

# Traditional community-based knowledge for envisioning climate change action for the Torres Strait

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The stars have been a compass and an encyclopedia for Torres Strait Islander people for thousands of years. The constellations of *Tagai*, the warrior, and *baidam*, the shark, guide the way for navigation on the sea and herald the changing seasons. As a child, my elders taught me what the changing seasons meant: when to plant, the change in the trade winds, when to hunt turtle and dugong and ceremonies. My elders also told me that they had noticed changes in the climate, such as the tides that were inundating the cemetery where our ancestors lie and changes to flowering of plants. These changes to the climate have also been documented by the Traditional Owners.<sup>1</sup>

First Nations peoples globally contribute very little to the greenhouse gas emissions that impact climate change but suffer the most from the effects of climate change on the environments they live in, with the impacts of climate change threatening the ability of First Nations peoples to enjoy the right to life on their homelands.<sup>2</sup>

It is important that the peoples of the Torres Strait can navigate the complexities of climate change as a public health issue for First Nations peoples of both the Torres Strait and across Australia. To achieve this, Torres Strait Islander-led research is needed to identify the intersections of climate and health, including self-determination.

As a public health researcher, a Registered Nurse, and a Torres Strait Islander man, my work and lived experiences extend across all three of these intersecting identities and have relevance in responding to climate change to protect the health of my People and Country.

## The region and people

The Torres Strait is located at the top end of Queensland, between the tip of Cape York and the southern end of Papua New Guinea. The region is made up of an area of around 48 000 square kilometres of open sea, with over 90% of the Torres Strait area being ocean.<sup>3</sup> This 'Sea Country' plays a critical role in Torres Strait Islander peoples' cultures, as it provides hunting and fishing resources for a subsistence-based livelihood, and is also an integral part of Islander identity, contributing to our spiritual and physical well-being.<sup>4-8</sup>

## Impacts of climate change on the region and people

The Torres Strait Islander Peoples and their Country are critically connected, and over the past two decades, climate change has threatened the people and their homelands through coral bleaching, impacts of sea level rise, inundation and erosion events.<sup>9,10</sup> The effects of increased air and sea temperatures, ocean acidification and extreme weather events further threaten the ecology, resources, and people of the Torres Strait, impacting natural resources and the islands' economies and infrastructure.<sup>10</sup>

Unprecedented inundations over the past few decades have impacted negatively on the Torres Strait peoples. An example is Saibai Island, where inundation events in the last few decades impacted by climate change have damaged homes and caused distress when graves and the bones of the ancestors were washed away from the Saibai cemetery.<sup>9,10</sup>

Projected additional increases in sea level will increase wave strength and height, threatening destruction to permanent and necessary infrastructure such as sea walls.<sup>10,11</sup> If communities or small low-lying islands are inundated and people need to be relocated, it further compounds the health effects of climate change.

The reliance on subsistence gardening will be impacted by the increasing difficulty to access safe and fresh water. Resources such as fisheries, commercial sponge industry, dugong and turtles will continue to be affected. The Traditional Owners have already noticed changes in the seasons and the effects this has had on the reproduction of the turtle and dugong.<sup>12</sup>

From a health perspective, adverse weather events will increase the prevalence of heat stress and vector-borne infectious diseases. Given the existing high levels of poor health including diabetes, cardiovascular disease, and obesity,<sup>10,13</sup> the general lower socioeconomic status of Indigenous people and poorer access to health services, health impacts are predicted to be common.

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## History and truth-telling to guide the way forward

To plan a sustainable path forward for the health of the peoples of the region, truth-telling of the full history of the Torres Straits is required. Truth-telling involves traditional knowledges of the past to understand the impacts that colonisation has had on the peoples and cultures of Torres Strait.<sup>14</sup> The past has strongly influenced the geopolitical environment of today.<sup>15</sup> Understanding the impacts of colonisation can avoid compounding the legacies of colonisation.

It is important to understand how colonisation changed the previously autonomous islands' economic, religious, and political structures. The history of colonisation and cultural adaptation started when Torres Strait had the first interactions with Europeans in the early 1600s<sup>16</sup>, bringing changes to the islands such as colonial rule and the introduction of Christianity through the missionaries.<sup>17</sup> However, the people of Torres Strait have been strong and resourceful, learning from thousands of years as seafarers, powerful warriors, gardeners, artists and dancers enabling them to maintain cultures, languages and traditions while being able to blend these into the ways of the western colonisers. This amalgamation of knowledge has allowed the adaptation and survival of the people and their cultural knowledge. A better understanding of this is needed to forge a path forward that recognises the strengths of the region.<sup>14,18,19</sup>

The diversity of language in the region influences climate change actions and effective communication. Each of the five language groups in the region has unique cultural identities and ways of being, knowing and doing, in the context of understanding and addressing climate change<sup>18</sup>. The knowledge holders of Torres Strait understand the order of the seasons heralded by the trade winds known as the *kooki* and *sager* and the meaning of subtle ecological signs and the lore that has been passed down through generations and how this knowledge can inform future climate change actions;<sup>14,18</sup> They do not stray onto the path of another person or take what is not theirs to take<sup>18</sup>. Sharing this knowledge within communities provides strength and enables the Torres Strait peoples to adapt to climate change renewal and change.<sup>14</sup>

New knowledge adds to the old enabling the building and adaptation of a “two-ways knowing”, including a duality and a reciprocity between Western and Indigenous knowledges.<sup>14,20</sup>

Better connection between Torres Strait peoples and non-Indigenous people is integral to effecting climate change actions that will impact the whole region. The different languages and cultures present local challenges to climate change partnership approaches as do the broader Australian and global communities and government policies.

Despite these challenges, the people of the Torres Strait, through the maintenance of cultural languages, lore, and connections, have maintained their identity and this has enabled ongoing protection of their homeland. One example of this strength is from eight Traditional Owners from the Torres Strait who recently won a legal case with the United Nations against the lack of Australian Government action on climate change; they argued that this constituted a breach of their human rights to enjoy homelands, culture, and freedoms<sup>21</sup> and breached the United Nations Declaration on the Rights of Indigenous People (UNDRIP).<sup>2,22</sup> Since the Torres Strait Eight case, the previous Australian Government did not respond. However, the current Australian Government has released the National Health and Climate

Strategy 2023, which privileges the voices and knowledges of First Nations Australians in addressing climate change.<sup>23</sup>

## A strengths-based approach enhances the ability for action

Although this commentary has described several challenges to local climate change actions in the Torres Strait, solutions and climate change adaptations need to be Indigenous-led using a both-ways knowing approach, which privileges both Western and Traditional sciences and knowledges.<sup>24</sup> The Traditional Owners from the Torres Strait have provided valuable input into climate change adaptation and mitigation through Gur A Baradharaw Kod's (GBK) support of the Torres Strait Eight legal case, the Indigenous Rangers Program and Torres Strait Islander Traditional Ecological Knowledges (TEK) Secure Database.<sup>12,25,26</sup> Yet there needs to be a stronger voice and even more input from Torres Strait Islander people to build on resilience in continuing to adapt.<sup>12,27</sup>

The existing climate mitigation and adaptation strategies being implemented by Torres Strait Islander-led organisations need to be more widespread.<sup>10–12</sup> For this to be achieved, sharing successes, challenges and integrating the both-ways knowing approach of blending old and new ways of doing, is required.<sup>28</sup> This would include an understanding of caring for Country, as the ancestors have done for thousands of years; they did not exploit it but instead worked with it.<sup>12,14,29</sup> There needs to be further work to identify implementation strategies to achieve both-ways learning as a solution and ensuring reciprocity.

## Future vision: Self-determination, co-design, Indigenous governance, and inclusion of Indigenous knowledges

Tokenistic approaches that do not authentically involve Torres Strait Islander communities will not work in addressing climate change. Lansbury et al. identified four core values that are integral to long-term, sustainable initiatives to address climate change in Torres Strait.<sup>9</sup> These are support for self-determination, co-design of climate mitigation and adaptation initiatives to protect health, appropriate governance of initiatives, and respectful incorporation of Indigenous Knowledges that have been in existence for thousands of years.<sup>9,10</sup> These core values are adaptable to other First Nation communities to ensure self-determination in funding, project development and management, meaningful consultation, and appropriate governance in meeting the public health challenge of climate change.

My personal experience of being an Indigenous Torres Strait Islander researcher conducting research on my Country and with my People brings an understanding of the strong connections between the deep spiritual links through ancestors, which spans tens of thousands of years and links the well-being of the Indigenous people to the environment. In my research, I have found that “Indigenous knowing” is an identified gap in current literature. A key first step is including Indigenous Torres Strait Islander researchers; we provide a way to explore the sense of the impact of climate change on all aspects of health and well-being of the Torres Strait Islander people.

My proposed future vision is to work together to support the health and well-being of the people of Torres Strait to continue living in traditional homelands in a changing climate by enabling caring for

Country, connection to Country, maintenance of culture and a sense of identity. If this can be achieved, it will support the physical, spiritual, and psychological health of the current and future generations. There is still much to achieve, but like the stars that guided our ancestors across the oceans, understanding cultural and historical knowledge can guide the protection of our homelands.

## Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## References

- Lansbury N, Moggridge B, Creamer S, Ireland L, Buckley L, Evans G, et al. *Aboriginal and Torres Strait Islander peoples' voices and engagement in the intergovernmental panel on climate change: advice to inform the Australian government towards IPCC assessment report 7, An independent report commissioned by the Australian Government*. 2023. Canberra Australia.
- United Nations. *United Nations declaration on the rights of indigenous peoples*. 2007. [https://social.desa.un.org/sites/default/files/migrated/19/2018/11/UNDRIP\\_E\\_web.pdf](https://social.desa.un.org/sites/default/files/migrated/19/2018/11/UNDRIP_E_web.pdf).
- Torres Strait Regional Authority. *Our region*. Australian Government; 2023. <https://www.tsra.gov.au/the-torres-strait/community-profiles>.
- Green D. How might climate change affect island culture in the in the Torres Strait? Climate change impacts and Risk. *CSIRO Marine and Atmospheric Research Paper 011 2006*;1:4–6. Issue, [http://www.cmar.csiro.au/e-print/open/greendl\\_2006a.pdf](http://www.cmar.csiro.au/e-print/open/greendl_2006a.pdf).
- Green D, Ruddock K. Climate change impacts in the Torres Strait. *Indigenous Law Bulletin* 2008;7(8):2–6.
- Green D, Alexander L, McInnes K, Church J, Nicholls N, White N. An assessment of climate change impacts and adaptation for the Torres Strait Islands, Australia. *Climatic Change* 2010;2010(102):405–33.
- Johnson J, Welch D. Climate change implications for Torres Strait fisheries: assessing vulnerability to inform adaptation. *Climatic Change* 2015;135(3–4): 611–24. <https://doi.org/10.1007/s10584-015-1583-z>.
- Passi G. *Traditional resource knowledge, western education and self-management autonomy of Torres Strait*. Brisbane, Australia: University of Queensland; 1986.
- Lansbury N, Redmond A, Nona F. Community-led health initiatives for torres Straits island communities in a changing climate: implementing core values for mitigation and adaptation. *Int J Environ Res Publ Health* 2022;19(24):16574. <https://doi.org/10.3390/ijerph192416574>.
- Torres Strait Regional Authority. *TSRA (2014) Torres Strait climate change Strategy 2014 - 2018 report*. 2014.
- Torres Strait Regional Authority. *Torres Strait climate change and health – first pass risk assessment* (2018). Retrieved from, [http://www.tsra.gov.au/\\_\\_data/assets/pdf\\_file/0008/23012/TSRA-Climate-Change-and-Health-First-Pass-Risk-Assessment.pdf](http://www.tsra.gov.au/__data/assets/pdf_file/0008/23012/TSRA-Climate-Change-and-Health-First-Pass-Risk-Assessment.pdf); 2018.
- Woodward E, Hill R, Harkness P, Archer R, editors. *Our Knowledge Our Way in caring for Country: Indigenous-led approaches to strengthening and sharing our knowledge for land and sea management*. Best Practice Guidelines from Australian Experiences; 2020.
- Hall N, Barnes S, Canuto C, Nona Francis, Redmond A. Climate change and infectious diseases in Australia's Torres Strait Islands. *Aust N Z J Publ Health* 2021; 45(2):122–8. <https://doi.org/10.1111/1753-6405.13073>.
- Sharp N. *Stars of Tagai: the Torres Strait islanders*. Aboriginal Studies Press; 1993.
- Grainger D, Watkin-Lui F, Cheer K. The value of informed agency for Torres Strait climate change. *Ecol Econ* 2021;180:106880. <https://doi.org/10.1016/j.ecolecon.2020.106880>.
- Vanderwal R. Early historical sources for the top western islands in the western Torres Strait exchange network. *Memoirs of the Queensland Museum. Cultural heritage series* 2004;3(1):257–70.
- Sharp N. *Culture clash in the Torres Strait island : the maritime strike of 1936*. 1981.
- Laade W. Ethnographic notes on the murray islanders, Torres Strait. *Z Ethnol* 1969;94(1):33–46. <http://www.jstor.org/stable/25841185>.
- MacDonald E. The Torres Strait Regional Authority: Is it the answer to regional governance for Indigenous Peoples? *Australian indigenous law review* 2007; 11(3):43–54.
- McNamara K, Westoby R, Smithers S. Identification of limits and barriers to climate change adaptation: case study of two islands in Torres Strait, Australia. *Geogr Res* 2017;55(4):438–55. <https://doi.org/10.1111/1745-5871.12242>.
- Rimmer M. The Torres Strait Eight: Climate Litigation, Biodiversity, Human Rights, and Indigenous Intellectual Property. *Human Rights, and Indigenous Intellectual Property (October 1, 2022)*. In: Lawson Charles, Michelle Rourke, Frances Humphries, editors. *Access and Benefit Sharing of Genetic Resources, Information and Traditional Knowledge, Adbington (Oxon) and New York*; 2022. p. 259–87.
- Nay Z. Our islands, our home: how eight Torres Strait Islander peoples held the Australian government accountable for climate inaction. In: *Symposium: climate change in an unequal world: does international law matter?*; 2022. Issue, <https://cil.nus.edu.sg/blogs/our-islands-our-home-how-eight-torres-strait-islander-peoples-held-the-australian-government-accountable-for-climate-inaction/>.
- Australian Government. *National health and climate Strategy*. Canberra, Australia: Australian Government; 2023. Retrieved from, <https://www.health.gov.au/sites/default/files/2023-12/national-health-and-climate-strategy.pdf>.
- Michie M, Hogue M, Rioux J. The application of both-ways and two-eyed seeing pedagogy: reflections on engaging and teaching science to post-secondary indigenous students. *Res Sci Educ* 2018;48(6):1205–20. <https://doi.org/10.1007/s11165-018-9775-y>.
- Queensland Government. *Indigenous Land and sea ranger program*. Queensland Government; 2024. <https://www.qld.gov.au/environment/plants-animals/conservation/community/land-sea-rangers/about-rangers>.
- Gur A Baradharaw Kod Torres Strait Sea and Land Council Torres Strait Islander and Aboriginal Corporation (“GBK”). *Other projects: climate change*. <https://www.gbk.org.au/other-projects/>; 2024.
- Sexton M, Kabai A, Baldwin D, Bettington S. Climate change adaptation for Torres Strait Island communities *hobart*. <https://search.informit-org.ezproxy.library.uq.edu.au/doi/10.3316/informit.799732830752869>; 2019.
- McNamara K, Westoby R. Local knowledge and climate change adaptation on erub island, Torres Strait. *Local Environ* 2011;16(9):887–901. <https://doi.org/10.1080/13549839.2011.615304>.
- United Nations. *Indigenous peoples and climate change*. 2022. <https://www.un.org/development/desa/indigenouspeoples/climate-change.html>.