

## OPINION

## Re-Centering Indigenous Knowledge in climate change discourse

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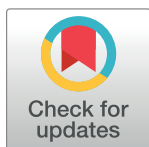
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Climate change despair is fueled by the apocalyptic and doom narratives that often dominate climate change discourse. These narratives continue to shift our focus to adaptation strategies rather than the mitigation strategies that many Indigenous communities are leading globally within their territories. In this opinion piece, we argue that to truly mitigate climate change, we must center Indigenous Knowledge systems in climate science. To do this, we offer examples of Indigenous-led movements and projects that are informed by Indigenous Knowledge systems. These examples include Indigenous sentinel networks (ISNs) and Indigenous-led resistance movements against extractive energy projects. Both help us recenter mainstream climate change dialogues back to Indigenous communities and their ways of knowing (epistemologies) and shift away from the negative narratives that diminish our hope for the future.

Climate change continues to disproportionately impact Indigenous communities due to their connectedness to their environments and reliance on local ecosystems [1, 2]. Yet, Indigenous Knowledges as solutions are nowhere to be found in climate change discourse. Often-times, such discourse only centers on Indigenous peoples' vulnerabilities, which continues to decenter such peoples' hopes for the future. To date, climate change impacts have not eliminated the hope that drives many Indigenous communities to thrive and mitigate these impacts to preserve their ancestral lands, heritage, and most importantly, their epistemologies [3]. Unfortunately, the climate debt that Indigenous communities face is rooted in settler colonialism, historic and current land and rights dispossessions, and ongoing forms of genocide [4]. This climate debt, however, has not stopped Indigenous peoples from acting and leading climate change mitigation strategies to protect their local environments. While mainstream climate science continues to dismiss Indigenous Knowledges, Indigenous sentinel networks (ISNs) and resistance movements against extractive energy projects [5] demonstrate why Indigenous epistemologies must be central to efforts that focus on mitigating climate change as opposed to forcing communities to adapt.

### Indigenous sentinel networks

Given that Indigenous ontologies (ways of being) are deeply rooted within local ecosystems, Indigenous peoples are more in tune with shifting climate dynamics including shifts in local biodiversity [6]. Consequently, Indigenous communities from the Americas (e.g. Arctic to the Amazon rainforest) have launched ISNs based on their epistemologies. These networks use Indigenous Knowledges to record observations related to climate change,



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environmental health, and wildlife. For example, the Land Earth Observer network (LEO) identifies key climate shifts that impact local environments (e.g., a fungal infection in smelt, infrastructure breakdown arising from thawing permafrost, etc.) [7, 8]. ISNs operationalize Traditional Ecological Knowledge which makes them more likely than western scientific approaches to promptly detect subtle climate shifts [9] and thereby provide Indigenous peoples with warnings needed to employ mitigation efforts. Knowledge gained from such sentinel networks can be of use to other climate change mitigation efforts as well [7, 8]. It may be more difficult to establish ISNs if Indigenous peoples are displaced from their ancestral lands or excluded from ecosystem governance. ISNs preserve Indigenous land rights and advocate for the employment of Indigenous epistemologies in natural resource management. While ISNs uphold Indigenous self-determination and cultural preservation, climate change discourse centers on inevitable relocations for many Indigenous peoples. Indigenous forms of resistance counteract these narratives through adaptation planning as an act of resistance that can help Indigenous peoples preserve their ancestral lands and avoid relocation [10].

### Extractive energy projects

Indigenous peoples enact resistance to climate change impacts through Indigenous-led movements that are targeted against extractive energy projects. Societal reliance on fossil fuels desecrates Indigenous lands and increases greenhouse gas emissions, despite Indigenous peoples' opposition to the ongoing construction of extractive energy infrastructure, e.g., oil pipelines [11]. In recent decades, Indigenous-led peaceful resistance movements against extractive energy reservoirs have repeatedly been shut down (e.g., the Dakota Access Pipeline). Indigenous land defenders have been met with violent efforts to silence their voices and remove them from the ancestral territories they strive to protect [12]. Such efforts continue a long history of land dispossession, and maintain a reality wherein Indigenous Knowledges and warnings about environmental issues are ignored by colonial governments.

A recent example of what happens when Indigenous Knowledges are ignored is emphasized by the 2022 oil spill in Ecuador's Amazon rainforest that emitted over 6,300 barrels of oil. Before the spill, Indigenous epistemologies were overlooked and dismissed as Indigenous peoples protested against companies carrying out crude oil extraction activities in proximity to their communities [13]. Indigenous peoples' continued resistance, however, ultimately led to an impressive victory for Indigenous land rights in Ecuador. Today, Indigenous communities have rights to decide if extractive energy projects can be conducted on their lands [14]. This example shows how land rights provide Indigenous peoples with the ability to mitigate climate change impacts and prioritize their relationships with local ecosystems through non-capitalistic and decolonial worldviews.

### Conclusion

There is no question that Indigenous communities are impacted by climate change. While one reaction to this phenomenon is hope, climate change is leading many people to apocalyptic, doom-centered, and despair-based narratives. These narratives should not be the dominant discourse because this paints Indigenous peoples as passive victims and centers on their vulnerability [2]. These narratives also miss the power and promise of strengthening land rights and centering Indigenous epistemologies in climate change discourse. These factors provide a method through which we can inject breadth and depth into climate monitoring abilities while stopping the extractive practices that lead to climate change. The latest IPCC reports acknowledge the roles that Indigenous Knowledges can play in transforming despair

narratives into climate mitigation actions [15] ISNs and resistance movements foreground Indigenous epistemologies as crucial aspects in mitigating climate change before adaptation strategies that further displace Indigenous peoples are needed.

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