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The Impacts of Climate Change on Migration

Abstract

This article brings together conversations about climate change, its effects on global migration, and Aotearoa New Zealand's future population. It discusses the current state of the climate and how different climate change scenarios might affect migration, and asks how different possible climate migration futures might feed into immigration and population planning in Aotearoa New Zealand.

Keywords climate change, extremes, sea level rise, climate migration, forced migration

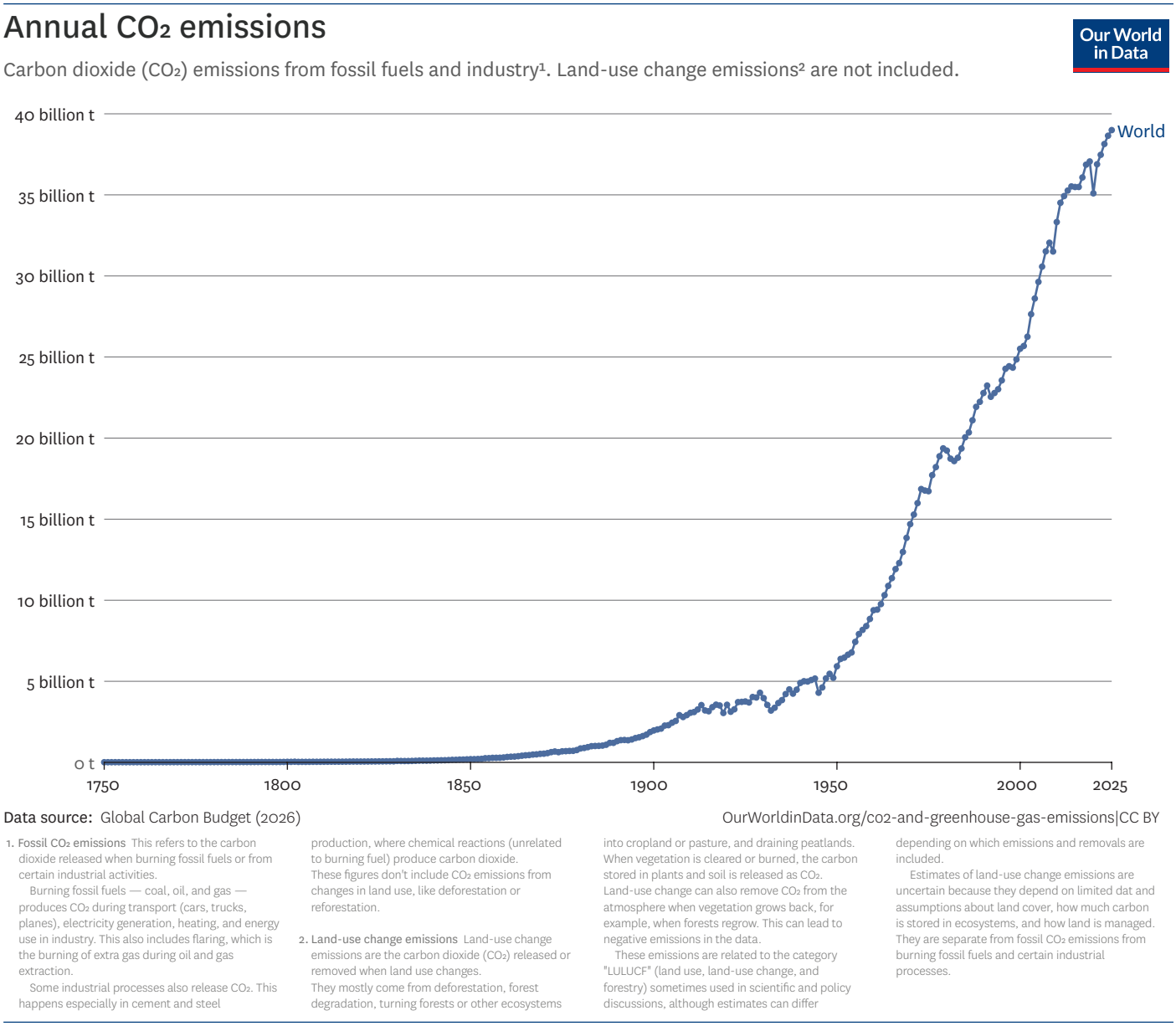
The changing climate is modifying all human life support systems, from food production to living conditions and water availability. Life as we know it is being reorganised and climate change is 'pulling the rug out' from under our collective lives and lifestyles. As a result, a large fraction of the global population will potentially have to relocate, either voluntarily or through what is termed 'forced migration'. The sizes of the many migration cohorts and the speeds at which they relocate depends strongly on how quickly global society can decarbonise, along with the regional influences of global geopolitics.

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At the same time as a warming climate is displacing populations across the world, Aotearoa New Zealand is facing its own demographic challenges. An ageing population combined with declining birth rates present it with the risk of having too few workers to generate the economic activity needed to support its population's needs. Lala et al. (2026) are among those who identify the need for Aotearoa New Zealand to have a long-term 'population strategy'. They identify immigration as one of the key policy responses a future population strategy will need to consider. This article brings together conversations about climate change, its effects on global migration, and Aotearoa New Zealand's future population.

The first section provides a survey of the state of climate change, what action must be taken to limit global warming to within the Paris Agreement range, and what the consequences of climate change are likely to be for regional communities worldwide. The second section examines some expectations about climate change's

Figure 1: Global annual emissions of carbon dioxide from fossil fuel burning and industry, from 1750 to 2024.



Source: Our World in Data, https://ourworldindata.org/co2-emissions

effects on global population movements, and how the international community has responded. Finally, it asks how a population policy might take these findings into account.

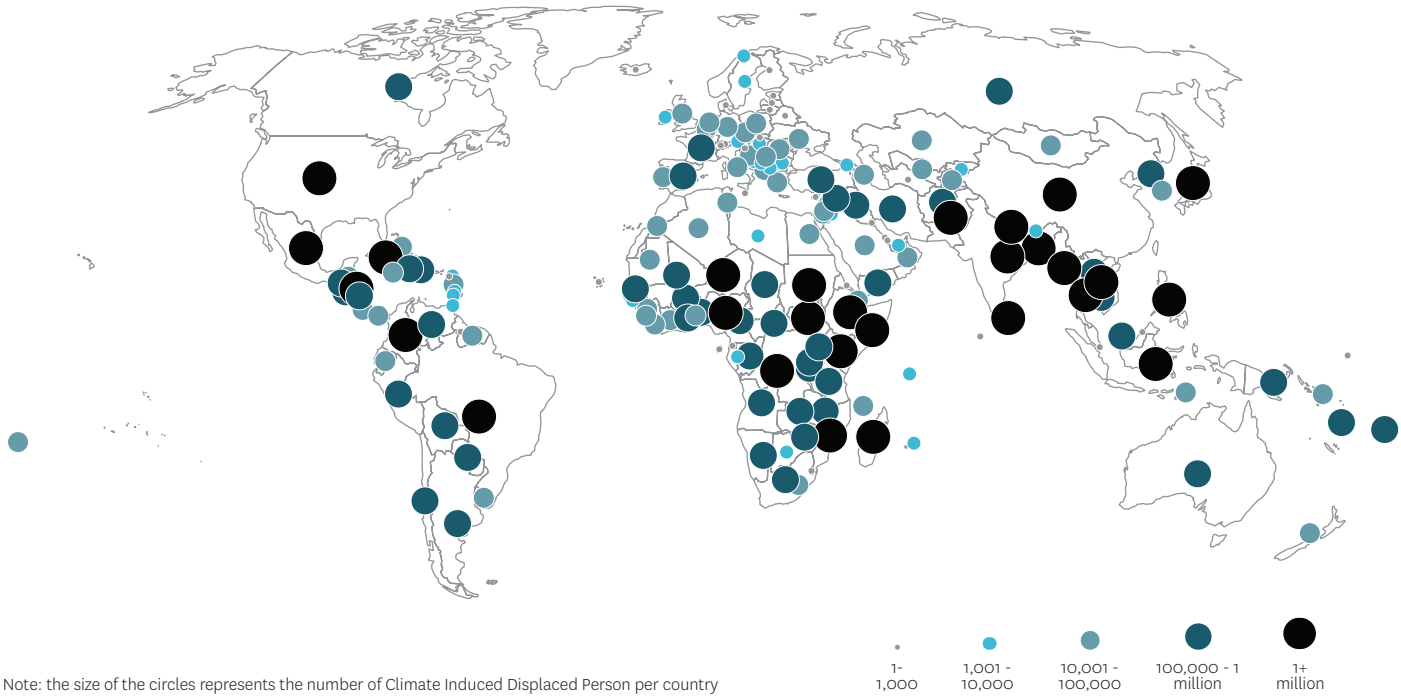
Climate change background

The climate is warming because of the addition of greenhouse gases to the atmosphere through human activity, mostly through the burning of fossil fuels. The rate of emissions of carbon dioxide, the key and longest-lived greenhouse gas, has increased steadily over the past century (see Figure 1), with half of the total human emissions since 1750 having been emitted since 1990. There is no sign yet of decreased global emissions, beyond a few brief downturns. That said, the rate of increase has slowed significantly in recent years.

The current state of the climate system and how it is changing is summarised clearly in the assessment reports of the Intergovernmental Panel on Climate Change (IPCC). The most recent sixth report (AR6), published in 2021–23, finds that human activities have unequivocally caused climate change, and that the climate has already warmed by more than one degree Celsius compared with pre-industrial conditions. Given current rates of emission of greenhouse gases, and the pledges currently made under the Paris Agreement, the globe is on track to warm by around 3°C by the end of the century (IPCC, 2023). Yet the Paris Agreement itself, which almost all countries are signatory to, specifies that nations will take action to contain warming to 'well below 2°C above pre-industrial levels', while 'pursuing efforts' to stop warming at 1.5°C.

The United Nations Environment Programme (UNEP) recently reported that 1.5°C warming is inevitable (UNEP, 2026), and states that stopping at 2°C will require extremely strong action to be taken over the coming few decades: for instance, emissions of carbon dioxide would need to be reduced to zero over the coming 50 years (i.e., by the 2070s) (Friedlingstein et al., 2026). It is an open question whether such action will be taken. As it stands, the global community has fallen well short on

Figure 2: Climate Induced Displaced Persons (both internal displacements and those displaced across national borders)



Note: the size of the circles represents the number of Climate Induced Displaced Person per country

Source: Othering & Belonging Institute, UC Berkeley, https://belonging.berkeley.edu/climatedisplacement/climate-displacement-and-resilience-database

the action needed to rein in the changing climate.

The United Nations secretary-general, António Guterres, said at the time of release of the AR6 synthesis report that the projected global warming by 2100 (around 3°C above pre-industrial levels) 'spells catastrophe' and that the report represented a 'survival guide for humanity' (Earth.org, 2023).

What Guterres meant was that extreme events could easily overwhelm human systems if warming continues beyond 2°C. Humanity does not feel climate change through the background gradual warming of the atmosphere. It feels the effects of climate change through its role in changing extreme weather events (IPCC, 2021). Such extremes, including heatwaves, droughts, fires, intense cyclones and floods, combined with sea level rise, put pressure on food and water security and on the habitability of some regions (IPCC, 2023). The IPCC also notes that '[h]uman influence has likely increased the chance of compound extreme events since the 1950s, including increases in the frequency of concurrent heatwaves and droughts (high confidence)' (ibid., A2.1).

Pressures

The 2022 Global Food Security Index report concludes:

> The scores in the 2022 GFSI reflect a fragile global food system that is under immense pressure and facing some of its worst outcomes ever. Food prices and hunger are hitting record highs, while affordability is plummeting as shocks like the covid-19 pandemic, armed conflict and climate change compound systemic stresses. (Economist Impact, 2022)

The IPCC notes that climate change has already reduced food security and affected water security (IPCC, 2023). The price volatility of staple crops such as wheat and rice has increased in response to regional changes in climate (Bezner et al., 2022), affecting agricultural livelihoods as well as food supply and security.

Such pressures are distributed unevenly around the world, with tropical regions, especially in Africa, often experiencing the highest pressures. That pattern is likely to continue through this century, as climate change continues to exacerbate existing inequalities between countries and regions.

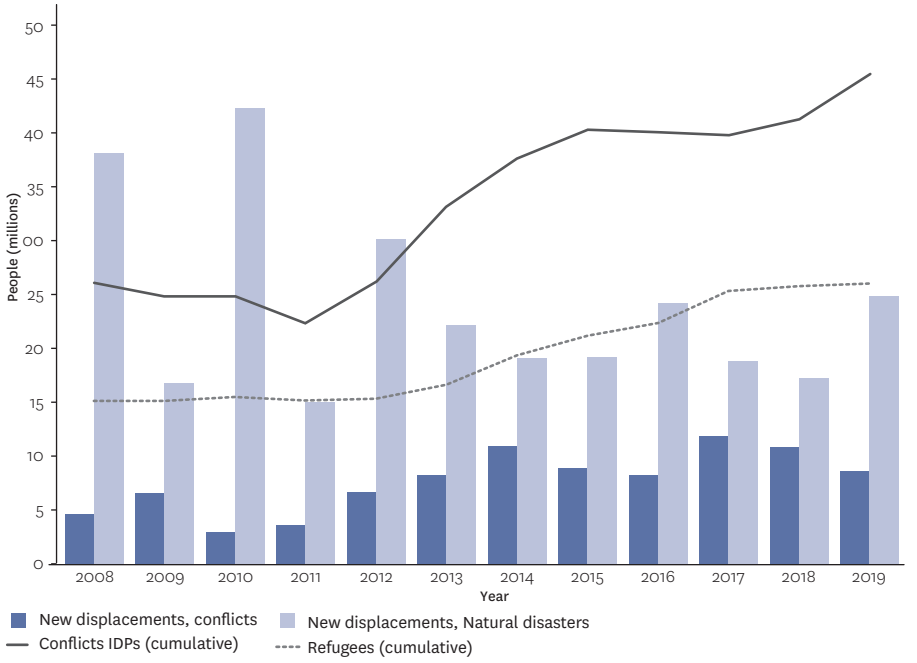
There is also pressure on liveable land, from areas either becoming uninhabitable or the land itself being lost to sea level rise. These all put pressure on communities and on society in many countries, leading to regional conflict over basic resources, and potentially the breakdown of the rule of law in some countries or regions (International Committee of the Red Cross, 2020; Mosello & Steinkraus, 2025).

Such pressures, and the collective response to them, lead to the displacement of populations from vulnerable locations. The regions of the world most exposed to decreasing liveability as a result of climate change are generally in the tropics, especially in tropical Africa and south Asia (see Figure 2). As the climate continues to warm – for example, to 3°C above pre-industrial levels – larger sectors of the global land area are projected to become uninhabitable. Currently, over 40 million people are displaced as a result of conflict, persecution and climate change (Figure 3), among other issues. In a 3°C warmer climate, based on increased pressure on liveability and food security (Figure 4), there is the potential for hundreds of millions of people to be displaced, both within countries and across national borders.

What does this mean for future migration?

Climate change's potential effects on migration can vary enormously. It can be the primary cause of migration or it can exacerbate existing drivers of migration. It can take the form of temporary migration

Figure 3: Global rates of disaster- and conflict-induced displacement and stocks of global refugees and internally displaced people (IDP) between 2008 and 2019



Source: Internal Displacement Monitoring Centre; https://science4sustainability.wordpress.com/2020/11/09/people-on-the-move-migration-as-an-adaptation-to-climate-change/

due to fast-onset disasters (e.g., violent storms or floods), or permanent migration as a result of slow-onset environmental changes (e.g., chronic food insecurity caused by desertification). Some effects, such as inundation, make particular locations entirely uninhabitable; others, such as more frequent heatwaves, reduce habitability. People might move within their own country, most commonly from rural to urban areas; others will cross borders but stay within their geographic region. Still others may move inter-regionally. Such migrations can be more or less voluntary, planned or spontaneous, legal or irregular. Those who move may be poor and uneducated or wealthy and highly skilled, although many scholars have recognised that the poorest members of society often have insufficient resources to move. Indeed, where climate change increases poverty it can decrease the ability of impoverished populations to move (Nabong et al., 2023).

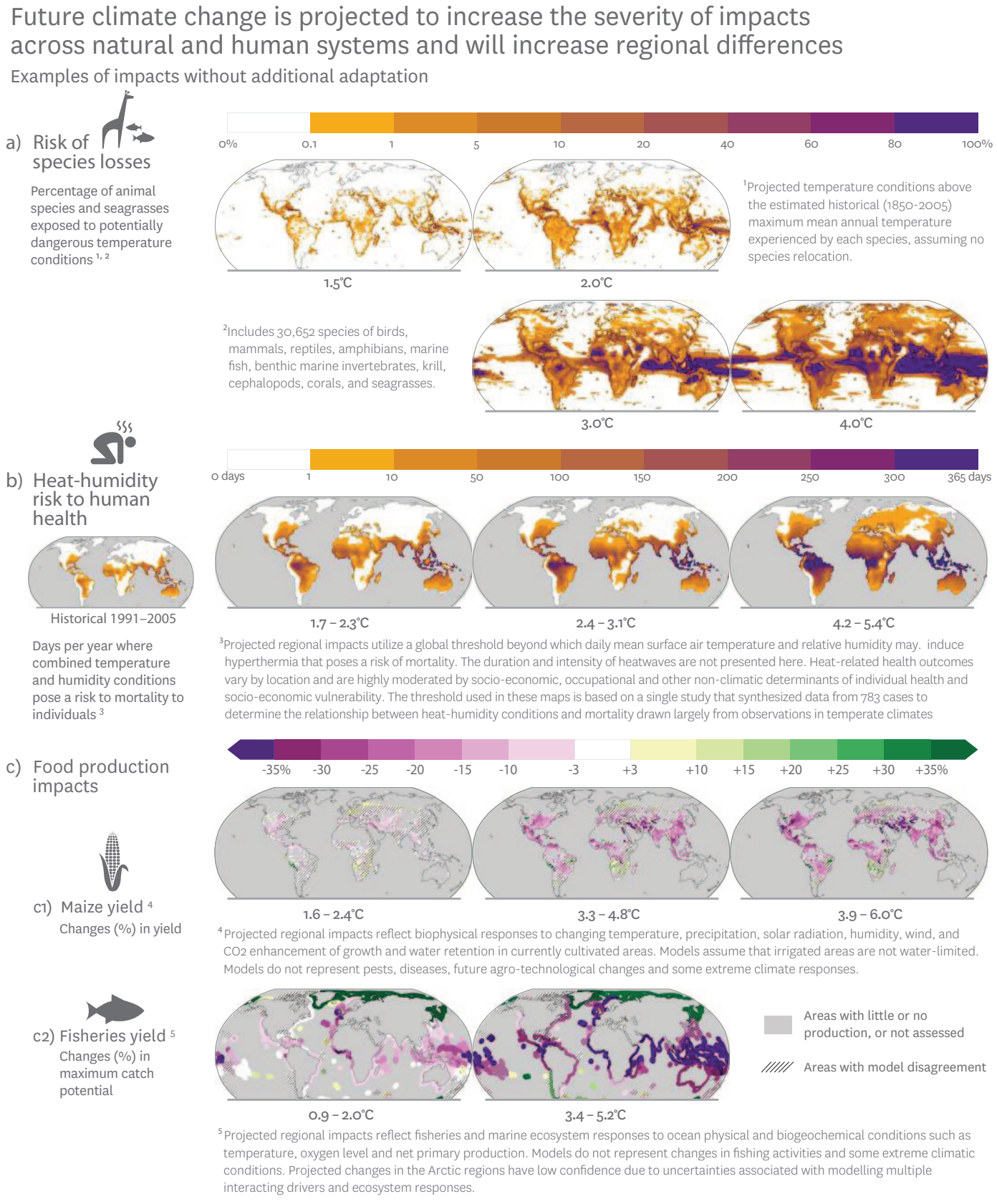
Various terms have been applied to those for whom climate change forms part or all of their reason for moving: 'climate migrants', 'environmentally displaced people', 'climate refugees'. None of these terms is legally meaningful: no international law provides protection specifically for those displaced for climatic reasons. Many such migrants additionally fit into other legal or administrative categories. Those who have crossed a border due to persecution will meet the legal definition of a refugee, while those who have not suffered persecution will not. Those who stay within their own borders are defined as 'internally displaced persons' or IDPs but also are often included within estimates of future climate 'migration'. Those who find work in other countries as part of a climate change adaptation strategy will also be understood as 'labour migrants' (whether skilled or unskilled), while many who cross a national border in search of a more hospitable climate without a visa may simply be understood as illegal migrants. Distinguishing 'climate migrants' from migrants in general may become increasingly difficult as climate change acts as an accelerant of other factors precipitating migration.

All of this is by way of saying that terms such as 'climate migrant' are capacious and tell us little about the circumstances of those who migrate. Waters (2025) suggests a typology of climate migration that distinguishes: *disaster migration*, as a response to rapid-onset disasters; *strategic migration*, as individual decisions to voluntarily migrate in the face of slow-onset climate change; *managed retreat*, in which whole communities are relocated away from locations that have or will become uninhabitable; and *trapped populations* who lack the resources or viable migration pathways to migrate in the face of climate change. This heterogeneity is important to bear in mind when examining estimates of the impact of climate change on future migration.

Those estimates vary considerably (for surveys of climate migration modelling, see Ghosh & Orchiston, 2022; Hoffman et al., 2021; Schewe & Beyer, 2025). The most commonly cited numerical estimate is that of the World Bank's 2021 *Groundswell* report, which estimated that 215 million people would be internally displaced due to climate change by 2050 across six regions, although the authors estimated the number could be considerably lower if global temperatures can be minimised (Clement et al., 2021). Burzyński et al. (2021) estimated that between 45 million and 97 million working-age migrants will move across borders due to climate change over the 21st century, depending on how much the planet warms. Clements (2024) puts the number of climate migrants at over 500 million by 2050, while Xu et al. (2020) estimate that, under extreme warming, 30% of the land mass currently inhabited by humans will fall outside the 'human ecological niche' conducive to human life by 2070, meaning 3.5 billion people may need to move over the next half century.

The relationship between climate change and migration is, however, highly complex (Nabong et al., 2023), so efforts to estimate how many people will move, for what reasons, from where to where, over what period, for how long, and with what effects are plagued by methodological challenges. The lack of accurate data concerning migration in some of the world's most climate-vulnerable countries, future global population, and the extensive range and dynamic nature of relevant variables affecting migration, each of which will interact with the rate and level of climate change, all explain the wild discrepancies among estimates of climate migration (Hoffman et al., 2021; Schewe and Beyer, 2025; Schewel et al., 2024). Perhaps the most that can be said with any confidence is that the more catastrophic

Figure 4: Projected effects of climate change upon ecosystems (panel a) and aspects of human life (panels b and c) as a function of global warming



Source: IPCC, 2023

climate change proves to be, the more people will be forced to migrate.

As for where migration is most likely to occur, and why, the IPCC's 2023 report argues that climatic effects on migration are likely to 'vary by region and over time', mediated by a range of demographic, political and other factors. They find evidence that floods, extreme storms, droughts and extreme heat will drive internal, regional and international displacement across Asia and Africa; floods

will drive internal and regional displacement in Europe; floods, tropical cyclones, tornadoes and wildfires will drive internal and regional displacement across the Americas; wildfires will cause internal displacement in Australia and Aotearoa New Zealand; extreme storms will drive internal and regional displacement across the Pacific. Increases in sea level rise will affect low-lying coastal areas around the world, with risks ranging from storm surges and groundwater contamination to inundation (Cissé et al., 2022). If the planet breaches climatic tipping points, the nature and extent of the migratory effects of climate change are likely to be even more widely spread and extreme (IPCC, 2023, B.3.2).

disproportionate influence in a range of bodies that set the direction of global and regional migration policies. Such policies need accurate data, not only about the migratory consequences of climate change, but also on the consequences of migration for climate change. In the absence of accurate data, narratives of overwhelming climate migration are easily popularised, creating demand for restrictionist migration policies that may not in fact be the most effective responses to either climate change or climate migration.

Indeed, some recent efforts to incorporate different global, regional and national migration policies into climate migration modelling suggest restrictive migration policies may make both climate and migration outcomes worse. Benveniste et al. (2020), for example, compare the effects of open and restrictive border policies on climate migrants and the communities they move from and to. They find that when people in climate-vulnerable areas are able to migrate, remittances increase. Access to remittances expands the resources available to climate-vulnerable communities for adaptation policies, reducing the global inequality that creates pressures for migration. Conversely, restrictive policies trap people in conditions of exposure and vulnerability and increase global inequality, thus driving the demand for international migration (Benveniste et al., 2020; McLeman, 2019; Nabong et al., 2023).

Which kinds of migration policies, then, are likely to create the best outcomes for those displaced by climate change, the communities they come from, and the communities they move into?

Here, as with migration policies more broadly, some general rules are helpful. First, rather than wanting to migrate, most people prefer to stay home or close to home, as long as conditions allow (Castro and Sen, 2022). Second, when people do move, they prefer to move shorter rather than longer distances (Ravenstein, 1889), and historical migration routes that have led to settled communities of people who share a putative migrant's cultural, linguistic and religious traditions will likely be preferred (Massey et al., 1993). Third, migration is most likely to lead to positive outcomes when that migration is voluntary from the perspective of both migrants and host societies, when migrants and host societies have time to plan for the migration, and when migration occurs through legal pathways that respect the human rights and dignity of all concerned. Conversely, migration that is involuntary, unwanted, unplanned, violates human rights, and takes place through irregular or illegal means can be expected to be less successful.

To maximise the chances of good outcomes for all, then, state and non-state actors need to be developing migration policies that assist people in climate-vulnerable areas to stay home if that is viable and preferred, and to move in a planned, human rights-consistent and legal manner if movement becomes necessary.

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International, regional and domestic responses to climate migration

The prospect of catastrophic climatic change invites dystopian migration visions. For governments and populations in those countries likely to remain hospitable to human life as the planet warms, the possibility of tens or hundreds of millions of climate migrants clamouring to cross their borders might feel apocalyptic, the literal embodiment of climate change's existential threat. Such a possibility will be even less appealing for those likely to be displaced: ancestral lands, homes, livelihoods may all be lost, while life in a new location may lack security, prospects and dignity.

Nightmarish forced migration scenarios have the potential to stimulate defensive and restrictive responses in the wealthy, global north countries. These are the countries with the most resources to respond to climate change, and with

Both international and unilateral policies influence the availability of legal pathways for those forced to move by climate change. International cooperation can establish legal norms and protections that can guide states as they develop policies concerning climate migration, while unilateral state policies will shape the migration pathways available to those who wish to move. Below we sketch a few of the most significant international, regional and unilateral responses to climate migration to date.

The international response to climate migration

Thus far, there is no international legal convention that specifically addresses the protection needs of those displaced by climate change. As noted earlier, unless they can also demonstrate a fear of persecution

in their home country, climate migrants do not meet the legal definition of a 'refugee' under international law. The international norm of 'non-refoulement' that prohibits all states from sending a person back to their home country if that person fears persecution has not been understood to apply to those who fear for their safety back home due to climate-related impacts. A possible change to this understanding came with the 2020 decision by the UN Human Rights Committee in *Ioane Teitiota v New Zealand* (UNHCR, 2020). The committee found that a state would be breaching the International Covenant on Civil and Political Rights if it sent a person back to a country where climate change impacts create a real risk of violating their right to life. While the committee did not find in Teitiota's favour, their decision has been hailed as a new potential, if untested, avenue for international protection for those displaced by climate migration (McAdam, 2021).

Notwithstanding the lack of a clear international legal response to climate migration, there have been growing numbers of non-legally binding initiatives to plan for climate migration. Most significant, perhaps, is the 2018 Global Compact for Safe and Orderly Migration. This is a non-binding international instrument signed by 164 countries (including Aotearoa New Zealand), under which signatory states agreed to 'enhance the availability and flexibility of pathways for regular migration' (United Nations General Assembly, 2018). The provision of such pathways, however, remains entirely at the discretion of signatory states.

Other UN-led initiatives include the recognition of migration as a response to climate change within the United Nations Framework Convention on Climate Change during COP16 (paragraph 14(f) of the Cancun Framework), and inclusion of forced displacement due to climate change under the Loss and Damage Fund established at COP19. The 2015 Paris Agreement, signed during COP21, established the Taskforce on Displacement, which in 2024 published guidelines for how state parties could develop national action plans to respond to climate displacement (United Nations Climate Change Secretariat, 2024). The Sendai Framework for Disaster Reduction 2015–2030, adopted by UN members in 2015, recognised climate as a driver of displacement and encouraged states to incorporate climate displacement into their disaster reduction and response planning. Similarly, the Sustainable Development Goals, also adopted by UN member states in 2015, committed states to achieving a series of targets by 2030, among which are several relating to climate change and its consequences, including migration.

A non-UN system initiative is the 2012 Nansen Initiative, a bottom-up, state-led consultative process led by Switzerland and Norway. One outcome of the Nansen Initiative is the 'Protection Agenda', designed as a toolbox for states wanting to prevent and prepare for disasters, including those caused by climate change. In 2015, 109 states endorsed the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change, leading to the establishment of the Platform on Disaster Displacement.[1]

Regional and bilateral responses to climate migration

Regionally, initiatives in the most climate-vulnerable parts of the world include those in Africa (African Union, 2026), South America (Navarro, 2026) and Southeast Asia (ASEAN, 2024, pp. 15–17).

The most developed regional initiatives come from the highly climate-vulnerable countries of the Pacific. Their Pacific Regional Framework on Climate Mobility, adopted at the 52nd Pacific Islands Forum leaders meeting in 2023, identified 'staying in place, planned relocation, migration and displacement' as possible responses to climate change, emphasising the importance of cultural appropriateness, national sovereignty and collaboration. In 2026, Pacific governments launched the Pacific Regional Guidance on Planned Relocation, and they continue to work with the International Organization for Migration, the International Labour Organization, other UN bodies and the New Zealand government on both of these plans.

Bilateral initiatives responding specifically to climate migration are rarer than those at the international or regional level. A recent innovation is the Australia–Tuvalu Falepili Union treaty, signed in 2023. This is a legally binding treaty under which Australia makes a number of Australian permanent visas available to Tuvaluans per year, with the number negotiated annually. In return, Tuvalu agrees to 'mutually agree with Australia any partnership, arrangement or engagement with any other State or entity on security and defence-related matters in Tuvalu' (Australian Department of Foreign Affairs and Trade, 2024).

Despite the numerous international commitments to facilitate safe and legal pathways for migration, as detailed above, there are very few examples of states creating new legal and safe pathways for climate migrants.

National responses to climate change migration

In the absence of any binding international or regional legal protections and conventions specifically for climate migrants, states' unilateral immigration policies assume enormous significance for the experiences of those moving across national borders due to climate factors. Despite the numerous international commitments to facilitate safe and legal

pathways for migration, as detailed above, there are very few examples of states creating new legal and safe pathways for climate migrants. An exception is Argentina's humanitarian visa for people displaced by disasters, including climate disasters, in the Caribbean, Central America and Mexico, although it is not clear how many, if any, people have benefited from this visa to date (Huang, 2023).

Instead, most states have been tightening their borders against irregular migration, restricting access to asylum, and deploying increasingly sophisticated surveillance technologies to enforce border controls (McLeman, 2019; Waters, 2025). States of the global north, including the United States, Italy and a number of other EU member states, Australia and the United Kingdom, are exploring or have already implemented arrangements whereby asylum seekers and others looking for protection are sent to third countries for processing or repatriation. Additionally, such states have been providing financial support to neighbouring countries to bolster those countries' border controls. The European Commission, for example, has been providing northern African countries with billions of euros to strengthen those countries' capacity to prevent migrants from leaving their shores in an attempt to enter Europe. There is extensive evidence to show that migrants who have been detained, deported or constrained from moving under these arrangements have suffered a range of human rights violations (see, for example, United Nations Office of the High Commissioner for Human Rights, 2026a, 2026b). Such violations, along with the profoundly dangerous journeys irregular migrants take in the absence of safe and legal migration pathways, form part of what Fitzgerald (2020) calls 'an architecture of repulsion', aimed at deterring people from seeking asylum.

Collectively described as 'externalisation', such responses to irregular migration have been developed in a global context characterised by a radical shift away from the geo-political order of the post-Cold War era. Instrumental in this shift has been the second Trump administration's 'America First' strategy, which has seen the United States withdraw from many institutional forms of international cooperation established following World War II, as well as the Intergovernmental Panel on Climate Change and the Global Forum on Migration and Development (White House, 2026). In 2025 it suspended both its own refugee resettlement programme and the USAID programme, which provided support for many refugee camps around the world (Refugees International, 2026). It removed temporary protection status from over 1.5 million people granted such protection under previous administrations. Most dramatically, it initiated a highly publicised campaign of mass deportation of migrants, including some who were in the country legally, via an increasingly militarised Immigration and Customs Enforcement force (Kerwin et al., 2026).

Immigrant detention and deportations are not, however, the sole preserve of the global north countries. Pakistan and Iran, for example, have been conducting mass deportations of Afghani refugees in the last couple of years, despite an inability to ensure that the returnees will be safe upon return (Girotto, 2026; Human Rights Watch, 2026). Tunisia, Algeria and Libya have been expelling sub-Saharan African migrants and subjecting them to human rights abuses (MENA Rights Group, 2025; Speakman Cordall, 2024; UN News, 2025). India has been returning Rohingya refugees to Myanmar (Human Rights Watch, 2026), which continues to deny Rohingya citizenship and safety.

This is the political atmosphere within which discussions of climate change and its effects on migration are currently taking place at both the national and international level. A particularly challenging characteristic of this environment is the political ascendancy of actors who simultaneously oppose efforts to reduce carbon emissions and efforts to develop pathways for the safe and legal mobility of those who are already, and will in the future be, affected by climate change.

Affected communities need to be actively engaged, and risks should be managed proactively rather than after a particular community has already experienced devastating damage

Implications of climate migration for an Aotearoa New Zealand population strategy

In their 2026 case for a population strategy, Lala et al. (2026) identify uneven regional population growth, immigration and social cohesion as core issues for any future population strategy to consider. In this section we identify ways in which these three issues intersect with climate migration, along with some questions that such intersections raise for future policymakers.

First, because climate change is projected to affect every aspect of human life, the drafters of any future population strategy will need to plan for the wide spectrum of effects on Aotearoa New Zealand's own population, as well as on the natural and built environment that supports it. Ideally, this will include careful preparation for the 'planned relocation' of populations that currently live in regions that are vulnerable to climate-related natural hazards, such as sea level rise and flooding due to extreme weather events.

As Boston has argued, any adaptation measures, including planned relocation, require a thorough process of risk assessment that takes account of 'multiple, compounding and cascading risks, and of how risk profiles may change over time'. Affected communities need to be actively engaged, and risks should be managed proactively rather than after a particular

community has already experienced devastating damage (Boston, 2024). One question for those considering how to proactively deal with climate-vulnerable communities in Aotearoa New Zealand might be how to extend these same considerations to climate-vulnerable communities in other countries.

Second, unless there is a radical change in policy, immigration is undoubtedly going to be part of any policy response to Aotearoa New Zealand's ageing population and declining birth rates. A future population strategy might consider, then, whether Aotearoa New Zealand can and should include exposure to climate vulnerability as a consideration when making decisions about which migrants will be a part of Aotearoa New Zealand's solution to ageing and declining fertility and productivity.

There has already been a great deal of scholarly and government work on how Aotearoa New Zealand might respond to climate migration from the Pacific.[2] Successive governments have identified Aotearoa New Zealand as having a particular interest in and responsibility for the Pacific, and New Zealand has been working with Pacific as well as Asian partners on climate mitigation and adaptation (Ministry of Foreign Affairs and Trade, n.d.). To date, however, no new migration pathways have been created specifically for climate migrants from the Pacific or elsewhere. How might future immigration policies combine Aotearoa New Zealand's desire for migrants with climate migrants' need for somewhere to move to? Which climate-vulnerable regions, beyond the Pacific, might Aotearoa New Zealand want to focus on when developing such policies?

Third, social cohesion within Aotearoa New Zealand's ethnically diverse society relies on broad public support for immigration and immigrants, something that could be challenged by the threat of mass climate migration. A population strategy that wrestles with questions of how Aotearoa New Zealand might strengthen its own social cohesion will need to ask how public support for immigration can be sustained in the event of large-scale climate migration. The European experience since the so-called 'migration crisis' of 2015–16, illustrates how large-scale forced migration can trigger popular opposition to immigration and immigrants. The effects of such opposition are rarely confined to the domestic realm of immigration policymaking. To use the European example again, the nationalistic logic of radical anti-immigration parties across Europe has led such parties to also oppose international cooperation, including on climate action, and in international as well as domestic arenas.

A population strategy might usefully consider which narratives about climate migration will be most helpful in maintaining support both for immigration, and for the international cooperation needed to prevent catastrophic climate change. Data based on models of climate migration that include different migration policy scenarios will be important here.

Conclusion

It is clear that climate change is going to radically reshape where and how people live on planet Earth, even under the least terrible global warming scenario. The more warming there is, the more migration there will be. The more catastrophic the effects of climate change are, the more that migration will be forced, unplanned and irregular. The effects of mass forced migration can be highly consequential for both domestic and international politics. In this sense, every country's climate policies are also their forced migration policies, just as climate policies are also their food security, their infrastructure, their foreign and their population policies. Reducing global greenhouse gas emissions is, of course, the most significant effort the international community can make to reduce irregular migration. A final question for those planning for Aotearoa New Zealand's future demography and infrastructure might therefore be how to put climate change reduction at the heart of that future planning.

1 https://disasterdisplacement.org/the-platform/our-response/

2 See, for example, the thematic papers published by Auckland University: https://www.pacific-climate-research.auckland.ac.nz/product-catalogue/, and the University of Waikato: https://www.waikato.ac.nz/research/research-enterprise/pacific-climate-change-mobility-research-tonga-and-samoa/; also Ghosh & Orchiston, 2022 and Neef & Benge, 2022.

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