

ClimateNews is a snapshot of new and emerging climate change adaptation and mitigation activities in the Natural Resource Sector.

This issue includes:

- Climate Leadership Plan released
- Forest Carbon Initiative
- Pan-Canadian Framework
- Climate change Scorecard
- Warmest July on Record
- BC Fish & Wildlife Climate Vulnerability Tool
- New Spatial Data to Aid Adaptation
- Professional Associations' Adaptation Working Group
- Climate Insights 101
- Moose Tracker App.

## Climate Leadership Plan Released

Forest Carbon Initiative to achieve 11.7 million tonnes of emission reductions per year by 2050

News Release:

<https://news.gov.bc.ca/releases/2016PREM0089-001501>

On Aug. 19, the B.C. government unveiled B.C.'s Climate Leadership Plan. This plan will lead to the creation of up to 66,000 jobs over the next 10 years and identifies key areas where British Columbia can take action now to reduce greenhouse gas emissions. The initial 21 actions will collectively reduce net annual greenhouse gas emissions by up to 25 million tonnes below current forecasts by 2050. Further actions will be announced over the coming year after the federal government releases their Pan-Canadian Framework on Clean Growth and Climate Change.

With this announcement, the Province addressed 18 of the Climate Leadership Team's 32 recommendations. Government will continue to work on addressing further recommendations through the Pan Canadian Framework and other processes. As recommended by the Climate Leadership Team, the Province reaffirms its legislated 2050 target of achieving a reduction in GHG emissions of 80% below 2007 levels.

The plan identifies specific actions for the following areas:

- Natural gas
- Transportation
- Forestry and agriculture

- Industry and facilities
- Communities and the built environment
- Public sector leadership

Read the plan here: [https://climate.gov.bc.ca/wp-content/uploads/sites/13/2016/06/4030\\_CLP\\_Booklet\\_web.pdf](https://climate.gov.bc.ca/wp-content/uploads/sites/13/2016/06/4030_CLP_Booklet_web.pdf)

## Forest Carbon Initiative

Forestry plays a key role in the new Climate Leadership Plan, with close to half the planned reductions coming from the new Forest Carbon Initiative (FCI).

The FCI builds on existing forest management programs by increasing tree replanting over an area up to 300,000 hectares over the next five years, increasing stand densities and fibre recovery. This initiative removes greenhouse gases and increases carbon sequestration by rehabilitating forests that are underproductive, increasing fibre use and avoiding emissions from burning slash. It will focus specifically on mountain pine beetle and wildfire impacted sites.

- The FCI Program will help rehabilitate forests that are underproductive. This includes forests that have been killed by natural disturbances such as the mountain pine beetle and wildfire. Candidate areas must not have a legal reforestation obligation.
- The FCI Program will be co-ordinated with other programs such as the Forest Enhancement Society and Forests for Tomorrow. Program staff will work with forest licensees to capture carbon benefits from incremental activity in silviculture and enhanced fibre recovery.
- Conservative estimates suggest that FCI's forest rehabilitation activities will generate an average of 11.7 million tonnes of CO2 emission reductions per year by 2050.
- This estimate was calculated by subtracting growth on sites without rehabilitation from those with rehabilitation, and scaling over the estimated 800,000 hectares of the program.

Details on the Forest Carbon Initiative will be released in the coming months.

## Pan-Canadian Framework on Climate Change and Clean Growth

A Canadian Council of Ministers of the Environment (CCME) meeting took place on Oct. 3. The group discussed recommendations to make for the overall Pan-Canadian Framework on Climate Change and Clean Growth. Government staff across Canada are supporting their ministers in finalizing reports for the first ministers.

There are four working groups contributing to the framework:

- 1) Carbon pricing mechanisms
- 2) Specific mitigation opportunities
- 3) Adaptation and climate resilience
- 4) Clean technology, innovation and jobs

At this point, there is no firm date for a release of the final recommendations but it is likely to be prior to the end of the calendar year.

## Warmest July on Record

<http://www.ncdc.noaa.gov/sotc/global/201607>

For the 15th consecutive month, the global land and ocean temperature departure from average was the highest since global temperature records began in 1880. This marks the longest such streak in the National Oceanic and Atmospheric Administration's (NOAA) 137 years of record keeping. The July 2016 combined average temperature over global land and ocean surfaces was 0.87°C above the 20th century average, besting the previous July record set in 2015 by 0.06°C. July 2016 marks the 40th consecutive July with temperatures at least nominally above the 20th century average. The last time July global land and ocean temperatures were below average was in 1976 (-0.09°C).

## Climate Change Vulnerability of BC's Fish and Wildlife: First Approximation

B.C.'s climate is changing with implications for ecosystems and fish and wildlife health. [This report](#) outlines a simple, transparent framework to assess climate change vulnerability for B.C.'s fish and wildlife species and ecosystems, and uses the framework to assess vulnerability for selected species. An accompanying [Excel database](#) includes detailed ratings and rationales. The report also identifies high-level adaptation strategies to reduce risks associated with climate change.

This is the first climate change vulnerability assessment framework developed specifically for application to fish and wildlife in B.C. Due to their complexity, other frameworks such as the NatureServe Climate Change Vulnerability Index (CCVI) used in Washington, Oregon and Idaho and the Climate Change Sensitivity Index (CCSI) used in Alberta, produce different results for the same species. BC's simple framework provides a level of detail appropriate for the uncertainty associated with climate change. This framework assesses species' sensitivity to changes in habitat related to climate change and assesses sensitivity to non-climatic factors, which can combine to create cumulative effects. Finally, the framework rates adaptive capacity.

## Climate Patterns, trends, and Projections for the Omineca, Skeena and Northeast Natural Resource Regions in B.C.

<https://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/TR097.htm>

This document summarizes baseline climate, trends, and projections for the three natural resource regions: the

Omineca, Skeena, and Northeast Natural Resource Regions.

This information is intended to support the goals outlined in FLNROs Climate Change Strategy and to aid in climate change action and adaptation planning for regions and districts within the North Area. Region and district baseline climate summaries were created using daily recorded data from Environment Canada weather stations from the time weather station recording began in 1886 up to 2008. Climatic projections for the base climate stations were developed using the ClimateBC spatial software.

## Climate Insights 101

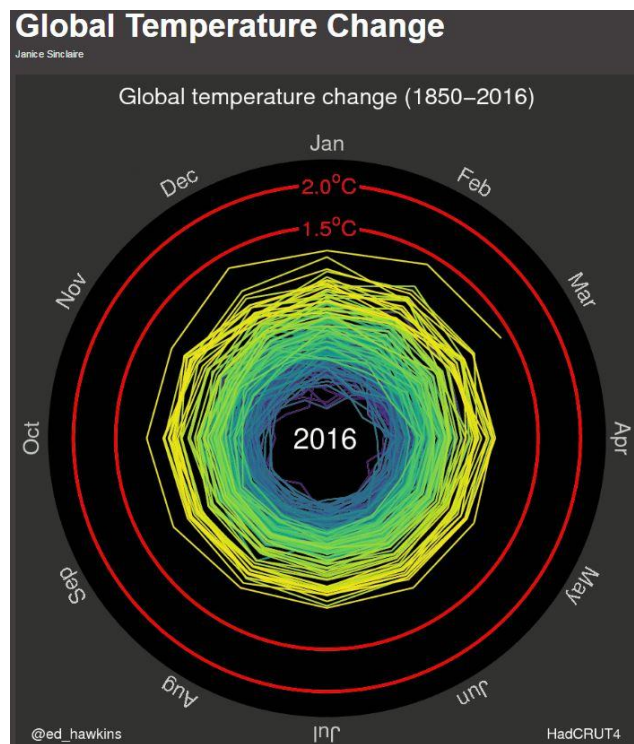
This three-part course, designed by the Pacific Institute for Climate Solutions (PICS), includes animated and interactive sessions that provide a comprehensive understanding of the causes of climate change, of how society can adapt, and the options for mitigation. Each course contains three-to-four lessons with test-your-knowledge sections.

If you do not yet have a good understanding of the science behind climate change and the responses to it, this course provides excellent background information to bring you up to speed. Taking this course is also part of the performance measures the ministry will be using so this helps the overall score for your division. The more staff have a solid understanding of these issues the more the ministry will be able to integrate climate change considerations into our day-to-day business.

To enrol, follow [this link](#) to the Learning Centre, and search the catalogue for “Climate Insights 101”.

## Global Temperature Change GIF

See the animated GIF [here](#).



Climate Scientist Ed Hawkins posted this GIF as a visualization of global temperatures spiraling upward, from the average global temperature for the 1850 to 1900 timeframe to current day. Hawkins is editor of the [Climate Lab Book](#), an experiment in open-source climate science. The blog promotes collaboration through open scientific discussion on climate science, with posts written by climate scientists, but open for anybody to see and comment on.

## Professional Associations' Adaptation Working Group

Members of professional associations in B.C. are key personnel in the process of adapting resource management to a changing climate. The Professional Associations' Adaptation Working Group is one of the ways the associations are helping their members meet this goal. The working group brings together representatives from the B.C. associations of engineering and geoscience, agronomy, biology, forestry, planning, and landscape architecture (APEGBC, BCIA, CAB, APB, ABCFP, PIBC, BCSLA) to work together on climate change adaptation. Formed in 2013, the group's aims to improve how climate change is considered in professional practice. The climate risk management team in the Climate Action Secretariat first helped build momentum among professional associations and a staff member from climate risk management chairs the group. The group meets regularly to share information and resources on climate change adaptation.

In 2014, the group developed a joint statement, "Professional Leadership in a Changing Climate". The statement articulates the commitments of the signing professional associations (APB, CAB, PIBC, ABCFP, BCSLA) to help ensure that climate change is appropriately considered in professional practice. To implement this, the associations aim to better inform their members on best practices in light of climate change, expect their members to build on science-based approaches to incorporate climate change into practice, and to collaborate on opportunities for educating and training members in climate change adaptation.

Actions by the associations include: surveys of association members to better understand their knowledge of climate change and the challenges faced in attempting to address these in a professional context; developed guidance documents; producing webinars to improve knowledge; and, developing training workshops for a vulnerability assessment tool. Currently, the group is working on scoping out collaborative professional development and training initiatives and on how best to improve the use of existing tools for adaptation by professionals.

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## Spatial Climate Data to Aid Adaptation to Climate Change in Resource Management

Version 5.3 of the ClimateBC spatial climate data software was recently released along with versions of ClimateWNA and ClimateNA. ClimateBC covers British Columbia, ClimateWNA covers North America west of 100°W longitude, and ClimateNA covers all of Canada, USA and Mexico. They are available as stand-alone software for use on a desktop computer and as web-based versions. These applications provide easy access to historical climate data and projections of future climate change at scales meaningful for climate change risk assessments and research applications. Earlier versions have been used by academia, government, industry and consultants in forestry, agriculture, hydrology, land use planning and engineering.

The software provides monthly temperature and precipitation data and a large number of derived variables such as degree days, frost-free period, evaporative demand and climatic moisture deficit for individual or multiple locations. The historical data cover 1901 to 2014. Projections of future climate for the 2020s, 2050s and 2080s are from the Intergovernmental Panel on Climate Change's Fifth Assessment Report for 15 global climate models and emission scenarios RCP 2.6, 4.5 and 8.5.

Recent improvements to the software include:

- Climate data for historical years updated and extended to 2014
- Monthly paleoclimate data for three periods from global climate model simulations
- Users can choose multiple scenarios and time periods in a single run
- Time series of monthly projections for years of 2011-2100 for RCP 4.5 and 8.5 of six global climate models
- Ability for the user to add new time series projections as they become available

The software can be downloaded from:

- ClimateBC –  
[http://climatemodels.forestry.ubc.ca/climatebc/downloads/ClimateBC\\_v530.zip](http://climatemodels.forestry.ubc.ca/climatebc/downloads/ClimateBC_v530.zip)
- ClimateWNA –  
[http://climatemodels.forestry.ubc.ca/climatewna/downloads/Climatewna\\_v530.zip](http://climatemodels.forestry.ubc.ca/climatewna/downloads/Climatewna_v530.zip)
- ClimateNA –  
[http://climatemodels.forestry.ubc.ca/climatena/downloads/ClimateNA\\_v530.zip](http://climatemodels.forestry.ubc.ca/climatena/downloads/ClimateNA_v530.zip)

ClimateBC Map and ClimateNA Map are web-based versions of the application for those who do not need the full power of the standalone version. They are integrated to Google Maps to allow users to obtain the co-ordinates and elevation for the location of interest simply by clicking at a location on the map. The users then click on the “Calculate” button to get all climate variables for a selected period. The output can be saved on a local computer. The map versions can be accessed at:

- ClimateBC –  
[www.climatewna.com/ClimateBC\\_Map.aspx](http://www.climatewna.com/ClimateBC_Map.aspx)
- ClimateNA –  
[www.climatewna.com/climatena\\_map](http://www.climatewna.com/climatena_map)

Gridded raster data layers are available for the entire North American continent at the spatial resolution of 1x1 km for the normal periods 1961–1990 and 1981–2010, and three future periods 2020s, 2050s and 2080s for eight selected CMIP5 models and two greenhouse gas emission scenarios (rcp 4.5 and 8.5). The datasets are available at: <http://tinyurl.com/ClimateNA> and <https://adaptwest.databasin.org>. The variables can also be displayed graphically, as summarized by watershed across North America, using an interactive online data viewer at the AdaptWest website.

A recent journal article describing the software and its evaluation is available at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0156720>

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## The Moose Tracker App!



A new App called B.C. Moose Tracker has been released, allowing people to directly upload information about their encounters with moose in B.C. to an online database.

It also includes a digital version of the 2016-2018 Hunting and Trapping Regulations Synopsis and a searchable summary of provincial hunting regulations.

The Province developed the app in consultation with the B.C. Wildlife Federation and with financial support from the Habitat Conservation Trust.

Download the app and get more info [here](#).