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A necessary voice: Climate change and lived experiences of youth in Rigolet, Nunatsiavut, Canada

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ABSTRACT

Globally, youth voices and their experiences, observations, and perceptions about climatic and environmental change and variability are relatively absent in the published literature to date. To address this gap, the goal of this research was to explore the observations and perceptions of climate change held by youth (12–25 years old) in the Inuit community of Rigolet, Nunatsiavut, Canada. Twenty in-depth interviews were conducted with youth in Rigolet to gather data about climatic and environmental changes young people have observed, and the subsequent impacts of these changes on their lives, culture, and community. Youth reported observing and experiencing climatic and environmental changes throughout their lives, with reported impacts falling within five main themes: changing travel conditions and access to hunting; challenges to Inuit culture; a concern for Elder and senior well-being; strong climate-related emotional responses; and youth-identified potential adaptation strategies. More broadly, this research demonstrated that young people have valuable knowledge and perspectives to offer. In particular, researchers, community leaders, and policy makers are encouraged to meaningfully engage youth as crucial stakeholders in future climate change work, research, dialogue, and policy.

1. Introduction

Climate change has become an international concern, as dramatic shifts and variability in climatic conditions are increasingly experienced globally (IPCC, 2007; Füssel, 2009). Currently, climatic and environmental change and variability are most severely impacting the Polar regions of the world (IPCC, 2007), with Northern empirical research and Inuit oral histories and testimonials documenting increased seasonal temperatures, rising sea levels, warming permafrost, and reduced sea ice quality, stability, and extent, all of which are indicators of a warming climate (Fox, 2002; Furgal et al., 2002; Krupnik and Jolly, 2002; Ford et al., 2006, 2008, 2010c; Furgal and Seguin, 2006; Nickels et al., 2006; IPCC, 2007; Prowse and Furgal, 2009; Prowse et al., 2009a,b,c,d,e). Specifically, these regions have experienced rapid changes in atmospheric temperature, with up to 5 °C increase in annual atmospheric temperature over extensive land areas throughout the 20th century, and an average annual temperature increase of approximately 1 °C per decade in the Arctic region (IPCC, 2007). In addition, dramatic changes in sea ice stability and extent have been documented, with the largest Canadian rates of decline witnessed in the Northern Labrador Sea at a rate of 1536 km^2 (17%) per decade (Environment Canada, 2011; Statistics Canada, 2011). Warming of shallow permafrost at a rate of 0.3–0.6 °C per decade in some Canadian regions has been attributed to warmer atmospheric temperatures and increased snow precipitation (IPCC, 2007; Smith, 2011). These changes continue to have subsequent impacts on the flora, fauna, and human populations that rely on the Arctic ecosystem (IPCC, 2007).

The Inuit who live in these Polar Regions are often considered to be particularly vulnerable and susceptible to these climatic changes and variability due to their geographic location, reliance upon the local environment for harvesting renewable resources for subsistence, and their history of colonization that lead to socio-economic transitions and transformations (AHDR, 2004). Past research has examined how climate change and variability have led to social, economic, political, health, and cultural pressures on Inuit communities (Berkes and Jolly, 2001; Nuttall, 2001; Fox, 2002; Berman et al., 2004; Ford and Smit, 2004; Furgal and Seguin,

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2006; Laidler, 2006; Smit and Wandel, 2006; Prowse and Furgal, 2009; Prowse et al., 2009a,b,c,d,e; Ford et al., 2010b,c; Cunsolo Willox et al., 2011, 2012; Harper et al., 2011a). For instance, as Arctic marine and freshwater systems are impacted by changes in temperature and water level, the wildlife that depends on these systems are subsequently affected, resulting in decreased accessibility and availability of wildlife for hunting and trapping, which compounds existing food insecurity, as well as mental and emotional health and well-being status (Furgal and Seguin, 2006; Ford et al., 2006, 2008, 2010b,c; Cunsolo Willox et al., 2011, 2012).

While there has been burgeoning research in the Canadian North on climate change observations, impacts, and adaptation strategies, most of these studies have focused on the extensive experience and knowledge held by Elders and active hunters due to the extent and depth of their experience, their intimate knowledge of the land, and their cultural standing in the community (e.g. Krupnik and Jolly, 2002; Ford et al., 2006; Furgal and Seguin, 2006; Laidler, 2006; Nickels et al., 2006; Alessa et al., 2008). Furthermore, there has been a concerted effort among researchers to work with these groups to document their wisdom and ecological knowledge due to fears of this knowledge disappearing before it can be shared and transmitted with younger generations (Krupnik and Jolly, 2002; Ford et al., 2006; Pearce et al., 2010).

While working with Inuit Elders and hunters is essential, it is also imperative to include other voices and age groups within climate change and adaptation research to ensure the representation and participation of numerous individuals. In particular, youth are an important source of land-based knowledge and skills around hunting, trapping, fishing, foraging, travel conditions, and weather patterns, and will become the future leaders and innovators in climate change adaptation in their communities. For example, research related to environmental change in other fields, such as disaster management, risk perception and communication, environmental stewardship, and natural resource management, have focused on the necessity of encouraging and empowering children and youth to be active in dealing with disasters and environmental issues (Ronan et al., 2001; Bartlett, 2008; Mitchell et al., 2008; Peek, 2008; Tanner et al., 2009; Tanner, 2010). In particular, research investigating children's risk communication and management is burgeoning (La Greca, 2001; La Greca et al., 2002; Peek and Stough, 2010), and has demonstrated that children have accurate risk perceptions, awareness of risk mitigation, and a belief in their ability to cope with current and future hazards (Ronan et al., 2001; Tanner et al., 2009; Tanner, 2010). This focus on children and youth has not extended into peer-reviewed published climate change vulnerability and adaptation literature to date (although there are gray literature reports through international organizations and programs available through the World Wildlife Foundation, Children in a Changing Climate, and Many Strong Voices). This research gap is particularly surprising in the Canadian North, as over half (57%) of the Canadian Inuit population is comprised of individuals under 24 years of age (ITK, 2008), and as such, youth represent a substantial and important part of the Inuit population. Despite some important youth-related climate change work in the gray literature, youth voices, observations, and insights are largely absent within published climate change and adaptive capacities literature, resulting in an unfortunate and substantial gap in research and associated policy development. Furthermore, a recent literature review on Northern climate change scholarship identified the absence of youth voices as a major research gap and climate policy shortcoming (Ford and Pearce, 2010).

To actively address this research gap, and recognizing that climate change and related climate policy activities will have lasting implications for young people and their futures, this work draws on a case study conducted in Rigolet, Nunatsiavut, Labrador, Canada, and examines the observations and perceptions of climate change held by youth (12–25 years old). This definition of youth was chosen to be consistent with that of the community and was identified by community members as the most culturally appropriate age range to define youth. The research objectives were to identify youth observations and perceptions of climatic and environmental changes and explore youth expectations for the future in light of these changes. While this research represents a single exploratory case study conducted in a small Inuit community, the findings that emerged from youth voices, knowledge and experience offer insight into the impacts of climate change on youth populations in the Canadian North, other Circumpolar regions, and potentially other parts of the world experiencing rapid climatic and environmental change. This work also serves to inform further climate change adaptation research and policy development in Canada and globally.

2. Background

2.1. Canadian Inuit

As Aboriginal peoples in Canada, Inuit have lived in the Polar Regions for thousands of years. Traditionally, Inuit led a subsistence nomadic lifestyle, surviving on hunting and trapping, and practicing a rich culture of art and storytelling. As with other Indigenous peoples, however, Inuit culture and communities have experienced tremendous impact from colonization over the past 60 years, leading to rapid social, cultural, economic, and political transitions linked to this history: forced relocation from homelands by the government; the killing of sled dogs ordered by the Canadian government; forced residential schooling representing a systematic removal of children from their homes, languages, and culture; and the forced settlement of families into towns and away from nomadic land camps (Lehti et al., 2009; Richmond, 2009; Richmond and Ross, 2009; Ford et al., 2010b).

Today, the Canadian Inuit population is comprised of approximately 55,000 people who live primarily in 53 remote communities across the Canadian North, with populations ranging from under 200 to over 6000 within four Inuit settlement regions: Nunavut, Nunavik, Inuvialuit, and Nunatsiavut. While Inuit comprise a small proportion of the Canadian population, Inuit regions cover over one-third of Canada's landmass. Many Inuit continue to have a close relationship and dependence on the local ecosystem for subsistence, and continue to practice other cultural activities including throat singing, drum dancing, storytelling, dog sledding, carving, and grass weaving.

The majority of employment opportunities are in resource-based industries, construction, health care and social services, and educational services; approximately 16% of Inuit report selling fish, meat, carvings, skin clothing, furs, crafts, marine ivory or similar goods (Statistics Canada, 2006). With high unemployment rates (15–23%) and lower median income ($13,699CAD per year) in comparison to the rest of Canadian (5%; $22,120CAD) (ITK, 2008), most Inuit report unemployment to be a problem in their community (77%; Statistics Canada, 2006). These limited economic resources and opportunities can be challenging, especially considering the remote location of Inuit communities and the higher cost of living in the North, with staple food items such as milk, meat, and flour costing two to three times more than in other Canadian communities, and with many food options unavailable (ITK, 2008). Therefore the practice of hunting, trapping, and fishing are not only cultural practices, but also required for subsistence, for nutrition, and for economic well-being. Indeed, the majority of Inuit continue to hunt (72%), fish (77%), forage (80%), and trap (35%) (Statistics Canada, 2006)—practices that provide most of the meat and fish eaten in the household (ITK, 2008). Many children