Climate Adaptation Strategies

Date:
January, 2017

Peace - Climate Adaptation Strategies

Peace Agricultural Adaptation Strategies Working Group Members

The working group consists of representatives from Peace Agriculture Organizations, provincial and local government:

- ⇒ BC Agriculture & Food Climate Action Initiative
- ⇒ BC Branch Canadian Seed Growers Association
- ⇒ BC Grain Producers Association
- ⇒ BC Ministry of Agriculture
- ⇒ Peace Region Forage Seed Association
- ⇒ Peace River Forage Association of BC
- ⇒ Peace River Regional Cattlemen's Association
- ⇒ Peace River Regional District

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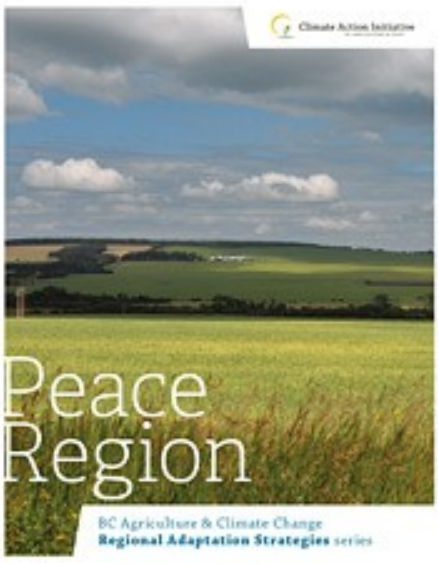
Overview

In the spring of 2012, the *BC Agriculture Climate Change Adaptation Risk & Opportunity Assessment* was completed to evaluate how changes to the climate may impact agricultural production for key commodities in various regions of BC.



The assessment generated five regional and commodity specific reports including a "Snapshot Report" for grain and oilseed production in the Peace Region.

Building on the findings of the assessment, the *Peace Region Adaptation Strategies* plan was completed in the spring of 2013. A summary of the plan is also available. The plan identifies regionally specific collaborative strategies and actions that will enhance agriculture's ability to adapt to projected changes.

$300,000 in funding from *Growing Forward 2*, a federal-provincial-territorial initiative, was available for eligible collaborative projects identified in the plan. Between Fall of 2013 and Spring of 2017 a number of adaptation projects were implemented in partnership with funders and local organizations. Implementation was overseen by a local working group.

The Adaptation Strategies were a launching point for many projects that are going on even today in the Peace Region. Current projects to address climate change adaptation in the region include:

* Improving Productivity and Profitability of Forage Land (Peace River Forage Association)
* Pest Monitoring and Innovative Management (Peace Region Forage Seed Association)
* Enhancing Peace Weather Monitoring and Utilization of Weather Data (Peace Region Forage Seed Association)

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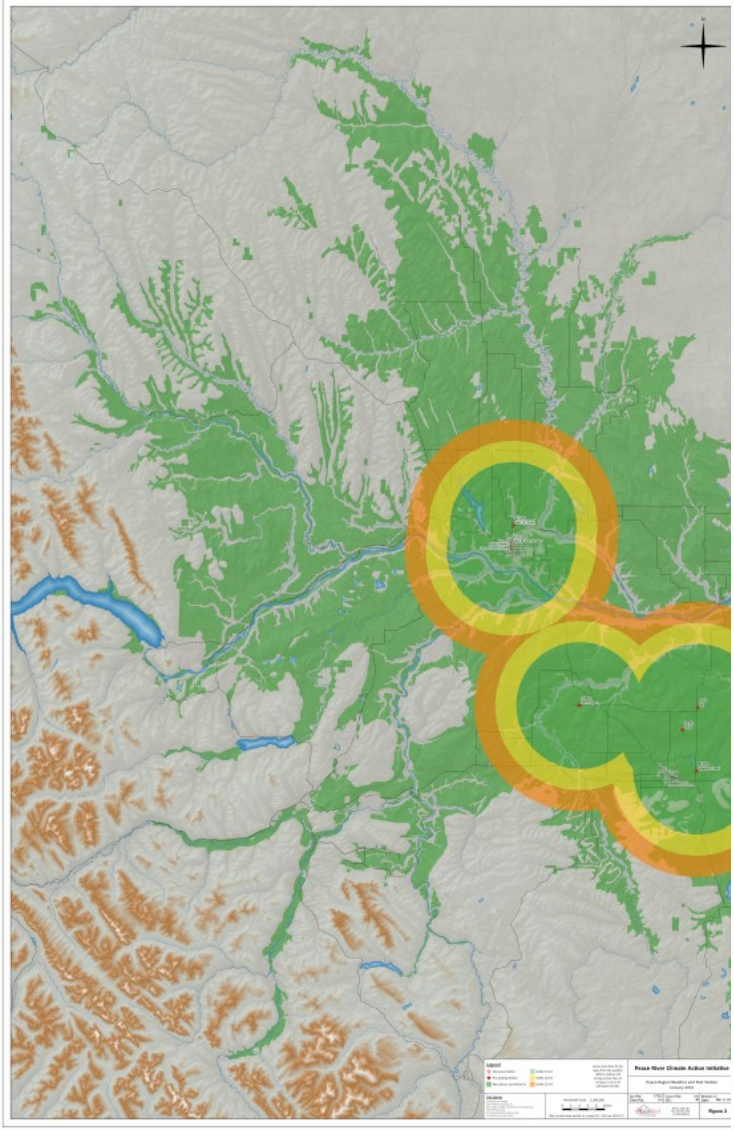
This and more fact sheets can be found at
www.bcgrain.com; www.peaceforageseed.ca; peaceforage.bc.ca

Peace – Increasing Availability of Agriculturally Relevant Weather Data



Station coverage January 2015

Station coverage March 2017

In the spring of 2015, a project was initiated to improve the quantity and accuracy of weather data available for local agriculture. The images above show the resulting increase in coverage of available weather data. The green indicates the agricultural land base and circles on the image to the left show the extent of weather station coverage in January of 2015. The yellow circles show the 15 km range that weather stations can accurately represent precipitation. The outer orange circles shows the 25 km radius from weather stations where there is some coverage but decreased accuracy in representing precipitation.

The image on the right shows the extent of accurate weather station coverage today, resulting from the installation of 16 strategically located new weather stations. In addition to the new stations, a region-specific weather and decision-support tool website has been developed to share weather data – and related information and tools – with Peace region producers.

CHECK IT OUT: http://weatherfarmprd.com/

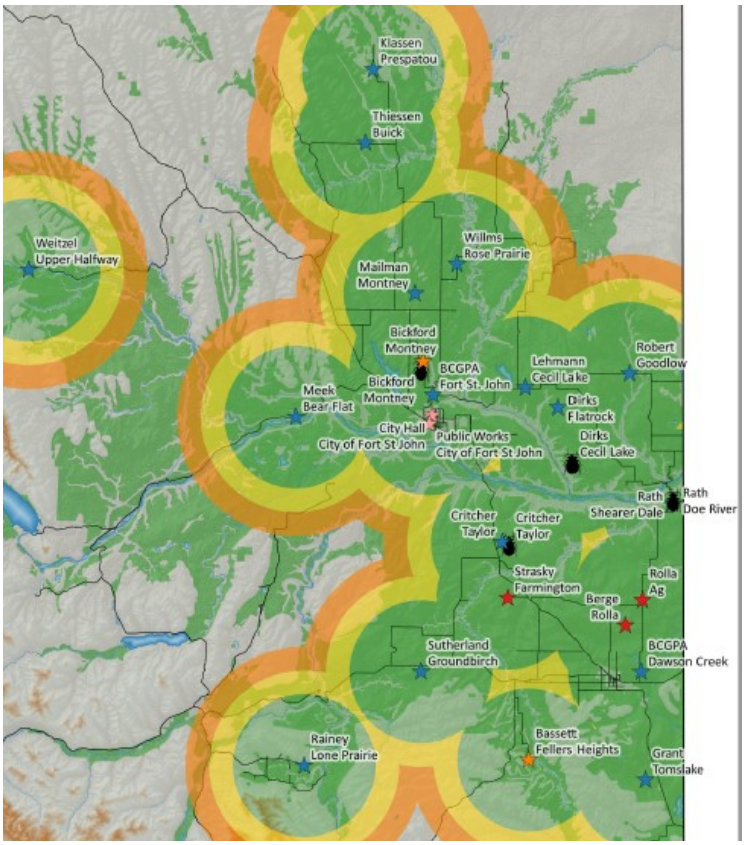
Collaborative Pest Monitoring

Projects initiated through the Peace Adaptation Strategies also enabled pest monitoring (insect, disease & weed) to expand in the BC Peace. The beetles on the map to the right show the locations of long-term annual crop pest monitoring stations that have been set up through this project. There are also many perennial pests being monitored in both forage and forage seed crops.

The introduction of this monitoring into the BC Peace gives producers relevant information throughout the growing season and as well as to prepare for the upcoming season. Data collected will be used to develop insect and disease models specific to the region.

For more information about this project contact pest@bcgrain.com.

Peace – Collaborative Pest Monitoring (2014 summary)
Peace – Collaborative Pest Monitoring (2016 report)



Evaluation of Irrigation Potential

Completed in 2016, the irrigation study assessed the potential for future feasibility of various irrigation scenarios in the BC. Peace region. The study uses a set of six irrigation case studies, including single farm systems, small community systems, and large irrigation systems with different water sources and water storage capacity.

Based on water demand models for three reference crops, projected water supply, and detailed economic analysis, the study results indicate that, under current market conditions, irrigated agriculture in the Peace is only feasible under very specific conditions. While climate change will increase the feasibility of irrigation in the region, changing economics and/or cropping systems will be important factors influencing broader future feasibility.

Peace – Evaluation of Irrigation Potential in the BC Peace Region (2016 report)

Peace – Evaluation of Irrigation Potential in the BC Peace Region (2016 summary)

Innovative Management Practices for Resiliency – Farm Adaptation Innovator Program

Led by the Peace River Forage Association, this project worked with Peace producers using a farm systems approach to identify and to adopt nutrient management practices and forage production systems that are more resilient to weather extremes and climate change.

Three strategies were evaluated including: 1) revitalization of forage stand options 2) establishment, production and stand longevity of legume alternatives to alfalfa; and 3) identification of ways to reduce nutrient loss. The three production strategies were evaluated based on economic indicators, soil quality, soil and crop response and producer perspectives on the adoption of the practice.

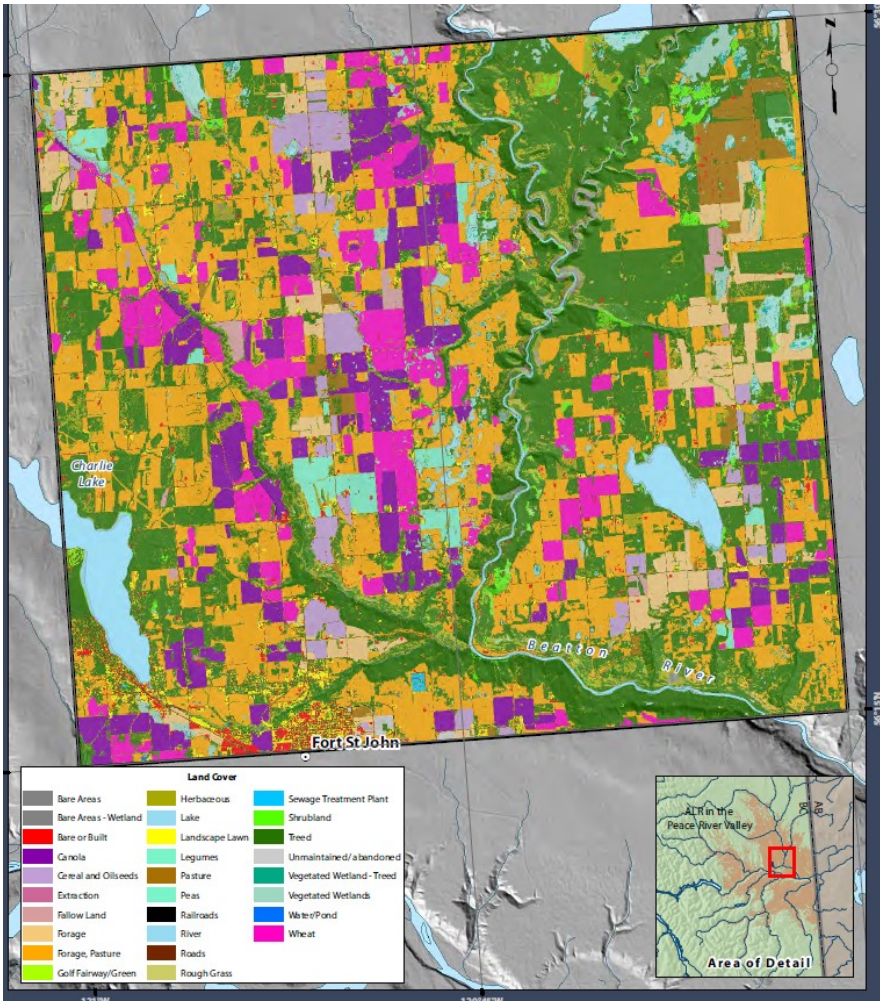
Find detailed information and results at:
http://www.peaceforage.bc.ca/rd_resiliency_innovation.html

Defining a New Approach to Agricultural Land Use Inventory (ALUI) in the BC Peace

The *Peace Adaptation Strategies* identifies the need to inventory the agricultural land in the BC Peace region in order to plan effectively for agricultural activities and needs such as current and future water demand. This background land use information is not only needed for agricultural water management, but also for regional level decision-making that involves all water users. By improving understanding of demand, as well as potential for water storage and supply sources, priorities for agricultural water development may be identified.

A feasibility study completed as a result of the Adaptation Strategies has determined that the utilization of an image classification technology allows the ALUI work to be completed at a significant cost savings. The costs associated with the manual approach are approximately 20 times more than the classification-based approach, which is especially important in a region as large as the Peace.

The image to the left show canola acres in purple, wheat in pink, peas in light green. There are still some information gaps, but there is a lot of data to build upon for agricultural and water use planning.



The feasibility study is available at: http://www.bcagclimateaction.ca/regional-project/pc04/

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