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Climate refugees

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Climate change disproportionately impacts vulnerable communities globally. For some of the most vulnerable, these impacts will force them to move within and across borders, challenging international law to provide a coordinated and just means for migration. This chapter explores the phenomenon of ‘climate-induced migration’, identifies the sociological and legal uncertainties that surround it, and suggests areas of further research to respond appropriately to the emerging crisis.

Introduction

Individuals and communities displaced by an environmental shock have long been subjects of uncertainty in international law. Though referred to as ‘environmental refugees’ in popular discourse, this categorisation as ‘refugee’ has little support in existing law. The same uncertain categorisation is true for those displaced by climate change-related impacts, commonly labelled ‘climate refugees’. As early as 1990, the Intergovernmental Panel on Climate Change (IPCC) stated that ‘one of the gravest effects of climate change may be those on human migration’. Unsurprisingly, as climate change impacts become more evident and worsen, the movement of peoples due to sudden- and slow-onset climate-related events require an appropriate legal response, particularly because those who are most vulnerable to this type of movement typically are the least responsible for anthropogenic climate change. This chapter explores the phenomenon of ‘climate-induced migration’, identifies the sociological and legal uncertainties that surround it, and suggests areas of further research to respond appropriately to the emerging crisis. Perhaps more than any other area of international environmental law, the issues raised by climate-induced migration are the most complex, with no clear resolution.


2 Because the term ‘climate refugee’ does not have a clear legal status, as discussed in greater detail below, scholars, researchers, and some political voices employ proxy terms such as ‘climate-induced migration’, ‘climate migrants’ or ‘the climate-displaced’ to describe the phenomenon and those affected. The latter two terms are used interchangeably in this chapter.
Exploration of key concepts, principles and laws

Climate forecasts and climate-induced migration – facts and figures

Stronger and more frequent hydro-meteorological and climatological events are the hallmark of anthropogenic climate change. There has been a marked increase in both sudden-onset events, such as storms and flooding, as well as slow-onset events like sea-level rise and drought with attendant desertification. Indeed, more volatile weather may be ‘the new normal’. Heightened disaster risk, social upheaval, and increased violence are possible results of this new normal, with poorer regions and countries among the most vulnerable. This section briefly describes the relevant climate change impacts and their influence on the phenomenon of climate-induced migration.

Current observation suggests that the changing climate has already caused significant displacement. Migration, as defined by the International Organization for Migration, is a process of population movement, either across an international border or within a state. There is significant speculation regarding who might move and from which locations. Indeed, the substantial populations that live along the coastlines are most cited ‘hotspots’ for climate migration, such as the vast low-lying regions of Bangladesh. Though the numbers and their derivation are highly controversial, as described below, assessments of vulnerable regions and the populations they host suggest that climate-related impacts might displace hundreds of millions throughout the globe over the next few decades. There is also evidence that adverse impacts of climate change are already contributing to the increased rate of domestic migration and relocation from rural areas and outlying islands to urban centres. These kinds of environmental disturbances ‘push’ people to migrate and may be responsible for mass population movements in the Sahel region of Africa and areas in South America and the Middle East, among other places. They may also have the ancillary effect of further provoking geopolitical tensions. For example, there is already opposition in some countries to accept climate-induced migrants, as evidenced in India’s plan to erect a barrier at its border with Bangladesh to prevent entry of ‘terrorists and illegal immigrants’.

Due to the generally multi-causal nature of migration, it is difficult to know, or forecast, the true number of people who will migrate due to climate change. That has not inhibited efforts to try, with mixed results. Estimates of future environmental migrants vary by a factor of 40, with figures ranging from 25 million to 1 billion people, depending in part on the...
IPCC emissions scenario employed. The most commonly cited number of environmental migrants by 2050, however, is 200 million.\footnote{N. Stern, \textit{The Economics of Climate Change: The Stern Review}, ‘Part II: Impacts of CC on Growth and Development’, 2006, p. 56. Online. Available HTTP: <http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/stern_review_report.htm> (accessed 16 May 2012).} Though this number is ubiquitous, it is speculative.\footnote{There is some evidence, however, that there are substantial and alarming numbers of current climate-displaced persons, warranting a coordinated response from the international community. For example, the findings of a joint report of the United Nations (UN) and prominent international displacement and refugee organisations found that in 2008 alone climate-related, sudden-onset natural disasters displaced more than 20 million people.\footnote{OCHA/IDMC, ‘Monitoring disaster displacement in the context of climate change – Findings of a study by the United Nations Office for the Coordination of Humanitarian Affairs and the Internal Displacement Monitoring Centre’, 2009. Online. Available HTTP: <http://www.internal-displacement.org/8025708F004CFA06/((Publications)/451D224B41C04246C12576390031FFF63?OpenDocument> (accessed 16 May 2012). Estimates on numbers displaced by natural disasters appear to be more robust and less controversial. F. Gemenne, ‘Why the Numbers Don’t Add Up: A Review of Estimates and Predictions of People Displaced by Environmental Changes’, \textit{Global Environmental Change} 21(1), 2011, p. 3.}} These numbers suggest that the number of displaced will rise with the increased frequency and severity of extreme weather. A much larger number may move due to gradual deterioration of their environment.\footnote{Compendium of IOM’s Activities in Migration, Climate Change and the Environment, International Organization for Migration.}

Climate impacts generally will amplify existing social vulnerability, challenging the assumption that climate change will lead directly to migration. Many scholars have described migration as a social phenomenon in which environmental factors, such as a changing climate, may create an initial ‘push’ to migrate, but socio-political and economic causes are the underlying sources of vulnerability that may have more to do with why people ultimately move.\footnote{M.A.M. Lueck, in Leighton et al. (eds) \textit{Climate Change and Migration}, op. cit.} In other words, the individual’s or community’s ability to adapt to environmental changes may be a greater determinant of climate-induced migration than a particular sudden- or slow-onset event. Underlying social vulnerability, then, may determine if an individual or community can avail itself of the luxury to migrate.\footnote{P. Boncour, ‘The Moment of Truth – Adapting to Climate Change’, \textit{Migration}, 2009, p. 4.} Indeed, the financial resources and/or community networks in destination locations needed to migrate, particularly across borders, will limit many poor and landless from ever moving in the first place.\footnote{N. Mimura, L. Nurse, R.F. McLean, J. Agard, L. Briguglio, P. Lefale, R. Payet and G. Sem, ‘Small Islands’, \textit{Climate Change 2008: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change}, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds), Cambridge: Cambridge University Press, 2007, p. 697 (describing island abandonment as an extreme example of the ultimate impacts of sea-level rise on small islands).}

For some migrants, however, staying may not be possible irrespective of their current socio-economic status. While climate forecasters deem small-islanders as among the most vulnerable to climate change impacts, a subset of small-islanders also face the spectre of permanent loss of state territory rendering them migrants without a home country.\footnote{Compendium of IOM’s Activities in Migration, Climate Change and the Environment, International Organization for Migration.}
Caribbean and the Pacific islands, more than half of the population resides within a mile of the shore and ‘[a]lmost without exception, international airports, roads and capital cities in the small islands of the Indian and Pacific Oceans and the Caribbean are sited along the coast, or on tiny coral islands’. Further, under most scenarios, climate change will likely seriously compromise water resources in small islands and heavily impact their coral reefs and fisheries. Climate change impacts will also very likely adversely affect subsistence and commercial agriculture on these islands. Though they are responsible for less than one per cent of global greenhouse gases, small islands are already expending scarce resources on strategies to adapt to growing climate threats. Migration of entire communities is one of the adaptation strategies that island and atoll nations like the Maldives must contemplate.

There are existing examples of island abandonment within and across borders. Further, elaborate resettlement schemes to accommodate these migrants are in their nascent stages, though climate forecasts suggest that this should be a significant area of rapid development for the international community. This kind of relocation and resettlement raises thorny legal questions that are particularly distressing to islanders. As expressed by Ronald Jumeau, Seychelles Ambassador to the United Nations and the United States:

When we relocate, what happens to the resources you may have on the seabed? . . . When you relocate and you lose your country, what happens? What’s your status in the country you relocate to? Who are you? Do you have a government there? Government of what? There hasn’t been a government of refugees before.

Uncertainty, multi-causality, and political lethargy

There are a number of areas of uncertainty surrounding the size, scope, and legal ramifications of the climate migration phenomenon. These uncertainties may in part account for the very little attention the international community has heretofore given to the emerging issue. This section further explores the controversy surrounding the calculation of the number of climate-displaced, including the multi-causal nature of the phenomenon, and the ambiguity as to the legal status of those displaced. It concludes by maintaining that, in spite of the uncertainty in size and cause, climate change will provoke significant social upheaval through migration, warranting investigation of the appropriate legal mechanisms for coordinating

18 Ibid., p. 689.
19 Ibid.
20 Ibid.
21 Ibid.
migration within and across international borders and ensuring necessary rights protection for those who will migrate.

The single greatest controversy around the issue of climate-induced migration is predicting how many will move. Though 200 to 250 million is a popular number, as discussed above, arriving at that number required ‘heroic extrapolations’.26 A thorough survey of the numbers derived and the supporting methodology (or lack thereof) demonstrates the incredible divergence in numbers cited – from 10 million to 25 million to 200 million, and one enormous outlier of 1 billion.27 The timescales used are also inconsistent and confusing. While many use 2050 as a benchmark year for which to make a prediction, others have used 2010. None have been clear as to whether they are describing the stock or flow – or both – of climate migrants.28 Due to the myriad uncertainties in the extent and magnitude of future climate change, coupled with the multiple contexts and perceptions of climate threats, a reliable number of migrants may elude researchers indefinitely.29

Scholars have speculated that clear numbers are necessary both to raise awareness of the emerging crisis and to incite decision-makers at all scales to respond swiftly and appropriately for the benefit of potential migrants and others that this kind of migration may impact.30 Yet, settling on appropriate numbers and time-scales, particularly for slow-onset changes, plagues scholars. In fact, it has produced an ongoing rift between so-called ‘maximalists’ – those who assume that environmental change is a major driver of migration and displacement and whose estimates tend to be greater – and ‘minimalists’ – those who tend to insist on the multi-causality of migration.31 Because environmental factors are one of many factors influencing migration, the minimalists maintain, it is unclear how much climate change will tip an individual’s or community’s long-term decision or immediate need to move. The absence of comprehensive studies on this point challenges the assumption that climate change will lead to migration in a linear way.32 This is a conceptual challenge for most migration scenarios – though for small-atoll nations, for example, the causal relationship is far more

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27 See generally, Gemenne, op. cit.
28 Ibid. The stock estimates of migrants describe the people who have been displaced because of environmental factors but have returned or resettled elsewhere. Ibid., p. 3. The flow estimates describe the number of migrants on the move at a given moment in time.
30 See e.g. Gemenne, op. cit., p. 6. Impacted communities include those that experience displacement, those to which migrants immigrate, and those who would suffer the loss of diverted, scarce resources to meet their needs, such as existing political refugees.
straightforward. Further, the absence of a ‘consensual definition’ of ‘climate-induced migration’, and the migrants it seeks to describe, has meant that different numbers can refer to different realities.

This lack of appropriate nomenclature also results in a dangerous absence of clear legal recognition and the benefits and obligations such recognition might confer. By delimiting rights and obligations, definitions serve an important instrumental purpose, particularly to determine appropriate legal mechanisms for protecting those who might indeed fall into the category of climate-induced migrant and to identify the relevant legal avenues that require further exploration. Accordingly, while the ‘refugee’ appellation may have political and sociological valence, the absence of legal weight to the popular term ‘environmental or climate refugee’ is a real and formidable hurdle in finding and developing appropriate responses at the national and international scales.

There is some degree of consensus, however, in the understanding that the number and severity of natural disasters will increase with knock-on effects on the numbers of people displaced, a phenomenon for which there are more reliable numbers and greater empirical linearity. Particularly troubling for those seeking clarity and swift action in this arena, however, will continue to be the cross-cutting complexity of climate-induced migration. Indeed, climate-induced migration implicates several spheres of governance and their relevant institutions, including migration and asylum law, environmental law, international development law, and human rights and humanitarian law, among others. Because of its cross-cutting nature, it can continue to evade focused attention because no one policy...
community is obliged to respond, nor can migrants hold any one entity accountable for its failure to respond.  

**Relevant law and policy**

The multi-causal nature of the climate migration phenomenon, coupled with the reluctance for existing policy regimes to take the mantle, arguably militates in favour of creating a new regime. There have been equally strong calls, however, to explore existing instruments that might easily address the issue. The current climate regime has been an obvious policy space for exploration. However, neither the landmark UN Framework Convention on Climate Change (UNFCC) nor the binding Kyoto Protocol acknowledge migration issues. It was not until the Cancun Adaptation Framework in 2010 that the international community affirmatively recognised the importance of addressing the impacts of climate-induced migration and displacement, with yet to be determined influence on actual international policy. The Framework Convention’s few successes overall suggest that other avenues may more effectively protect migrants. This section identifies the main alternatives, and their possibilities and pitfalls.

Human rights law – and the numerous human rights instruments, norms, conventions and covenants dealing with forced displacement – has been the primary alternative focus for potential law and policy remedies. Generally speaking, human rights law sets out minimum standards of treatment of individuals that a host state must observe. A human rights frame for the climate-displaced suggests that each person displaced has a remedy available to him or her that respects, protects, and fulfils his or her rights as recognised under relevant international law. Indeed, the governments of the atoll nations of Kiribati, the Maldives, and Tuvalu have been the most vocal in their appeal to human rights as a way to frame their experience of dangerous anthropogenic climate change. The erosion of livelihoods and the threats to territorial existence of a number of low-lying island states implicate the rights to adequate housing and self-determination, respectively. Further, as climate change becomes ever more dangerous, legal norms protecting rights to life, health, and food, among others, become particularly relevant.
In addition to these more general rights appeals, the instruments related to migration and refugees have been of particular interest. Many scholars deem refugee law to be particularly relevant, even if ultimately unavailing. The 1951 *Convention Relating to the Status of Refugees*\(^49\) and its 1967 *Protocol*\(^50\) provide protection for those who have been forcibly displaced due to persecution and conflict. Article 1.A.2 of the Convention provides a definition of ‘refugee’ that arguably excludes those displaced by environmental factors. The term ‘refugee’ applies to any person who ‘owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country.’\(^51\) Interpretations of the 1951 Convention,\(^52\) a product of the post-World War II proliferation of human rights law and related protection instruments, find that it seeks to protect people from the well-founded fear of state-sponsored persecution. Though the scope of the Convention has expanded since its inception, there are significant differences in the plight of the climate-displaced than what is currently recognised. Notably, the element of state-sponsored persecution on account of some kind of membership is absent. This may be insurmountable for those arguing that climate-induced migration falls under traditional refugee law, particularly because there is no consensus to amend the Convention to include them. Moreover, creative interpretations to include climate-induced migration might result in a significant disservice to the climate-displaced as well as traditional refugees, both of whom would now have to compete for finite resources amid growing international fatigue regarding cross-border movement.

While including environmental triggers in the refugee determination might add greater complexity and confusion with little tangible result, there may be avenues for protection through the *Guiding Principles on Internal Displacement*.\(^53\) Because the greater balance of climate-induced migration will occur within countries, the principles regarding internally displaced persons appear to be a more promising protection framework. The *Guiding Principles* provide a normative framework for providing protection to the internally displaced. They define internally displaced persons (IDP) as ‘persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of natural or human-made disasters and who have not crossed an internationally recognized State border.’\(^54\) The *Guiding Principles* effectively entitle IDPs to the same freedoms as other persons within their country,\(^55\) including the full range of human rights guarantees given by a respective state.\(^56\) Further, the principles acknowledge environmental triggers with the explicit recognition of disasters. The UN has clarified that the *Guiding Principles* cover all forms of climate change displacement, including


\(^51\) *Convention Relating to the Status of Refugees*, Art. 1.

\(^52\) N. Hall, ‘Climate Change and Organizational Change in UNHCR’, in Leighton et al. (eds) *Climate Change and Migration*, op. cit., pp. 106–107.


\(^54\) Ibid., p. 5 (emphasis added).

\(^55\) Zetter, op. cit., p. 419.

Climate refugees

those from slow-onset changes, such as drought. The Guiding Principles are more promising only in theory, however, because they are neither binding nor enforceable. Further, many governments have not incorporated the principles into their national laws and their application has not been consistent across vulnerable communities. Incorporation of the Guiding Principles into national laws may be a helpful first step for protection of IDPs.

The principle of non-refoulement is one other avenue that may provide protection for climate-induced displacement. In fact, in a Report of the Security-General on the possible security implications of climate change, the report states that arguably Article 33(1) of the 1951 Convention, on non-refoulement, prohibits a state from forcing people who move owing to environmental factors to return to the original state, or deny them entry at the border, if their life would be threatened as a result. The report concedes that this does not provide for an indefinite right to stay in the host state, limiting protections for those migrants permanently displaced from their homes. Further, a prima facie reading of the text suggests that the nature of the refugees’ displacement is still dispositive – the Convention affords protection to the refugee expelled or refouled ‘on account of his race, religion, nationality, membership of a particular social group or political opinion’. Even if creative interpretation expanded this protection, the doctrine is too narrow to deal adequately with the circumstances of the climate-induced migrant.

This is also true for the international protections for stateless persons. These protections are not squarely relevant to the circumstances of island nation states that face the decreasing habitability of their territory, for example. As discussed in greater detail below, the current protections are too narrow, leaving significant questions for international law unresolved. In sum, there remains a significant gap in protection for cross-border climate migrants, particularly for those who are permanently displaced.

Unresolved questions of law and policy: new regimes, resettlement rights and statelessness

A new regime

With the absence of coherent and comprehensive legal avenues for the climate-displaced, there have been numerous calls for creating a regime specifically addressing the circumstances of climate-induced migration. There have been a few comprehensive proposals for creating an international protection mechanism, including one spearheaded by the Maldivian government.  

58 Leighton et al. (eds), Climate Change and Migration: Rethinking Policies for Adaptation and Disaster Risk Reduction, op. cit., p. 20.
This section describes two of the more elaborated proposals as well as the arguments of their detractors.

Arguing that the people forced to leave their homes due to the ‘grim consequences’ of climate change deserve equal protection to those who fear political persecution, Bierman and Boas propose extending the notion of ‘refugee’ as a step toward a global governance system to protect ‘climate refugees’. 61 They define ‘climate refugees’ as ‘people who have to leave their habitats, immediately or in the near future, because of sudden or gradual alterations in their natural environment related to at least one of three impacts of climate change: sea-level rise, extreme weather events, and drought and water scarcity’. 62 The problem of multi-causality of migration is a surmountable hurdle in their view. While acknowledging the many reasons victims of storms, drought, and water scarcity might move, they stress resolution of these ambiguities through a political process, rather than an ‘a priori’ exclusion of a large group of people from the climate refugee definition. Indeed, the authors choose the three ‘direct, largely undisputed climate change impacts’ when tailoring their definitions. Importantly, Bierman and Boas see an extension of the refugee definition under the 1951 Convention to be politically infeasible and likely ineffective. Instead, they affirmatively propose a global adaptation governance architecture to recognise, protect, and support the resettlement of climate refugees that accounts for the impossibility of their return, the collectivity and predictability of their flight, and the special moral and possible legal responsibilities of the largest emitters. 63 The key elements of their proposal are a Protocol on Recognition, Protection, and Resettlement of Climate Refugees, a new legal instrument under the UNFCCC (United Nations Framework Convention on Climate Change) specifically tailored to the needs of climate refugees, and the Climate Refugee and Resettlement Fund, a separate funding mechanism to facilitate the execution of the resettlement.

Docherty and Giannini propose a stand-alone convention to confront the issue of climate refugees who must migrate across national borders. 64 They define ‘climate change refugee’ as ‘an individual who is forced to flee his or her home and to relocate temporarily or permanently across a national boundary as the result of sudden or gradual environmental disruption that is consistent with climate change and to which humans more likely than not contributed’. 65 Key to their definition is the capacity for advances in science to enable a more accurate determination of which events climate change has caused and, accordingly, which migration event is related. The proposed instrument would contain nine components organised around three broader categories: guarantees of assistance, shared responsibility, and administration of the instrument. 66 Guarantees of assistance would include standards for making ‘climate change refugee’ status determinations, human rights protections and humanitarian aid. Docherty and Giannini detail the shared responsibilities and attendant mechanisms to facilitate executing the obligations of host states, home states and the international community. Finally, a global fund, a coordinating agency, and a body of science experts would facilitate efficient, while scientifically rigorous, administration of the larger instrument and its component parts.

There is significant scepticism regarding the likelihood of the international community embracing a new regime of any kind. The international community has demonstrated a
reluctance to negotiate new conventions or ensure the success of existing climate treaties, much less address climate-induced migration in any committed or coordinated way. 67 Zetter and McAdam suggest that there are affirmative drawbacks to a new regime. Zetter argues that, among other things, perceiving climate change impacts as migration drivers promotes the impression that there is a separate category of protection claims, which would favour migrations over the larger number of individuals who will not or cannot migrate. Indeed, a more fruitful avenue, according to Zetter, may be ‘adapting and reconfiguring’ existing protection norms and legislative frameworks. 68 McAdam contends that the absence of a definition for climate refugees may actually allow for more flexible responses. For example, certain people may be able to relocate through regional migration schemes that operate independent of climate drivers, such as labour migration schemes like New Zealand’s Pacific Access Category. 69 If a treaty does become the main focus of international policy development, McAdam argues, attention may shift to ‘more immediate, alternative and additional responses that may enable people to remain in their homes for as long as possible . . . or to move safely within their own countries, or to migrate in a planned manner over time’. 70 The absence of sufficient empirical understandings, as detailed above, further risks the international community acting at a level of generality that does not ensure optimal policy responses at scales most relevant to migration. 71 It may be that regionally based, bilateral or multilateral migration agreements are the most effective avenues for responding to the specifics of migration in a changing climate.

Resettlement rights

The challenges that the climate-displaced may encounter in host states are also of great concern. 72 Involuntary relocation and resettlement rarely improve the migrant’s quality of life. 73 Further, empirical evidence suggests that displacement in the aftermath of natural disasters exacerbates ‘pre-existing patterns of discrimination’. 74 The result is that already marginalised groups are further at risk of human rights abuses, including unequal access to humanitarian assistance, sexual and gender-based violence, and/or difficulties with restitution or compensation for lost property. 75 Clearly articulated resettlement rights would help to guard against the proliferation of these risks.

Beyond remedial and reparative measures, the international community should undertake affirmative efforts to ensure that the displaced are not significantly worse off in the process of framing a resettlement framework once they have immigrated to the host state. The relevant bodies should invite the participation of those at risk of climate-induced migration at the start

67 Hall, op. cit., p. 111.
72 See UN General Assembly, ‘Climate Change and its possible security implications’, op. cit., p. 8.
73 NRC, ‘Climate Changed: People Displaced’, op. cit., p. 12.
75 Ibid.
of any discussion regarding intervention measures. Together they would work to forestall the need to move, but also coordinate evacuation, relocation and resettlement, and possible return decisions and design, if return is viable for the migrant.\textsuperscript{76} Once resettled in the host state, the relevant authorities must resolve citizenship questions. Current labour arrangement schemes may be instructive here.\textsuperscript{77} Nevertheless, this latter point of immigration and full integration into a host state may be particularly thorny if the home state is no longer habitable and resettlement is, therefore, permanent.

\section*{Statelessness}

For the Maldives, Tuvalu, Kiribati, and the Marshall Islands – atoll nation states that risk losing habitable territory through either seawater inundation and/or overtopping due to sea-level rise – their status as states, with its attendant benefits, are at risk. This scenario is truly unprecedented for international law.\textsuperscript{78} As enumerated in the Restatement (Third) of Foreign Relations and the \textit{Montevideo Convention}, international law generally regards a ‘State’ to have four key elements. Criteria for statehood include (i) a permanent population; (ii) a defined territory; (iii) a functioning government; and (iv) the capacity to enter into relations with other states.\textsuperscript{79} When island states are no longer inhabited and the population is permanently displaced to other countries due to the loss of defined territory, it is unclear whether those citizens will become stateless persons under international law or landless citizens of a state that no longer exists.\textsuperscript{80}

The international personality of states, particularly their creation and disappearance, is one of the most complex areas of law. There are international law regimes that govern issues of deprivation of nationality following the succession of a state, for example. There are none, however, that govern circumstances in which no successor state exists and the predecessor state has been rendered uninhabitable or has physically disappeared.\textsuperscript{81} There is evidence, however, that while statehood is a legal concept with a determinate content, it may be sufficiently flexible to embrace novel approaches to address the circumstances of atoll nations.\textsuperscript{82}
Notably, substantial changes in territory, population, or government, or even a combination of all three, do not necessarily extinguish a state. In fact, in the period since the signing of the UN Charter, there have been very few cases of state extinction and almost no cases of involuntary extinction. That possibility for flexibility, coupled with the strong presumption that favours the continuity and disfavours the extinction of an established state, suggests that acceptance of creative interpretations of law to recognise the continued existence of a state is plausible. Existing proposals suggest the maintenance of a discrete population in some portion of the compromised territory to formal international recognition of deterritorialised states. Nonetheless, further research as well as early engagement of small islands is necessary as a matter of rights protection, regional peace and security, and the sovereignty of threatened nations.

Conclusion

There are myriad legal questions raised by climate-induced migration. Clarity on some of the foundational elements of the phenomenon, such as accurate numbers and a better understanding of migration’s primary drivers in a changing climate, might need to precede further development of appropriate law and policy. To the extent that there is a near-term risk of significant climate-induced migration, however, unknottedting the legal tangles becomes more urgent.

In the near term, therefore, displacement monitoring and streamlined data-gathering is essential. This would include the design of a common working definition as well as developing local research capability. Research within the appropriate and clearly stated time and spatial scales — for example, forecasts detailing the movement of x millions each year in y region — will allow for multilateral, comprehensive agreements that detail to where the affected populations could move with the appropriate legal protections. While there is greater predictability in the plight of small atoll nations, the question of statelessness still requires significant attention and clarification. Finally, the extent to which the international community fails to bring emissions under control will affect how greatly climate change impacts all communities, especially the most vulnerable to extremes. Any near-term initiation of concerted law reform, to both the current international and climate change legal regime, will indicate the extent to which the globe can effectively accommodate a great reshuffling of human habitation.

83 Ibid., p. 700.
84 UNHCR, ‘Climate Change and Statelessness’ (stating that to the extent that statelessness is foreseeable, efforts should focus on preventing it from arising, consistent with the principle of prevention of statelessness recognised in international law as a corollary to right to a nationality); J. McAdam, ‘Disappearing States’, Statelessness and the Boundaries of International Law, in J. McAdam (ed.) Climate Change and Displacement: Multidisciplinary Perspectives, Oxford/Portland, OR: Hart, 2010.
86 UN General Assembly, ‘Climate change and its possible security implications’, A/64/350, 11 September 2009, pp. 1, 16.
87 See generally, Gemenne, op. cit.
88 Ibid., p. 6.