

Community Proposal

Climate Change Adaptation Action Plan



developed by
the Cree Nation of Waskaganish and
the Cree Nation Government

facilitated by
InsightShare

with the participation of
McGill University

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Grand Council of the Crees (Eeyou Istchee)
Grand Conseil des Cris (Eeyou Istchee)

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Cree Nation Government
Gouvernement de la Nation Crie



This report is an output from a project managed by the Cree Nation Government and the Cree Nation of Waskaganish. It was delivered by InsightShare with the financial support of Indigenous and Northern Affairs Canada.

Why do we need this plan?

Climate change is happening; it is unavoidable, and it will have widespread impacts on human and natural systems. Some regions—like those at more northern latitudes—are experiencing changes faster than others. The Cree Territory of Eeyou Istchee, in the sub-arctic region of Northern Quebec, has experienced air temperature warming of 1.5 °C over the past 35 years. Winter temperatures have increased by 2-3 °C over that same period, and could increase by as much as 5.5 °C by 2050. More instances of extreme weather, shifting seasons, and receding sea ice have also been observed. These changes are impacting the Cree communities of Eeyou Istchee in a variety of ways, from changing availabilities of traditionally consumed plants and animals, to making sea ice more hazardous to travel on.

In Waskaganish, a community located at the confluence of the Rupert River and James Bay, many of these climate change impacts are already affecting our way of life. Summers are dryer and winters are shorter. There are more accidents on the ice. There is more flooding. There are more wildfires. Berries are fewer and smaller. Wildlife is less healthy and has less nutritional value. These changes are all of great concern to us as they threaten our land access, food security, health, safety, and infrastructure.

The Cree of Eeyou Istchee have proven our resilience throughout history, having adapted and kept our traditional practices alive in the face of great environmental and social change. However, the severity of observed and projected climatic changes necessitates urgent action to protect our natural and cultural heritage, identity, livelihoods, health and infrastructure for future generations. It is time for us to come together, and plan how we respond. This report describes our provisional plans to cope with and adjust to current and future climate scenarios.

Click [here](#) to watch the video version of our adaptation plan.



How was this plan developed?

This plan came out of a community-based participatory project that took place in July and August 2018. The goal of this project was to bring together the community members of Waskaganish to identify appropriate solutions to cope with climate change impacts and to increase our resilience.

As a starting point, we used the findings and recommendations from the 'Climate Change in Eeyou Istchee' project by the Cree Trappers Association (2009-2011). This initiative identified the observed impacts of climate change and adaptation measures for Cree communities (Mistissini, Waskaganish and Whapmagoostui). The main recommendations were; to create local climate change committees, to implement community-based monitoring, to establish safety programs and to involve Cree youth.

To move forward, our project adapted a participatory approach, that included the training of a local coordinator and video team to conduct interviews with community members. In addition, several community meetings and screening events were held.

The findings and recommendations that resulted from this process are presented in this climate change adaptation plan as well as a 30 minute video. Our hope is that these outputs may guide our community members and other Cree communities in the planning and implementation of actions that will help to lower the risks associated with present and future climate change.



Waskaganish

Nestled in the beauty of the boreal forest, lies our historic community, Waskaganish. In Cree, it is called, "Little House". Our village is located in Northern Quebec, Canada where the majestic Rupert River flows calmly into the James Bay. Our ancestors travelled and lived in this ancient land of Eeyou Istchee since time immemorial. We had our own elaborate systems of politics, education, social and family structures, and trading routes all across North America, long before the arrival of the Europeans. Waskaganish is the oldest Cree settlement in this area and is the birthplace of the Hudson Bay Company and the British fur trade. We have a long history of trade, friendship, and hospitality.

The passing of knowledge from elders to children has always been an important aspect of who we are. Surrounded by magnificent forests and mighty rivers, we have made this our home for more than 350 years. We have always consciously managed the ecosystems on our lands, while learning to skillfully use and survive from the natural resources around us. We had a deep connection with the environment including the land, animals, and nature, which still continues to this day.

We are a vibrant community of over 3,000 people. We continue to grow and thrive as a nation. However, we face many challenges including the drastic impacts of climate change. Furthermore, our land access and traditional practices are greatly affected. Because of our unique relationship with the land and the natural world around us, we will continue to monitor and address the impacts of climate change. As a people we will stand strong to increase our knowledge and resilience to the forever changing climate. We are Cree. We are warriors and this will always be our home.



Climate Change and Adaptation

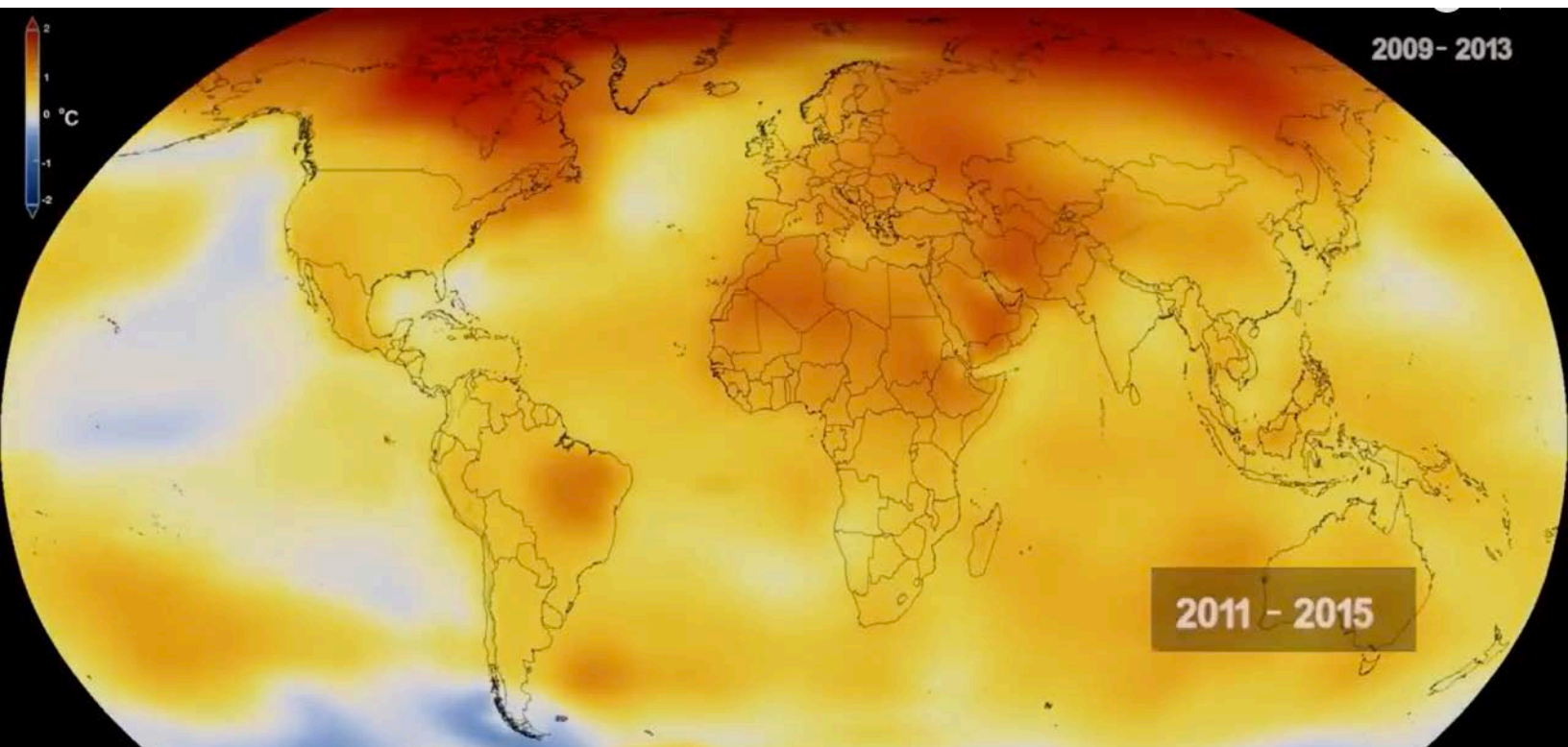
What is climate change? The term climate change describes shifts in Earth's long term weather patterns. Over the past several centuries, human influence on the climate has caused those shifts to accelerate. Our influence on the climate is primarily through greenhouse gas emissions like carbon dioxide, which trap heat and warm the planet. This then leads to many indirect effects on communities and ecosystems.

The terms climate and weather are often confused, but the difference is time scales. Weather is a short term phenomenon, while climate is an average of weather patterns over a long period of time. When we look at the weather forecast, we may be looking for how much it will rain tomorrow, but climate is an average of that rainfall over many years. So when we use the term climate change, we are really describing change on a scale of decades, centuries, and even millennia.

The indirect effects of climate change are wide-ranging. A warmer planet means warmer oceans, with declining sea ice and ice sheets, and rising sea levels. On land, permafrost is retreating, and the average spring snow-cover is decreasing. Extreme weather events like storms and floods are increasing in strength and frequency. Even the seasons are shifting, with summers becoming longer and drier, and winters shorter and wetter. These effects then have cascading effects on people and their built environment, and can become cumulative with other stressors like pollution or deforestation.

"Now, you've seen we have sometimes a very late fall and a very early spring, you've seen greater fluctuations that you didn't see in the past and all those fluctuations they cause changes."

Jack Diamond



These changes are driven by greenhouse gas emissions, which come from things like our cars, power generators, factories, and farms. The most impactful greenhouse gas is carbon dioxide, but there are others, including methane and nitrous oxide. They work by trapping energy from the sun that would otherwise escape back into space. This is known as the greenhouse effect.

There are two ways we can respond to climate change: through mitigation, and through adaptation. Climate change mitigation is the act of reducing the long term effects of climate change, mainly through the reduction of greenhouse gas emissions. However, the effects of climate change have already been set in motion, and therefore mitigation is not enough. Climate change adaptation is also needed. Adaptation is the act of adjusting to current and future climate conditions.

As Waskaganish's Climate Change Adaptation Plan, this document describes the impacts of climate change on Waskaganish, as well as possible responses to these impacts developed by the community. It is steeped in the observations and traditional knowledge of generations of Cree, who have lived on this land since time immemorial.







"We have to put in people's minds about climate change so that they can think about it and so the process will start in their minds on how to help."

Barbara



What can we expect in terms of future climate?

In the last decades, our community members have observed later freeze-up and earlier breakup of bay and river ice; shorter winters and longer summers; unpredictable weather patterns; stronger and reversed winds and more extreme weather events such as droughts, floods and lightning storms.

| Area | Past Trends | Projected trend (2050) | |
|--|-------------|------------------------|---|
| Air temperature  | ↑ | ↑ | +3.6°C warming of mean temperature, 5.5°C in the winter. High regional and seasonal variability. |
| Rainfall  | ↑ | ↑ | +13-20% and more extreme precipitation. High uncertainty about the amplitude of the increase and regional variability. |
| Snow  | ↓ | ↓ | Large year-to-year variability and likelihood of differing snow trends across the region (potential increase in Mistissini). |
| Extreme weather  | ↑ | ↑ | Weather has become more unpredictable. The intensity and frequency of extreme weather events (e.g. flooding or storms) will increase. |
| River discharge  | ↑ | ↑ | +2-15%, but significant variability due to hydro-electric flow modifications. Earlier onset of maximum river discharge. |
| Lake / River ice  | ↓ | ↓ | Ice forms later in autumn and melts earlier in spring. |

Source: Hennigs & Bleau, 2017

"A lot has changed today. I hear elders say that the weather has changed a lot and they can't forecast the weather because of that."

Danny

How is this plan structured?

1. By topic (pages 10-21)

In order to allow the reader to focus on his areas of interest the information is separated by the following topics impacted by climate change;

- Hunting, fishing and trapping;
- Health and safety;
- Food security;
- Culture and youth,
- Infrastructure, and;
- Industry

Most of the topics are interconnected; therefore, similar information is sometimes found under two topic-tables whereas other times it might seem to be missing from a table but is in fact covered in another topic-table.

Tables

The information is summarized in a table format where the observations and impacts of climate change are presented in one page and the potential responses and remaining questions, if any, in the following page.

2. Priorities and response measures (pages 22-25)

As the list of potential responses in the table is brief, following the tables of all topic, the reader will find some priorities (expressed throughout our discussions during the workshops) and their associated response measures explained in more detail. The priorities were not organised by topic as they often respond to more than one. Leading actors and advisory entities who could be implicated or expressed an interest in the elaboration and implementation of such measures are also listed. It is important to emphasize that the priorities/response measures are not presented in order of importance. At this stage, the exercise of prioritization is not complete as it has to be discussed with the local leadership.

Please also note that for the list of actors, all departments are from the Cree Nation of Waskaganish, unless otherwise specified.

3. Next steps (pages 26-28)

A separate section briefly explains the next steps to undertake for this adaption plan to climate change to be effective and implemented.

What about hunting, fishing trapping?



Climatic changes

warmer longer summers, shorter warmer winters, dryer earth, snow cover variability, unpredictable ice

Observations / Impacts

Decreasing populations

- less muskrats, otters and rabbits
- less woodland caribou
- less sturgeon, minnows and trouts
- less small birds, less fowl, no more askmok
- less ducks, scooters and arctic loons
- less wavies and partridge
- less geese
- less bees and dragonflies
- less toads and frogs

Increasing populations

- more polar bears, bears, wolves, wolverines, foxes and lynx
- more beavers and marten
- more bugs, like horseflies
- mosquitos and black flies seem bigger
- more suckers?

New populations

- mountain lions, coyotes, wolverine, muskox
- racoons
- pelicans, eagles, egrets, vultures, cranes, swans, long neck geese, other types of ducks
- fish population changed
- frogs
- belugas

Changing behaviour

- more bears, wolves and foxes near the community and bears coming out earlier
- more polar bears on Charlton Island
- moose now on the shores of the bay
- animals moving faster and less scared
- white fish coming out later
- geese not feeding on the shore anymore
- migrating ducks and geese, settling in different areas
- geese and wavies using different routes and geese flying late
- long neck Canada geese are the only ones flying late (end May, beginning June)

Changing health

- little white "pus" in white fish
- caribou tastes different
- more moose ticks
- sturgeon not as big as before

Potential Responses

Systems/Plans

- monitor priority species
- study animal behaviour
- prevent invasive species
- sustainable harvesting plan
- monitor the pests/diseases
- pest prevention program
- collaborate with other communities

Information/Education

- changes in harvesting calendar
- limit harvest of declining species
- increase harvest of increasing species
- adapt hunting strategies
- introduce new species to diet

Key Questions

- Which animal species do we want to monitor and study as priorities?
- What indicators would we want to monitor besides population size and health?
- Which species do we consider invasive species and why?
- How will we increase awareness of declining and increasing species?
- Which changes in our harvest calendar and hunting strategies will be beneficial?
- How will we monitor pests and diseases and who will lead a pest prevention program?
- Which new species would we like to introduce to our diet?
- How will we collaborate with other Cree communities in our response measures?



What about our health & safety?



Climatic changes

stronger winds, more frequent storms, longer, warmer and drier summers, shorter warmer winters, shorter freezing period, thinner ice cover, softer snow and shorter period of snow cover

Observations / Impacts

Unpredictable, unstable ice

- travel accidents on the ice
- travel routes cut-off
- ice-blinds can be dangerous

More and more severe forest fires*

- access roads cut off
- power outages
- people could get injured or die

More and more severe floods

- roads washed away (eg. Route du Nord)
- storm drainage blocked-up (Spring melt)
- cabins along the bay damaged
- pipes break when fire hydrants freeze
- people could get injured or die

* natural and human-induced forest fires

Physical/Emotional health

- bigger shifts between hot and cold in winter and summer
- bears ransack camps, threaten people
- some people are afraid to go out on the ice
- sadness because traditional knowledge can't be used to predict the weather anymore and skidoos can be used less
- depression, emotional distress due to all negative impacts
- less depression, emotional distress due to positive impacts (longer summers, new opportunities etc.)
- potential zoonotic diseases (diseases transmitted from animals to humans)

Changes in food/diet (see page 14)

"Maybe ten years ago the ice was thicker in some places and now due to climate change it's making it a lot thinner earlier in the year."

Ryan Sutherland

Potential Responses

Systems/Plans

- more extensive ice monitoring program
- update emergency response plan
- clearly assign roles and responsibilities amongst emergency response actors

Infrastructure/Resources

- ice monitoring mobile phone app to collect ice data and see safe travel routes
- invest in boats so that the river could be used as a second escape route

Information/Education

- “re-learn” how to read river and the ice
- more frequent reports on ice conditions
- prevention campaign(s)
- changes in hunting/harvesting calendar
- promote safety jackets (when skidooring)
- promote personal locator beacons and GPS trackers for skidoos
- promote satellite messengers
- promote travelling in groups

Key Questions

- Which animal species do we want to monitor and study as priorities?
- What indicators would we want to monitor besides population size and health?
- Which species do we consider invasive species and why?
- How will we increase awareness of declining and increasing species?
- Which changes in our harvest calendar and hunting strategies will be beneficial?
- How will we monitor pests and diseases and who will lead a pest prevention program?
- How will we collaborate with other Cree communities?
- Who should be involved in updating the emergency plan?
- How to make sure all community members can have access to ice safety status?



What about our food security?



Climatic changes

warmer longer summers, shorter warmer winters, unpredictable ice, dryer earth, snow cover variability

Observations / Impacts

Flora

- small creeks leading to the river are almost dry
- more growth of different types of vegetation
- willows at the mouth of the river have grown a lot higher
- grass on the river banks is much higher
- decrease of boughs
- some plants grow later
- the trees are affected by droughts
- we now have birch trees
- fewer and smaller berries due to the warmer temperatures, which combines with other stressors like increased erosion
- cranberries aren't big as they used to be
- opportunities to grow more food (vegetables, herbs etc.)
- diseases/pests affecting plants/trees, especially medicinal plants like speckled alder and willow
- wolves destroy vegetation

Fauna

- some traditional species declining, notably caribou and many bird species
- new species increasing, specifically birds and fish are increasing in abundance while others decrease
- diseases affecting quality of meat, including ticks and cancers
- in general meat is less fatty and tasty
- barriers to hunting, such as poor ice conditions, shorter winters, overkill, and wasteful hunting practices
- less consumption of traditional food, especially amongst youth
- more consumption of store bought food
- changes to how traditional food is consumed and processed, for example freezing is more common

"It's different now, today we have restaurants, whereas people back then cooked for themselves traditional meals a lot. My late mother would give us dry moose meat or fish. We don't see that a lot today."

Evelyn

Potential Responses

Systems/Plans

- diversify of food supply system
- harvest substitute species
- introduce urban agriculture program
- recommend to supermarkets what to provide, like more fruits, vegetables, and fish, as well as greater variety in general

Infrastructure/Resources

- greenhouses
- community, school and home gardens

Information/Education

- raise awareness on healthy diets
- offer cooking classes
- promote transfer of knowledge, especially regarding food preservation techniques
- record healing practices such as medicinal teas
- record traditional recipes

Key Questions

- Which traditional food species should be substituted? Is this a realistic?
- How can the offerings in grocery stores be diversified? Who will be responsible for working with stores to address this issue?
- How will an urban agriculture program be implemented?
- What is the link between berries and climate change?
- Which medicinal species are most affected by climate change?
- What is the relationship between wildlife diseases and climate change, and how does this affect diet?
- Who could implement cooking classes? And would this increase the transmission of traditional knowledge around traditional foods? Would this be effective for reaching youth?



What about our culture?



Climatic changes

warmer longer and dryer summers, shorter warmer winters, dryer earth, snow cover variability, unpredictable ice

Observations / Impacts

Flora

- wetlands drying up
- overgrowth of vegetation on the shores
- high tides destroying shoreline vegetation
- blue berries growth is variable from a month to the other and a year to the other
- more shikuteuminch (orange raspberries) than before
- less birch trees around the bay
- some plants grow higher
- less berries picking opportunities
- loss of healing practices
- less and decreased quality medicinal plants/trees
- forest fires impacting trees/plants

Fauna

- diseases affecting quality of meat
- traditional species declining
- new species increasing

Culture

- harder to access camps (due to shorter season, no bush plane and trickier climate conditions)
- loss of Cree way of life, language/culture (due to less time spent in the bush)
- loss of expertise of the territory (people go hunting in the south)
- loss of confidence in traditional knowledge
- sadness caused by the impact on hunting practices and the difficulty of going hunting
- limited opportunities to pass on knowledge to youth (because of shorter hunting seasons)
- too hot to play outside or to go berry picking
- school calendar does not coincide with the hunting season

"Without knowing what the future holds for us, I'm afraid that my child will not have what we have: trees, water. That's what scares me it's not knowing."

Neeshaa-Chanan Shecapio

Potential Responses

Information/Education

- elders teaching youth
- promote transfer of knowledge
- record hunting/trapping knowledge
- record healing practices
- record traditional recipes
- educate on medicinal plant use
- the parents committee could decide the dates of the hunting holidays

Systems/Plans

- monitor priority flora species
- monitor priority fauna species
- monitor pests
- pest prevention programs
- cultural programs focused on the environment

Key Questions

- Who should be in charge of recording traditional practices?
- Which flora species do we want to monitor and study as priorities?
- Which animal species do we want to monitor and study as priorities?
- What indicators would we want to monitor besides population size and health?
- How can we run programs that focus both on culture and the environment?
- How will we monitor pests and diseases and who will lead a pest prevention program?
- How will we collaborate with other Cree communities?

"If we want to keep Cree culture, we have to pass it on to the youth"

Stacey



What about our infrastructure?



Climatic changes

heavy rain, more icy rain episodes, more freeze-thaw cycles, stronger winds, increased flooding, increased periods of droughts

Observations / Impacts

Damage of public infrastructure

- contamination of property from flood water (most frequently during Spring runoff, which is happening earlier than it used to)
- blocked drainage system
- overflow of sewers
- limited road access due to flooding, as well as permafrost melting
- damage to public buildings

Damage of private property

- flooded basements with mold is becoming a problem
- houses and coastal camps are often flooded in the Fall
- damaged homes and camps with inland camps more vulnerable to forest fires.
- damaged furniture/possessions

"The roads are being washed out a lot. I've travelled route du Nord quite often and just after springtime you can see that a lot more water is being retained and it's creating a lot more washouts on the roads."

Ryan Sutherland



Potential Responses

Systems/Plans

Climate-considerate management, eg. consider projected climate changes in:

- asset planning, investment, construction
- asset maintenance and replacement
- reviewing building design and codes, including mandatory smoke detectors, better ventilation, sprinklers, and gutters
- reviewing insurance policy
- erosion control (sand and waste flowing down with rain/snow blocks up drainage)
- more monitoring, especially of snow and rain
- earthquake and landslide planning

Infrastructure/Resources

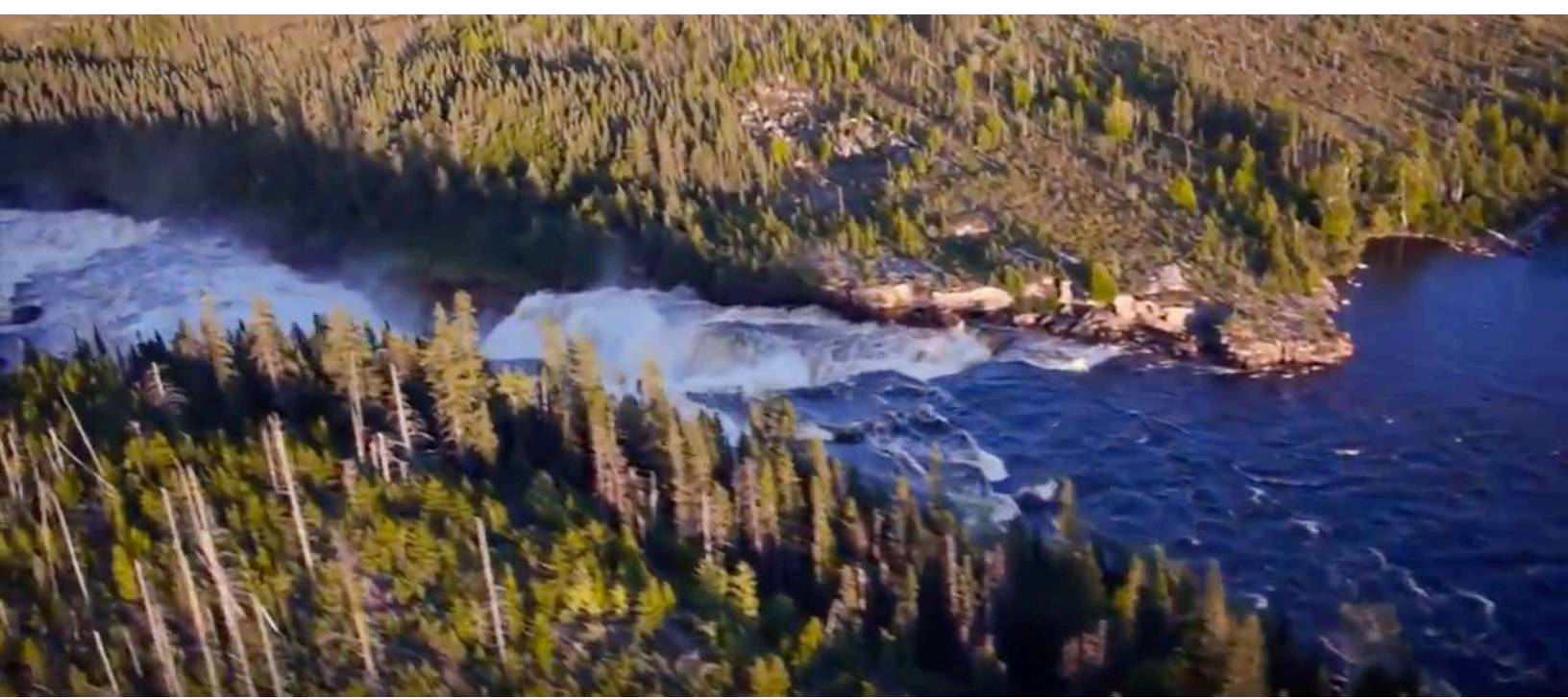
- evaluate sewer and drainage system
- improve drainage capacity to match long-term climate forecast
- increase snow removal
- improve weather data dissemination through apps and social media

Information/Education

- professional trainings to learn about climate considerate management
- public awareness campaign to encourage people to consider climate change in home building and improvements)
- climate awareness training for everyone, specifically school kids and people who are building their own homes

Key Questions

- How could weather data be better communicated so that it reaches more people?
- How could climate considerate management be implemented?
- Who could we deliver climate awareness training?
- What is the link between sewage/drainage and climate change and how can it be addressed?



What about our industry?



Climatic changes

heavy rain, flooding, droughts, more icy rain episodes, more freeze-thaw cycles, stronger winds, increased flooding

Impacts / Observations

Tourism

- longer summer season
- more summer activities
- shorter winter season
- warmer temperatures in winter
- unsafe travel conditions on the ice
- less winter activities
- less berry picking opportunities
- changes in species
- more forest fires

Industry

- damage from extreme weather events

Forestry

- higher wood harvest
- more frequent forest fires
- diseases
- rotting wood
- constant demand of fire wood from November to April

Crafts

- difficult access to material required for crafts (i.e. tree for snowshoe making, tamarack twigs)
- difficult to make the traditional art making business profitable



Potential Responses

Systems/Plans

- Expand the exchange program with students from the south

Information/Education

- Promotion of Waskaganish in the tourism sector
- Offer more group excursions

Infrastructure/Resources

- Forest fire fighter trainings

Business Opportunities

- Agriculture, outdoors and in greenhouses
- Blueberry wineries
- Poultry farming
- Helicopter services (for emergency response, tourism, access to the land, etc.)
- Helicopter pilot and mechanic job opportunities
- Recycling business
- Tourism business
- Solar energy business
- Geothermal business

Key Questions

- Are there people interested in working in the tourism sector or in any other business opportunities arising due to climate change?
- How to promote the tourism sector?
- Who would be in charge of promoting the tourism sector? How could it be done?
- Who could help with starting new businesses?
- How to make sure traditional craftsmanship is not lost due to more difficult access to material?
- Are there links to be made between new businesses and the preservation of cultural activities/practices?

"In this weather, I think it's important that there would be planting/farming, so that there would be employment and low cost of fruits and vegetables."
Conrad



How do we wish to respond?

Priority 1: Climate change awareness and cultural preservation

Response measure:

A knowledge exchange and learning program that fosters cultural celebration.

Why now?

Climate change will have a significant impact on the future of our community and our youth, but youth can also play a key role in our responses to climate change impacts. For youth to mobilize themselves and to take action they will first have to learn about climate change.

Why valuable and who for?

- To teach everyone about climate change (causes, impacts and responses)
- To clearly communicate the scale and speed of climate change
- To inspire and prepare community members to take action on climate change
- To bring together youth and adults, in particular elders, and to promote the exchange of knowledge and views between them
- To take youth away from their daily lives, away from internet connection and distractions

How and by who?

- Instead of starting from scratch we could integrate climate change education into existing popular youth programs such as the canoe brigade, Achumii, the cultural program and the fishing program.
 - Within these existing programs youth already learn traditional knowledge and skills from elders. At the same time youth and elders could learn about climate change.
 - Youth like camp-based and visual learning and outdoor and hands-on activities
 - These programs offer effective ways of learning because they are hands-on social and related to daily life things such as culture, food and recreation
 - Developing new climate change components for existing popular programs is attractive to funders as great attendance is more likely and it is attractive to the people leading current programs as it can bring additional funding and interest from youth and elders
- The program should be youth-led and a young climate change trainer could be appointed to design and coordinate the activities.

Leading actors:

Cree School Board, Cree Health Board, Natural Resources & Environment Department, Youth council and Elder's Council

Priority 2: Food security

Response measure:

An inclusive community agriculture program to address food insecurity.

Why now?

Climate change is contributing to increased difficulty in accessing healthy traditional food sources. Because of longer and warmer summers we will be able to grow more different types of vegetables, fruits and herbs in our community and on our lands.

Why valuable?

- To make fresh vegetables, fruits and herbs available (for free and/or at affordable prices)
- To increase local food security and self-sufficiency through affordable locally grown produce
- To promote healthy diets and lifestyles and to contribute to tackling obesity and diabetes
- To provide training, guidance and job opportunities
- To encourage the use of greenhouses to provide year-round employment
- To promote the establishment appropriately designed community and private gardens
- To especially involve people from vulnerable groups (i.e. low-income households, etc.)
- To explore the production of locally made herbal medicines

Who by and who for?

A community based gardening expert could train a youth team. This youth team could in turn run workshops for any community members that are keen to learn how to grow edible produce in their own private or in community gardens.

What, where and how?

- A series of workshops focussed could be organized at different points during the year so that community members can learn everything they need to do in each season to successfully grow their own produce.
- The training of the youth team as well as the workshops for community members could take place in people's gardens or at suitable public sites, for example next to schools.
- In addition, cooking workshops could be organized for community members to learn how to cook healthy and tasty meals with the things that can be harvested at different times during the year.
- Healthy recipes that combine locally grown products with wild meats could also be shared via social media.

Leading actors:

Natural Resources & Environment Department, Cree Health Board, Cree School Board & Elder's

Priority 3: Safe travel

Response measure:

A collaborative ice monitoring program in order to improve safety for the travellers.

Why now?

In the coming years the thickness and quality of age ice on the river and bay will become more and more unpredictable because the weather will become more changeable.

Why valuable?

Less and less people in our community are confident to interpret all the various pieces of information such as tidal wind and weather data, which need to be combined to assess if a certain travel route is safe.

Who by and who for?

The local ice monitoring team could use a combination of traditional techniques and modern equipment to assess ice thickness and quality on the main travel routes. The travel safety information would be made accessible to all community members who travel on the ice.

What, where and how?

- The ice monitoring program would run throughout the winter and combine local weather data (from the weather station at the airport) with locally collected data.
- An ice monitoring smart phone app could use maps to show exactly which routes are safe and which are not.
- The app could be updated in real time as the ice monitoring team would input their local data whilst being out on the ice.
- The ice safety information should also continue to be communicated frequently through the radio for those community members that don't have or use smart phones or those that are out on the land without cell-phone reception.
- In the coming years we should expect to need a bigger ice monitoring team and/or for the team to work more hours to keep up with the more frequent changes, particularly at the beginning and the end of the season.
- Motivated and skilled young people could be recruited to join the ice monitoring team and learn from elders and experienced monitors.

Leading actors:

Local Public Safety Department, Niskamoon, Cree Health Board, Cree Trappers Association and Elders Council

Priority 4: Emergency preparedness

Response measure:

update the community emergency response plan to account for climate change predictions.

Why now?

The Waskaganish Emergency Response Plan addresses many different kinds of emergency scenarios but it currently does not yet account for climate change and the increased frequency, scale and unpredictability of extreme weather events that will result from it. Not everyone is familiar with the current plan or what to do in the event of an emergency. Our town only has one evacuation route through the access road which could be blocked in emergencies.

Why valuable and who for?

To ensure that a solid plans is in place and suitable systems, manpower, equipment and materials are in place for the various emergency scenarios and that individuals and institutions in the community are well prepared and know what to do and how to collaborate in the case of future emergencies.

How?

One or several people should be clearly appointed and have enough time and resources to carry out the following tasks in a timely manner:

- overseeing emergency response actions (as all other emergency actors have their hands full with their specific responsibility areas and somehow needs to keep and overview, coordinate and call the shots?)
- regularly updating the emergency response plan
- ensuring that all emergency response actors are informed of changes to the plan
- ensuring that institutions in the community have their own emergency plans
- ensuring that institutions in the community do regular emergency/evacuation drills
- organize awareness raising events and evacuation drills for community members
- identifying what materials need to be purchased (for example: if the community owned larger boats then Rupert River could be used as a second escape route)

Leading actors:

Local Fire Department*, Local Public Health Department, Local Police Department, Local Ambulance Service and Cree Health Board

What are our next steps?

Key questions to discuss

The following questions should be discussed by all actors taking the lead on the priority response measures described in the previous chapter, together with their advisors.

- Is there enough interest in our community for this project to be a success?
- Would it make sense for us to collaborate together with other Cree communities who want to start a similar project? (benefits: developing one strong proposal, not competing, pooling skills and knowledge, using same curriculum, reducing costs)
- What will be the next steps to develop the project and raise funds?
- What kind of funding can we access? What funding is most suitable to us?
- Can the band office invest in this response measure, if so how much?
- Do the leading actors have all the required skills for all steps or do need help from others
- Who can support the leading actors with specific jobs, proposal writing? fundraising?

Considerations

- The Band Office to invest in an experienced an experienced fundraiser with project management skills to help the leading actors of each response measure to write strong proposals, develop detailed project plans and approach funders.

Local Communications

- The Climate Change Adaptation Plan Video is now available on YouTube under Call to Action - Climate Change Adaptation in Waskaganish. We invite everyone to watch and share our video!
- The current Community Proposal Climate Change Adaptation Action Plan is available on the Cree Nation of Waskaganish Website. However, keep in mind that we want this Action Plan to be a living document... it should evolve and change over time! A revision of this Action Plan should be done periodically.
- Each participant who contributed to this project has received a copy of this Action Plan. They have been invited to continue the discussions on its implementation.

Coordinating Local and Regional Efforts

- Encouraging, mobilizing and supporting community-driven initiatives and outreach to better coordinate and organize implementation of this plan will be essential. Working in silos will be avoided, however responsibilities should be assigned to coordinate efforts in Waskaganish. Key departments and organizations have been suggested and have volunteered as leading actors and advisors but need to be validated by the community leadership and other-related entities.
- Not all priorities can be undertaken at the same time: we need to prioritize our responses! We have to identify what can be done on the short, medium and long term.
- Implementation teams will need to determine what is feasible, what programs can be employed, what budget is needed, what schedule is realistic, etc.
- A Regional Forum to discuss the Climate Change Adaptation Strategies for Eeyou Istchee will be organized by the Cree Nation Government in the fall of 2018. Each community will be asked to send a few representatives.



Engagement

- Everyone agrees: Youth must be involved in all responses and as much as possible. Their message was clear throughout the climate change adaptation video; youth are ready to be fully engaged in this and want to work together in finding solutions to coping with climate change impacts. Exchanges of knowledge between youth and elders should be promoted.
- Climate change is a crosscutting issue. Each sector needs to prepare and collaborate, and many community members are ready to engage and follow-up in the implementation initiatives of this Action Plan.
- We need to engage with the business sector (e.g tourism) and community members to cope with the impacts of climate change.

Monitoring

- Key indicators that specify the progress of the plan's implementation and relate to a key priority of the Action Plan will need to be identified. They reflect the stages in the completion of various implementation activities. Few examples:
 - Pest/diseases: moose tick, parasite in deer
 - Fish population/spawning
 - Ice freeze up and thaw date as well as thickness
 - Frozen ground (November-January)
 - Snow cover variability (duration, thickness, quality)
 - Flood intensity, duration, frequency; especially in spring
 - Periods of dryness: frequency and intensity of fires.
- Milestones refer to timing. Key indicators that are planned to occur at certain times. Monitoring milestones is an effective way to keep things on track.
- Reporting: Some actions take considerable time. Indicators and milestones need to be reported. An annual report on the progress of implementing the Action Plan will help the community to know what's going on and let people evaluate the success of the plan.
- Reviewing the plan: Plans are dynamic and change should be expected ! Gaps in original knowledge will be filled and new information will become available. Implementation may move faster than expected. The Action Plan may be reviewed every few years to ensure it is up-to-date and that the implementation schedule is still relevant.

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