



Climate Change Totems and Discursive Hegemony Over the Arctic

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The Arctic and its animals figure prominently as icons of climate change in Western imaginaries. Persuasive storytelling centred on compelling animal icons, like the polar bear, is a powerful strategy to frame environmental challenges, mobilizing collective global efforts to resist environmental degradation and species endangerment. The power of the polar bear in Western climate imagery is in part derived from the perceived “environmental sacredness” of the animal that has gained a totem-like status. In dominant “global” discourses, this connotation often works to the detriment of Indigenous peoples, for whom animals signify complex socio-ecological relations and cultural histories. This Perspective article offers a reflexive analysis on the symbolic power of the polar bear totem and the discursive exclusion of Indigenous peoples, informed by attendance during 2015–2017 at annual global climate change negotiations and research during 2016–2018 in Canada’s Nunavut Territory. The polar bear’s totem-like status in Western imaginaries exposes three discursive tensions that infuse climate change perception, activism, representation and Indigenous citizenship. The first tension concerns the global climate crisis, and its perceived threat to ecologically significant or sacred species, contrasted with locally lived realities. The second tension concerns a perceived sacred Arctic that is global, pristine, fragile and “contemplated,” but simultaneously local, hazardous, sustaining and lived. The third tension concerns Indigenization, distorted under a global climate gaze that reimagines the role of Indigenous peoples. Current discursive hegemony over the Arctic serves to place Indigenous peoples in stasis and restricts the space for Arctic Indigenous engagement and voice.

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INTRODUCTION

At Norway’s Arctic Ocean Tipping Points side event at the 23rd Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2017, the lone Inuk panelist and then-chair of the Inuit Circumpolar Council (ICC) lamented that polar bears and seals are presented as Arctic icons, noting humans also inhabit the region but are often forgotten. She declared that her people hunt and eat polar bears, challenging its iconic status in mainstream climate change communication as a venerated species not to be touched. The ICC chair said Inuit want a voice in global climate change governance, and they want development. Later, a European Green Party politician warned the Inuk she would come to regret development, as had other Arctic dwellers she had met. “These are *your people*,” she said, in a totalizing and homogenizing discursive move. There are over 40 different ethnic groups in the Arctic (Arctic Centre University of Lapland, 2020).

Their brief exchange contains several threads that weave through this article: Arctic animal as totems of climate change; the undermining and exclusion of Arctic Indigenous voice and priorities; and Western othering and paternalism. Together, they raise questions about discursive hegemony over the Arctic within global climate change governance or, in other words, the power to influence or determine the popular idea of the Arctic.

Climate change is of huge significance to the ICC's 180,000 members (Inuit Circumpolar Council, 2020). Polar bears and seals are threatened by climate change, but they are harvested infrequently, whereas food staples like caribou, muskox and Arctic char are important in everyday life. Inuit draw their history, culture, identity – as well as food and economic production – from their environments. For them, climate change is one among many postcolonial challenges such as poverty, low education, underdevelopment and social dysfunction (Arriagada, 2016; Oudshoorn, 2018; Inuit Tapiriit Kanatami, 2019).

The first author, a Canadian development geographer, conducted three research seasons in western Nunavut during 2016–2018 for her study of climate change communication. Nunavut, Canada's youngest territory, was established in 1999 through the largest land claims settlement in Canada (Rice, 2016), creating a self-governing territory with Inuit comprising around 85% of its population of 39,000 (Government of Nunavut, 2020). She attended three COP meetings during 2015–2017 as a member of the International Environmental Communication Association. She identified a disconnect between the global icon of the polar bear (Slocum, 2004) and local lived experience of an animal of cultural, spiritual and practical significance. Such a disconnect inspired the reflexive analysis presented here, which draws both on literature and empirical observations.

The question posed in this article is: Who controls the idea of the Arctic? This question is designed to provoke deeper considerations of the disparate, vying claims to a powerful Arctic imaginary, where the Arctic becomes a site of contestation for legitimacy and moral standing in global climate change governance. What are the implications of non-Indigenous people using symbols like the polar bear to speak about climate change when Indigenous people—the people who live in the Arctic and have lived there for centuries—do not think about them in this way?¹

In popular representations around the world, the polar bear evokes physical prowess and environmental fragility. In Western countries – and around most of the world – the polar bear on (disappearing) ice has been transformed into a powerful symbol of anthropogenic climate change: a visual icon, or emblem, of the sacredness of nature (Slocum, 2004; Doyle, 2007). To the extent that its images are a powerful representation of something to be treasured, respected and admired (from afar), the polar bear has acquired a symbolic value akin to a totem. However, this totem-like status is linked to three discursive tensions that infuse climate change



FIGURE 1 | Polar bear army in front of Unbearable (Galschiot, 2015), shared under CC BY-SA 4.0.

perception, activism, representation and Indigenous citizenship. The first tension concerns the global climate crisis and its perceived threat to ecologically significant or sacred species, which contrasts with locally lived realities. The second tension concerns the sacralization of Arctic space as global, pristine, fragile and “contemplated”; such space is simultaneously local, hazardous, sustaining and lived. The third tension concerns Indigenousization, distorted under a global climate gaze that reimagines the role of Indigenous peoples among sacred species and spaces; in effect, “sacred” Arctic totems are conscripted into a discursive environmental politics that reproduces Indigenous exclusion.

CHALLENGING WESTERN HEGEMONIC METHODOLOGIES AND PERSPECTIVES

The *Unbearable* sculpture of a life-size polar bear hanging harpooned on an oil pipeline, a collaboration between the World Wildlife Fund and Danish sculptor Jens Galschiøt, was first unveiled during COP 21 in Paris (2015) to much publicity and acclaim. Imagery such as *Unbearable* and its Polar Bear Army (primarily Westerners dressed as polar bears) (Figure 1), and National Geographic's Starving Polar Bear video of 2018, are prominent in international media. In western Nunavut, polar bears are significant but not a regular focus of discussion; respondents would discuss polar bears if asked by a researcher, tourist or southerner (a person from south of the Arctic). However, local respondents do routinely talk about their animals, hunting and being “on the Land,” focused on locally available country foods such as caribou and muskox and summer fishing for Arctic char.

This Perspective article does not arise from polar bear-focused research; it emerges from a climate communication study that required the first author's attendance at three COPs during 2015–2017, three field seasons comprising four months in the

¹We thank reviewer 2 for posing this question (which we adapted slightly).

communities of Cambridge Bay and Kugluktuk in the western Kitikmeot region of Nunavut, during 2016–2018, and over 60 semi-structured interviews conducted by the first author and two graduate students: Suzanne Chew (second author) and Rebecca Segal. Grounded in community immersion and observation, time in the field was focused on building relationships with community members and local groups, and participating in public events and group activities. Interviews focused on participants' connection to place and grounding in the local environment, understandings of climate change, perceptions of climate change communication, and experiences in participatory decision-making on natural resources management and policy, such as through public consultations held in the region. Interviews were conducted at a time and place of the participant's choosing. Researchers adopted a conversational approach and active listening; this sought to encourage participants to lead the interview, toward exploring more deeply their areas of specific interest, within the interview themes.

The two first authors were mindful to observe, listen, participate and establish respectful relationships with local people before seeking interviews. They followed a grounded theory methodology wherein the researcher eschews preconceived notions of, in this case, local lives and lived experience, and uses inductive reasoning to analyse data and determine which data are significant (Charmaz, 2016). This approach heeds Indigenous complaints about the hegemony of Western research and seeks research results that are relevant and useful to Indigenous respondents (Louis, 2007; Kovach, 2009); research should not be driven by outsiders. This is central to ownership within participatory and Indigenous research methodologies that emphasize responsibility, accountability and influence over decision-making; it suggests community ownership of their own narrative and the way they are portrayed (Lachapelle, 2008; Castleden et al., 2012; Handberg, 2018; Mackay et al., 2019).

This naturalistic methodology allows the research significance to emerge from its particular social context (Denzin, 1971; Beuving and de Vries, 2015); by this logic, researchers did not introduce the polar bear into interviews. They resisted the urge to dictate its importance and “plant” the animal in respondents' thoughts, which would produce a conversation led by outsider priorities, betraying Indigenous ownership. Guided by critical discourse analysis (Van Dijk, 1993; Fairclough, 2003), they later juxtaposed the polar bear's absence from local conversation against its iconic position in global climate change discourse. As noted by critical discourse analysts, silence and absence are often as telling as words. In this case, silence and absence serve as eloquent indications of lesser relevance, or importance, of the polar bear in local discursive narratives of climate change.

Below, we question the validity of the polar bear, as imagined in global climate change discourses, as a totem detached from lived and cultural realities, and discuss three tensions in such discourses: the global misrepresentations of locally lived realities; the troubled sacralization of Arctic space, and Indigenization, distorted under a global climate gaze.

GLOBAL MISREPRESENTATIONS OF LOCALLY LIVED REALITIES

The polar bear is particularly vulnerable to climate change. Dependent on sea ice as their resting, walking, and seal-stalking grounds, polar bears and other marine mammals are “ecosystem sentinels.” Some of the world's 19 polar bear populations show signs of emaciation and reproductive failure, while others appear healthy (Moore and Reeves, 2018). Inuit maintain that polar bear populations in Canada are generally healthy, and hunting restrictions have disrupted population management, leading to more frequent and fatal bear encounters with humans (Greer, 2018). In support of the Inuit position, Nunavut Tunngavik Inc. (NTI), the legal representative of the Inuit in Nunavut in matters of treaty rights and negotiation, commissioned a polar bear image with the slogan “We're OK! Naammaktugut!” which, for a time, adorned bumper stickers, web pages and government-issued USB memory sticks across Nunavut (Dawson, 2012).

So, *for whom* is the polar bear a totem of climate change? If global imaginaries of the Arctic fail to capture its local realities, then how are Indigenous peoples affected by global misrepresentations of their everyday experience?

This issue is particularly problematic given the colonial histories of Arctic Indigenous peoples, whose lives and realities have, time and again, been redefined and reimagined for them, often to prejudicial and detrimental impact. For example, the trading ban on seal products due to lobbying by environmental groups against Atlantic sealers, led to the decimation of seal hunting as a viable livelihood for many Indigenous peoples, including the Inuit, pushing many into even greater hardship and poverty (Arnaquq-Baril, 2016; Farquhar, 2020). Discursive exclusion of the Indigenous voice in global narratives, as seen here, where Indigenous peoples were largely excluded from discussions on seal hunting (Farquhar, 2020), is not a theoretical concern – it has practical and devastating economic and cultural consequence. Greenpeace, alone among the environmental groups involved, has since formally apologized to the Inuit for its role in causing harm against them (Kerr, 2014). Colonization and persistent colonial approaches have brought untold harms upon Indigenous peoples; it is only relatively recently that some have been able to reclaim voice from the legacy of self-censorship, fear, and trauma (Watt-Cloutier, 2016; Barton, 2020; Pemik, 2020). In this brave new world of truth and reconciliation, decolonization necessitates that narratives are mindfully contextualized and constructed, particularly where, as Kovach (2009), (p. 75) says of Canada, “the non-Indigenous majority are adept at forgetting this country's colonial history.” In the field of climate change, such mindfulness in the name of intersectionality and solidarity with Indigenous self-determination, is all the more critical given the inequitable climate impacts on Arctic Indigenous peoples (Richter-Menge et al., 2016).

Around the world, the public identifies the iconic polar bear with climate change, but its image provokes cynicism, too (Chapman et al., 2016). Still, it frames the Arctic for discursive and visual consumption, as an environment facing very real

climatic change but also a place of fragile beauty worthy of protection (see Doyle, 2007; O'Neill and Smith, 2014; Born, 2019). Humans are rare in this imagined landscape of sea and ice. As King (2005) identifies and criticizes, the oceans as a global concern reflect an ontology of a “contemplated” ocean that is human-free and should be appreciated from afar, and in which certain fishers or other wildlife extractors – such as Inuit hunters – may be perceived as transgressing on the “natural” boundary between humans and the environment.

Similar to the polar bear status in the global climate imaginary, climate change reporting is overwhelmingly concerned with the priorities of Western democracies (Manzo and Padfield, 2016; Biermann and Möller, 2019). Western bias is reproduced in climate change science: for instance, 45% of all countries—all from the developing world—have never had authors contributing in processes of the Intergovernmental Panel on Climate Change (IPCC) (Biermann and Möller, 2019). Arguably, the dominant scientific and civic view of climate change, its effects, its solutions, and its victims are influenced strongly by a Western or Global North sensibility, and the perspectives of distant others such as Indigenous, poor, developing or Global South communities are under-represented.

While science explains a species' attributes, our emotional attachments lend animals their discursive power. Scientific fact alone is often not enough to sway people, who are influenced by their identity groups, social affiliations and interpersonal communication networks (see Bliuc et al., 2015; Leombruni, 2015). The affective and emotional power of a good story can be more persuasive than informational accounts (Morris et al., 2019). Thus, polar bears are anthropomorphized and reimagined as ambassadors of a threatened Arctic ecosystem and icons of climate change (Born, 2019). The polar bear makes a compelling global story and has functioned as one of the dominant climate change frames (Manzo and Padfield, 2016), although it is of practical irrelevance to much of the world. The one-dimensional polar bear icon that inhabits the global climate change discourse does not capture the complexity of the polar bear totem that has spiritual and practical significance to people who live in the Arctic.

TROUBLED SACRALIZATION

Global climate change evokes environment as special, endangered, and deserving of protection – all features of sacred spaces. Sacred species and sites are often found together, with many sacred sites serving as protected areas of biodiversity, or rare or threatened species (Pungetti et al., 2012). Sacred natural sites are also markers of ethnic identity, their local guardian peoples increasingly vulnerable to stronger political and economic forces (Oviedo and Jeanrenaud, 2007). Concepts of a sacred Earth permeate human belief systems (see Gottlieb, 2004). Human-nature interactions are diverse. Some gaze on nature by supporting zoos. Others honour nature as climate change activists.

Still others experience nature by living it. This evokes traditional ecological knowledge, Indigenous knowledge or

sacred ecology (Berkes, 2012). Indigenous peoples, through their intimacy with their landscape, its flora and fauna, develop place-specific knowledge that guides their resource management regimes, their spiritual connections with their environment, and their relationships. Their interactions with animals are reverent (as objects of worship) and practical (as objects to be harvested). For Indigenous circumpolar peoples, the Arctic is at once local, hazardous, sustaining, and lived. In Canada, for example, polar bears are legally harvested by Inuit as food; their hides are used for clothing, bedding, or auctions, and bones for carving. As a sign of respect, the whole animal is used. Trophy hunts provide employment income for diverse Inuit workers, recirculating money in local, largely subsistence, economies (Tyrrell and Clark, 2014; Wong and Murphy, 2016). Inuit spirituality, sacredness and pragmatic adaptation are inseparable. Unlike with the iconic polar bear, which must be protected from harm, there is no inconsistency between hunting the sacred and worshipping it (see Bali and Kofinas, 2014; Tobias and Richmond, 2014; Pearce et al., 2015; Sakakibara, 2017). Indigenous circumpolar peoples have a long tradition of bear ceremonialism, which dictates that rituals of reciprocity and respect are enacted after a bear is harvested (Eloka, 2020; see also; Clark and Slocombe, 2009).

The polar bear is depicted as beset by threats in global discourses. This was reflected in March 2013, when the U.S. and Russia jointly proposed to up-list polar bears to Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The proposal failed, but it generated a media frenzy around the global trade in polar bear parts. Stories tended to be emotive, featuring anthropomorphized cubs, and evoked a narrative of polar bear extinction that erased “the realities of managed polar bear hunting as part of an Inuit mixed subsistence economy” (Tyrrell and Clark, 2014, p. 368). Now, a dominant framing within global climate change discourse is that the polar bear is in crisis, and by extension, the Arctic. This framing is problematic in that Inuit are invisibilized, their voices and stories absent. Unwittingly, climate change activists contemplating a global Arctic with benign polar bears are wrestling for discursive control with Indigenous circumpolar peoples who live viscerally with a local Arctic. As put by Inuit activist and former politician Sheila Watt-Cloutier (2016), (p. 226): “All too often, those who are out to save the world are all too ready to sacrifice Inuit and our way of life.”

INDIGENIZATION, DISTORTED UNDER A GLOBAL CLIMATE GAZE

Indigenous peoples lack sufficient opportunity to engage politically, despite their political rights being enshrined in the United Nations Declaration on the Rights of Indigenous Peoples. Unlike developing countries, the voices of Arctic communities are fragmented across countries, and are mediated by their respective national platforms. They cannot speak for themselves at intergovernmental COP meetings, or directly appeal to the Green Climate Fund. Their minority voices are mediated through rich, industrialized countries representing diverse

citizens. Colonial legacies situate circumpolar peoples as observers watching others debate climate change governance and expensive technological fixes that may force further sociopolitical adaptations upon them, such as displacement (Belfer et al., 2017). Bjørst (2012) says the Western world is fixated upon the Inuit hunter as a suffering agent pursuing a subsistence livelihood, untainted by bigger questions about development. She recounts how Greenlanders invited to the COP15 parallel event Klimaforum09, held in Copenhagen in December 2009, stepped outside their assigned role when they scaled up from talking about the local climate regime to development and economic independence of Greenland. Today, the presence of Indigenous delegates at recent COP meetings signify greater participation, but it is suspect. Cochran et al. (2013), (p. 557) asserts that “Northern Indigenous Peoples have had limited participation in climate-change science due to limited access, power imbalances, and differences in worldview.”

With this invisibilization of Indigenous peoples, global climate change governance shares much in common with the discourse of development, itself an imperialist, interventionist saviour ideology. Both are motivated by an urge to change something perceived to be wrong, and both assume an intervention is needed (Milton, 1999). The poor are seen as needing others’ help; they seldom engage as active agents (Enns et al., 2014). The representation of Indigenous peoples in mass media as victims of climate change or intermediaries of spirituality compounds these discourses; they may bestow their wisdom and knowledge and inspire society to act, but seldom are they portrayed as political agents (Roosvall and Tegelberg, 2013). Contrary to their representation as victims, Arctic Indigenous peoples have diverse responses to climate change including despair, dark humour, resignation, determined hope, disbelief, and disinterest, which Bravo (2009), (p. 256) argues “are better understood in relation to emerging notions of citizenship than to climate change crisis narratives. The latter, like development narratives, are often used to license the intervention of experts in debates about resource management and conservation.”

DISCUSSION: DISCURSIVE HEGEMONY AND LACK OF VOICE

Inuit warnings of climate change predate global concern over climate change by the better part of a century. Few people listened. Now, Western discursive domination over the Arctic frames it as contemplated, sacred space, with sacred bears. The polar bear totem is a hegemonic frame, a construction of Western ingenuity that pins Indigenous circumpolar peoples in a particular role, from a particular time, in a particular Arctic space. This kind of climate crisis narrative keeps the Indigenous in stasis, limiting the possibility of legitimate citizenship and political agency.

The reimagined polar bear totem reinforces a climate crisis narrative in which Arctic peoples are reduced to passive subjects rather than agents of change. Discursive hegemony over the Arctic implicates climate “saviours,” who risk trapping Arctic

Indigenous peoples in a future not of their making, with worrying implications for climate change perception, activism, representation and, as Bravo (2009) says, citizenship. Carvalho et al. (2017), (p. 124) “call for an analytical shift by focusing on how citizens may (or not) engage with the political fabric of climate change (rather than just with individual-level behavior related to consumption and lifestyle).” This resonates with Inuit priorities: they are willing to adapt to gain a voice in global climate change governance. In the fieldwork conducted for this study, many expressed the strong sentiment and conviction that “this is our time.” Adaptation is fundamental to the Inuit worldview, physically to a changing Arctic and politically to an evolving global climate change governance regime.

Indigenous actors tread on the stage of global climate change governance, but their role remains largely symbolic. At COP meetings, Indigenous delegates are identifiable by acting Indigenous and wearing Indigenous gear in a manner legible to Western others. Climate change narratives of Indigeneity will be shaped by an unbalanced struggle over words, images, and ideas. At side events on displacement, loss and damage, delegates disown the climate refugee label and offer “climate-induced migration” in its place, intent on reclaiming the language of victimhood. Given the Inuit position on the health of polar bear populations and their dissatisfaction with the reimagined polar bear totem, their active participation in remaking the meanings of Arctic space is necessary.

Global climate change governance involves questions about public engagement, citizenship, culture, place-making, and justice. The polar bear represents a Western concept of sacredness, empowered with biological facts. It presents an Arctic that is incomplete, absent of the Indigenous voices whose local expertise might craft a more legitimate totem of a climatically and politically changing Arctic. Knowledge production around climate change and climate engineering is dominated by research institutions in North America and Europe (Biermann and Möller, 2019); the international development agenda largely excludes Indigenous voices (Enns et al., 2014); and Western “ecological piety” is too narrow to embrace the diverse and complementary values that underpin Indigenous interactions with the natural world.

CONCLUSION

The reimagined polar bear totem cannot capture Arctic peoples’ reality. Rather, it captures the perceived reality of an imagined Arctic free of people. It is a Western construction of a sacred species in a sacred space, moored in biological uniqueness and fragility. The polar bear’s totem status exposes three discursive tensions that infuse climate change perception, activism, representation and Indigenous citizenship. First, global climate crisis and its perceived threat to ecologically significant or sacred species in contrast with local realities. Second, global, contemplated, sacred space vying with local, visceral, lived space. Third, Indigenousization, distorted under a global climate gaze that

imagines an Arctic untouched by modernity and development, weakening the voice of Indigenous circumpolar peoples in global climate governance. Discursive appropriation of the Arctic helps mobilize efforts to combat climate change, but the legitimate discursive “owners” are distant. Thus, Indigenous voices are mediated via climate change “saviours” and the governments of the eight Arctic countries. The marginalization of Indigenous perspectives and priorities regarding Indigenous lands within global climate change governance and narratives risks undermining Indigenous self-determination, and perpetuating paternalism and colonial relations. Ultimately, the polar bear totem raises troubling questions over Indigenous representation, citizenship and power to construct the future of the Arctic.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Conjoint Faculties Research Ethics Board, University of Calgary. The participants provided their written informed consent to participate in this study.

REFERENCES

- Arctic Centre University of Lapland (2020). Arctic region: arctic indigenous peoples. Available at: <https://www.arcticcentre.org/EN/arcticregion/Arctic-Indigenous-Peoples> (Accessed June 29, 2020).
- Arnaquq-Baril, A. (2016). Angry Inuk. Montreal, QC, Canada: national film board of Canada. Available at: https://www.nfb.ca/film/angry_inuk/ (Accessed November 5, 2020).
- Arriagada, P. (2016). Inuit: fact Sheet for Nunavut. Ottawa, ON: Canada Statistics. Available at: <http://www.statcan.gc.ca/pub/89-656-x/89-656-x2016017-eng.htm> (Accessed February 12, 2021).
- Bali, A., and Kofinas, G. P. (2014). Voices of the Caribou People: a participatory videography method to document and share local knowledge from the North American human-Rangifer systems. *Ecol. Soc.* 19, art16. doi:10.5751/ES-06327-190216
- Barton, K. (2020). What's in a name? How a government project forced surnames on Inuit. CBC News. Available at: <https://www.cbc.ca/news/canada/north/project-surname-inuit-names-nunavut-1.5747040> (Accessed November 5, 2020).
- Belfer, E., Ford, J. D., and Maillet, M. (2017). Representation of Indigenous peoples in climate change reporting. *Clim. Change*. 145, 57–70. doi:10.1007/s10584-017-2076-z
- Berkes, F. (2012). *Sacred ecology*. 3rd ed. New York, NY: Routledge.
- Beuving, J., and de Vries, G. (2015). *Doing qualitative research: the craft of naturalistic inquiry*. Amsterdam, Netherlands: Amsterdam University Press.
- Biermann, F., and Möller, I. (2019). Rich man's solution? Climate engineering discourses and the marginalization of the Global South. *Int. Environ. Agreements Polit. Law Econ.* 19, 151–167. doi:10.1007/s10784-019-09431-0
- Björst, L. R. (2012). Climate testimonies and climate-crisis narratives. Inuit delegated to speak on behalf of the climate. *Acta Boreala*. 29, 98–113. doi:10.1080/08003831.2012.678724
- Blüch, A. M., McGarty, C., Thomas, E. F., Lala, G., Berndsen, M., and Misajon, R. (2015). Public division about climate change rooted in conflicting socio-political identities. *Nat. Clim. Change*. 5, 226–229. doi:10.1038/nclimate2507
- Born, D. (2019). Bearing witness? Polar bears as icons for climate change communication in National Geographic. *Environ. Commun.* 13, 649–663. doi:10.1080/17524032.2018.1435557

AUTHOR CONTRIBUTIONS

C-LT was the main contributor to this article. She was responsible for fieldwork and most of the writing. SC carried out some of the research interviews and field observations. SC, AC, and JD carried out revisions of the first version of the article.

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- Bravo, M. T. (2009). Voices from the sea ice: the reception of climate impact narratives. *J. Hist. Geogr.* 35, 256–278. doi:10.1016/j.jhg.2008.09.007
- Carvalho, A., van Wessel, M., and Maesele, P. (2017). Communication practices and political engagement with climate change: a research agenda. *Environ. Commun.* 11, 122–135. doi:10.1080/17524032.2016.1241815
- Castleden, H., Morgan, V. S., and Lamb, C. (2012). “I spent the first year drinking tea”: exploring Canadian university researchers' perspectives on community-based participatory research involving Indigenous peoples. *Can. Geogr.* 56, 160–179. doi:10.1111/j.1541-0064.2012.00432.x
- Chapman, D. A., Corner, A., Webster, R., and Markowitz, E. M. (2016). Climate visuals: a mixed methods investigation of public perceptions of climate images in three countries. *Glob. Environ. Chang.* 41, 172–182. doi:10.1016/j.gloenvcha.2016.10.003
- Charmaz, K. (2016). The power of constructivist grounded theory for critical inquiry. *Qual. Inq.* 23, 34–45. doi:10.1177/1077800416657105
- Clark, D. A., and Slocumbe, D. C. (2009). Respect for grizzly bears: an Aboriginal approach for co-existence and resilience. *Ecol. Soc.* 14 (1) 42. doi:10.5751/ES-02892-140142
- Cochran, P., Huntington, O. H., Pungowiyi, C., Tom, S., Chapin, F. S., Huntington, H. P., et al. (2013). Indigenous frameworks for observing and responding to climate change in Alaska. *Clim. Change*. 120, 557–567. doi:10.1007/978-3-319-05266-3_5
- Dawson, S. (2012). NIT's polar bear bumper sticker to be shown at CITES. *Nunatsiaq News*. Available at: https://nunatsiaq.com/stories/article/65674ntis_polar_bear_bumper_sticker_to_be_shown_at_cites/ (Accessed November 5, 2020).
- Denzin, N. K. (1971). The logic of naturalistic inquiry. *Soc. Forces*. 50, 166–182.
- Doyle, J. (2007). ‘Picturing the Clima(c)tic: greenpeace and the representational politics of climate change communication (1994-present)’. *Sci. Cult.* 16 (2), 129–150. doi:10.1080/09505430701368938
- Eloka (2020). Waking the bear: Understanding circumpolar bear ceremonialism. Available at: <https://eloka-arctic.org/bears/bear-ceremonialism> (Accessed October 27, 2020).
- Enns, C., Bersaglio, B., and Kepe, T. (2014). Indigenous voices and the making of the post-2015 development agenda: the recurring tyranny of participation. *Third World Q* 35, 358–375. doi:10.1080/01436597.2014.893482
- Fairclough, N. (2003). *Analysing discourse: Textual analysis for social research*. London: Routledge.
- Farquhar, S. D. (2020). Inuit seal hunting in Canada: emerging narratives in an old controversy. *Arctic* 73 (1), 13–19. doi:10.14430/arctic69833

- R. S. Gottlieb, ed. (2004). *This sacred Earth: religion, nature, environment*. 2nd ed. New York, NY: Routledge.
- Galschiot, J. (2015). Polar bear army in front of Unbearable [Photo]. Wikimedia Commons. Available at: https://commons.wikimedia.org/wiki/File:Polar_bear_army_infront_of_Unbearable.JPG.
- Government of Nunavut. (2020). Population data. Available at: <https://www.gov.nu.ca/gavamalirijikkut/information/population-data> (Accessed September 26, 2019).
- Greer, D. (2018). *Inuit, Western science far apart on polar bear issue*. Nunavut News. Available at: <https://www.nunavutnews.com/nunavut-news/inuit-western-science-far-apart-on-polar-bear-issues/> (Accessed 13 February 2021).
- Handberg, O. N. (2018). No sense of ownership in weak participation: a forest conservation experiment in Tanzania. *Environ. Dev. Econ.* 23, 434–451. doi:10.1017/S1355770X18000190
- Inuit Circumpolar Council (2020). Home. *Inuit united voice arct* Available at: <http://www.inuitcircumpolar.com> (Accessed June 29, 2020).
- Inuit Tapiriit Kanatami. (2019). *Promising practices in suicide prevention across inuit nunangat: NISPS research and data collection project*. Ottawa, ON, Canada: Inuit Tapiriit Kanatami.
- Kerr, J. (2014). Greenpeace apology to Inuit for impacts of seal campaign. Available at: <https://www.greenpeace.org/canada/en/story/5473/greenpeace-apology-to-inuit-for-impacts-of-seal-campaign/> (Accessed November 5, 2020).
- King, T. J. (2005). Crisis of meanings: divergent experiences and perceptions of the marine environment in Victoria, Australia. *Aust. J. Anthropol.* 16, 350–365. doi:10.1111/j.1835-9310.2005.tb00316.x
- Kovach, M. (2009). *Indigenous methodologies: characteristics, conversations, and contexts*. Toronto, ON; Buffalo: University of Toronto Press.
- Lachapelle, P. (2008). A sense of ownership in community development: understanding the potential for participation in community planning efforts. *Community Dev.* 39, 52–59. doi:10.1080/15575330809489730
- Leombruni, L. V. (2015). How you talk about climate change matters: a communication network perspective on epistemic skepticism and belief strength. *Glob. Environ. Chang.* 35, 148–161. doi:10.1016/j.gloenvcha.2015.08.006
- Louis, R. P. (2007). Can you hear us now? Voices from the margin: using indigenous methodologies in geographic research. *Geogr. Res.* 45, 130–139. doi:10.1111/j.1745-5871.2007.00443.x
- Mackay, S., Brown, R., Gonelevu, M., Pelesikoti, N., Kocovanua, T., Iaken, R., et al. (2019). Overcoming barriers to climate change information management in small island developing states: lessons from pacific SIDS. *Clim. Policy.* 19, 125–138. doi:10.1080/14693062.2018.1455573
- Manzo, K., and Padfield, R. (2016). Palm oil not polar bears: climate change and development in Malaysian media. *Trans. Inst. Br. Geogr.* 41, 460–476. doi:10.1111/tran.12129
- Milton, K. (1999). Nature is already sacred. *Environ. Values.* 8, 437–449.
- Moore, S. E., and Reeves, R. R. (2018). Tracking arctic marine mammal resilience in an era of rapid ecosystem alteration. *PLoS Biol.* 16, e2006708. doi:10.1371/journal.pbio.2006708
- Morris, B. S., Chrysochou, P., Christensen, J. D., Orquin, J. L., Barraza, J., Zak, P. J., et al. (2019). Stories vs. facts: triggering emotion and action-taking on climate change. *Clim. Change.* 1–18. doi:10.1007/s10584-019-02425-6
- O'Neill, S. J., and Smith, N. (2014). Climate change and visual imagery. *Wiley Interdiscip. Rev. Clim. Chang.* 5, 73–87. doi:10.1002/wcc.249
- Oudshoorn, K. (2018). Greenland Reconciliation Commission finds colonization did “a lot of damage.” *CBC News*. Available at: <https://www.cbc.ca/news/canada/north/greenland-reconciliation-commission-report-1.4471695> (Accessed November 5, 2020).
- Oviedo, G., and Jeanrenaud, S. (2007). “Protecting sacred sites of indigenous and traditional peoples.” In. *Protected Areas and Spirituality: Proceedings of the First Workshop of the Delos Initiative*. Editors J. M. Mallarach and T. Papayannis. Gland, Switzerland IUCN; Barcelona, Spain: Publicaciones de l'Abadia de Montserrat.
- Pearce, T., Ford, J., Willox, A. C., and Smit, B. (2015). Inuit traditional ecological knowledge (TEK): subsistence hunting and adaptation to climate change in the Canadian arctic. *Arctic* 68, 233. doi:10.14430/arctic4475
- Pemik, P. (2020). Arviat society to revive Inuit laws catered to community. *CBC News*. Available at: <https://www.cbc.ca/news/canada/north/inuit-quajimajatuqangit-values-arviat-society> (Accessed November 5, 2020).
- Pungetti G., Oviedo G., and Hooke D. (editors) (2012). *Sacred species and sites: advances in biocultural conservation*. Cambridge, UK: Cambridge University Press.
- Rice, R. (2016). How to decolonize democracy: indigenous governance innovation in Bolivia and Nunavut, Canada. *Bolivian Stud. J./Revista de Estudios Bolivianos.* 22, 220–242. doi:10.5195/bsj.2016.1
- J. A. Richter-Menge, J. E. Overland, and J. T. Mathis (editors). (2016). Arctic report card 2016. Available at: <http://www.arctic.noaa.gov/Report-Card> (Accessed November 5, 2020).
- Roosvall, A., and Tegelberg, M. (2013). Framing climate change and indigenous peoples. *Int. Commun. Gaz.* 75, 392–409. doi:10.1177/1748048513482265
- Sakakibara, C. (2017). People of the Whales: climate change and cultural resilience among Inupiat of Arctic Alaska. *Geogr. Rev.* 107, 159–184. doi:10.1111/j.1931-0846.2016.12219.x
- Slocum, R. (2004). Polar bears and energy-efficient lightbulbs: strategies to bring climate change home. *Environ. Plann. Soc. Space.* 22, 413–438. doi:10.1068/d378
- Tobias, J. K., and Richmond, C. A. (2014). “That land means everything to us as anishinaabe...”: environmental dispossession and resilience on the North shore of lake superior.”: environmental dispossession and resilience on the North shore of lake superior. *Health Place.* 29, 26–33. doi:10.1016/j.healthplace.2014.05.008
- Tyrrell, M., and Clark, D. A. (2014). What happened to climate change? CITES and the reconfiguration of polar bear conservation discourse. *Glob. Environ. Chang.* 24, 363–372. doi:10.1016/j.gloenvcha.2013.11.016
- Van Dijk, T. (1993). Principles of discourse analysis. *Discourse Soc.* 4, 249–283.
- Watt-Cloutier, S. (2016). *The right to be cold: one woman's story of protecting her culture, the arctic and the whole planet*. Toronto, ON.: Penguin Group.
- Wong, P. B. Y., and Murphy, R. W. (2016). Inuit methods of identifying polar bear characteristics: potential for Inuit inclusion in polar bear surveys. *Arctic* 69, 406–420. doi:10.14430/arctic4605

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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