network (HiLDEN) meeting (co-organiser), AGU San Francisco, US
- 2015 ShrubHub Meeting, ArcticNet, Vancouver, BC
- 2014 Biodiversity change during the Anthropocene, Canadian Society for Ecology and Evolution Meeting, Montreal, Canada (1 of 2 co-organisers)
- 2013 European GeoScience Union Meeting, Vienna, Austria: Snow-shrub interactions: Exploring the hydrology, biochemistry and ecology of changing tundra ecosystems (1 of 2 co-organisers)
- 2012 Shrub Hub Meeting International Polar Year Meeting, Montreal, QC (primary organiser)
- 2011 Canadian Society for Ecology and Evolution Meeting, Banff, AB, Mountain Ecology: Climate change and challenges in high-altitude ecosystems (1 of 2 co-organisers)
- 2010 American Geophysical Union Fall Meeting, San Francisco, CA, Greening of the Arctic Session (1 of 3 co-organisers); Shrub Hub Meeting, American Geophysical Union Fall Meeting (primary organiser); International Polar Year Oslo Meeting, Oslo, Norway, T3-6 Impact of climate change on polar terrestrial ecosystems (1 of 2 co-organisers); Shrub Hub Meeting, World Dendro Conference, Rovaniemi, Finland (primary organiser)

### **Graduate Studies Examiner**

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I have been an external examiner for nine PhD students at universities around Europe and in Canada and I have served as an internal PhD examiner and an MSc chair at UBC twice in 2023-24.

Carlton University (MSc), Dec. 2024; Guelph University (PhD), April 2024; Wageningen University (PhD), The Netherlands, September 2022; Aarhus University (PhD), Denmark, August 2020; L'Université Clermont Auvergne (PhD), France, Jun. 2020; University of Barcelona (PhD), Spain, Apr. 2017; Université Grenoble Alpes (PhD), France, Nov. 2016; Umeå University (PhD), Sweden, Sep. 2016; Université Laval (PhD), Québec, Jun. 2015; University of Basel (PhD), Switzerland, Oct. 2014

### **Scientific Advisory Boards**

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Alfred Wegener Institute, Swiss Polar Foundation, US Department of Energy Next-Generation Ecosystem Experiment Arctic Project

### **Journal Reviews Conducted**

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Nature, Science, Nature Climate Change, Geophysical Research Letters, Nature Ecology and Evolution, Nature Plants, Nature Communications, Journal of Ecology, Global Change Biology, New Phytologist, Phil Trans R Soc B, Journal of Biogeography, Environmental Research Letters including Special Issue on Tundra Vegetation Change (Guest Editor), Journal of Geophysical Research Biogeosciences, Biogeosciences, Journal of Vegetation Science, Arctic, Antarctic and Alpine Research, American Journal of Botany, Canadian Journal of Forest Research, Polar Research, Alpine Botany, Écoscience, Elementa: Science of the Anthropocene, Folia Geobotanica, etc.

### **Funding Panels and Proposal Reviews Conducted**

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Swiss Polar Foundation, NSERC (Canada), NERC (UK), National Geographic Foundation, National Science Foundation (US), NASA, USDA, DOE & NOAA carbon cycle science solicitation, BiodivERsA (FP7 ERA-NET scheme), Netherlands Organization for Scientific Research, Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO)

### **Science Communication - Selected academic presentations and invited talks**

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I am a confident public speaker and have given plenary conference and public talks for audiences of >500, some of which have been filmed and viewed thousands of times. I enjoy combining photography, video and other visuals to communicate science in an engaging manner to diverse audiences.

- 2025 Invited Seminars:  
Zurich University, Zurich and Basel University, Basel, Switzerland: “Arctic ecosystem responses to accelerating climate change”
- 2023 Plenary Speaker:  
Swedish Oikos Conference: “The causes and consequences of biodiversity change in the warming Arctic”
- 2022 Plenary Speaker:  
International Biogeography Society Conference: “Drone ecology reveals the landscape context of Arctic global change”  
Invited Seminar:  
University of British Columbia, Vancouver, CA: “The Arctic in Transition: Tundra & Boreal Ecosystem Responses to a Warming Climate”
- 2021 Invited Seminars:  
Durham University, Durham, UK: “Climate warming and the greening of the Arctic”  
Université de Moncton, New Brunswick, CA: “Capturing Arctic greening across scales informs mechanisms of change”  
University of Helsinki, Helsinki, Finland: “Capturing Arctic greening across scales informs mechanisms of change”  
NASA ABoVE Project, Alaska, US: “Cross-scale research captures Arctic greening in the Yukon Arctic”  
Royal Society of Edinburgh, Edinburgh, UK: “Biodiversity and Climate Interactions”  
St. Andrews: “What do tundra plant responses to warming at the top of the world teach us about biodiversity change for the rest of the planet?”  
Conference talk:  
ArcticNet 2021: “Tundra shrubs grow rapidly in warmer conditions, but local alpine willows outpace northern Arctic willows”
- 2020 Invited Seminar:  
Oxford Polar Forum, Oxford, UK: “The Greening of the Arctic: What do the data tell us?”  
Speaker for the Royal Society (London) working group on biodiversity and climate change science, London, UK: “Biodiversity change at the climate extremes of the planet”  
Plenary Speaker:  
Changing Arctic conference, Tromsø, Norway - cancelled due to Covid-19  
International Biogeography Society, Vancouver, BC, Canada – postponed to 2022 due to Covid-19  
European Space Agency Polar Workshop, Copenhagen, Denmark: “The Greening of the Arctic”  
Conference talk:  
Arctic Science Summit Week, Lisbon, Portugal: “The Greening of the Arctic”
- 2019 Plenary Speaker:  
NASA ABoVE Meeting, La Jolla, CA, US: “Vegetation Dynamics and the Greening of the Arctic”  
Invited Seminars:  
SFU, Vancouver, BC, CA: “Disentangling the drivers of Arctic greening across scales”  
UCBoulder, Boulder, CO, US: “Challenges to quantifying ecological responses to global change across scales”
- 2018 Plenary Speaker:  
US National Academies - Arctic greening workshop, Washington, DC, US: “Understanding Northern Latitude Vegetation Greening and Browning: Field-scale measurements and uncertainties”  
ArcticNet Meeting, Ottawa, ON, CA: “The Greening of the Arctic”

Swiss Polar Day, Zürich, Switzerland: “Quantifying the Drivers and Impacts of Tundra Vegetation Change”

International Tundra Experiment Meeting, Stirling, Scotland: “ITEX syntheses: Attribution of ecological change to warming across the tundra biome”

Canadian Airborne Biodiversity Observatory Meeting, Montreal, QC, CA: “Tundra biodiversity and the greening of the Arctic”

NGEE Arctic Meeting, Washington, DC, US: “An introduction to the Tundra Trait Team Database”

2017 Invited Seminar:

Dartmouth College, NH, US: “Attribution of ecological change to climate across the tundra biome”

Plenary Speaker:

New Phytologist 39<sup>th</sup> Trait covariance symposium, Exeter, UK: “Biome-scale patterns in tundra plant traits and warming-induced change”

Conference talk:

ArcticNet Meeting, QC, CA: “Attribution of ecological change to warming across the tundra biome – a summary of recent data syntheses”

2016 Invited Seminar: University of Sheffield, Sheffield; Plenary Speaker: Canadian Society of Ecology and Evolution Early Career Awardee Talk, CSEE Meeting, St. John’s Newfoundland; Invited Seminar: University of British Columbia, Vancouver, BC; Invited Seminar: Abisko Research Station, Abisko, Sweden

2015 Plenary Speaker: Oikos Conference, Umeå, Sweden; Invited Seminar: Oxford University, Oxford, UK; Invited Seminar: St. Andrews University, St. Andrews, UK; ArcticNet, Vancouver, BC

2014 Invited Seminar: iDiv, Leipzig, Germany; Canadian Society for Ecology and Evolution Conference, Montreal, QC; Invited Seminar: University of Stirling, UK

2013 Plenary Speaker: Faster, Higher, More Conference, Bergün, CH; Invited Seminar: University of Zurich, Zurich, CH; International Tundra Experiment Meeting, Bergün, CH

2012 ArcticNet, Vancouver, BC; Ecological Society of America Meeting, Portland, OR; International Polar Year Meeting, Montreal, QC; Invited Seminar: Harvard Forest, MA

Canadian Society for Ecology and Evolution, Banff, AB (2011), American Geophysical Union Meeting, San Francisco, CA (2010), International Polar Year Conference, Edmonton, AB (2010), Climate Change and the Worlds Mountains, Perth, Scotland (2010), WorldDendro Meeting, Rovaniemi, Finland (2010), International Polar Year Conference, Oslo, Norway (2010) ArcticNet ASM, Victoria, BC (2009), Institute for Mountain Research, Davos, Switzerland (2009), Greifswald University, Greifswald, Germany (2009), Arctic Science Summit Week, Bergen, Norway (2009)

### **Scientific Outreach - Selected activities** (<https://teamshrub.com/outreach/>)

I have coordinated and participated in scientific outreach with the general public, school children and local communities ([teamshrub.com/outreach/](https://teamshrub.com/outreach/)). I have contributed to impact assessments to communicate scientific findings to policy makers including the IPCC Impacts reports. I have been exploring how science communication can engage broader audiences through photography, videography and 3D technology.

2024 Testified for the Canadian Government Standing Committee on Science and Research on the topic of support for Arctic research and logistics

<https://www.ourcommons.ca/documentviewer/en/44-1/SRSR/meeting-89/evidence>

2023 [Linnean Society](#) Evening lecture (London) - Oct. 2023

2022 [Royal Geographic Society](#) Evening lecture (London) - Nov. 2022

National Geographical Society Explorer Festival (London) - Apr. 2022

2021 [National Geographic Twitter Feed - Women’s History Month](#) - Mar. 2021

The Greening Arctic, invited talk, National Geographic Society headquarters, Feb. 2021

- 2020 [WIRED Magazine 25 innovators](#) - online Sept. 2020  
The Greening of the Arctic, Glasgow Natural History Society - Oct. 2020
- 2019 [National Geographic Explorer](#) - field expedition to Canadian Arctic July - Aug. 2019
- 2018 [New Scientist Live](#), Public talk at the New Scientist Science Festival, London, Sep. 2018  
[Arctic from Above Digital Exhibition](#)
- 2017 Edinburgh International Science Festival:  
[Contemporary Connections: Exploring the Art in Data](#) - 1 Apr. - 12 May 2017  
[Tundra shrubs - Arctic time machines, with Sandra Angers-Blondin](#) - 12 Apr. 2017  
[Researching with Drones: Meet the Experts](#) -15 Apr. 2017
- 2016 Our Dynamic Earth - Inspiring Young Scientists (16-17 Oct. 2016)
- 2013 - 2018 University of Edinburgh GeoScience Outreach Course Coordinator
- 2012 Sherbrooke CEGEP - University Exchange Programme

Contribution to the IPY Polar Resource Book (2010), Scientists & Innovators in the Schools, Vancouver, BC (2010), ArcticNet Student Association, Outreach Coordinator (2009 - 2010), Innovators in the Schools Program, Yukon Territory (2009), International Polar Year Canadian Youth Steering Committee, Outreach Coordinator (2007 - 2009), Let's Talk Science Program, University of Alberta (2006 - 2008)

#### Media Communications (<https://teamshrub.com/media/>)

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I am dedicated to communicating my science to broad audiences. My research has been covered in a variety of media sources including for example the BBC, WIRED, New Scientist, CBC, etc. See links below.

- 2025 The Guardian: [Polar heritage sites are slipping into the sea – but can one island live forever online?](#)  
Guardian Newspaper: [Arctic plant study reveals an 'early warning sign' of climate change upheaval](#)  
CBC Vancouver: [TV news segment – minute 19:05 to 23:30](#)  
CBC As it Happens: [Radio segment – minute 1:07:45 to 1:14:40](#)  
Vancouver Sun: [Arctic plants adapting to climate change faster than scientists thought](#)  
CBC North: [Plant communities in the Arctic are changing along with the climate](#)
- 2024 The Guardian: [‘The land is tearing itself apart’: life on a collapsing Arctic isle](#)  
CBC Radio: [The Future of Forests](#)  
CBC Radio: [Missing Russian data in the Arctic is causing gaps in research](#)
- 2023 La Press: [Le réchauffement de l’Arctique comme si vous y étiez](#)  
Coverage of [AWE VR Prize: National Geographic Explorers win award for visualizing Arctic climate change](#): [APTN](#), [CBC Radio](#), [CabinRadio.ca](#), [Radio Canada](#), [CBC News](#), [Globe and Mail](#), [CTV](#), [National Post](#), etc.  
The Guardian: [Svalbard: the Arctic islands where we can see the future of global heating](#)  
The Scotsman: [Arctic ‘greening’ is accelerating global warming in more ways than one – Professor Isla Myers-Smith](#)
- 2022 [National Geographic Creative Works: The greening of the Arctic tundra](#)  
WIRED: [Why the Arctic Is Warming 4 Times as Fast as the Rest of Earth](#)  
Radio Canada: [Cinq faits à savoir sur le réchauffement du climat en Arctique, selon une écologue](#)
- 2021 [National Geographic: 26 changemakers fighting for the planet](#)  
WIRED: [The UN Climate Report: All Is Not Well—but All Is Not Lost](#)  
WIRED: [More Lightning in the Arctic Is Bad News for the Planet](#)
- 2020 WIRED: [Beautiful Yet Unnerving Photos of the Arctic Getting Greener](#)

- [WIRED25: Meet This Year's WIRED25, Climate Change and Saving Our Earth](#)  
WIRED: [Why the Arctic Is Warming So Fast, and Why That's So Alarming](#)  
Coverage of [Assmann et al. ERL 2020](#) in WIRED: [Beautiful Yet Unnerving Photos of the Arctic Getting Greener](#), STV: <https://news.stv.tv/video/edinburgh-scientists-use-drones-to-study-arctic-tundra>  
Coverage of [Cunliffe et al. ERL 2020](#) in EOS Magazine of the American Geophysical Union: [Drones Help Bridge the Gaps in Assessing Global Change](#)  
Podcast: Arctic Canada: The Culture Cure - <https://podcasts.apple.com/ca/podcast/arctic-canada-the-culture-cure/id1446659881>  
Podcast: Outside/In - <http://outsideinradio.org/shows/10x10bog>  
Coverage of [Daskalova et al. NComms 2020: Common species mirror rare animals' response to global change](#)  
Coverage of [Daskalova et al. Science 2020: Forest loss escalates biodiversity change, How forest loss has changed biodiversity across the globe over the last 150 years](#)  
Coverage of [Thomas et al. NComms 2020: Plant life on the edge](#)  
Coverage of [García Criado et al. GEB 2020: Climate shifts prompt shrubs and trees to take root in open areas: Daily Mail, The Herald, The Scotsman, etc.](#)  
Coverage of [Myers-Smith et al. NCC 2020: Global Science Team on Red Alert as Arctic Lands Grow Greener: WIRED, Daily Mail, etc.](#)
- 2019 Coverage of [Blowes et al. Science 2019: Washington Post](#)  
New Scientist: [How teabags became a secret weapon in the fight against climate change](#)  
CTV: [Researchers find Canadian Arctic island coast collapsing up to a metre a day](#)  
Coverage of [Cunliffe et al. The Cryosphere 2019: Gizmodo](#)  
Coverage of [Assmann et al. GCB 2019: Early melting of winter snowfall advances the Arctic springtime: BBC Radio Scotland \(minute 16\), physics.org, ScienceDaily](#)  
Science News: [Climate change made the Arctic greener. Now parts of it are turning brown.](#)  
Coverage of [Myers-Smith et al. Ecol. Mono. 2019: Eighteen years of ecological monitoring reveals multiple lines of evidence for tundra vegetation change](#)
- 2018 Royal Geographical Society Walters Kundert Fellowship Press Release: [Is the Arctic getting greener?](#)  
Coverage of [Bjorkman et al. Nature 2019: Taller plants moving into Arctic because of climate change: BBC, Science Daily, phys.org, Newsweek, etc.](#)  
[New Scientist Live!](#), Public talk at the New Scientist Science Festival  
[Fieldwork in the Arctic is surprisingly costly, limiting the research done there](#), Science News  
[Arctic Secrets](#), Documentary series featuring Team Shrub on Qikiqtaruk, White Pine Pictures
- 2017 [The Great Global Species Shakeup](#), Toronto Star  
[Capturing change in the Arctic](#), Vizzuality Blog  
[Brewing Big Data: The Tea-Bag Index](#), BioScience  
[Rapid rate of coastal erosion on Herschel Island](#), CBC News  
Interview clip on the daily morning programme "A New Day", CBC Radio North
- 2016 Interview for CBC Quirks and Quarks
- 2015 Coverage of Nature Climate Change paper: [Climate sensitivity of shrub growth across the tundra biome](#), Jul. 2015 - BBC world service, Scotsman, Daily Mail, etc. - "Global Warming and the Arctic Tundra"  
Up Here Magazine "Invasion of the Shrubs"  
[Plants Duke It Out in a Warming Arctic](#) - BioScience
- 2013 [Tundra in Turmoil and Repeat Photography Reveals a Changing Climate](#) - Science  
[Vegetation May Speed Warming of Arctic](#) - Scientific American

2012 [Telling changes on the tundra](#) - University of Alberta News

Edmonton Journal "Edmonton biologist on international team monitoring disappearance of Arctic tundra in Canada's Yukon"

[Shrub Hub assesses growth in tundra ecosystems](#) - Environmental Research Web

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### **Drone videography, photography and audio**

Through my field research, I collect drone imagery, videography and audio to help communicate this research. I have licensed these assets to TV production companies or media companies including the BBC Natural History Unit, National Geographic Partners and Hope Production (France). My photography and videography has been featured in [The Guardian](#) newspaper including online and in The Guardian Weekly.

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### **Code, Data and Open Science (<https://teamshrub.com/data-and-code/>)**

My research group follows Open Science best practice including study pre-registration and making protocols, datasets, code and preprints publicly available. I have developed field collection protocols and compiled tundra biome-wide datasets including 1000s to 100,000s of records of plant growth rings, trait records, community composition and phenology measurements (e.g., <https://github.com/TundraTraitTeam>) and terabytes of drone data (e.g., <https://arcticdrones.org/>). I also teach coding and quantitative skills to undergraduate, Masters and PhD students funded by the DataLab and UEdinburgh (e.g., <https://ourcodingclub.github.io/>).

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### **Data Science Skillsets (<https://github.com/IslaMS>)**

I am a quantitative ecologist and an advanced R user (tidyverse, data visualisation, working with large datasets) with experience in Stan (hierarchical Bayesian modelling), the Google Earth Engine (remote sensing analyses of Satellite and drone imagery) and coding in JavaScript and Python in addition to R. I use GitHub for version control ([github.com/IslaMS](https://github.com/IslaMS)). I taught Data Science in Ecology and Environmental Science at the University of Edinburgh ([datascienceees.github.io/](https://datascienceees.github.io/)) and was the lead academic developing the Coding Club Data Science for Ecologists and Environmental Scientists online course launched in February of 2020 ([ourcodingclub.github.io/course](https://ourcodingclub.github.io/course)). I am passionate about teaching data science skills to enhance diversity and representation in quantitative disciplines. Below is an itemised list of my quantitative skills:

- Advanced R user (tidyverse, data visualisation, working with large datasets)
- Stan (hierarchical Bayesian modelling)
- Google Earth Engine (remote sensing analyses of satellite and drone imagery)
- Coding: R, JavaScript, Python
- Version control: GitHub (collaborative research and teaching using GitHub Classroom)

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### **Professional Societies**

Canadian Society for Ecology and Evolution, British Ecological Society, Ecological Society of America, American Geophysical Union, ArcticNet