

Disability in a Changing Climate

disability leadership and inclusion in climate adaptation in Aotearoa New Zealand

Abstract

Disabled people and their whānau are significantly affected by climate change and the growing need for adaptation measures. Despite this, globally, in both research and policymaking, there is less focus on disability than on other disproportionately affected communities. The intersection between climate change and disability is therefore of high relevance to policymaking for adaptation. This article discusses the findings of scoping research that identifies key areas of concern related to climate change in the disability community in Aotearoa. It concludes with a brief discussion of opportunities for disabled leadership in addressing the challenges of adaptation.

Keywords climate adaptation, disability, emergency management, climate justice

There is clear and growing evidence that disabled people¹ disproportionately experience the negative impacts of climate change, as well as mitigation and adaptation policies, at multiple scales (Bell et al., 2024; Stein et al., 2024). Disabled people experience higher mortality and greater exposure to risk from climate disasters (Stein et al., 2024), and from impacts such as higher temperatures, the increased prevalence of zoonotic diseases, and food, water and energy insecurity (Jodoin, Ananthamoorthy and Lofts, 2020; OHCHR, 2020). Climate change mitigation and adaptation policies may also have unintended negative impacts, reducing accessibility, exacerbating or creating new barriers, or reducing the affordability of necessities (Hamraie, 2021; Jodoin, Ananthamoorthy and Lofts, 2020; Stafford, Vanik and Bates, 2022). Thus, disabled people are more likely to experience the disruptive and dangerous impacts of climate change, as well as unintended negative impacts from policies aimed to reduce emissions and adapt to a changing climate.

Despite this, disabled people are frequently excluded from and denied opportunities to participate in decision making and policymaking on climate

issues (Bell et al., 2024). Globally and in Aotearoa New Zealand there is a need for more in-depth and disability-led research to understand these challenges and potential approaches to develop more just, inclusive and accessible climate action, particularly for adaptation (Jodoin et al., 2023). For example, one global study analysed over 1,682 adaptation initiatives and found that only 1% of initiatives considered disabled people (Araos et al., 2021).

A number of structural and societal barriers affect disabled people's lives and are interconnected with climate change issues, including ableism, disablism,

According to the 2023 Household Disability Survey, 17% of the Aotearoa New Zealand population are disabled (Statistics New Zealand, 2025). Disabled people are more likely to earn lower incomes than non-disabled people and less likely to have formal higher educational qualifications such as postgraduate degrees (Statistics New Zealand, 2018). In Aotearoa New Zealand disabled people are more likely to report experiences of discrimination, to rent, live in housing with mould problems and to report that their housing is unsuitable for their needs (ibid.). Tāngata whaikaha Māori – Māori disabled people – face the impacts of both ableism and

adaptation issues disabled people and the disability community are facing in Aotearoa New Zealand.² This included data from 15 semi-structured interviews and four online open-ended survey responses. Of the 19 participants, 16 people identified as disabled and two people identified as part of the disability community, as having lived experience of disability, or as a whānau member of someone with a disability.³ One person identified as not disabled but worked in the disability sector. Interviews were analysed using thematic analysis to identify the key challenges and opportunities in relation to disability and climate adaptation, as well as gaps for future research.

The interview data is supplemented with document analysis of a dataset of 123 publicly available central government policy documents related to climate change from 2000 to 2023, including legislation, Cabinet reports, consultation documents, advice reports, policy summaries, briefing papers and draft plans. Of the 123 documents that met the criteria for this analysis, 29 included at least one mention of disability. The relevant content of these documents was then analysed thematically to capture how disability was framed, how disability was discussed in relation to climate change, whether other forms of marginalisation were included in this framing, and whether the United Nations Convention on the Rights of Persons with Disabilities was mentioned and if so how. Seven documents were found to have substantial content relating to climate change and disability, while the remainder included cursory or brief mentions of disabled people and the disability community.

This research is a scoping study and is not intended to provide a comprehensive analysis of the many diverse climate adaptation issues facing disabled people and their communities. More research is needed, particularly for communities that are multiply marginalised, such as tāngata whaikaha Māori. Findings from this research provide a preliminary insight into the understanding and experience of climate change impacts in the disability community that can help inform wider discussion and work towards more inclusive climate adaptation in Aotearoa New Zealand.

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barriers to employment, education and healthcare, and discrimination (Stein et al., 2024). It is important that these barriers be understood within the social model of disability, which frames the disadvantage faced by disabled people as not inherently caused by impairments but rather by the organisation and structure of society (Barnes, 2018). A human rights approach is also vital for recognising disabled people as entitled to 'legal protection against discrimination and to achieve substantive equality with their peers without disabilities' (Jodoin, Ananthamoorthy and Lofts, 2020, p.78). Intersectionality is central in these discussions, as disability amplifies and multiplies the marginalisation experienced by individuals and communities (Saxton and Ghemis, 2018). Therefore, in considering climate justice, and the policy implications of such efforts, disability is a key part of the wider moral and justice implications of climate change (Bell et al., 2024; Sultana, 2022).

discrimination against disabled people, and racism and the ongoing impacts of colonisation (Jones et al., 2024). In the 2023 Household Disability Survey, 21% of the Māori population are reported as disabled. Māori communities are also more likely to be affected by climate change, and therefore face compounding risks and climate impacts (Awatere et al., 2021).

In this article I discuss the findings of a research project which sought to understand the key climate adaptation issues that are of concern to the disability community. I first outline the areas of concern raised during interviews relating to the impact of climate change on disabled people. I then argue for the need to support disability-led approaches, as well as the importance of greater inclusion of disability in climate change policy and action.

Methods

This article draws on a qualitative study that aims to understand key climate

Climate adaptation and the disability community in Aotearoa New Zealand

Interviewees in this research described the increased and disproportionate impact of climate change on the everyday lives of disabled people in Aotearoa New Zealand and the challenges in navigating future risks. Disabled people who are multiply marginalised, older, or who experience cognitive, learning or neurological disabilities were described as being further disproportionately affected by these climate impacts. As one person put it, 'the deck is stacked against people'. Key areas of climate adaptation concern discussed during interviews were: preparedness, response to and recovery from climate-related emergencies, managed retreat, health impacts, and the unintended impacts of adaptation policies. Across all issues raised, challenges and frustrations in being unable to access accurate information in different formats were central.

Responding to climate-related emergencies

The impact of climate-related disasters, from preparedness through to recovery, was one of the most significant concerns for disabled people across the vast majority of interviews. There was a clear feeling that climate-related emergencies such as floods and cyclones are already disproportionately affecting disabled people and exacerbating existing inequities in the emergency management system. While there are a number of initiatives underway to improve disability representation and accessibility in emergency management and disaster response at different scales in Aotearoa New Zealand (see, for example, NEMA, 2024), people involved in this research considered more resources and efforts vital given the breadth of challenges, and raised concerns about the extent of climate change impacts from the increased frequency and severity of these events.

The challenges identified across emergency preparedness, disaster response and disaster recovery are varied and range from barriers to accessible information at different stages of an emergency to financial constraints on preparing as households, and a need for more inclusive disaster risk reduction programmes. For many disabled

people, there are continued barriers to accessing safe and timely evacuation during these emergencies, especially for those with mobility impairments. These barriers can extend to the accessibility of shelters or civil defence centres, which contributes to the experience and perception of disabled people not being prioritised. This is reinforced by recent research following the 2023 Cyclone Gabrielle response in Tairāwhiti, which found significant challenges for people with disabilities and chronic illnesses in evacuating safely and quickly. The authors report that 'some participants recalled

option during a disaster (OHCHR, 2020; Saxton and Ghenis, 2018). While there is work being done to improve emergency information in New Zealand Sign Language, Easy Read, braille and other formats (NEMA, 2024), interviewees felt that there is more work needed to improve the consistency and availability of accessible formats for disabled people across the country.

Recovery from emergency events was also discussed as a time in which there is a need for greater focus and prioritisation on the needs of disabled people. Delays in repairing damaged infrastructure such as

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being overlooked in evacuation procedures, as well as mobility issues that put those with disabilities at heightened risk' (Thorpe et al., 2025, p.1280).

Emergency events are likely to disrupt electricity and water supplies, as well as access to medical services and supplies, which is a significant concern for many disabled people. This includes not only those who are medically dependent on electricity but also those who rely on access to power to charge batteries for accessibility or mobility aids, such as power wheelchairs. These issues are well reported in the international literature (for example, Frederick, 2022; King and Gregg, 2022) and reflect widespread barriers to inclusion and equitable access during emergencies both globally and in Aotearoa New Zealand.

Similarly, some people shared that in recent emergency events it was still not standard practice for public emergency information, such as social media posts, to include content related to the accessibility of evacuation shelters or procedures. Being able to access timely and accurate information is vital so that people can make informed choices about their best

footpaths can have a further impact on the ability of people with mobility impairments to fully participate in their community. Temporary housing was also raised as an issue of concern: there is often a lack of consideration for accessibility in the design and infrastructure of options available to those who lose their homes. Research after the 2010–11 Canterbury earthquake sequence reinforces these concerns, demonstrating the ongoing implications for access and social inclusion that have been disproportionately experienced by disabled people in the medium to long term, resulting in social isolation and a reduction in quality of life (Bourke et al., 2022).

Overall, many interviewees felt that this range of impacts across different facets of emergency response and recovery demonstrates the need for greater representation and engagement with disabled people and the wider disability community in decision making for preparedness, response and recovery initiatives. Thorpe et al. (2025), reflecting on research in the aftermath of Cyclone Gabrielle in 2023, and Phibbs et al. (2015)

writing following the 2010–11 Canterbury earthquakes have also stressed the importance of greater connectivity between disability and health organisations, the community and emergency management, and a need to review existing plans, policies and infrastructure to include the needs of disabled people.

Managed retreat

Issues of recovery intersect with a further area of significant concern for disabled people: managed retreat. Managed retreat and relocation encompasses moves to proactively or reactively relocate households and communities away from areas at high risk from hazards, including,

Concerns were also raised around unmanaged retreat and insurance retreat, and the impact this may have on disabled people on lower incomes. There is a significant concern that as insurance is withdrawn from coastal areas, housing in uninsurable areas will be dominated by cheaper rentals and this will increase the proportion of disabled and other vulnerable households in areas with higher risks. As one person said: 'My main concern is ... we'll end up with our most vulnerable people in our most hazardous areas, and with the withdrawal of infrastructure from those areas as well there might not be doctors' clinics, town halls or shops.' Another concern is that without the input and involvement of

communities, particularly through exposure to heat and an increased prevalence of zoonotic diseases and pandemics (Stein and Stein, 2022). Most people involved in this project mentioned the increasing severity and frequency of heatwaves as a specific concern for many disabled people. Existing challenges disabled people face in relation to accessing safe and healthy housing will also likely be exacerbated. This was framed in relation to both extreme heat and other weather-related conditions, such as high humidity and cold weather. Disabled people are more likely to live in housing that is mouldy or unsuited to their needs (Statistics New Zealand, 2018) and there is concern that climate change may exacerbate and amplify the impact of these housing conditions.

Issues of food insecurity are also important. Some interviewees described how recent events such as Cyclone Gabrielle had increased food prices and thus reduced affordable food options, especially for those on restricted diets. The potential for climate change to have a negative impact on food security for disabled people is highlighted by research which found that disabled children were more likely than non-disabled children to live in households that run out of food often or sometimes or to live in households which use foodbanks, indicating the depth of existing inequities in access to food for disabled households (EHINZ, 2024). These climate-related health impacts could amplify and entrench existing health inequities in Aotearoa New Zealand, a concern that is echoed by Bennett and King (2018) and Environmental Health Intelligence New Zealand (EHINZ, 2024).

Disproportionate impact of adaptation policies

Globally, there is increasing awareness that policies designed to support climate change adaptation or mitigation may have unintended impacts on disabled people that increase barriers to their participation in society or further entrench inaccessibility (Hamraie, 2021; Stafford, Vanik and Bates, 2022). In the interviews, discussion of the impact of adaptation policies was mostly around housing and transport policy. Interviewees identified

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but not limited to, flooding and sea level rise (Hanna, White and Glavovic, 2021). Managed retreat was raised as an issue that is likely to have a significant impact on disabled people and communities. Yet rarely, in the experience of interviewees, were these impacts explicitly considered or consulted on by researchers, authorities and governing bodies. The issues raised for disabled people in relation to managed retreat are multifaceted and include: the need for adequate compensation for housing with accessibility modifications; challenges around relocating and maintaining connections with support and care networks; availability of information on managed retreat and risk in accessible formats; and the need for more involvement of disabled people in planning and decision making on managed retreat.

disabled people in decision making for these issues, challenges could arise with the design of relocation and compensation schemes. A particular concern raised was that many disabled people on low incomes or the supported living payment may not have insurance. This may pose issues for managed retreat schemes that are premised on the homeowner holding current insurance, such as played out in the residential red zone in Christchurch after the 2010 and 2011 earthquakes (Jones, 2014). A lack of insurance cover or under-insurance may also contribute to people being unable to move or to afford properties with accessibility modifications following disasters.

Health impacts

There are significant concerns around the potential for climate change to adversely affect health outcomes across disabled

possible co-benefits of improving accessibility in designing adaptation policies, such as using universal design principles in new housing developments planned as part of relocating communities at risk of climate impacts. However, many people spoke of their frustration that these design approaches are often not included and instead new housing is built without consideration of accessibility. In the experience of some, new housing was both less accessible due to a focus on multi-storey townhouses, and less adapted to climate change due to building design causing health concerns as a result of extreme heat (Bell, 2024).

Approaches to designing urban environments to support active transport or transport mode shift were another area where disabled people experienced additional challenges and barriers. There was broad support for these initiatives, but interviewees noted that without the active involvement of disabled people, these efforts can increase accessibility barriers or costs, ultimately leading to a disproportionate burden on or cost to disabled people. As one person said when discussing their experience of inaccessible urban design experiments that removed vehicle access to promote walkable spaces, there are 'a lot of assumptions made that everyone can just pop down the road'. Research by Doran et al. (2002) has also shown support from disabled people in Aotearoa New Zealand for pedestrianisation efforts if these modes are safe and accessible.

For many, these issues were connected to forms of exclusion that limit the possibilities for disabled people to participate in decision making on climate change. Interviewees frequently described their experience of barriers to participating in central and local government submission processes and in accessing submission forms and government policy documents. This is especially a challenge for blind and low vision people when forms and policy documents are not accessible for those using screen reader technology. It is also important to note that several interviewees raised concerns that some disabled people have a lack of trust in government agencies and officials involved in roles such as emergency management due to previous negative experiences. These dynamics will need to be

carefully considered and navigated in climate adaptation and emergency management policymaking alongside and with the disability community.

Opportunities for disability leadership and action for climate adaptation

While disabled people are significantly affected by climate change, there is often an emphasis on vulnerability, rather than capacity and expertise. Analysis of central government climate policy documents as part of this study found that disabled people and disability communities have been largely framed as a group that is vulnerable to, and disproportionately affected by, climate change. While these documents

disabled people and their communities. The need for climate adaptation policymaking and research more broadly to be disability specific and connected to the everyday lives of disabled people is critical for building disability-led approaches that support empowerment and agency, rather than a sense of passive vulnerability to increasing climate risks.

The potential for disabled people to lead and contribute to climate adaptation was frequently highlighted in discussions and interviews as part of this research. Experiences of disability and vulnerability mean that disabled people have skills and capacity in adapting to challenging circumstances, as well as thinking through

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recognise the disproportionate impact of climate change on people with disabilities in Aotearoa New Zealand, it is worth noting that these mentions are still largely cursory. Furthermore, many use the term 'vulnerability' or 'vulnerable' to frame the impact of climate change on disabled people, often in a passive manner. Understanding vulnerability is an important and much needed contribution to this discussion, but there is also a need to highlight the agency and expertise of disabled people in contributing to society-wide efforts to respond and adapt to climate change.

Relatedly, there is a clear need for initiatives, policy and resources to develop and support disabled leadership in response to these challenges, particularly for climate adaptation (Bell et al., 2024). Disabled people participating in this research clearly articulated the need for more accessible risk and hazard information in different formats that connects to the needs of different

problems in different ways. As one person said, 'I have to think of things nobody wants to happen, I have to think about very different things to non-disabled people'. Another person commented that disabled people contributed 'different insight – they might have different resources available, they might be the only house that has power because they're vulnerable'. Parallels were raised with the responses that Māori communities and marae frequently undertake after disasters to support and manaaki, or care, for affected communities.⁴

The findings of this research identified a number of opportunities for those working at different scales of government to support climate adaptation leadership and action alongside disabled people and the disability community. This includes:

- Invest in and build relationships between the disability community and policymakers and decision makers at local and national scales.

- Frame and develop climate policies in a way that is relevant and engaged with disabled people's everyday lives.
- Provide resourcing and invest in disabled people and disabled persons organisations to lead and develop accessible policy and decision-making processes for climate adaptation and emergency response.⁵
- Address accessibility barriers and provide information in multiple formats.
- Resource disabled people and disabled persons organisations to fully participate in and engage with formal decision-making processes at all levels of governance on climate issues.

There are also a number of important areas of future research to support and build understanding of the specific challenges disabled people face in responding to climate change and the possibilities for building adaptive futures. Participants suggested a number of priority areas for future research, including developing and trialling disability-inclusive emergency management approaches, understanding the challenges for people living in rural communities, on papakāinga or in remote areas, and greater focus on data to understand demographics and the risk exposure of disabled people to extreme weather hazards and climate impacts. Research currently underway by the author

in collaboration with Sarah Bell and Áine Kelly-Costello as part of the UK-based Sensing Climate research programme includes a case study in South Dunedin that aims to provide more specific and detailed understanding of disabled people's experiences in severe weather events and the opportunities for disability leadership in planning for climate change futures.

Collaborating with and exchanging knowledge and expertise with disability communities across Aotearoa New Zealand and the world will allow us to work towards a more diverse and inclusive future for climate action. People involved in this research were clear that disabled people have the knowledge, expertise, experience and skills to contribute significantly to climate change responses and adaptation. Responses to climate change that are disability-led can enable adaptive, creative and diverse opportunities to respond to these challenges in a way that leaves no one behind (Bell et al. 2024). Furthermore, leadership from communities of people who are multiply marginalised should be at the forefront of inclusive action on climate change (Stein et al., 2024). In the Aotearoa New Zealand context, this also means placing a central focus on tāngata whaikaha Māori leadership and te Tiriti partnership between mana whenua and tāngata tiriti (Bray, 2023).

- ¹ This article largely uses the term 'disabled people' in line with person-centred language and the social model of disability (Barnes, 2018). However, it is important to acknowledge that use of terminology (for example, 'persons with disabilities') varies with group and individual preference and in different contexts.
- ² The findings of this research were first published as a research report as part of the Resilience to Nature's Challenges National Science Challenge. For more detailed discussion, see Cretney, 2025.
- ³ Three participants identified as Māori. The relatively small number of participants for this project means there are gaps in terms of representation from some communities, including tāngata whaikaha Māori, Pasifika disabled people and disabled people from a migrant and refugee background. There is a significant need for more focused climate research led by and in collaboration with these communities.
- ⁴ See also the importance of marae in providing rapid response following disasters, as seen in 2023 with Cyclone Gabrielle (Kātene, 2025).
- ⁵ Examples of emergency management resources produced by disabled people and disabled persons organisations are the Disabled Persons Assembly booklet 'Don't Be Scared, Just Be Prepared' (<https://tinyurl.com/2s48bmsy>) and videos produced by the IHC and Civil Defence Emergency Management Canterbury on emergency preparedness (<https://tinyurl.com/ycxu848n>; <https://tinyurl.com/59h3ach3>). The Wellington Regional Emergency Management Office has also released a disability inclusive emergency preparedness guide based on the Australian person-centered emergency preparedness model (<https://tinyurl.com/4hk2w52n>).

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