



Climate change in context: putting people first in the Arctic

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Abstract

Climate change is a major challenge to Arctic and other Indigenous peoples, but not the only and often not the most pressing one. We propose re-framing the treatment of climate change in policy and research, to make sure health, poverty, education, cultural vitality, equity, justice, and other topics highlighted by the people themselves and not just climate science also get the attention they deserve in research on global and regional environmental change. Climate change can often exacerbate other problems, but a singular focus on climate change—as is often the case in much existing environmental literature on the Arctic and elsewhere—can distract from actions that can be taken now to improve the lives of Arctic peoples. The same logic also applies elsewhere in the world, where diverse residents face a host of challenges, opportunities, and obstacles, with climate change but one among many issues. Our proposed approach to regional and global environmental change research draws on the ideas of decolonization, emphasizing collaborative approaches and Indigenous voices in research and policy instead of top-down measures designed outside the affected communities. Only in this way of contextualizing human-environmental experiences can the full effects of climate change be understood—and appropriate responses developed and carried out to adapt to global change.

Keywords Indigenous peoples · Climate change · Decolonization · Arctic · Andes

For Indigenous communities in the Arctic and elsewhere, climate change poses a major challenge now and in the decades to come (AMAP 2017; Rosen 2017; Watt-Cloutier 2015), deserving the considerable scientific and media attention it attracts. And yet, it is but one among many major challenges,

and often far from the most immediate concern, for many Arctic peoples as for others around the world (Forbes and Stammer 2009, Cameron 2012, 2017; Ford et al. 2015; Huntington and Eerkes-Medrano 2017). This point is noted in the foundational literature on natural hazards (e.g., Blaikie

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Highlights

- Arctic and other Indigenous peoples face many challenges, not just climate change
- It is essential to understand community contexts in which change occurs
- Decolonizing methodologies can help put community concerns first
- Putting community concerns first will help lead to more effective actions

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et al. 1994, Cutter 2006), food security (e.g., Bohle et al. 1994), and vulnerability and adaptation (e.g., Smit and Wandel 2006), and put into practice in some studies to date (e.g., McCubbin et al. 2017, Prno et al. 2011, Tyler et al. 2007), such as those examining multiple stressors to climate change (e.g., Bunce et al. 2010, McDowell and Hess 2012, Reid and Vogel 2006). Yet many studies still retain a central focus on climate even as they consider multiple factors that affect people; they can thus overlook or minimize the principal concerns, knowledge, politics, livelihoods, experiences, and priorities of people themselves as research agendas driven by outsiders' focus on climate change rather than the people themselves. By contrast, the lived experiences of health and health care, economic viability, sustaining culture and language, food security, effects from extractive industries, even dealing with the day-to-day demands of existence in remote areas and under extreme climates tend to dominate discussions among and led by Arctic residents themselves (Gearheard et al. 2013; Stuhl 2016).

Although researchers recognize that climate change can exacerbate all of these in its relentless march to replace what is known with the unfamiliar (e.g., Hovelsrud and Smit 2010), focusing on climate change as the only or the primary threat misses much that is more pressing and worrisome. The amount of attention given singularly to climate change in and of itself, as opposed to climate in the context of numerous other risks, can even distract from what matters to Arctic communities, such as high rates of poverty, suicide, substance abuse, limited access to health care, inadequate housing, unsafe drinking water, low educational attainment, food insecurity, and a host of other difficulties (CCA 2014; Forbes and Stammler 2009; Inuit Circumpolar Council-Alaska 2015). What is more, the singular climate focus that comes in high-profile reports from the IPCC, global conventions such as the Paris Agreement, and international conferences such as the annual COP meetings can produce policies or adaptation agendas that primarily address climate change but may not respond to these other, more pressing needs and wishes of Arctic peoples.

We propose an alternative. We want to de-center climate as the dominant issue in the Arctic, to go beyond atmospheric changes and sea ice extent to focus additionally on societal conditions, contexts, and risks, of which climate change is but one part at the local and regional level (e.g., Hovelsrud and Smit 2010; Rasmussen et al. 2015). This approach should yield policies more directly relevant for the needs and interests of local residents and communities. An outsized focus on climate alone generates certain types of mitigation agendas, namely reducing greenhouse gasses by nations and corporations in the Global North, rather than addressing multiple and intersecting issues related to health, poverty, education, economic viability, cultural vitality, and justice. This emissions-oriented approach exemplified in the Paris Agreement and

other COP decisions, for example, also privileges particular actors to “solve” climate change—usually the national and international policymakers representing those countries and entities most responsible for emitting greenhouse gasses in the first place, rather than seeking ideas and actions from those who live in the Arctic and depend upon its resources for their livelihoods.

Climate change in context emphasizes people in relationship to the environment, not just the air and the ice in the focus on degrees C and shrinking glaciers and sea ice. Arctic residents have long lived amid ongoing environmental change, to which they have responded over time (Piper 2012, Hastrup 2018). (Here, we use responses and adaptations to refer to local and regional measures taken in response to change, in contrast to mitigation efforts taken globally to reduce the causes of climate change.) Arctic residents continue to demonstrate remarkable innovation, resilience, flexibility, humor, and perseverance in the face of changes that have swept through the entire region in recent decades (e.g., Fawcett et al. 2018, Kirmayer et al. 2009, Pearce et al. 2015). Predictions of gloom and doom from a changing climate ignore these capabilities and histories. Framings of climate apocalypse—the lonely polar bear drifting on a vanishing piece of ice, for instance—ignore history and deny the place of people in their past, present, and future (Cameron 2012; Liverman 2009; Stuhl 2016; Swyngedouw 2010).

Moreover, this privileging of emissions-oriented decisions made in Bonn and Paris and Washington—while simultaneously relegating Indigenous knowledge solely to the Arctic and other localized regions—can serve to bound Indigenous peoples within local landscapes and local politics, denying them a global voice in processes profoundly affecting their communities (Cameron 2017). Worse, the apocalyptic projections can even become their own fulfillment, if Arctic residents come to believe that their ways of life are done for. This becomes particularly dangerous through the multipliers of the mass media, especially when the effects of change on Indigenous livelihoods turn into simplistic messages such as “Vanishing Arctic Culture” (a cover headline on the October 2017 issue of *National Geographic*) or “Alaska’s Vanishing Ice Threatens to Destroy Cultures” (a *Guardian* headline on 14 December 2018). Instead, while climate change is undoubtedly transforming the Arctic, people continually observe and think about the ways they can take care of one another as they have always done, through larger changes than those of recent climatic origin (Harcharek and Rexford 2015).

Current climatic and global environmental changes may be proceeding at profound and perhaps unprecedented rates (Serreze 2018), but such changes do not remove histories of adaptability and resilience in the past and present (Adamson et al. 2018; Cameron 2012; Ford et al. 2015; Hovelsrud and Smit 2010; Stuhl 2016, Hastrup 2018). More research is needed on all that Arctic peoples have done, continue to do, and are

likely to do in the future. This research can—and must—tell more than the story of how old ways no longer work. Stories in this realm are important but incomplete.

To counter the all-too-common impressions of vanishing cultures, a greater focus is needed on adaptability and innovativeness (Stammler 2013). Innovation by definition is something new, so specific innovations cannot be predicted, but we can certainly expect innovations to occur. The Yupik on St. Lawrence Island, Alaska, have created a winter whaling season (Noongwook et al. 2007). Evenki, Sakha, Yamal-Nenets, Khanty, and other reindeer herders in Siberia have added ethno-tourism, traditional arts and crafts production for sale, and other activities to their livelihoods (Novikova & Karpov 2017). The Inughuit of northern Greenland have started a commercial halibut fishery (Berthelsen 2014), and residents in Clyde River, Nunavut, have established a research center that runs Inuit-led research projects (Ittaq 2019). Understanding and creating the conditions that foster innovation is a more useful contribution to the well-being of Arctic communities than speculating about what climate-related disaster will next befall them.

This leads to our main point: that research and policies that aim to serve the needs of Indigenous communities must consider climate change—and related adaptation measures and policies—in deeper historical and present-day contexts in which the many forces and issues affecting people are recognized and accounted for. This re-framing of Arctic research around deeper socio-ecological contexts and community needs, and towards a collaborative approach, goes beyond ever-increasing calls for more integration of the humanities and social sciences into global environmental change research (Castree 2016; Castree et al. 2014; Hulme 2017), the demands for more recognition of Indigenous knowledge alongside the natural sciences (Arctic Council Indigenous Peoples Secretariat n.d.), and the requests for greater analysis of non-climatic factors that influence the viability of climate change adaptation agendas (e.g., Ford et al. 2015). Our approach strives to redirect and connect the social, natural, and life sciences integral to global environmental change research to help understand—and ultimately resolve—broader societal and environmental issues, with climate as one among many issues in the Arctic. Climate change is generating major impacts on Arctic societies and is thus rightly the target of advocacy by Arctic Indigenous organizations (e.g., Sakakibara 2009) but should not obscure the range of other factors affecting people's lives, potentially exacerbated by climate change, and the urgency of those concerns (e.g., Inuit Circumpolar Council-Alaska 2015).

To move in that direction, we should start with communities, trying to see the world the way they see it rather than according to a particular disciplinary or institutional or policy lens. Such an approach—we argue—also redirects the orientation of research. Namely from science for its own sake towards science on agendas by and under the direction of Arctic residents

themselves. In some cases, the roles are even turned upside down, where scientists take on the role of assistants that is usually reserved for local people in conventional science. Among other things, the local perspective is likely to emphasize relationships among the inhabitants of an ecosystem, human and otherwise, animate and inanimate (Gearheard et al. 2013; Hastrup 2013; Kawagley 2006; Krupnik et al. 2010). In this framing, for example, sea ice is not just an emblematic icon of global temperature change threatening homogenous, faceless populations, as media often portray Arctic ice. Rather, sea ice studies should also focus on cultural values and transportation, subsistence hunting and language vitality, health and security, knowledge and politics, community interactions, and inter-generational sharing. This is the direction that research on ice has taken worldwide, because glaciers, icebergs, and sea ice are more than just water receptacles. Ice must also be understood as cultural beacons, sentient willful beings, sites of spiritual pilgrimages, landscapes of identity, economic resources, politicized entities, deadly sources of outburst floods and avalanches, and recreational terrain (e.g. Bravo and Rees 2006, Carey 2007, Huggel et al. 2015; Cruikshank 2012, Hastrup 2018, Orlove et al. 2008, Radin and Kowal 2017, Ruiz 2015).

After this start, community members can engage with researchers as a means of contributing local ways of knowing to more general debates. People everywhere must rank a series of risks and challenges in their lives; they must grapple with multiple and often compounding stressors. Climate change impacts may not always be the most pressing issue they face. Or climate change may exacerbate other problems—such as social inequality, poverty, dwindling access to natural resources, inadequate health care (Cameron 2012; Huntington and Eerkes-Medrano 2017; Stuhl 2016)—so that focusing solely on climate problems and solutions targets only the tip of the iceberg, a superficial approach that leaves the deeper risks to individuals or communities unresolved.

The local perspective is also likely to see connections between topics that might seem separate from the outside (Cameron 2012; Flynn et al. 2018). The idea that traditional hunting and fishing contribute to health and well-being is by now better understood, through pride and competence and identity as well as a healthy diet (Bersamin et al. 2007; CCA 2014; Cunsolo Willox et al. 2012). Less often, however, do academic studies or government policies act on, say, the role of transportation difficulties on health and health care, or the social effects of inadequate infrastructure (Hansen et al. 2016). Among other ways to improve this myopia, the growing presence and voice of Elders and Indigenous scholars can help point research in directions that matter to, and make sense to, Arctic communities (Hiratsuka et al. 2017).

As one example, a focus on relationships and community needs illustrates that sea ice is not just an obstacle to shipping, as World Meteorological Organization terminology implies (Gearheard et al. 2013; Hastrup 2013; Krupnik et al. 2010),

nor simply a mirror whose loss creates a positive feedback for warming (Euskirchen et al. 2013). Sea ice is also home, a source of a sense of freedom and belonging, a “beautiful garden,” in the words of Wesley Aiken, an Iñupiaq Elder from Alaska (Gearheard et al. 2013:xii). An icebreaker that cuts a path for a cargo ship may also be severing local travel routes, disrupting marine mammals with noise, and demolishing seal dens (Wilson et al. 2017). None of these views captures the whole story, and it is hard to make ethical choices on the basis of a single perspective. Similarly, pipelines, roads, and powerlines through the lands of Siberian forest and tundra dwellers provide energy and economic growth and make it easier for people to connect with one another. At the same time, they also separate people from the land, interrupt migration patterns, and undermine environmental stability and income (Sidortsov et al. 2016).

As global environmental change research projects take a more community-centered approach (Johnson et al. 2016; Klenk and Meehan 2015), it is worth thinking more about how the research process and products can benefit communities. Conference presentations and peer-reviewed papers are all well and good, helping among other things to build a coherent body of work so that tested ideas can be recognized and new ideas explored. For an Indigenous community, however, it is less likely that a visiting researcher can interpret results in a full local context. This is not to say that academics have no role, simply that the old hierarchy separating those who do the studying from those who are studied is too often a hindrance both to research and community benefits from that research. Instead, it is more useful to include local resident experts as fellow researchers and collaborators, and to consult with and involve local leaders and community members from the outset to ensure that research ultimately yields information that local people can interpret, utilize, and apply themselves (e.g., Berkes and Jolly 2001; Flynn et al. 2018; Gearheard and Shirley 2007). This approach engages local experts as intellectual partners rather than as sources of information that will be analyzed by someone else, somewhere else.

Our call here in *Climate Change in Context* strives to focus first on people and communities, with climate as but one issue facing them—and our call thus contributes to ongoing efforts to decolonize and establish self-determination in education, science, and research (e.g., Cunsolo and Hudson 2018; ITK 2018; Pfeifer 2018). This involves a shift in roles and approach: communities are no longer “the studied,” nor even just “local experts.” Scientists acknowledging from their intellectually high position that local knowledge “is also worth considering,” and therefore “allowing people to become participants” does not yet change the nature of the collaboration from a patron-client relationship to one of equal participation. The decolonizing framework demands a deep contextualization of research within historical and ongoing forces affecting Indigenous and other marginalized peoples (Lightfoot 2016; Smith 2012). Decolonizing methodologies can

also help shift climate change from *the* key issue to, instead, just one recent manifestation of a long history of external forces affecting Indigenous communities (Cameron 2012; Stuhl 2016). The Inuit Circumpolar Council-Alaska (2015) focus on food security and food sovereignty is one example of an Indigenous organization determining for itself the scope of its research rather than responding to academic trends or political expedience.

Researchers can also consider the ways that government, laws, policymaking practices, and other institutional and bureaucratic structures shape the ability of Indigenous communities to attain the futures they would like to see (Stammler and Ivanova 2016a), including their responses to climate change. Arctic peoples continue to adjust their own activities to take advantage of new opportunities or to reduce the effects of unfavorable conditions (Gadamus and Raymond-Yakoubian 2015). International, national, regional, and even local institutions all too often function as barriers to local responses and adaptations (Huntington et al. 2017). Documenting vulnerabilities and problems associated with climate change has some value, in drawing attention where it is needed, but more must be done—particularly by looking beyond climate change and instead seeing the Arctic (and other regions) as facing many obstacles and opportunities. Partnering with Indigenous communities can help turn information and knowledge into action. For example, knowledge about negative impacts of a pipeline has led Indigenous activists in Siberia (Yakutia) to push for legislation that requires assessment of industrial impacts on culture and Indigenous livelihoods (Stammler and Ivanova 2016b). Likewise, Nenets representatives in northeastern Europe have approached scientists to assist them in developing a monitoring program of the simultaneous use of the tundra by large-scale oil extraction and nomadic reindeer herding. The insights produced from such assessment were used by Indigenous activists in their negotiations with authorities and the industry about support for traditional livelihoods (Dallman et al. 2011).

Research does not exist on its own. Whether or not scientists deliberately choose to advocate for social and political change, the knowledge produced is nested within a social system that also includes policies, practices, and activism to call for needed change. Again drawing on the example of sea ice specifically and ice (glaciers, icebergs, etc.) more broadly, it seems that research framed primarily around ice and climate change can actually obscure these community impacts, responses, meanings, politics, and even hydrological processes. After all, ice is embedded with cultural values and understandings, political authority and power imbalances, economic priorities in ice-covered regions, technologies, and water and land use practices for farming, drinking, transportation, and hydroelectricity generation (Hastrup 2018; Huggel et al. 2015; Orlove et al. 2008). Thus, just as researchers have concluded that climate change alone rarely drives human migration (Black et al. 2011; Hamilton et al. 2016), research shows that climatic variability and ice loss also interact with a host of social, cultural,

economic, political, and technological forces to influence water security and community well-being (Bravo and Rees 2006, Carey et al. 2017, Hastrup 2013). Framing issues in the Arctic solely or even primarily as climate or ice problems can thus ignore the underlying issues playing out in local communities, as if sea ice and human-ice interactions more broadly were divorced entirely from their societal contexts.

Climate change cannot and should not be removed from the list of topics to study and resolve, but it must be placed into context and perspective, to make sure that research about and involving Arctic Indigenous communities, and communities worldwide, takes a more holistic approach (Barnes et al. 2013). Individual projects may focus on one or another of the many aspects of climate change that are so apparent all around the region. Collectively, however, the research community has a tremendous opportunity and an ethical responsibility (Holm et al. 2011) to look more carefully at the world from Indigenous perspectives, to consider how information is and can be used for the benefit of Arctic communities, and to align our efforts and policies accordingly. *Climate Change in Context* asks us to reframe climate change as one among many issues facing communities and societies because framing these issues solely as climate problems can actually distract and disorient research away from more pressing and profound underlying issues. *Climate Change in Context* insists that climate change can only be understood—and adaptation measures and policies can therefore only be designed effectively—if climate is put into deeper historical and present-day contexts in which the many forces and issues affecting people are recognized and accounted for.

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