

Appendix B: Interviewees Reference

Residents of Iqaluit

Participant (in alphabetical order)	Date of Interview	
Boas, Henry	March	2002
Joamie, Mosesee	February	2002
Joamie, Sytukie	March	2002
Koomarjuk, Jimmy	March	2002
Kownirq, Simeonie	March	2002
Mike, Elaiya	March	2002
Nowdlak, Johnny	March	2002
Peter, Jacopoosie	March	2002
Qaumariaq, Sammy	March	2002
Tiglik, Mosesee	March	2002

Residents of Pangnirtung, Nunavut

Participant (in alphabetical order)	Date of Interview	
Evic, Levi	March	2002
Keenainak ,Abraham.	October	2002
Maniapik, Joanasie	October	2002
Nauyk, Salomonie	October	2002
Novaqilk, Mosesee	March	2002
Qarpik, Jaypeetee	March	2002
Qaqqasiq, Apak	November	2002
Qaqqasiq, Leah	November	2002
Qijuarjuk, Mosesee	October	2002
Uniuqsaagaq, Ipeelee	March	2002

Climate Change Interview in Iqaluit – March 3rd, 2002

Henry Boaz

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. The majority of the participants were not too keen on being specifically identified in the transcripts and wanted to know if they would be able to get a copy of the transcript after the end of the study.

It was outlined that the government wanted to get a baseline with Inuit Qaujimagatugangit on the climate and its usual characteristics as opposed to the present day reality. The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future. Was there a problem with their informed participation in this study?

POB: I was supposedly born at Tujjaat, I cannot recall as I was a newborn, but my parents went to Nottingham Island in that year. Do you have an idea as to the exact location on the island, the north, south, east or west coast? I have no idea at all, as I have never been back to that island. I recall a vivid memory of when I was about a year old, for a very short time.

I cannot recall the exact location, but it must have been near the radio people on that island. I believe that there was a weather station there at the time. This was in the year 1932 that was the year that I was born. I was born during the same year as your mother. She is slightly older than I am by a few months at least.

Has the weather changed since you were a child?

Yes it has. As far as I can tell, there was no reason for paying any particular attention to the climate, as we were not expecting any change. I was one of those Inuit who was always outside hunting or preparing for a hunt. Ever since I could hold a gun, I have been included in all hunting forays with the older men of our group. At that time, I was using a small calibre rifle and as I got stronger, then I was allowed to use stronger calibres.

From your recollections, has the weather changed since your youth?

Yes, the weather if I recall correctly seemed to be more stable in those days. It was more fair and these days the climate has changed quite a bit and according to the radio, the climate seems to be changing everywhere in the North and not only here in the South Baffin region.

Let us use what you yourself have experienced and let us leave what other people have said on the radio out of it. So with that in mind, let us go back to the subject of climate

change. Has the climate changed and what particular changes are there? i.e. snow conditions, ice conditions, storm patterns and the like...Were there lightning storms?

Indicators/Impacts

This area does not get lightning storms at all. We used to live in an area that used to get thunderstorms all the time. That area was quite spectacular when it started to get lightning storms. That was around Resolution Island. In this particular area, I have sometimes heard the thunder but did not see the storm but it is very rare. I have been here about forty-nine years and lightning storms are very, very rare.

How do you perceive the weather nowadays, is the weather becoming a hazard, or are the conditions changing, such as the later ice formation or does it get a lot stormier than usual or what other changes have you observed in the weather these last few years?

From the time we moved here, the weather always seemed to be fair and calm. It was quite good weather a lot of times. The climate has definitely changed as far as I can tell, at least in ways that are discernable. At least within my lifetime I have noticed these changes, in the old days it was not so, the climate was always the same.

Sometimes the ice would not melt away until late into the summer, other years it would melt a little earlier, always within the time frame identified by the elders. It used to melt off in July and sometimes in late July here in Iqaluit when we first came here.

Other years sometimes it reached into August, I recall one year where it did just that. The ice left in August that year, but nowadays these last few years, the ice is no longer staying to June even. These days now some families are bringing their boats as the ice now stays only for a short time and then leaves.

Is this due to climate change, or as you have heard on the radio we are losing our ozone layer and this is supposed to be affecting the weather. What is affecting the sea ice in this manner?

Perhaps the reason is that the atmosphere is affected, at any rate I think that it is thinner. I can show a map of the atmosphere that I received from one of the meteorologists that we were working with. I still have it with me. As the gases are being destroyed the protection from the sun is waning, due to all of the airborne pollutants. This is how dangerous this thinning of our atmosphere is; we are in a precarious position.

As the atmosphere is thinning, the sun is heating up the north and causing warmer temperatures and that is what I think. It is causing the warming of the north and it is now in the news today. But further, my mother used to tell me that some of the areas where we were, had at one time been full of glaciers, back when it was colder and our ancestors were just taking over the land from the Tuniit. At least that is what I was told.

The evidence is there according to the elders that this whole area used to be a balmy place at one time with no winter cold, only the dark season. Then I guess the climate changed and the poles became full of ice and winters became cold, with glaciers and the present day characteristics of winter. Nowadays it seems to be going back to the warmer days of yore. The glaciers are melting, that is true what other people are saying about the glaciers melting away.

The elders used to say that eventually that the north would again be a warm place, especially with the thinning of the atmosphere. With the changes to the atmosphere and its gases, then the climate will change accordingly.

As we start experiencing this, in this day and age, we would get back to the warmer periods, like in the old days of the Tuniit when they used only sealskins as their bedding with the blubber side down. That is what my elders used to say.

Do you recall the first time that the weather started to change, perhaps by identifying the year?

The climate has really changed, that is for sure. As far as I can tell the climate is starting to change and my suspicions are coming true.

No longer only suspicions? You are really experiencing them now right?

Yes, indeed. If you look at the sun now, the spring is coming and the sun will continue to rise as the season progresses right? Nowadays if you look at Nungarut, that mountain over there, I know that our land here, that the whole earth has shifted to the left. The whole island, or the earth has shifted to the left.

When we first moved here, perhaps in late March or April thereabouts, the sun would meet the horizon towards Nungarut or close to it. Today, it seems that the sun now goes there even in the middle of winter to where it used to meet the horizon in the spring. Our land has shifted, although it is said that the land is spinning, perhaps we have dropped slightly.

Perhaps this is due to the changing spin? You have noticed that the shift has occurred and that the sun is setting in the place in winter that it used to set on in springtime? That is good, and perhaps what you alluded to earlier about your parents' stories about the climate change that has occurred and is to occur is interesting. One of the questions I have to ask in relation to the climate changing, has this affected you personally in that you have had to make changes, perhaps hunting-wise or for camping purposes?

Now that I am no longer spending time at the Ukiallivik camp, have I ever noticed the changes that are occurring. When we used to spend our time at Ukiallivik, we never used

to notice that things were changing, as everything seemed to be occurring at the proper time and proceeding at the proper pace.

Nowadays though, since I moved into the community I have noticed the changes and it is affecting me more now than before. The climate has changed definitely. Here is the place where I was born, on the south side of the island. Here, this little dot, can you see it? On Nottingham Island, over there towards the point on the south side. That camp I was talking about.

Since you were a child growing up into young adulthood, has the weather changed in that, is it warmer or is it the same.

It has changed, definitely and it is something that is noticeable although it is not stupendous or anything like that. What I can say for a fact is that since time immemorial, all winters are never exactly the same, the weather is better in some years, really stormy in other years, but it is never the same.

So, ever since the time that you were a child growing into manhood, the weather remained like that?

Yes, that is how I recall those days. Even in deep winter, sometimes with the right conditions, the cold weather will abate and a mild spell will drop in, giving us a break from the frigidly cold weather of winter. We have experienced these episodes of warmer weather during the middle of winter ever since I was a child.

It is called “*ijjanguaq*”. In some winters, it is more prevalent; in others you do not see it until the spring has arrived. I have been around for quite a few years, so I can make that statement about the weather, as we knew it. That is what I know.

Quite a few times, unfortunately I have not counted the exact number, during the deep part of winter; it has become really stormy for a few days with some rain. It has happened on and off since I was a child, that some years were stormier than others. It has happened sometimes, the weather is not molded into exact models and therefore you cannot have exact carbon copies of each year’s weather.

Now to turn to this question about the temperatures that are the normal temperatures for the seasons and or the changes to the temperatures that you may have noticed. Are there changes that you have noticed? Perhaps we can start using the seasons to note the changes in each so that we can delineate the changes. Starting with summer, fall, winter, early spring and spring. Have you noticed any change in the temperature?

The temperature has changed quite a bit, now it is way too hot when the sun is shining on a clear sunny day. The sun is a lot hotter at least in the summer.

Is the temperature the same in winter? Like the days of old or are the temperatures changing?

I do not notice the changes as much in this season as much since I have become largely sedentary during this season and I am spending most of it indoors where it is warm. When I do go outside, it is still quite cold during the winter, but when you are used to it, it does not affect you as much.

What do you recall about the temperature of early spring, spring or summer? Was it extremely warm or cold? What do you recall?

It used to be quite warm during the summer, especially if you are in the interior. I cannot really state exactly what time that it was warm, except that I recall it being quite warm. It has been warm during the winter before. As well, some winters it seems colder and then some winters have been unvarying in a constant state of cold until early spring arrives.

What about the weather systems around here, have they become stormier or has the wind changed or is there more or less precipitation?

The weather seems to be a little less sure, but all I can say is that the weather always changes and is unpredictable year to year, because some days, some seasons and some years do not behave exactly as the years before them. That is all that I can state with certainty and some years are really good and other years are not so good.

In respect to the precipitation and snow, 2001 was really wet; it was raining most of the summer. Some years it seems are stormier than others and sometimes seasons can switch their usual types of weather. This fall, when it should have been snowing, all it did was rain, and even into the actual fall the usual snow fell as rain.

I think that due to the unusually warm weather, the usual fall snow has fallen as rain and now there is no more precipitation to come until this spring. As well we have seen the reports on TV about the city dwellers getting tons of snow that usually would have fallen here has seemingly drifted down to the states. That is my take on the issue of climate change.

What about the other types of storms, like blizzards and the like, have they become affected? Have the usual blizzards disappeared or has the intensity of the winds diminished?

The last few years, it seems that there has not been a real blizzard that lasted for more than a day. Sometimes we used to be socked in for days at a time due to the blizzards of winter. Today that is what I notice has changed. Although there have been some blizzards, there are no more real winter blizzards that last for a few days.

As well I have noticed that the winds that used to blow have lessened and the last few winters, the winds have weakened and ever since we moved into Iqaluit, the winds used to be quite wicked in the fall and winter, and I used to get scared living in a building on a hill, due to all of the turbulence when we lived close to your father's house. Some days I could not sleep because I was worried about getting blown away by the wind when it was blowing from the east.

During the summer and fall, sometimes the weather can be unpredictable and travel can be really hard. All falls are different, some better and others worse. Some I would not want to experience out in the open. The last three or four years, perhaps three I recall that during a storm with no ice, twice it has happened thusly in all the years I have lived here, where it has blown really hard without any ice in the bay. The last time, it really blew hard, but I never have seen it blow that hard during the fall when there is no ice on the bay.

Generally it blows that hard only when there is ice on the bay. I would expect that in the short future that the winds will only become stronger during the extended fall seasons that we are starting to get. Perhaps it will get stronger sooner or later.

What about the lightning storms? Have you noticed any change in the occurrence of lightning storms here in this area?

It seems to be occurring with greater frequency nowadays. When we first moved here, it was only after many years that I heard my first thunderstorm. It hardly ever occurs here though. Nowadays the last few years, I have heard more thunderstorms although I have yet to experience them directly.

The land where I grew up, down at that point on Meta Incognita Peninsula, it gets quite a few thunderstorms. It can get as stormy as the thunderstorms that you see on TV occurring down south. Generally you can see the lightning against the cliffs in the background during one of these storms. That is what I recall, it was fantastic while at the same time quite scary.

Another question is on the prevailing winds that occur during the year. Have the prevailing winds remained the same or have they changed. Earlier you said that a strong easterly wind was one you recalled, so are there any changes that you perceive?

I do not really notice a change in the winds that prevail during the parts of the year. All that I can say is that the weather is never the same.

What about the changes to the seasons, like spring, summer, fall or winter? Have you noticed any changes in the seasonal lengths or rhythms? Are there any changes?

You bet your pants. It is really different these days because before you know it, spring has arrived and then right after that comes the warm weather. The spring has definitely changed the most of all the seasons.

Can you detail the changes that you have noticed? Perhaps we can start with summer and work our way around the year. When does summer occur and how long does it usually last, perhaps identify the usual months?

It feels like summer already during springtime, and during what we traditionally called spring; there are no more ice lanes around the high-water mark. There is no more ice at all in July, even at the high water mark. That is the way it is now. Spring is so fast now; the ice melts really fast now. It never used to be that way before in the old days.

From July to what month is summer now occurring?

The summer is a lot longer now, because the ice is melting so fast and the ocean is no longer ice choked. As soon as the ice moves out until about late September or October is now the summer season. It now seems to go from July all the way to the beginning of October.

It seems like the whole fall was an extended summer this year. It seemed like we would never get any ice in the bay it was so warm until November especially this year in 2001. I really noticed it this year.

So what is fall like now, did fall occur this year between November and December?

It seems like fall was always on schedule around the middle of September. That was when fall would occur. Nowadays it seems that we are still boating around although all of the creeks and rivers are frozen over. It is quite different today as well; fall is a lot later than before too.

What about early spring? Now it will be early spring soon, and spring is just around the corner. Has this changed as well in your perception?

Yes it has changes as well and these days spring seems to jump out now, instead of steadily creeping up on you.

What about the other seasons like winter?

It has been really cold the last few winters so I am glad that it is getting shorter.

Now if we can move into the other questions in relation to the freshwater ice in our lands these days. Have you noticed any change in the freezing periods or other changes?

One thing for sure, the ice does not form until much later on in the fall. The lakes and rivers seem to be staying ice-free longer. It seems that everywhere the ice is forming later and later on in the year.

What about the thickness of the ice? Can you relate the changes that you have noticed in the lakes where fishing is undertaken?

The ice thickness has changed. I do not go out as much as before, so I can only tell you what I have heard from those who are still fishing in the winter. From their words, the ice is way thinner than the normal levels. When we used to fish the lakes for food, when we were chipping away at the ice, sometimes it would be over our heads.

That is how thick it was, luckily no one ever drowned in one of the holes. It used to be really thick in those days when all we had were hand chippers. As well when we lived in a camp near Kimmirut, the ice used to be really thick. Up there, the Inuit living in the shadows apparently required steps to climb out of the holes they were chipping for their nets. That is how thick they were.

What about the quality of the lake or river ice? Is the ice still the best water for tea or what? Has the quality changed to date?

I think in a small way, the water seems to be a little bit different and most things are under stress and are changing. I would think that there are some changes, as everything else seems to be changing, and they are no longer exhibiting the same characteristics as before. That is the way the earth seems to be acting these days, at least the weather.

The predictions of the scientists seem to be coming true, at least what they have been saying on the news. We cannot control the weather, it acts of its own accord and those of us who live on the land cannot stop or withhold the weather. The earth that we inhabit only has one creator and we puny humans cannot control what was created and the weather is not ours to mould.

I believe you already alluded to this point, but I would like to revisit it. In respect to the sea ice and the timing of the freeze up and break up, would you reiterate your previous observations in regards to the marine area?

It is quite changed, and I am sure as a hunter with a boat, it is pure bliss to be able to boat earlier and longer. The exact times are never the same as to when the ice starts to form or when it starts to melt, the environmental factors are never the same, some years it really forms early and knits quite strongly and other years, it never quite knits and is constantly broken up by the wind and becomes quite rough. That is the way it way since time immemorial.

In the old days, the tidal flats where all of these ridges are have been exceptionally rough with no way around the shoals and the rough ice they produce. At least when I was a

hunter then, it was not fun. Sometimes some of the areas we camp in traditionally were not accessible due to the bad ice conditions. The only way to catch seals was by approaching basking seals or by waiting at the floe edge.

The ice down there around Qairuliktuuq was really bad and you had to portage around the area due to the ice. Sometimes we had to go through Ittijjariaq, through the land to cut across the area, as the sea ice was impassable. The area was really bad all the way towards Qikiqtarjuak, that year it was really bad ice everywhere.

What about the thickness of the sea ice and or the placement of the floe edge?

I really do not go out to the floe edge anymore, therefore I cannot tell you what changes have occurred at the floe edge. As far as I can tell, when we used to go hunting, the floe edge used to be close to kujalutaq. At least in some years, most of the time it was about there around that area. As soon as it moved, it was really hard to reach the floe edge because it was way down the bay.

It was hard for the Inuit who were trying to get to the floe edge. They had a hard time and some of the Inuit gave up trying to reach the floe edge. It had moved way down close to angajuqat. It was adjacent to the land around angajuqat that is how far it was.

What about the land, have you seen any changes to the terrain due to the melting of the permafrost or in the wetlands?

I do not usually pay too much attention to the land, as I am usually more worried about the animals that are there. I have noticed some changes especially the vegetation in and around the community. I have noticed that the growing seasons are always slightly different.

Some years there are more berries, other years hardly any will grow. That is what I have noticed. For example, this summer, the plants would have grown quite a bit faster due to all of the rain. All of the vegetation seemed to be really green.

Did you ever notice landslides in and around this area at all?

I have never noticed any landslides around here and we do not get them around here. It is too low here so I cannot tell you. When I have been hunting further down the bay, I have heard the landslides that occur. Down in the mountains further towards the mouth, the landslides are common there.

One time when we were at Tasiujaqjuk, a landslide occurred and boy was it ever stupendous. It really shook that whole area and we were really glad that we were not underneath that area where the landslide occurred.

Big huge boulders were being flung into the air like a human throws pebbles at the beach. It shook the whole area almost like an earthquake. One of the people who witnessed it is still here, a qallunaaq. Jim Taylor, he was one of the witnesses to this huge landslide.

What about the effects of travel or camping due to the changes in the ice, sea ice, terrain or snow conditions?

I have not really noticed any big changes to the area but the tide looks normal. Most of the time, during the full moon the tides do become larger or more pronounced. Most of the changes have to do with other factors.

What about the wildlife? Have you seen new species in this area?

Not that I can really identify any new species. I could not tell you.

What about the fish, are their runs or health affected by the changes?

As far as I know, there does not seem to be any effects on the fish. I am not too observant about the fish as they look all the same to me. I have heard about new species, but personally I have not seen any examples of the new species supposed to have migrated here.

Have you noticed any health effects on the wildlife, perhaps using birds as an example, there have been cases of whole flocks dying off, do you have any experiences like that?

I have seen birds that seem to have frozen to death and that has occurred on and off for most of my life. At one time, I caught a fish that was not normal, I think it was diseased and I gave it to the Wildlife Officer so that it could be checked. The whole area behind the head was affected with puncture wounds into its guts. You could see the innards, but it did not seem to be affected and it was still fighting when I took it from the net.

What about the affects on your hunting trips due to the climate changing?

I have not gone hunting in the winter a long time and especially trapping. I could not tell you anything about this subject.

Do you have any idea what caused that fish to be different?

I have no idea what really caused it to become like that. I also submitted a harp seal carcass to the Wildlife Office, but they never got back to me. A spotted harp seal, a

young teenage seal is what is called a "*milajuaq*". It had something on its hind flippers that I could not identify, but it was some kind of tag. It was a yellow tag.

What about the vegetation around this area, have you noticed any changes in the vegetation due to climate change?

Kind of. I really do not pay attention to the vegetation, as there are some areas that have berries and other areas that have no berries. Some contain blackberries, and I was taught as to what type of areas usually contained berries so that I would be able to drop the women off to pick berries in the fall. Some years there is a bumper crop, other years it would be quite lean.

This is more or less the last question in the interview, have you noticed any health effects that are attributable to the weather? Things like sunburns, colds, respiratory problems or the like?

I believe that there is some effect on Inuit health. A little bit, but there may be some pollutants that cause irritants for those of us who have respiratory problems. It has nothing to do with the climate, only old age.

Are there any other comments or questions that you would like to add?

No.

Climate Change Interview in Iqaluit – February 27th, 2002

Mosesee Joamie

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. It was outlined that the government wanted to get a baseline with Inuit Qaujimajatuqangit on the climate and its usual characteristics as opposed to the present day reality. The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future.

POB: I was born in Kangilliarjuk. This was in February 26, 1950. This was outside of Iqaluit, perhaps forty-five miles away down the bay. I had my birthday yesterday. That was my 52nd birthday.

Has the weather changed since you were a child?

When I was a child, I grew up in Apex and during the winters, we would have a lot of snow. As well, when I was a teenager I was sent out for school in Churchill for three years. Other than that I have lived here and every spring we would come back and then return to Churchill. I returned in 1968 and then I went to work in Resolute Bay for three months.

As far as I can tell, there have been changes to the climate. I used to love to play outside in Iqaluit. We used to get a lot of snow when we were growing up and some of the houses used to be buried right up to their eaves, when the winter came. We used to play on top of the houses back then. These are the changes that I have observed.

From your recollections, when was the first time that you started to notice that the weather was changing?

Yes, I have noticed the changes and especially this last year. It has not really snowed at all this year. In that I mean a real snowstorm and we have yet to experience a blizzard this winter. There are reports of a blizzard on the radio, but that is only “natiruviaq”, a small blizzard, not a real one.

If it has a lot more snow, then we would get more blizzards because the wind has been quite strong on occasion. It would be a blizzard, but due to the lack of snow it has not yet developed into a blizzard.

What about the changes to the climate in and around the area where you were born to the time that you became a youth, did your parents tell any stories about the climate?

Yes, the climate has continued to change. In the summer, it used to rain a lot more than today. Back then Inuit used to go inland for their summer camps, that was in the old days when Inuit were nomadic and there used to be quite a few families inland. We would hold big feasts when Inuit got together at a camp with large fires and lots of tea. When hunters got together, they would celebrate.

Now let us turn to the time when you started to notice the climate changing?

Yes. Perhaps around the end of the 90's, starting around 1998 to 2002, the climate has changed a lot. It is getting noticeable in the level of change.

Did your parents talk to you about the climate and whether it had changed over their lives or whether they told stories about the climate prior to your birth?

Not really. My parents did not tell stories about the climate much. Unfortunately my father passed away when I was still a young man and my mother passed away around 1970's. She did not speak much about the climate and I did not ask her about the life before that is why I cannot speak to the issue.

Indicators/Impacts

Has the climate affected your ability to travel or take advantage of the local resources?

It seems so; it gets a lot chillier today. When we were children, it seemed that we never really knew any cold weather. I do not recall that we ever got cold, but that was due to the fact that we were always outside playing.

Nowadays, with our sedentary lifestyle, different diet and warm housing, it always feels colder when you go outside. That is what I have noticed.

What about the indicators to the climate such as the change in temperatures, has this changed in your observations? Were there any really cold or hot days in Iqaluit prior to this year?

Yes. In the spring, when it was a nice spring day it was obvious that it was warmer. As well, this fall the temperature did not start dropping until late into the fall. Even the ice did not form until just before Christmas even though this area used to get iced over rather quickly in the fall.

This winter, it has been very cold as usual, but it has hardly ever snowed at all, unlike the previous winters and this includes the fact that there are less blizzards.

What about the temperature? According to your recollections, has the temperature become colder, warmer or has it been stable or has it changed?

Today the weather is not the same. It seems colder in the winter. The thing I notice is that it seems more biting, the cold.

During the winter, around February that it got quite warm and drizzled rain for a while. That was the first time that I noted that phenomenon during the winter and it actually started to rain for a bit during the winter. Unfortunately I cannot recall the exact year. It was around the years 1967 or 1968. That is what I recall most.

Have the weather patterns changed, and are they occurring more or less than your recollections, in terms of either snowfall or rain? What about the number of storms this area receives each year?

This summer, it was one of the rainiest on record and it lasted into late fall. As well, as I stated this winter, it hardly ever stormed and snow is scarce this year. It has never really snowed yet this winter and neither has there been a real blizzard to date. It is quite weird that way.

Do you recall the changes, such as lightning storms or thundershowers that occur in this area? Is it more frequent or less frequent or has it even occurred around here?

When was it, 1996 or 1997, I recall that there was lightning here in Iqaluit for the first time. It was accompanied by really rainy weather and there was quite a bit of lightning and that is the first time I saw it storm that way.

What about the prevailing winds in this area? Has it changed or has the winds from the directions become stronger or less frequent?

The winds seem to be roughly the same, although they are colder than before during the winter. Especially the northerly wind, it is quite brutal when there is no protection.

In respect to the questionnaire, let us return. In regards to the changes that you have been alluding to, how has this affected the seasons here in Iqaluit, such as fall, winter, early spring and so on. Have the seasons changed in their timing and so on?

In terms of the seasons, it seems so. As I stated earlier, it did not ice over until late into the winter season. This is the first time I have known it to ice over this late into the season. The past winters, the ice formed early and everything was covered over before Christmas.

These last few years, the ice has not formed until late into the year. That is noticeable. Winter does not come until later in the year.

What about rivers, creeks and so on? You stated that winter was late this year, and did this have an effect on the freezing of these water bodies?

It looks like everything was late this year. The lakes were kind of thin, but personally I have not gone fishing for a while, but the Inuit who had been out fishing stated that the ice was relatively thin late into this month. By this time of the year, most of the lakes have several feet of ice. But this year, I have heard that they are kind of thin.

What about the quality of the freshwater? Has the quality of the water changed?

Here in the town, the river is slightly different now, it is not as clear as it used to be. It has more silt than before. But outside of the town site, the rivers and creeks do not seem to be that affected by the change in the river. Some of these water bodies are nice and clear, while others are not so clear.

Let us move unto the sea ice. What about the timing of the ice formation and ice break-up. Has this changed as well?

Yes, the changes are that the ice did not form until late. Last spring the ice left early and within a matter of a week or so, it started to get dangerous and then it was gone.

In respect to our sea-ice, when it does form, is it still the same relative thickness as historically?

I really cannot speak to that question, as I did not check for ice thickness then.

What about the floe-edge, has this changed in its proximity or its formation? Please differentiate between the seasons, such as the spring limit or the winter limit?

The floe-edge used to be quite close when I first started to get included in trips to the floe-edge, but I recall one year where it was quite far, all the way down to “Pamiuyait” near the mouth, known to Inuit from this area and that year, it was all the way past there.

The last few years, the floe-edge has been quite close towards our direction at the town site. It was probably due to the warmer weather in those years.

What about permafrost or other areas that are affected by the changing climate? Have you seen anything like that? What about wetlands or other areas like that?

I really have no knowledge of soil and I could not comment on the permafrost either. As for wetlands, I have noticed that wetlands that used to have nests no longer contain them due to the fact that they are dry. They may have left or they may have been driven away.

What about landslides or things of that nature? Have you seen any areas of land that have slid?

Not really. I have seen the evidence of landslides, but I have not seen an actual slide.

What about the effects of the climate on the snow characteristics, such as when you are trying to build an igloo, you require a certain type of snow. Have you noticed any changes in the snow?

Yes, I think that it does. The snowfall used to be quite substantial but these days we hardly get any snow. As well, in the summer the snow patches that used to remain are no longer visible when you are walking around the land. The land had absolutely no snow patches.

The snow today is definitely not the same quality especially if you want to make a good igloo. If you are trying to use it as insulation, it is not good for that these days as it has different characteristics.

What about the effects on your camping trips or hunting trips, has the climate changed caused changes to the environment which are affecting your use of the land?

Yes. The changes have affected us, especially when the ice does not form for quite a while. The lakes used to form earlier, especially the smaller ones. But they were not as thick and this has affected our ability to travel on them in the fall.

The ice thickness really affects your ability to travel to different points, especially if you have to go to another place. It can affect your timing and all of that.

How about the effects of the climate on animals, such as fish, insects or other animals? Is this affecting our wildlife?

I believe there is an effect. Even in early spring, there are a lot of cabins out there now. Especially the places that are used a lot. The black flies and houseflies are increasing in numbers and they tend to become active at the slightest hint of warmth.

This is quite surprising, even the small bugs that came alive, even though it was not even the time for any insects to become active. The Inuit were quite shocked when they found the flies alive during the winter.

What about nesting areas or have you ever seen birds or animals that are suffering as a result of the climatic changes?

Yes, during the fall around September, there seemed to be more birds than usual. Although they should have migrated sooner, they seemed to take their time to leave this year. The birds did not want to seem to leave.

What about the changes to area that affected the ability of Inuit to harvest the animals or other things related to hardship for a subsistence hunter?

Yes, the routes that we have traditionally used were not traversable very early. If you were stuck due to all of the snow melting, then this affected your ability to travel either to your destination, or from your destination. Yes, this changing climate has really affected our ability to travel, especially the traditional times for travelling.

What about the fish, or whether the fish are being affected by the climate in terms of deviations or changes in populations?

Not really. I have not seen any specimens that looked different, but I did notice that the fish are quite a bit smaller. The fish used to be quite big back in the old days, but these days, they tend to be quite small and are under stress.

What about vegetation have you seen new species or new types of vegetation?

Not really. Iqaluit used to be quite lush when we first moved here to Iqaluit. Perhaps this is due to buildings, but outside of Iqaluit, there are still mountain avens and berries. There are still good patches of vegetation outside of Iqaluit.

What about areas that are used by animals? Have they changed as well or has this affected the use of such areas by the animals?

Yes, the birds tend to depend on berries, but I have noticed that when there is a bumper crop of berries that the ptarmigan tend to have more numbers.

There are fewer berries, but when there are berries, they tend to be smaller. As I stated earlier, Inuit used to go inland to go hunting all summer. They used to pick berries but nowadays the only berry picking seems to be close by around here.

What about the affects of climate change on our freshwater resources, such as lakes and rivers and the like?

In respect to the creeks, some of the small creeks were overflowing their banks this spring, most likely due to the sudden melt that took place. Maybe the snow and lakes melted at the same time and caused the creeks to overflow.

The rivers and creeks are dependent on the weather and the amount of snowmelt and rainfall. That is what I have experienced and know.

What about the quality of the water that is collected for tea?

The lakes are usually tapped for water when we are hunting, so the lakes down the bay are used for water, but some of them are now dry. Some of them are still not dry but the majority are dry. I think that this is directly related to the climate changing.

What about the municipality's drinking water supply? Has that been affected by this climate change issue?

Trucks now deliver the water to our houses for our drinking water and some houses even have the luxury of piping here in Iqaluit. When the water first starts to get mixed with the snowmelt and it is coming down the pipes, then you can really taste the mixture with the water.

Tidal patterns are quite big here, have you noticed any changes to the plankton or other micro-plankton that grows here?

Not really. I think though that when the tide goes out, the tidal area now dries out completely, whereas in the past there used to be wet patches before. The whole tidal area has changed and these exhibit new characteristics.

It never used to completely dry out, and as youngsters, we always played in the tidal zone for we knew we could find baby sculpins and eels. They tend to congregate in small tidal pools. That is what I have noticed.

On more than one occasion, when we were out clam digging, I have noticed an eel that was stuck out in the open. I tend to throw them in the water as I do not want to see them die needlessly.

What about other effects on Inuit here in Iqaluit, more specifically the health effects of the stronger sunrays and warmer climate? Are Inuit getting more sun blindness, more colds or are there other respiratory problems that you are aware of?

Yes. I think so because in the early spring, Inuit had really dark tans and even sunburns last year. I believe that was the case. It never used to be like this in the past, that Inuit would be that tanned after only a few days, and in terms of sun blindness, I have not seen anyone get this sickness anymore.

I think that some people still get it, but as far as I know it hardly occurs anymore. In terms of respiratory illnesses, the people here who suffer from respiratory problems tend to get these problems exacerbated by the fumes from the vehicles and the dump.

Do you have any other comments or questions in regards to this project?

Not really. I tend to follow questions and thank you.

Climate Change Interview in Iqaluit – March 5th, 2002

Jimmy Koomarjuk

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. The majority of the participants were not too keen on being specifically identified in the transcripts and wanted to know if they would be able to get a copy of the transcript after the end of the study.

It was outlined that the government wanted to get a baseline with Inuit Qaujimajatuqangit on the climate and its usual characteristics as opposed to the present day reality. The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future. Was there a problem with their informed participation in this study?

POB: I was born in 1931, October 8th. I was born around this area, actually on Southhampton Island. Right near Coral Harbour, that is my home area. I am from the same area as your mother.

Has the weather changed since you were a child?

Yes, I was one of those people who did not like to sit still. I was always going on a trip with my father. The climate was part of the environment and we were taught about it as well. The one thing that I have noticed is that during the fall; when the ice is forming you usually have very calm weather. Now the fall is seemingly windier and that is the major reason for the ice being late. When I was a youth, I was always out with my father. The weather was always changing, sometimes good and other times bad. This winter, it seems to be different from the other winters that came before it. Back then the dust seemed really bad.

From your recollections, when was the first time that you started to notice that the weather was changing?

Yes, the last year and this winter as well, during this month, I have noticed that the sun is a lot hotter during the day.

What about the changes to the climate in and around the area where you were born to the time that you became a youth, did your parents tell any stories about the climate?

My father and I, when we were camping for the night would discuss the weather, the signs that pointed to bad weather and the good weather and so on. My father wanted me to know these signs and he would teach me accordingly. You have to keep an eye on the horizon and the indicators if you are going to be hunting. I have learned this from my father and no one else.

Indicators/Impacts

In respect to effects of the climate, has this changed or what else has affected your practices? I guess what I am talking about are the changes to the atmosphere, has it affected your hunting trips?

I would think that if you were a full-time hunter, then there would be consequences. But I do not hunt full time and the trips I do take are fairly short trips. We only go a short distance so it has not really affected us. If we were taking longer trips, then the climatic changes would be more noticeable. That is, if you were out on the land for more than a couple of days you would be able to start noticing the changes.

What about the indicators to the climate such as the change in temperatures, has this changed in your observations?

The winter, during the deep winter the cold, I have only know cold weather during winter, was so palpable even when you had to take a leak whilst hunting that the pee would melt into the snow with a hiss, but this winter it would run along the snow.

This winter is so warm that it is like that. If we look at the winters before, then this winter is the warmest on record. It has not been this warm as far as I can recall. It has never really gotten cold this winter.

What about the temperature? Has it been stable?

Every year it seems to be roughly the same, but it has been variable over the last few years. The last few springs we have experienced more wind. Usually springtime is a time of calm weather and the Inuit would have to paddle to get the seals at the floe-edge. They never had to use a sail.

According to your recollections, has the temperature become colder, warmer or has it been stable or has it changed?

At least once when I was out on the land close to Cape Dorset, close to our fall camping area, my father and I were inland going towards the direction of Amadjuak and Netsilik Lakes. That time it was really cold and I felt it. It even affected one of the dogs and caused its death. That time, I cannot recall the exact year; perhaps it was around the year 1949.

Have you noticed any changes in the weather patterns and has it affected the Inuit? Has the weather patterns been changed, and are they occurring more or less than your recollections?

Back then we used to get a lot of thunder and lightning storms. That is what I grew up with, a lot of rainy days. Some years there are more episodes of bad weather and in other years, there are more calm periods. It is always variable and because our elders always made that statement, I am only passing it on. That is what I know at least in the area where I grew up.

What about the number of storms this area receives each year? Has there been less snow or more this year?

Yes, the time that it usually snows is in the fall, starting in November. We used to go trapping all the time and usually in November, the hunters could not check their traps due to the powder snow. That was the usual month where we experienced deep snow in the past. As well, the upcoming month, April was the other time of year that experiences a lot of snowfall. These months always had more snow and they were known as the deep snow months that would affect the travel plans of the Inuit.

Do you recall the changes, such as the blizzards that occur in this area? Is it more frequent or less frequent or has it even occurred around here?

The blizzard aspect of the weather is different as well. We used to get more blizzards, really strong blizzards. But, the blizzard season was fairly short. These days we are getting fewer blizzards, but more windy days. That is what I think.

You alluded to lightning storms earlier. Have the frequency of these storms diminished or increased?

As I stated earlier, these days it hardly ever has thunderstorms in this area anymore. Back in those days, the thunder was so close to this area. Most of the thunderstorms that do occur are generally further down the bay, back then it was relatively common. I would get scared every time there was one.

What about the prevailing winds in this area? Has it changed or has the winds from the directions become stronger or less frequent?

The directions of the wind are generally the same, but the shifts are noticeable. What is most observable is that the wind will start from one direction in the morning and by the afternoon or earlier, it has already shifted to a different direction. That is how shifty the wind is these days.

If you are going boating you have to be careful of the wind. Every time I go along on a trip, I am scared of the wind because I do not know from when it will come now. That is the biggest difference today, the wind does not give any warning about its arrival, and it just whips up on the spur of the moment.

What about the strength of the wind? Has it changed as well today?

I don't know. But the things that are different are mainly three, northerlies and southerlies are the main winds and they generally have the stronger winds throughout the year.

In regards to the changes that you have been alluding to, how has this affected the seasons here in Iqaluit, such as fall, winter, early spring and so on. Have the seasons changed in their timing and so on?

Yes, today they are different in the timing. In the past, everything had its place, the ice formed at its usual time in the fall and it melted at its usual time in the spring, give or take a week or two.

Today, the ice melt is a lot faster and seemingly every year the ice is melting sooner in the spring and the ice deteriorates at a faster speed and is now more dangerous to travel upon. Those who risk it say it is like that nowadays. It is observable as well.

What about the ice and its timing, did this have anything to do with climate change?

Yes. In the old days, once the wind abated and calmed down, the sea would immediately start to freeze during the late fall. The ice would form quite quickly and there were no long stretches of open water in the past. At least around here, where there is more protection than the coast down there with its open seas. The ice used to form a lot earlier in my time, at least when I started to remember these things.

What about rivers, creeks and so on? You stated that winter was late this year, and did this have an effect on the freezing of these water bodies?

I am not sure what is going on with them. It is hard to observe them if you are not out there, but definitely the path that used to be followed at that particular time of year, during the fall has been open water when Inuit have tried to traverse it. They are not freezing at the time they would have in the past.

This creek I will use as an example. They are like our roads when they are frozen, especially in the old days. This site of Iqaluit is not the area where I grew up; I have lived here for a long time so I know a little bit about it and other areas I do not know. I am not as familiar with this area as I am of the Cape Dorset lands.

These questions relate to the whole of South Baffin so those answers are fine. What about freshwater lakes, such as fishing lakes and their ice conditions that you may have noticed. Has the thickness of the freshwater ice changed in the last few years?

These days, the areas that are regular paths in the fall and winter have to be used more carefully and lakes and rivers that used to be part of the path have to be circumnavigated. This has delayed the travel time as well. That is what I have noticed.

What about the quality of the freshwater? Has the quality of the water changed?

The sea or the marine area is not the same anymore. When we were on the ice with the dog teams, it was our main travel route and these days the characteristics have changed. It is noticeable even though we use snow machines to travel with these days.

What about the floe-edge, has this changed in its proximity or its formation?

The floe-edge used to be fairly close. It sometimes used to be fairly close in the past. These days the floe-edge is way down the bay; I remember when it used to be around Uukaaq. Nowadays we have to go far down the bay, but I am not originally from here, so I may be mistaken about the usual place. That is all that I know. In the old days it used to be around Nuvuttait.

Let's turn to snow and glaciers. We will start with the snow. Has the snow around Iqaluit become deeper, lighter or less common, such as within our area here in Frobisher Bay?

These days, it seems to snow less and there are hardly any more occurrences of deep powder snow. It used to get deep snow around the time that daylight started to lengthen and that is what I remember about that.

What about the effects of the climate on the snow characteristics, such as when you are trying to build an igloo, you require a certain type of snow. Have you noticed any changes in the snow?

Nowadays I do not go out for overnight trips so I do not know whether you could make an igloo as the land has hardly any snow on it over most of the area. Back in the old days, snow was everywhere and it seemed that anywhere we went there was always good snow for making igloos. These days it is really hard to find a spot that has enough snow to produce an igloo. It would be difficult. This is due to not going hunting as much as in the past.

What about the effects on your camping trips or hunting trips, has the climate changed caused changes to the environment which are affecting your use of the land? Please elaborate on what has caused the most problems for you?

It was like so, in the winter the lakes were never open so I could not say that there were any open lakes. But the sea-ice, if it has a thick snow layer upon it, it melts really fast and breaks up fast.

How about the effects of the climate on animals, such as fish, insects or other animals? Is this affecting our wildlife? Have you seen new species?

Personally I have not really seen any new insects or birds, but those seals, the “apait” hooded seals are the ones that I have noticed arriving. As well, I have heard about some reports of new birds, but I have not seen them.

What about the fish, or whether the fish are being affected by the climate in terms of deviations?

I do not know. Sometimes the small fish in the river that are running downriver are smaller other times they are bigger. That is what I notice. Other water bodies have landlocked char. They are the same species, but they are different.

Have you seen any new insects as a result of the climate? Or have you seen an increase or decrease in their populations? Mosquitoes, Black flies and so on, those types of insects.

I have noticed that the insects seem to have changed since Inuit started to live in wooden houses and not in snow houses. The black flies and houseflies apparently stay alive and do not die although they seem to freeze. That is what I have observed and know.

What about the effects on your practices? Has it interfered with your activities?

Other than the fact that the wind is always seemingly blowing, that is the only thing that held you back, at least in the old days with the dog teams. The snow was really good and was good for sledding.

The land now, due to its lack of snow would not be very good for our traditional activities. It would have to have a layer of seawater to strengthen the soil used for the ice layer that was the runner. It would have to be that way, because the soil with no seawater would crumble.

What about the fish in the lakes, in terms of their replacement or their runs, are they affected by climate change? Or are they getting infected skin, like scabs on the bottom of the fish or other deformities?

I have not really noticed any peculiarities in the fish, other than some scars. The fish that are larger tend to have scratches on the side, the skin seems to have been worn down like

they have been scratching. The males and the landlocked char, the big fish tend to have these scratches especially when they have been mating.

In terms of their migration upriver or not, I have not really noticed anything different. But the fish that initially come downriver, when they have gone and are replaced by other fish, like around July people catch fish but they seem to be replaced faster. The timing of their runs is no different.

Let us turn to the vegetation and other features of the land. Have you noticed any changes?

I have observed some changes near the area of the power plant, near the water lake. These plants that I am not used to seeing that look as if they are from the south have started to grow. Yes I have seen some changes, perhaps it was due to the foraging of the caribou, after they ate most of the lichens and caribou moss. That is what I thought anyways.

Have these new plants started to colonize the area? Are they taking over that area?

I am not sure, but within the community, it does not seem so. But further along the bay it is slightly different especially where people walk. The vegetation around here, like the grasses and sedges and heather. Those are the ones I see the most.

Have these new plants been used by animals of any kind that you are aware of?

Yes, at this time the caribou's food is running low because the areas that have the type of vegetation that they eat are bare, as caribou has already used it.

What about your own use of the plants that are edible such as blackberries, has this been affected by these new plants?

When it rains a lot, the plants tend to grow more than when it is dry. The weather has to alternate for the plants to grow properly. That is all I know about this.

What about the affects of climate change on our freshwater resources, such as lakes and rivers and the like?

Yes, I have reason to believe that they are changing. When you are on a snowmobile, you can see that the lakes are dropping in the water levels. They are nowhere near their usual levels and are losing water volume.

What about the quality of the water that is collected for tea?

Nowadays only when the snows first start melting and the runoff is starting, then the water is not very clean and the quality of the water suffers. The taste is obvious and it is only after that they would run cleaner. These days I really have not been collecting my own water, so it is harder to answer that. We are constantly supplied with water these days.

What about the municipality's drinking water supply? Has that been affected by this climate change issue?

I really do not know. But again, during the spring, you can notice the slight change in the composition and taste of the water when the spring runoff starts. It starts to taste like the land. That is the only thing that I notice.

What about the tides and their timing, have you noticed any changes in the cycles or the plankton or other marine species?

Not really. We are used to the big tides here in the south Baffin. But there have been some changes in the tides. During the neap tide, areas that used to become bare are no longer showing at the low tide. That is what I have noticed.

What about other effects on Inuit here in Iqaluit, more specifically the health effects of the stronger sunrays and warmer climate? Are Inuit getting more snow blindness, more colds or are there other respiratory problems that you are aware of?

In some ways yes, there are some effects on people. The climate is changing and it is noticeable. We used to have a lot more rainy days during the past, because the vegetation is not growing as fast as they used to.

What about the sun's effects on people? Such as sunburns or snow blindness, colds or respiratory problems?

In terms of colds, not really, this month that we are approaching, towards the end when the sun is at its strongest, then that is when you can suffer sun blindness. I could never pass this season without getting snow blind. The month we approach is the snow-blind month.

What about colds or other respiratory problems?

The colds are always around. It seems there are more strains around these days and they last for a longer time. In the old days, it was only when the big ship, the Nascopie came around that the colds started to surface. It is more prevalent these days.

Do you have any other comments or questions in regards to this project?

I really have nothing to add. If I was still active, I would be able to offer more observations as you cannot make observations when you are sitting at home. When you are busy, then you do not notice anything.

Climate Change Interview in Iqaluit – March 3rd, 2002

Simeonie Kownirq

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. The majority of the participants were not too keen on being specifically identified in the transcripts and wanted to know if they would be able to get a copy of the transcript after the end of the study.

It was outlined that the government wanted to get a baseline with Inuit Qaujimagatugangit on the climate and its usual characteristics as opposed to the present day reality. The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future. Was there a problem with their informed participation in this study?

POB: I was supposedly born at this place called “Qilliqsuuq” near Pangnirtung, around the area of the fishing lake at Qipisa, just south of that. The Inuit who are going through to Upirngivik actually pass right through there. It is called Iqaluit as well, and close by is a place called “Qimiqsuut”.

I believe it is in this area. I never actually asked my mother where I was born so I never got to find out exactly where I was born, either at Qipisa or Qimiqsuut. This was in the year 1937 that I was born. December the 8th. That is my birth date.

Has the weather changed since you were a child?

I do recall some of the weather. Back then as a child, I recall that sometimes it would be very clear weather for days at a time, sometimes for more than a week. There would be no shift in the weather and that is what I recall.

When I was a young man, I seemed to notice that the weather had also changed from my recollections of my childhood. Although it was still good weather for days at a time, these clear periods were shortening. I grew up in this area that was continually full of deep snow throughout the winter. This was due to the fact that this area was mostly devoid of wind.

I stated earlier that I would recall days when it was so balmy and clear that the sea would resemble a mirror during the summer. A few years later, I am not sure of the exact year, but the traditional deep snow of our winter climate changed and it no longer had deep snow. It was due to the fact that the wind was starting to affect our area more and blowing the snow away.

The wind was getting stronger and when I was a teenager, that there was no more deep snow and we had no more trouble travelling. It was due to the wind getting stronger, in retrospect and that is the time that it started to change.

When I was a child that is when the weather would be calm and clear for days on end. As I was growing up, that is when the climate started to change in that area.

From your recollections, has the weather changed since your youth?

Only in the fall, when we would start to get windy days and the wind got stronger, at least in that area where I grew up, it hardly ever used to be windy, but as I got older the climate changed to a windier one. It was when I was a young man that I noticed the change in the climate.

As I became an adult, I noticed that the deep snow never occurred anymore and the snow was rock-hard strastrugi, from the wind. I also noticed that the animals were harder to catch in the period. There were cycles and that is what I know now.

Having lived in Iqaluit now and for over ten years, what changes have you noticed in the climate, and could you elaborate on these changes?

Yes, we moved to Iqaluit in 1973. At that time, we did not have much, but the point there past Iqaluit used to have really calm waters. As well, although the waters directly in front of us were flat, that area would be like a mirror, that is how calm it used to be then.

I have also noticed that the wind started to get stronger. Especially noticeable was that the wind here was a lot stronger, but in retrospect, that was due to my experience of growing up in a less windy area. The wind here is stronger especially the wind coming down from the land. I have been here for over twenty-nine years and the wind seems to be getting stronger.

And further the weather is more prone to sudden shifts, going from calm to windy or stormy in a matter of hours or minutes. As well, with all of the signs pointing to an upcoming calm day, the winds will suddenly spring up and that is what I know today. When I first came here, I used to go out hunting when there was still some wind, knowing that it would become calm. Apparently it was not going to get any better and that is what I used to find out on more than one occasion.

When we first came here, it hardly ever seemed to have strong winds, at least not in the summer anyways. During the fall, with the temperatures dropping, then that season was full of windy days. That is what I have come to learn, it seems to be windier during times that it hardly used to be windy and it seems to blow longer. The wind is more spontaneous as well now, whipping up out of nowhere. It seems it will not be windy but it changes overnight, that is how much the climate here has changed.

The climate change is what we are studying, now do you recall the first time that the climate and weather patterns started to change around here?

When we first came here, due to the fact that our homeland was not as stormy, when we first saw dark clouds arriving, I would interpret that to mean that it was going to be calm. However, around here that meant that we would be having bad weather here the following day. That is what I learned, that it would be windy and stormy. In our old area, the weather would be stormy but not really that windy. That is what I experienced.

Do you recall your parents' talking about changes to the weather? Did they discuss what would happen or occur?

I do not recall what my parents talked about in terms of forecasting the weather. I would occasionally hear that it would be really calm the following day. That is what I recall, because I used to be with my aunt most of the time and I was rarely with my parents.

Has the changes in the weather and surrounding land affected your activities? What have you done to change your own practices, like leaving earlier and so on?

Yes, due to the changing climate I have noticed that it is changing. I stated earlier that I used to go hunting even during windy days knowing that the following day would be calm, but the place where I was going would still be windy. As well, even with most of the signs pointing to a potentially calm and clear day, the weather will change and the wind will pick up and sometimes the opposite has been true.

At least that is what I know now, and further what I know now in respect to the changing climate has to do with the revolving of the earth. The change is noticeable because now the climate seems to be different, it shifts right away and now I know that the wind is coming. That is what I have noticed.

Further, I have noticed that when the wind reaches its apex, then the wind abates. That is what I have experienced to date and that is all that I know. At least that is what I know about climate change these days.

Indicators/Impacts

What about the signs of climate change, such as changes in the temperature or weather? In respect to these changes, what have you noticed, has it become hotter or is it stable or what changes you have noticed? Especially the changes to the seasons, can you elaborate further on this please?

Yes. When we first came here, the land around Iqaluit was fairly bare, most of the rocks and boulders were visible. I used to think that maybe this was due to the warm winter

climate. Due to the visibility of the rocks, so unlike my original area I assumed it was the warm weather.

That was my assumption originally due to the rocks being visible, but it was not due to the warmer temperatures. That was a mistaken assumption; it was really cold here too. Due to this misassumption, I went along on a caribou hunt with hardly any real winter clothing. It was the coldest trip of my life.

It is really cold here, but for about two years I have noticed that the winters seem to be a lot colder now, especially in my old age, I tend to feel the cold more now. Last year and the year before the last. Three winters ago was the coldest that I noticed, they were the coldest in my experience. It was really cold last winter. I guess it may not have been that cold.

In respect to the temperatures, has the temperature for spring and summer changed? Is it hotter or has it changed in these last ten years?

Yes, when I first came here in the spring, it was definitely warmer than our homeland. It was a little warmer and when I was out caribou hunting in the evening around the springtime, it seemed quite a bit warmer. At least in the spring, but in respect to the summers, these last two summers have been the really hot seasons. That is what I recall.

I will be moving into the area of weather patterns and what the changes you have observed, although the weather is never the same in any year, have you noticed any changes in the weather patterns?

When we first came here, we were on the south side of the bay and that area seems to be stormier than here, and anyways we experienced quite a snowstorm there. That was the only real incident that I recall. This side of the bay does not experience as much bad weather as the south side. I have been on quite a few trips that involved lengthy delays due to the weather.

At one time, especially when the heavy autumn snowstorms arrive with limited visibility, then that seems to be the period of really bad weather. It would be really bad on that south side and the north side would not be as bad. That is what I have experienced and know about this area. I do not think that any other areas are as bad as our south side. That area experiences the worst weather in my opinion.

What about the spring? Does it snow more now in the spring or what about the winter? Can you elaborate on the changes?

I know for a fact, at least once during one night it snowed so hard that the whole land was covered with snow. It snowed quite a bit and there was snow everywhere. It was not that deep, but it used to be up to about thigh level.

That seems to be the only time I recall where the snow really hit us. I have not really experienced any other bad snowstorms. It got really deep overnight. I have experienced many snowstorms, but this particular one is the only one that I know where it became deep in a matter of hours.

What about blizzards? Does it blow more today or less as a result of the climate changing in this area? Has the frequency of the blizzards abated or increased?

I really cannot state either way, as every year is slightly different than the previous year. Some years it really blows hard and throughout most of the deep winter, and other years where we do not have any real blizzards.

Last year there were quite a few blizzards, but I have noticed that on occasion, due to the lack of snow the wind has not really become a blizzard although it is still as strong as last year. It has been a lot quieter this year.

What about the changes in other seasons? You have elaborated on some of the changes, such as the changes in snow and the temperature, what about thunderstorms around here. Where you grew up, were there thunderstorms or was it very rare?

Where I grew up, even with really stormy weather we never really heard the thunderstorms, at least not that many times. It was rare, but when we moved here I started to see some lightning storms with flashes of light. That was my first experience with thunderstorms and lightning. It would really be stormy with really strong rains and that is what I am used to now.

What about the wind? You stated that the wind here is stronger. Has the wind shifted, or has the prevailing winds shifted? To use an example, if it is blowing from the west or the north, was the wind steady, stronger or has it changed at all?

When we first moved here, it hardly ever seemed to blow that much. We would get strong winds only from the north. From the land up north, the winds would be strong and the south winds less severe, and as long as the south wind was not accompanied by a snowstorm it generally was not as vicious.

When an east wind blew, it was really, really strong. It seemed to be really full of vigour. The north was not as strong, neither was the westerly but the easterly was the strongest, at least when we first came to live here.

The things that could be plucked from the ground would be flung all over the place when an easterly wind was blowing. I do not recall north winds being as fierce. I am talking about the little plants on the ground. That is how strong it was.

What about the seasons within the year, such as Upinngaakksaaq, Upinngaaq, Aujaq and Ukiuq? I know that they vary from year to year but have you noticed changes in when they occur? Could you delineate the seasons by month or time of year?

I used to think that it was Upinngaakksaaq around March at least when we were first living here up to April. That was what I thought that the season was, March and April. Those two months were the waning of the cold weather and the lengthening of the day. That was only because of the changing strength of the sun. It was warmer to the cheek then.

What about the other seasons? Could you elaborate on them in progression? Perhaps starting from the spring and the seasons that follow?

Yes, I think that the whole system has changed. It has really changed especially Ukiuq and the prevailing winds. That has really changed. The fall winds are really strong now; it used to be less strong but almost always blowing. When Ukiuq really came, then it would come in strength.

What about the ice in the lakes? Do our lakes, rivers and creeks freeze up faster than before, slower or is there any change in their characteristics? Let us use Upinngaaq as an example. Could you perhaps elaborate on this particular aspect of climate change?

Yes, I have noticed that when there is less snow, the rivers have less ice. At least the creeks, and I also have noticed that when there is more snow, that the rivers do not run as early as when there is hardly any snow. That is how I see it.

Has the ice in the lakes changed in its characteristics?

Only in terms of freezing have I noticed any change. It seems to be freezing later and later every year as the weather seems to be stuck on fall for a long time. That is what I know because when the time has reached the traditional freezing period, the lakes would freeze. These last few years the lakes have not frozen at the usual time because the weather has not been normal. I have noticed that some years the cold comes a little bit earlier and sometimes a little bit later.

What about the depth of the ice at the fishing lakes, are they as thick as they used to be?

I have noticed the changes as in the winter I personally really like to fish. I really enjoy fishing and every chance that I get; I go if I happen to have the necessary resources to go. The years are always slightly different, but these little lakes inland did not get as thick as they usually get.

Here I am referring to small ponds. They were thicker last year during this time of the year. Nowadays, the lakes are a lot thinner than they usually are. I do not know how they are at this present time, as I have not gone lately.

What about the quality of the ice? Have the characteristics of the ice changed from your childhood?

Yes, I am not sure but perhaps due to the wind, some years the lakes do not freeze properly and the top layer has been water logged. When there is another layer, then it seems to freeze to a thicker level. When the weather is too cold, the temperature can cause water to up swell and sometimes the ice gets too thick, at least that is what used to happen.

Nowadays, the ice does not seem to get as thick at least due to the water up swelling and overflowing the ice and causing layer upon layer to be built. That particular phenomenon does not seem to have happened this year. It used to be the norm back then.

What about our sea ice and the tidal flat? Has the freezing timing and the freezing period changed or what have you observed in respect to the sea ice? Have you noticed whether the ice stays for the same period or if it goes out sooner, could you elaborate on this?

When we first came here, we used to have a floe-edge further down at Pikiuliarjuk. That is where the floe-edge used to be, at least according to my recollections. As well, it used to occasionally be at Nuvuttialuk. Later on, the floe-edge was not there, and even though it was not at its usual place, the polynias used to occur there in that area, even though the floe-edge was further away.

Nowadays, in the present, it seems to always have the same characteristic now over the last few years. The ice seems to all be the same uniform thickness, about a foot. I am not sure what caused this to happen, whether it was the warming of the climate or if it was other environmental factors, but that is how the ice has been behaving these last few years.

Further down, during the spring, on more than one occasion I have been involved in travelling in the Ittilliq, near the shore. There would be some ice on the bay, but due to the thinness of the ice, we would have to hunt and travel near the shore. That is how the ice has been the last few years and the ice has been consistently thin. It has not exhibited any characteristics that I am used to.

The ice seems to always be a little dangerous, especially if you do not know the ice. Last year the ice stayed for a little longer than has become the norm. The ice hung around for a couple of weeks when the seal pups had moulted. We went hunting further down the bay for young seals that year. The ice was good further down, although the tidal flats were melting.

This winter, I was included in some hunting trips down the bay. There was no trace of water anywhere and that surprised me. At least this far down the bay, it has not happened for a few years.

What about the changes you have observed in the occurrence of landslides or their frequency?

I have not experienced many landslides myself, but I have seen some rocks on the sea-ice, not very many times. Further down the bay, it is more common. I have seen it at Illarriktuq, and I have seen some up there. They were fairly small, but they slid down to the ice.

What about the area that was used by geese, the wetland areas, have you noticed any changes in their location, occurrence or otherwise noticed changes?

At this time, I have noticed that the Canada geese tend to prefer the wetlands as they are feeding there. I notice that they tend to eat from them when they have dried out a little bit. That is what I have experienced, but I am no expert on them, as I do not hunt them a lot. I tend to notice the areas are drier when they use them.

Let us move unto the subject of snow. Could you elaborate on the changes you have seen in respect to the snow over the last ten years and what has changed?

Nowadays, the snow has changed and there is no more soft deep snow. It used to get quite a bit of soft snow. We called it “*Maujaliqtuq*”. Perhaps this observation is skewed in that I do not travel great distances anymore, but it used to have areas of deep snow all over the area.

These days it does not seem to get that way, and we do not step in any soft snow over our ankles. This is probably due to the fact that the winds have increased in their velocity and caused the snow to be drifted around. The wind seems to blow what snow there is on the ground these days.

Has the top layer of the snow become really hard? Do we experience more snowfall now or less than you recall?

As I stated earlier, when we first came here, the hilltops were bare of snow and in retrospect, this was due to the winds. Nowadays, the snow has changed in that it seems to have lost its elasticity. Once it has been passed over a few times, it becomes very hard now, that is due to the cold.

Has this caused a problem such as difficulty in making an igloo out of the snow?

At least within the town of Iqaluit, it has become that way. Further down the bay there is still good snow.

Has this difficulty in making an igloo out of the snow occurred in other areas in the past or has the snow changed?

Back then when we lived down there, we tried to make an igloo. It was not very good because the snow was too hard and had been compacted. As well, the wind had whipped it into strastrugi that was rock hard. Only in areas where there was some protection from the wind was the snow any good to make an igloo. Otherwise you could not make one.

Let us turn to hunting trips or camping trips. Has the climate changed in terms of affecting your practices or in other ways that affects Inuit?

Yes, the snow is really hard now. Although it would not seem to be hard, it would still be all drift snow. And, the snow crystals you would expect to find under this snow, “pukajaaq” there seems to be no more occurrence anymore. Perhaps this is due to the wind. Although we find some crystals, they are not the same. Generally you find them in areas where there is some wind, but also some protection. There is hardly any more pukajak snow.

What about the weather patterns, such as the changes that we are discussing, have they affected the animals that we hunt? In terms of animals such as fish, birds and insects, has the changing climate affected our animals?

Yes, these days the summer past, I mean the previous summers we used to have hoards of mosquitoes, but the last few summers I have not seen the clouds of mosquitoes that use to feed on everything. Perhaps because the sun is drying out the puddles earlier or something is affecting their development.

Last summer there seemed to hardly be any mosquitoes due to the wet and warm weather. It was hot. The mosquitoes do not like hot summers and when the weather is cooler, there tends to be more mosquitoes.

The sun is so hot now that the animals are being affected and perhaps the conditions are no longer enough for them and they leave. They tend to move to other areas that are more hospitable to them, at least that is what I think.

What about the changes to the other animals, such as birds or mammals or fish?

Fish? When we first moved here, I used to go fishing all the time to the fishing lakes around here. But there used to hardly be any fish, but this was perhaps due to my lack of intimacy with the area.

These days, I go to all the lakes that are visited by the Inuit. I have noticed that the fish seem to be increasing, even in lakes where there hardly used to be fish. The fish go other places, they do not always go to the same lake all the time. This is known by the Inuit, that some years the lakes contained more fish and other years it was leaner.

What about the effects on you personally, such as trouble reaching your harvesting area such as a fishing lake, duck hunting area or so on? Has the environment changed?

Yes, some of the land has changed, since we have to go far down the bay to collect eggs. The lands further down the bay seem to have more eggs. At least that is what I thought and most of the bird species seem to be moving down the bay anyways.

This summer was the first one where I saw ducks close by that seemed to be nesting. It now has lots of ducks whereas I hardly used to see them. Perhaps they have been here all along, but this is the first time that I have seen them.

What about fish lakes or perhaps you have noticed that the fish are replenishing themselves or are they going into decline?

The replacement rate? I have heard that the fish seem to be replaced already, so there is some truth to that I think. They never used to be replaced immediately, at least when we first moved here to Iqaluit. I used to go fishing to the river when the water started to run, but the fish were really hard to catch. I never used to see them, but these last few years the fish apparently are returning in greater numbers. It seems to change more every year, with the rivers running earlier and the snow melting faster, that is the way things are now.

What about vegetation? Have you seen new species around this area, either within town or outside of it?

I have seen these last few years anyway these small little plants that are growing that have red flowers and this is the first time that I am seeing them. I have never seen them before at least here. This may be due to the climate changing because otherwise they would never have grown around here. That is what I think.

What about these small plants? Has this affected other vegetation such as black berries, or are there other effects?

I have just started to notice them so I do not suspect them to be affecting the other vegetation. I do not think that they are affecting other vegetation as this is the first time that I have seen them. I do not have a problem with them.

What about new species of plants, animals or the like?

I do not think that there are too many effects as I have just started to see them.

What about the effects on the water quality? Has the climate caused changes in the ice quality?

I know for a fact that if there are quite a few rainstorms, then the water becomes clearer and cleaner. When it has been clear for a while, then the water seems to be quite smelly of the land. That is what I have noticed and this is what I have seen especially when you

collect your own water, you notice this when the weather has affected it because you are collecting it from the source.

What about the city? Have you noticed any changes in the water quality here in Iqaluit?

I am not sure if the water has changed. I could not tell you one way or the other about the changes to the water quality. The taste seems to be the same, it is hard to tell with the chlorine added. I have heard that there is less water now then before that our lake is getting too small to supply our water. That is all I know.

What about the tides and their effects on the marine life Have you noticed any changes in the tidal characteristics?

I do not really know the tidal flats organisms, so I could not really comment on it. I do know about the polar cod though. When we first moved here, the cod used to school here, just in front of us. The water would be teeming with cod and the colour was almost reddish due to the cod. I have not seen anymore cod in this area for the last few years, perhaps they have moved somewhere else.

What about the climate change effects human health? In terms of the people within the city of Iqaluit, have you noticed any changes that are a result of the climate changing?

Yes, I have seen evidence of it. There is now a huge population of Inuit in Iqaluit today. Perhaps there is more bad health nowadays, but that could be a symptom of over-population. The sickness seems to be mainly colds and other respiratory problems. The climate seems to be affecting Inuit in that the pollutants are being felt and they are exacerbating the problems already existing in this day and age.

Have you noticed any other changes in the human health, such as snow blindness or other sun related injuries. Are they occurring more often?

In this day and age, I have not heard of anyone getting a case of snow blindness. It used to be a common occurrence back in our day. These days I have not heard of it. I myself have never been struck by it so I cannot tell you exactly. I cannot tell you what changes have been wrought by the strength of the sunrays.

Perhaps if I had had the misfortune to be struck with snow blindness, then I would be able to shed further light on the matter.

You talked about pollutants. Has this affected people up here in that it is affecting people with respiratory problems?

Yes, the people who have respiratory problems seem to have the hardest time when they are here. Perhaps this is due to the pollutants or strengthening of certain atmospheric gases. I never used to hear about Inuit having problems with shortness of breath. This

seems to be a modern problem as I am hearing more about it. I cannot firmly state either way.

Any comments or questions in regards to the project that you are being included in, and or if you have anything else to add, now is the time to do so.

I really have no questions in relation to this project. Thank you. In some ways I am sorry that I cannot help you in greater detail.

That is not a problem and do not belittle your comments. All Inuit notice different things and the answers you have given to date are acceptable and we would be told if the answers are not satisfactory.

They are welcome to throw away all of my answers if they are irrelevant. Thank you for coming.

Climate Change Interview in Iqaluit – March 3rd, 2002

Elaiya Mike

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. The majority of the participants were not too keen on being specifically identified in the transcripts and wanted to know if they would be able to get a copy of the transcript after the end of the study.

It was outlined that the government wanted to get a baseline with Inuit Qaujimajatuqangit on the climate and its usual characteristics as opposed to the present day reality. The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future. Was there a problem with their informed participation in this study?

POB: I cannot recall where I was born, but my parents said around the Kimmirut area somewhere. I was born in 1945.

Has the weather changed since you were a child?

Yes it has. As far as I can tell since I was a child, I can relate what I have observed over the years. In the fall, it used to be really calm clear weather for days at a time, leading up to the bay freezing over. These days, it just blows a strong wind all the time that is disrupting the whole process during the fall. It has been said that our land would eventually change as it always has. It is changing all the time, and especially in the spring, it gets really dirty and everything seems more polluted everywhere that is what I know.

According to your observations over the last ten years, has the climate changed?

The changes that I think are happening is the speed of the changes in the seasons now, it seems to be melting all at once. There are some years where we have seen slow changes, but the springs are a lot quicker in their approach now, that is what I have seen.

You stated that the climate has changed and that some of the changes are really noticeable. Can you elaborate and detail when you started to notice these changes to our weather?

The changes I cannot exactly measure with scientific instruments but the changes I have seen over the years would indicate a change. I have observed the weather over the years, some of it bad, some of it good. There have been years of good weather and bad. But when the weather would begin approaching, then we would say this or that, but the signs

for the winds are different. It was on the radio as well and although some of the changes are observable over time, the days are very short now and the next day comes all of a sudden.

You talked about your parents or guardians talking about the climate. Can you relate these stories as you recall them?

I did not get that many stories from my parents, but I did listen to stories from my grandparents. That is all.

Indicators/Impacts

In respect to effects such as the suntan of hunters, has this changed or what else has affected your practices? I guess what I am talking about are the changes to the atmosphere or seasons, have you had to change?

The changes are related to the warming of the temperature, global warming. I love boating and it is a lot of fun to go hunting when you are a man. The glaciers down the bay are melting big time. The other glacier used to extend down to the water and it was quite spectacular. It was a big glacier at the time, but it is true that the glaciers are melting.

So the warmer temperature has affected your practices, such as boating or earlier snowmobiling or what?

Yes. We are experiencing very short springs where the snow melts right away. This affects our ability to hunt in the spring with snowmobiles. Before, we used to be able to snowmobile on the land and ice until late spring around late June. Nowadays, the ice is always melting and we cannot go camping for as long as we want.

The snows hardly ever come anymore. These days the melt is very pronounced. And during the winter the cold weather would visit for a while, but it would soon retreat as if it were scared. The rain and sleet kept the ice from forming.

What about the indicators to the climate such as the change in temperatures, has this changed in your observations?

I cannot really answer that question directly. But the seasons are different and these last two years, fall is very, very late. It seems to try to be as late as the south. The ice has not formed until what would have been winter before.

What about the temperature? Has it been stable?

It has changed quite a bit over all the year and the seasons. The changes that we witnessed as children did not seem at all different; they were just a normal part of the seasons changing. The elders probably noticed the changes, but in terms of my own recollections, I cannot really say on way or another in regards to the changes back then.

According to your recollections, has the temperature become colder, warmer or has it changed?

When I was a child in Kimmirut, I really recall the hot temperatures one summer there. It really got hot at that time. It was extremely hot then, but I cannot state exactly what year, but it was around the 1950's. It was quite hot that year and I always remember it. As well, there was one winter that was really cold. We used to live in igloos even in May and we lived in one that spring and probably due to the fact we hardly had any goods, it felt really cold then.

Have you noticed any changes in the weather patterns? Has the weather patterns been changed, and are they occurring more or less than your recollections?

The weather patterns are different, that is for sure. Twice I have witnessed a really bad storm. It used to be bad weather around here. You grew up around Apex, and you know it. The rain fell so hard it was actually running down the hill. This was quite a few years ago. That time it was really bad. That is what I recall.

What about the number of snowstorms this area receives each year? Has there been less snow or more?

There seems to be fewer snowstorms these days. It hardly ever snows today compared to all the snow we used to get. It used to snow a lot, nowadays there is hardly any snow. Today we have not seen any deep snow, the kind that really slows a dog team down. This used to occur when we had only dog teams. The Inuit had to break a trail using a tarp so that the dogs could pull the sled and quite a few times, they used a tarp as a sled.

What about the blizzards during the winter, have they become less frequent or more frequent or are they stronger in their intensity?

Yes, this has changed. The blizzards are slacking off in their length and intensity. In the old days, it would blow for several days and it has been a long time since we had a real winter storm. The last one was around 1983, probably lasting for about a week. That is what I recall about the blizzards.

Do you recall the changes, such as lightning storms or thundershowers that occur in this area? Is it more frequent or less frequent or has it even occurred around here?

The lightning storms seemed to have increased in their occurrence and in the old days we had no noise distraction and any noise was loud. When we started to hear the thunder,

then we knew that the lightning was right behind. The lights were all extinguished and were put underneath the covers of the beds. That I recall, with great clarity. The lightning are supposed to use anything that conducts electricity, so Inuit always tried to keep these things out of sight. They were put underneath the beds.

What about the prevailing winds in this area? Has it changed or has the winds from the directions become stronger or less frequent? What about the wind directions, have they changed or shifted?

Yes, the wind is starting to crop up more these days. We had more calm days back then. When there was going to be a storm from the south, then you could see the signs and you knew that the storm would be quite strong. I found out the hard way, because we put up our tents when we are out hunting, especially on the south side of the bay. It was in late fall, but here was a Nigiq wind and it was quite strong and it was really difficult to persevere through that particular storm.

The boats those are full of air sacs, the small zodiac boats. We had one of those and it went flying over the mountain and we never ever found it again. It disappeared and it was our only means of checking the nets and so on. Our tents could not stay up and they kept dropping. It was impossible to keep the tents propped up, so we had to make it smaller. Here it was, late fall and quite cold.

Nowadays we are getting winds from everywhere. The winds are shifty and constantly changing their point of origin. The weather signs point towards a clear calm day, but the wind suddenly whips up and that is how it seems to operate in this day and age.

In regards to the changes that you have been alluding to, how has this affected the seasons here in Iqaluit, such as fall, winter, early spring and so on. Have the seasons changed in their timing and so on?

Winter is the season that is the most affected, it takes forever for winter to establish itself especially these last few years. Winter has been very slow, taking all the way into December. I was even boating into December, that is what I recall and we were boating close to Nunasirajuk.

What about the ice and its timing, particularly in the spring, did this have anything to do with climate change? What about the ice melting? Was this normal or did the sea ice melt earlier than usual?

In June one year, the ice went out early. In the period of melting, the ice was really soft and it was too thin to use with the snowmobile, and still too solid to navigate with canoes. One of those years was like that. That is what I recall about the ice.

What about rivers, creeks and so on? You stated that winter was late this year, and did this have an effect on the freezing of these water bodies?

Yes, the lakes and rivers are starting to get mushy earlier and they become impassable in only a few days. Even before the traditional time of lake ice melting, the ice is getting dangerous to traverse. The lakes have thinner ice and the ice does not hang around. These days the ice melts earlier and becomes crystallized way earlier where you cannot stand on it. At least the lakes around here anyways and according to our time honoured climatic knowledge, the lakes should not even be melting yet at that time. When they get to that condition, there is no way to travel on them without falling in. I fell in right through the ice, ice that I thought was not at that stage of melting. It was due to my carelessness in surveying the condition and colour of the ice prior to embarking on it.

What about freshwater lakes, such as fishing lakes and their ice conditions that you may have noticed. Has this changed in your recollection as well?

It is also changed, at least to this day; the ice is way thinner than before. In the old days, the ice was really thick and it did not start melting until later on in June. I am relatively short as you can see, but some of the ice was above my head that we chiselled through, in order to fish through the ice. That was over five feet thick.

It was really hard to chisel through the ice and that was the only way and the ice chisel would have to be extended by adding more wood at the end, this was in order to be able to chip the last few inches and the ice that was still stuck to the bottom.

Has the thickness of the freshwater ice changed in the last few years?

Not at all, these lakes are holding relatively thin ice, at least a few feet thinner than what we recall as being the norm during our younger days. It is quite a lot thinner and does not require a lot of work at all. We used to go to Iqalugaarjuk and it was the only place to go fishing in. It was usually the thinnest.

It was one spring while we were there, trying to chip through the ice that I eventually gave up, as it was too thick to puncture. That is how thick it was. The lakes that have water overflow tend to have a lot thicker ice due to the water always being added.

The ice is a lot thinner these days and the wind that is always blowing now tends to keep the water agitated. The climate is not the same as it used to be and now there is more wind at that time of year when the lakes used to be starting to freeze over. That is how different the climate has changed.

Let us move unto the sea ice. What about the timing of the ice formation and ice break-up. You can talk about ice, pressure ridges, tidal zones and timing or other factors related to the sea. Has this changed as well?

As far as I can recall, there was one year where the ice melted earlier than usual. The ice melted around the middle of June. I recall that distinctly as it was a non-conformist year.

In respect to our sea-ice, when it does form, is it still the same relative thickness as historically?

Absolutely not, the sea ice is a whole lot thinner than before. The areas that are now dangerous to cross are a direct result of the ice being thinner than usual, being more prone to the strong currents underneath and being eaten away from the bottom.

What about the floe-edge, has this changed in its proximity or its formation?

The floe-edge is something that changes from year to year, but in some of the years it was close and others where the floe-edge was way down the bay requiring a long trip. The ice sometimes froze all the way down the bay and I recall one year where it was especially far. It was really far that one time and I was included in a trip down and it was really far. I really recall it that time.

Nowadays the floe-edge is usually closer than before and areas that never used to be dangerous due to thin ice are becoming downright scary even before the traditional period of ice travel cessation.

What about permafrost? Is our land melting earlier and further down than what you have seen before?

I have no knowledge of the permafrost at all.

What about vegetation, such as wetlands or other areas that contain vegetation are they affected by the changing climate?

Not really, but the areas that were consistently wet and boggy seem to be dry these days. These areas have dried out and that is how much it is affecting our environment. I recall some of the wetlands around here; it was really difficult to walk through as each step was like putting your foot into a vacuum. If it sucks your foot, it is a real wetland area. If it is not, then it is not really a wetland.

What about landslides, or avalanches? Have you witnessed any incidences around this area?

I have never known this particular area to have any slides of any kind. I do not recall any around this area.

Has the snow around Iqaluit become deeper, lighter or less common, such as within our area here in Frobisher Bay? Have you noticed if there are changes?

There seems to be less snow and there are hardly any more occurrences of deep powder snow. I recall times when we were younger where we would try not to get any snow on our pants and if you jumped, then you were knee-high in soft snow.

What about the effects of the climate on the snow characteristics, have you noticed any changes in the snow?

When the snow layer has not frozen during the evening, then it is difficult to travel. When the snow does not freeze “qisuqqaq”, then it is really soft and hard to travel on. It seems to be really soft now once it really starts to melt, snow can take on the properties of icy bubbles with no bottom.

What about the types of snow you encounter now such as when you are trying to build an igloo, you require a certain type of snow. Have you seen differences to date?

The snow nowadays is really poor quality due to the fact that it takes until November before the snow starts staying on the ground. The reason for this is that the snow hardly falls anymore and when it does fall, most of it tends to get blown into the sea. That is what I think.

What about the effects on your camping trips or hunting trips, has the climate changed caused changes to the environment which are affecting your use of the land? Please elaborate on what has caused the most problems for you?

I really cannot answer that. (Explanation) More or less, because in the old days, all we had were the dogs and sometimes it was quite difficult. We had no snowmobiles to make it easier. The few snow patches we spotted on the go, we tried to use back then. Some Inuit who persevered were successful in their hunts.

Nowadays, even with the snowmobiles that can pull heavy loads and that can go almost anywhere, as long as the load is not too heavy. But with snowmobiles, if it breaks or gets stuck, you are in trouble. With dogs you still had a choice, but depending on your choice if you break down then the snow machine will not go any further.

Our weather is a lot warmer than usual. This winter it get cold for a little while, but it does not stay for long. These days the cold weather does not stay around much and we barely ever get ice fog anymore. It used to get really cold with ice fog.

How about the effects of the climate on animals, such as fish, insects or other animals? Is this affecting our wildlife?

Other than the fact that the mosquitoes for once, were not in their usual numbers, that was the only relief we had and the only one I noticed, due to the fact that I never left Iqaluit. I would go to the river, but I noticed that the mosquitoes were not as abundant as usual. This was the only thing I really noticed this year.

What about nesting areas or have you ever seen birds or animals that are suffering as a result of the climatic changes?

These things I have not had the chance to observe at all.

What about the changes to the animal behaviour or to their usual times of migration to our area? Have you noticed any changes in that regard, such as population estimates or the like?

Yes, there are changes but I cannot elaborate.

What about the fish, or whether the fish are being affected by the climate in terms of deviations?

This summer was the first that I noticed that the fish were really replaced fast. Because the spring arrived really early, the middle of June was when the river blew the ice out. It was around that time that the ice got sent downriver. I believe that the fish are not stupid and they would know when the ice had left.

So I was pondering the question whether the fish had run downriver, so I checked the river. That is what I was checking to see if the fish had run. I was thinking that I would be made fun of, but I said that I would be out there trying for fish anyways, even if it were not the right time.

Anyways when I want to go out I really get antsy sometimes. So in order to feed other people, I went to the river anyways. I sometimes get lucky especially around fish and one Inuk told me that I attract fish. I just told them, not me, they are just gifts from the Creator. I have no skills, just that the fish seem to want to be eaten by me.

What about vegetation have you seen new species or new types of vegetation?

I really have not noticed new types of vegetation or plants. That is what I have noticed.

What about our existing types of vegetation? Have you noticed any changes?

Not really. I do not have any type of knowledge about the types of vegetation so I could not answer it.

Does this affect the wildlife as well, in terms of the hotter weather? I guess what I am trying to get at is that land animals depend on the vegetation and if they have more food, then it may affect their population dynamics.

The animals are really dependent on the vegetation. Some vegetation that would have grown is eaten right down to the roots by some of the animals. It is really their food. The gulls and ravens also eat anything edible.

What about areas that are used for berry picking? Have they changed as well or has this affected the use of such areas by the Inuit here in Iqaluit?

The weather had caused the berries to be sparser this year and it was a poor year. They may be in the low part of the cycle but there were barely any areas of rich pickings this summer. The area where we used to spend our late summers awaiting fall, that area called “qairrusuttalik”, it is really rich in berries and I have grown up there since my childhood and it is particularly rich in black berries. The berries are being eaten more by birds. It used to be harder to catch the birds in those days but these days it is easier.

What about the affects of climate change on our freshwater resources, such as lakes and rivers and the like?

I do not pay any attention to the lakes other than whether it is good drinking water or not. What I do recall is that once the river has run for more than a few days, the water is less influenced by the ground through which it is running, at least in its taste. The water is best to drink then when it is clear and fresh.

What about the municipality’s drinking water supply? Has that been affected by this climate change issue?

Yes, the water quality has changed drastically, especially our drinking water. If we look at the water services, we are now service every day. Nowadays, it is harder to taste the water as the water has additives and these days it is not as desirable to drink.

The water has too much chlorine now, we used to hardly ever taste the additives, but with fluoride, chlorine and all of the other chemicals used now, it is really awful, especially if you want to make some tea. Now the water is not as desirable and it seems to be dirtier, especially if you make tea. You can see the difference between the water from the tap and water melted from the land. The water looks the same and so is the teabag, but the consequences are never the same. The colour is not the same.

What about tidal patterns or what about marine species, have they been affected by the climate change?

I really do not pay attention to that, although when I have wanted to catch sculpins, I go to Apex. I catch them there and they seem to not be affected in their population. I have seen some areas that are really rich in plankton and krill. There are areas that have lots of the small krill.

What about other effects on Inuit here in Iqaluit, more specifically the health effects of the stronger sunrays and warmer climate?

In some ways, yes there are more problems. During the spring I recall that due to the warm temperatures, near “nunagarut” when we were fishing, it got so hot that we were lounging about in our t-shirts fishing. When we got there, the whole of my skin got very dry and it got sunburnt. The skin was actually peeling and it was really itchy. I took off the flaky skin with my fingers, as it was really itchy. This was how badly I was sunburnt.

Are Inuit getting more sun blindness, more colds that you are aware of?

Not really. I have not heard of anyone ever getting any more sun blindness. Most people wear sunglasses. Back in the old days we would get sun blind from all of the time we spent outdoors. We were told not to eat the snow because if you ate it, then you would get snow blind, but we used to do it anyway and suffer the consequences. In retrospect, I never eat snow anymore and as a result I do not suffer any more sun blindness. You really need to have sunglasses or even prescription glasses that can bend the intense light bouncing off the snow and ice.

What about other health problems such as respiratory problems

Not really. I have not noticed any changes at all.

Do you have any other comments or questions in regards to this project?

I have no questions at all about the issue.

Climate Change Interview in Iqaluit – March 6th, 2002

Johnny Nowdlak

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form.

It was outlined that the government wanted to get a baseline with Inuit Qaujimajatuqangit on the climate and its usual characteristics as opposed to the present day reality. The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future.

POB: I was born towards Pangnirtung, on Cumberland Sound at Qipisa. This is quite a small map. It would be right on the tip here.

Has the weather changed since you were a child?

Yes it has. In respect to the changes when I was a child, my parents moved to Iqaluit when I was a year and a half. I have grown up here in Iqaluit. As I was growing up, we used to go and spend all spring down at the mouth of the bay. Then we would come back so that our dad could work until the ice went out.

Then we would then have enough money to allow the family to spend the rest of the auyaq down at our auyaq camp, perhaps two months, sometimes three months outside near Minguqtuuq. That was our practice back in those days.

From your recollections, did you go overland to the camps or not?

From here, I grew up here since I was a year and a half. The area where we went was called “siattuq” during the spring. Then it would be “Qikiqtaaluk”, other years it would be in other places. That is what my first recollections were, of trips down into the areas where we would spend the spring months until I was fourteen or so. That is what I recall.

Do you recall what the weather was like predominantly in those years? Did the ice leave early, was the weather bad all the time or what was your main recollection of those periods that you are alluding to?

I recall when I was younger, the areas outside of Iqaluit had lots of mosquitoes and down at the area where Inuit used to hunt. It is not as bad these last few years due to the

incessant rain and not enough calm days to allow for the larvae to grow. I recall that they were always in the way and nowadays it is different now.

What about the changes to the weather, let us say over the last ten years to date as compared to your childhood. Has it changed at all?

It has really changed, big time. I recall that the ice never used to go out until July. Then the ice would soon reform within a matter of two months. It used to get cold quite early even before November. I recall that we would have ice, really thick ice by November.

Usually by the first week of November, the ice was useable and we could go places. There would be quite a bit of snow on the ground, prior to the ice freezing over. Now, these days the ice does not form until December and I think that we are all aware that the ice is forming later each year, those of us who grew up in Iqaluit.

These last ten years, for those of us who have grown up here and have gone hunting here, the changes are really noticeable. At least for us younger men from the old days of Iqaluit, prior to all the changes in the community, that is the way it was.

Let us move to weather patterns. In terms of the weather patterns, have you noticed any changes in the climate?

I personally, in the last seven or eight years have seen these changes and they are more noticeable than before. The changes are noticeable and in relation to the changes to the weather when I was a young man, there was nothing out of the ordinary, but the last twelve years are most changed. The elders are saying that it is changed, and it has changed.

The climate has changed and the changes are that the snow has changed in that there are hardly any powder snow layers; it is all hard packed snow these days. That is what the elders have noticed and they used to say that the snow, in their younger days was deeper and more powdery.

They said that it used to be really hard to hunt when it was powder snow, that the sleds could not really be pulled by the dogs and people would experience hunger and even starvation. The situation would probably have led to hardship, if you could not travel to hunt food, especially if you only had dogs. Nowadays we have snow that is so hard that it is almost like ice.

In respect to the changes in the weather, in terms of seasons, what have you noticed?

Nowadays, we are boating into late November and even December. I remember when I was ten that the ice was already forming and you had to pull up the boats immediately. They used to have to pull the boats out earlier in those days.

I recall that in November, people were out in snowmobiles. In the last five years, we have been able to boat until December, even close to Christmas. That is how late the ice is forming these days. The elders say that it used to ice over earlier.

You have noticed that the changes are occurring over the last ten years? In terms of the sea-ice, let us move into the changes in temperature that you may have noticed in the last ten years?

To use the temperature as an example, when I was growing up, across the bay would be the aniuvaq in the shadows due to the low temperatures and they would not melt all auyaq.

It is a lot warmer now and these aniuvaq are long gone prior to auyaq. They used to remain all auyaq, but they melt now and you can see where the old aniuvaq used to be, because those sites are bare of vegetation and they are lighter than the surrounding area. They melt completely now.

It rains more often, and I have noticed that there are more lightning storms that occur on the south side of the bay. This is noticeable. As well, as compared to the temperatures and heat of our youth, the sun is a lot hotter and the temperatures are like those we experienced down south.

The changes we have noticed in the seasons are in the ukiuq, you used to see the ice fog that would form when it got really cold, past minus forty Celsius. That is what does not occur as much, it used to be common from January and February. Whenever the wind died down, the cold would produce ice fog. It never gets that cold in Iqaluit anymore, not for the long stretches that it used to.

As well, during the ukiaq, the clouds tend to gather more and we are getting more winds from the east. The winds are not as directional anymore, and they come and go in different cycles.

What about the weather patterns?

The weather patterns seem to have changed over these last few years. We now get showers just like they do in the south. It never used to rain like that in the auyaq and now it seems to really rain hard. The last few years lightning has occurred more often. This never used to happen as much and now you can see the changes in the weather patterns that way.

In respect to the snow, we have noticed that the characteristics have changed. Our oral history states that there have been changes in the wind strength and snowfall. These days the wind is stronger and the snowfall less, in those days the wind did not blow as much and the snow fell more.

These days we have hardly any snow and what snow we have is as hard as ice. That is the difference now, the snow is quite different and we hardly see any soft snow. This observation is stemming from both our oral history and actual experience.

The snowfall is less these years? Is that what the Inuit have noticed in this area in respect to the weather patterns?

There is hardly any snowfall these last twenty years. It seems as if the snow changed at about the time the Inuit started to move into the communities. I have heard that prior to my birth, way back then, that my parents experienced deep snows with hardly any winds to blow away the snow. That was the usual experience in the older days.

In terms of this last decade, you have noticed this phenomenon as well?

Yes, there is a lot less snowfall during the ukiuq especially. It seems to snow less these days. Most of what we get is now wind-driven.

What then about blizzards? Have you noticed a change in their frequency or occurrence? If you recall, we had a big blizzard in 1978 that lasted for a week. Have you noticed any blizzards like that or are they long gone?

These last two years, in early ukiuq, when the blizzards used to arrive, around November and December, it hardly ever experiences blizzards as well. That was the way it was in the old days, when the ice formed, then the wind would blow all of the snow everywhere and you would get these huge stomach like strastrugi “Aqiaruujait” snowdrifts. That is what is different, and we hardly get those types of snowdrifts anymore in this area.

What about rain or storms, such as thunderstorms?

We now get these really rainy days that are just like the southern showers that we experience down south. These rains stem from heavy, deep, dark clouds that hold a lot of rain and it is just as strong as down south. We never used to get those kinds of storms, where there was so much rain that everything is covered with water. These storms also produce the occasional thunder and lightning storm.

The wind seems to be losing one of its primary directions. The easterly wind has basically disappeared. I recall we used to get a lot of strong winds from the east, but we do not really have anymore of those directional winds. We seem to get more northerly winds these days, with naught else.

In terms of wind directions, the northerly wind seems to be the most prevalent wind and we no longer get easterly winds during the ukiuq. That is what has changed.

What about changes to seasons, if any and could you elaborate on the seasonal changes? Upinngaktsaaq, Upinngaaq, Auyaq, Ukiq, Ukiaktsaaq and so on, have you noticed any other changes that you can expound upon?

In terms of the spring, the snow that used to stay late into the auyaq seems to melt earlier every successive year. The spring snow used to be on the ground and even into May, the nights would be quite cold and the snow would slowly start to melt over a period of two months.

Nowadays, the snow starts to melt in early April and even before the end, the snow is almost gone. The ice also starts to melt earlier every spring it gets dangerous earlier and now even before we have started to camp for spring, the ice is already dangerous to travel upon. We have to inform people about the ice conditions earlier, we never used to have to do that until late spring. There are also open patches of water now.

In terms of July and August, those auyaq months have not seemed to change that much. Maybe an elder or elders could expound on the details of the exact change. I recall that March was the start of upinngaktsaaq, Upinngaktsaaq, into April.

What about June and July, has the spring remained the same?

The spring is earlier and longer, while upinngaktsaaq has shrunk and this includes auyaq lengthening. As well, the ukiq takes longer to arrive, the ice is not forming and I do not know whether this is due to the water becoming warmer or for whatever reason.

But I know that climate has an effect on the ocean. I recall that the elder were saying that the ocean is warmer than they recall. I know for a fact that the temperatures are warmer throughout the year.

What about the freshwater ice, has there been changes to the timing of the freeze up or the break-up?

I have heard that the lakes are thinner than they usually are, especially the fishing lakes. They used to be a lot thicker according to the elders. That is what I have heard about the thickness, but the suspicion is that it is due to the late frost and freeze up of the lakes.

What about the creeks and rivers? Are they affected as well by this warming trend?

Yes, the creeks are freezing later than usual, and due to the amount of rainy days we had last auyaq, the fish actually went upriver earlier. That is what I noticed was different from the other years that I had experienced.

What about the sea-ice have there been any changes in the tides or other patterns?

As I noted earlier, the ice does not form until later in the year and this is what we have noticed, and the sea ice melts earlier every year. The floe-edge used to be far down the bay, close to the glaciers. In the ukiuq it was down there, perhaps ten years ago that I saw ice in all directions and I thought it was going to be a very long trip to the floe-edge.

That is how much ice we had, these days the floe-edge is a lot closer and we do not get that amount of ice anymore. It used to be around the glaciers and that is what I recall as a youth when we went to the floe-edge, it used to be a very long journey. These days, within the last ten years, the floe-edge is quite close and even has been as close as the Qikiqtait Suvvait down there.

What about icebergs that have entered Frobisher Bay, have you noticed any changes?

Yes, the glaciers would enter, but immediately upon entering, they seemed to just start shattering, dropping of huge chunks, perhaps due to the hot weather. I saw quite a few icebergs that entered the bay, they never even got close to Iqaluit and they never even made it back out of the bay. They seemed to just start shattering.

What about the thickness of the ice?

I recall that the ice used to be a lot thicker. I recall one time I was with DFO, doing ice surveys to date and in the early days the ice would be quite thick, upwards of seven to eight feet thick. The last few years, the ice is not as thick in the immediate area here.

It is thinner, and if you go further down the bay, when the ice has not formed properly, then it is thin and dangerous. It never used to be that way before. Our hunting area has changed and the floe-edge is getting closer to the community.

What about the terrain or the soil? What about the wetlands that abound around here?

I have not noticed any changes in them. In terms of changes, I have seen the area around the road to Apex. The permafrost underneath the road is melting at a faster rate than the surrounding area and now there are undulations on the road, due to those areas melting. It is due to the sun, because the sunrays are so much stronger and the permafrost underneath is melting.

What about the erosion, and or related changes to our terrain?

There seems to be more slides related to erosion, most of this is due to the heavier moisture content of the sky. We have more rain, more fog and it is affecting the terrain and causing slumping of some areas. This is noticeable because some areas that would not have had slides had them due to this increased water erosion from the heavy rains.

Especially in the auyaq, as well in the immediate past, I am not sure why, but there were more avalanches further down the bay when there was snow. The years have been different and this year there was no evidence of any avalanches in that area.

What about glaciers and snowfall? You stated earlier that there used to be aniuvaq during the auyaq, have you noticed other changes?

Yes, I noted earlier about the changes to the aniuvaq that now melt during the auyaq called “aniugait”. They never used to melt, now they melt and it seems that they never stayed in these areas in the past. In respect to these aniuvaq, they would always stay the entire auyaq. The sun used to be shining just as much, just not as hot back then.

Now these patches are gone before auyaq is even over, and on top of that, the glaciers down at the mouth of the bay used to be huge. Now they are a lot smaller than my recollections and I have been visiting that area my whole life as far as I can remember and the glacier is getting smaller. It is melting away and retreating and only a small part of it now shows.

When you were out hunting in your youth, the glaciers were a lot bigger?

Yes, the glaciers were quite big at that time when I used to go with the older hunters to Minguqtuq. That was where we would go hunting and there is no way that you can go there without looking at the glacier. At least when it is clear, you can see them as you go past. They used to be quite big, but now they are a shadow of their former selves.

In terms of the snow characteristics, I have heard the older hunters state that the snow is not as consistent as it used to be and it is harder to find proper snow. I have not really grown up using igloos, so I cannot really state that it is far different than what it is.

I can make an igloo, but I really do not have the detailed knowledge of the snow characteristics as my predecessors do. I have heard them say that the snow is not as good, especially if you want to make an igloo that will last more than one day.

What about the changes that affect your travel plans or routes during the year?

The ice melts earlier every year and it forms later, this affects our travel plans. To date, there has hardly been any snow and this affects our travel. I really cannot state other than those observations that I have made in regards to the impediments to our travel.

What about wildlife? Have you noticed species being affected by the change in the climate? Are these affecting your harvesting practices?

Not really. I am not sure if this is directly related to the climate change or not, but the caribou here that are close by tend to have joint problems. This is more likely a result of sickness. Some specimens look downright unhealthy, for example with over-inflated testicles, others infested with warble fly larvae and others infected by other parasites that we are not used to seeing.

There are new insects that are affecting the caribou. They are strange to us, but I believe that they are from the forested areas and they are arriving every year and infesting the caribou. The warble fly looks like bumblebees, and they are having a population explosion. They are following the caribou.

The mosquitoes are not as numerous as they were in the past when we were children. They were so numerous that during calm days, it was nigh impossible to play outside due to the clouds of mosquitoes. These days, there are fewer mosquitoes around this area. The birds and other species that migrate still seem to be as numerous as before.

What about the fish, are their runs or their health affected by climate change?

In terms of fish runs, the elders and those Inuit who were fishing at the river noted that the fish run was earlier than usual. That is what they were reporting, but in terms of health, I have noticed that since the sewage lagoon was placed close to the sea and it overflowed a couple of times, the fish stopped coming around and the fish were infected.

The fish became quite skinny and their flesh became soft and white with white bumpy spots, but whether this is related to climate change or pollution I cannot say. It is probably more to do with the chemicals that are in the sewage lagoon and this is not healthy for the fish.

What about the issue of other areas and the fish from those areas, have you seen other examples of deformities?

Yes, we saw a deformed fish last auyaq. We could not determine the cause, but we saw some fish that had some scabby skin, I could not really tell the type of skin, but they were different.

What about the species of vegetation in this area, have you seen new species that are growing in this area? Have things changed that you are aware of?

There are definitely less berries than I recall. I recall as a child that every few years, that there would be a bumper crop of berries and we would have a lot of berries everywhere. This seems to be more and more of an anomaly these days; perhaps it is the climate that is affecting them. At any rate, I hope that this passes soon and that we have more berries again.

In terms of new vegetation, I have seen some new plants, but the elders are the ones that could point out the exact changes to the plants as they have more knowledge about the plants. They had to know exactly what plants that they had to collect for the ukiuq and I did not catch that.

But the vegetation, such as the flowers, there are more and more of them sprouting all over the place. We never used to get that kind of bloom in the auyaq, but this is probably due to the climate warming up and the sun being stronger.

They seem to be growing taller as well. This is something that I have really noticed, our land never used to be that pretty when we were growing up. It is so pretty now, with all of the flowers sprouting everywhere. It never used to be that way.

What about water quality or quantity in this area?

The creeks that used to be really low in the auyaq seem to be running a lot higher due to all of the rainy weather we have been experiencing the last few years. I really have not noticed any real change in the water, so I cannot really tell you one way or the other.

The drinking water that we get from the town has all these additives, including chlorine and fluoride and the taste is just awful now. It is no longer as tasty.

The small lakes and ponds that used to form after the spring melt are now disappearing into nothing. There is definitely a difference because when you land from somewhere via boat, you can see where the lakes were situated, but that it has dried out. It used to be fairly large, so it was weird that the lake was dry.

Some of the creeks have also started to run dry, but that could be because there is no more snow on the hills. As well, some of the little creeks that bubble along became larger when the rainy weather hit us this auyaq. The difference from what we grew up with is that these lakes, which would have held water all through the auyaq, are now drying out due to the hot weather.

Let us see if we can move to health and the effects of the climate on human health such as sunburns, snow blindness and so on. Have you noticed any changes in the health of the Inuit in Iqaluit?

In terms of human health, I really cannot state that I have noticed big changes in the effects of the climate. I have noticed that there are more cases of sun blindness due to the strength of the sun, you can really get sun blind during the spring if you are not wearing your sun glasses. It never seemed to be this bright before, it seemed to be mostly cloudy or clouded over and the sun did not seem that bright.

In terms of the colds, there are more incidences of colds and more strains as well. Inuit also are getting more allergic reactions to the environment; there were hardly any cases before. Further, in respect to respiratory problems, there are a lot of those cases, but they are mostly self-inflicted by cigarettes.

There are more problems with air, but that could be due to old age or allergic reaction to the chemicals in the air. The sun is a lot hotter than before. We have to wear suntan lotion to protect our skin because the sun is really hot and bright. It gets really bright now with the sun beating down on the snow and you can get snow blind quite easily.

Do you have any other comments to make in regards to this study?

If these comments are believed, as I have noted, the changes are quite obvious especially if you are out on the land a lot. You can cite some of the examples that we noted, especially the aniuvaq on the hills that no longer last the auyaq. That is a big change, and our glacier is really melting fast.

It used to look like two distinct glaciers up there, but it looks like it is only one small glacier now. You can tell that it is getting smaller and the melt is pronounced, because you can see where the ice/snow has melted away due to the big difference in colour. It is like someone brushed that area with a different colour. I also believe what the elders use to say about this area losing all of its traditional snowfall. We only get hard snow now.

Climate Change Interview in Iqaluit – March 10th, 2002

Jacopoosie Peter

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. The majority of the participants were not too keen on being specifically identified in the transcripts and wanted to know if they would be able to get a copy of the transcript after the end of the study.

It was outlined that the government wanted to get a baseline with Inuit Qaujimajatuqangit on the climate and its usual characteristics as opposed to the present day reality. The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future. Was there a problem with their informed participation in this study?

POB: I was born here in the hospital in Iqaluit, in 1963. When I was a child growing up, we used to go to Mingutauq, close to Nuvun, for our camping trips. When I got older we used to start going to Nuvun.

Has the weather changed since you were a child?

I can only state that the years are different in their climate. Some years the ice does not go out until late, other years it goes out early and it only seems the same. Nowadays in the last few years it has changed, with the ice going out very early along with spring arriving early as well. I am not sure if it will continue with the recent changes, as I am not quite old enough to compare it to previous warm trends. That is all that I can say.

I think that you covered the weather to date that you are aware of. If the climate is changing, when did you notice the change?

Personally, since 1979, throughout the 80's and to date, the snowfall has gradually decreased. It seems that these last few years it has snowed, but not to the extent that we used to experience it and to use an example, the houses here used to be covered by snowdrifts all the way up to the eaves. It does not seem to get that kind of snowdrift any longer these days.

What about your parents, did they pass along stories about the climate changing from their recollections?

That the climate was constant in its variability was something I heard discussed a lot. They would talk about the climate about the fact that conditions were never quite the

same, but some things were deeper as if to compensate. For example, this winter once it got cold, it got really cold for a while. Although it was not like that for a while, it seemed to go back to its original level. However, the snowfall that usually occurs has not occurred and that is what is missing this year.

Today with this changing climate, has it affected your hunting trips and the time that it takes to prepare for your trips? How has it affected you?

This year, at least in terms of the sea-ice, it has not seemed to affect it, the caribou are still close, but I have noticed that the land is quite rough as there is no snow when I have gone caribou hunting. This is the most noticeable factor this winter, but it has not affected my own harvesting practices.

The caribou are close by and available and the sea-ice seems to have frozen nicely this year. This is the first time in a long time that the ice has formed properly. But the fact that there are hardly any seals is the only thing. This happens on occasion as well and is not strange. This year, they are harder to come by.

Thank you for your answer now let us turn to other questions. What have you noticed about our seasons? Are there any changes that you may have observed over the last few years in the seasons and what are these changes?

In the years, at least for a while, the spring has sprung earlier. When spring arrives, it seems cooler for longer periods, rather than warming up. Last year seemed like an anomaly in that it was a really warm spring. That seemed different, because usually you only get warm days like that in the summer.

But these things happen; I recall in my youth that some of the summer days were really hot. It was hot like that last spring. In terms of the spring, I have thought about the reasons for the earlier spring. In the winter, it was full of overcast days that were not as cold as usual. This winter it is quite cold, it has been cold clear days for quite a long period.

What about the weather patterns? How can you say it properly in Inuktitut? I had difficulty with that concept in Inuktitut. Please elaborate.

Perhaps if you said the yearly patterns of the seasons and what has changed over the years. Ask them to compare it to that. In relation to that, it does not snow as much as it used to and in 1979 we had a blizzard that lasted a week. That seemed to be the turning point whereby the snow seemed to slowly start disappearing, although we still occasionally get quite a bit of snow, it is nowhere near what we used to get in the 1970's.

Has the pattern of storms changed? Or in terms of better weather, have you noticed changes in the usual patterns?

In the spring it hardly ever used to become bad weather or rainy and spring still seems the same with the occasional stormy period mixed in with long periods of calm clear days. In terms of storms, usually we get the real stormy weather in the summer and the pattern in the summer does not seem to have changed. But, the longer spring and summer are unusual up here and I am not aware of Inuit knowledge that speaks to that sort of monumental change in the length, so that is all that I can answer in terms of this question.

Have the blizzards become more frequent or less frequent in this era and time?

Due to the fact that there is nothing for the wind to pick up and blow, there have hardly any blizzards. There seems to be fewer snowdrifts from blizzards these days. It hardly seems to snow and therefore it cannot produce a blizzard when the wind blows.

What about today, has the occurrence of lightning increased or decreased?

I have never really known this area to have lightning storms, at least Iqaluit, it is known to have the occasional lightning period. But further down the bay, it is not rare to hear the crash of thunder. If the weather is nice and warm, with lots of moisture then it sometimes produces thunderstorms. That is what seems to happen.

What about the wind has it become stronger, more frequent or has it started to shift from the prevailing wind directions?

In terms of wind from the back, the southerly wind seems to be more frequent. Now it seems to have shifted to a more northerly wind, I guess that this wind it seems to be from one direction and hardly ever seems to be recompensed immediately by the opposing wind. It seems to come from the same direction this winter, mainly the northerly. It hardly blows from the south these days.

Prior to this winter, approximately five years ago, it was the opposite. It used to blow southerly winds that year, and it kept getting winds that were out the ordinary. They were from the “tunuvia” direction. This year it is not like that, but we are hardly getting any southerly winds this year.

What about the seasons and the changes that you may have observed in the seasons? Are there differences in their length or timing or are they the same as before?

It is very obvious that spring is a lot earlier than before. The month of April is one where I can cite an example of the changes, perhaps by many other Inuit. The month is generally used for the Toonik Tyme spring festivities. It was towards the end of the month when the festivities were held prior to the new century, but these last few years, due to the earlier spring, the festivities have been moved up by two weeks.

Now in early April, the festivities have been changed to accommodate the changes in the climate. These changes are definite, but I cannot determine whether the growth in the

built up area is to blame, because there are new buildings sprouting up all over the place. I am not sure but the fact that there are a myriad of new vehicles, new houses and buildings has some impact on the surrounding area.

They are emitting a lot of pollution and when you have been out for a while, when you are coming into Iqaluit, it looks sooty or at least that the emissions from all the buildings and vehicles are affecting the snow. You can really see it when you are coming by airplane or snowmobile.

This could be a direct result of the rapid growth of the city and its population, and the impacts are obvious. It is even noticeable down south; you can see the area where there is a town just by the changes in the snow colour. It could be impacting the immediate area by warming it and causing it to melt earlier and faster.

Further out on the bay, it is not as obvious as to these warming trends. But some of the years previously also had some warm periods where the ice melted earlier than usual, but that was due to discernable conditions, such as lots of snow on the ice. I cannot really answer that question, but I have noticed in the last few years that the fall is quite late.

This is not that unusual, it would occur sporadically in oral history that there would be a long fall. The difference is that it is more than norm to have a long fall, because the bay especially takes longer to freeze over.

Let us speak to freshwater lakes, rivers and ice. What about the ice conditions or changes to the freshwater ice that you may have noticed?

The lakes seem to reflect the changes in the environment, as the climate gets warmer, then the lakes are melting earlier as well. They follow whatever the land is experiencing, but I cannot really state that I have observed vast changes, other than that it is earlier than usual.

What about the lake conditions, for example, is the ice thicker than usual or thinner than usual? Has it changed from your recollections?

The lakes seem to always freeze over when the cold weather first starts to stay the night and that does not seem to have changed that much. I sometimes go fishing, even via foot and I go to some of the close by lakes, they seem to be the same as before. I have not seen any changes.

So the ice is just the same as in previous winters?

I cannot really state that I have seen a change as this winter, there has hardly been any snow and the ice is thick due to this lack of snow cover. This year is quite different as we are lacking snow and this is causing the lakes to get thicker than they usually get.

According to oral history, they occasionally experience that when the winters are lacking snow, then the lakes generally get thicker ice.

What about the quality of the water or ice? Has the quality been affected or what about the melting timing if it is thicker ice?

I cannot state that things are a lot different than they were a few years ago, but the changes are mainly observable in the spring when the lakes are melting. The lakes tend to melt earlier than usual; they are following the weather and the temperatures. So, if it is warmer, they melt earlier than usual. Spring is earlier than usual, that is what is noticeable.

What about the sea ice? The tides, currents, ice formation timing and so on. Has anything changed as far as you can notice or observe in its patterns here in the bay?

In this winter, it has seemed to finally freeze properly and fairly consistently. In the previous winters, areas with no polynias historically had spots of open water, there were large areas of scrub ice with open water patches and the ice was quite rough. The ice follows the climate, it used to blow southerly winds most of the time with snowfall and that is what caused the sea-ice to not form properly.

As well, I think that the saltwater was not as strong as it usually is and it has stronger currents and other factors affecting the formation of the ice. They have an effect on the strength of the current and the sea freezing in the bay.

Has the sea-ice remained stable in terms of thickness of the ice or have you noticed changes to the ice?

The sea-ice tends to get thicker when the currents are weaker and there are fewer snowstorms than usual. This has an effect on the thickness of the ice. I think that the ice is quite thick in some places. When the bay gets stronger currents, the areas that wear through during periods of currents, like near shoals tend to get some water, but this year this has not been the case, probably due to the thicker ice, which is a result of less snow.

What about the floe-edge? Is it closer than before, has it changed its usual place or have you noticed any changes at all?

If we looked at it over a period of several years, then we would see that it was only following the conditions that persisted that year. For several years, it was quite close to the community and you could see it, but this year it has become quite far and it has been reported by those who venture down that sometimes, there is no clear edge.

That it has returned to its usual spot prior to all of this warming is obvious, but in the short term the ice was kind of rough as well, which was unusual as well. The bay was

hard to traverse and a lot of times, you had to circumnavigate the area overland to the next inlet.

What about the terrain and the permafrost? Have you noticed any changes to the environment? The lay of the land and the permafrost layer, I guess.

The hills are an example, there are some areas in the flatlands, which over time as it freezes and thaws, can form a pingo. I have not noticed any change in the permafrost as far as I can tell, but I have noticed that the snow patches that used to remain, especially over the summer have all disappeared. There used to be a lot of snow patches especially where the land was not visible to the sun. Now they are all gone by summer.

What about the wetlands around this area, have they changed as far as you have noticed, or have they dried out or changed?

Not that I can tell. I have noticed in some years that it is drier than usual and the creeks and rivers have low water levels. But that is usually in the late summer if the summer has been a dry one, then the water levels are usually quite low. I have noticed that there are more seabirds these days, especially the return of the eider ducks.

As well, the areas where we used to pick duck eggs, I am not sure whether the polar bears are harassing them but they seem to be moving inwards towards the mouth of the bay. That is what I have noticed, at least in relation to the ducks.

What about landslides or other types of disturbances, have you noticed any occurrences or increase or decrease?

The areas that have experienced previous landslides tend to have more, but this area is not steep enough. I cannot state an answer as to the exactitude of their frequency changes so I would have to say that other than that they still occur, I do not know.

What about the snow or glaciers? Has the cycle of snow precipitation increased or decreased in this area?

It has continued to become less snowy; it is like 1979, when we had hardly any snow. It seems as if the majority of the time, we have less snow. There have been years where it seemed as if it would snow like the years of old, but it has never returned to that. Even this year, we have hardly any snow. Perhaps there will be more snow come this spring.

It has seemed to decrease yearly, the snow precipitation. We also have the glaciers around here; at least there are two of them at the mouth of the bay. They have shrunk in recent years and are a lot smaller than they were when I started to see them in my youth.

What about the characteristics of the snow? Has it changed in terms of igloo building?

In this day and age, there are still patches of good snow for igloo building purposes. You just have to look for them carefully. But this winter, there has been a dearth of snow resulting in not enough snow to make an igloo and that is what I have noticed, that there is hardly any snow.

Take that lack of snow, would that affect your trips outside of the community in terms of water? Or has there been other effects such as changes to the tidal patterns or other environmental factors that affected your traditional practices?

When the ice does not form properly, then all Inuit are affected especially if it is rough enough to warrant overland trips to reach ones' destination. As well, when it is rough, then you have to go further to hunt. This winter, it has been quite good and it has formed fairly good.

The snow is quite different this year but in some ways, it can affect you if you have not prepared for that eventuality. It could be scary if you do not have the proper precautions, but with the lack of storms this year, it is easy to conveniently forget the proper tools you need for an emergency camp. There are less blizzards and this is convenient, but then there are also a lot of small cabins that have sprung up over the years that can be used in an emergency.

Let's start again. Let us turn to the hunting areas. Does the climate change have an effect on the animals and can you elaborate on what changes you may have seen, perhaps insects such as mosquitoes?

I cannot really say that these insects have been affected either favourably or not, but the harp seals are a different matter. They are more or less a year round species now, over-wintering even in the coldest months. Even this year, a lot of harp seals are being harvested at the "nillajuaq" open water holes. I do not consider them Arctic seals, because they do not usually over-winter.

Even the gulls now seem to over-winter. I have never seen these species during the winter in this area and this is the first time that I have experienced these species in the winter. That is what is weird this year.

What about the changes in the environment, has this affected your traditional practices?

Some species that we would not have bothered with, such as the harp seals are now harvested in the winter because they are there. They are the ones that are coming up and being shot. That is the biggest change.

In terms of caribou, we never used to have caribou until the last few years close by. Although they are no longer as numerous as when they first passed through, the caribou are still fairly close. They are still close, but the birds that come in the summer, they have

started to change. I have started to see new species and I do not know if they are just passing through or if they will be staying. I really cannot say as I am not an elder.

What about the fish? Have their runs changed in their timing or have they been affected in terms of physical deformities or the like? Have they changed due to the climate?

I do not know if they have been infected before but the fish were fairly scabbed. I have seen them from time to time. But the fish, at least the majority of the fish caught had scabbed skin, although their flesh was firm and tasty. I am not sure what caused this, but the fish did not seem to be completely well.

What about vegetation and the growing plants? Have you seen new species or changes in the growing cycles?

Within the community, I have started to see these plants, dandelions. We never used to have them before, but they have been transplanted here somehow. Now they are all over the place and taking over the areas where other species used to grow. They have definitely affected the tundra plants that would have taken over the area around Iqaluit.

This is the case in the community area but the plants that have always grown here seem to the same outside, except they seem to have lost more of their plant hair. Perhaps this is due to the caribou foraging around here the last few years. There are hardly any of the plants that they eat left within the community.

Even so, in some of the years past, it was noticeable that plants that have not grown or sprouted for a while grew, these were plants that the elders knew about. I think they grow during a warm spell. They grow when the conditions are right.

Have these plants affected the animals in the vicinity or the ones that eat certain types, are they affected?

Near Apex, the bridge is an area I can use as an example. The plants that grew there were part of the ecosystem and they were food for some of the different animals around here, and the elders would identify them as transitional plants. But the plants that are growing are not traditional plants, I am not sure how it has affected the lemmings though. Perhaps if the lemmings' diet was researched, then they could find out.

What about the effect on Inuit who use the land, those who "nunaqpak" to forage the resources of the land? Has this affected those Inuit who pick plants and berries?

Every year is different, but when there are more storms than usual, than the plants do not have enough sunlight to grow. The effect is on the fact that when the conditions are difficult, then the berries hardly grow. But if there is a good mixture of rainy days and calm clear days, this contributes to a bumper crop of berries and other edible plants.

As well, when the land is parched, then the berries do not sprout. Only a few do. I can state that as a child, we were included when they went to pick berries, so there always seemed to lots of them. I do not go berry picking anymore, so I cannot tell you either way these days.

What about the effects on the water quality? Have you noticed any changes in our water quality either from the creek or lakes?

I really have not noticed. But when there are hardly any rainy stormy days, then the water level changes and you can see the difference in the outflow of the creek. The other creeks are like that as well. If it is particularly dry, it is known in oral history that in certain dry years, some fish would not be able to migrate back to their lakes and would have to migrate somewhere else.

If that was the case, then you would see fish in the fall, when they should be on their way upriver. It has happened a few years ago, but these last few years are not the same. Last fall, there was more water and as for the water quality, there are differences in all lakes and rivers.

Some are really cold, fresh and tasty and others are really smelly of certain chemicals or land taste. I can add that the glacier runoff water down at the mouth of the bay has the best water. The water is kind of silty, but the water is so good. They are the best out of the water. The icebergs as well are the best water.

We use them down there a lot when we are down there. The water here is not as good and seems more tart. Maybe it has more to do with all of the emissions emanating out of the community. The growth here is phenomenal and it most likely has an impact on the outlying area with everything that is dumped or bled into the air.

What about the quality of the municipal drinking water, has it changed?

Here, when you are outside of Iqaluit, I know that the water is better and that the elders notice the difference, but I really have not noticed. But I have noticed some subtler changes, such as the amount of silt. When there is more construction, the river has more silt and changes the clarity. You see all the dust thrown up by the vehicles and it falls into the creek. Further out, it is not as bad and the water is much better.

Here, the creeks are different, at least in taste. Some of them are quite tasty. Here in this community, it has never has really good water due to the fact that they add so many chemicals to the drinking water and this affects the taste.

Have you noticed any changes in the growth of algae in the lakes or that type of vegetation growth in the lakes?

I do not know. There has not been too much change as far as I can tell. In running water, there is no real growth in the creeks. In still or stagnant water, the algae blooms, but I could not tell you if there is more growth these days.

Any changes to the tidal patterns in this area? Has there been changes in the water levels or in the cycles?

It seems that they are still following the old cycles, because depending on the pull of the moon, the tide is stronger in some months as opposed to others. Some years as well, there are more pronounced tides that are above and beyond the usual tides. When you have lunar neap tides, you can see where some of the old sites are awash. I think that the tide is stronger, but that could be due to that area changing as well. That area is kind of sinking because some of the old sites further down are now within the tidal area, whereas some of the old sites here are really noticeable in their elevated status. They are above the high water mark now. I could not really say that this is due to this or the other, as the years are always different, some more active, others less active.

What about the effects of climate change on human health, has there been a change in the occurrence of health problems or not as a result of the changing climate?

I have not really seen anything related to this phenomenon. I could not really comment on this other than those who complain of joint pain prior to bad weather. Perhaps this is related to the change in our diet and a more sedentary lifestyle.

This is different than how we grew up but this is due to the mechanization of most of our duties and we are mainly weekend harvesters. This has an effect on our bodies that have been bred to survive in the toughest conditions on Earth. We are no longer hunting every day so I cannot say that health problems are related to the climate change.

What I do notice is that as Inuit turned to a different diet, things that have no real nutritional value such as pop, chips and other sweets. These are things that are not conducive to a good reaction with a body designed to live off the land.

This may be related to some of the ingestion of chemicals that we did not grow up with such as chlorine, fluoride and so on. I believe that they are not healthy additives to the water. I think that we are affected in that manner. Our country food is still more healthy than store bought food and I crave it sometimes still.

In relation to other effects such as sunburns or snow blindness, other health related problems that you have observed?

It is mostly related to the fact that we are no longer ingesting our traditional diet. I think that there are some things affecting Inuit, but in terms of things such as snow blindness; I used to get snow blind as a child, and if you are not wearing the proper eyewear protection, then you will get snow blind. Inuit have always known that.

Inuit are apparently starting to get diabetic and that their bodies are not allergic, but have strong reactions to certain foods or additives. We are also using more medicines that have to be ingested, so I am not sure whether this is related to the climate.

If you have other comments or questions, you may speak to anything related to climate change.

Yes, the sky is one thing that I have noticed as being slightly different. The sky is what seems to have changed. The elders have stated that this is happening but even I have observed the changes. “Qilaligaayuq” - The sky turns nice and blue whenever the weather is calm and clear. The blue is not as deep nor is it as clear as before.

It is no longer as clean in its colour and it is quite noticeable for those of us who have grown up on the land. Especially poignant when you look at old pictures in the 70's, the colour of the sky is so blue and so bright. It is a lot different now, the sky seems to have lost its lustre and vivacity.

Thank you for the time you took and we will be in touch.

Climate Change Interview in Iqaluit – March 6th, 2002

Sammy Qaumariaq

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. It was outlined that the government wanted to get a baseline with Inuit Qaujimajatuqangit on the climate and its usual characteristics as opposed to the present day reality.

The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future. Was there a problem with their informed participation in this study?

POB: I know where I was born, at least the name. It is called “Patsaraq”. I was born at that place around the year 1938. I believe it was 1938, April 28. The only way I can confirm this date is because it is written on my baptismal certificate.

Has the weather changed since you were a child?

Yes, I am always told that I do not have a good memory. If I had a better memory, then I would be able to give you more details. I sometimes do not remember that part of my life. I will try to answer it as to when I recall.

From your recollections, has the weather changed since your youth?

Yes, I recall only tidbits of when I was a girl and during one ukiuq, we travelled from our ukiuq camp, from Kuyait via dog team to go and celebrate Christmas. It is a partial recollection, but we went to go to the post. Back then it did not take long for the ice to form. That is what I recall that we went to the post to celebrate Christmas via dog team.

From your recollections, when was the first time that you started to notice that the weather was changing?

Yes, in the past when I had my husband and children it was roughly the same. It is only fairly recently that I can talk about the changes to the climate. I cannot recall exact years but I can state them roughly. But when we moved here to Iqaluit I stopped paying attention to the weather.

Once we stopped travelling as much, it was not as noticeable. But, things have changed according to my knowledge because we used to get taught about these things. Our grandparents would talk about the future, about the time that our lives would get more rushed and the climate would change.

That is what we were told; that this would be the life we would lead. He would say that today things are okay, but that in the future it would be like so. He did not say what year this would happen, but that it would happen.

And that is how we lead our lives today, lead by the clock, always rushing. That is what started to happen around the early 70's when Inuit were in the communities. This was around 1971-1974. That is how our lifestyle changed and it was due to influences such as alcohol. That is what was most noticeable to me.

Indicators/Impacts

In respect to effects of the climate, has this changed or what else has affected your practices? I am talking about are the changes to the atmosphere, has it affected your camping trips?

Yes, very much, because in the past, the ukiuqs were a lot longer. These days the last three ukiuqs, let's see, yes these last three years; the ice has melted earlier every upinngaaq I have noticed. The climate was the only constant in our lives, although it varied, it was almost always on time. At least when I was a young girl and I started to remember these things.

What about the indicators to the climate such as the change in temperatures, has this changed in your observations?

Yes, the temperature has changed. The cold seems to be losing its strength in the ukiuq, especially this ukiuq. It seemed to start from then, although it would vary in some years, it was never like this. The neap tide also changed and the low and high tides are slightly different and to use wildlife as an example, when the yearly cycle has started again, the animals reproduce and some years, depending on the factors, the population either increases or decreases. Other years the cycle begins anew. That is what I know.

What about the temperature? Has it been stable?

Especially these last few years, it has not been stable.

According to your recollections, has the temperature become colder, warmer or has it been stable or has it changed?

In the ukiuq? Yes, I recall a time when we were out on a trip here to Iqaluit, soon after we lost our mother; I was being taken to my mom, really my grandparents who were living

here in Iqaluit. We used to camp in the ukiaq further down, and during this ukiaq, I lost my mother.

We used to have additional skins to keep us warmer, especially the girls and smaller boys. This was due to the fact that we were not as strong and could not run alongside the sled to warm ourselves up. That was why we had the additional skins. It used to be quite cold; unfortunately I cannot recall the months. It used to be really cold in December, just prior to Christmas. Especially that month was cold.

What about warm episodes in the upinngaaq or auyaq, do you recall any particularly hot times back then?

When I started to recall episodes, it never really seemed too hot. It was quite warm on occasion, but it was never really hot. To cite an example, this upinngaaq was unlike any that I have experienced in my life.

It was really hot, then bad weather came and it got cool quite fast. Our weather patterns these days are quite interchangeable. They quickly change now with no stability one way or another. Especially 2001, it has really changed.

Have you noticed any changes in the weather patterns and has it affected the Inuit? Has the weather patterns been changed, and are they occurring more or less than your recollections?

Back then I recall a lightning storm when it was really raining. It was when I could just barely remember and we were living outside of Iqaluit then. The weather always will turn bad because it has its own cycle. We cannot control the weather and it was not taught to women to recognize the signs of a pending storm. We cannot predict how the climate will behave.

It never used to get that hot. Prior to my birth, apparently it used to be quite warm. But to use the previous upinngaaq and auyaq as an example, plants that never seemed to grow started to show up. They would have grown more, but due to the fact that it got cooler after that, seemed to slow their growth.

It was hard to decide, but to use the blackberries as an example, when the frosts come earlier than usual they did not have a chance to finish growing the berries due to the cooler temperatures. Plants are like that; they depend on the temperature more than the animals. They tend to die when they are cold.

Do you recall the changes, such as the blizzards that occur in this area? Is it more frequent or less frequent or has it even occurred around here?

The blizzard aspect of the weather is different as well. Back then; the weather seemed to continually cleanse itself. When it would snow, then there were more blizzards.

Sometimes they had to wait three days for a blizzard to blow itself out. The hunters did not like to sit around, but they used to have to wait out a storm.

It used to snow a lot more back then, we would get deep snow that was over two feet. Nowadays, with your snow machines, it seems to never get powder snow anymore. Back then; it used to snow a lot. Some ukiuqs when it had snowed more than usual, there was tons of snow and the ground was saturated with water everywhere.

I recall that it was powdery snow fairly deep a lot of times when we had dog teams. Now that you have skidoos, it does not seem to get deep snow.

You alluded to lightning storms earlier. Have the frequency of these storms diminished or increased?

It used to be something I recall only because I would be very scared of it. I cannot really state either way, but it was always accompanied by a really bad storm. I cannot state either way whether it has become more sporadic or frequent, as it does get thunderstorms when the conditions are right. This area gets its share of auyaq storms, at least this area.

What about the prevailing winds in this area? Has it changed or has the winds from the directions become stronger or less frequent?

The land is unique in its makeup, for example the south side of the bay is different and so is the land all the way down the bay to Taqulikjuaq. This area generally gets an Kanangnaq wind, is it? Pingangnaq, Kanangnaq, was it? Yes, the Kanangnaq wind is stronger here and the other side gets stronger Pingangnaq winds.

Yes, the wind originates from different directions depending on where you are, but it is noticeable that the wind has shifted. We notice that the climate has changed. I recall when I had two children, it was the first time that I found out about the strength of the Uangnaq wind. It was really strong that upinngakksaaq.

The wind has different strengths in different seasons, I cannot state that it is fractionally stronger from one direction or the other. All I know is that in some years there have been stronger winds. This is not all the time either at least according to what I know.

In regards to the changes that you have been alluding to, how has this affected the seasons here in Iqaluit, such as ukiaq, ukiuq, upinngakksaaq and so on. Have the seasons changed in their timing and so on?

It is not at all like the past, today the seasons are different in the timing. These days auyaq is really long, that is what I have noticed. Generally in the arctic, we used to have a relatively short auyaq season, but these last few years the auyaq have gained in length due to the ice not forming until late in the year. That is what it has been doing.

What about rivers, creeks and so on? What about the ice and its timing, either the melt or the formation, has it changed?

The creeks are dependent on the weather to freeze over. If the temperature remains cool but not cold, they keep running and they are affected in how fast or slow they freeze up by the temperature. What I do know is that if a creek has less volume of water, it tends to freeze faster than one with more volume or current.

When the land starts to freeze, the edges first start to freeze, these little creeks then they are soon iced over, but the larger lakes and rivers, especially the ones with fish tend to remain ice-free for longer periods. Further, fresh water freezes a lot earlier than saltwater and the mouths of rivers tend to form first. That is how it operates, but these days the climate is vastly different.

These questions relate to the whole of South Baffin so those answers are fine. What about freshwater lakes, such as fishing lakes and their ice conditions that you may have noticed. Has the thickness of the freshwater ice changed in the last few years?

You asked earlier about snow and its occurrence, and I stated that if a lake had a lot of snow on top of it, it does not get as thick as one with a thinner layer of snow. But the ice that has hardly any snow on it gets really thick. That is how the lakes get either thicker ice or thinner ice, depending on the snow cover. That is what I have noticed.

Back then the ice was quite thick, but again it depended that year on the snow cover on the ice. Some years it was thicker, other years it was thinner. I really have not seen any difference so I cannot really answer that the ice is thinner due to the climate because I have not seen it.

What about the quality of the saltwater? Has the ice formation of the sea changed?

The weather is warmer with more rain rather than cold and snowy, and due to that, the ice melts earlier in the upinngaaq. The sunrays and the rain tend to melt the ice down, seemingly faster when in conjunction. It is like a tag team.

What about the formation of the ice, was it later than usual or has it remained roughly the same over these last ten years? Is it thicker or thinner than your recollections?

We do not camp out as much as we used to. We had a auyaq/ukiaq camp down the bay. But I do know that Iqaluit tends to get a later and later ice cover, Inuit know about these changes.

I cannot really answer that as I am a woman and I do not hunt in the ukiuq. I really do not check for ice thickness at all, so I cannot speak to whether the ice is thinner or thicker these last few years. If I was a hunter, then I would know more about this issue.

What about the floe-edge, has this changed in its proximity or its formation?

It used to be way down the bay; I have heard that the floe-edge is a little closer these days, according to the hunters that go hunting down there. We hear all the things that are reported by the hunters, especially the polar bear hunters. These days, I heard that it is closer. Nowadays we are from the “tuvvaq” and at the inset of the bay.

What about the land? I am referring to the permafrost underneath the soil and so on, has it changed in your recollections or have you noticed any change in the permafrost?

Not really, I do not know how deep the permafrost layer reaches from the top. I do know that I have heard that it is really quite close. I do not know how thick it is either, so I could not tell you.

What about wetlands or areas that are close to the lakes or whether these wetlands have become dry?

Only those areas that are relatively shallow tend to dry out. Some of the temporary lakes dry out by auyaqtime. Some of them are fairly deep, but they have run dry. The lakes are also affected by the weather and its patterns. Even the big lakes can be affected by the lack of precipitation and their water levels drop as well. The rain really compensates for the evaporation of the lake’s water. The changes in the water levels after a storm are called, for the high water mark, “ulitiqtuq” when it has gained water and even if it is a river, the low water mark is called “tinitiq” when the water level has dropped. That is what this is called.

What about landslides in this area, do you know if they occur more often or when they occur?

I have not watched one close up, but you can always tell if an area has undergone a slide. There are rocks that have spilled down and you can see them in the auyaqtime. They are easy to spot.

What about the snow, is it as deep as it usually is, or is it sparser? What about the characteristics of the snow these days?

We do not go outside of Iqaluit anymore so I cannot really say. But I have never seen any powder snow here anymore. Whether it has occurred outside of Iqaluit I cannot say, but when it snows a lot, then you tend to get “maujaq”. Like this year, it hardly snowed so that all the rocks are exposed and the snow is sparse.

I have never made an igloo so I could not tell you one way or the other whether the characteristics have changed. I have heard it said that the snow is good in places and no good in other places. I have absolutely no knowledge about igloo building.

What about the changes in the conditions of the snow, ice and sea-ice that you can recall that differ from the usual patterns?

If the ice formed properly and had time to thicken prior to snowfall, then it was really good ice all the way into auyaq. If it had not formed properly due to bad weather, then the ice would be very rough and strewn with pressure ridges. But if the snow fell a little more that year, even with the rough ice, it would smooth out the ride with the snowdrifts.

In some years, the ice forms really well when all the conditions are right. In other years, it can be really rough, all years are different in the way the ice forms that year. It depends on the conditions as it is freezing. It would either be a rough year or a good year, depending on the ice, at least when we travelled exclusively via dog-team.

How about the effects of the climate on animals, such as fish, insects or other animals? Is this affecting our wildlife? Have you seen new species?

I have only noticed birds that are new to me. I also know that the abundance of certain insects is dependent on the conditions that year and they sometimes come earlier, later or hardly at all. Mosquitoes are what I am talking about.

The smaller birds that I have noticed are ones that tend to sift through the beach area. You know when the frozen beach ice starts to melt prior to the ice going out, there are pools of water, just before the ice that moves with the tides.

I saw these birds going back and forth that I have never seen before. It was foraging in the tidal area, where the water covers the area during high tide. This was before the ice broke up

What about the fish, or whether the fish are being affected by the climate in terms of deviations?

I do not know. I have not seen any fish that have bad skins. I have not observed any noticeable changes to the fish, at least the ones that are caught here. They look the same. But I have noticed that the seals have changed, at least in terms of their skins. That is all that I know.

Let us turn to the vegetation and other features of the land. Have you noticed any changes?

I have not observed big changes in the vegetation. Last upinngaaq as it was turning into auyaq, I saw these plants that I am not used to seeing when I was out walking around the area looking for berries. They were growing there, not very many. I can tell that if the

weather continues to be as hot as it was, then more of these types of plants may start to flourish, like the plants down south.

Have these new plants started to colonize the area? Are they taking over that area?

I am not sure, but within the community, it does not seem so. Some years they grow more and other years they are not as productive. Some auyaqs are warmer and the weather is always moving and changing, but the change that we have observed that is most drastic is the one to the auyaq season. It is far longer than before.

Have these new plants been used by animals of any kind that you are aware of?

Not that I am aware of, only in that some bird species are dependent on certain types of vegetation.

What about the affects of climate change on our freshwater resources, such as lakes and rivers and the like? What about the quality of the water that is collected for tea?

The rivers are a source of really good water, that is how we look at them. But the small ponds and little lakes, those are stagnant and are not considered clean water. This is due to the fact that they tend to dry up and are a source of silt. That is what I know and most Inuit look at creeks and rivers as being very clean water. The little ponds are also sources of mosquitoes and other water bugs especially the ones with no outlets or inlets of water.

What about the municipality's drinking water supply? Has that been affected by this climate change issue?

The only thing that I know of is that they add chemicals here in the town and it is in the water that is serviced to the houses. It tastes like the chemicals. That is the only thing that I know.

What about the tides and their timing, have you noticed any changes in the cycles or the plankton or other marine species?

I have not really noticed any changes to the tidal patterns. The animals living in this tidal zone, at least those that we eat have not seemed any different in anyway. At least there is nothing that I have noticed.

What about other effects on Inuit here in Iqaluit, more specifically the health effects of the stronger sunrays and warmer climate? Are Inuit getting more snow blindness, more colds or are there other respiratory problems that you are aware of?

In the old days, we used to get a lot of snow blindness, due to the fact that we would be out hunting on the dog teams. In those days, it seemed like someone was always suffering from snow blindness. These days I have not seen anyone get snow blind. Perhaps it was due to our being outside all day, sometimes for several days at a time.

Yes, to some of the Inuit, the sun is affecting their skin in this day and age. It is probably just a sunburn, but one of the kids that I look after, they had sunburns or something related to the sun, at least according to the doctor. It looked like the skin was punctured in places, due to the sun. That is all that I know. Personally I do not know if it is true.

*What about the climate's effects on people, such as those with respiratory problems?
What about colds or other respiratory problems?*

Only in terms of the weather getting colder. I have not paid attention to whether it is ukiaq or not. It is related to the temperature variations, when it goes from warm to cold. We have had a serious cold problem here in Iqaluit this ukiuq. That is all that I know.

Do you have any other comments or questions in regards to this project?

I really have nothing to add. It is only when someone is asking me questions that I am able to try to recollect my observations. The neap tides are what I have noticed, the high tide does not reach as high, but the low tide goes further than before. Some years it changes as well, we get bigger neap tides. That is all.

Climate Change Interview in Iqaluit – March 3rd, 2002

Mosese Tiglik

Project Description and Reasons for the study

The reasons for the study and the project were related to the participants, including the information contained in the consent form. It was outlined that the government wanted to get a baseline with Inuit Qaujimajatuqangit on the climate and its usual characteristics as opposed to the present day reality.

The reasons for the study, from the government perspective, were also pointed out and what this information could and might be used for, in the future. Was there a problem with their informed participation in this study?

POB: I was supposedly born outside of Iqaluit around the year 1965 that was the year that I was born. I was born at Qipisaa, further down the bay.

Has the weather changed since you were a child?

Yes it has. As far as I can tell, there have been changes to the climate since these last few years. I have heard from the elders that the climate would change and it is now changing a lot. The sky seems to get lighter earlier and the winter season has been shrinking, the sea ice does not form until much later, and the temperature has varied tremendously over the last few years. Sometimes it is really hot and humid, and then all of sudden it would get quite cold, down to a few degrees. These are the changes that I have observed.

From your recollections, when was the first time that you started to notice that the weather was changing?

As far as I can tell, 1978 was the first time that I noticed that change in the light. It was quite bright and that was how it was in the summer. That was the first time that I noticed that changes in the climate.

What about the changes to the climate in and around the area where you were born to the time that you became a youth, did your parents tell any stories about the climate?

Not really, I cannot answer that because I have never really questioned my parents about the climate and the changes occurring today. I really have no history here.

Indicators/Impacts

In respect to effects such as the suntan of hunters, has this changed or what else has affected your practices? I guess what I am talking about are the changes to the atmosphere, has it affected your hunting trips?

It is a lot of fun to go hunting when you are a man, but these last few years have been later and later in terms of the sea ice forming. This has affected all Inuit in this area.

So the ice has affected your practices?

Yes.

What about the indicators to the climate such as the change in temperatures, has this changed in your observations?

Big time. It has really changed, but during the winter when it is cold, it seems to be a lot colder than before, it actually was affecting my lung, that is how cold it was. It was uncomfortable due to its extreme coldness.

Perhaps the exhaust fumes from the cars, airplanes and buildings are causing this effect. It is accumulating in the atmosphere and it is collecting up there. It was really weird to have a rainstorm in the winter, that is the first time I have observed it at that time of year.

What about the temperature? Has it been stable?

It has changed quite a bit over all the year and the seasons.

According to your recollections, has the temperature become colder, warmer or has it been stable or has it changed?

It has been really hot and humid these last two summers, it was actually like being down south in one of the cities. That is how hot it was, although we are Northerners, it felt like the southern temperature had been sent up here.

What about the land? Have you noticed any changes in the weather patterns and has it affected the Inuit? Has the weather patterns been changed, and are they occurring more or less than your recollections?

The weather seems to be worse than before. The weather patterns are different, that is for sure. The weather seems to be undecided, but I seem to think that there are less stormy days during the winter. But again, it rained when it was winter and there was snow on the ground that is how much the climate has changed. As well the land became covered with ice and very slippery. I was very surprised to see this phenomenon occur during the winter.

What about the number of storms this area receives each year? Has there been less snow or more than usual?

There seems to be fewer snowstorms these days. It hardly ever snows and that is why, although the wind is still just as strong, we are not experiencing the blizzards that we would usually get in the wintertime.

Do you recall the changes, such as lightning storms or thundershowers that occur in this area? Is it more frequent or less frequent or has it even occurred around here?

In 1995, that was the only instance of lightning that I recall around here. I have not experienced other lightning storms.

What about the prevailing winds in this area? Has it changed or has the winds from the directions become stronger or less frequent?

The changes are not as observable, but what I do notice is that the weather seems a lot colder, almost like a moist cold when an Uangnaq wind blows down from the land. It gets really cold. But when the south wind blows, it seems to be warmer. At least that is what I know.

Let us move further, but I forgot to ask about your birthplace and date of birth. Could you enlighten us as to these particulars?

I was born in September 1965, at a medical station in Pangnirtung. That is where I was born.

In respect to the questionnaire, let us return. In regards to the changes that you have been alluding to, how has this affected the seasons here in Iqaluit, such as fall, winter, early spring and so on. Have the seasons changed in their timing and so on?

Very much so. The ice that forms on the high water mark called “qainnguq” hardly formed this year, and it took until what used to be deep winter before they froze over. This was quite strange and winter did not arrive until December.

What about the ice and its timing, did this have anything to do with climate change?

Yes. The ice was late this year.

What about the ice melting? Was this normal or did the sea ice melt earlier than usual?

It did melt really fast. The ice melted away quite fast and the warmer temperatures affect this in that it melts the ice faster.

What about rivers, creeks and so on? You stated that winter was late this year, and did this have an effect on the freezing of these water bodies?

Yes, the ice formation timing has changed dramatically. Nowadays, in what would traditionally have been early winter, there was still no frost on the ground or water bodies. It was not until later on that we were able to see the water freezing over in the creeks and rivers. Usually the ice forms immediately in the fall in the shallow creeks and lakes, but they did not freeze over until close to the new year.

What about freshwater lakes, such as fishing lakes and their ice conditions that you may have noticed. Has this changed in your recollection as well?

It has also changed quite a bit from my youth.

Has the thickness of the freshwater ice changed in the last few years?

It is also changed, at least to this day, the ice does not form as early as it used to. The climate gets warmer earlier, stays warmer longer and the snow and ice do not arrive in their usual times.

What about the quality of the freshwater? Has the quality of the water changed?

Yes, it has changed quite a lot. The water that we drink nowadays has changed, but due to all of the additives that they include in our water supply, it is hard to taste. That is the biggest change in our freshwater.

Let us move unto the sea ice. What about the timing of the ice formation and ice break-up. Has this changed as well?

Yes. The ice characteristics have changed. The ice is forming later and later every year. This is due to the climate changing. That is what is changing some of the characteristics.

In respect to our sea-ice, when it does form, is it still the same relative thickness as historically?

Absolutely not, the sea ice is a whole lot thinner than before.

What about the floe-edge, has this changed in its proximity or its formation?

The floe-edge is something that I am not familiar with. I have heard that it is way down the bay at this time. It is not as near as it used to be. That is all that I know.

What about vegetation, such as wetlands or other areas that contain vegetation are they affected by the changing climate?

Yes, the changing temperatures and seasons affect them as well. The vegetation is dependent on the temperature and sunlight to grow, but the temperature seemed to be lukewarm even in the fall. The vegetation was subject to humidity and other moisture related occurrences.

Has the snow around Iqaluit become deeper, lighter or less common, such as within our area here in Frobisher Bay?

There seems to be less snow and the snow now is packed into snowdrifts and there are hardly any more occurrences of deep powder snow. It hardly snows anymore and the snows seem to be lessening in their duration.

What about the effects of the climate on the snow characteristics, such as when you are trying to build an igloo, you require a certain type of snow. Have you noticed any changes in the snow?

The snow is not as good as it used to be and it is exhibiting different characteristics, and especially if you are looking at building an igloo, it is no longer the same. This is due to the climate changing and causing these changes in the patterns.

What about the effects on your camping trips or hunting trips, has the climate changed caused changes to the environment which are affecting your use of the land? Please elaborate on what has caused the most problems for you?

Most of the areas that we use for our travel are not as useable and due to the lack of snow, they are not really navigable. It has really affected some of the hunters as the lack of snow is hindering the harvesters.

Although we would want to go hunting inland, it was getting tiresome waiting for the snow to arrive so that we could use our snow machines to go hunting with. It was quite an unnerving experience especially since this is so unusual to not have snow on the ground for weeks at a time.

How about the effects of the climate on animals, such as fish, insects or other animals? Is this affecting our wildlife?

Yes, it certainly does. At least to this point in time, because I have seen insects that I am not familiar with, bugs and the like, that we have never seen before, at least in this area. As well, there are seemingly different types of bees around here now. We still have our bumblebees, but sometimes it is unnerving to think that we may have to adapt to new species of insects, especially when we do not know their preferences.

What about nesting areas or have you ever seen birds or animals that are suffering as a result of the climatic changes?

No, I have not.

What about the changes to the animal behaviour or to their usual times of migration to our area? Have you noticed any changes in that regard, such as population estimates or the like?

Yes, there are changes but I cannot elaborate.

What about the fish, or whether the fish are being affected by the climate in terms of deviations?

Not really. I have seen some cases where the fish have scabs on their skin. I would think that the climate had caused this, as the sun is a lot hotter than before.

What about vegetation have you seen new species or new types of vegetation?

I seem to be different in that I have noticed areas that are losing vegetation, perhaps due to the hot weather causing heat stroke or something. Nowadays all you see is the heat waves emanating from the hot tundra. The weather seems to have affected the vegetation in that they are growing faster and taller than before. That is what I have noticed.

Does this affect the wildlife as well, in terms of the hotter weather? I guess what I am trying to get at is that land animals depend on the vegetation and if they have more food, then it may affect their population dynamics. Have you noticed any changes?

The animals are changing, and the caribou were everywhere and they were feeding off the land. Nowadays, the caribou have shifted farther Uangaq, most likely due to the lack of vegetation resources that they like to eat.

What about areas that are used for berry picking? Have they changed as well or has this affected the use of such areas by the Inuit here in Iqaluit?

The people who usually picked berries kept stating that the weather had caused the berries to be sparser this year and it was a poor year. The women especially wanted to move to different areas to see if there were areas of rich pickings.

What about the affects of climate change on our freshwater resources, such as lakes and rivers and the like?

Our lakes and rivers? Yes, the lakes are dropping in the water levels and our creeks and rivers are losing water volume, due to the climate changing and affecting the weather and causing the water to evaporate more and less precipitation.

What about the quality of the water that is collected for tea?

The quality of the water from the lakes has changed, in that there is more silt and debris in the lakes. It is no longer as clear as I recall from my youth.

What about the municipality's drinking water supply? Has that been affected by this climate change issue?

The water quality has changed drastically, especially our drinking water. If we look at the water that we used to drink, we can recall the taste and the properties of the water we were drinking. Nowadays, it is harder to taste the water as the water has additives and these days it is not as desirable to drink due to the fact that the buildings downtown are serviced by the utilidor and other areas that do not have the utilidor receive water truck service.

The water has too much chlorine now, we used to hardly ever taste the additives, but with flouride, chlorine and all of the other chemicals used now, it is really awful. We used to get really clear clean water that was a pleasure to gulp. Now the water is not as desirable and it seems to be dirtier.

What about other effects on Inuit here in Iqaluit, more specifically the health effects of the stronger sunrays and warmer climate? Are Inuit getting more sun blindness, more colds or are there other respiratory problems that you are aware of?

There are more colds are respiratory sickness most likely due to the warming of the climate.

Do you have any other comments or questions in regards to this project?

I am thankful that you have taken the time to interview me, but I am not a repository of environmental knowledge and I am sorry that I could not be of more assistance.