

2016

INUUVIALUIT

ON THE FRONTLINE OF CLIMATE CHANGE:

DEVELOPMENT OF A REGIONAL CLIMATE CHANGE
ADAPTATION STRATEGY

ACKNOWLEDGEMENTS

Inuvialuit Regional Corporation (IRC) would like to acknowledge Indigenous and Northern Affairs Canada's (INAC's), Climate Change Adaptation Program (CCAP) for the funding to develop our community-led baseline on climate change in the Inuvialuit Settlement Region (ISR). We would also like to thank our community Climate Change Coordinators and knowledge holders for providing us with invaluable insight into observed climate changes and recommended adaptation actions that could be implemented in the future. Lastly, we would like to acknowledge Arctic North Consulting Ltd. for their permission to replicate their scientific methodology to complete our six community adaptation plans in a way that is comparable and will complement the work that has already been done. Finally, we would also like express our sincere gratitude to Outcrop Communications for their work on design and editing of this report and to IRC for providing quality photos to complete this publication.



MESSAGE FROM LEADERSHIP

Inuvialuit culture and daily living are closely tied to the natural world. From developing ice roads to practicing subsistence harvesting, any alteration to the regional landscape will have profound impacts on local residents. Since the early 2000s, local observers have documented that weather patterns in the Inuvialuit Settlement Region have become increasingly unpredictable, annual temperatures are increasing, freeze up/break up dates have shifted, multi-year ice is diminishing, species migration patterns are shifting and inland lakes are draining due to permafrost melting. These regional changes have been linked to increased risk when traveling on the tundra/ice, decreased ability to access country foods and an overall decreased species health.

As the Paris Agreement (2015) and Vancouver Declaration on Clean Growth and Climate (2016) are supported by the Canadian Government, indigenous people are asked to provide an increased role in ensuring a sustainable future for Canada. Given the rapid pace of environmental change in the Inuvialuit Settlement Region, increased focus should be placed on conducting baseline research, developing equitable mitigation measures and raising public awareness.

The Inuvialuit Regional Corporation has recently increased focus on climate change research and has collaborated with Inuit Tapiriit Kanatami to develop 'Inuit Priorities for Canada's Climate Strategy: A Canadian Inuit Vision for Our Common Future in Our Homelands' (2016). This document highlights key Inuvialuit priorities which include:

- The integration of Inuvialuit knowledge with western science to support all future arctic climate policies and research
- Strengthening Inuit food systems through supports and adaptations that recognize climate changes
- The investment of climate-resilient northern infrastructure, technologies and energy independence within the Inuvialuit Settlement Region
- The allocation of long-term funding for Inuvialuit-led climate change research

As National attention is placed on transitioning to a low carbon economy and mitigating the effects of climate change, it is the Inuvialuit Regional Corporation's responsibility to ensure that any new legislation is considered equitable to all Canadians and to consider the economic inequities experienced by individuals living in Canada's arctic. With a shared vision of sustainability as well as increased collaboration opportunities at all levels of government, all levels of government will be better able to understand, adapt and mitigate the influence of climate change for all Inuvialuit.



Duane Smith

Chair & Chief Executive Officer





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SIMILARITIES & DIFFERENCES IN THE ISR

A. SIMILARITIES:

Among the six ISR communities, there was a great deal of commonality regarding perceptions of climate-change threats and adaptation measures. The core areas of commonality amongst the communities can be grouped into six categories:

Species: Most or all communities agreed that climate change is altering the types, population sizes, health, and movement patterns of terrestrial, avian and marine animal species in the ISR.

Subsistence practices: Most or all communities agree that climate change poses challenges to Inuvialuit subsistence-harvesting practices and has or will cause food insecurity in ISR communities.

Environment: Most or all communities agree that the weather and associated conditions in the ISR have altered and become more unpredictable, with consequences for the safety and cost of private travel on the land and sea.

Culture: Most or all communities agree that climate change has had an impact on the use and transmission of the Inuvialuit language, oral history, traditional skills, and traditional values.

Infrastructure: Most or all communities agree that climate change is negatively affecting private and public infrastructure in the ISR, and in some cases is threatening the survival of entire communities.

Cost: Most or all communities agree that climate change is increasing the already high cost of living in the ISR.

B. DIFFERENCES:

In certain instances, the six communities of the ISR expressed divergent views concerning climate-change-related threats and adaptation strategies. However, these divergences do not seem attributable to inter-community disagreement so much as to inter-community variability. This is not surprising. ISR communities vary in population (from under 150 residents to nearly 3,500), ethnic diversity (from almost exclusively Inuvialuit to a mixture of Inuvialuit, Gwich'in and non-Indigenous residents), geographic setting (from inland to coastal) and ecozone (from boreal to High Arctic). It is thus not surprising that Aklavik would be concerned about riverbank erosion and beaver overpopulation while Sachs Harbour would focus more on marine shipping and dwindling muskoxen herds. Indeed, these divergent views would seem to underscore the fact that climate-change-adaptation in the ISR will require flexibility rather than a one-size-fits-all approach.

GUIDING PRINCIPLES

At the Inuvialuit Settlement Region's Regional Climate Change Strategy Meeting, held March 21-24, 2016, in Inuvik, attendees identified the following principles, based on Inuvialuit societal values, to guide the region's climate-change adaptation efforts and provide Inuvialuit with increased resilience and adaptive capacity.

1. RESPECTING OTHERS, RELATIONSHIPS AND CARING FOR PEOPLE

Climate change is impacting the lives of IRC beneficiaries. Climate change mitigation and adaptation must be done out of care for beneficiaries and their needs. These actions must respect Inuvialuit traditional knowledge and take into consideration the important contributions all Inuvialuit can make toward planning for the future.

2. PROMOTING GOOD SPIRIT BY BEING OPEN, WELCOMING AND INCLUSIVE

Inuvialuit must take an inclusive approach to climate change adaptation planning and research.

3. SERVING AND PROVIDING FOR FAMILY AND/OR COMMUNITY

Inuvialuit are committed to providing our region and its beneficiaries with the tools and resources needed to successfully adapt to a changing climate.

4. DECISION MAKING THROUGH DISCUSSION AND CONSENSUS

Individuals, community governments and other organizations will be given meaningful opportunities to share ideas and participate in decision making that will directly affect them and their communities.

5. DEVELOPMENT OF SKILLS THROUGH OBSERVATION, MENTORING, PRACTICE AND EFFORT

Participation in the development and implementation of adaptive measures will enhance individual and community self-reliance, empowerment and capacity. Training, capacity building and skills acquisition are key factors in increasing local adaptive capacity.

6. WORKING TOGETHER FOR A COMMON CAUSE

Collaborative relationships that are based on the integrated application of traditional knowledge, local knowledge and community-directed and approved scientific research will help us work together in innovative partnerships towards increased resilience.

7. BEING INNOVATIVE AND RESOURCEFUL

Wisely using human, natural and financial resources through innovative partnerships and collaboration. This will maximize our climate change knowledge and our potential to successfully adapt.

8. RESPECT AND CARE FOR THE PEOPLE, LAND, ANIMALS AND ENVIRONMENT

Taking responsible actions to control our own emissions of greenhouse gases and adapt to climate-change impacts. Through collaboration by all stakeholders, decisions will be made that help ensure the long-term sustainability of Inuvialuit and the land and wildlife on which we all depend.

PART ONE:

CHANGES AND IMPACTS: CLIMATE CHANGE IN THE ISR

CHANGES IN TEMPERATURE

Observed phenomena:

- Increased average air temperatures (increase of 0.7-1.2°C per decade from 1981-2010)
- Significantly increased winter air temperatures
- Increased ground temperatures
- Increased marine temperatures

CHANGES IN WEATHER AND PRECIPITATION

Observed phenomena:

- More thunderstorms
- More windstorms
- More funnel winds
- Drier conditions
- More forest fires
- More changeable and less predictable weather
- Wetter and colder summers (in certain places, such as Tuktoyaktuk)
- Less snow
- More compacted snow

CHANGES IN WATER

Observed phenomena:

- More flooding
- Erosion/disappearance of islands and sandbars
- Rising of waterline
- Higher/more frequent waves





CHANGES IN PERMAFROST

Observed phenomena:

- Melting in communities
- Melting/eroding on ocean shore (such as along the south coast of Banks Island)
- Melting/slumping in inland locations

CHANGES IN ICE CONDITIONS

Observed phenomena:

- Thinner ice (posing a danger to hunters/travellers)
- Rougher ice (especially near shorelines)
- Less salty ice

CHANGES IN WILDLIFE AND VEGETATION

Observed phenomena:

- Land greening, plants increasing in size (from warmer, longer summers)
- Unfamiliar animals appearing (including a California Condor at Paulatuk and grasshoppers at Shingle Point)
- Certain animal populations increasing (such as beluga at Sachs Harbour)
- Animals' movements changing (for example, caribou are migrating differently)
- Appearance of zoonotic diseases (such as Europsyphyllis in muskox)

PART ONE:

POTENTIAL IMPACTS OF CLIMATE CHANGE

The potential impacts of climate change on the ISR are numerous, substantial and complexly interconnected. In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR's Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on the current and potential impacts of climate change on their communities and region. These impacts were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key impacts of climate change identified by ISR residents and representatives.

A. BUSINESS AND ECONOMY

COST OF LIVING:

All communities reported concerns about the relationship between climate change and the local/regional cost of living. Communities reported that costs of living are already high, and that climate change may further increase those costs. For example, it was frequently observed that residents may have to travel greater distances to harvest fish and game; or that residents may face higher costs for constructing and maintaining infrastructure impacted by flooding, permafrost thawing or coastal erosion. At the same time, it was observed that the high cost of living makes climate-change adaptation more challenging – for example, that residents unable to harvest traditional game may be forced to purchase expensive store-bought food.

CUMULATIVE IMPACTS:

At least one community observed that climate-change poses challenges related to “cumulative impacts” on the environment of the ISR. It was observed that if the environment is already stressed due to factors such as industrial development and expanded human footprint, climate change could push that environment over the ecological “tipping point.”

FISHING:

Several communities noted that commercial fishing opportunities may be affected by climate change, due to impacts both on fish stocks and on the ability of residents to access fishing grounds. At least one community observed that the arrival of new, “invasive” fish species may create new commercial fishing opportunities.

INDUSTRIAL DEVELOPMENT:

A few communities observed that climate change may facilitate industrial development such as mining or petroleum-extraction – because, for example, shipping or undersea drilling may become easier if sea-ice cover is reduced. It was noted that such development might pose dangers to the local/regional environment and to traditional economies.

INFRASTRUCTURE:

Many communities noted that climate change poses a threat to infrastructure both within and outside of municipalities. This threat comes in a variety of forms, including shoreline destruction, spring flooding, permafrost slumping, damage to roads, sewage lagoons and municipal water systems, erosion of graveyards, etc.

SHIPPING:

Several communities noted that climate-change may affect marine and overland transport. For instance, low water levels on the Mackenzie could impair barging, while later freeze-ups and earlier break-ups may shorten the ice-road shipping season.

SPORT HUNTING:

A few communities reported that warmer winters, along with other factors, are resulting in a decrease in sports-hunting visitation, resulting in reduced income among local sports-hunting guides and helpers.

TRAPPING:

Several communities reported that climate change has impacted trapping in the ISR, reducing the presence of certain fur-bearing species while increasing the presence of others. Trapping has also been affected insofar as travel to and along traplines has in many cases become more difficult or unpredictable.

TOURISM:

A few communities suggested that climate-change may impact tourism opportunities in the ISR. For example, with the reduction in sea-ice cover, cruise-ship visits to communities may increase; on the other hand, shorter ice-road seasons may increase the number of visitors arriving by air or sea, creating fuel and food shortages.

TRAVEL:

Many communities noted that climate change may impact air, land and water travel in the ISR. For example, on land, permafrost slumping and erosion may damage traditional travel routes. On ice and water, factors such as increased overflow, earlier thaws, and dangerous summer storms may imperil snowmachiners and boaters. For air travellers, increased winds could result in more frequent flight delays.



B. CULTURE AND LEARNING

EMERGENCY PREPAREDNESS:

Several communities noted that climate change brings an increased danger of natural disasters and other emergencies, necessitating the development of, and communication about, community and regional emergency response plans.

LANGUAGE & ORAL HISTORY:

Most communities noted that climate-change may impact the teaching and retention of the Inuinnaqtun language and oral history. This is due in part to the fact that language and oral-history transmission is integrally related to the transmission of traditional skills and knowledge, which also are imperilled by climate change.

TRADITIONAL SKILLS, KNOWLEDGE & VALUES:

Most communities noted that climate change may adversely impact the teaching and retention of traditional skills, knowledge and values. This is because changes in the environment may disrupt traditional practices relating to travel, weather-prediction, harvesting, garment-making, etc., diminishing the frequency and safety of those practices and foreclosing opportunities for traditional skills, knowledge and values to be passed on.





C. HEALTH AND WELL-BEING

ANIMAL HEALTH:

Most communities noted that climate-change poses health challenges to animals and the environment – due, for instance, to diminished browse for wildlife, overly-warm water for fish habitat, competition from invasive species, and illness caused by southern diseases.

CLEAN WATER:

A few communities noted that erosion and other factors have led to murkier waters, the potential breaching of sewage lagoons, and the disruption of municipal water supplies, potentially impacting human health.

DUST:

Several communities observed that drier, warmer, more snow-free conditions are resulting in a greater prevalence of dust in communities, leading to respiratory illnesses, sore throats and sore eyes.

EMOTIONAL HEALTH:

A few communities observed that climate-change is harming the emotional health of ISR residents, by diminishing opportunities to spend time on the land, limiting travel opportunities, and eroding the relevance of traditional skills, knowledge, values and language.

FOOD INSECURITY:

All communities indicated that climate-change is directly linked to food insecurity. The reasons for this are both direct (for example, loss of subsistence-harvest species) and indirect (for example, higher cost of store-bought goods due to increased shipping challenges).

INSECTS:

A few communities noted that longer, warmer summers are resulting in an increased prevalence of biting insects, causing annoyance and potential injury to residents.

NUTRITION

Every community observed that climate-change may impair health and increase food insecurity in the ISR by reducing access to wholesome traditional food while increasing dependence on expensive, less nutritious store-bought food.

SUNBURN:

One community observed that increased intensity of the sun in spring and summer has heightened the risk of sunburn.

TRADITIONAL MEDICINES:

One community observed that climate change has impaired the gathering and utilization of traditional medicines, by altering the places where such medicines can be harvested and by making travel to those places more difficult.

THREATS FROM WILDLIFE:

One community observed that climate-change has increased incidents of wild animals coming into communities and camps, thereby increasing the danger of negative human/animal encounters.

WEATHER-RELATED DANGERS:

Most communities observed that climate change poses a physical danger to residents of the ISR. More unpredictable ice, water and land conditions make travel less safe; meanwhile, the increased prevalence of storms, flooding, etc., poses physical dangers to residents within communities.



D. SUBSISTENCE HUNTING AND FISHING

HARVEST PRACTICES:

Almost all communities noted that climate change is compelling subsistence harvesters to alter their harvesting practices. For example, warmer waters mean that netted fish go “soft” more quickly, requiring fishers to check their nets more frequently.

HARVEST REGULATIONS:

Several communities noted that, though climate change is altering the places, times and types of species available to subsistence harvesters, government regulations related to such harvesting have not kept pace.

SPECIES REDUCTION:

Almost every community observed that climate change has imperilled certain species – for instance, due to the warming of waters that provide fish habitat, or by facilitating the spread of invasive diseases.

SPECIES OVERPOPULATION:

Several communities noted that climate change is making certain familiar species even more populous. For example, several communities observed that beaver and otter have become much more common in the Mackenzie Delta, and geese are more abundant on the arctic islands.

SPECIES INTRODUCTION:

Several communities observed that climate change has prompted the arrival of new, unfamiliar species of fish, game, birds, and forms of vegetation. While these species may pose a threat to more traditional species, they may also create new harvesting/trapping opportunities.

SPECIES ALTERATION:

All communities noted that climate change has altered the patterns of wildlife migration, reproduction, etc. This has presented challenges concerning the timing, location, safety and expense of traditional harvesting activities.

SPECIES ILLNESS:

A few communities stated that climate-change appears to be interrelated with an increased incidence of illnesses and abnormalities in fish and game. This impact has consequences both for species survival and for the health and quality of the meat harvested from these species.

TRAVEL:

All communities noted that travel for hunting, fishing, gathering and trapping has been impacted by climate change. This is due to changes to the land, ice, snow and water – everything from the erosion of traditional overland trails to the shortening of the season of winter/spring ice. These changes have myriad implications for subsistence harvesters, including increased danger to travellers, increased expense due to greater travel distances and damaged equipment, diminished harvesting opportunities, etc.

E. TRANSPORTATION AND INFRASTRUCTURE

ENVIRONMENTAL FOOTPRINT:

At least one community observed that ISR beneficiaries and communities must do their part to combat climate warming by pursuing alternative energy solutions, reducing pollution, and so forth.

MUNICIPAL INFRASTRUCTURE:

Most communities have observed climate-change-related threats to municipal infrastructure, including damage to roads by shore erosion, flooding of sewage lagoons, slumping of municipal structures due to permafrost thaw, damage to graveyards, etc.

PRIVATE INFRASTRUCTURE:

Most communities noted that climate change poses a threat to private property and infrastructure, both within and outside municipal boundaries. This includes everything from increased damage to vehicles caused by pot-holed roads to the destruction of fishing camps by high winds or shoreline erosion, and potential danger to housing.

PUBLIC TRANSPORTATION:

Several communities observed challenges related to climate change and public transportation. These include impacts on aircraft movements due to changes in the prevailing wind, reduction in the length of the ice-road season, diminished viability of barging due to lower river waters, etc.

PRIVATE TRANSPORTATION:

As noted previously, communities widely observed the hazards that climate change poses to travelers, whether they be boaters experiencing powerful summer storms, snowmachiners contending with increased overflow, or ATV-riders travelling on trails damaged by flooding or permafrost thawing.

RECREATION:

Several communities observed that climate change is impacting recreational opportunities in communities; for example, shorter and warmer winters have affected communities' ability to maintain hockey arenas.





PART TWO:

ADAPTATION AND PLANNING – FROM IMPACTS TO ADAPTIVE CAPACITY

In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR's Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on potential adaptations to identified local and regional climate-change-related threats. As with the identified threats, these adaptations were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key adaptations proposed by ISR residents and representatives.

BUSINESS AND ECONOMY

COST OF LIVING:

- Train potential employees and create new jobs/businesses (such as through joint-venture companies)
- Combat high price of store-bought goods (for example, through the privatization of community fuel sales, reinstatement of the federal food-mail program, encourage market competition, and development of greenhouses, etc.)
- Promote saving (such as training individuals to budget and invest, promoting bartering, sponsoring energy-savings efforts, etc.)
- Promote self-sufficiency (such as through gardening, cottage industries, trapping, etc.)

INDUSTRIAL DEVELOPMENT:

- Increase monitoring and research to examine and mitigate industrial damage to the environment
- Secure compensation from developers in the event of such damage

SHIPPING:

- Promote better monitoring of, and communication about, shipping hazards
- Explore the possibility of conducting more bulk shipping to mitigate the high cost of transportation





SPORT HUNTING:

- Educate/train more ISR residents to be sports-hunt guides/outfitters
- Develop new sports-hunting opportunities (new species, new locations, new seasons)
- Negotiate with airlines to facilitate easier travel to the ISR for sports-hunters
- Educate southerners about Arctic wildlife and Inuvialuit harvesting methods to combat bans/boycotts that harm the sports-hunting industry

TRAPPING:

- Train and incentivize more residents (including youth) to get into trapping
- Research, monitor, and share information about fur-bearing species in the ISR
- Educate southerners about Arctic wildlife and Inuvialuit harvesting methods to combat bans/boycotts that harm the trapping industry

TOURISM:

- Be prepared for tourists when they arrive (such as having artwork on hand to sell to cruise-ship visitors)
- Make it easier for tourists to come (such as by negotiating with airlines to create package deals for tourists)
- Train/incent ISR residents to work in the tourism industry; creating new tourism-based companies and opportunities
- Promote ISR communities as tourist destinations (for example, by attending trade shows)

CULTURE AND LEARNING

EMERGENCY PREPAREDNESS:

- Establish, and share information about, community emergency plans
- Develop community emergency resources (such as bulk supplies of blankets, water filters, etc.)
- Develop and coordinate local and regional emergency-response systems/organizations
- Train residents in emergency-preparedness skills such as first-aid
- Encourage residents to pursue occupations or volunteer opportunities related to emergency preparedness (volunteer firefighting, joining the Canadian Rangers, nursing, etc.)
- Promote emergency preparedness in schools

LANGUAGE & ORAL HISTORY:

- Create and/or require more language-learning opportunities (via school curricula, adult-learning classes, social media, etc.)
- Utilize language-learning technology (for example, language-learning apps)
- Create community language resources (such as Innuinaqtun dictionaries, oral-history archives, online directories of language-learning resources, etc.)
- Encourage residents to pursue careers as linguists, translators and interpreters
- Hold more community meetings/events in Innuinaqtun
- Get more Inuvialuit teachers in the school system
- Establish cultural committees in each community

TRADITIONAL SKILLS, KNOWLEDGE & VALUES:

- Promote on-the-land learning, such as through “land camps,” where skills such as safe navigation would be taught
- Incorporate traditional knowledge, etc., into school educational curricula
- Hold drum-dance, sewing and tanning workshops
- Develop elders’ centres so elders can remain in their community
- Promote sharing of knowledge between elders and younger generations
- Promote youth leadership
- Train, recruit more local people to become teachers
- Establish cultural committees in each community





HEALTH AND WELL-BEING

ANIMAL HEALTH:

- Start/strengthen environmental research and monitoring programs
- Create systems and incentives for harvesters to contribute to and learn from such programs

CLEAN WATER:

- Facilitate the regular testing of water quality
- Repair/maintain community water infrastructure
- Change where water is gathered if sources are determined to be unclean or if infrastructure is threatened by climate-change-related impacts

DUST:

- Seal, or implement dust-control measures on, dirt roads
- Limit vehicle speeds on dirt roads
- Tackle dust-related health challenges through improved research, communication

EMOTIONAL HEALTH:

- Create on-the-land suicide-prevention camps
- Provide better mental health counselling in communities

FOOD INSECURITY:

- Develop community infrastructure/programs, such as greenhouses, food banks, community freezers, and “harvester’s markets”
- Reduce food costs through methods such as increased sharing/trading of food within and between communities
- Pay hunters to harvest traditional foods for community use
- Encourage/fund more community and group hunts
- Teach residents how to efficiently harvest and prepare all parts of the animal

INSECTS:

- Explore new technologies to exterminate or otherwise control biting insects

NUTRITION:

- Improve education (teaching residents about healthy cooking, vitamins, etc.)
- Create infrastructure (funding the construction/maintenance of communal freezers)
- Create programs (for instance, reviving the old food-mail system)

SUNBURN:

- Educate residents about the dangers of excessive sun exposure
- Promote use of sunscreen and sunglasses

TRADITIONAL MEDICINES:

- Create resources (such as databases) for documenting the location of traditional medicines
- Create opportunities (such as on-the-land camps) for teaching beneficiaries how to utilize traditional medicines

THREATS FROM WILDLIFE:

- Increase community awareness about wildlife-caused diseases (such as rabies)
- Educate camp owners and others about protecting and wildlife-proofing their property
- Permit more hunting of threatening species near communities so as to reduce their numbers and dissuade them from coming into town





SUBSISTENCE HUNTING AND FISHING

HARVEST REGULATIONS:

- Review and amend regulations related to harvesting to make them consistent with current environmental realities
- Improve coordination between various regulatory entities, such as the GNWT Department of Environmental and Natural Resources and community Hunters' & Trappers' Associations, so eliminate regulatory inconsistency and miscommunication with harvesters

SPECIES REDUCTION:

- Reduce harvesting pressure on threatened species
- Reduce industrial and cumulative impacts that exacerbate harm to threatened species
- Use both scientific and traditional knowledge to monitor threatened-species populations, movements, etc.

SPECIES OVERPOPULATION:

- Increase hunting/trapping pressure on such species
- Take other steps to eliminate overpopulation, such as removing beaver houses in the Mackenzie Delta

SPECIES INTRODUCTION:

- Explore and share new methods of utilizing these species
- Research and monitor the interaction between new and existing species

SPECIES ALTERATION:

- Employ western and traditional knowledge to monitor species alterations
- Scout and share new locations for harvesting
- Develop trails to such locations
- Promote inter-community bartering/sharing systems so certain communities are not disproportionately harmed by species alterations

SPECIES ILLNESS:

- Gather western and traditional knowledge about species illnesses (perhaps by partnering with entities such as the Aurora Research Institute)
- Develop community/regional resources so harvesters can document and share information about species illnesses and abnormalities

TRAVEL:

- Establish emergency shelters and bulk-fuel caches on the land
- Provide harvesters with access to safety equipment such as GPS units, depth-finders, rescue beacons, marine radios, etc.
- Create community/regional resources where residents can document and learn about travel hazards
- Teach and encourage proper machine maintenance and safe-travel procedures
- Review and update search-and-rescue plans





TRANSPORTATION AND INFRASTRUCTURE

ENVIRONMENTAL FOOTPRINT:

- Explore conversion to alternative energy (wind, solar, etc.)
- Reduce noise pollution
- Encourage re-use of materials and expanding local recycling programs
- Promote walking and biking
- Incentivize the winterization of homes and other buildings
- Dispose of garbage through incineration

MUNICIPAL INFRASTRUCTURE:

- Develop and enforce Northern-specific building codes with requirements such as thicker gravel pads, longer times for gravel-pad settling, and support beams that can be adjusted to cope with permafrost heaving
 - Take steps to control erosion, such as building breakwaters and reinforcing river banks
 - Reinforce threatened infrastructure (for example, building a concrete boat launch in Aklavik)
 - Avoid building in areas vulnerable to erosion and slumping
 - Share best practices with other Northern communities
 - Relocate threatened infrastructure
 - In the case of Tuktoyaktuk, move the municipality inland
- * Ensure contractors are aware of and can mitigate local conditions

PRIVATE INFRASTRUCTURE:

- Develop and enforce Northern-specific building codes with requirements such as thicker gravel pads, longer times for gravel-pad settling, and support beams that can be adjusted to cope with permafrost heaving
- Avoid building in areas vulnerable to erosion and slumping; sharing best practices with other Northern communities

PUBLIC TRANSPORTATION:

- Relocate airstrips so that air travel is not impaired by changes in prevailing winds
- Develop new travel routes, such as a highway linking Aklavik to the Dempster Highway

RECREATION:

- Seek funding for and construct additional recreational facilities, as well as
- Focus on traditional activities such as traditional skills competitions, cultural festivals, etc.

Inuvialuit Final Agreement
Celebrating 30 Years



AKLAVIK

ADAPTATION PLAN

2016

INUVIALUIT REGIONAL CORPORATION
4/18/2017

AKLAVIK/AKLARVIK: "BARREN GROUND GRIZZLY PLACE"

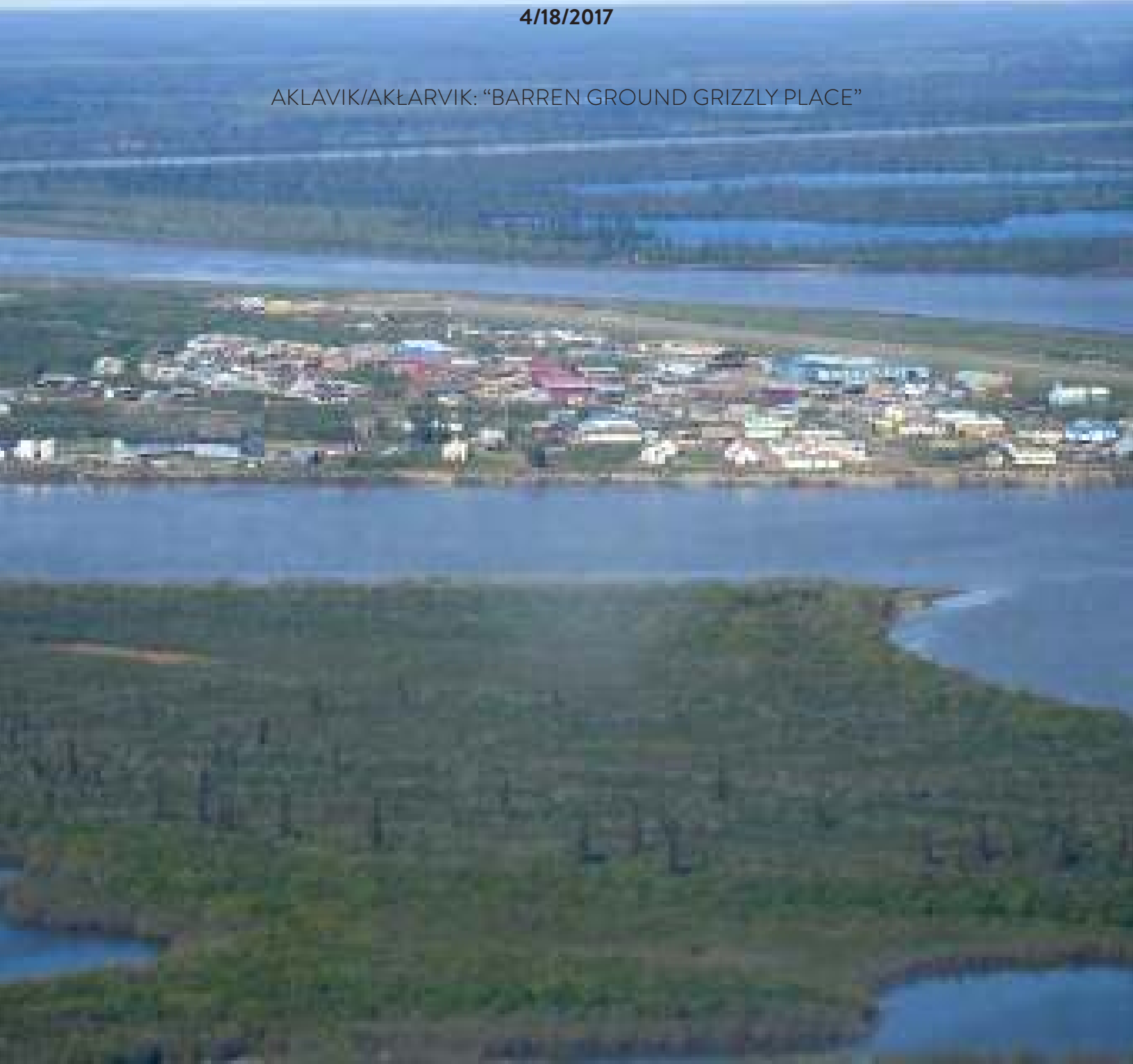


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HOW TO USE THIS DOCUMENT

1. Adaptation actions are outlined in Table 2 by the following sectors:
 - a. Business and economy
 - b. Culture and learning
 - c. Health and well-being
 - d. Subsistence Hunting and Fishing
 - e. Transportation and Infrastructure

2. Actions are ranked according to how soon or easily they can be implemented:
 - a. In progress: action is already under way and should be evaluated after a reasonable trial period
 - b. Short term: action can be easily implemented now
 - c. Medium term: action is feasible to implement with some planning and recruiting of resources
 - d. Long term: action will require substantial planning, time, and /or resources to implement but is a reasonable goal

3. When discussing decisions that will affect a particular sector, review the table for that sector to better understand how climate change might affect the decision and what actions could help the community adapt.

4. Use the “Resources and Leadership” column for hints on programs that could provide funding or other kinds of support (refer to the Appendix for more information on programs).

5. Use the worksheets in Appendix 2 of this document to:
 - a. Plan implementation strategy
 - b. Keep track of progress
 - c. Evaluate actions that have been implemented
 - d. Update information about risks and climate change trends

To assist community members and other readers of this document there is a listing of Acronyms and Resources for Action that apply to all six Inuvialuit communities. Please use this as a reference when you are unsure of what an acronym means or you need further information on a topic. They are both found in the Appendix at the back of this document.

WORKING GROUP MEMBERS, CONTRIBUTORS AND MEMBERS

Table 1: List of Working Group Participants, Contributors and Reviewers

WORKING GROUP THEME	PARTICIPANTS
Business and Economy	Michelle Gruben, Nellie Arey, Cindy Gordon, Barbara Archie, Clara Inglangasuk, Shayla Arey
Culture and Learning	Frederick Arey, Colin Gordon, Nellie Arey, Ashton Semple, Annie B. Gordon, Barbara Archie, Shayla Arey
Health and Well Being	Nellie Arey, Janelle Pascal, Patty (nurse), Jenn (nurse), Judy Selamio, Shayla Arey
Subsistence Harvesting	Michelle Gruben, Barbara Archie, Cindy Gordon, Janelle Pascal, Shayla Arey
Transportation and Infrastructure	Michelle Gruben, Nellie Arey, Cindy Gordon, Barbara Archie, Clara Inglangasuk, Shayla Arey

Venues: Aklavik Hunters and Trappers Committee and Aklavik Hamlet Chambers

METHODOLOGY

In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR's Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on potential adaptations to identified local and regional climate-change-related threats. As with the identified threats, these adaptations were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key adaptations proposed by ISR residents and representatives



ACKNOWLEDGEMENTS

Inuvialuit Regional Corporation would like to express our sincere gratitude to our Youth Climate Change Coordinator hired for Aklavik, Shayla Arey, for her term in the position. IRC was able to create this full-time position in each Inuvialuit community due to funding from a project called Inuvialuit Youth: On the Frontline of Climate Change. The project was led and coordinated by our Inuit Research Advisor from her office in Inuvik. Funding for this work was provided by the Climate Change and Adaptation Program of Indigenous and Northern Affairs Canada. The main objective of our project was to empower youth to take a leading role in developing climate-change adaptation plans for their communities as well as to assist in the creation of a regional strategy for the Inuvialuit Settlement Region.

Shayla was hired in October 2015 and excelled right away in her role from her office located in the Buck Store Building (next to the Aklavik Hunter's and Trapper's Committee office). Due to Shayla's past experience working on developing Aklavik's Community Adaptation Plan in 2010, she was the ideal candidate to take on this role. When not busy with her own deliverables, she never hesitated to assist her fellow coordinators when they needed her advice. We are so proud of Shayla, as she stayed dedicated to her position right until the very end. She did an amazing job.

IRC would also like to extend our gratitude to community members who attended workshops held by Shayla and to those who were chosen to attend the ISR Climate Change Strategy Meeting held in Inuvik from March 21-24, 2016. Thank you to Nellie Arey, Judy Selamio and Jessi Pascal for representing your community at our meeting.

We would also like to thank the Northern Store in Aklavik, which donated to Shayla's events, and the Aklavik Hunter's and Trapper's Committee, which assisted us during the transition period before Shayla got her office. Quyannani!

Finally, a very big thank you to the Indigenous and Northern Affairs Canada Climate Change and Adaptation Program for its generous funding that made this position and project possible. Thanks to the funding provided to our region, we have built momentum around climate-change adaptation in our communities, and we want to continue to see – and will work towards putting – our youth in these types of positions so they are ready for their role on the frontline of climate change.

INTRODUCTION

Aklavik is located near the Richardson Mountains on the western edge of the Mackenzie River Delta. Though Inuvialuit people have used this area since time immemorial, the community itself was formally established in 1912. Ever since, it has experienced flooding and erosion. In 1953 a devastating flood led authorities to press for the community's relocation to present-day Inuvik. However, residents, valuing their trapping, trading and traditional lifestyles in the Aklavik area, refused to move. Their resilience inspired Aklavik's motto, "never say die." In Inuvialuktun, Aklavik means "barren ground grizzly place."

The population of Aklavik is 635, with a median age of 31.1 years old. Roughly 78 percent of residents are over age 15. The community identifies as 90% Aboriginal, divided evenly between Inuvialuit and Gwich'in. Languages spoken include Inuvialuktun (Uummarmiutun and Siglit dialects), English, and Gwich'in. The community comprises many active subsistence harvesters, who hunt, fish, trap and gather traditional food year-round.

Aklavik has the following services and infrastructure: A two-member Royal Canadian Mounted Police detachment, health center, Canada Post office, airport, Moose Kerr School (K-12), Sittichinli Complex, radio station, Gwich'in Band Office, Northern Store, Stanton Distributing store, Aklavik Bed and Breakfast, Parks Canada office, Hamlet of Aklavik office, Aklavik Community Corporation, Aklavik Child Development Center, and the Aklavik Hunters and Trappers Committee.

Aklavik completed a Community Climate Change Adaption Plan in 2010 with the assistance of Arctic North Consulting. The community has now reviewed and renewed its adaptation plan to ensure that it is prepared for coming environmental, economic and other changes, and to alert policy makers, funders and leaders of the challenges the community faces. Aklavik deems the following climate-change issues to be of the highest priority:

- Flooding
- Permafrost thawing creating erosion and unpredictable travel conditions and affecting infrastructure
- Traditional programs
- Research on wildlife changes and water resources



TABLE 2: ADAPTATION PLAN BY SECTOR

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Business and Economy				
IN PROGRESS	<p>1.1-Bridge inserted near foothills.</p> <p>1.2- Scout new locations for harvesting and share knowledge with the rest of community</p>	<p>1.1.1-Slumping and eroding grounds making traveling hard</p> <p>1.2.1-New areas for harvesting need to be considered for species that are not as plentiful, i.e., caribou</p>	<ul style="list-style-type: none"> Start of a road to the mountain trail 	<ul style="list-style-type: none"> GTC AIB ACC Hamlet of Aklavik GNWT
SHORT TERM	<p>2.1-Increase opportunities for local training on road construction</p> <p>2.2-Start the highway to connect to Fort McPherson highway</p> <p>2.3-Enforce property by-laws and take action to clean up community Reopen Knut Lang camp</p>	<p>2.1.1-Unpredictable travel conditions: more open water, overflow, and shallow waters make travel more difficult</p> <p>2.2.1-More severe, unpredictable weather affects flights; shallow waters affect the ability of barges to deliver supplies to Aklavik.</p> <p>2.2.2 -Ice road opening later in the season and closing earlier</p> <p>2.2.3-A changing environment provides new economic opportunities, such as tourism</p>	<ul style="list-style-type: none"> Cost of living goes down People feel less isolated More opportunities for Aklavik if they get highway New training and job opportunities created in the community 	<ul style="list-style-type: none"> Land and water Boards ACC GTC EGB IRC GNWT- transportation Skills Canada NWT Aurora College Local contractors Elders Committee Hamlet of Aklavik AHTC

MID TERM	3.1-Increase sharing/trading with other communities who have access to traditional food (eg: Paulatuk or Ulukhaktok for char)	3.1.1-Changing and unpredictable conditions are keeping some people from participating in the subsistence economy creating a need to diversity hunting/fishing approaches	<ul style="list-style-type: none"> • Community can afford to practice their traditional lifestyle and supplement their food with a traditional diet 	<ul style="list-style-type: none"> • Land and water boards • ACC • GTC • EGB • IRC • GNWT-Transportation • Skills Canada NWT • Aurora College • Local contractors • Elders Committee • Hamlet of Aklavik • AHTC
LONG TERM	4.1-Tourism around the delta & coast-line	4.1.1-Being in isolation causes less to no jobs	<ul style="list-style-type: none"> • Create jobs and employment in the community 	<ul style="list-style-type: none"> • AIB • ACC • WMAC – NS • Hamlet of Aklavik • MLA • GNWT • GTC



TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Culture and Learning				
IN PROGRESS	5.1-Drum dance lessons for the public weekly	5.1.1-Language and tradition is dying off	<ul style="list-style-type: none"> Keeping our traditional culture alive – stories told through the dancing and singing 	<ul style="list-style-type: none"> Brighter Futures Aklavik Community Corporation
SHORT TERM	<p>5.2-Find funding and have workshops to have more sewing & tanning workshops to preserve our culture/tradition.</p> <p>5.3-Start a greenhouse – get someone to teach us how to start and maintain the greenhouse.</p> <p>5.4-Gather the elders and young ladies so they can share and exchange our traditional sewing to one another</p> <p>5.5-Correct language dialect especially drum dance and sing a long groups</p>	<p>5.2.1-Changing conditions are keeping some people from participating in the traditional subsistence activities.</p> <p>5.3.1-High cost of living and less nutrients available to the people.</p> <p>5.4.1-Young people need to know how to make their kids and families clothing to survive in harsh climate</p> <p>5.5.1-Losing the traditional language</p>	<ul style="list-style-type: none"> To teach the younger generation our traditions To lower the cost of living by growing our own vegetables/fruit. Knowledge and experience is shared between generations and cultural values remain strong 	<ul style="list-style-type: none"> ITI NWT Art Council RC Funding Elders/Youth Committee AHTC ACC Hamlet of Aklavik Aklavik Indian Band GNWT-ECE INAC GTC Moose Kerr School IRC Aurora College RCMP

MID TERM	<p>6.1-Have a gathering with elders to tell stories and learn games while also making parkas/ mitts</p> <p>6.2-Meet with other ISR Communities to share knowledge and ideas around Adaptation</p> <p>6.3-Credit courses in high school – On the land programs, language, culture, and sewing/ story telling.</p> <p>6.4-Find money/ funds and start on the land programs for a season – Freeze up – Break up – Summer that will not impact elders incomes</p>	<p>6.1.1-Traditional activities and clothes-making not passed on to the younger generation that could be used as an income</p> <p>6.1.2 On the land living is not passed on to young harvesters – traditional value is being lost</p> <p>6.2.1- Different communities have their own way to adapt that other communities can learn from but is not being shared right now</p> <p>6.3.1- There is currently no recognition or credit for sharing traditional knowledge as a career</p> <p>6.4.1-Payments to elders when programs are going on – affects their pension payment.</p>	<ul style="list-style-type: none"> • Keeping our traditional and cultural values and knowledge alive • Passing on valuable information to the younger generation • Incorporating language in the school programs • Elders will be able to be paid without being garnisheed by the government 	<ul style="list-style-type: none"> • ITI • NWT Art Council • TRC Funding • Elders/Youth Committee • AHTC • ACC • Hamlet of Aklavik • Aklavik Indian Band • GNWT-ECE • INAC • GTC • Moose Kerr School • IRC • Aurora College • RCMP
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LONG TERM	<p>7.1-Seek to better understand elder's observations on the sky shifting, sun sets and moon sets different parts in the sky.</p>	<p>7.1.1-Changing and unpredictable conditions require that people develop strong skills in navigation, weather predictions, and reading the land to hunt and travel safely. Youth are especially at risk.</p> <p>7.1.2-There has been research looking at if the world axis has changed, would be good to clarify that and see elder observations are correct</p>	<ul style="list-style-type: none"> • To preserve and keep our traditional way of living alive. • Learn how to survive on the land during a season and learn how to do a whole rapping, fishing/whaling, and trapping season with elders and the middle aged people. 	<ul style="list-style-type: none"> • ITI • NWT Art Council • TRC Funding • Elders/Youth Committee • AHTC • ACC • Hamlet of Aklavik • Aklavik Indian Band • GNWT-ECE • INAC • GTC • Moose Kerr School • IRC • Aurora College • RCMP
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Health and Wellbeing				
IN PROGRESS	<p>8.1 Protect the Peel</p> <p>8.2 Healthy cooking courses open to community</p> <p>8.3-Bread/cooking courses</p> <p>8.4-More community activities held for all ages</p> <p>8.5-People have the opportunity to garden outside their homes</p> <p>8.6-Start a community Greenhouse</p>	<p>8.1.1-High cost of living in the arctic</p> <p>8.1.2- Protecting our land and waters from the oil companies</p> <p>8.2.1- More youth rely on elders to make bread.</p> <p>8.4.1- Activities are often for certain groups (men, youth, women, elders) but not together as much</p> <p>8.5.1- With more warming and longer growing seasons people can grow outdoor gardens</p> <p>8.6.1- Community Greenhouses are needed to feed community fresh produce</p>	<ul style="list-style-type: none"> • To lower cost of living • To keep our people active and healthy as possible • To teach and pass on traditional knowledge and cooking skills • Bring all groups together like long ago villages • People can learn new skills and grow their own organic food • Greenhouses can help to bring people together for a common purpose 	<ul style="list-style-type: none"> • GTC • Community Activists • Brighter futures • Moose Kerr School • IRC

SHORT TERM	9.1-Hold a community meeting about our Culture/ Tradition Language work-shops	9.1.1- Culture and language program- ming needs to be directed by the communities in the region	<ul style="list-style-type: none"> • Keeping and reviving our culture and traditional way of living • Helping and redirecting the youth who need help • Help people pursue their careers – so they don't rely on Income Assistance. 	<ul style="list-style-type: none"> • Community of Aklavik • AHTC • Ehdiitat Gwich'in RRB • Health Canada (Brighter future program) • RCMP • GNWT-MACA • GNWT- BBHSS • Hamlet of Aklavik • Sport North • Aklavik Health Centre • Elders Committee • Moose Kerr School • Aurora College
	9.2-Gather all elders and make a proper climate change dictionary (in all 3 dialects)	9.2.1-There is a need to document and define climate change in the Inuvialuktun language		
	9.3-On the land camps for suicide prevention.	9.3.1-Youth are lost/ undirected in both the traditional and modern world.		
	9.4-Help people pursue their careers so they don't rely on Income Assistance	9.3.2 Language and traditional knowledge is dying off. 9.4.1- People are relying on income assistance and not so much on traditional healthy lifestyle		



MID TERM	<p>10.1-On the land programs for learning our traditional medicines</p> <p>10.2-Yearly clean ups on the land, camps</p>	<p>10.1.1-High cost of living in the community makes it harder to purchase over the counter and prescription medicine</p> <p>10.1.2- Elders do not like taking southern medicines (do not trust)</p> <p>10.2.1- Some camps need maintenance and clean up to ensure safety and health of camp owners</p>	<ul style="list-style-type: none"> • To reduce the cost of living and growing our own nutrients/vegetables • Keep our ancestors' traditional medicines alive • Keeping the land and camps clean and healthy for our animals we live off of 	<ul style="list-style-type: none"> • Elders committee • Youth committee • HTC • IRC • MKS • GTC • AIB • ACC
LONG TERM	<p>10.3-Education programs for common diseases/illnesses</p> <p>Have an elders home to keep our elders at home with extra care</p>	<p>10.1.1-Young elders are getting diseases at younger ages. It is becoming more common, why?</p>	<ul style="list-style-type: none"> • Educating and seeking help to prevent diseases • Have elders' home to prevent elders having to move to long term care in the Regional Hospital 	<ul style="list-style-type: none"> • Aklavik Health Centre • Elders Committee • Health boards

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Subsistence Harvesting				
IN PROGRESS	<p>11.1-Community hunts to provide traditional food Travel to new locations to hunt (Dempster high-way)</p> <p>11.2 Start a more robust environmental and harvest monitoring program to keep track of the numbers of animals harvested and build a database of observed changes in wildlife</p> <p>11.3-Use grant subsidy programs to encourage reporting of harvests</p>	<p>11.1.1-Due to less animals in traditional areas, people are having to go to new areas or hunt new species</p> <p>11.2.1 Trapping – unsafe travelling conditions, high fuel costs, poor returns for furs all reduce community’s ability to invest in trapping activities</p> <p>11.2.2- Aklavik HTC’s program is working well, other communities should follow suit</p> <p>11.3.1- Communities need to make use of programs and funding that is available to them</p>	<ul style="list-style-type: none"> • Help our community members with traditional food (caribou & muktuk) • Keep a record of harvested animals to observe the changes in wildlife • Help pay a portion for our people to go out harvesting traditional foods. 	<ul style="list-style-type: none"> • Hamlet of Aklavik • Inuvialuit Land Administration • IHAP • AHTC • Ehdiitat Gwich’in RRC • Arctic borderlands • GNWT – ENR • GNWT – ITI • Aurora Research Institute • ACC • GTC • Aklavik Indian Band • RCMP • Aklavik Search and Rescue • Brighter Futures



SHORT TERM	11.4 Fishing, skinning, gutting training/ education course	11.4.1- There is a need to educate community members on ways to work with fish	<ul style="list-style-type: none"> • Pass on our traditional knowledge to the younger generation. • Revive/keep our traditional ways of living – pass them on to the younger generation. • Celebrate caribou hunts with the community • Have a more coordinated approach to harvesting • Learn old skills for survival 	<ul style="list-style-type: none"> • Hamlet of Aklavik • IRC – ILA • IHAP • AHTC • Ehdiitat Gwich'in RRC • Arctic borderlands • GNWT – ENR • GNWT – ITI • Aurora Research Institute • ACC • GTC • Aklavik Indian Band • RCMP • Aklavik Search and Rescue • Brighter Futures
	11.5 Tree gum medicine making course offered by elders	11.5.1- Youth do not know how to harvest tree gum for medicinal purposes		
	11.6- Build up certain areas where erosion is causing no access to areas	11.6.1-Erosion making travelling harder for harvesters		
	11.7 Do on the land programs to teach the younger generation how to use the roots (hunting/ travelling)	11.7.1-There is a lack of knowledge on how to harvest plants when hunting		
	11.8- Need to find supplemental funding for harvesting at different seasons	11.8.1-Higher gas/ fuel/food costs making it harder to go out hunting, trapping & berry picking.		
	11.9- Find alternative way to bring in food when spring break up and fall freeze up is early/late	11.9.1-Unpredictable weather changes Early break up & late freeze up (ice)		
	11.10 Have trapping/ hunting workshops seasonally	11.10.1- There is a lack of coordination among hunting parties. We need more workshops to coordinate		
	11.11-We need to find incentives and try get people into traditional try get people into traditional economy again	11.11.1-Income support making living easier – people rely on the monthly income.		

MID TERM	<p>12.1-Get rid of beaver & otter houses that may be damming up rivers and channels</p> <p>12.2 More education on how to hunt other animals other than caribou to hunt – seasons.</p> <p>12.3 Learn how to use all parts of a caribou and other animals</p>	<p>12.1.1-Climate change may be contributing to changes in animal behaviour, species decline (caribou)</p> <p>12.2.1- People need to get away from reliance on one particular species and try to hunt others</p> <p>12.3.1- There is a lack of knowledge by some people on how to traditionally use all parts of animals</p>	<ul style="list-style-type: none"> • Water levels will regain if beaver/otter houses are gone • Gain knowledge/ experience within the caribou and other species • Teach community members old ways of harvesting and how to use all parts of animals 	<ul style="list-style-type: none"> • Hamlet of Aklavik • IRC – ILA • IHAP • AHTC • Ehdiitat Gwich'in RRC • Arctic borderlands • GNWT – ENR • GNWT – ITI • Aurora Research Institute • ACC • GTC • Aklavik Indian Band • RCMP • Aklavik Search and Rescue • Brighter Futures
LONG TERM	<p>13.1 Have workshops with the elders to teach the young people how to make traditional medicine.</p> <p>13.2- Learn from elders best locations to find medicine and map those for future generations use</p>	<p>13.1.1-Climate/ weather changing making it unpredictable on when to get the medicines</p> <p>13.2.1- There is a need to document this type of knowledge as climate changes. Old areas may not have what is used to, or new areas are good now</p>	<ul style="list-style-type: none"> • Pass on our traditional and new knowledge 	<ul style="list-style-type: none"> • Hamlet of Aklavik • IRC – ILA • IHAP • AHTC • Ehdiitat Gwich'in RRC • GNWT – ITI • ACC • GTC • Aklavik Indian Band • Brighter Futures



TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Transportation and Infrastructure				
IN PROGRESS	14.1 Putting dust control on the roads	14.1.1-Dusty roads, potholes, and rain making the roads bad for vehicles to drive	<ul style="list-style-type: none"> Control the dust on the roads especially for people with health issues 	<ul style="list-style-type: none"> Hamlet of Aklavik GNWT Federal Government
SHORT TERM	<p>15.1 Use/try concrete, rocks, metal sheets to stop erosion along the banks.</p> <p>15.2 Monitor and test the land and water for animal health</p> <p>15.3-GO GREEN – energy efficient</p> <p>15.4- Incorporate Environmental Natural Resource officer more with our people</p> <p>15.5- Travel in groups and do group hunts to reduce costs</p>	<p>15.1.1-Erosion and slumping falling from the banks</p> <p>15.2.1-Animals (beavers & otters) are an issue. (Over populating)</p> <p>15.3.1- Our buildings and cabins could be more energy efficient</p> <p>15.1.1-High cost of gas, oil, and fuel making it hard to travel.</p>	<ul style="list-style-type: none"> Banks along Aklavik can be protected from erosion Have safer environments/camps 	<ul style="list-style-type: none"> Hamlet of Aklavik AHTC GRRB RCMP IRC GNWT

MID TERM	16.1 Open a Gas Lock to have competition to lower the cost of gas	16.1.1-There is no competition in town to reduce cost of fuel. Need more joint ventures	<ul style="list-style-type: none"> Lower the cost of living and lower costs to get our traditional foods 	<ul style="list-style-type: none"> GNWT GNWT-Transportation Hamlet of Aklavik Local contractors IRC Canadian Government
	16.2 Food Bank: How can we start one? Start a Committee/ Society	16.1.2-We travel longer ways and it costs more – opposed to Paulatuk, Ulukhaktok, etc	<ul style="list-style-type: none"> Help the community members with subsidising food 	
	16.3 Research ways to increase energy efficiency (eg: solar panels)	16.2.1- Other communities have a food bank and Aklavik does not	<ul style="list-style-type: none"> Make our community and on the land camps more efficient and self-sustaining 	
	16.4- Develop an action plan in case of extreme weather not common in the region	16.3.1-Weather and wind is unpredictable making it hard to travel and harvest but could be used for energy	<ul style="list-style-type: none"> Ensure our community is prepared for freak storms or unpredictable weather 	
	16.5 Get a concrete boat launch	16.4.1-Funnel/ tornado is becoming more common 16.5.1-Boat launch is muddy and eroding	<ul style="list-style-type: none"> Have a safe and efficient boat launch 	



LONG TERM	<p>17.1- Make/open a highway connected to Fort McPherson to lower the cost of living.</p> <p>17.2- We need to take more preventative maintenance on buildings to reduce costs in long term</p> <p>17.3- No longer able to go by road to Shingle as terrain is too soft and hard on equipment. Need alternatives</p> <p>17.4-Find alternatives to 45 gallon drums to burn garbage</p>	<p>17.1.1- There will be a need in the future to connect communities through roads rather than ice roads. Air travel is not always reliable</p> <p>17.2.1-Permafrost affecting the buildings in community.</p> <p>17.3.1-They used to make a road to Shingle Point but the snow was really hard – making it hard on the equipment. (Buck Storr)</p> <p>17.4.1- Garbage is burnt locally out on the land when it is too much to take out with you</p>	<ul style="list-style-type: none"> • It may lower the cost of living and have more efficient access to Aklavik • Burn garbage to stop bears coming into the community 	<ul style="list-style-type: none"> • Hamlet of Aklavik • Aklavik Community Corporation • Aklavik Indian Band • Local contractors • GNWT • ITI • TRC
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A scenic landscape photograph of a river valley. In the foreground, a river flows through a rocky, gravelly bed. The middle ground is dominated by a dense forest of tall, thin evergreen trees. In the background, rugged mountains rise under a blue sky with scattered white clouds. The overall scene is a natural, mountainous environment.

INUVIK

ADAPTATION PLAN

2016

INUVIALUIT REGIONAL CORPORATION
4/18/2017

INUVIK/KIGIATAQ: "WHERE BEAVERS ARE"

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HOW TO USE THIS DOCUMENT

1. Adaptation actions are outlined in Table 2 by the following sectors:
 - a. Business and economy
 - b. Culture and learning
 - c. Health and well-being
 - d. Subsistence Hunting and Fishing
 - e. Transportation and Infrastructure

2. Actions are ranked according to how soon or easily they can be implemented:
 - a. In progress: action is already under way and should be evaluated after a reasonable trial period
 - b. Short term: action can be easily implemented now
 - c. Medium term: action is feasible to implement with some planning and recruiting of resources
 - d. Long term: action will require substantial planning, time, and /or resources to implement but is a reasonable goal

3. When discussing decisions that will affect a particular sector, review the table for that sector to better understand how climate change might affect the decision and what actions could help the community adapt.

4. Use the “Resources and Leadership” column for hints on programs that could provide funding or other kinds of support (refer to the Appendix for more information on programs).

5. Use the worksheets in Appendix 2 of this document to:
 - a. Plan implementation strategy
 - b. Keep track of progress
 - c. Evaluate actions that have been implemented
 - d. Update information about risks and climate change trends

To assist community members and other readers of this document there is a listing of Acronyms and Resources for Action that apply to all six Inuvialuit communities. Please use this as a reference when you are unsure of what an acronym means or you need further information on a topic. They are both found in the Appendix at the back of the document.

WORKING GROUP MEMBERS, CONTRIBUTORS AND MEMBERS

Table 1: List of Working Group Participants, Contributors and Reviewers

WORKING GROUP THEME	PARTICIPANTS
Business and Economy	Terrance Allen, Clara Day, Shannon O’Hara
Culture and Learning	Terrance Allen, Clara Day, Gailann Raddi, Jimmy Kalinek, Rebecca Kaglik, Shannon O’Hara
Health and Well Being	Terrance Allen, Jerry Inglangasuk, Tanya Blake, Clara Day, Gailann Raddi, Shannon O’Hara
Subsistence Harvesting	Rebecca Kaglik, Clara Day, Gailann Raddi, Terrance Allen, Tanya Blake, Shannon O’Hara
Transportation and Infrastructure	Gailann Raddi, Terrance Allen, Clara Day, Rebecca Kaglik, Rebecca Kaglik, Mandy Day

Venues: Inuvik Centennial Library, Inuvik Community Corporation, Midnight Sun Recreation Complex

METHODOLOGY

In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR’s Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on potential adaptations to identified local and regional climate-change-related threats. As with the identified threats, these adaptations were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key adaptations proposed by ISR residents and representatives

ACKNOWLEDGEMENTS

Inuvialuit Regional Corporation would like to express our sincere gratitude to our Youth Climate Change Coordinator hired for Inuvik, Priscilla Smith, for her time in her position, as well as to Community and Family Support Worker, John Stuart Jr. for his assistance at the ISR Climate Change Strategy Meeting, and the Inuit Research Advisor, Shannon O'Hara, for coordinating and implementing the Inuvialuit Youth: On the Frontline of Climate Change Project in Inuvik. Her effort and hard work has shown through in the results of the products developed for and by our region, our first regional climate change strategy (with 6 community adaptation plans) and the new Inuvialuit Climate Change Portal, which will be housed on the IRC website. Quyannani!

The main objective of our project was to empower youth to take the leading role in developing climate-change adaptation plans for their communities as well as to assist in the creation of a regional strategy for the Inuvialuit Settlement Region.

IRC would also like to acknowledge each of the participants who travelled to attend workshops from our six communities to Inuvik from March 15-20, 2016, including our consultants from Outcrop Inc. who came from Yellowknife to meet with us. We would all like to thank you for your contributions, knowledge and drive to help make our objectives possible through dedicated consultation and guidance to assist us in developing our first ever Climate Change Adaptation Plan for the ISR. Thank you to Brenda Bernhardt and William Day for catering the events all week. Thank you to Clara Day, Rebecca Kaglik, Terrance Allen and Gailann Raddi for their help and dedication throughout the week and for making sure a plan for Inuvik was done. Thank you all for showing up to almost every workshop and volunteering to represent Inuvik at the ISR Climate Change Strategy Meeting.

Last but not least, IRC would like to acknowledge and thank Indigenous and Northern Affairs Canada Climate Change and Adaptation Program for its generous funding that made these positions, and the project, possible. Thanks to the funding provided to our region, we have built momentum around climate-change adaptation in our communities, and we want to continue to see – and will work towards putting – our youth in these types of positions so they are ready for their role on the frontline of climate change.

INTRODUCTION

Inuvik is located on the eastern edge of the Mackenzie River Delta. It was established in 1958 when the Government of Canada determined that the community of Aklavik should be relocated due to severe flooding. Though the relocation did not occur, construction of Inuvik proceeded and the town became the new government centre for the region. Inuvik's Inuvialuktun name is Kigiataq, meaning "where beavers are."

The population of Inuvik is 3,460, with a median age of 31.7. Roughly 77 percent of residents are over age 15. 63.2 percent of the community identifies as Aboriginal descent. This includes 38.9 percent who are Inuvialuit (predominantly Uummarmiutun), 18.4 percent who are First Nations (predominantly Gwich'in), 4.7 percent who are Métis, and 1.2% "other Aboriginal". Languages spoken include English, Inuvialuktun, Gwich'in, French and Arabic.

Inuvik has the following services and infrastructure: Mike Zubko Airport, East Three School (Elementary and High School), Aurora College, Aurora Research Institute, a Royal Canadian Mounted Police detachment, Royal Canadian Legion, Canada Post, the regional Parks Canada headquarters, Service Canada, the Midnight Sun Recreation Complex, the Inuvik Community Greenhouse, several hotels and bed & breakfasts, the Inuvik Regional Hospital, the Town of Inuvik offices, and various other government facilities.

Inuvik developed its Climate Change Adaptation Plan to be a "living document" that the community can use to monitor changes and spur action from policymakers, funders and leaders. Inuvik deems the following climate-change issues to be of the highest priority:

- Integrity of infrastructure, roads and buildings, water and sewer system
- Research on marine shipping
- Research on fish and water quality
- Research on migratory animals, birds and insects
- Food security, economy and housing
- Communication of emergency plans and procedures

TABLE 2: ADAPTATION PLAN BY SECTOR

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Business and Economy				
IN PROGRESS	<p>1.1-Inform and educate Inuvialuit and other NWT residents of energy programs and how to save on costs on heating, fuel and electricity.</p> <p>1.2- Arctic Energy Alliance is currently doing workshops in the region.</p>	<p>1.1.1-High cost of energy in the north</p> <p>Arctic Energy Alliance is currently doing workshops in the region</p> <p>1.2.1-Ask AEA to do more workshops in the future</p>	<ul style="list-style-type: none"> • Informed and engaged residents who get educated in how to save • Arctic Energy Alliance is currently doing workshops in the region 	<ul style="list-style-type: none"> • Arctic Energy Alliance



SHORT TERM	<p>2.1 Produce and grow food locally</p> <p>2.2 Increase the number of Inuvialuit able to create joint venture companies to combat high prices by starting up a business</p> <p>2.3 Develop a more inclusive Greenhouse Society for those being left out of current situation.</p> <p>2.4 Give people training on food growing, preparation and preserving to assist people to be successful in their efforts.</p> <p>2.5-Build capacity around growing that could lead to income later down the line</p>	<p>2.1.1 High cost of living especially with housing and food.</p> <p>2.1.2- There currently is a community greenhouse but it is largely inaccessible for low income persons/families</p> <p>2.2.1-There are not enough Inuvialuit owned joint ventures companies</p> <p>2.2.2- We need to see more small stores, restaurants, expediting companies the better for a region</p> <p>2.4.1- There is no one servicing the low income and Indigenous population in terms of agricultural initiatives</p> <p>2.5.1-We need someone to teach growing and food storage skills to new groups</p> <p>2.5.2- Indigenous and low income groups are not seeing economic benefits of growing food and plants</p>	<ul style="list-style-type: none"> • Provide fresh produce throughout the year to residents and other non-profits like warming shelter etc • Community members who cannot afford a plot and the Inuvik Community Greenhouse could have options or support • Inuvialuit would be doing better financially • Potential for residents to sell their items at the Arctic Market on a Facebook page 	<ul style="list-style-type: none"> • IRC • Town of Inuvik, Inuvik Interagency Committee • Inuvialuit CEDO • IDC
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MID TERM	<p>3.1- Educate residents on alternatives and promote a combination of heating options for in town and out at camps</p> <p>3.2- Create a Facebook page to log regional fuel prices, fur prices, machine up keep tips, and other advice for subsistence lifestyles</p> <p>3.3- There needs to be an increase in the promotion of eco-tourism, crafting, or other home based business opportunities for Inuvialuit</p> <p>3.4- Help Inuvialuit create education, career and business plans so that they are prepared for what they get into (ex. Nursing, childcare etc)</p> <p>3.5- Create business opportunity for residents around natural medicines and remedies</p>	<p>3.1.1- High cost of heating fuel is hard on residents and camp owners who want to maintain a traditional life</p> <p>3.1.2- High cost of gasoline, oil, equipment (and maintenance) is a barrier for many to live a subsistence lifestyle</p> <p>3.2.1- There is no centralized location for updated information for hunters</p> <p>3.3.1- Slow economy, lack of economic opportunities for Inuvialuit who are seasonal workers, are not employed full time or own a business</p> <p>3.4.1- Inuvialuit people are not exploiting opportunities to make extra income during slow economy, e.g. selling items at Arctic Market, creating websites etc</p>	<ul style="list-style-type: none"> • More use of alternative energy like solar panels, wind turbines, pellet stoves, wood, stand alone heaters, natural gas, diesel fuel • More Inuvialuit hunters will be prepared for market conditions and make informed decisions • More Inuvialuit companies competing with other in town businesses • More Inuvialuit will be prepared to take on these roles if they receive education and training on how to own a business or how to maintain a career 	<ul style="list-style-type: none"> • Arctic Energy Alliance • Inuvik Gas Ltd • Aurora Research Institute • Town of Inuvik • IRC • Inuvialuit Education Foundation • GNWT • Aurora College • Universities • Inuvialuit CEDO
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MID TERM CONT.	<p>3.6- Create a joint venture company that specializes in food exchange</p>	<p>3.5.1- There is a lot of exploitation happening in indigenous medicine and remedies around the world, and therefore, Inuvialuit need to patent or train people in this area to ensure the benefits remain here</p> <p>3.6.1- Since climate change will likely be detrimental to food security in the future, Inuvialuit need to invest in a food distribution system for the region</p>	<ul style="list-style-type: none"> • People will learn or re-learn traditional preparation and use of plants and other vegetation in the region • Residents/Orgs who want to form a company will be direct competition with Northern Stores • A company or program that addresses food security would have benefits in multiple areas such as, economic, health and cultural 	
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LONG TERM	<p>4.1-Look into compensation rules and precedents on loss of harvest due to activity in traditional areas (development projects)</p> <p>4.2-Scout new trails and hunting areas and share information with others</p>	<p>4.1.1-Development projects are forcing animals away from traditional hunting and trapping areas</p> <p>4.2.1-Due to some development hunters are having to go out much further to get animals</p>	<ul style="list-style-type: none"> • Would help hunters with camps near development projects to receive compensation for lost income or increased expense to go out and get furs. • Traditional life-styles will be promoted at career fairs, in schools and overall within the region by regional organizations 	<ul style="list-style-type: none"> • Inuvik Hunters and Trappers Committee IRC • Inuvialuit Game Council • Fur bidders • Elders • ICEDO • IRC • Other HTC's • Community Corporation (s) • Beaufort Delta Education Authority
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LONG TERM CONT.	<p>4.3-Promote trapping and hunting as business opportunities as changing conditions (market, climate) may allow hunters to benefit from furs</p> <p>4.4-There is interest to conduct a short study to determine if animals are in fact rebounding after a development stops or slows down</p> <p>4.5-Seek funding to promote language and culture programs and to send more Inuvialuit to school to become language specialists</p> <p>4.6- Some Inuvialuit are interested to look a possibility for fishing industry, but also want to know how this possible industry and other might be impacted by climate change</p>	<p>4.3.1-There is not enough regional level promotion of trapping and hunting as a full time job and economic source for families</p> <p>4.4.1- There is no current research to see if development impacts will be short term</p> <p>4.5.1-There is not enough done to promote careers as linguists, translators and interpreters even though this is a well paying career</p> <p>4.5.2- We are losing our elders and language specialists which is a loss of a good economic opportunity for residents</p> <p>4.6.1-There is not enough known about the effects of climate change on animals, economy and culture</p>	<ul style="list-style-type: none"> • More Inuvialuit accessing programs on economic opportunities and following through with these careers and businesses • Inuvialuit will have a better understanding of the impact of development on culture and learning activities • We will have more Inuvialuit who specialize in language and revival of Inuvialuktun • Research on the effects of climate change on wildlife and other economic industries possible in the ISR will allow Inuvialuit to make more informed business and health decisions 	<ul style="list-style-type: none"> • Language Commissioner of NWT
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Culture and Learning				
IN PROGRESS	<p>5.1-Use language in everyday life participate or learn from existing programs offered in the ISR (e.g., Robert Kuptana 3 Word a Day Challenge) and Roy Goose Facebook page on language and education</p> <p>5.2- There are currently free language programs offered in most if not all communities</p> <p>5.3- Language programs are always for a specific group (men, women) yet they should be marketed for families</p> <p>5.4- There needs to be an effort to incorporate language in all cultural and health programs offered in the ISR through IRC or other organizations</p>	<p>5.1.1- Not enough people are participating in language programs that are already out there</p> <p>5.1.2- There is a lack of language retention and use in the younger generation</p> <p>5.2.1- There are not enough people accessing free language programs</p> <p>5.3.1- No free language programs are offered for families in Inuvik</p> <p>5.4.1-There is a loss of language due to less cultural activities and traditions being practiced and this will increase with climate change due to unpredictable weather, etc</p>	<ul style="list-style-type: none"> • With further promotion (regional, national) of Inuvialuit language activities and programs more people will use them • More youth and middle age start to be engaged in language programs and further engage their children • Free language programs which are more inclusive and offered to families would be more successful at incorporating many generations to work together 	<ul style="list-style-type: none"> • Everyone in communities • IRC • All other Inuvialuit organizations

IN PROGRESS CONT.	<p>5.5-Aside from the Inuvialuktun App, more effort must be made to make learning materials digital or as apps for youth to intake more easily</p> <p>5.6- ICRC or IRC should purchase bulk registrations for resources like Rosetta Stone to distribute to beneficiaries interested in this method of learning Inuvialuktu</p>	<p>5.5.1- No other technology for Inuvialuktun has been developed since the Inuvialuktun App. There is a need to have digital resources for the future (courses and other credit)</p> <p>5.6.1- There is no effort from Regional organizations to purchase and distribute Rosetta Stone software for beneficiaries</p>	<ul style="list-style-type: none"> When regional organizations apply for funding and groups are segregated due to funding requirements, if an effort is made to find additional funding, support or partnership should be made to include all ages and genders possible 	
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<p style="text-align: center;">SHORT TERM</p>	<p>6.1-NWT regions must lobby the GNWT to take a stronger stance on making information on language available to residents</p> <p>6.2-Inuvialuit communities must come together to determine a Language and Culture revitalization in the face of climate change</p> <p>6.3- Inuvialuit could develop Culture and Language Committees in each community to tackle this issue from the local level</p> <p>6.4- Every year there should be Language and Culture Summits</p>	<p>6.1.1-The Government of the NWT currently does not have a central website or location on NWT languages, news and opportunities</p> <p>6.1.2- In addition to GNWT, IRC should also have the same type of information resources (like a newsletter) or other communication medium</p> <p>6.2.1- There is a lack of organization on culture and language initiatives in the ISR</p> <p>6.3.1-Other than ICRC, there is no other community centred groups</p> <p>6.4.1-If funding existed to create these committees they could act as a repository for cultural information that is accessible by Inuvialuit</p>	<ul style="list-style-type: none"> • People will benefit from having a central and online location to find cultural material of relevance to NWT groups • Inuvialuit who are interested in finding information on how to learn or get involved in language revitalization would have a central place to find information 	<ul style="list-style-type: none"> • IRC • ICRC • GNWT
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MID TERM	<p>7.1-Inuvialuktun language must become mandatory throughout school through implementation of curriculum and programming and by direct recommendations to BDEC and GNWT by IRC</p> <p>7.2- Offer more incentive programs for language (contests, gift cards, draws etc) or something similar to what Northern did with “He/She Got Caught Program” where youth got rewarded for good deeds in the community.</p> <p>7.3- More parents and concerned residents must join BDEC committees and get involved with school activities to promote culture and language to develop solutions and programs</p>	<p>7.1.1-Inuvialuktun curriculum and other resources are not mandatory in schools in the ISR</p> <p>7.1.2-Inuvialuktun is currently not mandatory in all culture camps and in school programming.</p> <p>7.2.1-There are currently no offers or incentives for youth to get involved with language</p> <p>7.3.1- Currently parents really do not have a say in what language teaching is offered to their kids. There needs to be assistance in allotting funding to activities that we do with Government funding given to schools</p>	<ul style="list-style-type: none"> • By having stronger voices at BDEC at Government tables hopefully new programs will be realized and goals set in the IFA accomplished • By making Inuvialuktun mandatory in more areas of life the better for youth to attain language • By offering incentives to youth and other groups to learn language, you will see a increase in attendance and involvement • Parents are key to making any successful initiative or program to work for kids and adults in the community and they if they are the ones lobbying for language and directing BDEC the better we will spend our allotted funding 	<ul style="list-style-type: none"> • IRC • Friendship Centre Programs • Early Childhood • All BDEC Schools • Parents
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LONG TERM	<p>8.1-Make Inuvialuktun an Immersion Program in Schools in the ISR (similar to French Immersion) that incorporates Inuvialuit Final Agreement (IFA), Taima Curriculum, IRC Structure, etc.</p> <p>8.2-Do an Honour our Elders project similar to Old Crow's Elder's portraits and stories in their Community Center. This would be led by ICC</p> <p>8.3- Do a Family Tree project (update for those who have them) for every community in the ISR</p> <p>8.4-Cultural preservation is hindered by climate change and there needs to be an effort to preserve culture and identity ahead of impacts</p> <p>8.5-Inform Inuvialuit of new and upcoming projects that are being conducted regarding culture and language</p>	<p>8.1.1- There is no way to ensure Inuvialuktun and Inuvialuit culture are taught in schools without further investment in program roll out and success</p> <p>8.2.1-There is no place in our community where we honor our elders and their stories for youth to learn from</p> <p>8.3.1-Youth need to learn more about who they are related to so they can possibly learn family history and traditional knowledge</p> <p>8.4.1-There is a need to collect and store cultural information before it disappears due to stronger and more frequent storms (archeological, buildings, sacred sites, burial sites, and other memorabilia or objects from the past)</p> <p>8.5.1-Not enough Inuvialuit are informed about Inuvialuit tools and resources such as the Inuvialuit Atlas, Inuvialuit Indicators website, Community Based Monitoring etc</p>	<ul style="list-style-type: none"> • More Inuvialuit will achieve levels of success in language and culture as other language programs funded and run in NWT schools • Inform community of our sacred elders and the role they play in the community 	<ul style="list-style-type: none"> • All Beaufort Delta schools • IRC • Inuvik Community Corporation
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Health and Wellbeing				
IN PROGRESS	9.1-Develop a more consolidated approach that brings together all resources for teaching (can be put on website run by IRC, coming soon in May 2017)	9.1.1-There is no adequate online information or education on climate change specific for Inuvialuit.	<ul style="list-style-type: none"> Inform more youth and other northerners of the impacts of climate change to them and others in the world 	<ul style="list-style-type: none"> IRC Outcrop is consulting all 6 communities in the ISR
SHORT TERM	<p>9.2-Inuvialuit are interested in finding out from Federal Government and GNWT where funding for education has gone in the past 20 years to see long term trends of usage and academic attainment</p> <p>9.3-The education system in the ISR is a barrier towards youth success in that they should in all possible areas incorporate language and culture to develop strong foundations to later deal with pressures in life, including climate change</p> <p>9.4-There is an overwhelming need for GNWT and</p>	<p>9.2.1-Funding set aside for Inuvialuit should be used to implement Inuvialuit sanctioned programs and services only but it is not, for example mental health, treatment centres/ programs (based in culture)</p> <p>9.3.1- Youth are losing their way due to many reasons in this modern day, which are made worse due to climate change and youth need to get back to the land to learn traditional values and cultural ways. This must be promoted and offered when and where possible in programs developed by the region for the region</p>	<ul style="list-style-type: none"> If Inuvialuit organizations and groups were able to dictate how funding is used more effectively, the result would be more collaborative programs that both sides agree on If our education system in the north was more inclusive to indigenous people and incorporated culture and language into all programs and services language retention and cultural activity would be high Without health and wellness supports developed and provided 	<ul style="list-style-type: none"> IRC BDEC ISR Schools

<p>SHORT TERM CONT.</p>	<p>Federal Government to provide funding to NWT regions to develop locally designed programs or services for residents with addictions and mental illnesses in preparation for climate change impacts</p> <p>9.5-It is crucial that youth be involved in current issues in the community through direct involvement and education on climate change and other areas through real world experience, as they are the ones who will deal with future change. E.g., Youth positions on Committees, groups, appointed to leadership roles, etc</p> <p>9.6-The bond between youth and elders must be strengthened and more Elder and Youth Committees should be formed, if they have not already, in all Inuvialuit communities to develop cultural programs and services for the ISR</p>	<p>9.4.1-There are no mental health and rehabilitation services available in the north, let alone specific to any culture in the north and without this type of help residents will not be prepared to deal with climate change related changes now or later in life</p> <p>9.5.1-Youth are not currently as involved or incorporated into current issues on a daily basis, e.g., committees, boards, groups, in politics to begin to realize the impacts and the adaptation that will have to happen to survive in the north, etc</p> <p>9.6.1- Youth and elders are not working together like they should be to understand past and present issues. They can learn from each other in many aspects and there is a need to combine the two groups</p>	<p>locally to Inuvialuit and other indigenous populations in the NWT, those areas will not improve. Sending people out does not work</p> <ul style="list-style-type: none"> • With youth involved in front-line issues from a young age could only prepare them for what is to come in many aspects of life. Youth need to be included in decision making and other areas of importance to communities • Having youth and elders work together will bring together two unique perspectives and knowledge from the past and present world to the decision making and ideas 	
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MID TERM	<p>10.1-Identify funding currently available as well as new funding to get more on the land programs running in the region and take stock of what everyone is offering and work together, where possible</p> <p>10.2-Find longer term funding available for traditional activities that would help offset effects of climate change which are either not being utilized or used in-effectively.</p> <p>10.3-Address cultural learning with partnership building and sharing of resources for the benefit of all indigenous youth in the ISR and GSA</p>	<p>10.1.1-Certain funding available for traditional activities that would help offset effects of climate change are either not being utilized or used in-effectively.</p> <p>10.2.1-There is a need to find sustained funding for traditional activities</p> <p>10.2.2-Local groups are not working together effectively and not being informed by membership at large</p> <p>10.3.1-Begin to work together with other indigenous groups to build better programs for youth</p>	<ul style="list-style-type: none"> • By consolidating where funding for running all programs for culture and learning is being used, the better organizations can work together to run larger, longer programs that can become sustainable for the long term. 	<ul style="list-style-type: none"> • IRC • All programs accessing language, culture, education funding in the ISR for Inuvialuit • GNWT
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LONG TERM	<p>10.4 -Develop and promote more online learning for climate change that is culturally appropriate for students from the north</p> <p>10.5- Part of the education with climate change must happen at the school level and with programs run by Inuvialuit and Gwich'in organizations</p> <p>10.6-Need to put local culture and history in education curriculums as it is lacking, especially at grades 9-12 when information is easily understood (residential schools, climate change, contaminants, food security, culture, language etc)</p>	<p>10.4.1- Students and residents in the north are not being adequately educated about climate change impacts, adaptation or how they are impacted. As well as facts versus fiction and what is actual science or traditional knowledge</p> <p>10.4.2- There is a need to consolidate information that is out there about climate change for youth and other community members to have a better understanding of adaptation</p> <p>10.5.1-Gwich'in and Inuvialuit organizations currently do not work together as much as they should on topics of similar interest</p> <p>10.6.1-There is a need to overall incorporate current issues in school curriculum</p>	<ul style="list-style-type: none"> • IRC is developing a new climate change website for the ISR. Due to be completed in May 2017. As well as community climate change adaptation plan for each of the 6 Inuvialuit communities and 1 overall Regional Climate Adaption Strategy for the Inuvialuit Settlement Region (ISR) 	<ul style="list-style-type: none"> • IRC • ITK • All ISR schools, Beaufort Delta Education Council • ICRC • Researchers
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Subsistence Harvesting				
IN PROGRESS	<p>11.1- Lots of beluga monitoring is under way in the Inuvik, Tuktoyaktuk, Paulatuk areas with DFO and community partners</p> <p>11.2 There needs to be more incentive programs available for harvesters to report harvests</p>	<p>11.1-Need to continue receiving updates on mammal health from DFO and others to make informed decisions</p> <p>11.2.1-There needs to be similar harvester incentives as what is provided by the Aklavik Hunters and Trappers Committee Harvesters Program</p>	<ul style="list-style-type: none"> • More beluga research is taking place increasing Inuvialuit understanding of beluga health and the impacts on Inuvialuit people. • Partnerships are being built to continue to monitor the Beaufort sea 	<ul style="list-style-type: none"> • DFO/FOC • Inuvialit Game Council • Joint Secretariat • Hunters and Trappers Committees • ENR
SHORT TERM	<p>12.1- People need to be educated about risks of unsafe conditions and how they can adapt to fishing on less ice</p> <p>12.2-Inuvik area needs to be able to harvest animals and have a plan for stranded animals/people</p> <p>12.3-Develop an education program around young men and women to teach best practices, which fish nets and fishing techniques there are, guns/weapons and other tools taught</p>	<p>12.1.1- Due to increased open water seasons in the delta winter and spring ice fishing may not be possible in the near future</p> <p>12.2.1-There is currently no protocol for first response to stranded animals and people out on the land due to changing conditions. It is dealt with in an ad hoc way</p> <p>12.3.1-There currently is no survival program developed by an Indigenous group. Inuvialuit need to develop one.</p>	<ul style="list-style-type: none"> • More people will be informed and know where to input information about observations that they see • There needs to be long term monitoring plans in place for all areas • By developing a on the land survival and safety program that is delivered by elders and hunters, we will have the best teachers possible 	<ul style="list-style-type: none"> • HTC's • IRC • GNWT • ENR • Funding organizations • Health Canada • RCMP • Inuvik Search and Rescue

<p style="text-align: center;">SHORT TERM CONT.</p>	<p>by elders and experienced hunters/trappers</p> <p>12.4-Need to do research on why beluga whales and seals are coming up the Mackenzie river following food source</p> <p>12.5-Inuvialuit need to develop a NEW traditional knowledge guide for youth to inform them on traditional skills about safety, wastage and how to navigate and go on the land and waters prepared due to climate change and changing conditions</p>	<p>12.4.1- Whales and seals are coming up river to Inuvik area following food sources</p> <p>12.5.1-There is a need to develop new traditional knowledge to pass on to youth since old traditional knowledge applies to past conditions</p>		
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MID TERM	<p>13.1-There is a need to develop hunting groups to share information on local conditions, animal availability and location as well as a safety network along the delta and coastal areas</p> <p>13.2-Inuvialuit need to be willing to put more variation in their diet and diversify their food sources in the future depending on availability and conditions</p> <p>13.3- Lack of knowledge on climate change effects on wildlife, high cost of fuel, trapping supplies, and poor return of low end hides, as well as lack of education of how to properly trap are barriers to this source of economy growing in the ISRA program must be developed this addresses all these areas</p>	<p>13.1.1-Climate change is contributing to changes in animal behavior and migration patterns causing hunters to go further and spend more resources that may not always be successful</p> <p>13.2.1-We need networks to better share and distribute country foods in the ISR and try new species in order to adapt to possible future changes</p> <p>13.3.1- Climate change can negatively and positively impact the traditional trapping industry in the ISR and NWT. Need for program to re-introduce fur trade to people in the ISR so they are prepared for market changes and conditions</p>	<ul style="list-style-type: none"> • Having knowledge sharing networks will save resources and time of harvesters • Having established networks helps to promote families to try other animals in their household and learn new ways to prepare them • There is a need for Inuvialuit to develop safety protocols and networks among active hunters • There is a need to promote trapping and sewing, how to process hides locally in order for profit to be made 	<ul style="list-style-type: none"> • Local hunters • HTC's • Inuvialuit Game Council • IRC
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LONG TERM	<p>14.1 Government and other regulators need to start taking Indigenous traditional knowledge into account in decision making when it comes to quotas etc, as it impacts food security and income for families in the ISR</p> <p>14.2- Starting to see Delta fish become soft in texture, grey in colour where many Inuvialuit do not deem them safe</p> <p>14.3-A Fish habitat and health monitoring program should be developed by Inuvialuit and run by local monitors and members from HTC's</p> <p>14.4- Research and continued monitoring needs to be done on fish from the ISR as climate changes and observations of more spoiled fish continues</p>	<p>14.1.1- Climate change is impacting animals, fish and birds from all around the world; to change ranges and abundances at odd times and places. This type of observational knowledge is not being reflected in current policies around habitat health and well-being, and therefore, human well being is not being very well understood</p> <p>14.2.1-There have been observations of fish in the Mackenzie delta 'going bad' quicker than before. They have to check more often because what they are finding is fish that is soft in texture and grey in colour. Many Inuvialuit who encountered those types of fish deemed them inedible.</p> <p>14.3.1-Fish from the coast of the ISR are also experiencing similar type of unusually quick spoilage but maybe not as often</p>	<ul style="list-style-type: none"> • This issue most noticeable in polar bear, caribou, geese and beluga whales due to their high importance to Inuvialuit diet yet our current policies are not reflecting Indigenous traditional knowledge on climate change (e.g. in quota numbers, oral history) in their policies as it relates to population size estimates, etc 	<ul style="list-style-type: none"> • HTC's • IRC • Inuvialuit Game Council
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Transportation and Infrastructure				
IN PROGRESS	15.1-Encourage people to use (some items available for loan at HTC's and other places) or invest in devices such as SPOTS, depth finders, or marine radios.	15.1.1- Increased erosion and slumping due to melting permafrost causing an issue for marine traffic in the Mackenzie delta.	<ul style="list-style-type: none"> While this happens periodically, there needs to be more advertisement of locations in town that offer this free service for Inuvialuit or Indigenous people. The more people that know the better for safety overall 	<ul style="list-style-type: none"> HTCs Aurora Research Institute
SHORT TERM	<p>16.1-Promote use of Google Maps or other mapping or monitoring software to GPS locations of hazards on maps</p> <p>16.2-Create an app specifically for hazard mapping in Mackenzie Delta powered with data collected by hunters/fishers etc that could be used to possibly prevent boat accidents or damage while out on the water</p> <p>16.3-Larger industry that barges in goods to northern communities need to consider climate</p>	<p>16.1.1-There is currently not a whole lot of technology used by hunters, and if there is, it is very few who have access (e.g. depth finders, GPS, any other locator)</p> <p>16.2.1-There is no technology online that could warn boaters, hunters etc of experienced hazards etc other than Facebook or word of mouth. There is a need for a more effective collection of observations and experiences</p> <p>16.3.1-Marine traffic in ISR waters is at increased risk at loss</p>	<ul style="list-style-type: none"> The more technology and tools people can use to collect and share this information the better Creating an app developed by and for hunters will provide a sense of ownership and sense of comfort in knowing data is being collected by active hunters There is a need for better communication and planning of all marine traffic and if groups agree to communicate everyone will have the same accurate information regarding navigation and safety. 	<ul style="list-style-type: none"> NTCL IRC Joint Secretariat Inuvialuit Game Council GNWT ISR Communities Businesses

<p style="text-align: center;">SHORT TERM CONT.</p>	<p>change and erosion when planning trips to the ISR due to increased erosion and slumping caused by melting permafrost</p> <p>16.4.1-All Marine traffic users (harvesters boats, leisure vessels, DFO, NTCL, etc) in the ISR need to begin to communicate plans and conditions in a more coordinated fashion to prevent property damage or loss of life</p>	<p>of equipment due to conditions such as narrowing and shallowing of channels, increased prevalence of sand bars, high winds, strong currents and other factors.</p> <p>16.4.1-There is a need to better monitor and share information among all groups to save time and resources and possibly save lives in this area</p>		
<p style="text-align: center;">MID TERM</p>	<p>17.1-GNWT needs to address concerns about public housing and infrastructure issues brought up by residents as it can save in the long run by providing more preventative maintenance services</p> <p>17.2-Public housing renters and private home owners should help inform policy and new development because they know what the issues are. There may be a need to form a housing</p>	<p>17.1.1- The GNWT does not take residents concerns seriously fast enough when damage could of been preventable</p> <p>17.2.1-Because northerners are not involved in housing design or maintenance decisions a lot of money is wasted on fixing issues that could have been prevented</p> <p>17.2.1-Communities need to become more proactive in areas that are of concern due to</p>	<ul style="list-style-type: none"> • If GNWT created a housing forum in each community and let people gather monthly to update on issues that would create good ideas rather than criticism • By northerners being more proactive and forming committees or groups, it would give northerners a place to gather to talk about concerns, and there are places in each community that will allow 	<ul style="list-style-type: none"> • Non-profit charitable organizations • Private home owners • Public Housing renters GNWT • IRC • Hamlets • Community Corporations

MID TERM CONT.	committee made up of both public and private home owners to come up with recommendations	climate change, i.e., form Tenants Committees, Education Committees Language, Culture, etc and invite youth to them.	non-profit organizations to gather for these purpose	
LONG TERM	18.1-Residents would like more information from government on how water is sourced, treated and what our options are as residents to ensure safe water, especially during emergency events	<p>18.1.1- Water quality and source will always be a concern for delta communities. Some issues of concern are flooding and droughts due to climate change and how that might impact water quality and quantity</p> <p>18.1.2-Residents are not educated and some are concerned about the source, monitoring, quality and location of water sources in Inuvik</p> <p>18.1.3-There are concerns about the new water plant being in a bad location for the potential of floods affecting the underwater pipe. Also, the pipe could cause accidents if not properly marked off. 18.1.4-River road is prone to flooding, which is a cause for concern on road maintenance and conditions over time for the water plant.</p>	<ul style="list-style-type: none"> • If residents have more information regarding water quality in town and on the land, we will reduce the risk of water-borne illness • More education of residents of water treatment and quality since the new plant has been operating will help ease concerns of safety 	<ul style="list-style-type: none"> • Town of Inuvik • Residents of Inuvik

	<p>19.1 An assessment of town infrastructure should be done to plan for future development or tear down of old buildings, especially for long term residents who need to assess their homes and adapt to shifting ground etc</p> <p>19.2-The town of Inuvik needs to consider climate induced damages and increased cost of maintenance if conditions continue to change rapidly</p> <p>19.3-Town of Inuvik dump accumulation can be impacted by climate change with warmer summer and how it is impacting bears who feed off the dump.</p>	<p>19.1.1- There currently is no accessible way for home owners and other residents to assess the buildings they live in to provide preventative maintenance to their own homes if they can afford the costs of a consultant</p> <p>19.2.1- Maintenance costs of town infrastructure such as telephone poles, power lines etc will need to be considered with climate change and much preventative maintenance done more often, if required.</p> <p>19.3.1-The town may need to reassess its dump plans to consider climate change and how to deal with trash, incinerator program, recycling, new technology of turning garbage into energy.</p>	<ul style="list-style-type: none"> • Providing tools for residents to assess their homes will help in reducing costs for residents in the long term when climate changes begin to impact structures 	<ul style="list-style-type: none"> • Northwestel • NWTPC • Town of Inuvik • Home-owners • Business owners • Other organizations
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	<p>20.1- School and Community Programs need to be implemented to educate kids and adults about saving energy, biking and walking to school and other things that can be done to reduce carbon footprints, if they are not already</p> <p>20.2-Introduce stricter littering policy for the north, like other Canadian Provinces</p> <p>20.3- Town of Inuvik should re-evaluate the town garbage collection program and consider imposing fines/hours through a Community Littering Program for those in the justice system or school for student hours</p> <p>20.4- Town of Inuvik should continue to award non-profit organizations for cleaning up litter during peak times (spring, fall)</p> <p>20.5-Town of Inuvik should consider taking a role in recycling in Inuvik and consider creating a Garbage and Recycling Plan</p>	<p>20.1.1- In addition to adapting to climate change, residents need to learn how to reduce their climate footprint on an individual level in the community or on the land</p> <p>20.2.1-We have relaxed littering policies and laws in the north, unlike many other Canadian Provinces (i.e., B.C., \$5000 fine)</p> <p>20.3.1-There currently are no program developed for community clean up that utilizes justice system or for people who have work hours in school</p> <p>20.4.1-Town does a good job with their reward program however they could do it more often and target the right organizations rather than wait for applications</p> <p>20.5.1-There is no issue with the Town's award program for garbage collection but it could be more efficient</p>	<ul style="list-style-type: none"> • You need to educate people about how they can take action, which is the key to any successful strategy. It starts small and snowballs from there to larger actions and initiatives. • Take a look at lowering fees for garage pick up if the resident/owner is part of a recycling program so that people will pick up the program quicker • If fines were higher for littering there would possibly be less garbage to clean up in the spring/fall • If there was a Town sanctioned Garbage and Recycling Program that people were awarded for being part of there would be more educated residents recycling and disposing 	<ul style="list-style-type: none"> • Schools • GNWT • Town of Inuvik • Inuvik Recycling Depot • Resident homeowners • Business owners
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	<p>*if there is not one already* for the community to tackle issues like burden at the dump, what could be improved to improve resident participation in responsible town garbage disposal and recycling</p>	<p>20.5.2-There is no town garbage and recycling program that community members feel part of as they are not involved</p>	<p>of waste properly (e.g., batteries, computers, etc)</p>	
	<p>21.1- There is a need to identify and seek funding to assist camp owners and low income people High fall winds causing loss of infrastructure (smoke houses, cabins, shelters, sacred/ burial/ traditional sites and prevents going out on the land.</p> <p>21.2-Does the Town of Inuvik/GNWT have a plan if the Dempster Highway or Tuk to Inuvik Highway is closed during maintenance or due to climate changes, and impacts critical supplies?</p>	<p>21.1.1-People are losing infrastructure along the Mackenzie and along the Beaufort Sea coast due to stronger winds in the summer. Thus, our communities need more help and resources for maintenance and restoration of identified and documented sites to maintain cultural practices.</p> <p>21.2.1-Road travel is at risk for emergency circumstances for fuel or food</p> <p>21.2.2- More risk of accidents and stranded motorists on highway. There is no patrol</p>	<ul style="list-style-type: none"> If camp owners are not provided with help, people could lose their cabins and their right to live a subsistence lifestyle, therefore Government must do something to help 	<ul style="list-style-type: none"> Federal Government Territorial Government Municipal (Town of Inuvik)

PAULATUK ADAPTATION PLAN 2016

INUVIALUIT REGIONAL CORPORATION
4/18/2017

PAULATUK/PAULATUUQ: "PLACE OF COAL"



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HOW TO USE THIS DOCUMENT

1. Adaptation actions are outlined in Table 2 by the following sectors:
 - a. Business and economy
 - b. Culture and learning
 - c. Health and well-being
 - d. Subsistence Hunting and Fishing
 - e. Transportation and Infrastructure

2. Actions are ranked according to how soon or easily they can be implemented:
 - a. In progress: action is already under way and should be evaluated after a reasonable trial period
 - b. Short term: action can be easily implemented now
 - c. Medium term: action is feasible to implement with some planning and recruiting of resources
 - d. Long term: action will require substantial planning, time, and /or resources to implement but is a reasonable goal

3. When discussing decisions that will affect a particular sector, review the table for that sector to better understand how climate change might affect the decision and what actions could help the community adapt.

4. Use the “Resources and Leadership” column for hints on programs that could provide funding or other kinds of support (refer to the Appendix for more information on programs).

5. Use the worksheets in Appendix 2 of this document to:
 - a. Plan implementation strategy
 - b. Keep track of progress
 - c. Evaluate actions that have been implemented
 - d. Update information about risks and climate change trends

To assist community members and other readers of this document there is a listing of Acronyms and Resources for Action that apply to all six Inuvialuit communities. Please use this as a reference when you are unsure of what an acronym means or you need further information on a topic. They are both found in the Appendix at the back of the document.

WORKING GROUP MEMBERS, CONTRIBUTORS AND MEMBERS

Table 1: List of Working Group Participants, Contributors and Reviewers

WORKING GROUP THEME	PARTICIPANTS
Business and Economy	Eric Lede, Justin Ruben Sr, Lorna Neal, Annie Wolki, Business owner *un-named
Culture and Learning	Bill S Ruben, Susan Ruben, Anne Thrasher, Eric Lede Sarah Green, Kim Ruben, Janneen Voudrach, Bill Kudlak, Andy Kudlak, Lawrence Ruben, Diane Ruben, James Ruben Jr, Ruby Ruben, Madison Ruben, Mayor, Ray Ruben, Lawrence Ruben, Diane Ruben
Health and Well Being	Eric Lede, Susan Peffer, Marlene Wolki, Maya March, Tracey Wolki, Melanie Wolki, Ray Ruben, Sarah Green, Debbie Ruben, Gordon, Justin Ruben, Annie Wolki and Glen Ruben, Parks Canada officers, Ray Ruben, Ray Ruben
Subsistence Harvesting	Eric Lede, Susan Peffer, Marlene Wolki, Maya March, Tracey Wolki, Melanie Wolki, Ray Ruben, Sarah Green, Debbie Ruben, Gordon, Justin Ruben, Annie Wolki and Glen Ruben
Transportation and Infrastructure	Bill S Ruben, Susan Ruben, Anne Thrasher, Eric Lede, Sarah Green, Kim Ruben, Janneen Voudrach, Bill Kudlak, Andy Kudlak, Lawrence Ruben, Diane Ruben, James Ruben Jr, Ruby Ruben, Madison Ruben, Ray Ruben, Diane Ruben

Venues: Paulatuk Visitors Center Board Room

METHODOLOGY

In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR's Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on potential adaptations to identified local and regional climate-change-related threats. As with the identified threats, these adaptations were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key adaptations proposed by ISR residents and representatives.

ACKNOWLEDGEMENTS

Inuvialuit Regional Corporation would like to express our sincere gratitude to our Youth Climate Change Coordinator hired for Paulatuk, Celina Wolki, for her term in the position. IRC was able to create this full-time position in each Inuvialuit community due to funding from a project called Inuvialuit Youth: On the Frontline of Climate Change. The project was led and coordinated by our Inuit Research Advisor from her office in Inuvik. Funding for this work was provided by the Climate Change and Adaptation Program of Indigenous and Northern Affairs Canada. The main objective of the project was to empower youth to take a leading role in developing climate-change adaptation plans for their communities as well as to assist in the creation of a regional strategy for the Inuvialuit Settlement Region.

Celina was hired in September 2015 and excelled in her position from her office located at the Paulatuk Visitor's Center, where many other government and Inuvialuit organizations are also located. Celina has a good sense of organization and knows everyone in the community. People really enjoy working with her. Her workshops were well attended and she did a good job reflecting what her community told her about climate change. We are very grateful for Celina as she is a key resource in her community, working many positions at once yet still delivering for her program. Thank you, Celina, for all your hard work and dedication to your position. You did a wonderful job for your community.

IRC would also like to extend our gratitude to all community members who attended workshops held by Celina, and to those who were chosen to attend the ISR Climate Change Strategy Meeting held in Inuvik from March 21-24, 2016. Thank you to Anne Thrasher, Justin Ruben and Melanie Wolki for representing your community at our meeting.

We would also like to thank the Paulatuk Community Corporation for all your help and assistance during the transition period before Celina got her office. Quyannani!

Finally, a very big thank you to the Indigenous and Northern Affairs Canada Climate Change and Adaptation Program for the generous funding that made this position and project possible. Thanks to the funding provided to our region, we have built momentum around climate-change adaptation in our communities, and we want to continue to see – and will work towards putting – our youth in these types of positions so they are ready for their role on the frontline of climate change.

INTRODUCTION

Paulatuk is located in Letty Harbour, adjacent to Darnley Bay in the Amundsen Gulf. The community was formally established in the 1920s; construction of a Distant Early Warning Line site in the 1950s brought a wage-based economy. As Paulatuk is accessible only by sea and air, food and other large items arrive by air freight and, in summer, by barge. Hunting, trapping and fishing are major economic activities; art- and craftwork are also significant. The community's Inuvialuktun name, Paulatuuq, means "place of coal" in the Siglit dialect. The population of Paulatuk is 313, with a median age of 25.9 years old. Nearly 93 percent of residents identify as Aboriginal, of whom almost all are Inuvialuit.

Paulatuk has the following services and infrastructure: A two-member Royal Canadian Mounted Police detachment, health center, school, youth centre, post office, airport, community radio station, hamlet office, and the Paulatuk Visitor's Center, where Parks Canada, the Paulatuk Hunters and Trappers Committee, the Paulatuk Community Corporation, and the town's only hotel and store are located.

Paulatuk completed a Community Climate Change Adaption Plan in 2010 with the assistance of Arctic North Consulting. The community has now reviewed and renewed its adaptation plan to ensure that it is prepared for coming environmental, economic and other changes, and to alert policy makers, funders and leaders of the challenges the community faces. Paulatuk deemed the following climate-change issues to be of the highest priority:

- Coastal erosion and marine navigation
- Inland slumping due to melting permafrost
- Road and infrastructure damage due to melt/freeze cycles
- Danger of damage to housing
- Extreme storms, especially in the summer months
- New and invasive species

TABLE 2: ADAPTATION PLAN BY SECTOR

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Business and Economy				
IN PROGRESS	1.1-On the land camps need to be locally developed and run with economic measures considered	1.1.1-Build in economic benefits to research and programming run by regional organizations.	<ul style="list-style-type: none"> • More people in the community would benefit from local contracts for their services 	<ul style="list-style-type: none"> • Hunters and Trappers Committee • Hamlet • IRC • ITI • Inuvialuit Education Foundation • Aurora College
	1.2-Develop list of priorities for local training opportunities on an annual basis and allot/seek funding to bring in instructors accordingly	1.2.1-In small fly-in communities there are few jobs available and most jobs are seasonal so climate change affects them the most	<ul style="list-style-type: none"> • The public is diversifying their talents to qualify for available jobs • Get the MLA involved in finding available funds to fund programs 	
	1.3-Educate community members about how climate can impact fish and what to look out for when fishing and preparing fish for sale	1.3.1-Opportunities for fishing industry can be impacted by climate change and many people do not have alternatives	<ul style="list-style-type: none"> • Increase and promote eco-tourism opportunities for Inuvialuit 	
	1.4 Organize and promote training opportunities in: proposal and grant writing, accounting, leadership and management skills	1.4.1Economy is suffering due to lack of funding and government cut backs so there is less people going to school and would work if they can to make ends meet	<ul style="list-style-type: none"> • Get more Inuvialuit licensed and permitted to sell traditional items particularly food. 	
	1.5- Apply for programs to improve community's	1.5.1-There needs to be more ways to communicate training needs to regional		

<p style="text-align: center;">IN PROGRESS CONT.</p>	<p>training to Skills Canada and communicate priorities for community to IRC HR, ECE etc</p> <p>1.6- Take advantage of free training and employment opportunities when available, since it could cost a lot</p> <p>1.7- More people getting more interested in starting their own business through tourism but need support to start up</p> <p>1.8- More artists and seamstresses are coming out and are creating income for their households but need support to expand</p>	<p>resource centers like IRC Human Resources etc</p> <p>1.6.1- Often when free training opportunities come around people expect payment</p> <p>1.7.1- Need more public awareness on eco-friendly tourism and how their knowledge of the weather and land are a good start for starting a business on the land</p> <p>1.8.1- There is no support or coordination of interested people who want sell crafts in community. We need guidance on this business opportunity</p>		
<p style="text-align: center;">SHORT TERM</p>	<p>2.1 Create business opportunity for residents to create companies or business around arts and crafts</p>	<p>2.1.1 People are not utilizing opportunities to make extra income during slow economy, ie. selling items as they may not know how or where to go</p>	<ul style="list-style-type: none"> • More Inuvialuit will be prepared to take on these roles if they receive education and training on how to own and run a business. 	<ul style="list-style-type: none"> • Inuvialuit CEDO • ITI

MID TERM	<p>3.1 Look into feasibility of creating business plans and what it takes to open up these companies and keep it sustainable</p>	<p>3.1.1-Opportunities for fishing industry can be impacted by climate change and might not be good to start industry in this area if it will be too unpredictable</p>	<ul style="list-style-type: none"> • More Inuvialuit owned companies competing with other in town businesses • The public is diversifying their talents to qualify for available jobs. • Get the MLA involved in finding available funds to fund programs around ISR 	<ul style="list-style-type: none"> • Inuvialuit CEDO • ITI
LONG TERM	<p>4.1 Look into Tuk to Inuvik highway compensation options if there are any</p> <p>4.2 Scout new trails and hunting areas and share information</p> <p>4.3-Research and monitor to see if impacts will be short term and animals return when development stops or slows down</p>	<p>4.1.1-Development projects are forcing animals away from traditional hunting and trapping areas (research as well)</p> <p>4.2.1-Some areas are now inaccessible due to slumps and other obstacles therefore new trails must be found</p> <p>4.3.1- when there is lots of development, will animals recover like normal?</p>	<ul style="list-style-type: none"> • Would help hunters with camps near development projects to receive compensation for lost income or increased expense to go out and get furs. • Inform land and water boards, government and hunters of impacts and create a private information sharing network for hunters. 	<ul style="list-style-type: none"> • IRC • HTC • Game Council Joint Secretariat

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Culture and Learning				
IN PROGRESS	<p>5.1 Promote careers as linguists, translators and interpreters. Very good money made in this area.</p> <p>5.2 Seeking funding to promote language and culture programs</p>	<p>5.1.1-We are losing our elders and language specialists which is a loss of a good economic opportunity for residents</p> <p>5.2.1-Promote at career fairs, in schools and overall within the region by regional orgs</p>	<ul style="list-style-type: none"> Having people from the community be able to be hired for language is very beneficial in more than one way 	<ul style="list-style-type: none"> ICRC IRC other language programs and funders
SHORT TERM	<p>6.1 Continue to support land camps for youth as well as opportunities to learn traditional skills throughout the year, in different seasons and conditions</p> <p>6.2 Extend duration of land camps to 4-6 week and mandate that Instructors and kids stay out on the land for the full duration of the camp except in emergencies</p> <p>6.3- There needs to be more emergency preparedness training for out on the land scenarios for everyone, but youth especially as they are more vulnerable</p>	<p>6.1.1-Changing and increasingly unpredictable conditions require hunters develop skills in navigation, 'weather' prediction, and reading the 'land' to ensure safe travel. Youth are especially at risk</p> <p>6.2.1-Climate change affects the duration the community stays out on the land but durations should be as long as possible</p> <p>6.3.1-Educate youth and adults how to deal with emergencies out on the land (Reading maps, on the land safety, how to properly navigate with a GPS, using constellations)</p>	<ul style="list-style-type: none"> The youth and adults become aware of their surrounding weather, travel routes, water conditions 	<ul style="list-style-type: none"> HTC Aurora College Elders

MID TERM	<p>7.1 Identify opportunities to record and pass on oral history of how Inuvialuit have adapted and been resilient to environmental changes throughout their history; involve youth in process and put in format that is appealing to them</p>	<p>7.1.1-There is a need to educate youth about Inuvialuit survival over time and adapt some of those techniques to the modern world</p>	<ul style="list-style-type: none"> • By passing along this information, youth and other community members will have more pride and ownership of survival techniques 	<ul style="list-style-type: none"> • HTC • Elders • ICRC
LONG TERM	<p>8.1-Get qualified teachers that are used to being in small towns and are open to incorporating community traditions into teaching</p> <p>8.2-Update school curriculum as it is not serving Inuvialuit well in terms of learning culture and language.</p>	<p>8.1.1-There is a major lack of cultural and societal sensitivity among new teachers that need cultural competence training more than what is currently being offered today.</p> <p>8.2.1-Current curriculum is not serving Inuvialuit well in terms of learning culture and language.</p>	<ul style="list-style-type: none"> • Teachers and community members would have an improved relationship. • By allowing Inuvialuit and education authorities to jointly develop a new curriculum it will increase academic retention. 	<ul style="list-style-type: none"> • Beaufort Delta Education Authority • IRC • ICRC • GNWT • Teachers • Parents • Elders

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Health and Wellbeing				
IN PROGRESS	9.1 Review and education of the community emergency preparedness plan for Paulatuk and get an updated list of first responders.	9.1.1-Many people are not aware that a community plan exists or who has a copy of it in the community.	<ul style="list-style-type: none"> Educate more people that this does exist and implication for them as residents 	<ul style="list-style-type: none"> Hamlet of Paulatuk GNWT
SHORT TERM	<p>10.1 Create community program to look at these areas within households. Look into how much it costs per individual to be prepared and help families create plans.</p> <p>10.2 Develop a preparedness committee and look into options of bulk purchasing equipment and supplies (first aid kits, water filters, emergency blankets, flares, non-perishables items.</p> <p>10.3 Support initiatives to monitor water sources for contaminants</p> <p>10.4 Increase awareness of health consequences of consuming various contaminants</p>	<p>10.1.1- Inuvialuit are not prepared at the individual level if there was ever a climate change catastrophe where evacuation might be required (flooding, food shortages, loss of telecommunication due to storms)</p> <p>10.2.1- See if HTCs or other funding can support a more robust program offering more for the community</p> <p>10.3.1-Our community would like to monitor our own water quality at different seasons to ensure safety.</p> <p>10.4.1-We do not have enough knowledge on local and long range contaminants and possible effects on human, animal and fish health. IRC's IRA can help with this but they have not been in the community for a couple years.</p>	<ul style="list-style-type: none"> People will be more prepared for emergencies and other community wide events. If we set up a community water quality program we are building capacity, creating jobs and informing our own residents on the quality of our water we get in town and on the land. We want to see more training on monitoring contaminants as well. 	<ul style="list-style-type: none"> Hamlet of Paulatuk Paulatuk Community Corporation Hunters and Trappers Committee Parks Canada School RCMP

<p style="text-align: center;">MID TERM</p>	<p>11.1 Get more funding for the town freezer</p> <p>11.2 Get something like the old food mail system back through lobbying and doing research to show deficiencies of new one</p> <p>11.3-Work with research partners on food security research</p>	<p>11.1.1-There is no longer a community freezer in the community due to high cost of electricity and maintenance that the community cannot sustain.</p> <p>11.2.1-The new Nutrition North system is not working for people. Old food mail system was better but need a new alternative</p>	<ul style="list-style-type: none"> • Through working with partners we may be able to find a way to make this freezer program sustainable. • The old food mail system worked better for our communities and we want to see it come back to benefit more people. 	<ul style="list-style-type: none"> • Hamlet of Paulatuk • Community Corporation • HTC • Research partners • Government of Canada
<p style="text-align: center;">LONG TERM</p>	<p>12.1 Promote and look for funding to conduct more traditional activities like traditional skills completions, cultural festivals.</p> <p>12.2 Educate more young hunters on changes to expect to see and how to adapt to traveling or hunting in a changing climate.</p> <p>12.3-Youth need to be taught about the unpredictability of going out to hunt and travel alone and that they should be prepared</p>	<p>12.1.1-There is lack of recreation activities to do during time when travel to camps, etc. is not possible due to unpredictable weather and storms which causes problems in the community esp. for youth (vandalism, crime).</p> <p>12.2.1-Young hunters are not aware of the climate change impacts on the land and waterways and also how it affects animal behavior.</p> <p>12.3.1-Youth could also learn more about respecting and butchering animals</p>	<ul style="list-style-type: none"> • By finding ways to ensure our youth are busy and happy through programming we may see a decrease in issues we see youth facing in the community • By educating youth now they too can pass along knowledge that might save someone's life out in on the land or water. 	<ul style="list-style-type: none"> • School • Community Corporation • IRC • Elders • HTC

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Subsistence Harvesting				
IN PROGRESS	<p>13.1- Promote and help people get out more to hunt and fish rather than depend on Northern food.</p> <p>13.2- Set up a safety equipment sign out program with HTC to ensure everyone who is able to go out will have the proper equipment regardless of income.</p> <p>13.3- Use more available data to inform hunters and government programs to better manage herds</p>	<p>13.1.1-Food cost really high</p> <p>13.2.1-Provide access to safety equipment such as beacons, radios, satellite phones, and GPS on a loaning-basis</p> <p>13.3.1-Relay information from Parks Canada on caribou migration to local hunters</p>	<ul style="list-style-type: none"> • People will spend less on less nutritious store bought food and more on harvesting healthy food. • While people are out harvesting they will be safer. • While co-management happens there will be better and more open communication. 	<ul style="list-style-type: none"> • HTC • IRC • GNWT
SHORT TERM	<p>14.1 More funding to do more hunts per year for the community</p> <p>14.2 Public awareness on human footprint and noise pollution Get the men and women more involved in teaching youth and out of town visitors on the importance of subsistence harvesting</p>	<p>14.1.1-Climate change, noise pollution, and human footprint has a great effect on the travel routes of the animals Paulatuk harvests.</p> <p>14.2.1-Lack of commercial and community awareness on noise pollution Reduce noise pollution (generators)</p> <p>14.3.1-Introduce and educate the public about solar panels</p>	<ul style="list-style-type: none"> • By educating more people about these issues we may have better relationships with researchers, visitors etc • At the local level, people can do their part in reducing noise pollution. 	<ul style="list-style-type: none"> • Tourism businesses • ECE • HTC • Researchers • GNWT

<p style="text-align: center;">SHORT TERM CONT.</p>	<p>14.3 Introduce solar and wind powered panels and technology</p> <p>14.4- Give awareness about cleaning and proper disposal of all types of garbage</p>	<p>14.4.1-Educate people on how to reduce footprint pollution</p>	<ul style="list-style-type: none"> • By moving away from gas powered tools in the summer we can save and produce our own energy. Especially, when on the land. It will cost less over time and allow people to stay out longer if they want to. • Educate on reducing individual greenhouse footprint in town and on the land. 	
<p style="text-align: center;">MID TERM</p>	<p>15.1-Invest or find funding to purchase more CB radio/satellite telephones to facilitate communication between hunters and local radio</p>	<p>15.1.1-Not all people can afford the technology to stay in constant communication when out on the land, which can lead to dangerous situation or stranding.</p>	<ul style="list-style-type: none"> • By having more available resources for people, we are reducing the risk of a bad situation 	<ul style="list-style-type: none"> • HTC • IRC • Community Corporation
<p style="text-align: center;">LONG TERM</p>	<p>16.1-Introduce wind turbine</p> <p>16.2-More hunts per year for caribou harvest for the community</p> <p>16.3-Establish well-stocked community emergency shelters on the land</p> <p>16.5- Create inter-agency to find and create a budget for a emergency shelter on the land</p>	<p>16.1.1-Give awareness about wind turbines</p> <p>16.2.1-Apply for more funding to hold more hunts for community</p> <p>16.3.1-There are no shelters that are for emergencies only where they are needed, where people go the most</p> <p>16.5.1- There is no central place to resolve community issues that come up</p>	<ul style="list-style-type: none"> • Wind turbines and other renewable technologies are becoming less and less expensive therefore is more attainable to people or organizations in Paulatuk than it used to be. 	<ul style="list-style-type: none"> • HTC • IRC • GNWT • Aurora Research Institute

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Transportation and Infrastructure				
IN PROGRESS	<p>17.1-Encourage HTC's, PCC, Hamlet to invest in depth finders, marine radios and other equipment to increase safety for Harvesters and mark off hazardous areas.</p> <p>17.2 All agencies work with qualified engineers that know about permafrost and building contractor.</p> <p>17.3 Give yearly awareness presentation on climate change and how it affects the communities</p> <p>17.4-Advise contractors to build better support beams or waste money</p> <p>17.5-Revise building codes to mandate thicker gravel pads, adjustable pilings and a longer settling period for gravel pads</p>	<p>17.1.1-Increased erosion and slumping along river and coast is causing hazards and safety risks for boats and other marine traffic (NTCL, Coast Guard, local harvesters)</p> <p>17.2.1-The work done on Paulatuk roads the knowledge from the engineers that are hired by the Hamlet also the community knowledge is not used to work on drainage system and road system (develop a guide to building with community input)</p> <p>17.3.1-Old snow removal system is not working causing more erosion alongside natural erosion</p> <p>17.3.2-Need more presentation on climate change adaptation</p> <p>17.4.1-Houses in town need better support beams</p> <p>17.5.1-There is a need to revise codes for building in northern climates. Perhaps learn from other circumpolar countries or other Inuit regions</p>	<ul style="list-style-type: none"> • More safety of Inuvialuit hunters • The people hired will have some knowledge of past issues and how to plan not to have them happen again 	<ul style="list-style-type: none"> • GNWT • Hamlet • Business • Industry

SHORT TERM	<p>18.1-There is no competition for fuel company so there is need for more competition within community</p> <p>18.2- Re-evaluate garbage collection program find funding to build garbage bins for town</p> <p>18.3- In short term, create a local program where residents can GPS hazard locations on Google Maps etc and share information with other harvesters. Facebook page</p> <p>18.4-Climate change affects roads infrastructure and the time you need to clean and plow roads so more usage of fuel</p>	<p>18.1.1-High cost of fuel limiting opportunities for subsistence harvesting</p> <p>18.2.1-Garbage dump accumulations affected by climate change</p> <p>18.3.1-More water builds up on roads causing potholes damaging vehicles. Housing does not consult with the hamlet of Paulatuk on where housing lots should be built for a more solid foundation</p> <p>18.4.1-More water on land not draining properly causing floods around houses and buildings</p>	<ul style="list-style-type: none"> • Lobby GNWT or Northern to take on a new fuel contract to create some competition in the community. • More safe and effective waste management. Could also expand this idea to recycling. • Preventative maintenance is cheaper than fixing already damaged roads • Also, need consultation on areas of development to ensure that they are not disturbing sensitive areas or areas where ground is degraded near the ocean and graveyard, specifically 	<ul style="list-style-type: none"> • GNWT
MID TERM	<p>19.1- Have hamlet or GNWT educate contractors on northern building codes and what must be considered with building up north</p> <p>19.2- Research sustainable homes and projects that look at new building techniques (Earth Ship)</p>	<p>19.1.1-Melting permafrost affects the integrity and longevity of housing and other buildings (shifting, sinking etc) and is not being built into scope of work by contractors who are ignorant of climate</p> <p>19.2.1- There is no research done in the ISR on sustainable homes. A model needs to be made to show others</p>	<ul style="list-style-type: none"> • If GNWT informs or mandates contractors to highly consider local conditions of building there will be less mistakes and funding will be spent wisely 	<ul style="list-style-type: none"> • Hamlet • GNWT • Contractors hired by GNWT and Hamlet

LONG TERM	<p>20.1 Look into what areas self government will be involved</p> <p>20.2- Learn from what other communities are doing to protect infrastructure</p> <p>20.3-Old snow removal system is not working causing more erosion alongside natural erosion</p> <p>20.4-Make new strategy to adapt to climate change and infrastructure</p> <p>17.6 Cooperate with local agencies to create new adaptation plan and new lot for snow removal</p> <p>20.5- Do research and find material that can withstand our cold temperatures</p>	<p>20.1.1-How will self government impact housing in the future (considering climate change)</p> <p>20.2.1-There needs to be research done on what other places are doing to adapt to climate change</p> <p>20.3.1There is a concern about the erosion of river road and flooding in the coastal</p> <p>20.3.2-Need to speak to engineers about best way to do this to ensure we do not further damage areas around town or near shore.</p> <p>20.4.1-Keep updating our strategy and perhaps develop a specific-stand alone strategy</p> <p>20.5.1-Look for new materials and technologies that will work well in the north</p>	<ul style="list-style-type: none"> • Finding ways to include self government in decision making early will benefit all. • Look at our other coastal communities of Tuktoyaktuk and Sachs and Ulukhaktok as well as other northern coastal towns will help us to make smart decisions rather than wasting time, dollars to innovate our own. • New building materials and technologies will be required in the future and we want our youth to know about them • Keep updating plans every couple years so they always apply to current conditions 	<ul style="list-style-type: none"> • IRC • GNWT • Hamlet, Community Corporation • HTC
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SACHS HARBOUR ADAPTATION PLAN 2016

INUVIALUIT REGIONAL CORPORATION

4/18/2017

SACHS HARBOUR/IKAHUAK: "WHERE YOU GO ACROSS TO"



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HOW TO USE THIS DOCUMENT

1. Adaptation actions are outlined in Table 2 by the following sectors:
 - a. Business and economy
 - b. Culture and learning
 - c. Health and well-being
 - d. Subsistence Hunting and Fishing
 - e. Transportation and Infrastructure

2. Actions are ranked according to how soon or easily they can be implemented:
 - a. In progress: action is already under way and should be evaluated after a reasonable trial period
 - b. Short term: action can be easily implemented now
 - c. Medium term: action is feasible to implement with some planning and recruiting of resources
 - d. Long term: action will require substantial planning, time, and /or resources to implement but is a reasonable goal

3. When discussing decisions that will affect a particular sector, review the table for that sector to better understand how climate change might affect the decision and what actions could help the community adapt.

4. Use the “Resources and Leadership” column for hints on programs that could provide funding or other kinds of support (refer to the Appendix for more information on programs).

5. Use the worksheets in Appendix 2 of this document to:
 - a. Plan implementation strategy
 - b. Keep track of progress
 - c. Evaluate actions that have been implemented
 - d. Update information about risks and climate change trends

To assist community members and other readers of this document there is a listing of Acronyms and Resources for Action that apply to all six Inuvialuit communities. Please use this as a reference when you are unsure of what an acronym means or you need further information on a topic. They are both found in the Appendix at the back of the document.

WORKING GROUP MEMBERS, CONTRIBUTORS AND MEMBERS

Table 1: List of Working Group Participants, Contributors and Reviewers

WORKING GROUP THEME	PARTICIPANTS
Business and Economy	Earl Esau, John Stuart Jr, Tony Lucas, and Warren Esau, Andrea Keogak, Shannon O'Hara
Culture and Learning	Earl Esau, John Stuart Jr, Tony Lucas, and Warren Esau, Andrea Keogak, Shannon O'Hara
Health and Well Being	Earl Esau, John Stuart Jr, Tony Lucas, and Warren Esau, Andrea Keogak, Shannon O'Hara
Subsistence Harvesting	Earl Esau, John Stuart Jr, Tony Lucas, and Warren Esau, Andrea Keogak, Shannon O'Hara
Transportation and Infrastructure	Earl Esau, John Stuart Jr, Tony Lucas, and Warren Esau, Andrea Keogak, Shannon O'Hara

Venues: Sachs Harbour Community Centre, Midnight Sun Recreation Complex

METHODOLOGY

In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR's Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on potential adaptations to identified local and regional climate-change-related threats. As with the identified threats, these adaptations were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key adaptations proposed by ISR residents and representatives.

ACKNOWLEDGEMENTS

Inuvialuit Regional Corporation would like to express our sincere gratitude to the three Youth Climate Change Coordinators who were hired for Sachs Harbour: Shelby Lucas, Issiac Elanik and Andrea Keogak. Shelby was hired in November 2015, Issiac in January 2016 and Andrea in March 2016. We would like to thank each of you for your effort in the activities you undertook during your terms. We would like to acknowledge that there was a transition period during a move of the Sachs Harbour Community Corporation office, where the position was located in the community, which caused a disruption for Shelby and Issiac. Fortunately, after the office was settled in its new location, we were able to hire Andrea to take on the work for the last two weeks to complete climate change workshops for her community as well as to identify individuals to attend the ISR Climate Change Strategy Meeting held in Inuvik, March 21-24, 2016. Thus, we would like to thank you, Andrea, for a job well done considering the circumstances you were under. Thank you for pulling through for your community.

IRC would also like to extend our gratitude to community members who attended the community workshops held by Andrea. Your input and the input of others who gave information to Andrea helped to shape your community's first ever Climate Change Adaptation Plan. Also, thank you to those community members who were chosen to attend the ISR Climate Change Strategy Meeting held in Inuvik, March 21-24, 2016. Thank you to Warren Esau, Tony Lucas and Earl Esau for attending the community workshops and for contributing your concerns and ideas and presenting the information on behalf of your community while in Inuvik.

Finally, a very big thank you to Indigenous and Northern Affairs Canada's Climate Change and Adaptation Program for its generous funding that made this position and project possible. Thanks to the funding provided to our region, we have built momentum around climate-change adaptation in our communities, and we want to continue to see – and will work towards putting – our youth in these types of positions so they are ready for their role on the frontline of climate change.

INTRODUCTION

Sachs Harbour is located on the southwest coast of Banks Island. It was named after the ship the *Mary Sachs*, which was part of the Canadian Arctic Expedition of 1913. As the community is accessible only by sea and air, food and other large items arrive by air freight and, in summer, by barge. The economy is reliant on hunting, fishing and trapping; as well, eco-tourism and sports-hunting are significant. The traditional name for the community is Ikahuk – “where you go across to.”

The population of Sachs Harbour is 132, with a median age of 32.7 years old. Just over 80 percent of residents identify as Aboriginal, of whom almost all are Inuvialuit. Principle languages are Inuvialuktun (Siglit dialect) and English.

Sachs Harbour has the following services and infrastructure: a two-member Royal Canadian Mounted Police detachment, health centre, Inualthuyak School (K-10), store, community centre, airport, two bed & breakfasts, a Parks Canada office (which also houses the Hamlet of Sachs Harbour), the Sachs Harbour Community Corporation office, and the Sachs Harbour Hunters and Trappers Committee.

Sachs Harbour developed its Climate Change Adaptation Plan to be a “living document” that the community can use to monitor changes and spur action from policymakers, funders and leaders. The community deems the following climate-change issues to be of the highest priority:

- Changing ice conditions affecting wildlife and humans
- Infrastructure changes and damage
- Inland slumping and low lake hazards
- Wildlife population fluctuations
- Invasive species of fish and insects
- New diseases appearing in wildlife and fish

TABLE 2: ADAPTATION PLAN BY SECTOR

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Business and Economy				
IN PROGRESS	1.1-Educate more young hunters on Sport hunting business	1.1.1 Decreased opportunities for tourism through sport hunts due to warmer winters and less promotion of sport hunts due to regulations.	<ul style="list-style-type: none"> • More economic opportunities • Teach youth and others about small businesses and joint ventures 	<ul style="list-style-type: none"> • Elders (John Lucas) • Inuvialuit CEDO • ITI • IRC • IDC • NTCL • ITI • GNWT • BREA • Aklak Air
	1.2-Interest to start new businesses and initiatives.	1.2.1 Slow economy in the community due to many factors, which can be exacerbated by climate change.	<ul style="list-style-type: none"> • Reduce the cost for individual families to adapt to climate change 	
	1.3-Look at ways to utilize barge more effectively. For example, shared shipping or discounts for large ticket items that are required for buildings or adaptation projects.	1.3.1 Cost to ship materials and equipment is too high for most residents reducing their ability to adapt to climate change.	<ul style="list-style-type: none"> • Small hamlets like Sachs Harbour require all the help that they can get when it comes to adapting to high prices of food, fuel and other supplies 	
	1.4 -Encourage organizations and government to bring their own fuel when possible	1.4.1-Sachs Harbour does not have the resources (fuel) to service outside people that require it, which leaves community vulnerable in emergency situations.	<ul style="list-style-type: none"> • If organizations and businesses brought in their own fuel, it would leave the community at less risk of being in a bad situation 	
	1.5-Look into ways to store more fuel reserves.			
	1.6 – Start up trapping program for all ages			
	1.7-There is a need to invest in existing businesses in the community			<ul style="list-style-type: none"> • If more was invested into local businesses, perhaps prices would go down

IN PROGRESS CONT.		<p>1.5.1- We need another fuel tank for emergencies</p> <p>1.6.1- Not much trapping taking place like long ago due to limited or no funding, incentives and lack of people to teach.</p> <p>1.6.2- Lack of programming for inclusive learning of traditional skills for all ages. Always segregated.</p> <p>1.7.1 More investment into Co-op?</p>		
SHORT TERM	<p>2.1- Start up a trapping program for youth and young hunters (with an economic incentive)</p>	<p>2.1.1- More programs needed to help address economic benefits of trapping.</p> <p>2.1.2- High cost of fuel and food.</p>	<ul style="list-style-type: none"> • Increase economy through trapping • This initiative would help to increase the number of people making income from trapping/harvesting and build up a sense of pride. • To help bring more profits to the community and possibly reduce prices, if possible 	<ul style="list-style-type: none"> • Hunters and Trappers Committee, Schools, John Lucas Sr. • HTC • Co-op, Community Members, ITI

MID TERM	3.1-Work with NWT Tourism, IRC and others to come up with a tourism plan and strategy.	3.1.1-There is a lack of tourism due to the high cost of transportation and accommodation to get to/from community and on the land.	<ul style="list-style-type: none"> • Will bring more people in to the community and bring dollars in for arts, venues and other rental services. 	<ul style="list-style-type: none"> • NWT Tourism • Parks Canada • Hamlet Council • ITI • IRC
LONG TERM	4.1-Use and continue to update our adaptation plan to consider business and economy and vice versa	4.1.1-Things are changing very quickly so we need to keep updating our plans for adaptation	<ul style="list-style-type: none"> • Be more proactive rather than reactive. 	<ul style="list-style-type: none"> • All community organizations



TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Culture and Learning				
IN PROGRESS	<p>5.1-Find more funding to open up sewing programs to all interested</p> <p>5.2-A trail was made to Angus Lake</p>	<p>5.1.1-There currently is a woman’s sewing group that is offered weekly however funding is an issue.</p> <p>5.2.2-Climate change is shortening geese hunting and fishing seasons due to land slumps, meltin</p>	<ul style="list-style-type: none"> • Being more inclusive will increase skill base in the community and allow other groups to learn new skills • People can now access more areas 	<ul style="list-style-type: none"> • Community Corporation • Industry, Tourism and Investment
SHORT TERM	<p>6.1-Increase sharing and bartering of goods and services as it used to be</p> <p>6.2- Develop an interagency committee to deal with issues outside main organizations’ mandates</p>	<p>6.1.1-There is less sharing than there used to be among and between communities which is important to survival</p> <p>6.2.1-There is no central organization to deal with community wide concerns</p> <p>6.2.2- Increase the amount of partnerships and information sharing among community organizations to strategize on many issues including culture and learning.</p>	<ul style="list-style-type: none"> • Bring back old Inuvialuit values • If there was an organizing body and community members sit on as individuals with no titles, progress can be made on many issues. 	<ul style="list-style-type: none"> • Hunters and Trappers Committee • Community Corporation • RCMP • Co-op • School • Small business concerned community members

<p style="text-align: center;">MID TERM</p>	<p>7.1-Research all cultural and learning programs and funding opportunities</p> <p>7.2-Work more closely with Inuvialuit Cultural Resource Centre to bring more programs to Sachs Harbour</p>	<p>7.1.1-There is a lack of cultural resources being accessed and there needs to be people who constantly on the look out</p> <p>7.2.1-There is a lack of coordination between community organizations and ICRC.</p>	<ul style="list-style-type: none"> • Increase the number of programs and opportunities • Might be a starting point to develop and Cultural and Language Committee 	<ul style="list-style-type: none"> • School • Community Corporation • HTC • ICRC • IRC
<p style="text-align: center;">LONG TERM</p>	<p>8.1-Bring culture and language stronger into schools and in homes through new programs</p>	<p>8.1.1-Lack of use of language in home and at school</p>	<ul style="list-style-type: none"> • Having more targeted programs might help to increase use in school and at home 	<ul style="list-style-type: none"> • Families • School • Community Corporation • ICRC • BDEC



TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Health and Wellbeing				
IN PROGRESS	<p>9.1-There is a need to educate community members on how to adapt to climate change at a local level.</p> <p>9.2-Encourage more group hunts that allow people to get together for common purposes</p>	<p>9.1.1-Shorter winters, early springs and longer summers may lead to more injuries and issues related to travel</p> <p>9.2.1-Cost of transportation, supplies etc are often too high for single or low income families to do it alone</p>	<ul style="list-style-type: none"> • More people educated and prepared to deal with coming changes. • More socializing and sharing of food 	<ul style="list-style-type: none"> • Families • HTC • IRC • ICEDO
SHORT TERM	<p>10.1-Do research on best way to utilize existing programs (subsidies) and come up with recommendations on what would work for isolated communities like Sachs Harbour</p> <p>10.2-Bring in more life skills programs to teach youth budgeting, saving tips, investing, taxes, etc.</p> <p>10.3 Need to develop or engage in more social programs/get a counsellor to the community at least 4 times a year.</p>	<p>10.1.1-Cost of living in Sachs Harbour is astronomical and we need to find ways to reduce costs for residents</p> <p>10.2.1-More and more people are accessing income assistance and other programs due to high cost of living.</p> <p>10.3.1-Increase in social issues with limited employment, active hunters etc</p>	<ul style="list-style-type: none"> • Learn from past programs and best practices. • More independent future generations 	<ul style="list-style-type: none"> • Community Corporation • IRC • GNWT • School

<p style="text-align: center;">MID TERM</p>	<p>11.1-Develop a traditional rehabilitation program</p>	<p>11.1.1- There are no programs offered in the north and even when people do access the ones in the south there is no follow up. Need emphasis on prevention and intervention.</p>	<ul style="list-style-type: none"> • Offer help closer to home where people receive follow up and support afterwards 	<ul style="list-style-type: none"> • GNWT • IRC • RCMP
<p style="text-align: center;">LONG TERM</p>	<p>12.1-Provide mental and emotional health supports when being on the land is not possible</p>	<p>12.1.1-Climate change does have mental and emotional health effects. Not being able to go out on the land impacts people's well being.</p>	<ul style="list-style-type: none"> • Providing supports to at risk or vulnerable populations when required will help individuals and families 	<ul style="list-style-type: none"> • IRC-Resolution Health Support Program



TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Subsistence Harvesting				
IN PROGRESS	<p>13.1-Opportunity to harvest new species coming on and around Island. ex. Beluga whales</p> <p>13.2-Post and avoid areas heavily damaged by melting permafrost</p> <p>13.3 Research and educate people about wildlife diseases</p>	<p>13.1.1There are new species of fish, birds and other animals coming to the Island that are not traditionally harvested</p> <p>13.2.1-There are more mud slides inland and on the coast causing hazards to travellers</p> <p>13.3.1-Musk-ox die off a few years back reduced consumption and stopped commercial selling of the meat.</p>	<ul style="list-style-type: none"> • By informing and teaching community members about these animals, there is potential to harvest • Prevention of injury • There needs to be better and clearer knowledge of the implications these diseases might have now and into the future 	<ul style="list-style-type: none"> • HTC • Community Corporation • ENR • Parks • Health Canada • research partners
SHORT TERM	<p>14.1-Need to have multiple plans for trips out on the water and ice as it is much more unpredictable</p> <p>14.2-Run more traditional butchering programs for youth and those interested in fur trapping and harvesting</p> <p>14.3-Co-develop a new management plan for Perry caribou as they are making a rebound.</p>	<p>14.1.1-There is rough water in the summers and less icebergs in the spring affecting seal and polar bear hunting</p> <p>14.2.1-Youth are lacking traditional skills to effectively process skins</p> <p>14.3.1-Perry caribou are coming back</p>	<ul style="list-style-type: none"> • Having multiple plans will save time and money if there is need to change plans due to climate related changes • The big part is how properly fleshed and tanned hides can be worth much more money if done properly 	<ul style="list-style-type: none"> • Individual and family level • HTC • School

MID TERM	<p>15.1-People are using faster machines to get from one point to the next</p> <p>15.2 Develop a regional geese and egg harvesting program</p> <p>15.3 Increase the harvesting of larger fish</p>	<p>15.1.1-Faster melts are making it harder for hunters to travel around the Island</p> <p>15.2.1-Geese are beginning to become over-populated.</p> <p>Due to warmer waters there are bigger fish in the lakes.</p>	<ul style="list-style-type: none"> • Reduce issue and feed people across the region. • Fish could be given away if not preferable or to dogs 	<ul style="list-style-type: none"> • ENR • Inuvialuit Game Council • All HTC's
LONG TERM	<p>16.1-Start to shore up vulnerable banks on the Island</p> <p>16.2-Educate people what happens when water temperature rise or develop a water monitoring program.</p> <p>16.3-Spray insecticide close to town to reduce mosquitoes and other biting insects</p> <p>16.4-Have homes clean screens more often and effectively as that will kill off insect eggs.</p> <p>16.5-Smoke or store fish differently</p>	<p>16.1.1-Sea level rise and increased summer storms are eroding the south banks. There seems to be south east prevailing winds in the fall time.</p> <p>16.2.1-Water temperature is getting warmer which would be detrimental to fish and seal and other marine life.</p> <p>16.3.1-Insect life span is longer and there are now more types of insects including biting ones</p> <p>16.5.1-Fish are going bad (soft) in nets quicker and are showing signs of damage more often</p>	<ul style="list-style-type: none"> • Prevention before more damage is done • Get more people informed and involved in adaptation actions. • Reduce pests • Smoking fish may kill off some of the bugs 	<ul style="list-style-type: none"> • Hamlet • GNWT • Parks • ENR • HTC • Housing • Families

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Transportation and Infrastructure				
IN PROGRESS	<p>17.1-No further structures are currently being built on hillside</p> <p>17.2-Hamlet garage is condemned due to shifting ground</p>	<p>17.1.1-Foundations built on hillside are slowly washing way</p> <p>17.2.1-Due to melting permafrost and shifting ground the foundation of the garage is no longer stable</p>	<ul style="list-style-type: none"> • No further damage • No longer using garage until new one is built 	<ul style="list-style-type: none"> • NWT Housing Corporation • GNWT-DOT
SHORT TERM	18.1-Back hoe and shovels can now be used to dig in the ground	18.1.1-Permafrost near graveyard is reducing. You no longer need to use machines as much.	<ul style="list-style-type: none"> • Easier work for people yet more unstable over the long run 	<ul style="list-style-type: none"> • Hamlet
MID TERM	19.1-Barges can now begin to come in earlier than previous years	19.1.1-No more multiyear ice affecting transportation, only single year ice.	<ul style="list-style-type: none"> • Transport companies will have to re-strategise routes each year 	<ul style="list-style-type: none"> • NTCL • GNWT
LONG TERM	<p>20.1-Less use of un-productive lakes</p> <p>20.2-Landscape is becoming greener and plants more abundant.</p>	<p>20.1.1-Lakes are shallower and beginning to evaporate in the summer.</p> <p>20.2.1-Plants and flowers are increasing in range.</p>	<ul style="list-style-type: none"> • Reduce costs of transportation • Use of plants and flowers for medicines. 	<ul style="list-style-type: none"> • Research • HTC • Elders

TUKTOYAKTUK

ADAPTATION PLAN

2016

INUVIALUIT REGIONAL CORPORATION

4/18/2017

TUKTOYAKTUK/TUKTU YAAQTUUQ: "RESEMBLING A CARIBOU"



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HOW TO USE THIS DOCUMENT

1. Adaptation actions are outlined in Table 2 by the following sectors:
 - a. Business and economy
 - b. Culture and learning
 - c. Health and well-being
 - d. Subsistence Hunting and Fishing
 - e. Transportation and Infrastructure

2. Actions are ranked according to how soon or easily they can be implemented:
 - a. In progress: action is already under way and should be evaluated after a reasonable trial period
 - b. Short term: action can be easily implemented now
 - c. Medium term: action is feasible to implement with some planning and recruiting of resources
 - d. Long term: action will require substantial planning, time, and /or resources to implement but is a reasonable goal

3. When discussing decisions that will affect a particular sector, review the table for that sector to better understand how climate change might affect the decision and what actions could help the community adapt.

4. Use the “Resources and Leadership” column for hints on programs that could provide funding or other kinds of support (refer to the Appendix for more information on programs).

5. Use the worksheets in Appendix 2 of this document to:
 - a. Plan implementation strategy
 - b. Keep track of progress
 - c. Evaluate actions that have been implemented
 - d. Update information about risks and climate change trends

To assist community members and other readers of this document there is a listing of Acronyms and Resources for Action that apply to all six Inuvialuit communities. Please use this as a reference when you are unsure of what an acronym means or you need further information on a topic. They are both found in the Appendix at the back of the document.

WORKING GROUP MEMBERS, CONTRIBUTORS AND MEMBERS

Table 1: List of Working Group Participants, Contributors and Reviewers

WORKING GROUP THEME	PARTICIPANTS
Business and Economy	Heavenly Elias, Jim Elias, Darrel Nasogaluak
Culture and Learning	Bessie Pokiak, Sarah McKay, Triggy Stefure; Betty Elias; Annie Felix and her high school student
Health and Well Being	Crissie Maroof, Bob Lundrigan, Alisa Nogasak;
Subsistence Harvesting	Jim Elias, Chuck Gruben, Buddy Gruben, Richard Gruben, Roy Cockney
Transportation and Infrastructure	Louisa Gruben

Venues: Kitti Hall, Hamlet of Tuktoyaktuk

METHODOLOGY

In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR's Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on potential adaptations to identified local and regional climate-change-related threats. As with the identified threats, these adaptations were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key adaptations proposed by ISR residents and representatives

ACKNOWLEDGEMENTS

Tuktoyaktuk

Inuvialuit Regional Corporation would like to express our sincere gratitude to our Youth Climate Change Coordinator hired for Tuktoyaktuk, Chukita Gruben-Elias, for her term in the position. IRC was able to create this full-time position in each Inuvialuit community due to funding from a project called Inuvialuit Youth: On the Frontline of Climate Change. The project was led and coordinated by our Inuit Research Advisor from her office in Inuvik. Funding for this work was provided by the Climate Change and Adaptation Program of Indigenous and Northern Affairs Canada. The main objective of our project was to empower youth to take a leading role in developing climate-change adaptation plans for their communities as well as to assist in the creation of a regional strategy for the Inuvialuit Settlement Region.

Chukita was hired in November 2015 and excelled in her position from her office located at the Jason Jacobson Youth Center, which is overseen by the Tuktoyaktuk Community Corporation. Chukita brought a lot of passion to her position and was always engaged in learning new things. She did a great job holding her workshops and interacting with the community doing surveys with community members. We would like to thank Chukita for her dedication and drive throughout her term in this position. Your hard work has helped your community develop their first ever Community Climate Change Adaptation Plan and you should as proud of yourself as we are of you.

IRC would also like to extend our gratitude to community members who attending workshops held by Chukita. Your contributions helped to shape your plan for your community and we thank you. Also, thank you to those invited to attend the ISR Climate Change Strategy Workshop held in Inuvik, March 21-24, 2016. Thank you to Mayor Darrel Nasogaluak, Jim Boy Elias and Roy Cockney for your contributions and input at the meeting. You helped to bring your Community Climate Change Adaptation Plan together for future planning and actions to combat the climate-change impacts your community is already facing.

Finally, a very big thank you to Indigenous and Northern Affairs Canada's Climate Change and Adaptation Program for their generous funding that made this position and project possible. Thanks to the funding provided to our region, we have built momentum around climate-change adaptation in our communities, and we want to continue to see – and will work towards putting – our youth in these types of positions so they are ready for their role on the frontline of climate change.

INTRODUCTION

Tuktoyaktuk is on Kugmallit Bay near the mouth of the Mackenzie River Delta. Known as Port Brabant until 1950, it was the first community in the territory to revert back to its traditional name, meaning “resembling a caribou.” Today it is commonly referred to as “Tuk.” Though the community is presently accessible only by air, sea and winter ice-road, an all-weather highway to Inuvik is expected to open in 2017.

Tuktoyaktuk has a population of 854, with a median age of 32.7. Approximately 91 percent of residents identify as Aboriginal, most of whom are Inuvialuit. Languages spoken include Inuvialuktun (Siglit dialect) and English.

Tuktoyaktuk has the following services and infrastructure: an airport, Mangilaluk School, a Canada Post office, a health centre, a two-member Royal Canadian Mounted Police detachment, the Northern Store, the Stanton Distributing store, a craft shop, the Jason Jacobson Youth Center, the Tuktoyaktuk Child Development Center, E. Gruben’s Transportation Ltd. (an expediting and construction company), Northern Transportation Company Ltd., a radio station, the Kitti Hall Recreation Complex, the Hamlet of Tuktoyaktuk office, the Tuktoyaktuk Hunters and Trappers Committee, the Tuktoyaktuk Community Corporation, and several other businesses such as a truck-rental company and bed & breakfasts.

Tuktoyaktuk is experiencing some of the most visible and significant climate-change impacts in the Arctic, with rapid coastal erosion threatening the existence of the community. Tuktoyaktuk developed its Climate Change Adaptation Plan to be a “living document” that can be used to monitor changes and bring them to the attention of policy makers, funders and leaders. The community deemed the following climate-change issues to be of the highest priority:

- Coastal erosion
- Extreme storms
- Invasive species
- Loss of historical sites and artifacts due to erosion and slumping
- Species availability and changes
- Danger to water supply, and ocean pollution
- Marine mammal effects

TABLE 2: ADAPTATION PLAN BY SECTOR

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Business and Economy				
IN PROGRESS	1.1 Move Tuk more inland.	1.1.1-Shoreline erosion. The community is surrounded by water and the water is rising; reaching roads, and homes.	<ul style="list-style-type: none"> Tuk will be on safer-higher ground 	<ul style="list-style-type: none"> Hamlet of Tuktoyaktuk, Tuk Housing Association
	1.2 Make a timeline based around the topic climate change	1.2.1-A serious change in our region caused by climate change, needs to have serious guidelines and procedures	<ul style="list-style-type: none"> The community members will have a good vision towards their progress on climate change 	<ul style="list-style-type: none"> GNWT Federal Government Act of God Money IRC
	1.3 Enforce and be stricter towards the by-laws and regulation guidelines	1.3.1-By laws and regulation guidelines are not strict enough	<ul style="list-style-type: none"> Rules will be followed and not just put on paper 	
	1.4 Fix and upgrade our sewage lagoon	1.4.1-Climate change and high tides cause the ocean and sewage lagoon to connect. This is disgusting and a serious health risk for people who provide food and swim in the arctic ocean	<ul style="list-style-type: none"> A more clean community is always a good thing 	
	1.5 Look into possible change for littering laws. Fine or community service hours could be looked into; see how other community/town/city places have stricter law enforcement	1.5.1-We are not strict enough with littering laws in the community		

<p style="text-align: center;">SHORT TERM</p>	<p>2.1 Leadership associations publicly share and pass down their knowledge about “our home” with the rest of the community. (I.e. use social media, public posting and make noticeable in community that this information is provided freely).</p> <p>2.2 Enforce property by-laws and take action to clean up community</p>	<p>2.1.1-Changing and unpredictable conditions are keeping some people from participating in the subsistence economy, creating a need to diversify hunting/ fishing/ trapping approaches.</p> <p>2.2.1-There are no by-laws that create action for community clean up</p>	<ul style="list-style-type: none"> • Better communication and understanding from leader to locals • Community can afford to practice their traditional lifestyles and supplement their food with a traditional diet • Cleaner community 	<ul style="list-style-type: none"> • Hamlet of Tuk • Elders Committee & Elders • Tuk Community Corporation • Mangilaluk School • THTC
<p style="text-align: center;">MID TERM</p>	<p>3.1 Review and reinforce the TUK beautification plan</p> <p>3.2 Build and promote business opportunities for Tuktoyaktuk.</p> <p>3.3 Increase opportunities to build capacity related to management and projects oversight (i.e. hotels, cafes, restaurants).</p>	<p>3.1.1-3.1.3-A changing environment provides new economic opportunities, such as tourism</p>	<ul style="list-style-type: none"> • New training and job opportunities created in the community • Community is better prepared to properly manage projects within the community ownership over local initiatives 	<ul style="list-style-type: none"> • GNWT - EDT • TCC • IDC

LONG TERM	<p>4.1 Put cement slabs at the bottom of the graveyard hill to prevent and/or slow down the process of a landslide or land fall.</p> <p>4.2 Enforce a response to erosion by encouraging shoreline structures (i.e. Make a break-water, and/or find a better shoreline structure option for TUK.)</p> <p>4.3 Enforce bylaws and regulations for littering in the community</p> <p>4.4 Clean up the Arctic Ocean using technology</p>	<p>4.1.1-The graveyard on the hill is eroding away. May cause the deceased to float in our ocean.</p> <p>4.2.1-Erosion is a serious problem for Tuk; washing away our land and the sea level rising happens commonly</p> <p>4.3.1-4.4.1-An eroding place should be proactive and clean up the land before more garbage waste goes into our water. This will save time and cost having to clean the ocean</p>	<ul style="list-style-type: none"> • The community won't be shaken by the landslide (i.e. no dead bodies in our ocean, and a mess that can be prevented) • We could slow down and prevent any serious damage caused by erosion. • Our harvesters will have a cleaner ocean and land to harvest 	<ul style="list-style-type: none"> • Hamlet of Tuktoyaktuk • E.G.T (partnership) • GNWT • Act of God Money • IRC • ILA
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Culture and Learning				
IN PROGRESS	<p>5.1 Run school safety and awareness programs, specifically geared for the fall and spring, when conditions are most unstable</p> <p>5.2 Promote sharing of knowledge between Elders and younger generations</p> <p>5.3 Communicate on weather, ice, and terrain conditions with fellow travelers</p> <p>5.4 Continue to promote and use existing resources (i.e. workshops and education) to have an array of opportunities to learn/ try new things.</p> <p>5.5 Enforce TCC to regularly educate the community on what is self-government</p> <p>5.6 Youth Leadership should be promoted. (i.e. youth representative)</p>	<p>5.1.1-5.1.3- Changing and unpredictable conditions require that people develop strong skills in navigation, weather prediction, and reading the land to hunt and travel safely - youth are especially at risk</p> <p>5.4.1-5.5.1-With our climate changing rapidly we need to start taking serious accountability into our actions</p>	<ul style="list-style-type: none"> • Youth and less experienced hunters have opportunities to learn traditional skills and knowledge associated with hunting and travelling safely • Knowledge and experience is shared between generations and cultural values remain strong 	<ul style="list-style-type: none"> • Aurora College • Mangilaluk School • Elders Committee & Elders • THTC • ENR • Brighter Futures • Economic Development and Tourism • Traditional Knowledge • James Gruben Airport • Hamlet of Tuk • Tuk Recreation • Youth Centre • Brighter Futures

SHORT TERM	<p>6.1 Apply for funding to offer marine biologists to come study our arctic ocean.</p> <p>6.2 Educate and help community members who want to take action and educate themselves to have the good local jobs in the community. We will start seeing more Aboriginals working as leaders for their home. (Ex. the Aurora College can advertise online courses provided in such areas: i.e. engineers; architects</p> <p>6.3 Better educate and advertise to the people about scholarships, beneficiaries, and other beneficial programs and courses around the world (ex. Encounters With Canada, Student Exchange, etc.)</p>	<p>.1.1- Changing and unpredictable conditions caused by climate change has a big impact on our land, causing harm and shifting in the ground; thus can lead to an unexpected natural disaster</p> <p>6.1.2-A changing environment caused by climate change causes community members to lose knowledge and culture</p> <p>6.2.1-6.3.1.-A changing world with diversity - increasing, and higher education becoming a qualification, means that the isolated community members should have a light shown on them in such areas as well</p>	<ul style="list-style-type: none"> • Marine studies on the arctic ocean: Gives us knowledge of what is in our water, and scientific studies to find out if we are affected or in danger by tsunamis, earthquakes, and other serious natural disasters • Community is adequately prepared in case of natural disasters or other emergencies • The community members will have knowledge and security of their culture and traditional ways • A better self identity 	<ul style="list-style-type: none"> • Aurora Research Institute • THTC • Hamlet of Tuktoyaktuk • Mangilaluk School • ILA • IRC • Brighter Futures • GNWT • Federal Government • IDC • IEF • Sports North
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MID TERM	<p>7.1 Extend language program at school to provide new and diverse learning opportunities for students (e.g. electronics can be a tool and e-learning)</p> <p>7.2 Explore having two language teachers for Inuvialuktun and French.</p> <p>7.3 Look for training opportunities for language teachers</p> <p>7.4 Apply for funding to run traditional foods cooking/ preparation courses for new mothers and others in the community who want to learn</p>	<p>7.1.1-Loss of language among younger generations impedes the transmission of knowledge between generations</p> <p>7.2.1-7.3.1-In a fast-paced changing world, we must adapt to the new generation to not lose language and culture</p> <p>7.3.1-7.4.1-Changing conditions are keeping some people from participating in traditional subsistence activities and this affects other aspects of traditional life, including language, oral history, and cultural values</p>	<ul style="list-style-type: none"> • People of Tuk are knowledgeable about their traditions and have a strong sense of cultural identity • Students and community members are empowered to learn and actively use their traditional language • Language teachers are fluent and trained to use proper Inuvialuktun and French dialects. • Diversity 	<ul style="list-style-type: none"> • Elders Committee • Mangilaluk School • IRC • ICRC • Aurora College • Department of Canadian Heritage • GNWT- Department of Education, Culture, and Employment
LONG TERM	<p>8.1 Explore alternative energies (i.e. wind energy)</p>	<p>.1.1-High fuel costs are a barrier to going out on the land, and people cannot travel out as far, limiting participation in subsistence activities.</p>	<ul style="list-style-type: none"> • Alternative energy sources help to off-set fuel costs and decrease reliance on gas and oil. • More community members can be on the land 	<ul style="list-style-type: none"> • Hamlet of Tuk • GNWT • NWT Power Corporation

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Health and Wellbeing				
IN PROGRESS	<p>9.1 Apply and write letters on behalf of Youth Centre to make it its own organization, and then create an official youth committee for the organization</p> <p>9.2 Apply for funding for more recreational programming to keep people busy if/when they cannot go out on the land.</p> <p>9.3 Keep maintaining the hamlet roads. Use calcium or find another safe product that works effectively on the roads, keeping the dust under control.</p>	<p>9.1.1-Changing and unpredictable conditions pose increased threat to personal safety and people are more prone to feeling isolated as they cannot get out (of the community) as much.</p> <p>9.2.1-Younger people will stay out of trouble and be more active mentally and physically.</p> <p>9.3.1-Dust is a constant problem in Tuk</p>	<ul style="list-style-type: none"> • More funding for the youth leads to more activities • Adequate funding supports increase in recreational activities in the community; people are engaged despite having to spend less time out on the land • People are confident to try new things in order to adapt to a changing environment (e.g. explore new career opportunities, & activity sport/hobby • Greater sense of community cohesion helps community cope with changing conditions 	<ul style="list-style-type: none"> • Sport North • Mangilaluk School • Tuk Recreation • TCC • Jason Jacobson Youth Centre • Canada Health (Brighter Futures Program) • Hamlet of Tuk

SHORT TERM	<p>10.1 Run traditional foods and healthy diet cooking courses</p> <p>10.2 Provide more opportunities to learn/ improve gardening skills</p> <p>10.3 Implement gardening programs for community to start growing its own food</p> <p>10.4 Revise land-use plan to allow for larger gardening spaces</p> <p>10.5 Apply for a better fire prevention program so the community can be better prepared and educated, in case of a (house) fire</p> <p>10.6-Develop new programs to keep people active</p> <p>10.7-There is need to have local mental health services placed within Hospital (Nursing Station) department</p>	<p>10.1.1- Changing travel conditions and species availability are affecting access to traditional foods, leading to increased reliance on store-bought foods (less nutritious, more expensive) so there is a need to educate people on how to eat healthier store bought food</p> <p>10.2.1-10.4.1-Not a lot of people have gardening and growing skills and could benefit from learning</p> <p>10.5.1-With a changing climate causing our home and land to shift and change; our way of living is affected</p> <p>10.6.1-We need programs, and new diverse introductions to keep the community busy and active</p> <p>10.7.1-The community should be better structured in the mental health department</p>	<ul style="list-style-type: none"> • All community members have sufficient access to traditional foods. • Community members have better knowledge of nutritional needs and how to prepare store-bought foods in a healthy way. • Community has increased capacity to try gardening • Community members have access to local, affordable, healthy foods, and opportunities to develop small-scale business to sell their products. 	<ul style="list-style-type: none"> • IRC • Mangilaluk School • Land-Use Committee • ILA • IRC • IDC • Fire Dept • Federal Govt • Aurora college • Dept of Canadian Heritage • GNWT Education, culture and Employment
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MID TERM	<p>11.1 Test the water in our water plant.</p> <p>11.2 Find a better water supply option.</p> <p>11.3 Encourage Health & Beaufort Delta Services to share and make notices about the benefits and information they have to offer. (i.e. Post ads, visit the school)</p> <p>11.4 Better educate and train health-care workers in their critical position.</p>	<p>11.1.1-11.2.1-Dirtier waters from erosion make it more difficult to find clean drinking water.</p> <p>11.3.1-A changing climate, and evolving world brought us new technology and upgrading in many areas and products: Our health care system has many flaws, such as medical travel errors, misinformation and *too many mistakes when dealing with our health and life so we need more information</p> <p>11.4.1-This increases risks of death, and many times, waiting for months, even years to get an answer or a follow up appointment and having new staff doesn't help this</p>	<ul style="list-style-type: none"> • Community members feel secure drinking and using water from the water -plant • This world has brought us closer by technology and many upgrading in the way we work, and use products • Northern communities would be able to have the privilege to benefit from this. 	<ul style="list-style-type: none"> • Hamlet of Tuk • Health and Beaufort Delta Services • Rosie Ovuak Health Centre • GNWT Education and Health Funding
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LONG TERM	<p>12.1 Enforce a physical program based around our culture, so we can learn hands-on. (i.e. techniques and how to handle a gun, supplies when travelling, and survival skills.)</p> <p>12.2 Make a fitness gym and a bigger recreational gym</p>	<p>12.1.1-Changing conditions are keeping some people from participating in the traditional subsistence activities. (i.e. an easier life; no more emptying honey buckets) — Since the times have changed, our people need to diversify to other options</p> <p>We need better facilities for fitness in the community, everyone shares gym and we need more dedicated place to go</p>	<ul style="list-style-type: none"> • Community members are more confident, and connected with physical activity 	<ul style="list-style-type: none"> • Brighter Futures • Tuk Recreation • Sport North
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Subsistence Harvesting				
IN PROGRESS	<p>13.1 Conduct ongoing trapper education and safety programs to promote trapping to youth and to share Traditional knowledge.</p> <p>13.2 Fur Handling. Run workshops on proper skinning techniques and tanning.</p>	<p>13.1.1-Unsafe travel conditions, high fuel costs, poor return for furs all reduce community's ability to invest in trapping activities.</p> <p>13.2.1-Changing and unpredictable conditions require that people develop strong skills in navigation, weather prediction, and reading the land to hunt and travel safely, - youth are especially at risk</p>	<ul style="list-style-type: none"> • Trappers are able to get top dollar for their furs, maintaining a trapping economy for TUK • Youth and less experienced hunters have opportunities to learn traditional skills and knowledge associated with hunting and travelling safely 	<ul style="list-style-type: none"> • ENR • Mangilaluk School THTC • Tuk Recreation
SHORT TERM	<p>14.1 Apply for funding to organize more and longer seasonal land camps (trapping, hunting, survival skills, etc.) for youth and young adults. Make sure they are learning, and not just having play time</p>	<p>14.1.1-Currently funding we get only permits groups to go out for short periods of time but to be effective, people have to be out for 10 to 14 days at minimum</p>	<ul style="list-style-type: none"> • People will feel more rested and not feel rushed to enjoy the land 	<ul style="list-style-type: none"> • HTC • TCC • IRC

MID TERM	<p>15.1 Encourage leadership associations to review and update their by-laws/ regulations guidelines for subsistence harvest.</p> <p>15.2 Once the marine biologists study the ocean impacts and natural disaster studies; stay in touch with them. Another task they can work on is to study the animals and their health. Inuvialuit claim that the plants are contaminated; the water is warming up, and thus is changing the taste and affecting the marine animals</p>	<p>15.1.1- Changing conditions over the years caused by climate change and man-made use has shifted the ecosystem.</p> <p>15.2.1- The need to diversify along with the changes in our region.</p>	<ul style="list-style-type: none"> • Community members adapt to the changing conditions. • Subsistence harvesters and community members will have facts and knowledge about the causes and harms and changes with the main animals 	<ul style="list-style-type: none"> • Hamlet of Tuk • Researchers
LONG TERM	<p>16.1 Fund, advertise and get more traditional courses up in the isolated regions</p> <p>16.2 Hold one big class yearly in Tuk at Aurora college or take online courses at the college in Tuk, with a teacher assistant there for help; base courses mainly around subsistence harvesting (i.e. natural resources, land and culture studies)</p> <p>16.3 Survey the community to find out what are hobbies/ interests so they can be encouraged.</p>	<p>16.1.1- Developed in isolation and distance from the outside world; it is hard to leave home. Family, friends, security, and togetherness are what makes many community members stay.</p> <p>16.2.1- Community members deserve to stay home or close by because up north is a different world that we come from.</p> <p>16.3.1- Climate Change and other outside activities caused some negative impacts that we didn't deserve.</p>	<ul style="list-style-type: none"> • The community members won't have to separate from home. • Increase independence and having the benefit to feel secure 	<ul style="list-style-type: none"> • Brighter Futures • Aurora College

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Transportation and Infrastructure				
IN PROGRESS	17.1 Tear down all abandoned houses (in-progress, to long term)	17.1.1-A changing environment provides opportunities, such as tourism	<ul style="list-style-type: none"> Tuk will look fresher and more spacious 	<ul style="list-style-type: none"> Housing Association Architect
SHORT TERM	18.1 Change, revise, and update home blue print structure for community. Get better building supplies and foundations	18.1.1-Beauty and longevity in home structure		
MID TERM	<p>19.1 Increase accessible opportunities and incentives for energy efficiency programs for housing</p> <p>19.2 Home upgrading</p> <p>19.3 Programs for winterizing all housing in the community</p> <p>19.4 Explore alternative energy resources (i.e. windmills) to reduce the cost of living</p>	19.1.1-19.4.1-High cost of living, including high fuel costs, (which affects food prices, electricity, home heating, etc.) is a barrier to going out on the land, limiting opportunities for participation in subsistence activities	<ul style="list-style-type: none"> More community members are able to apply for subsidies and take steps to increase the energy efficiency of their homes Alternative energy is made more accessible to community members 	<ul style="list-style-type: none"> IRC Federal Government (eco-ENERGY)
LONG TERM	<p>20.1 Implement a monitoring program for fuel prices so that actual market costs are reflected in the community price</p> <p>20.2 Lobby to have fuel non-privatized and greater local control over fuel cost</p>	<p>20.1.1-High cost of living, including high fuel costs, are a barrier to going out on the land, limiting opportunities for participation in subsistence activities</p> <p>20.2.1-We need our MLA or others to lobby on our behalf on more climate change issues</p>	<ul style="list-style-type: none"> Fuel prices are accurate and not inflated, increasing affordability for the community Fuel no long privatized in the community (becomes government controlled) and has potential to be subsidized 	<ul style="list-style-type: none"> GNWT Hamlet of Tuk

ULUKHAKTOK

ADAPTATION PLAN

2016

INUVIALUIT REGIONAL CORPORATION

4/18/2017

ULUKHAKTOK/ULUKHAKTUUQ: "THE PLACE WHERE ULU PARTS ARE FOUND"

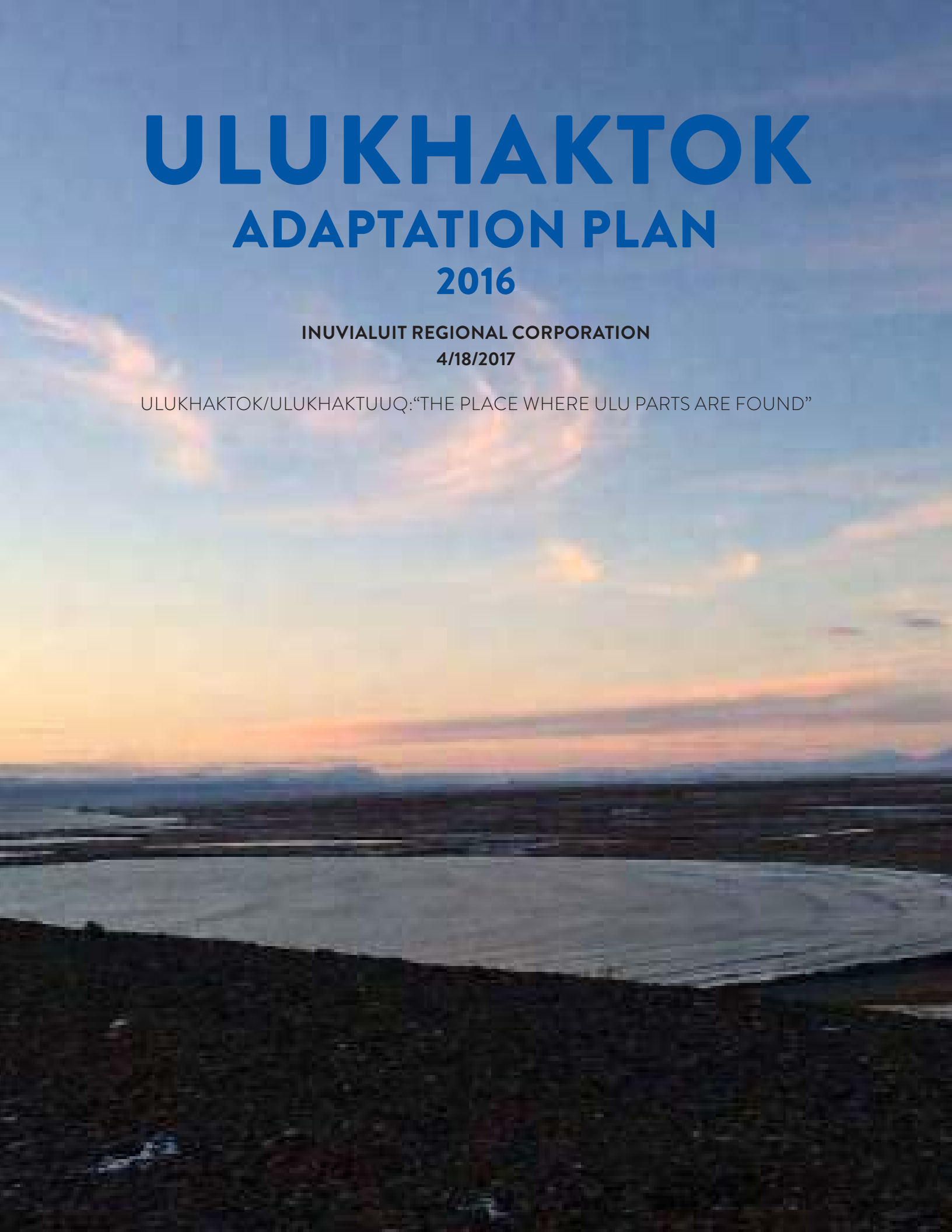


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HOW TO USE THIS DOCUMENT

1. Adaptation actions are outlined in Table 2 by the following sectors:
 - a. Business and economy
 - b. Culture and learning
 - c. Health and well-being
 - d. Subsistence Hunting and Fishing
 - e. Transportation and Infrastructure

2. Actions are ranked according to how soon or easily they can be implemented:
 - a. In progress: action is already under way and should be evaluated after a reasonable trial period
 - b. Short term: action can be easily implemented now
 - c. Medium term: action is feasible to implement with some planning and recruiting of resources
 - d. Long term: action will require substantial planning, time, and /or resources to implement but is a reasonable goal

3. When discussing decisions that will affect a particular sector, review the table for that sector to better understand how climate change might affect the decision and what actions could help the community adapt.

4. Use the “Resources and Leadership” column for hints on programs that could provide funding or other kinds of support (refer to the Appendix for more information on programs).

5. Use the worksheets in Appendix 2 of this document to:
 - a. Plan implementation strategy
 - b. Keep track of progress
 - c. Evaluate actions that have been implemented
 - d. Update information about risks and climate change trends

To assist community members and other readers of this document there is a listing of Acronyms and Resources for Action that apply to all six Inuvialuit communities. Please use this as a reference when you are unsure of what an acronym means or you need further information on a topic. They are both found in the Appendix at the back of the document.

WORKING GROUP MEMBERS, CONTRIBUTORS AND MEMBERS

Table 1: List of Working Group Participants, Contributors and Reviewers

WORKING GROUP THEME	PARTICIPANTS
Business and Economy	Adam Kudlak, Susie Malgokak
Culture and Learning	Adam Kudlak, Susie Malgokak, Kathy Inuktalik, Annie Inuktalik, Tammy Malgokak, Koral Kudlak, Maegan Klengenberg, Mollie Oliktoak, Michael Kaodloak, Dorian Kuptana, Teegan Tuptuna, Alexis (Danielle) Gow
Health and Well Being	Adam Kudlak, Susie Malgokak, Kathy Inuktalik, Annie Inuktalik, Tammy Malgokak, Koral Kudlak, Maegan Klengenberg, Mollie Oliktoak, Michael Kaodloak, Hailey Akoaksion
Subsistence Harvesting	Adam Kudlak, Susie Malgokak, Kathy Inuktalik, Annie Inuktalik, Tammy Malgokak, Koral Kudlak, Maegan Klengenberg, Mollie Oliktoak, Michael Kaodloak, Hailey Akoaksion

Venues: Community Hall and Hamlet office

METHODOLOGY

In workshops, interviews and other information-gathering sessions conducted in all six ISR communities by Youth Climate Change Coordinators during 2015-16, and at the ISR's Regional Climate Change Strategy Meeting held March 21-24, 2016 in Inuvik, Inuvialuit contributed their views on potential adaptations to identified local and regional climate-change-related threats. As with the identified threats, these adaptations were grouped into five categories – business and economy, culture and learning, health and well-being, subsistence hunting and fishing, and transportation and infrastructure. The following section summarizes the key adaptations proposed by ISR residents and representatives

ACKNOWLEDGEMENTS

Inuvialuit Regional Corporation would like to express our sincere gratitude for the two Youth Climate Change Coordinators who were hired for Ulukhaktok, Cassandra Ekpakohak and Kendra Kudlak, for their respective roles during the term of the position in their community. IRC was able to create this full-time position in each Inuvialuit community due to funding from a project called Inuvialuit Youth: On the Frontline of Climate Change. The project was led and coordinated by our Inuit Research Advisor from her office in Inuvik. Funding for this work was provided by the Climate Change and Adaptation Program of Indigenous and Northern Affairs Canada. The main objective of our project was to empower youth to take the leading role in developing climate-change adaptation plans for their communities as well as to assist in the creation of a regional strategy for the Inuvialuit Settlement Region.

Kassandra was hired in November 2015 and excelled in her position from her office located at the Hamlet of Ulukhaktok. Kassandra was quick to start on all the tasks given to her and had the initiative to start a newsletter to inform the community of her role in the position and keep them updated. She did research, put up storyboards and engaged people in discussions about the position, which she continued until she decided to go back to school in February 2016. At that time, Kendra Kudlak was hired to complete the final deliverables of the position, including five workshops, attending the ISR Climate Change Strategy meeting held in Inuvik, March 21-24, 2016, and finalizing her Community's Climate Change Adaptation Plan.

IRC would also like to extend our gratitude to all community members who attended workshops held by Kendra, and to those who were chosen to attend the ISR Climate Change Strategy Meeting held in Inuvik from March 21-24, 2016. Thank you to Annie Inuktalik and Adam Kudlak for representing your community at our meeting and supporting Kendra throughout her role. Also, a big Koana to the Mayor of Ulukhaktok, Laverna Klengenberg, and to the Hamlet of Ulukhaktok for supporting both Kassandra and Kendra during the term of their positions in your office.

Finally, a very big thank you to Indigenous and Northern Affairs Canada's Climate Change and Adaptation Program for their generous funding that made this position and project possible. Thanks to the funding provided to our region, we have built momentum around climate-change adaptation in our communities, and we want to continue to see – and will work towards putting – our youth in these types of positions so they are ready for their role on the frontline of climate change.

INTRODUCTION

Ulukhaktok is on the west coast of Victoria Island on the shores of the Beaufort Sea and Amundsen Gulf. Formerly known as Holman, the community adopted its present name – meaning “the place where ulu parts are found” – in 2006. As the community is accessible only by sea and air, food and other large items arrive by air freight and, in summer, by barge. Hunting, trapping and fishing are economic mainstays, as are printmaking and sewing.

The population of Ulukhaktok is 402, with a median age of 26.7 years. More than 92 percent of residents are Aboriginal, almost all of whom are Inuvialuit or Inuit. Principle languages are the Kangiryu-armiutun dialect of Inuinnaqtun and English.

Ulukhaktok has the following services and infrastructure: A two-member Royal Canadian Mounted Police detachment, school, health centre, community centre, arena, hamlet office, community radio station, airport, post office, the Ulukhaktok Hunters and Trappers Committee, the Ulukhaktok Community Corporation, the Aurora College Learning Center, the Ulukhaktok Arts Centre, the Northern Store, the Billy Joss Golf Course, a hotel and restaurant, and a bed and breakfast.

Ulukhaktok’ completed a Community Climate Change Adaption Plan in 2010 with the assistance of Arctic North Consulting. The community has now reviewed and renewed its adaptation plan to ensure that it is a “living document” for the community to use to monitor changes and bring them to the attention of policy makers, funders and leaders. The community deemed the following climate-change issues to be of the highest priority:

- Species health
- New diseases appearing in fish and other wildlife
- Extreme weather events
- Unsafe travel routes
- Keeping culture strong and alive
- Infrastructure maintenance

TABLE 2: ADAPTATION PLAN BY SECTOR

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Business and Economy				
IN PROGRESS	1.1-None in progress at this time			
SHORT TERM	<p>2.1-Develop new sport hunting and sport fishing opportunities (e.g. sport fishing – Arctic char and trout)</p> <p>2.2-Negotiate with First Air and Inns North/local B&Bs for package tourism deals (travel and accommodations)</p> <p>2.3-Promote other sport hunts (musk-ox, wolf); consider increasing price of these hunts</p> <p>2.4 Develop local eco-tourism opportunities (e.g. on the land camps; hiking; travel by dog team)</p> <p>2.5 Once eco-tourism and new sport hunting opportunities are developed, build a good website to</p>	<p>2.1.1-Fewer polar bear sport hunters are coming to the community which means less income for guides and helpers (U.S. ban on importing polar bear products)</p> <p>2.2.1- There is a lack of tourism due to high costs to get here</p> <p>2.3.1- Polar bear is the only sport hunt that people do.</p> <p>2.4.1- There is a need to promote other tourism opportunities</p> <p>2.5.1-Less multi-year ice means that more cruise ships will come but there are currently no businesses in town to</p>	<ul style="list-style-type: none"> • New job opportunities for sport hunting guides and helpers are created • Community takes advantage of the income that ship tourism brings and uses the opportunity to teach people about Inuit culture and traditions 	<ul style="list-style-type: none"> • Ulukhaktok Community Corporation (UCC) • Hunters and Trappers Committee • Business Development and Investment Corporation, NWT (BDIC) • Government of NWT Department of Industry, Tourism and Investment • Hamlet • Craft Center (BDIC) Transportation Canada • Elders and Youth Committee • Government of NWT Department of Industry, Tourism and Investment

<p style="text-align: center;">SHORT TERM CONT.</p>	<p>advertise and book people</p> <p>2.6-Attend trade shows to promote the community as a destination</p> <p>2.7-Have a good inventory of prints, carvings and crafts at the Craft Shop (plan for multiple ships)</p>	<p>accommodate the ships that will visit the community</p> <p>2.6.1-We don't have anyone from our community actively involved with promoting tourism full time</p> <p>2.7.1- We need to be more proactive in preparation for tourists at peak times</p>		
<p style="text-align: center;">MID TERM</p>	<p>3.1 Offer a trapping course in the community to encourage more young people to trap</p> <p>3.2 Identify ways of educating southern populations about Inuit use of animals for food and clothing</p>	<p>3.1.1-Trapping and selling furs and pelts is negatively affected by international boycotts and importation bans (e.g. seal pelts)</p> <p>3.2.1-Currently IGC is working on this issue, but we can help at the local level as well through social media or other means</p>	<ul style="list-style-type: none"> • People outside of the community understand how Inuit hunt animals are used for food and clothing and how Inuit respect and use all of the animal 	<ul style="list-style-type: none"> • OHTC • Inuvialuit Regional Corporation (IRC) • Inuvialuit Game Council (IGC)
<p style="text-align: center;">LONG TERM</p>	<p>4.1 Have an emergency fuel reserve for diesel generators and vehicles</p>	<p>4.1.1-Changing sea ice conditions can affect the timing of the barge</p>	<ul style="list-style-type: none"> • The community has a reserve of fuel in case the barge is late or not able to come 	<ul style="list-style-type: none"> • Territorial Investments has the contract

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Culture and Learning				
IN PROGRESS	5.1 Continue to hold community meetings in Inuinnaqtun (e.g. Hamlet, HTC, UCC) This applies to in town and out of town organizations	5.1.1-Loss of language (Inuinnaqtun) among younger generations. This impedes the transmission of knowledge and land skills between generations	<ul style="list-style-type: none"> • Younger generations learn and use Inuinnaqtun 	<ul style="list-style-type: none"> • IRC • ICRC • HTC's • Community Corporations • Elders
SHORT TERM	<p>6.1 Develop land camps for the winter, spring and fall (e.g. spring seal camp at Minto Inlet)</p> <p>6.2 Provide on the land opportunities for middle age adult (most programs are for under 25 yrs or elders) and youth who are not in school</p> <p>6.3 Include traditional knowledge and land skills in school curriculum (for credits)</p> <p>6.4 Host a trapping and fur preparation course in the community</p>	<p>6.1.1-Erosion of traditional knowledge and land skills among youth increases risk of danger on the land</p> <p>6.2.1-6.4.1- Hunters need to develop new skills to travel and hunt under changing environmental conditions and be credited for their learning</p> <p>6.4.1-We need more funding to be able to hold in town courses that are run by our hunters and elders</p> <p>6.5.1-There is nowhere in our community to upgrade our skills</p>	<ul style="list-style-type: none"> • Youth learn how to hunt and travel safely and successfully under changing environmental conditions • Younger generations learn and use Inuinnaqtun • Elder's stories are recorded and stored securely in the community for current and future generations. • Younger generations learn traditional knowledge and skills from their Elders and are better equipped 	<ul style="list-style-type: none"> • Elders and Youth Committee • UCC • OHTC • Helen Kalvak Elihakvik • District Education Authority (DEA) • Heritage Canada • INAC (Indian and Northern Affairs) • Helen Kalvak Elihakvik • UDEA • Aurora College • Elders and Youth Committee • NWT Literacy • Inuvialuit Cultural Resource Centre

SHORT TERM CONT.	<p>6.5 Hold skills training workshops in the community (e.g. weather forecasts, mapping, GPS, sea ice map reading, tracking, satellite phones, etc.)</p> <p>6.6 Digitize old reel-to-reel tapes and VHS tapes of oral history that are being stored at the school and make them accessible in the community library (stories about traditional knowledge and land skills)</p> <p>6.7 Hold skills training workshops in the community (e.g. weather forecasts, mapping, GPS, sea ice map reading, tracking, satellite)</p>	<p>around survival or outfitting businesses</p> <p>6.6.1-Elders' knowledge is not being recorded or passed down</p> <p>6.7.1-Hunters need to develop new skills to travel and hunt under changing environmental conditions</p>	<p>to adapt to environmental changes</p>	<ul style="list-style-type: none"> • Hamlet • Helen Kalvak Elihakvik • NWT Literacy • Inuvialuit Cultural Resource Centre (ICRC) • Aurora Research Institute (ARI) • Brighter Futures • Justice Committee
MID TERM	<p>7.1 Inuinnaqtun classes at the college</p>	<p>7.1.1-Loss of language (Inuinnaqtun) among younger generations. This impedes the transmission of knowledge and land skills between generations</p>	<ul style="list-style-type: none"> • Younger generations learn and use Inuinnaqtun 	<ul style="list-style-type: none"> • Helen Kalvak Elihakvik School • DEA • Aurora College • Elders and Youth Committee • NWT Literacy • Inuvialuit Cultural Resource Centre • OHTC • UCC • Hamlet • local radio (in Ulukhaktok)

LONG TERM	<p>8.1 Have Inuinnaqtun Day once a week in the community</p> <p>8.2 Inuinnaqtun classes at the college</p> <p>8.3 Provide more opportunities for all residents to learn the language</p> <p>8.4 Encourage parents to speak Inuinnaqtun at home</p>	<p>8.1.1-8.3.1-Loss of language (Inuinnaqtun) among younger generations.</p> <p>8.4.1-This impedes the transmission of knowledge and land skills between generations</p>	<ul style="list-style-type: none"> • Younger generations learn and use Inuinnaqtun 	<ul style="list-style-type: none"> • Helen Kalvak Elihakvik School • DEA • Aurora College • Elders and Youth Committee • NWT Literacy • Inuvialuit Cultural Resource Centre • OHTC • UCC • Hamlet
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TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Health and Wellbeing				
IN PROGRESS	9.1 Seek Hamlet partnership with Healthy Foods Project	9.1.1-Changing travel conditions and species availability are affecting access to country foods, leading to increased consumption of store bought foods (less nutritious, more expensive) and stress on sharing networks	<ul style="list-style-type: none"> Community determines who is most food insecure and develops/ supports food distribution programs accordingly Residents have an increased awareness of nutritional requirements and how to meet them 	<ul style="list-style-type: none"> Jullian (IRC) (www.healthy-foodsnorth.ca) Community Health Centre OHTC UCC
SHORT TERM	<p>10.1 Educate on the value of taking certain vitamin supplements that are often not consumed in today's diets (e.g. Vitamin D)</p> <p>10.2 Monitor wildlife for toxins and communicate results to community – solicit assistance from university and government research</p> <p>10.3 Continue to water roads during dry periods</p> <p>10.4 Apply a sealant to the roads (preferably biodegradable)</p> <p>10.6 Pursue research on effects of dust pollution on human health</p>	<p>10.1.1-Changing travel conditions and species availability are affecting access to country foods, leading to increased consumption of store bought foods (less nutritious, more expensive) and stress on sharing networks</p> <p>10.2.1-We want to know about toxins/ contaminants in our wildlife from past and upcoming studies 1</p> <p>0.3.1-10.4.1- Increasingly dry summers and speeding speeding ATVs contribute to dustier roads, increasing incidence of respiratory illnesses, sore throats and eyes</p>	<ul style="list-style-type: none"> Community determines who is most food insecure and develops and supports food distribution programs accordingly. Residents have an increased awareness of nutritional requirements and how to meet them There is decreased dust and better respiratory health in community 	<ul style="list-style-type: none"> Jullian (IRC) Community Health Centre OHTC UCC Health Centre Community Health Representative Helen Kalvak Elihaktivik School Hamlet Of Ulukhaktok Brighter Futures Hamlet Justice Committee

<p style="text-align: center;">SHORT TERM CONT.</p>	<p>10.7 Community Health Rep. to perform outreach regarding respiratory illnesses/health and encourage walking as healthy exercise.</p> <p>10.8 Provide meaningful employment opportunities for those who are most knowledgeable on the land</p> <p>10.9 Re-visit how criminal records affect employment (especially with youth)</p> <p>10.10 Organize more social gatherings and cultural events in town</p> <p>10.11 Provide more local support groups</p>	<p>10.5.1-By-laws for speeding are not preventing speeding</p> <p>10.6.1-We need research done or results from research to show what effects dust has on our health</p> <p>10.7.1-We want our CHR worker to educate us about respiratory conditions and promote fitness</p> <p>10.8.1-10.11.1-Changing conditions (e.g. earlier spring melt, later and incomplete freeze up, increased storms, unpredictable weather) are limiting travel on the land and are negatively affecting emotional health</p>	<ul style="list-style-type: none"> • Hunters have fulfilling alternatives for occupation when they cannot travel • Criminal records do not always impede a person's ability to gain meaningful employment in the community 	
<p style="text-align: center;">MID TERM</p>	<p>11.1 Recognize traditional knowledge as a valuable component of education that should be compensated at teacher rates</p> <p>11.2 Promote the use of sunscreen and sunglasses through education outreach</p>	<p>11.1.1-Changing weather means the elders need to teach the youth, it's hard to be taught about our own culture from teachers</p> <p>11.2.1-Greater intensity of sun in summer is increasing risk of sunburn</p>	<ul style="list-style-type: none"> • Our knowledgeable adults/elders should be paid at the same amount • Residents know how to protect themselves from the sun 	<ul style="list-style-type: none"> • Helen Kalvak Elihakvik • DEA • BDEC • Health Centre • Community Health Chair
<p style="text-align: center;">LONG TERM</p>	<p>12.1 No long term actions or issues to document at this time</p>			

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Subsistence Harvesting				
IN PROGRESS	<p>13.1 Support community food sharing networks</p> <p>13.2 Fund community hunts to provide country foods to all residents</p>	<p>13.1.1-13.2.1- Changing and unpredictable conditions are restricting access to some hunting areas</p>	<ul style="list-style-type: none"> Residents continue to have access to country foods 	<ul style="list-style-type: none"> OHTC Community members Brighter futures
SHORT TERM	<p>14.1 Increase inter community trade of country foods</p> <p>14.2 Improve storage at hunting camps so less supplies need to be carried each trip</p> <p>14.3 Transport bulk fuel to key hunting camps and identify a secure way of storing it</p> <p>14.4 Review and update search and rescue measures in light of new dangers</p> <p>14.5 Provide access to safety equipment (beacons, radios, sat. phones) through Hamlet or OHTC</p> <p>14.6 Offer training workshops for: e.g. reading weather forecasts, mapping, GPS, sea ice map reading, tracking, satellite phones, etc</p>	<p>14.1.1- Changing and unpredictable conditions are restricting access to some hunting areas</p> <p>14.2.1- Changes in traveling conditions and species availability require hunters to take longer trips and carry more fuel and supplies</p> <p>14.3.1- Changing conditions make travel on the sea ice more dangerous, with younger generations at high risk</p> <p>14.4.1-14.6.1- There is a need to review and get more people involved with search and rescue procedures and provide equipment to people with training workshops</p>	<ul style="list-style-type: none"> Residents continue to have access to country foods Hunters have less weight to carry on trips; cost to hunter of fuel and/ or supplies is decreased Community to be better equipped to deal with emergencies and accidents locally; hunters will be better equipped to travel safely Hunters are able to deal with damaged machinery and mechanical problems 	<ul style="list-style-type: none"> UCC – intercommunity trade OHTC Canadian Rangers Hamlet of Ulukhaktok Health Centre Helen Kalvak Elihakvik Joint Secretariat Hunters and Trappers Disaster Compensation Program

<p>SHORT TERM CONT.</p>	<p>14.7 Encourage regular machine maintenance because people are running into more trouble on the land due to less snow and other hazards Expand IHAP to include parts</p>	<p>14.7.1-More exposed rock, rough ice, and snow drifting increases risk of damaged equipment and accidents when traveling</p>		
<p>MID TERM</p>	<p>15.1 Mark dangerous spots on the land and ice and communicate by word 15.2 Increase capacity to treat accidental injuries locally</p>	<p>15.1.1-15.2.1- Changing conditions make travel on the sea ice more dangerous, with younger generations at high risk</p>	<ul style="list-style-type: none"> • Community is be better equipped to deal with emergencies and accidents locally; hunters will be better equipped to travel safely 	<ul style="list-style-type: none"> • Hamlet • OHTC • Health Centre • Helen Kalvak Elihakvik
<p>LONG TERM</p>	<p>16.1 Continue support for wildlife monitoring programs with better communication of results 16.2 Start a community log documenting abnormalities in wildlife- ENR 16.3 Communicate concerns to Aurora Research Institute to help initiate further research</p>	<p>16.1.1-16.3.1- Observation of abnormalities in some fish and wildlife</p>	<ul style="list-style-type: none"> • Community has baseline data on health of key species Research on wildlife addresses community concerns and is communicated effectively 	<ul style="list-style-type: none"> • Environmental and Natural Resources (ENR – Ulukhaktok office) • OHTC • Aurora College • Aurora Research Institute

TIME FRAME	ADAPTATION ACTION	CLIMATE CHANGE ISSUE	OUTCOME	RESOURCES AND LEADERSHIP
Health and Wellbeing				
IN PROGRESS	<p>17.1 Dispose of cardboard in a designated area in the dump to be burned</p> <p>17.2 Obtain an incinerator and/or compactor to reduce volume of garbage</p> <p>17.3 Sort garbage, removing usable materials</p>	<p>17.1.1-17.3.1- Garbage dump is vulnerable to changing environmental conditions</p>	<ul style="list-style-type: none"> Garbage dump is safe, secure, and well managed under a range of possible future environmental conditions 	<ul style="list-style-type: none"> Hamlet has some resources for garbage dump improvements and is currently reviewing options NWT Municipal and Community Affairs (MACA) Inuvialuit Land Administration (ILA)
SHORT TERM	<p>18.1 Develop a management plan for community garbage dump</p> <p>18.2 Conduct a feasibility study of remediating and expanding existing dumpsite for continued use</p> <p>18.3 Expand local recycling program</p> <p>18.4 Develop program to promote and expand the 3r's: reduce, reuse, recycle to reduce waste in dump</p> <p>18.5 Revise building codes to mandate thicker gravel pads, adjustable pilings</p>	<p>18.1.1-18.4.1- Garbage dump is vulnerable to changing environmental conditions</p> <p>18.5.1-18.7.1- Permafrost thaw is affecting integrity of buildings</p>	<ul style="list-style-type: none"> Garbage dump is safe, secure, and well managed under a range of possible future environmental conditions Buildings are designed to withstand the effects of permafrost thaw Community has better understanding of where and at what rate permafrost thaw is occurring 	<ul style="list-style-type: none"> Hamlet has some resources for garbage dump improvements and is currently reviewing options NWT Municipal and Community Affairs (MACA) Inuvialuit Land Administration' (ILA) Canada Mortgage and Housing Corporation (CMHC) NWT Housing Hamlet

SHORT TERM CONT.	<p>and a longer settling period for gravel pads</p> <p>18.6 Develop northern and 'community' specific building/construction construction guidelines</p> <p>18.7 Land use planning and all new construction should take into account effects (existing and anticipated) of climate change</p> <p>18.8 Monitor permafrost thaw in community</p> <p>18.9 Learn from what other communities are doing to protect infrastructure</p> <p>18.10 Learn more about the role of skirting in exacerbating permafrost thaw</p> <p>18.11 Enforce penalties for contractors who do not meet the building codes</p>			
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MID TERM	<p>19.1 Revise management plan to account for increase in population/ contributions from non-resident sources (fees and regulations for contractors, airplanes)</p> <p>19.2 Reinforce existing lagoon</p> <p>19.3 Consider feasibility of relocating lagoon to lower elevation to help contain waste (must avoid any chance for drainage into Okpalik Lake)</p>	<p>19.1.1-19.3.1- Concern that permafrost thaw, increased precipitation and run off will contribute to seepage/flooding from sewage lagoon</p>	<ul style="list-style-type: none"> • Sewage lagoon is secure and well maintained under a variety of possible future conditions 	<ul style="list-style-type: none"> • Kugluktuk sewage system has been identified as a good possible model or reference • Hamlet
LONG TERM	<p>20.1 Consider developing alternative landing strip in line with direction of prevailing winds</p>	<p>20.1.1-Prevailing winds can affect ability of planes to land safely</p>	<ul style="list-style-type: none"> • Planes can land safely under different wind conditions 	<ul style="list-style-type: none"> • C.A.R.S • Hamlet Of Ulukhaktok



APPENDIX: BUSINESS/ ORGANIZATION

ACRONYMS LIST

(National, Regional/Territorial, Community)

NATIONAL ACRONYMS

AANDC	Aboriginal Affairs and Northern Development Canada
AN	ArcticNet
CAN	Climate Action Network
CARS	Canadian Aerodrome Radio Station
CBI	Canadian Boreal Initiative
CCG	Canadian Coast Guard
CCHAP	Climate Change and Health Adaptation Program
CEN	Canadian Environmental Network
CNHHE	Canadian Network for Human Health and Environment
CWEA	Canadian Wind Energy Association
CWF	Canadian Wildlife Federation
GCC	Green Communities Canada
CHARS	Canadian High Arctic Research Station
CIHR	Canadian Institutes of Health Research
CPAWS	Canadian Parks & Wilderness Society
DSF	David Suzuki Foundation
DFO	Department of Fisheries and Oceans
DUC	Ducks Unlimited Canada
EC	Environment Canada
EDC	Earth Day Canada
EF	Evergreen Foundation
FSC	Food Secure Canada
HC	Health Canada
IAPRE	Interagency Advisory Panel of Research Ethics
ICC	Canada-Inuit Circumpolar Canada
ITK	Inuit Tapiriit Kanatami
JCR	Junior Canadian Rangers
MW	Mining Watch
NC	Nature Canada
NCC	Nature Conservancy of Canada
NCP	Northern Contaminants Program
NSERC	Natural Sciences and Engineering Council of Canada
NP	Nagoya Protocol
PI	Pembina Institute
PIWC	Pauktuutit-Inuit Women of Canada
PC	Parks Canada
PKC	Polar Knowledge Canada

RCMP	Royal Canadian Mounted Police
RCR	Royal Canadian Rangers
SC	Service Canada
SSHRC	Social Sciences and Humanities Council of Canada
SC	Stewardship Canada
TCPS	Tri-Council Policy Statement
TFC	Tree Foundation Canada
TRN	Taiga Rescue Network
WCBC	Workers Compensation Board of Canada
WHC	Wildlife Habitat Canada
WWF	World Wildlife Fund Canada

REGIONAL/TERRITORIAL ACRONYMS

AC	Aurora College
ACLC	Aurora College Learning Center
AA	Aklak Air
AFB	Arctic Food Bank
AHS	Aboriginal Head Start
AHF	Aboriginal Healing Foundation
ARI	Aurora Research Institute
ARIEC	Aurora Research Institute Ethics Committee
BBE	Braden Burry Expediting
BDEC	Beaufort Delta Education Council
BFP	Brighter Future's Program
BREA	Beaufort Regional Environmental Assessment
BSP	Beaufort Sea Partnership
CPO	Canada Post Office
CN	Canadian North
CDD	Community Development Division (IRC)
EIRB	Environmental Impact Review Board
EISC	Environmental Impact Screening Committee
FA	First Air
FJMC	Fisheries Joint Management Committee
GNWT-BDEC	Government of Northwest Territories- Beaufort Delta Education Council
GNWT-CHAP	Government of the Northwest Territories-Community Harvest Assistance Program
GNWT-DOJ	Government of Northwest Territories-Department of Justice
GNWT-ECE	Government of Northwest Territories- Education, Culture and Employment
GNWT	Government of Northwest Territories-Environment and Natural Resources
GNWT-ENR	Government of Northwest Territories
GNWT-DOT	Government of Northwest Territories-Department of Transportation
GNWT-HHSA	Government of Northwest Territories-Health and Social Services Authority
GNWT-ITI	Government of Northwest Territories- Department of Industry, Tourism and Investment
GNWT-MACA	Government of Northwest Territories-Municipal and Community Affairs
GSCI	Gwich'in Social and Cultural Institute

HBP	Healthy Babies Program
ICBM	Inuvialuit Community Based Monitoring Program
ICEDO	Inuvialuit Community Economic Development Organization
ICRC	Inuvialuit Cultural Resource Centre
ICS	Inuvialuit Communication Society
ICSP	Integrated Community Sustainability Plan
IDC	Inuvialuit Development Corporation
IGC	Inuvialuit Game Council
ILA	Inuvialuit Land Administration
IHAP	Inuvialuit Harvesters Assistance Program
ISR	Inuvialuit Settlement Region
JRC	Joint Review Committee
JS	Joint Secretariat
NC	Nunasi Corporation
NQC	Nasittuq Corporation
NNS	Northern News Service
NWA	Native Women's Association of the NWT
NWC	Northwest Company (Northern Stores, Northmart)
NTCL	Northern Transportation Company Limited
NWA	Northwright Airways Ltd.
NWTAC	NWT Arts Council
NWTAPF	NWT Anti-Poverty Fund
NWTEL	Northwestel
PWS	Public Works and Services
RRC	Renewable Resource Council
TM	Tusaayaksat Magazine
WB	Weldco-Biels
WMAC (NS)	Wildlife Management Advisory Council (North Slope, Yukon)
WMAC (NT)	Wildlife Management Advisory Council (Northwest Territories)
UDC	Uummarmiut Development Corporation

INUVIALUIT COMMUNITY ACRONYMS

Aklavik

AAC	Aklavik Aboriginal Committee
ACDC	Aklavik Child Development Center
ACC	Aklavik Community Corporation
ACCS	Aklavik Community Counselling Services
ACCP	Aklavik Community Conservation Plan
ACLC	Aurora College Learning Center
AHTC	Aklavik Hunters and Trappers Committee
AHA	Aklavik Housing Association
AIB	Aklavik Indian Band
ALC	Aklavik Learning Center (Aurora College)
AFCA	Aklavik Freddie Carmichael Airport

ANS	Aklavik Nursing Station
AWA	Aklavik Water Aerodrome
AWP	Aklavik Water Plant
GTC	Gwich'in Tribal Council
HOA	Hamlet of Aklavik
MKS	Moose Kerr School
SD-A	Stanton's Distributing-Aklavik
SRC	Sittichinli Recreation Complex

Inuvik

AFB	Arctic Food Bank
AHS	Aboriginal Head Start
BMH	Billy Moore House
CVH	Charlotte Vehus Home
ETS	East Three School
ICC	Inuvik Community Corporation
ICCP	Inuvik Community Conservation Plan
ICG	Inuvik Community Greenhouse
ICRC	Inuvialuit Cultural Resource Center
ICS	Inuvialuit Communication Society
ICL	Inuvik Centennial Library
ID	Inuvik Drum
IDC	Inuvialuit Development Corporation
IDEA	Inuvik District Education Authority
IEC	Inuvialuit Elders Committee
IFB	Inuvik Food Bank
IG	Inuvik Gas Ltd
IHA	Inuvik Housing Authority
IHC	Inuvik Housing Corporation
IHFC	Ingamo Hall Friendship Center
IHSSA	Inuvik Health and Social Services Authority
IHTC	Inuvik Hunters and Trappers Committee
IIC	Inuvik Interagency Committee
IJC	Inuvik Justice Committee
IMZA	Inuvik Mike Zubko Airport
INB	Inuvik Native Band
IR	Inuvik Rangers
IRA	Inuit Research Advisor
IRC	Inuvialuit Regional Corporation
IRH	Inuvik Regional Hospital
ISLWA	Inuvik Shell-Lake Water Aerodrome
ITH	Inuvik Transition House
IWS	Inuvik Women's Shelter
IWSO	Inuvik Warming Shelter Organization
IYC	Inuvik Youth Center

MSRC Midnight Sun Recreation Complex
NN News North
NNN New North Networks
NWI Northwind Industries
NM Northmart
SD-I Stanton's Distributing-Inuvik
TOI Town Of Inuvik
WWF World Wildlife Foundation

Paulatuk

AHS Aboriginal Head Start
AS Angik School
HOP Hamlet of Paulatuk
NARA Nora Aliqatchialuk Ruben Airport
PCO Parks Canada Office
PCC Paulatuk Community Corporation
PDEA Paulatuk District Education Authority:
PDC Paulatuk Development Corporation
PEYC Paulatuk Elders and Youth Committee
PHA Paulatuk Housing Association
PHTC Paulatuk Hunters and Trappers Committee
PVC Paulatuk Visitors Center
PWA Paulatuk Water Aerodrome
PYC Paulatuk Youth Committee

Sachs Harbour

DNSA David Nasogaluak Jr. Saaryuaq Airport
HSB Hamlet of Sachs Harbour
IC Ikahuk Co-op
IS Inualthuyak School
SHCC Sachs Harbour Community Corporation
SHCSP Sachs Harbour Community Sustainability Plan
SHDEA Sachs Harbour District Education Authority
SHHTC Sachs Harbour Hunters and Trappers Committee
SHHA Sachs Harbour Housing Association

Tuktoyaktuk

EGT Eddie Gruben's Transportation Ltd.
HOT Hamlet of Tuktoyaktuk
JJYC Jason Jacobson Youth Center
MS Mangialuk School
SD-T Stanton's Distributing-Tuktoyaktuk
TCC Tuktoyaktuk Community Corporation
TCDC Tuktoyaktuk Child Development Center

TCSP Tuktoyaktuk Community Sustainability Plan
TDEA Tuktoyaktuk District Education Authority
TJGA Tuktoyaktuk/James Gruben Airport
TEC Tuktoyaktuk Elders Committee
THTC Tuktoyaktuk Hunters and Trappers Committee
THA Tuktoyaktuk Housing Association
TJS Tuktoyaktuk Justice Committee
TLC Tuktoyaktuk Learning Center (Aurora College)
TIWG Tuk/Inuvik Working Group
TYC Tuktoyaktuk Youth Committee

Ulukhaktok

HEC Holman Eskimo Co-op
HKS Helen Kalvak School
HOU Hamlet of Ulukhaktok
OCCP Olokhakmiut Community Conservation Plan
OHTC Olokhaktomiut Hunters and Trappers Committee
UAC Ulukhaktok Arts Center
UCDC Ulukhaktok Child Development Center
UCC Ulukhaktok Community Corporation
UDEC Ulukhaktok District Education Authority
UA Ulukhaktok/Holman Airport
UHA Ulukhaktok Housing Association
ULC Ulukhaktok Learning Center



APPENDIX:

RESOURCES FOR ACTION

Resources for Action

This section describes opportunities for funding and support for Tuktoyaktuk's adaptation action plan goals, as set out in Table 2. The resources listed here may be able to help actions get off the ground, but in every case, local leadership and contributions will be essential.

BUSINESS & ECONOMY

Two main themes were identified for adaptation actions under "Business and Economy": i) Upgrade our community living standards; and ii) Enforce laws and regulate goals.

ADDITIONAL INFORMATION:

Tuktoyaktuk has a wealth of resources, but beautification and maintenance and shoreline erosion are listed as problems. One for this is the laws don't enforce accountability of the person/ company held responsible. Short to long-term goals should be made into a timeline so the community can stick to a firm plan.

The following stakeholders, in addition to those found in the table, were identified as having important roles that may not have been considered for addressing the issue.

Tuktoyaktuk Community Development Plan:

The Hamlet of Tuktoyaktuk has an updated development plan (2014). The document concentrates on climate change, along with the physical structure, economy and social well-being of residents. To view or see this document, call or go to the Hamlet office; it is free for the community to view. The number is (867) 977-2286 or (867) 977-2287.

2002 Tuk Erosion Study - *Hamlet of Tuktoyaktuk* has a document that is very informative (but needs to be updated). It gives in-depth background information on climate change and erosion in Tuktoyaktuk. The history, a plan for the impacts and climate change studies done over the years, are all very well detailed and discussed in this document. To view or see this document, call or go to the Hamlet office; it is free for the community to view.

The number is (867) 977-2286 or (867) 977-2287.

March 2016 press, CBC news - A CBC article about an Inuvialuit plan to combat erosion, and other effects caused by climate change. Here is the link: <http://www.cbc.ca/news/canada/north/inuvialuit-develop-climate-change-plan-1.3508467>

The promotion and development of new local business opportunities

- Tourism is an important opportunity for providing alternative economic growth in Tuktoyaktuk. The following programs and organizations could play an important role in the development of future tourism opportunities in Tuk. There are also programs that could support other local economic initiatives such as a community co-op.
- As a part of the ICSP, the stated goal: “clean, healthy environment” is supported by the Hamlet to develop good stewardship techniques to protect the environment. This includes Strategy 1: Promote and support healthy environment initiatives; and 2) Part of the ICSP is to review, update, and implement the existing waste management plan.
- How to Start a BUSINESS in the Northwest Territories is an informative guide designed for the individual or group starting up a business in the NWT. It provides a wide range of information on Government services, programs, and regulations. For more information, please contact:

CANADA BUSINESS NWT
Western Arctic Business Development Services
Telephone: (867) 777-2836

Shoreline Structures: Shoreline Structures is an informative webpage where you can read up on how shoreline structures can prevent impacts from water damage. This page has a variety of structures that are built for different types of waters. The website is: http://www.beachapedia.org/Shoreline_Structures

The GNWT Department of Industry, Tourism and Investment provides resources and support to the NWT tourism industry for tourism marketing, research, training, and product development in the territory, and provides a number of funding and support opportunities for business and economic development. The department has existing programs in the region and operates an office out of Inuvik. More information can be found at: <http://www.iti.gov.nt.ca/>

The GNWT Department of Industry, Tourism, and Investment’s BizPal online resources provides access to the necessary information needed to establish and run a business in the NWT. By answering a short series of questions, BizPal will identify the permits and licenses entrepreneurs need to operate. More information on BizPal can be found at: <http://www.iti.gov.nt.ca/business-economic-development/bizpal.shtml>

The GNWT Department of Industry, Tourism and Investment has a number of business development funding and support opportunities available through their SEED policy- Support to Entrepreneurs and Economic Development. Only general details are provided here, as each of these programs has specific conditions regarding who can apply and what types of projects are eligible. More information can be found at: <http://www.iti.gov.nt.ca/business-economic-development/seed.shtml>

- **Entrepreneur Support - Start up Funding**
Assistance may be provided for costs associated with planning, engineering, start-up working capital, or other development costs deemed to fall within this category by the Regional Superintendent. The maximum funding available is \$15,000 per year.
- **Entrepreneur Support - Asset Acquisition**
Capital assistance may be provided to assist with the purchase of capital items for business operations, as a means to provide equity necessary to leverage loan financing, or where assistance is not otherwise available to take advantage of a business opportunity. The maximum funding available is \$15,000 per year.
- **Entrepreneur Support - Market and Product Development**
Assistance may be provided for new market or product development designed to increase sales of NWT products, to promote the NWT as a travel destination, or to participate in trade shows (excluding attendance at conferences). Assistance may also be provided for the marketing of existing tourism, arts and fine arts, and renewable resources products through trade show participation, print advertising, internet marketing or similar activities. The maximum funding available is \$15,000 per year.
- **Entrepreneur Support - Operational Support**
Assistance may be provided to increase business skills and capacity, or to: (a) identify and address problems faced by the business; (b) develop a recovery or restructuring plan; (c) provide emergency relief to effect business recovery; or (d) assist with the cost of 'winding down' a business which has a minimal net worth and cannot meet its financial obligations and which could hurt other business and employment opportunities if allowed to fail in a disorderly manner. The maximum funding is \$15,000 per year.
- **Sector Support - Capital Expansion Incentive**
A contribution may be provided to offset incremental loan interest association with new capital purchase for expansion of business in strategic sectors designed from time to time by the Minister. Assistance may be for interest on loans from any GNWT agency or private sector commercial lender. Assistance must be negotiated and approved-in-principle prior to loan approval. The maximum funding available is \$15,000 per year for a maximum of 2 years.
- **Sector Support - Sector Research Support**
A contribution may be provided to support sector-specific research that benefits a group of businesses in a sector or will provide information critical to development of the sector or assist in investment attraction, such as product development and packaging or sector-specific marketing that benefits an industry. The maximum funding available is \$25,000 per year.
- **Community Economic Development**
A wide range of economic initiatives that support Community Economic Development are eligible for support including the following: (a) feasibility plans for community-based projects and evaluation of projects or investigation of economic opportunities that build on a community's resources, or other competitive advantages; (b) assist in developing physical infrastructure

where the absence of that infrastructure is a constraint to community business development; (c) improving access to business information; (d) activities aimed at developing community-based or industry strategic plans; and (e) community events that promote economic, including arts or similar festivals that highlight NWT products or talents. The maximum funding available is \$25,000.

- **Micro-Business**
Eligible activities would include purchase of, or payment for: (a) tools, equipment or raw materials related to arts and fine crafts or traditional economy; (b) filmmaking equipment or assistance with production expenses for specific film projects; or (c) other self-employment activities. The maximum funding available is \$5,000 over three years.
- **Business Intelligence and Networking**
Provides assistance to individuals not directly involved in marketing specific products and not eligible under the Market and Product Development category. Financial assistance may be available to assist with costs associated with attendance at seminars and trade shows to access information regarding new technologies or business opportunities. The maximum funding available depends on trip costs. (See also below for other training opportunities offered through GNWT)

The GNWT Department of Environment and Natural Resources - The Department of Environment and Natural Resources, along with similar federal agencies, is responsible ensure that release of contaminants into the air, water, and land are minimized, and environmental impacts associated with industrial and community development are assessed and minimized to protect the environment.

Land and Water Boards - These boards (Mackenzie Valley Land and Water Board, NWT Water Board, and others) regulate the taking of water and deposit of waste in accordance with the Northwest Territories Water Act.

Skills Canada NWT is an organization that promotes careers in skilled trades and technologies to northern youth. Their mandate is to provide programs that raise awareness of current and emerging skilled trades and technology careers in trades and technology. More information can be found at: <http://www.skillscanadanwt.org/>

The GNWT Department of Education, Culture and Employment's Career

Development Division offers a large number of programs and services to help northerners improve their skills and find work. A career centre is located in Inuvik that can provide additional information. Funding and support for workers and employers is available through a number of programs, including:

- **Advanced Training Initiatives for the Oil and Gas Industry**
The program supports northern workers to acquire skill training for entry-level employment and for advancement in the oil and gas industry.

- **Apprenticeship Training Assistance**
This program provides a wage subsidy to an employer to assist in training an apprentice for permanent employment.
- **Building Essential Skills**
This program provides short-term training or education opportunities which help unemployed individuals return to work quickly.
- **Employment Assistance Services**
This program provides funding to community partners to offer career development services to unemployed people.
- **Local Labour Market Partnerships**
This program provides support to individuals who would like to start a small business.
- **Self Employment Option**
This program provides support to individuals who would like to start a small business.
- **Training on the Job**
This program helps northerners acquire workplace skills needed for meaningful and permanent employment. Wage subsidies are provided to employers to offset the costs of training. More information on these and other programs is available at: <http://www.ece.gov.nt.ca/>

Arctic Co-op Arctic Co-operatives Limited coordinates the resources, consolidates the purchasing power and provides operational and technical support to community based Co-operatives to enable them to provide a wide range of services to their local member owners in an economical manner.

The Northwest Territories Business Development and Investment Corporation

(BDIC) provides access to business financing, and a wide variety of business support services and business development assistance across all NWT communities. Examples of the financial services and opportunities provided include:

- **Business Development Project Fund**
Funding from this project can be used for feasibility assessments, project start-ups, research projects and occasional short-term projects that create employment. The maximum each business can receive is \$10,000.
- **Term loans**
The BDIC lends to businesses that are unable to obtain financing elsewhere. The BDIC'S rates are based on the borrower's risk. Repayment terms are flexible to meet the needs of the borrower.
- **Standby Letters of Credit**
The BDIC may provide Standby Letters of Credit for contract bids, performance security on contracts or to pay for goods and services. There is an annual charge for this service that varies from 2% to 4%, depending on the borrower's risk.

- **Venture Investments**
The BDIC invests in businesses in return for preferred shares carrying annual dividends. The amount of the dividend reflects the risk of the investment. The BDIC is currently joint venturing with a number of companies in the NWT.
- **Subsidiary Companies**
BDIC subsidiaries are northern companies of which the BDIC owns more than 50 percent. The BDIC may provide subsidies and capital investments to these companies in order to build a solid foundation for continued success. More information on these and other services can be found at: <http://www.bdic.ca/eng/>

Aurora College delivers a number of adult educational programs and courses across the NWT. The Small Business Development program is a 16-week program designed for individuals wanting to start a small business in the Northwest Territories. The program addresses areas essential for the successful start-up and operation of a small business, including the structure of the small business, developing a business plan, sales and marketing, financial management, human resources management, strategic planning, business management and leadership, and business expansion. The program integrates a special project to provide participants with hands-on experience in starting and running a small business. This program focuses on the practical development of a small business from start to finish and participants have the opportunity to work on their own business idea in this program. More information can be found at: http://www.auroracollege.nt.ca/_live/pages/wppages/ProgramInfoDisplay.aspx?id+47&tp=PRG

Indian and Northern Affairs Canada's (INAC) Aboriginal Business Canada Program provides business development support to Aboriginal entrepreneurs and communities. Depending on the nature of the project, funding may be available to assist with a wide range of activities, including: business planning, establishment (capital) costs; business acquisitions; business expansions; marketing initiatives that are local, domestic, or export oriented; new products or process development; adding technology to improve operations and competitiveness; operating costs in association with capital costs; and financial services, business support, business-related training, and mentoring services.

CULTURE AND LEARNING

As environmental and other conditions change; culture, skills and traditional knowledge will need to be preserved to help ensure the community adapts. Two main themes that were discussed in the working groups included: i) traditional and modern knowledge growth on education and culture for the community members of Tuktoyaktuk; and, ii) Promotion, advertising, and action to sustain and preserve traditional and modern education and culture.

ADDITIONAL INFORMATION:

Discussions included how important it is to have educational activities where youth are able to spend longer periods of time out on the land and it was suggested that it be made mandatory, for example, that instructors and youth stay out on the land for a full duration of camps (except in emergencies), and in locations farther from the community. The following stakeholders, in addition to those found in the table, were identified as having important roles that may not have been considered for addressing the issue.

The Inuvialuit Regional Corporation (IRC) is active in a number of areas pertaining to culture and learning. Through the Community Development Division IRC assists individuals, families, and communities to set goals and develop solutions to cultural, economical, social, and health challenges. The Community Development Division also works with other regional, territorial, and national organization to identify, develop, and deliver programs that benefit Inuvialuit. Some of the programs the Community Development Division focuses on include those pertaining to income and employment; education and training; health and well-being; economic development; culture, language and traditions; Aboriginal Healing Foundation programs in Inuvialuit communities; and health and environment in the ISR. IRC also maintains a Mackenzie Gas Project impact funding office and an Inuit research advisor program. More information can be found at: <http://www.irc.inuvialuit.com/>

The Inuvialuit Cultural Resources Centre (ICRC), located in Inuvik and run by the Inuvialuit Regional Corporation (IRC) has a mandate to preserve the Inuvialuit language, provide support and a language curriculum for Inuvialuktun teachers, and promote the on-going development of the Inuvialuktun language. They have funded a number of projects pertaining to language and culture in the past. Further information on the ICRC can be found at: <http://www.irc.inuvialuit.com/community/cultural.html>

The GNWT Department of Education, Culture, and Employment is responsible for supporting culture, heritage and language initiatives throughout the NWT. The Culture and Heritage Division offers funding and assistance to communities for a number of programs related to culture and heritage. Some of these programs are described below:

- The Cultural Projects Contributions program provides financial assistance for the promotion and preservation of cultural identity and the enhancement of traditional cultures in the NWT, and to ensure that NWT oral traditions continue to be recorded by funding specific oral traditions projects.
- Oral Tradition contributions provide funding and professional assistance to those individuals or groups who want to record the oral traditions of the Northwest Territories (NWT). Typically, projects activity includes research, which identifies, examines, assembles, and catalogues oral traditions already recorded. Preference is given, but not limited, to those applicants who are gathering oral traditions in areas or regions where this research has not been initiated in the past, and to complete previous oral traditional projects.
- Cultural Enhancement contributions provide financial assistance for the promotion and preservation of cultural identity and the enhancement of traditional cultures in the NWT. Projects, which fulfill this mandate in a traditional context, are given priority.
- The Cultural Organizations Contributions program provides core-funding contributions towards the administration and operation of organizations that undertake the promotion and development of the arts and cultural diversity in the NWT.

- The Core Funding Contributions for the Operation of Registered Heritage Centres program provides core-funding contributions toward the operation of registered heritage centres.
- The NWT Arts Council Contributions support and encourage the continued development of creative artistic projects in the visual, literary, new media and performance arts in the NWT. The NWT Arts Council recommends approval for organizations or individuals requesting funds for artistic work on a project- specific basis only.
- The Support to Northern Performers program provides financial contributions towards development and promotion of performing arts in the Northwest Territories and for the featuring of NWT performing artists at local and regional public festivals and events.

Details for these and other programs can be found at: <http://www.pwnhc.ca>

The GNWT Department of Municipal and Community Affairs has a number of programs related to culture and learning. For example:

- NWT Youth Corps Contributions encourage and support governments and organizations involved in the development and delivery of specialized programs to support NWT youth to develop their skills and contribute to their communities. Funding is dependent on the length, scope and number of participants in the Youth Corps project.
- The Youth Contribution program encourages and supports community governments and organizations involved in the development and delivery of activities directed to youth (e.g. development of youth related organizations; initiatives aimed at the development of youth programs or specific events; promotion and development of resources for youth activities; and research into relevant youth topics).

The maximum amount provided to any territorial organization is \$40,000. The maximum amount provided to any regional organization is \$20,000 and the maximum amount to any community organization or community government is \$5,000.

The GNWT Department of Justice is involved in a number of community justice programs relevant to culture and learning. A number of funding opportunities exist for land camps and educational opportunities with a justice or correctional focus:

- Community Justice Initiatives — This program promotes and encourages the participation of communities in the justice system and the development and implementation of community-based alternatives to the formal justice system. Proposals for funding under this program must have as a goal the development or implementation of culturally relevant community justice initiatives involving both victims of crime and offenders. Program funding levels are based on a per capita model and coordinator-funding levels vary according to program activity.
- Corrections Elders Programs — This program supports community agencies to contact elders to provide ‘on the land’ programs for small numbers of offenders from their region. Program funding supports expenses and fees in providing the program. The maximum contribution for each elder’s program is \$50,000.

- Wilderness Camps — This program assists contractors who provide ‘on the land’ programs for offenders through an outdoor wilderness camp program. Funding that is provided will assist contractors in purchasing minor equipment necessary for the delivery of the program. The maximum annual contribution to a contractor is \$50,000.

The federal Department of Canadian Heritage also offers a number of financial support programs for projects related to language and culture (e.g. Aboriginal Languages Initiative; Territorial Language Accords; Community Memories Program; Gateway Fund). Depending on the program, they may only be applied for by regional organizations/governing bodies or existing cultural organizations (e.g. museums, heritage centres). In some cases, community groups can apply for funding directly. More information can be found at: <http://www.pch.gc.ca/pgm/lst/fndx-eng.cfm> (FYI, the website will only remain available until the move to a new section in canada.ca is complete.)

The GNWT Grants to Non-Profit Organizations for Special Projects provides one-time funding for special projects that support the cultural, economic, political and social participation of women in society. Eligibility is restricted to societies registered under the Societies Act of the Northwest Territories, governments, and community organizations, which represent the interests of women. Funding is limited to projects that enhance the status of women, to a maximum of \$5,000.

Aurora College delivers a number of adult educational programs and courses across the NWT. While larger campuses exist in Inuvik, Yellowknife, and Fort Smith, the local campus in Tuktoyaktuk is capable of delivering a small number of courses. For example, students can complete their high school upgrading at the learning centre in preparation for enrolling in a full-time program at one of the Aurora College campuses. Aurora College learning centres also deliver many general interest and employment: http://www.auroracollege.nt.ca/_live/pages/wpPages/home.aspx

The GNWT Department of Municipal and Community Affairs oversees The School of Community Government, which coordinates a system of training and development, tools and resources for community governments, their staff and organizations that support community governments. Training is available in:

- Governance
- Management & Finance
- Fire Protection & Public Safety
- Land Administration
- Recreation Facility Operations
- Recreation Leadership
- Water and Waste
- Works and Works Management

Other organizations offer culture and learning programs, although program objectives may not be explicitly towards culture and learning. Organizations such as Health Canada (e.g. Brighter Futures program) and the Aboriginal Healing Foundation are examples here. These different programs are described under the “health and well-being” section in this Appendix.

Emergency response and management

Effective emergency response and management will help ensure climate change-related incidents are handled in a timely and appropriate manner. The Hamlet of Tuktoyaktuk has 24-hour emergency information packages, which residents can use to help them prepare for emergencies. It is very important that residents understand the importance of preparing for emergencies, including climate-related incidents.

In addition to organizations listed in the table, the following may also contribute to Tuktoyaktuk emergency preparedness:

The GNWT Ministry of Municipal and Community Affairs (MACA) Emergency Management Office is responsible for NWT emergency preparedness and response activities. This includes planning for territorial emergencies, as well as NWT involvement in national emergencies, and supporting community emergency operations. The office also supports prevention, mitigation, and disaster recovery work. MACA provides assistance and guidance to communities in completing and maintaining the currency of Community Emergency Plans, and a Community Emergency Response Plan Template is available for all communities to use. MACA also provides supportive funding for community-organized searches for missing persons, up to a maximum of \$10,000. For further information on MACA's emergency management office please see: <http://www.maca.gov.nt.ca/?s=emergency+management>

The Government of Canada's National Search and Rescue Secretariat is the central coordinating point for the National Search and Rescue (SAR) Program for the federal element of search and rescue. While it does not direct or manage the work of its partners, the Secretariat brings them together to encourage collaboration and to ensure best use is made of their resources and capabilities. The following federal departments are responsible for search and rescue delivery in Canada:

- Canadian Forces (Department of National Defence)
- Canadian Coast Guard (Department of Fisheries and Oceans)
- Royal Canadian Mounted Police (Public Safety Canada)
- Transport Canada
- Meteorological Service of Canada (Environment Canada)
- Parks Canada (Agency)

Within the non-federal jurisdiction, the Secretariat works directly with provincial and territorial SAR authorities and police services to develop and standardize the quantity and quality of SAR service available to the provinces and territories. The Joint Rescue Coordination Centre in Trenton, Ontario, operated by the Canadian Forces, provides emergency response and alerting systems for the Canadian Arctic. Generally speaking, the Canadian Forces and the Civil Air Search and Rescue Association provide air resources for SAR incidents under federal jurisdiction (i.e. aircraft incidents and all marine incidents in waters under federal jurisdiction). The Canadian Coast Guard and the Canadian Coast Guard Auxiliary provide primary marine resources. Other organizations may be involved in search and rescue as well. For example, Parks Canada provides search and rescue services within national parks, national marine conservation areas and reserves, national historic sites and historic ca-

nals. Outside the national parks the RCMP responds to SAR incidents in the territories and various municipalities. The Meteorological Service of Canada provides information on climate, weather, ice and other environmental issues of particular interest to the SAR community, while Transport Canada fosters safe and secure transportation.

The Search and Rescue New Initiatives Fund provides funds for projects that: a) enhance the effectiveness of SAR response in federal, provincial and territorial jurisdictions; b) promote the sharing of response and prevention best practices throughout the SAR community; and, c) promote and improve SAR prevention.

The New Initiatives Fund has an annual allotment of \$8.1 million available to federal, provincial and territorial governments, profit and not-for-profit Canadian organizations from volunteer, academic or private sectors and individuals with responsibilities in the National SAR Program. More information can be found at: http://www.nss.gc.ca/site/index_e.asp

Al Gore 2016 Ted Talk on Climate Change - YouTube has an approximately 30 minute video on the negative and positive impacts throughout the years as we dealt with climate change. Very informative and you learn a lot in a short period of time. The link is: <https://www.youtube.com/watch?v=u7E1v24DlIk>

Inuit Theory - This webpage has a video and a short informative section where you can see pictures and the background of the Inuit view of change. The link for this webpage is: <http://campinglifequest.com/nature/inuitelders-issue-warning-to-world-the>

HEALTH AND WELL-BEING

Adaptation actions have been grouped into three specific themes: i) overall fitness and health; ii) healthy foods and a healthy living; and iii) becoming a healthier and better prepared community with better prepared plans.

ADDITIONAL INFORMATION:

Health and well-being is a very important factor for healthy growth and living in the community of Tuktoyaktuk. To be healthier, the people of Tuk may need to adopt new ways for healthier living. The following stakeholders, in addition to those found in the table, were identified as having important roles that may not have been considered for addressing the issue:

The Aboriginal Sports Circle: The Aboriginal Sport Circle (ASC) is Canada's national voice for Aboriginal sport, which brings together the interest of First Nations, Inuit and Métis peoples. Established in 1995, the ASC was created through a national consensus-building process, in response to the need for more accessible and equitable sport and recreation opportunities for Aboriginal peoples. Further information on the ASC can be found at: <http://aboriginalsportcircle.ca/en>

Sport North: Sport North represents the Territorial Sport Organizations of the Northwest Territories. Sport North is dedicated to the development of sport at every level of participation in the Northwest Territories. Sport North offers various programming and funding to communities. More information can be found at: <http://www.sportnorth.com>

The Inuvialuit Regional Corporation (IRC) is active in a number of areas pertaining to health and wellbeing. The Community Development Division IRC assists individuals, families, and communities to set goals and develop solutions to cultural, economical, social, and health challenges. The Community Development Division also works with other regional, territorial, and national organizations to identify, develop, and deliver programs that benefit Inuvialuit. Programs include health and well-being; culture, language and traditions; Aboriginal Healing Foundation programs in Inuvialuit communities; and health and the environment in the ISR. More information can be found at: <http://www.inuvialuit.com>

Aurora College delivers a number of adult education programs and courses across the NWT. While larger campuses exist in Inuvik, Yellowknife, and Fort Smith, the local campus in Tuktoyaktuk is capable of delivering a small number of courses. For example, students can complete their high school upgrading at the learning centre in preparation for enrolling in a full-time program at one of the Aurora College campuses. Aurora College learning centres also deliver many general interest and employment courses. <http://www.auroracollege.nt.ca>

The GNWT Department of Health and Social Services has a number of responsibilities pertaining to health and well-being, including environmental health, health promotion, home care and immunization, among others. The Beaufort-Delta Health and Social Services Authority plans, manages, and delivers a full spectrum of community services in the Inuvialuit Settlement Region. More information can be found at: <http://www.hss.gov.nt.ca/health-landing>

The GNWT Industry, Tourism and Investment: Growing Forward - Growing forward is a commitment to Canada's agriculture sector that is focused on achieving results, reflects input from across the sector and delivers programs that are simple, more effective and tailored to local needs. Governments are investing \$1.3 billion over five years into Growing Forward programs. For Tuktoyaktuk two relevant programs from Growing Forward include:

Small Scale Foods Program - The aim of the Small Scale Foods Program is to establish market gardens in 25 communities across the NWT. Once established, community garden programs will be augmented with training, upgraded equipment and ongoing support to maximize efficiencies and yields.

Northern Agri-Foods Program - The Northern Agri-Foods Program works with producers in the establishment, expansion and development of land-based initiatives. The Program also targets existing commercial greenhouse operators with funding aimed at increasing yields and efficiencies. In addition, the Program will examine the potential feasibility of non-timber forest initiatives such as birch syrup production. Finally, the Program will provide support for workshops and seminars aimed at increasing the agriculture and Agri-foods knowledge base in the NWT.

The GNWT Department of Health and Social Services also offers funding for health and well-being focused programs, some of which may be relevant to climate change adaptation in Tuktoyaktuk. For example:

- Community Wellness Program - Contribution funding for communities and non-profit groups is available for five community wellness programs. These are: the National Aboriginal Youth Suicide Prevention Strategy, Aboriginal Diabetes Initiatives, Fetal Alcohol Spectrum Disorder Program, Brighter Futures, and the Canada Prenatal Nutrition Program. Funding available is dependent on the project proposed.
- Health Promotion Fund - Contribution funding is available to non-government organizations for projects that promote healthy lifestyles and practices. The maximum amount available is \$10,000.

Health Canada is the federal department responsible for helping Canadians maintain and improve their health. Health Canada also has a First Nations, Inuit & Aboriginal Health Unit which has been active in a number of areas including: children and youth, chronic disease and injury prevention, communicable disease control, environmental public health and research, health governance and infrastructure support, mental health and addictions, primary care, and supplementary health benefits. Examples of some of the programs that may be relevant to climate change adaptation are described below:

- Brighter Futures — The Brighter Futures program is a community-based promotion and ill-health prevention program for First Nations and Inuit communities. The program typically prevents ill health through learning-related activities that strive to increase awareness, change attitudes, build knowledge and enhance skills. The program is made up of five components: a) mental health; b) child development; c) parenting; d) healthy babies; and e) injury prevention. Communities have the flexibility to determine which program component(s) to provide community-based programs, services, and/or activities.
- Building Healthy Communities - The Building Healthy Communities program is designed to assist First Nations and Inuit communities to develop community-based approaches to youth solvent abuse and mental health crises. First Nations and Inuit communities have the flexibility to determine which program component(s) to provide community-based programs, services, and/or activities. More information on these and other programs can be found at: <http://www.hc-sc.gc.ca/fniah-spnia/index-eng.php>

Clean Water Supply

No single government agency or organization is solely responsible for safe drinking water. Rather, various government agencies have responsibilities in different areas of water safety. Assistance in setting up a water monitoring plan may be accessed or supported by the following organizations.

Community Governments

Community governments have the authority and responsibility to provide safe potable water to their residents. In communities where the community government is the owner and operator of the water treatment facilities, the community government will be responsible for the treatment and safety of the water supply in those operations. Responsibilities include treatment of water to meet the Guidelines for Canadian Drinking Water Quality, the analysis, and maintaining records of raw water quality, finished water quality and the amount of chemicals used in treatment.

The GNWT Department of Environment and Natural Resources - The Department of Environment and Natural Resources, along with similar federal agencies, is responsible to ensure that release of contaminants into the air, water and land are minimized and environmental impacts associated with industrial and community development are assessed and minimized to protect the environment.

Land and Water Boards - These boards (Mackenzie Valley Land and Water Board, NWT Water Board, and others) regulate the taking of water and deposit of waste in accordance with the Northwest Territories Water Act.

Indian and Northern Affairs Canada (INAC) - The Department of Indian Affairs and Northern Development (DIAND) is responsible for the Northwest Territories Water Act. DIAND inspectors monitor compliance of water regulations issued by various land and water boards.

GNWT Department of Health and Social Services - The responsibility for ensuring safe drinking water is vested with the GNWT, which has passed specific public health legislation designed to ensure the safety of drinking water supplies. The Department of Health and Social Services is the regulator and is responsible for ensuring the Guidelines for Canadian Drinking Water Quality is met. Environmental Health Officers and Medical Health Officers, employed by the Department of Health and Social Services (and the H&SS Authorities), act as regulators to ensure safe drinking water. The Legislation covers a multi-barrier approach to ensure water safety. This includes source protection, water treatment (mandatory disinfection), good operation and maintenance of water supply systems, water sampling and monitoring program, and appropriate abatement and enforcement measures. New water sources and treatment plants must receive health approval. In addition, Environmental Health Officers perform inspections of drinking water treatment plants as well as monitor that the required water-sampling program is in place.

If there is a problem with the drinking water quality, or the systems designed to ensure the safety of the drinking water supply, appropriate abatement action is ordered by the health authorities.

The GNWT Department of Municipal and Community Affairs - MACA submits water samples to a laboratory for bacteriological and chemical analysis.

The GNWT Department of Municipal and Community Affairs - MACA provides necessary funding for water infrastructure development, sets standards for water system development, and coordinates training and provides financial assistance for the training of water treatment plant operators. The Department is also responsible for the certification of water treatment plant operators.

The GNWT Department of Public Works and Services - The major roles of the Department of Public Works and Services are:

- To provide management and technical support for the design and construction of infrastructure for water supply, treatment and distribution systems.
- To provide training and technical expertise in community water systems, and where applicable by contract or GNWT ownership, to operate water treatment plants and be responsible for the

safety of the water supply in those operations.

- To deliver training and certification programs to water treatment plant operators through Municipal and Community Affairs.
- To coordinate the safe drinking water initiatives.

Health Canada - Although drinking water quality is provincial /territorial responsibility, Health Canada undertakes research into the health aspects of contaminants, recommends drinking water quality criteria, and acts as the secretariat for the Federal Provincial Territorial Committee on Drinking Water which publishes the Guidelines for Canadian Drinking Water Quality.

Environment Canada - Environment Canada is responsible for the Canadian Environmental Protection Act and the Canadian Environmental Assessment Act. More information can be found at: https://recherche-recherche.gc.ca/rGs/s_r?cdn=canada&st=s&num=10&langs=eng&st1rt=0&s5b-m3ts21rch=x&q=drinking+water&wb-srchsub=#wb-land

SUBSISTENCE HARVESTING

For Tuktoyaktuk, there are two major themes for adaptation under “Subsistence Harvesting”: i) How to be the best harvester you can be (e.g. fur handling, techniques, etc.); and ii) activities and projects to sustain and learn more about subsistence harvesting.

ADDITIONAL INFORMATION:

The Inuvialuit Harvesters Assistance Program (IHAP) is an existing program managed by the Inuvialuit Regional Corporation (IRC) and Inuvialuit Game Council (IGC). Through funds held in the Inuvialuit Harvesters Assistance Trust, the program provides financial support to Inuvialuit renewable resource harvesters and is intended to encourage the continuance of traditional harvesting activities amongst Inuvialuit beneficiaries. IHAP may approve one financial contribution of up to \$5,000 to any eligible applicant once every three year period toward the purchase of one piece of major harvesting equipment (e.g. snowmobiles, boats, outboard motors), or ongoing financial contributions of up to \$1,000 per year towards the purchase of any minor piece(s) (e.g. radios, tents, flotation devices) of harvesting equipment per applicant.

The GNWT Department of Industry, Tourism, and Investment provides support and financial assistance in a number of areas pertaining to harvesting. Some of these include:

- Fur Price Program (also known as the Genuine Mackenzie Valley Fur Program) provides NWT hunters and trappers with access to the financial resources necessary to participate in the fur industry. There are three components to this program.
- Advance - The Genuine Mackenzie Valley Fur (GMVF) advance program provides guaranteed advances to trappers delivering prime fur for sale through the GMVF program. Advances are based largely on anticipated market performance.
- Prime Fur Bonus - If the trapper’s fur is sold for the same value or more than the advance, the

trapper is entitled to receive a Prime Fur Bonus. The bonus payment recognizes that the fur is in good condition and has been well handled by the trapper.

- The GMVF marketing program also pays for all commissions, shipping and handling fees for fur shipped to auction. Trappers who chose to ship their fur outside the GMVF program are entitled to the same benefits with the exception that no advance will be issued.
- Community Harvesters Assistance Program (CHAP) provides annual funding assistance to the Tuk Hunters and Trappers Committee and is used for distribution to the membership to assist in the operating costs of harvesting activities.
- Hunters and Trappers' Disaster Compensation Program assists harvesters who sustain substantial financial losses due to unavoidable natural disasters except for forest fires. For harvesters who earned at least 25% of gross income from renewable resources for the period of 12 months immediately prior to the incident, maximum compensation is up to \$4,500.00 per occurrence. Compensation is not made for losses due to carelessness or poor judgement.

The GNWT Department of Environment and Natural Resources promotes and supports the sustainable use and development of natural resources to protect, conserve and enhance the NWT environment for the social and economical benefit of all residents. In regards to wildlife, the department is responsible for the stewardship of wildlife resources through the collection of baseline information; assessing and monitoring the status of wildlife; wildlife habitat; species at risk; wildlife health; assessing impacts on wildlife from human activities; and regulating wildlife protection and use. More information can be found at: http://www.enr.gov.nt.ca/_live/pages/wpPages/home.aspx

Tuktoyaktuk Hunters and Trappers Committee: THTC provides support to individuals who want to apply for subsistence support and facilities program, such as harvesting monitoring. The GNWT Department of Industry, Tourism and Investment in co-operation with the Department of Municipal and Community Affairs and the Department of Environment and Natural Resources offers the Take a Kid Trapping program. This program is designed to introduce youth in the NWT to traditional harvesting practices of hunting, fishing and outdoor survival, and is delivered through schools and Aboriginal organizations. Instructors incorporate visits to trap lines and hands-on experience setting traps, snares, and fishnets, to teach traditional life skills, conservation and best practices in the preparation of pelts for markets. More information can be found at: <http://www.iti.gov.nt.ca/search/node/take%20a%20kid%20trapping>

The GNWT Department of Education, Culture and Employment offers the Community Broadcasting Grant Program which provides grant money to help pay for the operating costs of community broadcasting organizations. A community broadcasting organization may receive up to \$6,000 per year in support.

The Aurora Research Institute is responsible for licensing, conducting and coordinating research in the NWT. They also promote communication between researchers and the people of the land in which research is being conducted, and have supported projects pertaining to wildlife in the past. More information on the Aurora Research Institute can be found at: <http://nwtresearch.com/default.aspx>

The GNWT Department of Environment and Natural Resources promotes and supports the sustainable use and development of natural resources to protect, conserve, and enhance the NWT environment for social and economic benefit of all residents. In regards to wildlife, the department is responsible for the stewardship of wildlife resources through the collection of baseline information; assessing and monitoring the status of wildlife; wildlife habitat; species at risk; wildlife health; assessing impacts on wildlife from human activities; and regulating wildlife protection and use. More information can be found at: http://www.enr.gov.nt.ca/_live/pages/wpPages/home.aspx

A number of researchers at Canadian Universities and abroad specialize in the study of climate change impacts on northern wildlife. An opportunity may exist to approach these researchers directly and inquire about the possibility of Tuktoyaktuk-focused research programs.

TRANSPORTATION AND INFRASTRUCTURE

Transportation and infrastructure is grouped into two main themes:

i) Improve energy efficiency and the use of alternative energies; and ii) Ways to upgrade and promote our housing and transportation uses.

ADDITIONAL INFORMATION:

The following programs help support alternative energy initiatives. By reducing the cost of living through alternative energies/ improved energy efficiency, people may have more flexibility to go out on the land, and engage in other adaptation activities. The following stakeholders, in addition to those found in the table, that were identified as having important roles that may not have been considered for addressing the issue.

Under the New Deal for NWT Community Governments (implemented in April, 2007), community governments now have full authority for decisions about community public infrastructure. They are responsible for establishing capital investment plans, making decisions about priority projects, deciding on the scope and timing of those projects, and determining how to finance them. The GNWT Department of Municipal and Community Affairs is supporting these changes by providing community governments with stable, long-term predictable funding for infrastructure development, training through the Department's School of Community Government and ongoing advice and assistance.

The GNWT Department of Municipal and Community Affairs (MACA) delivers front-line services to community governments through its Yellowknife headquarters and five regional offices. Some department functions relevant to infrastructure maintenance and development include:

- Land administration - Administers Commissioner's Lands, community planning, land purchase, property assessments, land development, surveys and mapping, and supports community infrastructure.
- Office of the Fire Marshall - Responsible for delivering several programs relating to fire and life safety as identified in the Fire Prevention Act.
- Emergency management - Responsible for NWT emergency preparedness and response activities.
- Legislation - Laws and regulations relevant to MACA'S mandate and operations include: the Hamlet Act; the Charter Communities Act; Cities, Towns and Villages Act, and others.

Community operations - Provides various services on behalf of community governments including community financial services, financial policy and infrastructure planning, capital planning and infrastructure, community governance, and environmental planning.

More information can be found at: <http://www.maca.gov.nt.ca/>

The GNWT Department of Transportation is responsible for the planning, construction or reconstruction, acquisition, operation and maintenance of public transportation infrastructure in the NWT, including community airports, docks, and the highway system. The Community Access Program provides financial contributions and technical assistance to rural and remote communities for the construction and maintenance of community access roads and local boating facilities in support of local recreation and subsistence harvesting activities and for winter road access to granular deposits. Community access roads include public roads or trails offering all-weather or seasonal access, connecting communities to nearby public locations such as recreational sites, camps, archaeological sites, local resources, and access to fishing, hunting and tourism opportunities. The program is application-based and funding is allocated to communities based on the merit of the project proposals and level of community support. Community involvement, community benefit, cost, and mitigation of potential environmental impacts are considered within the evaluation of project proposals. More information can be found at:

http://www.fin.gov.nt.ca/sites/default/files/documents/2013-14dotbusinessplan_0.pdf

The GNWT Department of Public Works and Services (PWS) provides support in a number of areas including asset management, procurement, and community water systems. They look after the design and construction of schools, water systems, tank farms, and other types of buildings and works. They have developed the Good Building Practice For Northern Facilities 2009 guidebook which provides those involved with building and construction a comprehensive set of practical recommended technical best practice northern building guidelines. They have also developed the Good Engineering Practice for Northern Water and Sewer Systems guidebook, which contains performance guidelines, preferred materials and methods, and logistical considerations for the design and construction of northern water and sewer systems. These and a number of other relevant guides and information are provided on the PWS website.

For communities concerned about the state of their buildings and works, PWS offers technical evaluation services to report on the condition and performance of architectural, structural, mechanical and electrical systems, subsystems and components in buildings and works facilities.

Recommendations that are provided are based upon the Good Building Practice guidebook, the National Building Code, and information from other regulatory agencies. The evaluation provides information from program and facility planners, designers, builders and operators to know which systems, subsystems, components and materials are at or near the end of their economic service life, and may be in need of repair or replacement. As well, the evaluation outlines how operating method can be corrected to make facilities safer, more comfortable, more energy efficient, and more durable. More information can be found at: <http://www.pws.gov.nt.ca/index.htm>

The NWT Housing Corporation together with citizens, communities, Local Housing Organizations, Aboriginal organizations, the business community, other non-government organizations, and other governments, are jointly responsible for addressing the quality, adequacy, suitability and affordability of housing in the NWT. More information can be found at: <http://nwthc.gov.nt.ca>

Private sector consultants and contractors are often drawn upon to help design, build and maintain infrastructure in the NWT. In a community setting, consultants and contractors are often working on behalf of local or territorial government clients.

The Canadian Standard Association is in the process of developing the guidance document Infrastructure Foundations and Permafrost: A Practice Guide for Climate Change Adaptation. This publication is intended for the planners, designers, builders, owners, regulators and managers of northern community infrastructure, and will provide information on risks related to permafrost, climate change and community infrastructure that requires foundations. It will also provide a set of key planning, design, construction, operation and maintenance-related principles linked to these risks. More information on this and other infrastructure-related publications and standards can be found at: <http://www.csa.ca/cm/ca/en/home>

The National Research Council of Canada produces the national model construction codes of Canada used by builders, engineers and designers. These codes include:

- National Building code of Canada 2005
- National Fire Code of Canada 2005
- National Plumbing Code of Canada 2005
- National Housing Code of Canada and Illustrated Guide 1998
- Model National Energy Code of Canada for Houses 1997
- Model National Energy Code of Canada for Buildings 1997
- More information can be found at: http://www.nationalcodes.ca/nbc/index_e.shtml

The Canadian Mortgage and Housing Corporation (CMHC) works to enhance Canada's housing finance options, assist Canadians who cannot afford housing in the private market, improve building standards and housing construction, and provide policymakers with the information and analysis needed to sustain a vibrant housing market in Canada. CMHC also provides research on best practices in housing technology, construction and design. More information can be found at: <http://www.cmhc-schl.gc.ca/en/index.cfm>

The GNWT Department of Environmental and Natural Resources offers the following programs:

- The Alternative Energy Technologies Program is designed to promote the use of renewable energy sources in the NWT. Funding is split into three sections and based on the scope and scale of the proposed project:
 1. Community Renewable Energy Fund (CREF); 2) Medium Renewable Energy Fund (MREF); 3), Small Renewable Energy Fund (SREF).
- The Community Renewable Energy Fund is available to Aboriginal and community governments, GNWT departments, boards and agencies and non-profit organizations. The program assists community-based installations of alternative energies systems, or the conversion of an existing conventional energy system to alternative energy technology. The objective of this fund is to promote projects that advance the knowledge and effectiveness of new clean technologies in northern environments. Funding of up to one-half of the project cost is available, to a maximum of \$50,000 per year.
- The Medium Renewable Energy Fund is available to assist commercial businesses, including off-grid camps and lodges that want to incorporate commercially available alternative energy technologies into their operations. The objective of this fund is to reduce use in remote locations where fuel prices are extremely high due to added transportation costs. Funding of up to one-third of the costs of qualified alternative energy systems is available. The maximum amount that will be provided to any recipient is \$15,000 per year.
- The Small Renewable Energy Fund is available to assist NWT residents to integrate commercially available, clean energy technologies on their property, building or other assets for the purpose of reducing fuel usage. Funding of up to one-third of the cost of qualified alternative energy systems is available. The maximum amount that will be provided to any recipient is \$5,000 per year.
- For Further Information about the Alternative Energy Technologies Program or to obtain assistance in preparing proposals, please contact:
Alternative Energy Specialist Environment Division; Department of Environment and Natural Resources
P.O Box 1320; Yellowknife, NT, X1A 2L9
Telephone: (867) 920-3484 / Facsimile: (867) 873-0221
- The Energy Conservation Program assists community funded departments, boards, and agencies, and non-profit organizations. The funding is available to support projects which reduce usage of electrical and heat energy, and water. There is no application form for the Energy Conservation Program because a wide variety of different projects can be eligible for funding. Historically, the Energy Conservation Program has been used to correct or upgrade existing lighting, heating, ventilation, water, and electrical systems.

Examples of projects have included the installation of energy efficient equipment, the upgrade of existing equipment, heat recovery systems, and energy use monitoring or control systems. Typically these types of projects also result in environmental benefits, including a reduction in emissions of

greenhouse gases, Studies, workshops or other activities that will lead to future energy conservation projects will be considered. Further information about the Energy Conservation Program or advice on preparing proposals is available by contacting:

Climate Change Specialist

Environment Division

Environment and Natural Resources; Government of the NWT

P.O Box 1320; Yellowknife, NT, X1A 2L9

More information can be found at:

http://www.enr.gov.nt.ca/_live/pages/wpPages/Energy_Conservation_and_Alt_Energy_Techn.aspx

The Arctic Energy Alliance is a not-for-profit society with a mandate to help communities, consumers, producers, regulators and policy-makers work together to reduce the cost and environmental impacts of energy and utility services in the NWT. They administer the Energy Efficiency Incentive Program, which provides rebates to homeowners, and consumers who purchase new, more energy efficient models of products they use. A website provides information on other energy programs available, such as the federal government's ecoENERGY program. The Arctic Energy Alliance also supports communities who are interested in creating and implementing Community Energy Plans. More information on these and other programs can be found at: <http://aea.nt.ca>

Indian and Northern Affairs Canada (INAC) offers the following program that supports adoption of alternative energies and energy efficiency:

- The ecoENERGY for Aboriginal and Northern Communities Program works with communities to improve energy efficiency and adopt alternative energy sources to reduce dependence on diesel fuel. The program assists communities through all stages of project development, including project identification and inception, and project completion. Incentives are directed at renewable energy and energy efficiency projects and include investment in small and micro hydro projects, wind turbines, improved diesel generation efficiency projects, and district heating and building heating systems.

For Community Clean Energy Action Plans, between \$5,000 and \$15,000 per community is available. For Energy Efficiency Projects, up to \$10,000 is available. For Renewable Energy Projects, up to \$250,000 is available. Funding amounts for all these projects will depend on the size of the project and its stage of development. For more information see: <http://www.aadnc-aandc.gc.ca/eng/1100100034258/1100100034259>

2009 press, CBC - This link has some information on what Tuk's previous mayor, Mervin Gruben, had to say about the "supposed to be in action" energy efficient windmills. Due to Power Corporation not accepting the new changes and terms, the project never went through. Here is the link: <http://www.cbc.ca/news/technology/tuktoyaktuk-on-front-line-of-climate-change-1.845397>

ADDITIONAL PATHWAYS FOR ACTION

Potential additional pathways for action are described here. These include articles, news, programs and funding opportunities offered by a number of organizations.

Natural Resources Canada's (NRCan) Climate Change Impacts and Adaptation Division facilitates the generation and sharing of knowledge, tools and mechanisms to integrate climate change adaptation into policy, plans and projects. The division encompasses two main activities:

- The Regional Adaptation Collaborative Program - This program provides a mechanism for collaboration between different levels of government, private sector entities, and community organizations on complex adaptation issues that address federal, sectoral, or regional priorities. The objective of this initiative is to equip decision-makers with the information and advice that they need to make policy, operational, and management changes that respond to regional opportunities and threats from a changing climate.
- Tools for Adaptation - This program develops adaptation tools to support decision-making on whether and how to adapt to a changing climate.

For more information see: http://adaptation.nrcan.gc.ca/index_e.php

Environment Canada manages a number of climate change related programs. It also maintains the Green Source Funding Database that contains information on public and private sector programs, and organizations that provide financial assistance to community groups involved in environmental projects. Some of the programs contained in the database have climate change components. For more information see: <https://www.ec.gc.ca/financement-funding/default.asp?lang=En&n=768DAFB1-1>

The Government of Canada maintains a website on climate change and the various mitigation and adaptation focused programs it administers.

For more information see: <http://www.climatechange.gc.ca/default.asp?lang=En&n=E18C8F2D-1>

The North & Climate Change - An informative webpage (and website) about climate change issues and impacts. Here is the link to view: http://www.canadiangeographic.ca/atlas/themes.aspx?id=CLIMATE&sub=CLIMATE_LANDSCAPES_NORTH&lang=En

Data on TUK dealing with Climate Change - Climate, Global Warming, and Daylight Charts and Data for Tuktoyaktuk, NT. Here is the link: <http://www.climate-charts.com/Locations/c/CN71959022039100.php>

Climate change and polar bears - Here are three informative and interesting links about climate change and polar bears - <http://www.cbc.ca/news/trending/thin-bear-photo-kerstin-1.3232725>
<https://news.vice.com/article/polar-bears-are-now-eating-dolphins-in-the-arctic>
<http://www.cbc.ca/news/canada/british-columbia/ian-stirling-polar-bear-weston-foundation-1.3357587>



APPENDIX:

CLIMATE CHANGE SURVEY FORM

CLIMATE CHANGE SURVEY FOR INUVIALUIT YOUTH: ON THE FRONTLINE OF CLIMATE CHANGE PROJECT

Date:

Community:

Name of respondent: (optional)

The purpose of this survey is to get the perspectives and experiences of climate change from different demographics of the Inuvialuit Settlement Region of the Northwest Territories.

What age group do you identify as?

Age groups: Youth (15-30) Adults (31-50) Elders (51-100)

Answer the multiple choice questions to the best of your knowledge. There can be more than one right answer. So choose wisely.

What is climate change?

- A) The warming of a certain room in my house
- B) A change in the environment caused by pollution
- C) A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.
- D) A new phenomenon affecting the earth

In what areas of your life do you think climate change affects you personally?

- A) My attitude
- B) My culture
- C) My livelihood
- D) My wardrobe

In which areas do you think climate change impacts your community?

- A) Business and economy
- B) Culture and learning
- C) Health and well-being
- D) Subsistence hunting and fishing

- E) Transportation and infrastructure
- F) All of the above

What is adaptation to climate change?

- A) Wearing a warm winter clothes
- B) An action that will lower the risk and impacts of climate change
- C) Conducting preventative maintenance on roads or houses.
- D) Increasing the amount of people who know about climate change

What is mitigation of climate change?

- A) Actively trying to reduce green house gas emissions
- B) Educating youth about the changes
- C) Riding a bike or walking
- D) Recycling

What can you do to adapt to climate change?

- A) Conserve water
- B) Renovate your home to be energy efficient
- C) Plant a tree
- D) Relocate
- E) All of the above

Answer the following questions with complete sentences or in point form.

Do you know what a climate change adaption action plan is? Yes or No
If yes, what is it?

If no, what do you think it is?

Who do you think should keep track of progress, evaluate actions that have been implemented and update information about risk and climate change trends?

Who do you think is responsible for adapting to and mitigating climate change impacts and risks?

Who do you think should fund climate change adaptation?

APPENDIX:

PLANNING AND EVALUATION WORKSHEET

Action:

Desired Outcome:

Who will take the leading role?

Who needs to be consulted for involved?

What additional information is needed

What resources do we need to implement the action, and where could/would they come from?

Financial

Other

Write down steps to implementation, including who will do what and a deadline for each step
(example: consult with local hunters, submit proposal for funding, hire coordinator etc)

- 1.
- 2.
- 3.
- 4.
- 5.

When will action be evaluated for how well it achieves desired outcome?

