

Too late for indigenous climate justice: Ecological and relational tipping points

Kyle Whyte 

Department of Philosophy and Department of Community Sustainability, Michigan State University, East Lansing, Michigan

Correspondence

Kyle Whyte, Department of Philosophy, Michigan State University, 368 Farm Lane Room 503, East Lansing, MI 48824.
Email: kwhyte@msu.edu

This article is part of a *WIREs Climate Change* special collection of Opinion articles entitled “Is it too late (to stop dangerous climate change)?” View the full collection: <http://wires.wiley.com/WileyCDA/WiresCollection/id-80.html>

Edited by Anja Karnein, Domain Editor, and Mike Hulme, Editor-in-Chief

Abstract

It may be too late to achieve environmental justice for some indigenous peoples, and other groups, in terms of avoiding dangerous climate change. People in the indigenous climate justice movement agree resolutely on the urgency of action to stop dangerous climate change. However, the qualities of relationships connecting indigenous peoples with other societies' governments, nongovernmental organizations, and corporations are not conducive to coordinated action that would avoid further injustice against indigenous peoples in the process of responding to climate change. The required qualities include, among others, consent, trust, accountability, and reciprocity. Indigenous traditions of climate change view the very topic of climate change as connected to these qualities, which are sometimes referred to as kin relationships. The entwinement of colonialism, capitalism, and industrialization failed to affirm or establish these qualities or kinship relationships across societies. While qualities like consent or reciprocity may be critical for taking coordinated action urgently and justly, they require a long time to establish or repair. A relational tipping point, in a certain respect, has already been crossed, before the ecological tipping point. The time it takes to address the passage of this relational tipping point may be too slow to generate the coordinated action to halt certain dangers related to climate change. While no possibilities for better futures should be left unconsidered, it's critical to center environmental justice in any analysis of whether it's too late to stop dangerous climate change.

This article is categorized under:

Climate, Nature, and Ethics > Climate Change and Global Justice

KEYWORDS

climate justice, decolonization, environmental justice, indigenous peoples, traditional ecological knowledge

1 | INTRODUCTION: TWO LATE SCENARIOS

Is it too late to avoid dangerous climate change? It's worth considering that it really is too late to avoid environmental injustices against indigenous peoples—whether connected to exposure to dangerous climate change itself or to harms stemming from how certain societies choose to mitigate climate change. Part of why it's too late has to do with how urgency and alarm are expressed problematically in climate change media, literatures, publicity, education, advocacy, research, and political

rhetoric and conflict. In this essay, I refer to environmental injustices associated with climate change as ‘climate injustices,’ whether they are related to vulnerability or mitigation. I’ll use the terms ‘society’ or ‘societal institutions’ as shorthand for the diversity of organizations at various scales to which I’ll broadly refer in the essay, including ones that are governmental, civil, for profit, politically affiliated, among others.

My reflections in this essay arise from my work in indigenous climate justice actions, mainly in North America. As a Potawatomi relative, I center how addressing climate change is a matter of empowering our indigenous collective self-determination for advancing our own aspirations and our resistance to oppression. Expressions of our collective self-determination include our cultural, governmental, scientific, educational, diplomatic, and legal systems. From the reform of climate science to the struggles against fossil fuel industries to the creation of our own adaptation plans and regenerative/renewable energy (Laboucan-Massimo, 2019) programs, I seek to lift up the diverse works of indigenous peoples across multiple societies and scales (Whyte, 2017).

For me, achieving indigenous climate justice means stopping the greater burdens of climate-related risks that indigenous peoples face; it means indigenous peoples are leaders in energy transitions. Indigenous actions, including my writing here, often aim to honor the specifics of each of our peoples at the same time we build a broader indigenous coalition that respectfully embraces and mobilizes the convergences we can share.

Last year, the Intergovernmental Panel on Climate Change's special report *Global Warming of 1.5 C* (2018) and the U.S. Global Change Research Program's 4th National Climate Assessment (2018) sent warnings that action is urgently needed to lower atmospheric concentrations of greenhouse gases. If human societies fail to enact immediate interventions within the coming decades, the earth system may cross the ecological tipping point of a 2°C increase in global average temperature. Crossing this point threatens alarming dangers—ones the reports show are concerning for indigenous peoples everywhere, including more severe droughts, sea-level rise, disruptive precipitation patterns, ocean acidification, and more intense extreme weather events.

The question of whether it's too late to avoid crossing this ecological tipping point concerns what factors are taken to create dangerous outcomes. The outcomes I witness as common in science, policy, and journalism are increases in the gravity of economic damages, health harms, political conflicts, geographic displacements, and cultural losses. The factors typically listed as creating these dangers are energy sources, land-uses, people's values and cultures, and human economic systems. Hence solutions to climate change involve strategies such as curbing fossil fuel dependence, education that helps people value the security of future generations, or reengineering capitalist systems to incentivize sustainability.

I'm not convinced that efforts to change these factors will stop the proliferation of dangers for indigenous peoples. For changing these factors requires that the relationships connecting diverse societal institutions together are already conducive to coordinated action without further perpetrating harmful injustices. Environmental injustices aren't any less likely in actions taken in the spirit of urgency to adapt to climate change and mitigate a 2°C rise. Though valuable insights on coordinated action and justice are developed in research on international negotiations, environmental regimes, or common pool resource management, I am focusing instead on what I've learned from my experiences and work in indigenous advocacy actions.

Indigenous peoples often show that the relationships they have with other societies are lacking in certain qualities. For example, indigenous peoples are concerned about ongoing disrespect against their *consent* (or dissent) to oil and gas pipelines, the *distrustful* behavior of nations seeking to dispossess indigenous peoples of their lands through forest conservation or hydropower, and the failure of *accountability* and *reciprocity* in governmental programs that seek to foster clean energy development or community resettlement. Here, I write primarily in terms of human relationships, yet indigenous peoples understand their societies and relationships as inclusive of diverse beings and entities beyond humans. In a more expanded version of this essay, I would cover how the violations of consent, trust, accountability, and reciprocity are also against relatives such as plants, rivers, animals, insects, seas, mountains, fishes, among others.

Consent, trust, accountability, and reciprocity are qualities of relationships that are critical for justice-oriented coordination across societal institutions on any urgent matter. Yet they are precisely the kinds of qualities of relationships that take time to nurture and develop. That is, they are necessary for taking urgent action that is just, but they cannot be established urgently. The point in the last sentence implies at least two scenarios pertaining to climate change dangers and the leadership of non-indigenous societies. While these are not the only scenarios (e.g., climate denialist scenarios, among others), I wish to engage the two here in relation to each other for the sake of dialogue beyond this essay.

The first scenario involves sweeping global action to lower greenhouse emissions, led by nations and other privileged parties and influencers. Yet, without respecting the relational qualities of consent, trust, accountability, and reciprocity, the implementation of the solutions harms indigenous peoples widely, whether through displacement, land dispossession, unfair payment schemes and employment practices, exclusion from markets, or denial of indigenous agency in planning and

leadership. Here, the intensity of ecological events (measured in isolation) lessens globally and a 2°C rise is averted. However, environmental injustices remain business as usual. It's too late, then, to stop climate injustices tied to the implementation of adaptation or mitigation solutions.

The second scenario is that nations and other privileged parties and influencers seek to first establish and repair the qualities of consent, trust, accountability, and reciprocity. Yet the time it takes to do so unfolds slowly, meaning that curbing emissions takes longer because key projects take more time to get off the ground. While in this scenario indigenous peoples eventually have relationships with other societal institutions that are conducive to justice-oriented coordination, there is nonetheless a 2°C rise, leading to risky environmental disturbances, whether to indigenous peoples or others. In this scenario, it's too late to avoid dangerous climate change. Yet the relational qualities for urgent, justice-oriented coordination will be established for the future beyond this scenario.

The two scenarios suggest to me, among other things, that there are two systematic tipping points that are of concern. In terms of climate change, the ecological tipping point concerns how the inaction of societies to mitigate their contributions to atmospheric concentrations of greenhouse gases threatens to have irreversible and dangerous effects. The relational tipping point concerns the inaction of societies to establish or maintain relational qualities connecting societal institutions together for the sake of coordinated action. Such inaction eventually makes it impossible to carry out swift responses to urgent problems without perpetrating injustices. The relational qualities are the same ones I've been discussing, like consent. While many people are concerned about crossing the ecological tipping point, the relational tipping point got crossed long ago thanks to systems of colonialism, capitalism, and industrialization.

2 | THE RELATIONAL TIPPING POINT

Indigenous concerns about climate change and injustice on Turtle Island have expressed the interconnection between ecological and relational tipping points—since at least the 1990s if we are keeping with very contemporary articulations of climate change. Key in this work is how climate-related dangers are inseparable from the absence of respect for relational qualities. Consider the quality of consent, which is closely connected to self-determination. Nearly 200 indigenous persons attended the 1998 Native Peoples/Native Homelands Climate Change Workshop in Albuquerque, New Mexico, which led to the Albuquerque Declaration, presented at the 1998 Conference of Parties. The proceedings were the genesis of the 2001 chapter on indigenous climate change issues in the first U.S. National Climate Assessment (Houser, Teller, MacCracken, Gough, & Spears, 2001; Maynard, 1998). The report, statement, and chapter trace the insidious connection between climate vulnerability and the fossil fuel industries—industries established through repeated violations of indigenous consent in order to build their infrastructure, extractive practices, and transportation and consumption networks. Recent indigenous anticolonial actions against oil, gas, and coal industries in North America show consent is still lacking.

The disrespect for consent, over time, has set up bad or nonexistent standards respecting self-determination, as well as breeding distrust and a lack of accountability and reciprocity. This plays out in fossil fuel industries today. Diverse members of the Standing Rock Sioux Tribe, Unist'ot'en Camp (Wet'suwet'en), Chippewa Tribe of Minnesota, and the Lummi Nation, among many others, have all cited problems with consent in their actions against shipment terminals and pipelines. Kathryn Nagle, Sarah Deer, and Victoria Sweet show how sexual violence against indigenous persons remains a severe problem in extractive industries, which, of course, very much speaks to violations of consent, revealing striking degrees of untrustworthiness and failures of accountability (Deer & Nagle, 2017; Sweet, 2014).

Candis Callison's research tells the stories of Inuit leaders since the early 2000s, including Sheila Watt-Cloutier and Patricia Cochran. They challenged the ways in which global science, media, and policy were not accountable to issues and perspectives of indigenous peoples in the arctic. Callison cites Watt-Cloutier's efforts, including work on the Inuit Petition, as “[moving] the experience of climate change outside of the realm of mere illustration and into the domain of self-determination, power relations...” (Callison, 2014, p. 67). “Self-determination” and “power relations” refer to how Inuit leadership emphasized the inseparability of qualities like consent and accountability in conversations about how to take coordinated, urgent action in response to climate change. For Callison, the significance of the Inuit Petition is not that it is “greenhouse gas emissions doing this to the Inuit, but the U.S. government,” in its failure to enact the relational quality of accountability (Callison, 2014, p. 67).

Qualities of relationships, whether consent or accountability, are emerging more clearly in scientific reports. Chapter 15 of the U.S. National Climate Assessment cites problems in relationships among the U.S. federal government, local governments, and indigenous peoples as a key factor creating heightened vulnerability, referencing “institutional barriers, to the self-determined [environmental] management” that is a chief factor making climate change impacts dangerous (Jantarasami et al.,

2018, p. 573). Or, in cases of resettlement, the U.S. federal government and local governments do not honor consent by failing to recognize indigenous sovereignty. Former Principal Chief of the United Houma Nation, Thomas Dardar Jr., in his 2012 testimony to the U.S. Senate Committee on Indian Affairs on climate change, uses multiple examples to convey that his tribe's "pursuit of federal recognition is closely tied to the repetitive disasters we faced" (Dardar, 2012, p. 5).

The examples and testimonies described briefly show how problems in qualities of relationships—especially consent but also trust, accountability, and reciprocity—are factors heightening climate vulnerability and exploitation by carbon-intensive industries. If this is the current status of many relationships between indigenous peoples and nations, it shouldn't be a surprise that the various solutions at mitigation are harmful too, which I will briefly touch on now. Victoria Tauli-Corpuz, United Nations Special Rapporteur on the rights of indigenous peoples, was part of a report demonstrating harms and risks tied to current climate change mitigation measures globally (Tauli-Corpuz & Lynge, 2008). Hydropower dams billed as clean energy are tied to violations of Indigenous consent by the nations and companies supporting them or are associated with removing markets for indigenous peoples to develop their own renewable energy systems (Finley-Brook & Thomas, 2011; Gilpin, 2019; Moran, Lopez, Moore, Müller, & Hyndman, 2018). Consent, accountability, and trust are being shown to be lacking in wind power projects that affect indigenous lands (Avila, 2017, 2018; Dussais, 2014).

Actual and proposed clean energy programs in the United States, such as the Office of Indian Energy Policy and Programs and the recent Green New Deal, undoubtedly include provisions for indigenous peoples. Yet, depending on the program, there can be problems tied to the exclusion of indigenous peoples early in decision-making, unfair incentive structures, or failures to address the real bureaucratic, business, and environmental challenges indigenous peoples face when making energy transitions (Bronin, 2012; Calma, 2019; Suagee, 2012). Forest conservation programs, such as UN REDD, tout the importance of free, prior and informed consent. Yet they are emerging as problematic because they seek to establish particular forms of biodiversity and payment systems in lands in which indigenous rights remain contested by others, and diplomatic relationships between Indigenous peoples and states are stressed (Beymer-Farris & Bassett, 2012; West, 2016).

Given what indigenous voices have said about climate change that I featured earlier in this section, it's not surprising that there are serious concerns about the harms and risks associated with the absence of qualities like consent or accountability in the relationships needed for justice-oriented coordinated action to lower carbon footprints. Globally, there are few reasons for indigenous peoples to trust the societal institutions that propose projects that are on or affect indigenous lands, whether they are solutions to or drivers of anthropogenic climate change. This suggests the relational tipping point is crossed, and relational qualities must be established or repaired for justice-oriented coordinated action to be possible.

3 | KINSHIP AND CLIMATE CHANGE

One lesson I want to draw on here is that the dangers many indigenous peoples face due to climate change are rooted in the relational qualities they have with other societal institutions. These qualities, among others, are the elements of mutual responsibility in coordinated action. In contemporary indigenous intellectual traditions and political activism, relationships of mutual responsibilities, infused with appropriate qualities like consent and reciprocity, are often referred to as kin relationships. *Kincentric* perspectives on climate change can suggest strong reasons for why it may be too late to address dangerous climate change, whether in the sense of stopping a 2°C rise or averting climate injustices.

First, relational qualities are crucial for cross-societal coordination. Societies with high levels of trust, strong standards of consent, and genuine expectations of reciprocity will be able to work together to ensure that forest conservation or resettlement programs can be enacted quickly and justly when they are needed. In the absence of these qualities, speediness is likely possible only if consent or reciprocity are violated.

Second, the qualities I'm writing about here take time to develop. They are moral bonds that mature over time as people in different societies develop ties to one another. The length of time it would take to strengthen these qualities of relationships, even if everyone devoted themselves to establishing them, would be outpaced by the speed at which the severity of climate change impacts is increasing. Jeanette Armstrong, speaking of the connection between sustainability and "strong community" and "family" relationships for Syilx peoples, writes that these are "long-term relationships... That doesn't happen in one generation, that happens over many generations" (Armstrong, 2007).

I occasionally hear from some persons that the point of my work isn't so much about climate change. Instead, it's alleged that what I am doing is using climate change as an opportunity for bringing up, again, ongoing justice problems, such as the persistence of colonialism. From a particular cultural orientation on climate justice, I can see the point could be taken as appearing true. But, on my view, the indigenous climate justice movement has been seeking to articulate indigenous cultural orientations on climate change. In some, if not many, of these orientations, the very fabric of the complex phenomena of climate

change has to do with kin relationships or their violation. From the perspective of such an orientation, I am puzzled when people are not troubled just as much—if not more—by the risks that indigenous peoples are already strapped with due to the problems of justice-oriented coordination.

For Anishinaabe peoples, our oldest stories and political systems speak to a key philosophical challenge: how can societies be organized to be as adaptive as possible to seasonal and interannual changes? Our ancient stories speak of extreme weather events, seasonality, trends of environmental change, migration across different ecosystems, and humans' capacity to influence entire regions through fire, flood control, trade, among other collective actions (Benton-Benai, 1988; Gaikesheyongai & Keeshig-Tobias, 1994; Johnston, 1976; Peacock & Wisuri, 2009). The practical and philosophical traditions emerging from these stories focus on understanding how the fabric of relational qualities in a society can guarantee the coordination needed to adapt as best as possible to constant change. Conceptions of society are inclusive of diverse beings and entities beyond humans, such as plants or water, who also participate in the relational qualities. Humans are often faulted for believing that they can achieve sustainability through violating consent, trust, accountability, or reciprocity, among other qualities, toward diverse beings and entities.

This indigenous orientation—whether specific to Anishinaabe or one that can be engaged in dialogue with other indigenous peoples—explains why some of us have pointed out that colonialism is itself a form of anthropogenic climate change. In fact, different types of colonialism pushed many indigenous homelands across dangerous ecological tipping points (Whyte, 2018). U.S. settler colonialism, for example, in a short period of time, inflicted displacement, drastic ecological changes, and lost or disrupted relationships with hundreds of species that indigenous peoples depended on through kinship ties for generations (Davis & Todd, 2017; Maynard, 1998). These changes are more extreme than what many nonindigenous persons fear most about moving beyond 2°C. Most critically, they rendered us in situations in which we have few consensual, trustworthy, reciprocal, or accountability traditions with the societal institutions we have to deal with, whether corporations or nations. And relatives like plants, insects, water, and animals suffer greatly from the absence of such traditions in terms of their own coordination with humans.

4 | CONCLUSION: AGAINST URGENCY

If we understand climate change through various kincentric perspectives, then a relational tipping point was probably crossed years ago through the operations and impacts of colonialism, industrialization, and capitalism. It's absolutely confounding to me why many people do not feel the urgency of addressing the injustices associated with the crossing of the relational tipping point. A narrow focus on averting some ecological tipping point is a major concern for some indigenous peoples because we know that the needed relational qualities for coordinated response are missing. Will this just be another situation, similar to Scenario 1, where a call to urgency is used to justify solutions that ultimately harm indigenous peoples? That's how colonial power has been wielded in the past, that is, by using real or perceived urgencies to mask or justify privilege, harm, and injustice.

If the rise in global average temperature is a phenomenon inseparable from some of the most important relational qualities of coordinated action, then it's likely to be too late to stop dangerous climate change and its relationship to injustices. Relational qualities such as consent and trust are factors that relate to danger. While it might not be too late for some privileged people to continue to live out their dreams and aspirations for future generations—even if they do so in a bubble—I do not see how it cannot be anything but too late for some indigenous peoples to avert further injustice. Lessons from generations of colonialism about how to avert bad relationship-making have not been learned by the parties who should have learned them, moving us across the relational tipping point to a degree that is not immediately reversible.

So it seems that we are looking at a future where we have Scenario 1, which has substantial clean energy, but at the expense of continued injustices. Or we may have Scenario 2, where commitments to kin relationships are made, but the slow onset of achieving these relationships forecloses the global capacity to avoid climate disruptions. Are there additional possible futures, and ones that do not sacrifice indigenous consent, trust, accountability, and reciprocity? Can these qualities and kin relations be established at the pace of urgency?

Regardless of Scenarios 1 or 2, indigenous peoples will continue local actions and strengthen solidarity globally, as we have always done in relation to the previous lost or disrupted relationships with hundreds of species and the need to adapt to novel ecosystems in our homelands. I know few Indigenous persons who are willing to sacrifice quality kin relationships for the sake of swift or urgent action. It's in fact the establishment of kinship that will make it possible, at some point in the future, to behave urgently when the need arises. But for now, it seems like there is little attention paid to what quite a few indigenous

peoples are conveying about the factors that make climate change dangerous. Urgency must be aimed at addressing ecological and relational tipping points together.

CONFLICT OF INTEREST

The author has declared no conflicts of interest for this article.

ORCID

Kyle Whyte  <https://orcid.org/0000-0003-2689-691X>

RELATED WIREs ARTICLES

- [Is it too late \(to stop dangerous climate change\)? An editorial](#)
- [Never too soon, always too late: Reflections on climate temporality](#)
- [The work after “It’s too late” \(to prevent dangerous climate change\)](#)
- [Is it too late to prevent systemic danger to the world’s poor?](#)
- [It’s not “too late”: Learning from Pacific Small Island Developing States in a warming world](#)
- [The potential contribution of emerging economies to stop dangerous climate change. The case of Brazil](#)
- [It’s not too late to do the right thing: Moral motivations for climate change action](#)
- [On the political feasibility of climate change mitigation pathways: Is it too late to keep warming below 1.5°C?](#)
- [Revisiting climate ambition: The case for prioritizing current action over future intent](#)

REFERENCES

- Armstrong, J. (2007). *Native perspectives on sustainability: Jeannette Armstrong (Syilx)*. (Interview transcript). *Native perspectives on sustainability*. Retrieved from www.nativeperspectives.net
- Avila, S. (2017). Contesting energy transitions: Wind power and conflicts in the isthmus of Tehuantepec. *Journal of Political Ecology*, 24(1), 992–1012.
- Avila, S. (2018). Environmental justice and the expanding geography of wind power conflicts. *Sustainability Science*, 13(3), 599–616.
- Benton-Benai, E. (1988). *The Mishomis book: The voice of the Ojibway Hayward*. Hayward, WI: Indian Country Communications.
- Beymer-Farris, B. A., & Bassett, T. J. (2012). The REDD menace: Resurgent protectionism in Tanzania’s mangrove forests. *Global Environmental Change*, 22(2), 332–341.
- Bronin, S. (2012). The promise and perils of renewable energy on tribal lands. In S. A. Krakoff & E. Rosser (Eds.), *Tribes, land, and the environment* (pp. 103–117). Burlington, VT: Ashgate.
- Callison, C. (2014). *How climate change comes to matter: the communal life of facts*. Raleigh-Durham, NC: Duke University Press.
- Calma, J. (2019). The green new Deal may be falling short on its environmental justice promise. *Grist*.
- Dardar, T. J. (2012). In The Senate of the United States, *Testimony for oversight hearing on environmental changes on treaty rights, traditional lifestyles and tribal homelands*. Hearing of the U.S. Senate Committee on Indian Affairs. Washington DC.
- Davis, H., & Todd, Z. (2017). On the importance of a date, or, decolonizing the Anthropocene. *ACME: An International Journal for Critical Geographies*, 16(4), 761–780.
- Deer, S., & Nagle, M. K. (2017). The rapidly increasing extraction of oil, and native women, in North Dakota. *The Federal Lawyer*, April pp. 35–37.
- Dussais, A. M. (2014). Room for a (sacred view)? American Indian tribes confront visual desecration caused by wind energy projects. *American Indian Law Review*, 38(2), 336–420.
- Finley-Brook, M., & Thomas, C. (2011). Renewable energy and human rights violations: Illustrative cases from indigenous territories in Panama. *Annals of the Association of American Geographers*, 101(4), 863–872.
- Gaikesheyongai, S., & Keeshig-Tobias, P. (1994). *The seven fires: An Ojibway prophecy* Toronto. Ontario, Canada: Sister Vision Press.
- Gilpin, E. (2019). Our own hands. *Canada’s National Observer*.
- Houser, S., Teller, V., MacCracken, M., Gough, R., & Spears, P. (2001). Potential consequences of climate variability and change for native peoples and homelands. In National Assessment Synthesis Team (Ed.). In *Climate change impacts on the United States* (pp. 351–378). Washington, DC: US Global Change Research Program.
- Intergovernmental Panel on Climate Change (IPCC). (2018). Global warming of 1.5°C. In Masson-Delmotte, V., Zhai, P., Pörtner, H. O., Roberts, D., Skea, J., Shukla, P.R., Pirani, A., Moufouma-Okia, W., Péan, C., Pidcock, R., Connors, S., Matthews, J. B. R., Chen, Y., Zhou, X., Gomis, M. I., Lonnoy, E., Maycock, T., Tignor, M., & Waterfield, T. (Eds.). *An IPCC Special Report on the impacts of global warming of*

1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

- Jantarasami, L. C., Novak, R., Delgado, R., Marino, E., McNeeley, S., Narducci, C., ... Whyte, K. P. (2018). Tribes and Indigenous Peoples. In D. R. D. R. Reidmiller, C. W. Avery, D. R. Easterling, K. E. Kunkel, K. L. M. Lewis, T. K. Maycock & B. C. Stewart (Eds.), *Impacts, risks, and adaptation in the United States: Fourth National Climate Assessment, volume II* (pp. 572–603). Washington, DC: U.S. Global Change Research Program.
- Johnston, B. (1976). *Ojibway Heritage* New York: Columbia University Press.
- Laboucan-Massimo, M. (2019). In J. McGride (Ed.), *This entrepreneur is installing solar power projects in oil country in*. Toronto, Canada: Chatelaine.
- Maynard, N. G. (Ed.). (1998). Native peoples - Native homelands climate change workshop: Lessons learned. Final Report. Washington DC: U.S. Global Change Research Program.
- Moran, E. F., Lopez, M. C., Moore, N., Müller, N., & Hyndman, D. W. (2018). Sustainable hydropower in the 21st century. *Proceedings of the National Academy of Sciences*, *115*(47), 11891–11898.
- Peacock, T. D., & Wisuri, M. (2009). *Ojibwe: Waasa Inaabidaa, we look in all directions*. St. Paul, MN: Minnesota Historical Society.
- Suagee, D. B. (2012). Climate crisis, renewable energy revolution, and tribal sovereignty. In S. A. Krakoff & E. Rosser (Eds.), *Tribes, land, and the environment* (pp. 43–74). Burlington, VT: Ashgate.
- Sweet, V. (2014). Extracting more than resources: Human security and Arctic indigenous women. *Seattle University Law Review*, *37*(4), 1157–1178.
- Tauli-Corpuz, V., & Lynge, A. (2008). *Impact of climate change mitigation measures on indigenous peoples and on their territories and lands: UN permanent forum on indigenous issues*. New York, NY: Permanent Forum on Indigenous Issues Seventh session.
- U.S. Global Change Research Program. (2018). *Impacts, risks, and adaptation in the United States: Fourth national climate assessment* (Vol. II). Author: Washington, DC.
- West, T. A. (2016). Indigenous community benefits from a de-centralized approach to REDD+ in Brazil. *Climate Policy*, *16*(7), 924–939.
- Whyte, K. P. (2017). Indigenous climate change studies: Indigenizing futures, decolonizing the Anthropocene. *English Language Notes*, *55*(1–2), 153–162.
- Whyte, K. P. (2018). Indigenous science (fiction) for the Anthropocene: Ancestral dystopias and fantasies of climate change crises. *Environment and Planning E: Nature and Space*, *1*(1–2), 224–242.

How to cite this article: Whyte K. Too late for indigenous climate justice: Ecological and relational tipping points. *WIREs Clim Change*. 2020;11:e603. <https://doi.org/10.1002/wcc.603>