



23 June 2016

# YUKON WORKSHOP

**SCOPE**

Science Community of Practice



# Why a Canadian Mountain Network?



Why Mountains?

Mountain Research in Canada

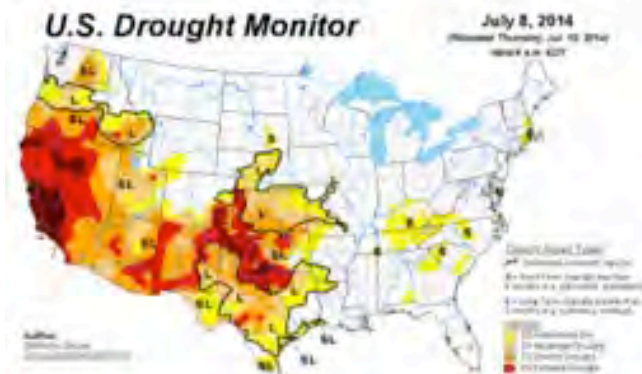
What are Networks of Centres of Excellence (NCE)?

Canadian Mountain Network - Priorities & Initiatives

The Yukon NCE Initiating Group



# Why do Mountains Matter ?



- 25% of global land area
- Home to more than 1.5 Billion people
- Headwaters of almost all major rivers
- Source of water supply for ~50% of world's population
- Mountain hydropower ~ 20% of world's electricity
- Major source of minerals and precious/non-ferrous metals, and coal
- Many natural hazards
  - earthquakes, volcanoes, rockfall, rock-slides, avalanches, debris flows, flooding, gullyng, erosion and siltation.....

# Why do Mountains Matter ?

- Hotspots of biodiversity, endemism, and unique adaptations
- Origins of many of domesticated staple food staple & medicinal plants
- Areas of indigenous, cultural and linguistic diversity
- Spiritual and sacred values
- Tourism and recreational potential
- Experiencing rapid changes as a direct consequence of climate warming
  - Glaciers disappearing, contribution to global sea level, treeline advance, elevation dependent warming and climate feedback processes.....



Tourism spikes in mountain parks amid Alberta economic slump

Low Canadian dollar causes U.S. visitors to flock to Banff, Jasper, and other parks to escape economic woes.



# Internationally there is considerable focus on Mountain regions



The screenshot shows the Mountain Partnership website. At the top left is the logo with the text "Mountain Partnership" and "Working together for inclusive, peaceful environments". A navigation menu includes: ABOUT, MEMBERS, OUR WORK, REGIONS, NEWS, EVENTS, PEAK TO PEAK, PUBLICATIONS, CONTACT. The main content area features a large image of a mountain range with the heading "Declaration on mountains at UNFCCC COP21". Below the image is a text block: "In preparation for the twenty-first session of the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) that will take place in Paris during the period 30 November – 11 December, the Mountain Partnership Secretariat in collaboration with key members and under the guidance of its Steering..." Below this is a "Our Work" section with four categories: ADVOCACY (with a "Sign the petition" button), CAPACITY DEVELOPMENT, COMMUNICATIONS, and JOINT ACTION.

1992 - Agenda 21 Chapter 13:  
Managing fragile ecosystems:  
Sustainable mountain  
development

2002 - International Year of  
Mountains

11 December – International  
Mountain Day

2002 - Mountain Partnership:  
>250 governments,  
intergovernmental  
organizations, major groups  
(e.g. civil society, NGOs and  
the private sector) and  
subnational authorities are  
members.







Massive avalanche by Maura Forrest Monday October

Recommend 75 people recommended



... before and after comparison 11th.

ENVIRONMENT

After long wait, 8 species deemed at risk

IVAN SEMENIUK SCIENCE REPORTER

Ottawa is adding eight new names to Canada's list of species at risk, marking its first moves to address a growing backlog of recommendations for listing that has ballooned to several dozen species over the past five years.

The newly added species were named alongside several others that are already on the list and slated for reclassification. All eight were assessed and recommended for protection - in some cases years ago - by the Committee on the Status of Endangered Wildlife in Canada, an independent body that passes its recommendations on to the federal government via the environment minister.

According to the provisions of the act, such recommendations are to be addressed within a nine-month time frame once delivered to cabinet. But under the previous Conservative government, the system stalled and nearly all recommendations made by the committee after 2010 languished on the minister's desk for years.

A case in point is the collared pika, the only mammal among the eight newly added species. A mountain dweller in the Canadian northwest and Alaska, the pika was assessed in 2011 and found to be at risk due to habitat loss caused by climate change. A distant cousin to rabbits and hares, it survives in winter by living off of "hay piles" of vegetation that it has gathered in sheltered spaces formed by rocks and boulders, insulated by a blanket of protective snow cover.

Milder winters have brought more rain and less snow to the mountains and changed vegetation patterns, putting serious pressure on the species, said David Hik, a biologist at the University of Alberta who specializes in northern ecology and who wrote the assessment.

"With the warming trends that we're observing, some pika populations are going to be out of luck," he said.



The collared pika, which makes its home in the mountains of northwestern Canada and Alaska and is threatened by habitat loss due to climate change, is one of eight species set to be listed, for the first time, under the Species at Risk Act. It was first suggested to be worthy of protection in 2011. KEVIN DOUGHERTY

Because it lives in such remote areas, the collared pika is not a well-studied species. Its listing under the act will almost certainly improve that.

Another newly added species is the evocatively named crumpled tarpaper lichen, which was first described in 2009, and is found in only a few locations of

old-growth forest in British Columbia and nowhere outside Canada.

Although they are not as well known as some of the more iconic creatures listed under the act - including polar bears and whales - biologists note that rare plants and lichens are just as deserving of protection in part because their connection to other species and their potential

value to science and medicine are not known.

"We don't really understand the roles of most species in the natural world," said Jeannette Whitton, an associate professor of botany at the University of British Columbia and a former member of the committee.

The six other additions to the list include: dune tachinid fly,

It's one of a number of species that have been on the list of species at risk since the last Conservative government. It's the first time since 2011 that the government has added new species to the list. The committee has recommended that the government list 17 species that are at risk. The government has only listed 17 of those species.

He noted that to receive protection, a species must also be assessed to be at risk. The committee has recommended that the government list 17 species that are at risk. The government has only listed 17 of those species.

Unusually, he has spoken out about his concerns to the media. He said that he is not a biologist, but he is a conservationist. He said that he is not a biologist, but he is a conservationist.

He added that a more strategic approach would be to assess ecosystem-wide strategies for conservation and protection. He added that a more strategic approach would be to assess ecosystem-wide strategies for conservation and protection.

"Lots of things are going on with a willing government prepared to lead and support us."

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ENVIRONMENTAL THOU MAYEST BY MERCY PEOPLE ITDOGS, & FALAFELS, NO WITHIN THY





# Many, many excellent initiatives in Canada focused on mountains



**CCRN**  
Changing Cold Regions Network

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Changing Cold Regions Network



**UBC100** THE UNIVERSITY OF BRITISH COLUMBIA

Centre for Alpine Studies  
an online research forum

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**CANADIAN MOUNTAIN STUDIES INITIATIVE**

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PARTNERS

"These mountains are our Sacred Places."  
Chief Joseph Lewis, Stanley Park, British Columbia, 1977

We invite you to explore Canada's first fully integrated and interdisciplinary Mountain Studies Initiative, defining an emerging new discipline that brings researchers, students, and community participants together in improving our understanding of mountain practices, places, and peoples.

The Canadian Mountain Studies Initiative welcomes the mountain scholars of the world to join us, to collaborate with us, to study with us, to share our passion for the mountains.

**In The News**  
Tundra study uncovers impact of climate warming in the Arctic  
Significant changes in one of the Earth's most important ecosystems are not only a symptom of climate change, but may fuel further warming, research suggests.



**Avalanche Canada**

**Parks Canada / Parcs Canada**



**Mountain Legacy**  
The Canadian Rockies 1881 to the Present

The Project: history, interpretation, development, education  
The Photographs: explore the photos, digital access  
The Research: projects, archival records, archival databases, journals, reports, publications, maps, and more



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of Applied Ecology

Be a part of our 1000+ person network...  
We are a regional group that connects people working in the various fields of applied ecology. We're looking for College, University, Academic, and professional students to present the poster, attend and participate.

attend a seminar attend our events



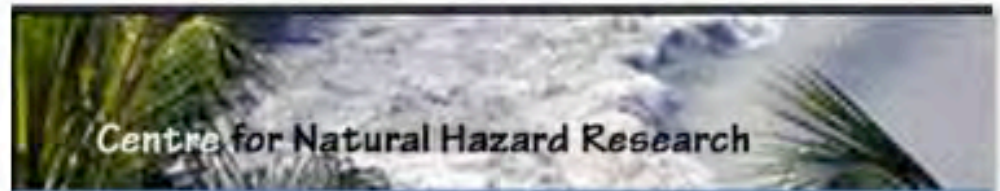
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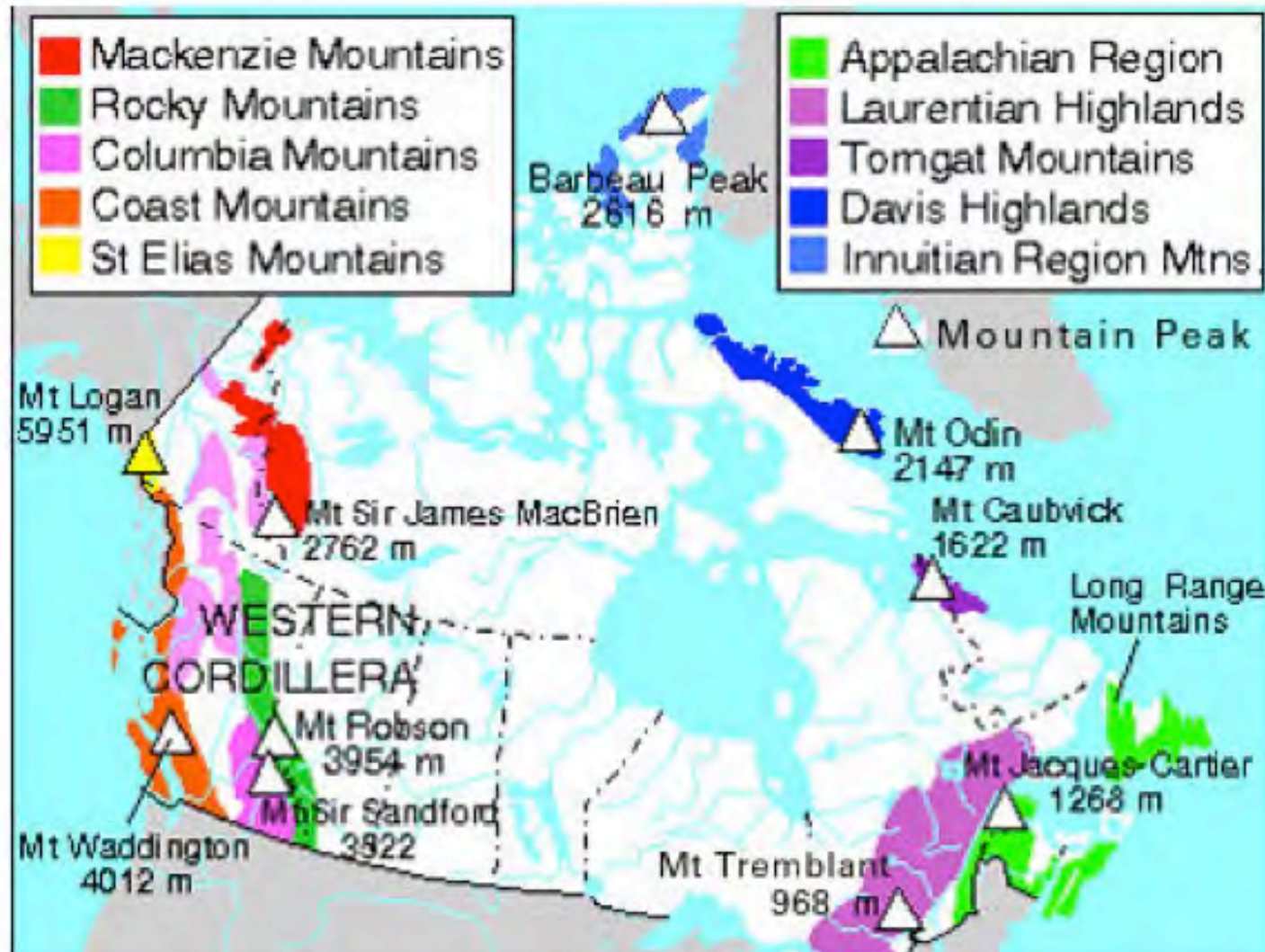
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**MISSION AND GOALS**  
The primary reason for the Biogeoscience Institute (BSI) is to provide and support high quality science through independent research in research, quality and to provide professional services to the University of Calgary and the public.



**Centre for Natural Hazard Research**

...but do we need something more?



# What are Networks of Centres of Excellence?

## What is an NCE?

- Federal program – tri-council supported
- Currently funding 13 NCEs
- Long-term funding (5+5+5)
- Focuses on specific issues and strategic areas
- Mobilizing multi-disciplinary research capacity
- Accelerates new knowledge creation
- Training of highly qualified people
- National and international collaboration

## Examples of Networks



Expect next call for LOI's  
in spring 2017

# What is the Canadian Mountain Network?



## What is the CMN?

- Established in Jan 2016
- U of A led
- Cross-Canada network
- Inclusive, co-designed, interdisciplinary research
- Collaboration and training
- Governance and regional representation
- Pursuing an NCE application



# CMN Focus & Initiatives



## Initial Themes

- Mountain Environments
- Mountain Societies & Cultures
- Water Towers
- Mountain Economies

## Activities...

- Founding Workshop (Jan. 2016)
- Mountain portal
- Mountain podcast
- UN International Mountain Day (Dec)
  - Festival/Symposia
  - Mountain live-stream
  - State of Canada's Mountains (updates)



# CMN supports NCE Initiating Groups



- NWT, Yukon, BC, Alberta, 'RoC'
- Provide regional point of contact for CMN Secretariat
- Ensure FN/indigenous and community engagement in the co-design of the NCE proposal
- Contribute to identifying priorities for NCE
- Help to identify partners, training and co-funding opportunities, and alignment with existing priorities (e.g. Yukon Science Strategy, Yukon Water Strategy)



# Today: Breakout Discussions



## Engagement:

1. Who is currently involved in mountain research in Yukon?
2. Who is currently benefiting from mountain research in Yukon? Who else needs to benefit?
3. Who needs to help shape the direction of network activities in Yukon?



## Benefits to Yukon:

1. What would make this Network important to Yukon?
2. How can this Network be designed to maximize benefits to Yukon?
3. In 15 years, what would you want this Network to achieve?

## Research needs:

1. What solutions to complex challenges should this network be designed to address?
2. What research needs have been identified in Yukon through collaborative, participatory processes?
3. What codes of conduct/best practices for research should be adopted by the Network?
4. What infrastructure is needed to support research activities in Yukon (short, medium and long term)?

## Capacity building:

1. What does capacity building mean in a Yukon context?
2. What capacity is needed to be developed?
3. How can the Network contribute to developing this capacity?
4. How can the network train and prepare graduate students for employment outside academia? Would you consider this type of training a valuable service?
5. HQP is defined by Tri-Councils as individuals with university degrees at the bachelor's level and above. For the Yukon how would you redefine this?





# THANK YOU

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