



THE CANADIAN MOUNTAIN ASSESSMENT: WALKING TOGETHER TO ENHANCE UNDERSTANDING OF MOUNTAINS IN CANADA

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APPENDIX I: CONTRIBUTOR BIOS

Carolina Adler

I am a dual national from Chile and Australia, living in Switzerland, and enjoy a close relationship with mountains, having lived, played, and worked among them for most of my life. I am an Environmental Scientist and Geographer by training, and obtained my PhD at Monash University (Australia) in 2010, focusing on climate change adaptation and policy processes in mountain regions, receiving the Lasswell Prize for best thesis. In 2017, I became Executive Director at the Mountain Research Initiative (MRI), a global research coordination network based in Switzerland, through which I not only support regional and thematic networks on global change research, but also foster partnerships with various entities including with Future Earth, the Belmont Forum, UN Environment Programme, UNESCO and the Man and the Biosphere Programme, Mountain Partnership, the World Meteorological Organization (WMO), and the Group on Earth Observations. I am also a member of the WMO Executive Council Panel on Polar and High Mountain Observations, Research and Services, and serve as Independent Board Member at the International Centre for Integrated Mountain Development. In 2017 I was appointed as Lead Author for the Intergovernmental Panel on Climate Change, writing and coordinating assessment content on mountains and climate change in its sixth assessment. It is in this capacity that I was also involved in supporting the CMA by sharing these experiences and insights.

Leon Andrew

I am a Shúhtaot'ınę elder with the Tulít'a Dene Band. I am Research Director and Chair of the Nę K'a Dene Ts'ılı (Living on the Land) Forum. I served as a Special Advisor to the ?ehdzo Got'ınę Gots'ę Nákedı (Sahtú Renewable Resources Board) for many years. I have been an advisor to Aboriginal

Affairs and Northern Development Canada and the Government of the Northwest Territories (GNWT) on Transboundary Water negotiations with Alberta. I was an Access and Benefits negotiator and served on the Canol Heritage Trail Committee for the Tulít'a District during 2004-2006. I have also served on the Board of the Tulít'a Land and Financial Corporation. I have provided my research expertise on numerous traditional knowledge studies, assisted and advised GNWT Archeologists from the Prince of Wales Museum, and am also an experienced interpreter in Dene and English languages. I was an active trapper in the Tulít'a area and have first-hand experience of both the positive and negative effects of exploration activities on the environment and traditional economy of the Northwest Territories. Recognized as one of the Sahtú Region's most experienced researchers, I now serve in a leading capacity in various regional, national and international research programs involving research and monitoring: the NWT Water Stewardship Strategy, Mackenzie River Basin Board, the Canadian Mountain Network, Northern Water Futures, and Arramat: Biodiversity Conservation and the Health and Well-being of Indigenous Peoples (a network proposed to the New Frontiers in Research Fund of Canada's research Tri-Agency). I represent the SRRB on the NWT Conference of Management Authorities and the NWT Species At Risk Committee

Caroline Aubry-Wake

I am passionate about studying the movement of water in mountain landscapes, encompassing glaciers, snowpack, lakes, and rivers. The captivating beauty of mountain glaciers initially drew me in, but as I delved deeper into their significance for water resources, I became immersed in the field of mountain hydrology. My research journey has taken me across diverse mountain ranges,

including the Canadian Rockies, where I currently reside, as well as the Alps, the Andes, and the Himalayas, where I am conducting my postdoctoral research in collaboration with Utrecht University. Among these ranges, the Chic-Chocs of the Gaspé Peninsula hold a special place in my heart as my first encounter with mountains. Exploring these mountain ranges, both scientifically and recreationally, continually deepens my fascination with their unique characteristics. I have come to appreciate that water represents just one facet of the intricate and diverse systems found in these mountains. Moreover, I am grateful for the opportunity to contribute my expertise in mountain water through my involvement in the CMA, enabling me to further explore mountain history, culture, and gain insights from Indigenous perspectives.

David Borish

I am a social science researcher and filmmaker with the Torngat Wildlife, Plants, and Fisheries Secretariat in Labrador, Canada. My work focuses on using audio-visual methodologies to document and communicate Indigenous Knowledge, as well as to explore the human dimensions of ecological change. During my doctoral work, I directed HERD: Inuit Voices on Caribou, a research-based documentary film about the impact of caribou population declines on community well-being in Labrador. I am now a core lead on the Nanuk Narratives project, which aims to leverage documentary film as a tool to preserve and communicate Inuit knowledge of polar bears across the Eastern Arctic. As part of these initiatives, I developed a method that blends video editing, qualitative analysis, and community co-creation—all with the goal of making Indigenous Knowledge more accessible and influential in ecological management. Building on this experience, my work with the CMA focused on visually documenting the knowledge shared during the Learning Circle. I have helped to manage and make this audio-visual knowledge accessible for authors to explore in more detail, and ultimately inform various sections of the final assessment.

Stephen Chignell

I am a PhD Candidate in the Institute for Resources, Environment and Sustainability at the University of British Columbia. My interest in mountains stems from my experience growing up in the diverse physical landscape and colonial (knowledge) politics of Hawaiʻi Island. I have a background in geospatial analysis, social-ecological systems, and critical physical geography, as well as research experience in the Colorado Rocky Mountains, the Bale Mountains in Ethiopia, and the Dry Valleys of Antarctica. I am a White settler, and relatively new to the mountains in Canada, but bring to the CMA an interdisciplinary perspective, curiosity, and excitement to contribute to an effort that reflexively considers knowledge production practices and attempts to weave together multiple ways of knowing.

Ashley-Anne Churchill

Weytkp, xwexweytep, Ashley-Anne Churchill ren skwest. Secwépemc-ken ri7. Te Simpcw re sť7é7kwen. My professional background is in Indigenous Title, Rights, and Interests, working as a technical and research consultant for Indigenous communities and nations for over a decade. I design and facilitate custom technical training for referrals and Consultation staff directly in community and have previously taught the CSTC Referrals Officer Training Program. Recently, I've been collaborating on open-source software for referrals and community data management with the University of British Columbia. I hold an Associate's degree in Environmental Studies and a BA in Geography with a minor in Indigenous Studies. I have academic interests in forest and mountain biogeography, and I have traditional training and interest in genealogy, storied toponymy, and Indigenous plants from the river valleys to the subalpine areas within Secwepemcúl'ecw (Secwépemc territory). I am currently in an interdisciplinary MA program (Geography, Anthropology, Indigenous Law), and a member of the Geographic Indigenous Futures (GIF) lab at the University of Victoria (UVic). My thesis is focused on Secwépemc land-centered relational (kinship) axiology and praxis, in the context of Indigenous Title, Rights, and Interests. Mountains hold embodied stories and relational knowledge, shaping our existence and guiding our movement and dwelling throughout our territory and with our extended kin relations. Secwépemc relational

axiology and praxis are inextricably tied to our connection with mountains.

Dawn Saunders Dahl

I am of Red River Ojibway and European (UK, Scandinavian, French) ancestries and am a member of Métis Nation of Alberta. I attended the final TRC in Edmonton and continue to be guided by the responsibilities to care for the land and ensure Indigenous perspectives are present in my projects. I live in Canmore, Alberta, and am an artist creating artwork that reflects my surroundings, my deep interest in place, genealogy, and reconciliation/action. I develop public art opportunities, art exhibitions, and projects with Indigenous arts communities. I attended University of the Arts majoring in painting and ceramics (BFA 1998-99). I started my administration work in art school, volunteering for Untitled Art Society (the Bows) until 2006. I developed The Works Art & Design Festivals' Indigenous Art Program in 2008 and worked in the public art department at the Edmonton Arts Council (2012-15). I currently work at the Whyte Museum of the Canadian Rockies (Banff), and am curator at Galerie Cite (Edmonton) and Indigenous Public Art for Adisoke (Ottawa-opening 2026). I am a board member for the Alberta Craft Council and a BUMP juror (mural festival—Calgary). I am developing Listen Studios and Retreats and am a contributing member of Canmore Land—a not for profit community land trust in Canmore, Alberta.

Goota Desmarais

I grew up on the south shore of Baffin Island in Cape Dorset, Nunavut. My early childhood was spent in a modern Inuit settlement during the winters and in a traditional camp during the summers. I am now an urban Inuk, living in Sherwood Park, Alberta for the past 30 years. I stay connected to my Inuit culture through frequent visits to Nunavut and my involvement on the board of the Edmonton Inuit Cultural Society and Edmontonmiut Inuit. Through my business, Inuit Connections, I have been educating people about Nunavut and Inuit culture for over 20 years. I share personal stories of growing up in the North that illustrate the unique Inuit way of life. I am currently working with Alberta Teachers' Association in their Walking Together: Education for Reconciliation Project.

Megan Dicker

I am an Inuk from Nain, Nunatsiavut on the north coast of Labrador. My family comes from Nain and Makkovik, with roots in Hebron and Nutaak south of the Torngat Mountains. I have been fortunate to spend a lot of time on the land growing up and I still try to get out on the land as much as possible. I am a social-change enthusiast and a climate advocate. For the past two years I worked as the youth leadership program coordinator at the Torngat Mountains base camp and research station, bringing Inuit youth to our ancestral homelands for cultural and leadership activities. It is this program that gave me the opportunity to travel to the Torngait in 2014 and my life has forever changed since then. My love and admiration for the Torngat Mountains led me to where I am today—the connections I have made personally and professionally eventually led to working with the CMA to document the importance of mountains in our homelands.

Karine Gagné

I am an Associate Professor in the Department of Sociology and Anthropology at the University of Guelph. I obtained a PhD in Anthropology from University of Montreal (2015) before holding a Banting Postdoctoral Fellowship at Yale University (2015-2017). My research work is based in the Indian Himalayas where I study a range of issues, including climate change, ethics of care, human-animal relations, state production, citizenship, and climate knowledge. My research has thus far focused on two areas of study. First, I am interested in how climate change is experienced by Indigenous Himalayan communities and how these experiences contend with state rationality. Second, I am interested in the relationships between humans and animals in the Himalayas, and I also aim to understand the political and economic structures that threaten habitats and generate human-animal conflicts. My research work is carried in collaboration with local scholars, artists, farmers, herders, guides, and porters. I am also passionate about visual methodologies and graphic ethnography. My book, Caring for Glaciers: Land, Animals, and Humanity in the Himalayas (University of Washington Press) was awarded the 2019 James Fisher Prize for First Books on the Himalayan Region.

Erika Gavenus

I learned to love mountains and all they share with us growing up in Southcentral Alaska surrounded by the Kenai Mountains on lands long stewarded by Nichiłt'ana, Dena'ina, and Sugpiag peoples. I am currently a PhD candidate at the University of British Columbia within the Institute for Resources, Environment and Sustainability. Through my research I use a lens of food justice to examine how fisheries regulations can challenge food access for coastal First Nations. I bring academic training in public health, nutrition, and food security to this research and deep appreciation for the role of collective well-being and relationships with place. I spend most of my time and research on the ocean and in coastal communities looking up at mountains, and I am thankful the opportunity to travel more intentionally into the mountains through the CMA and Learning Circle. I am a settler-researcher and am grateful to live and learn on the traditional, ancestral, and unceded territory of the Musqueam.

Stephan Gruber

In my work I aim to support wise decisions about adapting to permafrost thaw and to train new experts. I investigate permafrost in polar and mountain areas, and have a deep personal connection to cold environments through wilderness travel and mountaineering. My research bridges field observations and computer simulation aiming to turn the insight derived from both together into products to inform adaptation decisions. I have lived in ten countries, and after 12 years in Switzerland, I came to Canada in 2013 as the Canada Research Chair in Climate Change Impacts/Adaptation in Northern Canada. I work as a Professor of Geography at Carleton University in Ottawa and enjoy the many new relationships, conversations, and insights coming with getting to know and help connect the very diverse Canadian permafrost community better. My experience includes research aimed at discovery and at application, contributions to major assessment reports such as the mountain chapter of the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate or the Hindu Kush Himalaya Assessment, editorial roles, and leadership in large research initiatives such as NSERC PermafrostNet and NSERC CREATE LEAP. Learning makes me happy.

Jiaao Guo

I am a research assistant at Canadian Mountain Assessment (CMA) since 2020. Currently, I'm a full-time geospatial research coordinator working for both University of Calgary and Alberta Biodiversity Monitoring Institute (ABMI). Most of the works that I have done for CMA were during the time when I was a remote sensing analyst at Northwest Territories Centre for Geomatics (2020-2022), in Inuvik, Northwest Territories a traditional land of Gwich'in First Nations and Inuvialuit Settlement Region. I hope to search and use spatial data/knowledge to better understand the physical, biological, and cultural environments and their interactions within and outside the mountain systems in Canada. I had a background in environmental science and geographic information systems (GIS). Apart from mountain-related researches, my interests and expertise also expand to urban GIS, wildfire and flood mapping, remote sensing analysis using earth-observation satellites, and Light Detection and Ranging (LiDAR) data analysis.

Katherine Hanly

I am a PhD Candidate at the University of Calgary, studying and living in the Bow Valley. My research focuses on the impacts of, and adaptations to, climate-related cryospheric change on mountain recreation in the Canadian Rocky Mountains. Having spent most of my life in the Bow Valley, mountains have always been at the centre of my life, and it is on their trails that I have connected to and learned from friends, family, and the land-scape. I approach my research and the CMA with great gratitude for the opportunity to continue to connect, learn, and hopefully contribute to the protection of these magnificent landscapes.

Nina Hewitt

I am an Associate Professor of Teaching in the Department of Geography at the University of British Columbia. I study biogeographical influences on plant species dynamics in temperate forest and alpine ecosystems, and digital tools for experiential field learning within these ecosystems. I have used data from rare historical records and my own contemporary field research to study changes in upper elevation limits of alpine species in the Karakoram-Himalaya. I am co-investigator on a BC Parks Living Lab for

Climate Change and Conservation funded study of alpine plant responses to global change drivers in Garibaldi Park. A passionate educator, I seek to increase accessibility of experiential learning to reach across a diverse student body. I have created numerous immersive virtual and augmented reality experiences in BC forest and alpine environments for teaching, and to provide a modern baseline with which to track vegetation change.

Eric Higgs

I came to mountains as an adult, having grown up in the gently undulating territories near the Haudenosaunee Six Nations of the Grand River and the Saugeen First Nation. My family and I are settlers of northern English, Scottish, Irish and German ancestry. Taking up my first regular faculty position at the University of Alberta in 1990 I teamed up with colleagues to develop the Culture, Ecology and Restoration project that intertwined historical cultural and ecological knowledge in what is now Jasper National Park. It was uncommon at that time to focus on restoration in a national park, especially one iconic for wildness. From this grew the Mountain Legacy Project, which uses historic mountain survey photographs, the largest collection in the world, to study change in mountain landscapes through repeat photography (mountainlegacy.ca). Since 2002 I have been a professor in the School of Environmental Studies at the University of Victoria in the territories of Lekwungen & WSÁNEĆ peoples. My work centres on long-term studies of mountains in service of ecosystem restoration, engaging diverse understanding.

Murray Humphries

I am a Professor of Wildlife Biology at McGill University, located in Montreal, Quebec in the territories of Haudenosaunee and Anishinaabe Peoples. I was born and raised in Brandon, Manitoba in Treaty 2 territory. My family and I are settlers, of Scottish, Irish, and Welsh heritage; the Mitchell side of my family homesteaded and farmed south of Arrow River, Manitoba. I am a flatlander who loves wildlife and wide-open prairie spaces. I came to the mountains looking for wildlife and, along the way, have had the opportunity to meet other people that love land and wildlife in their own way. I am director of

McGill's Centre for Indigenous Peoples' Nutrition and Environment and my research emphasizes community-based partnerships focused on wildlife, environmental change, and local Indigenous food systems. It has been my honour to serve as co-research director of the Canadian Mountain Network of Centres of Excellence from 2020–2023 in support of our mission to support the resilience and health of Canada's mountain peoples and places through research partnerships based on Indigenous and Western ways of knowing that inform decision-making and action.

Rod Hunter

I am an elected councillor of the Bearspaw First Nation for the last 21 years and an accomplished powwow singer. I am the leader of the Eyahey Nakoda powwow world class singers. Eyahey Nakoda has won several singing championships in the last twenty-five years. I have been singing since I was nine years old. I have been a master of ceremony for numerous powwows, round dances, and special events. I am deeply involved in the traditional ways of the Stoney Nakoda. I am a Sundance Maker and have completed four Sundance lodges. I started as a helper for elders and eventually became a pipe holder, medicine holder, and a Sundance maker. Performing a Sundance is extremely difficult and requires total mind and body commitment. The teachings of the elders greatly helped me to achieve Sundance maker status at an early age. I will continue to sing and keep the traditions of my people alive. Eyahey Nakoda was formed in September 1994. The very first powwow they attended, they took home first place in the singing contest. I was educated at Mount Royal College.

Lawrence Ignace

I am an Anishinaabe from Lac Des Milles Lac First Nation in Treaty 3 and grew up in Ignace, Ontario. My family has a deep connection to this area including our last name. I moved to Whitehorse, Yukon about 13 years ago and I have not looked back from living in the mountains. My family taught me how to approach the world in a good way and I have brought this to my work as a PhD student at the School of Environmental Studies with University of Victoria.

Dani Inkpen

I am the product of mixed heritages and I grew up in Treaty Six territory in Edmonton, Alberta. From a young age I loved exploring the trails of the Rocky Mountains and spent much of my early adulthood in the Rockies and Coast Mountains. Since obtaining my PhD in the history of science from Harvard University, I've used my training in environmental history and the history of science to examine the ways that knowledge gets made in and of mountain places. I now live and work in the unceded lands of the Mi'kmag people in Sackville, New Brunswick where I am assistant professor of history at Mount Allison University. I came to the CMA with a desire to learn more about how people from all walks of life come to know, interact with, and love mountains. It has been an honour to work the people who have realized this project.

Aerin Jacob

Much of my life has been in mountainous regions, particularly the Rocky, Columbia, Mackenzie, and Coast mountains of Canada and the United States. and the Albertine Rift, Eastern Arc Mountains, and Kenya Highlands of Uganda, Tanzania, and Kenya. The juxtaposition of isolation and connectivity in mountain ecology, livelihoods, and conservation have shaped how I think about and approach my work as a conservation scientist. I am the director of science and research and the Weston Family Senior Scientist at the Nature Conservancy of Canada, and an adjunct professor at the University of Northern British Columbia. My work includes research on biodiversity, ecological connectivity, the benefits people get from nature, and the human dimensions of conservation, as well as science communication and the science-policy interface. I was a 2015 Wilburforce Fellow in Conservation Science and a 2016-2018 Liber Ero Fellow, received a PhD from McGill University, conducted post-doctoral research at the University of Victoria, and frequently serve on panels and committees providing scientific advice and guidance to governments, communities, and organizations.

Pnnal Bernard Jerome

I am mostly known as Pn'nal, and am an elder in the community of Gesgapegiag. I am a former chief and have been in leadership positions for my community since 1975. I currently work as the Cultural and Language coordinator in my community and have dedicated my life to the healing and teaching of my community through my work. I am a co-author of a book named *Nta'tugwaqanminen: our story*. I continue to educate myself and others around me about Gesgapegiag's history and culture.

Patricia Joe

I am from the Tagish Kwan First Nation, the original people where the City of Whitehorse, Yukon is situated. I am from the Dak'laweide Clan (Killer Whale and Wolf Crest) and a proud citizen of the Kwanlin Dun First Nation. I am a teacher, elder and knowledge keeper and an outspoken person for First Nation culture, history, beliefs, and values. I specialize in First Nation oral stories, and I am passionate about delivering authentic stories to students from kindergarten to Grade 12 and to all levels of government to advance First Nation education in Yukon and throughout Canada. I believe that the traditional oral stories will not only develop pride and identity to First Nation students but will help non-Indigenous students to have respect for the people whose Traditional Territory they reside on. In addition to my professional experience as a First Nation Integration Teacher I have worked with all levels of government and have been instrumental in many projects involving Yukon First Nation history and culture. I have been the former Deputy Chief, Chief Land Claims and Self-Government negotiator and I have many years of experience in the areas of politics and business.

Gùdia Mary Jane Johnson

I am a Lhu'ààn Mân Ku Dań Ashaw (Elder) who worked for Parks Canada and Kluane First Nation for over 40 years on protected areas, environment, cultural, and Indigenous language issues. I champion Indigenous language revitalization while partaking in a community that actively lives their culture. I have contributed an objective perspective to the Truth and Reconciliation Commission Report Response Task Force addressing the TRC's Call to Action #70 reporting to the Standing Committee on Canada's Archives; to several boards and committees, I sit as an active committee member on: the Asi Keyi Natural Environment Park Management Plan Steering Committee; the

Pickhandle Lakes Habitat Protection Area Steering Committee; the Canadian Mountain Network—Research Management Committee; the CMA—Canadian Advisory Committee; the Kluane Research Committee; and, the Tutchone Heritage Society. I am retired and am a happy and busy Grandmother of eleven Grandchildren and one Great Grandson.

Linda Johnson

I have lived and worked as an archivist, historian and writer in the Yukon for the past five decades, building a unique blend of cultural knowledge, relationships and contacts with people across the territory, Alaska, northern BC and the Northwest Territories. I have collaborated with Yukon First Nations Elders to record and preserve memories of landscapes, travel, languages, culture, and historical events. I combine oral history and archival research in the development of public history interpretation projects. I have published four books on Yukon history and contributed to several publications documenting diverse aspects of life in Canada's northern mountainous regions.

Stephen Johnston

I have a B.Sc. in Geology from McGill University and an MSc and PhD from the University of Alberta (UAb) in Structural Geology. I have worked in exploration for Shell Canada Ltd.; as a geologist for the BC and Yukon geological surveys; and as a professor at the University of Durban-Westville, South Africa. In 1999 I joined the School of Earth & Ocean Sciences at the University of Victoria, BC, serving as the school's Director from 2011 to 2015. In 2015 I returned to Alberta to serve as the Chair of the Department of Earth & Atmospheric Sciences at UAb. My research focus is on the role of mountain belts in the development of Earth's continental crust; the relationship between the character of our continental crust (for example, its endowment of metals and hydrocarbons) and mountain building processes; and the links between Earth's climate and biosphere and the distribution of continents and mountain systems through deep time (paleogeography). My favourite mountain system, and the one I always return to, is the Cordilleran system of Alberta, BC, and Yukon. I am the son of immigrants, my father a Scot and my mother Irish. I am the first on either side of the family to have attended university. I

am extremely privileged to have had the opportunity to research and teach about mountains given their central role in the development and evolution of all the peoples and cultures of Earth.

Knut Kitching

I am a Senior Researcher in the Indigenous Knowledge Research team at The Firelight Group, an Indigenous-owned consultancy. I am also an Elected Fellow of the Royal Geographical Society, with an MA in Geography from McGill University. I was born in inner-city Toronto and made my way to the mountains of the west coast as quickly as I was able. In my role as a consultant and advisor to Indigenous communities across Canada, I provide strategic advice and research to support communities navigating a wide range of social, ecological, and legal changes. For over a decade, my work has focused on the relationships between people, particularly Indigenous communities, and their environment. Much of this work takes place during environmental impact assessment processes, during which my colleagues and I are focused on the assessment of impacts to culture and rights on the land. Many of my clients, colleagues, friends, and family inhabit the various mountain regions of Canada, and I have seen firsthand the changes they are experiencing. It's been a privilege to be a small part of this exercise.

Michele Koppes

An immigrant of mixed heritage, I am a Professor of Geography and director of the Climate and Cryosphere lab at the University of British Columbia, on traditional and unceded Musqueam territory. My passion is forensic geomorphology: the art of reading landscapes to decipher their stories and the forces that shaped them. My research seeks to combine field and remotely-sensed observations with local perspectives, oral histories, soundscape mapping and storytelling to explore the cascading effects of climate change on glaciated mountain landscapes, waterscapes and people. I have been privileged to have lived in, worked, and been inspired by mountains and mountain peoples all over the world, from the Coast Mountains of BC to the Swiss Alps, Patagonian Andes, Sierra Nevada, Indian and Nepali Himalaya, Tien Shan, and the polar ice sheets of Greenland and Antarctica. I believe deeply that if we are to address the ongoing climate and nature emergency, we need

to elevate place-based, indigenous, and embodied understandings of how the lives of the ice, the mountains, the rivers, the people and the more-than-humans who dwell among them are intertwined. I am deeply grateful to the CMA for the opportunity to engage with and learn from these knowledges and knowledge keepers.

Daniel Kraus

I am currently the national director of conservation at Wildlife Conservation Society (WCS) Canada where I get to work with a great team on initiatives that range from Key Biodiversity Areas to the SHAPE (Species, Habitats, Action & Policy Evaluations) of Nature. I led the development of Canada's first list of nationally endemic wildlife (many of which are in mountains!) and have published papers on Canada's "crisis" ecoregions and approaches to endangered species recovery. I'm currently a member of the federal Nature Advisory Committee and I also research and teach about wildlife extinction and recovery at the University of Waterloo. About a decade ago I came to the realization that facts aren't enough halt the biodiversity crisis and have been trying to become a better science communicator ever since. I live and work at the headwaters of Bronte Creek in the Lake Ontario watershed where I enjoy chopping wood and raising happy chickens.

Sydney Lancaster

I am a Prairie-born visual artist and writer, and I have been based in Amiskwacîwâskahikan (Edmonton) most of my life. I am from settlerimmigrant-homesteader stock; as such, I perceive myself as an uninvited guest on Turtle Island. My lineage is bound to migration, Dominion Land Survey maps, and the displacement of Indigenous people from their territories. I have spent considerable time in the Rocky Mountains and the foothills over the years, and more recently, in close proximity to the Long Range Mountains, in western Newfoundland. My ongoing researchcreation is focused on the potential in liminal states and places to expose gaps in understanding: how the relationships between place, objects, and different types of memory impact notions of history and identity. What is left out of any given story is as important as what is chosen. My MFA research concerned the influence of Dominion Land Survey (DLS) mapping practices on settler

thinking in relation to ideas of belonging and affective connection to place. I was interested in the links between measurement, bordering, and Settler-Colonial land ownership as geospatial and political structures that have ongoing implications for relationships between humans, and between humans and more-than-human beings.

Rosemary Langford

I live on Tsleil-Waututh lands in the beautiful space between the ocean and mountains. I have had the extraordinary privilege of spending time in and coming to know mountainous landscapes through my recreational, professional, and academic pursuits. I hold a Masters in Resource Management from Simon Fraser University, where I completed my master's research centred on supporting recreationists in enjoying the winter mountains safely. My passion exists at the intersection of natural sciences, communications, and decision-making, and I care deeply about directing these passions toward efforts that support the well-being of both human and non-human communities.

Keara Lightning

I'm a member of Samson Cree Nation in Maskwacis, Alberta. I'm currently an MA candidate at the University of Alberta, completing a thesis analyzing how scientific constructions of the landscape have worked to obscure Indigenous presence. I am a member of the Indigenous Science, Technology and Society lab at the University of Alberta, a historian laureate with the Beaver Hills Biosphere, and a Lillian Agnes Jones Fellowship recipient. I write about the historic and ongoing role of science in colonization, as well as the potential of Indigenous-led science and environmental management. I'm moving into PhD research focused on wildfire management, with a particular interest in the revitalization of cultural burning practices. I've previously worked in environmental and science education programs, as well as in landscaping, gardening, and agriculture. Outside of the university, I also write interactive stories and animation on the themes of kinship, environmental restoration, and surviving apocalypse.

Lachlan MacKinnon

I am an Associate Professor and Canada Research Chair in Post-Industrial Communities at Cape Breton University. My research focuses on areas connecting working-class experiences and place identity, including workers' environmentalism, ecological awareness, and occupational memory. In Cape Breton, the deindustrialization of the island's coal and steel industries in the 20th century coincided with the rise of the tourist gaze and the re-making of the province into a premiere travel destination. Part of this process included the reconceptualization of the mountains in the northernmost parts of the island into "the Highlands" a Scottish-tinged representation that occluded other histories—both Indigenous and settler. My participation in this project has given me the opportunity to reflect upon how convergent notions of mountain landscapes found expression across cultural forms in 20th century Cape Breton, and the collaborative nature ensured that connections could be drawn to similar landscapes across Canada.

Christopher Marsh

Originally from the Canadian Prairies, I have always been drawn to the mountains both recreationally and scientifically. I grew up skiing throughout the Canadian Rockies and Coast mountains, and later in life started hiking and back country camping. I have had the privilege to travel and work throughout the Canadian Cordillera region and Mackenzie mountains, the Pyrenees, and the Alps. My research has focused on how to improve simulations in these complex regions to provide better estimates of snow and water resources. This has been via new numerical modelling methods that allow for incorporating critical process at a high spatial and temporal resolution. Backed by observations and field work, these methods allow for deeper insight into the complex process interactions that drive mountain snowcovers. Improving the predictive capacity for entire mountain ranges is important for water predictions under current climates as well as future climates.

Shawn Marshall

Mountains were not part of my life, growing up in southern Ontario and studying physics at the University of Toronto, but I had the good fortune to "go west" to graduate school, and the even better fortune to study glaciology with Garry Clarke at the University of British Columbia. This

research exposed me to the wonder of glaciers in the St. Elias Mountains, the Canadian Rockies, and Iceland, and I been privileged to spend much of my life in the mountains since that time. I moved from the University of British Columbia to the University of Calgary, where I am a Professor in the Department of Geography and held the Canada Research Chair in Climate Change from 2007-2017. My research group studies glacierclimate processes and glacier response to climate change, including field and modelling studies in western and Arctic Canada. I served as the Departmental Science Advisor at Environment and Climate Change Canada from 2019-2023, and also had the pleasure of contributing to the international Mountain Research Initiative over this period, as a member of their Science Leadership Council.

Brandy Mayes

I am a proud descendant of the Tagish Kwan people, the original people of Whitehorse, Yukon, and a beneficiary of Kwanlin Dün First Nation (KDFN). My great-grandparents are Julia Joe from Marsh Lake, Yukon, and Johnny Joe from Hutchi, Yukon. My great-great grandmother is Seke, the eldest daughter of the great Chief Jackie of Marsh Lake. I belong to the Dakhl'aweidí Clan, the Killer Whale and Wolf Clan Crest. The Clan Crest assures me that I am part of the land and part of the water. As a beneficiary of KDFN, my culture is who I am and where I come from. I enjoy everything outdoors including hunting, fishing, snowmobiling, skiing, curling, golfing, and hiking. I also, have a passion for gardening, enjoy cooking and I have been told I am queen of the BBQ and I smoke a mean brisket. My relationship with the mountains goes back to my ancestors. I recall the stories from my Great Grandfather on how all things are related, how the mountain glaciers and snow feed the rivers, creeks, and lakes, which keep all living things alive. I am an avid hiker, including in 2015, I set a goal to reach 21 peaks in Kananaskis Country of Alberta. One of these peaks took me 5 attempts, but I finally made it. I live in the most beautiful place (in my mind), surrounded by what we call in the Yukon, "The Southern Lakes," and the mountains that feed them. I am grateful everyday to my ancestors who took care of this land so we can all enjoy it. I am the Manager of Operations and Fish and Wildlife for KDFN's Heritage, Lands and

Resources, it is not only my job, but my responsibility as a Yukon First Nations person to respect all earth's creations. Our Elders fought hard to get back our land and it's our responsibility to show our respect by practicing good stewardship and to protect and conserve the lands resources for future generations. Implementing our Final Agreements and our citizens' Lands Vision is key in my decisions and how I conduct my work.

Graham McDowell

I live in Canmore, Alberta, on Treaty 7 territory, lands of the Îyârhe (Stoney) Nakoda, Blackfoot Confederacy, and Tsuut'ina First Nation, as well as Métis Nation of Alberta, Region 3. I am a geographer and environmental social scientist with interests in the human dimensions of climate change in high mountain areas, as well as formal knowledge assessment and co-creation methodologies. I have led community-level projects in the Nepal Himalaya, Peruvian Andes, Rocky Mountains, Greenland, and the Canadian Arctic, as well as numerous large-scale assessment initiatives, including the CMA. I have also twice served as a Contributing Author with the Intergovernmental Panel on Climate Change (IPCC), where I led assessments of human adaptation to climate change for mountain focused chapters. In addition, I am an Editorial Board member for the journal Mountain Research and Development, a Fellow of the Royal Canadian Geographical Society, and an advisor for numerous initiatives related to mountains and climate change, including as a National Steering Committee member for the UN International Year of Glacier Preservation. I completed a Banting Postdoctoral Fellowship at the University of Zurich and hold degrees from the University of British Columbia (PhD), the University of Oxford (MSc), and McGill University (BA Hons). I am currently affiliated with the Department of Geography at the University of Calgary.

Thomas McIlwraith

I am a settler anthropologist at the University of Guelph, in Guelph, Ontario, Canada. I am interested in the stories people tell about their places, including particularly, the relationships between Indigenous peoples and their communities in British Columbia with mountains, animals, waterways, and landscapes. I am concerned about local perspectives and appreciate the contributions of knowledge keepers and community experts on sustainable approaches to lands and resources. I try to hear and understand the lessons contained in stories and oral historical accounts, while appreciating the nuances of community responses to development.

Hayden Melting Tallow

I was born and raised on the Siksika Nation part of the Blackfoot Confederacy of southern Alberta. As Blackfoot people do not live within the Miistakis, we are from the prairies but rely on the tributaries that come from the Miistakis that supply us with fish and medicines that grow along its banks. We also go into the Miistakis to collect our medicines, teepee poles, paints for ceremonies, vision quests, to name a few. Although we don't live amongst them, we rely on the abundances they offer. Although we don't live within the Miistakis we support the people that do live there.

Charlotte Mitchell

I am a second year PhD student from the University of Alberta in the Faculty of Kinesiology, Sport and Recreation with a focus of feminist sport history. I have a Masters degree in Gender and Social Justice from the University of Alberta with undergraduate degrees from the University of Calgary in Social and Cultural Anthropology and Women's Studies.

Brenda Parlee

I am a settler scholar and research ally for Indigenous Peoples. I am honoured to have worked with many Indigenous Peoples over 30 years in Canada and internationally. I was born and grew up in northern Ontario in Mushkegowuk Cree territory. The landscape and political economy of this provincial north—impacted by mining, hydro development, forestry, and climate change—has significantly shaped my beliefs and passions for research and teaching on issues of social, economic and environmental justice. I currently share my time between Treaty 6 and Treaty 7 territories of Alberta and make my home in the foothills of the Rocky Mountains. Although I would like to spend more time hiking and meditating in the mountains, I am a busy Mom of two teenage boys and a Professor in the Department

of Resource Economics and Environmental Sociology in the Faculty of Agricultural, Life and Environmental Sciences at the University of Alberta. I also co-hold a UNESCO Chair focused on themes of research collaboration, biodiversity, and health which I share with Indigenous scholars from Carleton University and the Sahel/ Sahara region of Africa (Tuareg territory). I have led and supported many interdisciplinary and collaborative, and community-based research projects since 2000 on different aspects of social and ecological change. Many of these projects have been in northern Canada and in the Mackenzie River Watershed. In the last ten years, I have been invited to work internationally on major initiatives such as the Intergovernmental Platform on Biodiversity and Ecosystem Services Assessment on the Sustainable Use of Wild Species. I am also co-leading a major research project (2021-2027) funded by the Canadian Tri-Council (NFRF) called Ărramăt. (Ărramăt is an Indigenous [Tuareg] concept meaning the health of people and the environment are interconnected). In the next 6 years the Arramat Project will support more than 140 Indigenous-led projects in 70 ecozones/regions around the world to find solutions for improving biodiversity and Indigenous health and well-being. I have a BA from the University of Guelph (1995), an MES in Environmental Studies from the University of Waterloo (1998) and a PhD from the University of Manitoba in Natural Resources and Environmental Management (NREM)

Wanda Pascal

I am from Teetlit Zheh—Fort McPherson, NWT. I was born and raised in Fort McPherson mostly by my grandparents, the late John and Annie Vaneltsi. I am married to Douglas Pascal and has 4 children and 11 grandchildren. I worked for Legal Services for 16 years off and on. I worked at various jobs until I was elected on to Band Council in 1991, and after doing three full terms I made history in my Community. I was elected Chief on June 24, 2016 and re-elected for another term on July 4th, 2016. Being brought up on the land since an early age I have gained a lot of traditional knowledge of my culture as a Teetlit Gwichin woman. I love to sew, hiking, picking berries, and teaching my grandchildren how to live on the land.

Tim Patterson

I was born Morris Coutlee a member of the Lower Nicola Indian Band that belongs to the Scwexmx ("People of the Creeks") a branch of the Nlaka'pamux (Thompson) Nation of the Interior Salish peoples of British Columbia Canada. I grew up in Revelstoke within the Sn-səlxcin (Sinixt-Lakes) territory and I continue to hike and guide throughout the West Kootenays. I have been an outdoor professional for over 15 years and have hiked and explored both the western parts of Canada and the United States for over 25 years. I am the Indigenous Studies instructor with Timberline Canadian Alpine Academy. I hold a MA in Environmental Education and a BA in Cultural Anthropology, and all have focused on the advancement of First Nations oral narratives and Indigenous Knowledge. My company Zucmin (Zúc'nm) Guiding was developed through the combining of my Academic, Indigenous, and Guiding backgrounds where I focus on Indigenous Knowledge in the mountainous areas of Southern Alberta and British Columbia.

Karen Pheasant

I am Karen Pheasant-Neganigwane (Anishinaabe) of Manitoulin Island of the Wikwemikong First Nations. Eldest daughter of my parents, both who thrived after their Indian Residential School experience. Also, a Nokomis of eight beautiful grandchildren. I attribute my audaciousness to both my parents, first generation to live successfully off-reserve, and remain connected to their land base of Wikwemikong First Nations. I draw on my lived experience, as a young woman who worked in community centres during the height of the Civil Rights movement (AIM), in education (K-12, Post-Secondary) and my continued involvement in the Arts, as an award-winning author, bead'er, dancer, and performer. I spent the past fifty years attaining, studying, and receiving knowledge from the Great Lakes of Anishinaabek of Treaty Three, Treaty Six and currently in Treaty Seven. In 2023, I was selected as an inductee to the Dance Collection Danse: Hall of Fame (Toronto). My education includes a BA in Political Science and English Literature. My graduate studies are in Educational Policy Studies (MEd). I am currently a PhD (c) on the topic of Anishinaabe/Indigenous pedagogy at the University of Alberta. I am

currently an Assistant Professor at Mount Royal University, with Humanities and Liberal Arts Education, Calgary, Alberta.

Sophie Pheasant

My name is Sophie Pheasant (Niigani-Bine). I am Bode'wadmi Anishinaabe Kwe, Bineshii dodem from Wiikwemkoing Unceded Territory, the granddaughter of Isedore-bah Pheasant Neganigwane Sr. and Gertrude-bah Nadjiwon and maternal Moses-bah Lavallee and Rosemary (nee Mishibinijima). I am the mother of three children, a graduate of McMaster University and Laurentian University, presently enrolled with Laurier University's certificate program in Decolonizing Education. I received instruction to dance the healing dance of the Jingle Dress at a young age. Spending time learning about the dress and teachings in the Lake of the Woods area and throughout Turtle Island. Retracing my ancestral lands and maintaining connection to the Land Air and Water is of importance to me and my family.

Martin Price

My mountain career started in the Sunshine area of Canadian Rockies in the late 1970s, as an MSc student at the University of Calgary. A few years later, my doctorate at the University of Colorado at Boulder considered the forests of the Colorado Rockies and the Swiss Alps. Through these degrees, my focus shifted from natural to social sciences and I began to consider myself an interdisciplinary scientist. During the 1990s, I reviewed the activities of UNESCO's Man and the Biosphere (MAB) Programme in Europe's mountains and was the focal point for mountains in IUCN's European Programme. In 2000, I established the Centre for Mountain Studies within what is now the University of the Highlands and Islands (UHI), Scotland. In the 2000s and 2010s, I coordinated four assessments of Europe's mountains for different European organisations. Globally, I have been closely involved in the formulation and implementation of Chapter 13-"Protecting Fragile Ecosystems: Sustainable Mountain Development"-of Agenda 21, endorsed by the 1992 Rio Earth Summit; the International Year of Mountains, 2002; the Mountain Forum; and the Mountain Partnership. Ensuring that scientific knowledge is widely understood and used has long been a major concern for me. I have written

and edited 14 books and over 200 reports, papers, book chapters, and articles; and was Book Review Editor of the preeminent mountain science journal Mountain Research and Development from 1994 to 2020. I became Chairholder of the UNESCO Chair in Sustainable Mountain Development in 2009, and retired from this, and my role at UHI, in 2021.

PearlAnn Reichwein

I am a historian and Professor at the University of Alberta. My scholarship in Canadian Mountain Studies highlights the history of western Canada. The cultural production of mountains is the compass for my explorations of landscapes as temporally and cross-culturally discursive places of social memory. Studies of the Alpine Club of Canada, National Parks, and Olympic Winter Games, and various individuals, are among my projects. My book Climber's Paradise: Making Canada's Mountain Parks, 1906-1974 (2014) was awarded the Canadian Historical Association's Clio Prize and was a finalist in the Banff Mountain Film and Book Festival; Uplift: Visual Culture at the Banff School of Fine Arts (2020), co-authored with Karen Wall, is my most recent book. Invited guest lectures at University of Innsbruck's Alpine Research Centre Obergurgl and Université Gustave Eiffel steeped my thinking about transnational alpine worlds. I give public talks at libraries and museums. Guiding hikes at Plain of Six Glaciers and planning for cultural resources in Banff National Park and Yoho National Park shaped my early practitioner experience in a UNESCO World Heritage Site. Advocacy for the heritage and health of the North Saskatchewan River—running from its Rocky Mountain headwaters across western farmlands—is a community-engaged interest.

Rachel Reimer

I am a PhD candidate at the School of Human Geography and Sustainable Communities, University of Wollongong. My work is focused on an intersectional feminist approach to inclusion, risk, and psychological safety in the mountain guiding and avalanche professions worldwide. I hold a Master's degree in Leadership Studies from Royal Roads University, and completed a study focused on gender and leadership in wildland fire amongst firefighters in the British Columbia Wildfire Service. Prior to that, my work included

community-based Action Research in high-risk conflict zones across the Middle East and Africa for the United Nations and small non-profits. I bring a unique perspective to the mountain-human relationship as a queer neurodiverse academic living in a majority white, cis, hetero mountain town; and, also a practitioner, having worked operationally as a leader in both wildland fire and in the avalanche and guiding industry.

Lauren Rethoret

I am a Faculty Researcher at Selkirk College with a portfolio focused on the policy and planning dimensions of climate change and the environment. My projects are all conducted in partnership with community-based organizations in the mountainous and largely rural Columbia Basin, tackling issues like climate resilience, land use, and the interactions between human communities and 'working' landscapes. I hold a Masters in Resource and Environmental Management (Planning) from Simon Fraser University and a Bachelor of Arts in Geography from Carleton University. I live and work in the Columbia Mountains on the territories of the Sinixt, Ktunaxa, and Syilx peoples.

Gabriella Richardson

I am a Public Issues Anthropology Masters student at the University of Guelph. My Masters dissertation examines how conservation strategies affect relationships between jaguars and people in Ecuador. My research interests include multispecies ethnography, conservation, and the Anthropocene. I am passionate about community development and engagement. I have completed research projects on gender-based violence with non-governmental organizations in Papua New Guinea. I have also developed environmental/conservation education programs for youth in Ecuador's Amazonia and on Christian Island in Ontario, Canada.

Brooklyn Rushton

I am a PhD Candidate at Wilfrid Laurier University living and working in Jasper National Park studying regenerative tourism practices in Canada's mountain regions. My passion for the protection of and care for mountain landscapes is shaped from my experience recreating in and learning from the vast ecosystems that mountain regions offer. I find mountains inspiring and believe

tourism in mountain regions can be an immense opportunity to connect people to nature, if done in a sustainable and regenerative way that gives back to the environment and local communities.

María Elisa Sánchez

I am a wetland scientist born and raised in the Ecuadorian Andes, where finding my love for the mountains came as naturally to me as breathing. I am interested in understanding how mountain wetlands (specifically peatlands) function, and how they are being impacted by humans—including through the current climate emergency. Since 2014 I've been a student and steward of mountain peatlands. I developed my Masters project on carbon flux dynamics in high altitude peatlands in the Ecuadorian Andes. I am currently a PhD candidate studying how climate change is affecting peatlands in the Canadian Rocky Mountains. I have also volunteered as Americas Representative and most recently as Coordinator of Youth Engaged in Wetlands, a volunteer-based network committed to the conservation, protection, and wise-use of wetlands. My objective is to bring visibility to mountain wetlands which are understudied and might not be as extensive as in other ecoregions of the world, but that carry great importance in bringing landscape heterogeneity, biodiversity, and control of hydrological and carbon cycling processes, with far reaching consequences in the ecological health at the basin scale.

Richard Schuster

I am from Austria and grew up with mountains. My whole life mountains have been a fixture for me and if I don't see a mountain something very important is missing. I've have spent my childhood either climbing mountains or riding down on my skis. The passion for mountains has never left me and most of my vacations are spent on or around mountains. I am the Director of Spatial Planning and Innovation at the Nature Conservancy of Canada (NCC). I am responsible for the development and implementation of NCC's conservation planning framework, strategic conservation planning research efforts and new conservation technology initiatives. I also provide leadership to improve best practices and skills for spatial planning practitioners, and to creatively respond to new and emerging conservation

questions. I have over 15 years of experience working on systematic conservation planning and spatial modelling for conservation purposes. I have developed innovative techniques to prioritize conservation areas and strategies and have a strong background in technology initiatives such as quantitative ecology and statistics; scientific software development and computing; big spatial data analysis; prioritization and optimization for conservation. I hold a PhD from the University of British Columbia in systematic conservation planning.

Joseph Shea

I am an Associate Professor at the University of Northern British Columbia in Prince George, on the traditional and unceded territory of the Lheidli T'enneh. Mountains are a central theme in my research, and I have been fortunate to travel, work, and play in the mountains for most of my career, with field sites in the Canadian Rockies and Interior Ranges, the north and south Coast Mountains, and the Himalayas. My academic work is focused on the glaciers, snowpacks, meteorology, and hydrology of mountain regions, and the impacts of climate change on each of these components. I bring to the CMA a broad background in mountain science and physical geography, a curious and interdisciplinary viewpoint, and the sense of wonder and humility that the mountains have provided me. And the CMA has brought me a deeper understanding of the importance of Indigenous knowledge and viewpoints, and the motivation to work closely and co-generate knowledge with Indigenous partners, on whose lands I live and work.

Pasang Dolma Sherpa

I am the Executive Director of Center for Indigenous Peoples' Research & Development (CIPRED) and have been working with Indigenous Peoples, Women and Local Communities for the recognition of Indigenous Peoples' knowledge, cultural values and customary institutions that contributed for sustainable management of forest, ecosystem, biodiversity, and climate resilience for more than a decade. I obtained my PhD from Kathmandu University in 2018 on Climate Change Education and its Interfaces with Indigenous Knowledge. I have served as Co-Chair of International Indigenous Peoples' Forum on Climate

Change (IIPFCC), Co-Chair of Facilitative Working Group (FWG) of Local Communities and Indigenous Peoples' Platform (LCIP) of the United Nations Framework Convention on Climate Change (UNFCCC), and the board of UN-REDD, Participant Committee of FCPF, World Bank. Presently, I am the Chair of IUCN CEESP Specialist Group on Indigenous Peoples' Customary and Environmental Laws and Human Rights (SPICEH), visiting faculty member at Kathmandu University, and am involved in representing different forums, networks, and institutions at both national and international levels.

Daniel Sims

I am Tsek'ehne, a member of the Tomah-Izony family of the Tsay Keh Dene nation, and academic co-lead of the National Collaborating Centre for Indigenous Health. As an associate professor in First Nations Studies at the University of Northern British Columbia my research focuses on northern British Columbia and I have worked extensively with my own community as well as the related communities of Kwadacha and McLeod Lake. Both Tsek'ehne and Tsay Keh Dene mean people of the "Rocky" mountains. As such, mountains have been central to my work regardless of whether I'm examining the impacts of the W.A.C. Bennett Dam or considering numerous failed economic developments within the Traditional Territory.

Niiyokamigaabaw Deondre Smiles

I am Anishinaabe (Leech Lake Band of Ojibwe) and a member of the Bullhead clan. I am an Assistant Professor in the Department of Geography at the University of Victoria. I have a deep interest in Indigenous geographies and land/place-based knowledge systems. As a visitor to these lands, relationships to mountains and their roles in Indigenous knowledge systems is of keen interest to me, as it is important for me to behave in good relations with the nations that call these lands home. My work in the CMA allows me to act in such good relation.

Tonya Smith

I am currently a postdoctoral research fellow at the University of British Columbia's Faculty of Forestry, where I recently completed my PhD in Forestry. I am a non-binary third generation Canadian settler of Irish-Scottish-German ancestry residing on the unceded territories of the Lekwungen and Lil'wat Nations. My research is about the relationships between human health and forests. My dissertation work analysed how forestry governance influences these relationships, following lessons from Lilwat First Nationled research about Indigenous food security and sovereignty. I seek to untangle and inspect the many ways that settler-colonial land management continues to constrain Lilwatúl (citizens of Lil'wat) livelihoods and relationships with the land. This work is done with the intention of supporting the restoration of land-based health practices led by Indigenous peoples. The first of my family to attend university, I am passionate about accountability, reciprocity and relationships in qualitative, community-led research. I am also interested in inclusive and accessible approaches to instruction in university courses. My previous research includes performing sustainability impact assessments on forestry value chains, assessing provincial government practices regarding scientific integrity, documenting Indigenous knowledge about food and medicinal plants and analyzing Payments for Ecosystem Services programs.

Lauren Somers

I am an assistant professor and hydrology researcher at Dalhousie University in the Civil and Resource Engineering Department. My first exposure to mountain research was during my PhD at McGill University, where I focused on groundwater hydrology of the Peruvian Andes. Mountain groundwater continues to be one of my core research themes, which I approach through historical data compilation, field studies in the low mountains of Eastern Canada, and international collaborations focused on the Andes and Himalayas. My other research areas include wetland carbon exchanges and climate change adaptation, all with the goal of supporting sustainable management of our water resources and precious natural landscapes.

Chris Springer

I am an independent researcher and a contracting archaeologist in British Columbia's cultural resource management sector. Broadly speaking, my research interests focus on the social organization

and interaction of ancestral First Peoples on the Pacific Northwest Coast of North America. Specifically, my graduate work at Simon Fraser University examined the relationships between past built environments and social networks within the Salish Sea region using a landscape approach that emphasized the concepts of territory, tenure, and territoriality. This experience gave me a greater understanding and appreciation for how past Indigenous communities engaged with their physical world including the high places. Mountains were not simply resource locales and the frames of travel corridors; they were, and continue to be, named places that carry history and make manifest the stories of transformation and creation.

Kyra St. Pierre

Growing up in eastern Ontario, I never fully appreciated the role that mountains played in the landscapes of my youth until I began my undergraduate studies in environmental science. Since then, the mountains have been omnipresent in my life, as I relocated first to Alberta and then British Columbia for my graduate and postdoctoral studies, spending lots of time in the mountains of northern Nunavut, southern Greenland, and coastal British Columbia. Now an assistant professor at the University of Ottawa, my research focuses on the cycles of carbon, nutrients, and contaminants from mountain headwaters to the coastal oceans and back again. Fundamentally, I study connections—between places, land, water, and air—and I feel strongly that bringing together multiple knowledge systems, disciplines and perspectives is what is needed to ensure the health and wellbeing of mountain systems now and in the future.

Madison Stevens

As a European descendant raised in a rural community near Bozeman, on the ancestral homelands of the Apsáalooke (Crow), Tséstho'e (Cheyenne), Siksikaitsitapi (Blackfoot), and Séliš (Salish) Peoples, I grew up profoundly curious about the connection between human communities and the wild mountain places around me. This curiosity has led me to pursue research as a social scientist, focused on community-led biodiversity conservation, ecological restoration, and human-wildlife coexistence, particularly in

mountain systems. I earned my PhD in 2023 at the Institute for Resources, Environment, and Sustainability, University of British Columbia, where my research explored environmental decision-making in the contexts of community forest governance in the Indian Himalayas and nonprofit conservation planning in Canada. I have helped to coordinate the CMA as the Project Assistant, supporting efforts to respectfully bring together multiple knowledge systems and facilitate communication across our large, diverse project team. I am currently a Postdoctoral Research Scholar at Boise State University working on a project on Indigenous-Led Ecological Restoration (ILER), researching Blackfoot-led restoration of iinnii, buffalo to their transboundary homelands. Away from the desk, I take any chance I get to play outside in the mountains and connect with the wild world.

Karson Sudlow

I am a graduate student at the University of Alberta where I study how melting glaciers affect alpine stream ecosystems. As an alpine biologist, I explore the Rocky Mountains of Alberta and BC to better understand the relationships between glaciers, the streams, and lakes they feed, and the organisms living within them. Mountains have taught me to watch my step crossing alpine streams. You never know what, or who, you might be stepping on.

Yan Tapp

Member and elected councillor of the Micmac Nation of Gespeg, I am the bearer of various political files in terms of community hunting and fishing, land occupancy and commercial fisheries. I graduated last May from a certification in Indigenous governance concerning transformational leadership, my interest in schooling allows me to evolve. Passionate about cultural activities in my community, I am involved in negotiations with the provincial ministry to obtain a camp and a community activity area in the Chic-Chocs reserve. We also currently have new hunting and fishing agreements in the SEPAQ sectors. Involved in commercial fisheries since the Marshall judgment, my experience led me to the organization of MWIFMA. Since 2018, I plan and finance training in commercial or experimental fishing according to the needs of the indigenous communities

of Gespeg, Gesgapegiag and Walostoqiyik Wahsipekuk. My role as an Indigenous Liaison Officer is to collaborate with the Canadian Coast Guard and the respective MWIFMA communities.

Julie M. Thériault

I am a full professor in atmospheric sciences and a Canada Research Chair in Extreme Winter Weather Events at the Department of Earth and Atmospheric Sciences at the Université du Québec à Montréal (UQAM). I received a bachelor's degree in physics from the Université de Moncton (New Brunswick, Canada) and MSc and PhD in atmospheric sciences from McGill University (Québec, Canada). My primary research objective is to better understand winter precipitation formation, distribution, and evolution with climate change. I conducted many research projects to better understand precipitation phase transitions in complex terrain over western Canada and freezing rain over eastern Canada using atmospheric simulations, field experiments, and theoretical approaches. I have trained more than 50 students, including undergraduate, MSc and PhD students, postdocs, and research assistants, many of whom were awarded national and provincial fellowships for their excellent academic records. I published more than 49 publications, along with a book chapter on mountain meteorology. I am also a member of the International Commission on Clouds and Precipitation and the president of the Canadian Meteorological and Oceanographic Society (CMOS) scientific committee.

Andrew Trant

I am an associate Professor in the School of Environment, Resources and Sustainability at the University of Waterloo, in Ontario, on the Traditional Territory of the Neutral, Anishinaabeg, and Haudenosaunee peoples. My research explores the ecological and cultural impacts of long-term environmental change in mountainous regions from the Coast Mountains of British Columbia to the Torngat Mountains of Nunatsiavut, northern Labrador. What I am most interested in is how these ecological changes affect livelihoods and cultural important species, such as caribou. To do this, I use a variety of methods including ethnoecology, repeat photography, dendrochronology, experimental ecology, and remote sensed data analyses. Working closely with Indigenous

Nations, and Territorial/Provincial/Federal governments, my co-developed research makes contributions to ecological theory at regional and global scales, and to the discourse around ecosystem management and conservation policy.

Steven M. Vamosi

I am a second-generation Canadian, born to Hungarian refugees who fled Soviet occupation of their ancestral homelands seeking a better life across the pond. I am Professor of Population Biology in the Department of Biological Sciences and Scientific Director of the Biogeoscience Institute at the University of Calgary. In both roles, I strive to work collaboratively with local Indigenous communities, primarily in Alberta and the Yukon. Between graduate school at the University of British Columbia (1994-2001) and my faculty position at the University of Calgary (2003 to present), I have lived just over half my life near mountain ranges (specifically, Coast and Rocky Mountains). Mountains and the elevational gradients associated with them have long fascinated me. Members of my group and I have published research on montane and foothills species, including insects, plants, trout, and salamanders, often with a focus on evolutionary and conservation ecology. I am particularly concerned by the spread of exotic species, habitat loss, and the implications of climate change for heat-sensitive montane species that are prone to the "escalator to extinction".

Vincent Vionnet

I am a Research Scientist at the Meteorological Research Division of Environment and Climate Change Canada (ECCC) based in Montréal, Québec. I study cold regions hydrology and meteorology with a deep passion for snow and how it interacts with our environment. I grew up in the Jura mountains in Eastern France where I discovered the joys of winter and the beauty of snowy landscapes. I had the chance to actually study mountain snow during my Masters and PhD at the French Meteorological Institute where I spent 4 years observing and modelling blowing snow in the French Alps. I came to Canada for the first time in 2013 to study mountain meteorology in the Canadian Rockies and to test the next generation of meteorological models in this region. Since 2014, I have worked in several research

institutions (Snow Research Center, France; University of Saskatchewan, Canada; ECCC, Canada) where snow and mountains have always been at the core of my research.

John Waldron

I grew up in the UK, where I became interested in Earth science through a teenage enthusiasm for collecting fossils. I attended Cambridge and Edinburgh Universities and carried out graduate research in the Taurus Mountains of western Turkey. In 1981, I came to Canada as a postdoctoral fellow at Memorial University of Newfoundland. From 1981 until 2000 I worked at Saint Mary's University, Halifax, Nova Scotia, before moving as a professor to the University of Alberta in Edmonton. I teach introductory Earth science, tectonics, structural and field geology, and I developed an outdoor classroom, the Geoscience Garden, at the University of Alberta. My research deals with the deformed sedimentary rocks of mountain belts from both sedimentary and structural geological perspectives, with a particular focus on the Appalachian orogen of Atlantic Canada and its continuation as the Caledonides of the British Isles. I received the Gesner medal of the Atlantic Geoscience Society in 2009. I have extended this research to studies of sedimentation and tectonics in the Archean of the Slave Craton in the Canadian Shield, in the Cordillera of northern British Columbia, and in the foothills and foreland basin of the Nepal Himalaya.

Gabrielle Weasel Head

Oki my name is Tsa'piinaki, Dr. Gabrielle Weasel Head and I am a member of the Kainai Nation, Blackfoot Confederacy. An Assistant Professor in Indigenous Studies with Mount Royal University, my teaching background includes instructing on topics around First Nation, Métis, and Inuit history and current issues, Indigenous Studies (Canadian and International perspectives), Indigenous cross-cultural approaches, and Indigenous research methods and ethics. Research interests include meaningful assessment in higher education, Indigenous homelessness, intercultural parallels in teaching and learning research, Indigenous lived experience of resilience, Indigenous community-based research, parenting assessment tools reform in child welfare, anti-colonial theory, and anti-racist pedagogy. I am passionate

and deeply committed to contributing to Indigenous cultural continuity and sustainability. My work with the CMA is but one area wherein my embodied perspectives on balance and maintaining good relations are mobilized in generative and mutually beneficial ways.

Sonia Wesche

I am an Associate Professor in Environmental Studies, Geography and Indigenous Studies at the University of Ottawa, located on the traditional unceded territory of the Algonquin Anishnaabeg people. As a scholar of settler origins, I work collaboratively with Indigenous communities, organizations, and other partners in Arctic and sub-Arctic environments to better understand local- and regional-scale impacts of environmental change and pathways for fostering adaptive capacity. My interdisciplinary research is primarily community-based, and focuses on linkages among environmental change, food and water security, and health and well-being. I am humbled and awed by mountain environments and am deepening my understanding of human and more-than-human relationships in the mountains of Lhù'ààn Mân Ku Dán keyi, Kluane First Nation Traditional Territory, through an ongoing research partnership in the south-west Yukon.

Philippus Wester

I was born in the Netherlands, a low-lying country largely consisting of rivers, canals, polders, and embankments, but grew up in the mountains of the Eastern Highlands Province of Papua New Guinea. This intercultural upbringing instilled a deep respect in me for Indigenous Peoples and cultures and a love for mountains and waters. I studied international land and water management at Wageningen University in the Netherlands and have lived and worked in five continents, sometimes in deltas (Bangladesh, the Netherlands) but more frequently in mountains (Papua New Guinea, Mexico, Ethiopia, Nepal). I joined the International Centre for Integrated Mountain Development (ICIMOD) in 2013, living and working in Kathmandu, Nepal. During this time I coordinated the Hindu Kush Himalayan Monitoring and Assessment Programme (HIMAP), producing the first Comprehensive Assessment of the Hindu Kush Himalaya published in 2019. I also had the honour to serve as Lead Author of Chapter 1 of the Working Group II contribution to the IPCC's Sixth Assessment Report as well as the co-Lead of Cross-Chapter Paper on Mountains in that report. Based on my experience with assessments, I was honoured to be an international advisor to the CMA.

Nicole J. Wilson

I am a white scholar of settler origin. Since 2020, I have been an Assistant Professor and Canada Research Chair Tier II in Arctic Environmental Change and Governance in the Department of Environment and Geography and the Centre for Earth Observation Science at the University of Manitoba. I hold a PhD in Resource Management and Environmental Studies from the University of British Columbia and a MS in Natural Resources from Cornell University. I am an environmental social scientist. My research examines the many ways that Arctic and sub-Arctic Indigenous peoples are asserting their self-determination and revitalizing their governance systems to respond to stressors including climate change. Long-term partnerships with Indigenous governments and organizations are central to my community-based research approach. I am passionate about water governance and politics. Indigenous water rights, responsibilities and authorities are central to my research program. I have worked in partnership with Yukon First Nations to examine the implications of the water rights acknowledged in their modern land claim agreements for water governance and decision-making in the territory. I am also the co-chair of the UM United Nations Academic Impact Hub for Sustainable Development Goal 6 on Clean Water and Sanitation at the University of Manitoba.

Matthew Wiseman

I am a Lecturer in North American Studies in the Department of History at the University of Waterloo. I attained my PhD in History from Wilfrid Laurier University and the Tri-University Graduate Program in History in 2017 before holding a SSHRC Postdoctoral Fellowship at the University of Toronto (2017–19), an AMS Postdoctoral Fellowship at Western University (2019–20), and a Banting Postdoctoral Fellowship at St. Jerome's University (2020–22). As a historian of modern Canada and the United States, my research concentrates on the history of science, technology,

and medical research ethics in northern and Arctic contexts. I am the author of a forthcoming monograph entitled Frontier Science: Northern Canada, Military Research, and the Cold War, 1945–1970 (UTP, 2024), which explores the social and environmental consequences of acclimatization research and other military-sponsored science projects carried out in Indigenous communities near Hudson Bay. My research on the history of science in the Cold War has also appeared in such leading journals as the Canadian Historical Review, International Journal, and Scientia Canadensis. In addition to my professional work, I volunteer as the Communications Director for the Canadian Science and Technology Historical Association.

Kristine Wray

I am the Canadian Mountain Network Fellow in Indigenous Knowledge and the Decolonization of

Science, as well as a PhD Candidate in Environmental Sociology. I am working with Dr. Brenda Parlee in the Faculty of Agriculture, Life and Environmental Sciences (ALES) at the University of Alberta. A proud member of the Métis Nation of Alberta, my graduate work has focused on Indigenous approaches to resource management, specifically commercial and traditional fisheries (Great Slave Lake) and caribou co-management (Porcupine herd). I have a particular interest in the interface of Indigenous Knowledge and science. Finally, I am developing and teaching a new course in ALES called RSOC 260: Indigenous Foundations for the Environmental and Conservation Sciences.

Note: Bios for Melissa Quesnelle and Douglas Kootenay were not available at the time of publication

APPENDIX II: LEARNING CIRCLE CONTRIBUTIONS

Video recordings of oral knowledge contributions from the CMA Learning Circle are alphabetized by last name and formatted according to protocols for citing oral knowledge developed by Lorisia MacLeod, 2021. In-text reference numbers are included in blue in brackets after the citation, prior to the URL.

Andrew, L. Nę K'a Dene Ts'_Il_I. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 3.3, LC 3.12]

https://digitalcollections.ucalgary.ca/AssetLink/68ka5x5bj4vpkq430l5678018qsx0280.mp4

Andrew, L. Nę K'ə Dene Ts'ılı. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 4.7, LC 5.33]

https://digitalcollections.ucalgary.ca/AssetLink/a7te0i88l34o3ah24e4n637257k27b0m.mp4

Andrew, L. Nę K'a Dene Ts'ılı. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 1. Banff, AB. May 24–26, 2022. [LC 6.4]

https://digitalcollections.ucalgary.ca/AssetLink/4fx685ae11k05keoycfa8087a8381x3f.mp4

Desmarais, G. Inuit, Kinngat, Nunavut. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 3.13]

https://digitalcollections.ucalgary.ca/AssetLink/8r43by8t82m2o245r0hknpj4v7g6764w.mp4

Desmarais, G. Inuit, Kinngat, Nunavut. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 4.10, LC 4.17, LC 4.24]

https://digitalcollections.ucalgary.ca/AssetLink/11b3046y1n15c4uj3bk1urc8x2a760iw.mp4

Desmarais, G. Inuit, Kinngat, Nunavut. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 2. Banff, AB. May 24–26, 2022. [LC 4.11]

https://digitalcollections.ucalgary.ca/AssetLink/ib07464n06064738n6433y0n6jq270so.mp4

Dicker, M. Inuit, Nunatsiavut. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 3.21, LC 4.19]

https://digitalcollections.ucalgary.ca/AssetLink/05k3e7u7ciqxn58860clwj0d3i2tn22i.mp4

Dicker, M. Inuit, Nunatsiavut. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 4.31]

https://digitalcollections.ucalgary.ca/AssetLink/8a3ww703532d11hhgh5qej7ji338u6xo.mp4

Dicker, M. Inuit, Nunatsiavut. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 2. Banff, AB. May 24–26, 2022. [LC 2.16, LC 4.28, LC 4.30]

https://digitalcollections.ucalgary.ca/AssetLink/y3n2wlu3135mgv03n4u3vy0bk486c608.mp4

Jerome, P.N. Micmacs of Gesgapegiag. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 2.10, LC 2.17, LC 5.35]

https://digitalcollections.ucalgary.ca/AssetLink/wtk230523qil8bdcf7n4fi23cip22cr3.mp4

Jerome, P.N. Micmacs of Gesgapegiag. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 3.4]

https://digitalcollections.ucalgary.ca/AssetLink/814y8tck8fx63076ii336436x5vx6h02.mp4

Jerome, P.N. Micmacs of Gesgapegiag. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 2. Banff, AB. May 24–26, 2022. [LC 3.18]

https://digitalcollections.ucalgary.ca/AssetLink/8i4mle667umac0t2fxl24r8pm2t2bi5q.mp4

Jerome, P.N. Micmacs of Gesgapegiag. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 2.4, LC 2.19, LC 3.8, LC 4.8, LC 4.12, LC 4.22, LC 4.27, LC 5.39]

https://digitalcollections.ucalgary.ca/AssetLink/40iw2okbwy468vpfo54q25f5myqo154y.mp4

Jerome, P.N. Micmacs of Gesgapegiag. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 2. Banff, AB. May 24–26, 2022. [LC 4.26]

https://digitalcollections.ucalgary.ca/AssetLink/4nwirbtew5771ph4r02103erpnv1d453.mp4

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Jerome, P.N. Micmacs of Gesgapegiag. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 3. Banff, AB. May 24–26, 2022. [LC 5.41]
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https://digitalcollections.ucalgary.ca/AssetLink/aj27a43x8giu883m72ifa214h5y286jy.mp4

Joe, P. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 2.5, LC 5.36]

https://digitalcollections.ucalgary.ca/AssetLink/i66npq2x6n42q1gjpveupinkq1q62pa5.mp4

Joe, P. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 2.9, LC 2.20, LC 4.23]

https://digitalcollections.ucalgary.ca/AssetLink/p5848o5128jje6f7jfiw2qw3cws3o44h.mp4

Johnson, G.M.J. Lhu'ààn Mân Ku Dań. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 2.23, LC 5.4, LC 5.5, LC 5.8, LC 5.9, LC 5.13, LC 5.28, LC 5.32, LC 5.43] https://digitalcollections.ucalgary.ca/AssetLink/j5hp0872u0374p276mvoyq83681u3rih.mp4

Johnson, G.M.J. Lhu'ààn Mân Ku Dań. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 2. Banff, AB. May 24–26, 2022. [LC 2.2, LC 5.1, LC 5.22, LC 5.24, LC 5.30]

https://digitalcollections.ucalgary.ca/AssetLink/v0k5dnpxd88yx8708odd2mawbt0404de.mp4

Johnson, G.M.J. Lhu'ààn Mân Ku Dań. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 3. Banff, AB. May 24–26, 2022. [LC 2.13, LC 3.20, LC 5.10]

https://digitalcollections.ucalgary.ca/AssetLink/7p3q6w315y1capetqv1f2e00jw1hk3rk.mp4

Johnson, G.M.J. Lhu'ààn Mân Ku Dań. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 2.3, LC 3.1]

https://digitalcollections.ucalgary.ca/AssetLink/4yw840s5i2048jeg61r708b7jyvfh058.mp4

Johnson, G.M.J. Lhu'ààn Mân Ku Dań. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 1.1, LC 3.10, LC 3.22, LC 4.1, LC 4.5, LC 4.18] https://digitalcollections.ucalgary.ca/AssetLink/4f7d426l56002b0b4j4pej085uhc47nd.mp4

Johnson, G.M.J. Lhu'ààn Mân Ku Dań. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 2. Banff, AB. May 24–26, 2022. [LC 2.18, LC 4.15]

https://digitalcollections.ucalgary.ca/AssetLink/u2b2yayq648tloml73208dnl7o7b0732.mp4

Johnson, G.M.J. Lhu'ààn Mân Ku Dań. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 1. Banff, AB. May 24–26, 2022. [LC 3.24, LC 6.3, LC 6.7]

https://digitalcollections.ucalgary.ca/AssetLink/a4u75hxd2q525k10hq5qqt1hkko31o6f.mp4

Lightning, K.L. Nehiyaw, Samson Cree First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 5.14]

https://digitalcollections.ucalgary.ca/AssetLink/imb4opk3dd2hr0b2728r3gpw7br2wg3s.mp4

Lightning, K.L. Nehiyaw, Samson Cree First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 4.9, LC 4.13]

https://digitalcollections.ucalgary.ca/AssetLink/jfu4bxk8m52b57r7w8y228wpj76o0044.mp4

Lightning, K.L. Nehiyaw, Samson Cree First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 1. Banff, AB. May 24–26, 2022. [LC 2.14]

https://digitalcollections.ucalgary.ca/AssetLink/eurxmd108c658068l6v4kn31kh2bsjp5.mp4

Mayes, B. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 2.7, LC 2.21, LC 4.20, LC 5.2, LC 5.3, LC 5.27]

https://digital collections.ucal gary.ca/AssetLink/fsp7ljmp5804soo05a5g41xefo62840i.mp4

Mayes, B. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 2. Banff, AB. May 24–26, 2022. [LC 5.23]

https://digitalcollections.ucalgary.ca/AssetLink/3qsxarj56e161o1n2mdt75d8nile842l.mp4

Mayes, B. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 3. Banff, AB. May 24–26, 2022. [LC 5.25, LC 5.31]

https://digitalcollections.ucalgary.ca/AssetLink/4i2078s863f1c6e2o3e0du030s2621gm.mp4

Mayes, B. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 3.5]

https://digitalcollections.ucalgary.ca/AssetLink/s2kc0y8k3rfo6654hr0u4o047885557x.mp4

Mayes, B. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 4.4]

https://digitalcollections.ucalgary.ca/AssetLink/o7y47m6v6d83306401h6225xd3832qav.mp4

Mayes, B. Kwanlin Dün First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 1. Banff, AB. May 24–26, 2022. [LC 6.2]

https://digitalcollections.ucalgary.ca/AssetLink/dpij5by4b3111ho351hq3088hb751485.mp4

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Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 5.7]
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https://digitalcollections.ucalgary.ca/AssetLink/20656bqi6sao36x742w368681010211g.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 2. Banff, AB. May 24–26, 2022. [LC 2.12, LC 5.29]

https://digitalcollections.ucalgary.ca/AssetLink/mv04l767g7p28311l3tm331st21ert3w.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 3. Banff, AB. May 24–26, 2022. [LC 5.19]

https://digitalcollections.ucalgary.ca/AssetLink/1e60t1780o1661e2p44eh537r00663no.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 2.1, LC 3.9, LC 3.11, LC 3.16] https://digitalcollections.ucalgary.ca/AssetLink/t4tqsf4r2uw77bt4sh4fqn802x21hd6n.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 2. Banff, AB. May 24–26, 2022. [LC 2.8]

https://digitalcollections.ucalgary.ca/AssetLink/01ts4184kaw0xk73s718p803m65w128e.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 3. Banff, AB. May 24–26, 2022. [LC 3.2]

https://digitalcollections.ucalgary.ca/AssetLink/883d2131icu00l1o204w177448m0s8hg.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 4. Banff, AB. May 24–26, 2022. [LC 2.6]

https://digitalcollections.ucalgary.ca/AssetLink/ach1vpap5482k35ke463b237678x7xn6.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 4.6]

https://digitalcollections.ucalgary.ca/AssetLink/803h5h836m0kih3fef15s5533ro2mud1.mp4

Melting Tallow, H. Siksika Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 1. Banff, AB. May 24–26, 2022. [LC 1.2]

https://digitalcollections.ucalgary.ca/AssetLink/q64ktn74ur8x2h7q62f45lah875407nc.mp4

Pascal, W. Teetl'it Gwich'in. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 2.11, LC 2.22, LC 5.6, LC 5.26, LC 5.37]

https://digitalcollections.ucalgary.ca/AssetLink/w54h4pc1qo884a8xscasn4e5d31nb10q.mp4

Pascal, W. Teetl'it Gwich'in. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 2. Banff, AB. May 24–26, 2022. [LC 4.14]

https://digitalcollections.ucalgary.ca/AssetLink/2keq327fo223e20yw2l08006qgtyj6f6.mp4

Patterson, T. Lower Nicola Indian Band, Scwexmx, Nlaka'pamux (Thompson) Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 5.21] https://digitalcollections.ucalgary.ca/AssetLink/v662nueh2711e0n0r33q31jpbax0fl5k.mp4

Patterson, T. Lower Nicola Indian Band, Scwexmx, Nlaka'pamux (Thompson) Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 4.21] https://digitalcollections.ucalgary.ca/AssetLink/ck83sfqy3y552jgb3722cr03tyrsrc88.mp4

Pheasant, S. Anishinaabe. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 4.25]

https://digitalcollections.ucalgary.ca/AssetLink/cl6a2k5204qc3i180kcd7l1adxkf0044.mp4

Saunders Dahl, D. Métis (Red River Ojibway). Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 5.11, LC 5.12, LC 5.15, LC 5.44]

https://digitalcollections.ucalgary.ca/AssetLink/1f041dq7e03k26314812hplw2m8wr5m2.mp4

Sims, D. Tsay Keh Dene First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 5.20]

https://digitalcollections.ucalgary.ca/AssetLink/1r3qd1tnukos6gnlb050sh5m57r508hj.mp4

Sims, D. Tsay Keh Dene First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 2.15, LC 4.2, LC 5.34]

https://digitalcollections.ucalgary.ca/AssetLink/d251mb4u20tl3x2o77uw5pfvf3y4d450.mp4

Sims, D. Tsay Keh Dene First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 2. Banff, AB. May 24–26, 2022. [LC 4.29]

https://digitalcollections.ucalgary.ca/AssetLink/8c75y325u4ypuaadnaq862u2y6d4sq62.mp4

Sims, D. Tsay Keh Dene First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 1. Banff, AB. May 24–26, 2022. [LC 3.17, LC 3.23]

https://digitalcollections.ucalgary.ca/AssetLink/2fngxlr4p05y6648ut3qioey7vvnu45e.mp4

- Sims, D. Tsay Keh Dene First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 2. Banff, AB. May 24–26, 2022. [LC 6.6]
 - https://digitalcollections.ucalgary.ca/AssetLink/jp1u4if07pr7556dw026fnf6w0s52jrc.mp4
- Tapp, Y. Gespeg First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 5.16, LC 5.42]
 - https://digitalcollections.ucalgary.ca/AssetLink/o1bs4r2xurnm7pksp7hn5rttlg7ed012.mp4
- Tapp, Y. Gespeg First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountains as Homelands, 1. Banff, AB. May 24–26, 2022. [LC 3.6, LC 3.14, LC 3.19]
 - https://digitalcollections.ucalgary.ca/AssetLink/253852pt6w17ai7kprpr2x13v853qc6i.mp4
- Tapp, Y. Gespeg First Nation. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 5.17, LC 5.40]
 - https://digitalcollections.ucalgary.ca/AssetLink/1k1wggn03l8xqetlti68w7m87g836302.mp4
- Weasel Head, G. Kainaiwa Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Mountain Environments, 1. Banff, AB. May 24–26, 2022. [LC 5.18]
 - https://digitalcollections.ucalgary.ca/AssetLink/7s41ale1f4q04vn50dy2otghnp08lnh6.mp4
- Weasel Head, G. Kainaiwa Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 1. Banff, AB. May 24–26, 2022. [LC 1.3, LC 5.38]
 - https://digitalcollections.ucalgary.ca/AssetLink/8s2085shi43k76qtp16sy8xfjv3gr1qb.mp4
- Weasel Head, G. Kainaiwa Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 2. Banff, AB. May 24–26, 2022. [LC 4.3, LC 4.16]
 - https://digitalcollections.ucalgary.ca/AssetLink/60x0cwd0kg5oyj5a14uc0q4e7s2k8356.mp4
- Weasel Head, G. Kainaiwa Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Gifts of the Mountains, 3. Banff, AB. May 24–26, 2022. [LC 3.15]
 - https://digitalcollections.ucalgary.ca/AssetLink/vu21eu662e0f70v85sw0448w38u3q0u6.mp4
- Weasel Head, G. Kainaiwa Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 1. Banff, AB. May 24–26, 2022. [LC 6.1, LC 6.5]
 - https://digitalcollections.ucalgary.ca/AssetLink/46gm0a858vdx04jw374boja7n818778k.mp4
- Weasel Head, G. Kainaiwa Nation, Blackfoot Confederacy. Oral teaching, Canadian Mountain Assessment Learning Circle: Desirable Mountain Futures, 2. Banff, AB. May 24–26, 2022. [LC 3.7]
 - https://digitalcollections.ucalgary.ca/AssetLink/gd2v04jkw5reqdsdsijqmf6y8o11245q.mp4

APPENDIX III: MAP DATA

Canadian Mountain Assessment (CMA) maps were designed by Chris Brackley and Angi Goodkey (As the Crow Flies cARTography), as well as Jiaao Guo for Figures 1.1, 1.2, 1.3, 1.4, and 1.11.

Data below are for maps produced by the CMA. Data for a limited number of other maps that were not produced by the CMA are not included here, as data sources are cited in map captions.

Base data for maps

Natural Earth. (2021). Prisma Shaded Relief (Version 4.2). Retrieved from https://www.naturalearthdata.com/50m-prisma-shaded-relief/prisma-shaded-relief/

Natural Resources Canada. (2016). Boundary Polygons; Boundary Lines, Atlas of Canada National Scale Data 1:5,000,000. Retrieved from: https://open.canada.ca/ data/en/dataset/b8477997-51db-5ee8-91c8-52af2a2d7a96

Chapter 1

Figure 1.1

McDowell, G., & Guo, J. (2021). A Nationally Coherent Characterization and Quantification of Mountain Systems in Canada. *Mountain Research and Development*, 41.0(2), R21–R31. https://doi.org/10.1659/MRD-JOURNAL-D-20-00071.1

Sayre, R., Karagulle, D., Krauer, J., Payne, D., Adler, C., & Cress, J. (2020). Global Mountain Explorer. Retrieved from https://rmgsc.cr.usgs.gov/gme/

Figure 1.2

McDowell, G., & Guo, J. (2021). A Nationally Coherent Characterization and Quantification of Mountain Systems in Canada. *Mountain Research and Development*, 41.0(2), R21–R31. https://doi.org/10.1659/MRD-JOURNAL-D-20-00071.1

Native-Land.ca (2020). Native-Land API. Retrieved from https://native-land.ca/api-docs/

Figure 1.3

McDowell, G., & Guo, J. (2021). A Nationally Coherent Characterization and Quantification of Mountain Systems in Canada. *Mountain Research and Development*, 41.0(2), R21–R31. https://doi.org/10.1659/MRD-JOURNAL-D-20-00071.1

Native-Land.ca (2020). Native-Land API. Retrieved from https://native-land.ca/api-docs/

Figure 1.4

McDowell, G., & Guo, J. (2021). A Nationally Coherent Characterization and Quantification of Mountain Systems in Canada. *Mountain Research and Development*, 41.0(2), R21–R31. https://doi.org/10.1659/MRD-JOURNAL-D-20-00071.1

CIESIN. (2020). Gridded Population of the World, Version 4 (GPWv4): Population Density, Revision 11. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). Retrieved from https://doi.org/10.7927/H49C6VHW

Figure 1.8

Canadian Mountain Assessment primary data (2023).

Figure 1.11

McDowell, G., & Guo, J. (2021). A Nationally Coherent Characterization and Quantification of Mountain Systems in Canada. *Mountain Research and Development*, 41.0(2), R21–R31. https://doi.org/10.1659/MRD-JOURNAL-D-20-00071.1

Sayre, R., Karagulle, D., Krauer, J., Payne, D., Adler, C., & Cress, J. (2020). Global Mountain Explorer. Retrieved from https://rmgsc.cr.usgs.gov/gme/

Agriculture and Agri-Food Canada (2016). Terrestrial Ecozones of Canada. Ottawa, Canada: Retrieved from https://open.canada.ca/data/en/dataset/7ad7ea01-eb23-4824-bccc-66adb7c5bdf82020.

Chapter 2

Figure 2.3

Hasterok, D., Halpin, J. A., Collins, A. S., Hand, M., Kreemer, C., Gard, M. G., & Glorie, S. (2022). New Maps of Global Geological Provinces and Tectonic Plates. Earth-Science Reviews, 231, 104069. https://doi.org/10.1016/j.earscirev.2022.104069

Figure 2.7

Global Volcanism Program. (2023). Volcanoes of the World (Version v. 5.1.0). Smithsonian Institution. https://doi.org///doi.org/10.5479/si.GVP.VOTW5-2023.5.1

Natural Resources Canada. (2022). *Major Volcanoes* [PDF, JPG]. Retrieved from https://open.canada.ca/data/en/dataset/de376fde-8893-11e0-bee7-6cf049291510

Figure 2.9

Hersbach, H., Bell, B., Berrisford, P., Hirahara, S., Horányi, A., Muñoz-Sabater, J., ... Thépaut, J. (2020). The ERA5 global reanalysis. *Quarterly Journal of the Royal Meteorological Society*, 146(730), 1999–2049. https://doi.org/10.1002/qj.3803

Figure 2.11

- Carrera, M. L., Bélair, S., & Bilodeau, B. (2015). The Canadian Land Data Assimilation System (CaLDAS): Description and Synthetic Evaluation Study. *Journal of Hydrometeorology*, 16(3), 1293–1314. https://doi.org/10.1175/JHM-D-14-0089.1
- Fortin, V., Roy, G., Stadnyk, T., Koenig, K., Gasset, N., & Mahidjiba, A. (2018). Ten Years of Science Based on the Canadian Precipitation Analysis: A CaPA System Overview and Literature Review. *Atmosphere-Ocean*, *56*(3), 178–196. https://doi.org/10.1080/07055900.2018. 1474728

Figure 2.12

- Mekis, É., & Vincent, L. A. (2011). An Overview of the Second Generation Adjusted Daily Precipitation Dataset for Trend Analysis in Canada. *Atmosphere-Ocean*, 49(2), 163–177. https://doi.org/10.1080/07055900.2011. 583910
- Vincent, L. A., Wang, X. L., Milewska, E. J., Wan, H., Yang, F., & Swail, V. (2012). A second generation of homogenized Canadian monthly surface air temperature for climate trend analysis: Homogenized Canadian Temperature. *Journal of Geophysical Research: Atmospheres*, 117(D18), n/a-n/a. https://doi.org/10.1029/2012|D017859

Figure 2.13

Vionnet, V., Marsh, C. B., Menounos, B., Gascoin, S., Wayand, N. E., Shea, J., ... Pomeroy, J. W. (2021). Multiscale snowdrift-permitting modelling of mountain snowpack. *The Cryosphere*, 15(2), 743–769. https://doi.org/10.5194/tc-15-743-2021

Figure 2.14

Vionnet, V., Mortimer, C., Brady, M., Arnal, L., & Brown, R. (2021). Canadian historical Snow Water Equivalent dataset (CanSWE, 1928–2020). *Earth System Science Data*, 13(9), 4603–4619. https://doi.org/10.5194/essd-13-4603-2021

Figure 2.15

Mudryk, L. R., Derksen, C., Kushner, P. J., & Brown, R. (2015). Characterization of Northern Hemisphere Snow Water Equivalent Datasets, 1981–2010. *Journal of Climate*, 28(20), 8037–8051. https://doi.org/10.1175/JCLI-D-15-0229.1

Figure 2.16

Pfeffer, W. T., Arendt, A. A., Bliss, A., Bolch, T., Cogley, J. G., Gardner, A. S., ... The Randolph Consortium. (2014). The Randolph Glacier Inventory: A globally complete inventory of glaciers. *Journal of Glaciology*, 60(221), 537–552. https://doi.org/10.3189/2014JoG13J176

Figure 2.17

Gruber, S. (2012). Derivation and analysis of a high-resolution estimate of global permafrost zonation. *The Cryosphere*, 6(1), 221–233. https://doi.org/10.5194/tc-6-221-2012

Figure 2.21

- Beck, H. E., De Roo, A., & Van Dijk, A. I. J. M. (2015). Global Maps of Streamflow Characteristics Based on Observations from Several Thousand Catchments. *Journal of Hydrometeorology*, 16(4), 1478–1501. https://doi.org/10.1175/JHM-D-14-0155.1
- GloH2O. (n.d.). Global Streamflow Characteristics Dataset. Retrieved from https://www.gloh2o.org/gscd

Figure 2.25

Hermosilla, T., Wulder, M. A., White, J. C., & Coops, N. C. (2022). Land cover classification in an era of big and open data: Optimizing localized implementation and training data selection to improve mapping outcomes. *Remote Sensing of Environment*, 268, 112780. https://doi.org/10.1016/j.rse.2021.112780

Chapter 3

Figure 3.1

- Native-Land.ca (2020). Native-Land API. Retrieved from https://native-land.ca/api-docs/
- Natural Resources Canada. (2017). Aboriginal Lands of Canada Legislative Boundaries [Vector]. Retrieved from https://open.canada.ca/data/en/dataset/522b07b9-78e2-4819-b736-ad9208eb1067
- U.S. Geological Survey's Center for Earth Resources Observation and Science. (1996). Digital Elevation—Global 30 Arc-Second Elevation (GTOPO30). https://doi.org/10.5066/F7DF6PQ

Figure 3.4

- Native-Land.ca (2020). Native-Land API. Retrieved from https://native-land.ca/api-docs/
- Natural Resources Canada. (2017). Aboriginal Lands of Canada Legislative Boundaries. Retrieved from https://open.canada.ca/data/en/dataset/522b07b9-78e2-4819-b736-ad9208eb1067
- U.S. Geological Survey's Center for Earth Resources Observation and Science. (1996). Digital Elevation—Global 30 Arc-Second Elevation (GTOPO30). https://doi.org///doi.org/10.5066/F7DF6PQ

Figure 3.5

- Native-Land.ca (2020). Native-Land API. Retrieved from https://native-land.ca/api-docs/
- Natural Resources Canada. (2017). Aboriginal Lands of Canada Legislative Boundaries. Retrieved from https://open.canada.ca/data/en/dataset/522b07b9-78e2-4819-b736-ad9208eb1067
- U.S. Geological Survey's Center for Earth Resources Observation and Science. (1996). Digital Elevation—Global 30 Arc-Second Elevation (GTOPO30). https://doi.org/10.5066/F7DF6PQ

Chapter 5

Figure 5.1

Hersbach, H., Bell, B., Berrisford, P., Blavati, G., Horányi, A., Muñoz Sabater, J., ... Thépaut, J. N. (2023). ERA5 monthly averaged data on single levels from 1940 to present. Copernicus Climate Change Service (C3S) Climate Data Store (CDS). https://doi.org/10.24381/cds.f17050d7

Figure 5.4

- Swart, N. C., Cole, J. N. S., Kharin, V. V., Lazare, M., Scinocca, J. F., Gillett, N. P., ... Winter, B. (2019). The Canadian Earth System Model version 5 (CanESM5.0.3). *Geosci. Model Dev.*, 12(11), 4823–4873. https://doi.org/10.5194/gmd-12-4823-2019
- Swart, Neil Cameron, Cole, J. N. S., Kharin, V. V., Lazare, M., Scinocca, J. F., Gillett, N. P., ... Sigmond, M. (2019a). *CCCma CanESM5 model output prepared for CMIP6 Scenario-MIP ssp126.* Earth System Grid Federation. https://doi.org/10.22033/ESGF/CMIP6.3683
- Swart, Neil Cameron, Cole, J. N. S., Kharin, V. V., Lazare, M., Scinocca, J. F., Gillett, N. P., ... Sigmond, M. (2019b). *CCCma CanESM5 model output prepared for CMIP6 Scenario-MIP ssp585*. Earth System Grid Federation. https://doi.org/10.22033/ESGF/CMIP6.3696

Figure 5.5

- Swart, N. C., Cole, J. N. S., Kharin, V. V., Lazare, M., Scinocca, J. F., Gillett, N. P., ... Winter, B. (2019). The Canadian Earth System Model version 5 (CanESM5.0.3). *Geosci. Model Dev.*, 12(11), 4823–4873. https://doi.org/10.5194/gmd-12-4823-2019
- Swart, Neil Cameron, Cole, J. N. S., Kharin, V. V., Lazare, M., Scinocca, J. F., Gillett, N. P., ... Sigmond, M. (2019a). *CCCma CanESM5 model output prepared for CMIP6 Scenario-MIP ssp126*. Earth System Grid Federation. https://doi.org/10.22033/ESGF/CMIP6.3683
- Swart, Neil Cameron, Cole, J. N. S., Kharin, V. V., Lazare, M., Scinocca, J. F., Gillett, N. P., ... Sigmond, M. (2019b). CCCma CanESM5 model output prepared for CMIP6 Scenario-MIP ssp585. Earth System Grid Federation. https://doi.org/10.22033/ESGF/CMIP6.3696

Figure 5.8

Locke, H., Ellis, E. C., Venter, O., Schuster, R., Ma, K., Shen, X., ... Watson, J. E. M. (2019). Three global conditions for biodiversity conservation and sustainable use: An implementation framework. *National Science Review, 6*(6), 1080–1082. https://doi.org/10.1093/nsr/nwz136

Figure 5.11

Hugonnet, R., McNabb, R., Berthier, E., Menounos, B., Nuth, C., Girod, L., ... Kääb, A. (2021). Accelerated global glacier mass loss in the early twenty-first century. *Nature*, *592*(7856), 726–731. https://doi.org/10.1038/s41586-021-03436-z

Figure 5.12

Aubry-Wake, C., and Pomeroy, J. W. (2023) Predicting Hydrological Change in an Alpine Glacierized Basin and its Sensitivity to Landscape Evolution and Meteorological Forcings, *Water Resources Research*. https://doi.org/10.1029/2022WR033363

APPENDIX III: MAP DATA 355

The Canadian Mountain Assessment provides a first-of-its-kind look at what we know, do not know, and need to know about mountain systems in Canada. The assessment is based on insights from First Nations, Métis, and Inuit knowledges of mountains, as well as findings from an extensive assessment of pertinent academic literature. Its inclusive knowledge co-creation approach brings these multiple forms of evidence together in ways that enhance our collective understanding of mountains in Canada, while also respecting and maintaining the integrity of different knowledge systems.

The Canadian Mountain Assessment is a text-based document, but also includes a variety of visual materials as well as access to video recordings of oral knowledges shared by Indigenous individuals from mountain areas in Canada. The assessment is the result of over three years of work, during which time the initiative played an important role in connecting and cultivating relationships between mountain knowledge holders from across Canada. It is the outcome of contributions from more than 80 Indigenous and non-Indigenous individuals and contains six chapters:

- 1. Introduction
- 2. Mountain Environments
- 3. Mountains as Homelands
- 4. Gifts of the Mountains
- 5. Mountains Under Pressure
- 6. Desirable Mountain Futures

By way of these chapters, *The Canadian Mountain Assessment* aims to enhance appreciation for the diversity and significance of mountains in Canada, to clarify challenges and opportunities for mountain systems in the country, and to motivate and inform new research, relationships, and actions that support the realization of desirable mountain futures. More broadly, *The Canadian Mountain Assessment* provides insights into applied reconciliation efforts in a knowledge assessment context and seeks to inspire similar knowledge co-creation efforts in and beyond Canada.

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