

ClimateNews is a snapshot of new and emerging climate change adaptation and mitigation activities in the natural resource sector.

This issue includes:

- Long-term climate monitoring enables understanding of short-term climatic events and informs management
- Four BC professional associations make climate change statement
- North Area climate trends and natural disturbances project benefits from climate change student internship funding
- FLNR climate action planning update
- And more!

Long-term climate monitoring enables understanding of short-term climatic events and informs management

Long-term provincial scale climate monitoring is critical to understanding climatic changes, impacts and management response. Researchers Vanessa Foord (climatologist, FLNR), Bill Floyd (hydrologist, FLNR) and Ted Weick (climatologist, MoE) wrote an extension note to describe FLNR's Forest Ecosystem Research Network (FERN) and applications as well as its interface with the provincial scale [Climate Related Monitoring Program \(CRMP\)](#).

FERN consists of 83 weather stations operated by FLNR researchers that measure parameters like air temperature, relative humidity, rainfall, wind speed, wind direction, snow temperature, snow free periods and more.

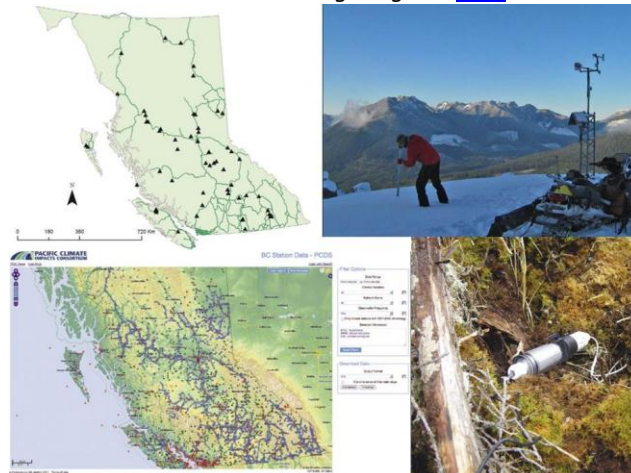
FERN's numerous applications include:

- Bio-geoclimatic Ecosystem Classification (BEC) of environments that previously had little to no information (e.g. alpine ecosystems);
- wet-weather safety shutdown guidelines and avalanche forecasting;
- extreme weather detection;
 - e.g. in 2011, Russell Creek watershed received 160 mm of precipitation in 24 hours resulting in three landslides, nearby highway closure and channel change to the creek. Nine stations, between 300 m and 1500 m elevation, captured the event. High station density plus a 20-year climate record enabled understanding of drivers. This information informs design and policy guidance to mitigate future impacts.
- monitoring of rain on snow in coastal BC and permafrost in northeastern BC.

FERN stations are now part of CRMP and provide increased data, especially for middle and high elevation and northern climates.

CRMP is a government-led initiative to make long-term meteorological data from a variety of networks (e.g. MoE Air Quality and Snow Pillow, FLNR Fire Weather and FERN, MoTI Infrastructure Avalanche and Weather, MofAg Farmwest and Waterbucket, BC Hydro Hydromet, Rio Tinto Alcan Nechako Reservoir, Environment Canada's BC weather stations) available for climate change analysis and adaptation via the [Pacific Climate Impacts Consortium \(PCIC\) Provincial Climate Data Set Portal](#). The portal allows users to select a specific geographic area to show available weather stations and filter data based on date range, weather variable and network type.

Read *Extension Note 111: Enhancing Provincial Climate Monitoring in the Forest Ecosystem Research Network and the Climate Related Monitoring Program* [here](#).



FERN weather stations (upper left). Snow survey and FERN station at Russell Creek (upper right). The Provincial Climate Data Set as provided by PCIC (lower left). Connecting to a below ground permafrost monitoring probe (lower right).

Four BC professional associations make climate change statement



This summer, four of BC's professional associations, representing more than 9,000 forest professionals, professional biologists and technologists, and professional planners, released a joint statement describing their commitment to define responsibilities and provide training to enable members to meet responsibilities to clients and public.

The statement also calls for government leadership at all levels, applauds the BC government for its work to date and urges continued action. View the statement [here](#). View the full media release [here](#).

North Area climate trends and natural disturbance project benefits from climate change student internship funding

Vanessa Foord (climatologist, FLNR) was awarded funding from the [Pacific Institute for Climate Solutions \(PICS\) Internships program](#) to hire a student for the 2014 field season. Hudson Stoffels (UBC Engineering) collected data and performed maintenance on 25 weather stations throughout northern BC as well as nearly 400 temperature loggers. The equipment is used for several research projects examining climate trends and natural disturbances such as permafrost melt, pine foliar disease levels, understory changes in Mountain Pine Beetle affected stands, as well as classifying the climate of ecological zones and alpine ecosystems with little to no historical data. Hudson spent half his time in the field and the rest analyzing previous years of field data for trends and preparing the weather station data for submission into the [Pacific Climate Impacts Consortium’s data portal](#).



PICS intern, Hudson Stoffels, improving the network of rock temperature loggers on Mt. Gunnel, near Fort Nelson, for FLNR mountain permafrost research.

PICS Internships support students from UBC, UNBC, SFU and UVic to work on projects that align with PICS research themes. BC Provincial/local governments and NGOs receive \$10,000 per four-month position. The call for internships is announced in December.

Applications are due January. Learn more [here](#). Vanessa thanks PICS and Hudson Stoffels for their valuable contributions to FLNR’s climate research!

FLNR climate action planning (CAP) update

FLNR continues work towards its March 31, 2015 deadline for all parts of the Ministry to have climate action plans; a

requirement of the FLNR [Climate Change Strategy](#). Many parts of the Ministry are well on their way and have completed a draft plan. Others have held workshops and are now actively developing their plans. Some have recently identified climate action plan leads and are turning their minds to the best way to tackle their plan. Others have yet to identify a lead.

Plan leads work with staff in the Climate Change and Bio-economy Section, participate in monthly calls and access materials through a private workspace. Questions? Contact james.sandland@gov.bc.ca.



**NEWS Bites
Richmond Oval: Climate Friendly Community Icon**

New video in [FLNR’s Climate Change & Using Wood video series](#) released featuring the Richmond Oval! It’s on the intranet [here](#).



One third of BC’s woody biomass used for energy between 2000 and 2011

Caren Dymond (forest carbon researcher, FLNR) and Adam Kamp (former co-op student, FLNR) published “Fibre use, net calorific value, and consumption of forest-derived bioenergy in British Columbia, Canada 2014” in scientific journal *Biomass and Bioenergy*. They surveyed facilities on rates of fibre use, energy capacity and net production. Read all the findings [here](#).

Want more ClimateNews?



[SFU’s ACT – Adaptation to Climate Change team](#) provide timely news on BC climate change via web and email.

Have a climate bee  in your bonnet? Let it out!

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