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Reconsidering Sovereignty Amid the Climate Crisis

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Introduction

The current international order is based on the presumption that our physical geography is fixed and unchanging. However, climate change—in the form of sea level rise and inundation—is shifting international boundaries. The world's changing geography will force policymakers and legal experts to adapt the concepts of sovereignty, statehood, and citizenship to address the new global environment.

This paper focuses its discussion of climate impacts and response policies on the Pacific islands. The changes befalling low-lying islands, like those in the Pacific, are a harbinger of the future that awaits the residents of coastal cities and shorelines on larger land bodies.[1] Islands' experiences of climate change offer insights into the shortcomings of the existing international system and demonstrate the fundamental tension between sovereignty and climate change. Ultimately, the Pacific region serves as an important case study and a critical blueprint for the future of global adaptation and stability.

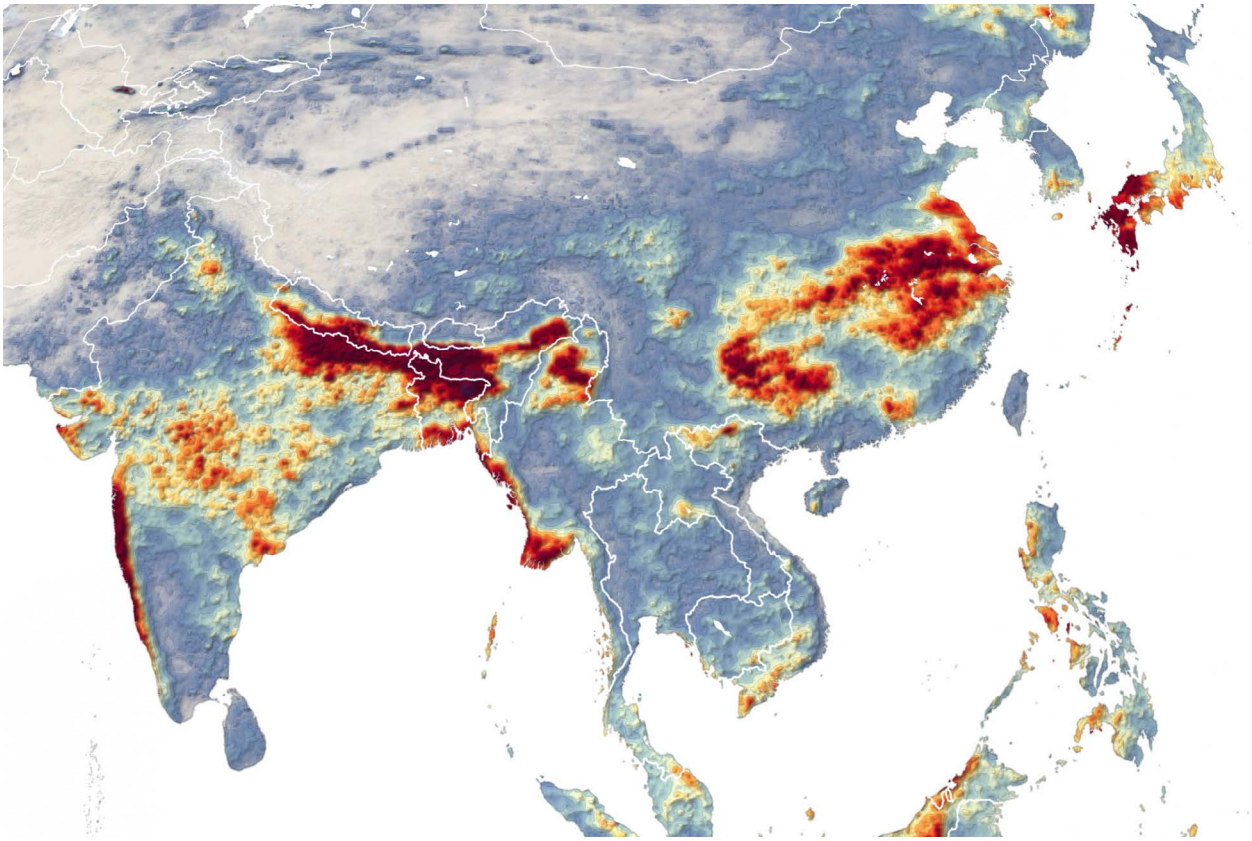
In view of this challenge, policymakers should consider new legal options to address climate-induced boundary changes. These may include the creation of fictitious boundaries, collective sovereignty, hybrid citizenship, and corridors for climate displacement. This paper does not seek to suggest that these new ideas for sovereignty are the only path to resolving the nexus of legal-climate challenges that exist today. Instead, this paper attempts to raise new questions and ideas about how policymakers should think about the international system at a time when anthropogenic climate and environmental change is rearranging its geophysical foundations.

The Climate Crisis Goes Beyond Borders—and Can Change Them

Climate change is happening everywhere. According to the Intergovernmental Panel on Climate Change's Sixth Report, human activities have warmed Earth's climate by more than 1 degree Celsius since the late nineteenth century, reaching every inhabited region of the world.[2] Extreme heat waves are five times more likely today than they were 150 years ago.[3] In 2023, Algeria, Bangladesh, Brazil, China, India, Laos, Madagascar, Mexico, Morocco, Portugal, Spain, and the United States all experienced record high temperatures.[4] These warming temperatures have created conditions that fuel more extreme weather events. For example, transboundary droughts in Ethiopia, Kenya, Somalia, Sudan, and Uganda are directly related to flooding across Southeast Asia, as seen in 1997, 2015–2016, and 2023.[5] Figure 1 shows the cross-border span of the droughts and the flooding, illustrating that the nature of our global ecosystem means these climate events are continuous and connected. Scientific evidence and environmental data make clear that climate events do not fit neatly within the confines of established national boundaries. As the impacts of climate change intensify over coming decades—for even in a best-case scenario, humans will keep adding greenhouse gases to the atmosphere until the second half of the twenty-first century—these phenomena will increasingly test the boundaries of existing domestic and regional governance structures and the international legal system writ large.[6]

There have been international debates about the impacts of climate change on geography.[7] In particular, some scientific studies indicate that islands may not be sinking or shrinking as a result of sea level rise, but instead growing or expanding outward.[8] This paper does not take a position on the geomorphology of islands, nor does it claim to predict the ultimate effects of climate change on the world's coastlines. Nonetheless, the overall outcome of these studies is clear: islands and coastlines are not static. While some may split, others may merge; some will disappear, and some will grow. As climate change influences our physical environments, the geography of islands and coastal regions is no longer fixed or permanent. Furthermore, a region's ability to withstand sea level rise does not negate its vulnerability to climate change.[9] Climate change can significantly undermine the habitability of coastal areas regardless of the area's size. Ultimately, boundaries based on fixed geography are not a sustainable model for the future.

Figure 1. Map of Severe Rainfall Worldwide



Source: NASA Earth Observatory image by Joshua Stevens, using IMERG data from the Global Precipitation Mission (GPM) at NASA/GSFC. "Excessive Monsoon Rains Flood Asia," NASA Earth Observatory, accessed March 10, 2025, https://earthobservatory.nasa.gov/images/147006/excessive-monsoon-rains-flood-asia.

The International Legal Order Was Not Designed to Address Climate Change

The current global order is founded on the concept and norm of sovereignty—the supreme authority of each state within its own territory and also the precondition for a state to be a subject of international law.[10] With only a few exceptions, solely states and intergovernmental organizations obtain rights and face obligations in international law; the individual does not take part in this privileged community. Sovereignty is also the basis for restrictions on international law; with only a few exceptions, it is the sovereign right of every state that no other state or organization interferes with its internal matters. Consequently, what happens

within a state's borders traditionally has little relevance for the international legal order. The concept of sovereignty traces its roots back to the 1648 Treaty of Westphalia, which ended the Thirty Years' War.[11] In the seventeenth century, the concept of state sovereignty emerged as a counterpart of the prevailing absolutism in Europe at the time. Since then, sovereignty has evolved to become a foundational principle of the prevailing international system.

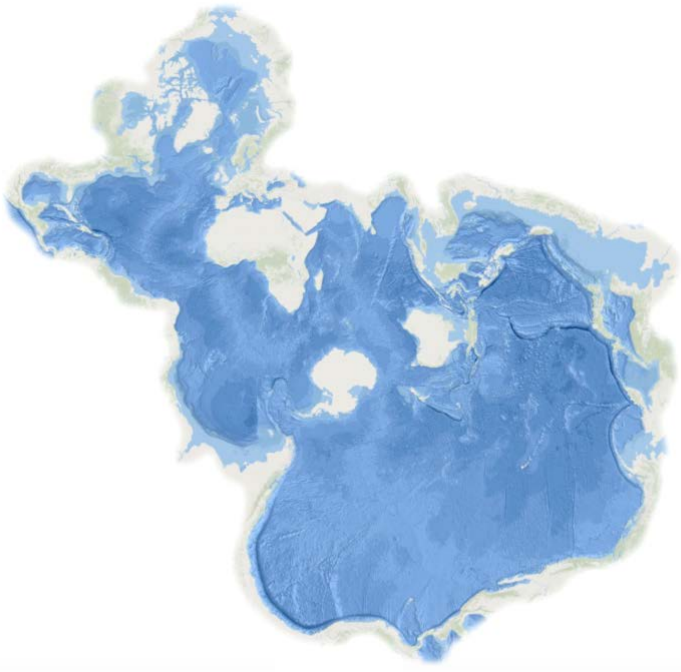
In 1928, international legal experts ruled that "territorial sovereignty is, in general, a situation recognized and delimited in space."[12] Put simply, sovereignty is linked to our global landscape and physical environment. In 1933, the Montevideo Convention on the Rights and Duties of States established four main conditions for the existence of a nation: 1) a permanent population, 2) a defined territory, 3) a government, and 4) the capacity to enter international relations with other nation-states.[13] These norms were reinforced in the United Nations (UN) Charter of 1945.[14] Of course, scientific research on anthropogenic climate change had not yet permeated the international agenda when the norms of sovereignty were developed.

From this history came the 1982 UN Convention on the Law of the Sea (UNCLOS), a comprehensive regime of law and order for the world's oceans. For centuries, politicians, merchants, and scholars had debated who had authority over the sea. By the nineteenth century, it was customary to consider the seas free to all. This policy reflected the dominance of large maritime powers like Great Britain, which established a body of international law shaped around their priorities: freedom of navigation, commerce, and the conduct of naval operations.[15] UNCLOS is premised on the idea that maritime zones, coastlines, and maritime features are stable—a premise that no longer holds true in the face of climate change.

From the vantage point of colonial powers, many of whom were responsible for the formulation of the current international legal system, continental land masses were the center of the world and the basis for their concept of the nation-state (see figure 2). According to scholar Teresa Shewry, there is a tendency among these founding states to isolate the land from the sea.[16] In both the normative and the legal sense, international law does not account for how island and archipelagic states interact with the rest of the world. This myopic worldview has become increasingly prominent and problematic as the impacts of climate change reshape our physical and political geography.

Although climate change was not accounted for in the foundation of our prevailing world order, it is now a central challenge to which that order must adapt. The legal division of the world into independent national jurisdictions, in some ways, contradicts its interdependence. As mentioned before, climate change is a global phenomenon whose causes and effects ignore borders. In the context of the climate crisis, the premise of the international legal order thus displays its limits. The following sections will explore the ways climate change confronts traditional notions of sovereignty and international order.

Figure 2. Contrasting World Maps Based on Land Masses or Oceans



A colonial map of the world (left) dated 1886 places land masses at its center, despite the fact that oceans make up a majority of the earth's surface. The inversion of this map, called the Spilhaus Projection (right), places oceans at the center with land masses on the periphery. The Spilhaus Projection is less recognized but equally accurate, illustrating how colonial worldviews have biased the development of sovereignty as a governing concept.

Source: Walter Crane, "Imperial Federation: Map of the World Showing the Extent of the British Empire in 1886," Wikimedia Commons, July 24, 1886, https://en.m.wikivoyage.org/wiki/File:Imperial_Federation,_Map_of_the_World_Showing_the_Extent_of_the_British_Empire_in_1886_(levelled).jpg; and "Map of the World's Oceans," New Zealand Science Learning Hub/Pokapū Akoranga Pūtaiao, January 19, 2021, https://www.sciencelearn.org.nz/images/4506-map-of-the-world-s-oceans.

Climate Change and Sovereignty Are at Odds

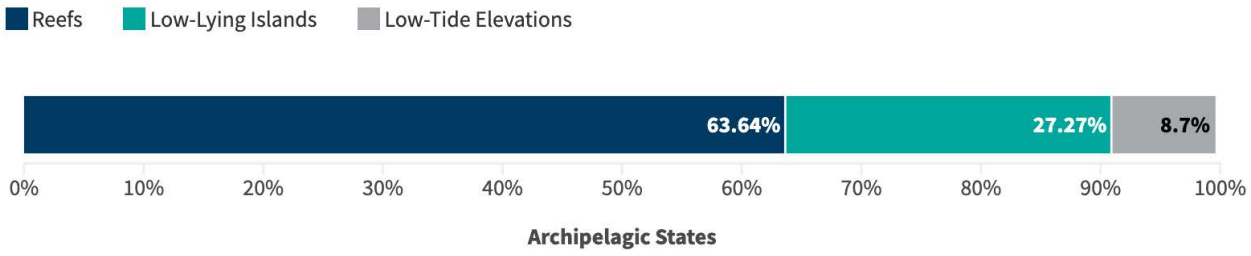
Climate change challenges three pillars of sovereignty (as laid out in the Montevideo Convention): the presumption of clearly defined, permanent territory; by extension, the presumption of fixed maritime boundaries; and the presumption of a permanent population.[17] These challenges to sovereignty have important implications for human rights, global order, and geopolitics.

1. The Presumption of Permanent Territory and Fixed Boundaries

It has been largely accepted that rising sea levels will pose a threat to coastal populations.[18] However, mainstream debates on climate change often overlook how receding coastlines and the submergence of coastal areas will also pose a challenge to statehood and territorial sovereignty, especially for low-lying countries and island states.

Twenty-two of the world's countries are considered "archipelagic states." Archipelagic states are countries that consist entirely of a group of islands or an archipelago and whose boundaries are determined based on the surrounding waters. These states are recognized under UNCLOS, which grants them special rights over their territorial waters. According to the International Law Association's expert Committee on Sea Level Rise, all twenty-two have used high-risk features like low-tide elevations, coral reefs, or low-elevation rocks to mark their maritime boundaries, as shown in figure 3. A number of these archipelagic states are entirely composed of features that are climate-vulnerable.[19]

Figure 3. Archipelagic States Use Climate-Vulnerable Features to Mark Legal Basepoints



Source: David Freestone and Clive Schofield, "Sea Level Rise and Archipelagic States: A Preliminary Risk Assessment," *Ocean Yearbook Online* 35 (October 2020), https://brill.com/view/journals/ocyo/35/1/article-p340_11.xml?language=en.

Table 1. The Climate Vulnerability of Archipelagic Maritime Boundaries

Region	Archipelagic States	EEZ sizes (km sq)	Land Area (km sq)	Ratio of EEZ to Land Area	Climate Vulnerable Features Used as Legal Basepoints
Atlantic	Antigua and Barbuda	110,089	440	250.2:1	Reefs
Atlantic	Bahamas	654,715	13,940	46.97:1	Reefs
Atlantic	Cape Verde	800,561	4,033	198.5:1	Low-lying islands
Atlantic	Dominican Republic	255,898	48,442	5.28:1	Low-tide elevations
Atlantic	Jamaica	286,046	10,990	26.03:1	Low-lying islands
Atlantic	Saint Vincent and the Grenadines	36,244	389	93.17:1	Low-lying islands
Atlantic	São Tomé and Principe	160,000	1,000	160:1	Low-lying islands
Atlantic	Trinidad and Tobago	77,502	5,128	15.11:1	Low-lying islands
Atlantic	Grenada	27,426	344	79.73:1	Low-lying islands
Indian Ocean	Comoros	160,000	1,861	85.98:1	Reefs and Low-lying islands
Indian Ocean	Maldives	923,322	300	3077.74:1	Reefs
Indian Ocean	Mauritius	2,300,000	2,040	1127.45:1	Reefs
Indian Ocean	Seychelles	1,374,000	455	3019.78:1	Reefs
Pacific/Indian Ocean	Indonesia	6,159,032	1,905,000	3.23:1	Low-tide elevations
Pacific	Fiji	1,282,978	182,70	70.22:1	Reefs
Pacific	Kiribati	3,441,810	811.2	4242.86:1	Reefs
Pacific	Marshall Islands	2,131,000	181	11773.48:1	Reefs
Pacific	Papua New Guinea	2,403,355	462,841	5.19:1	Reefs
Pacific	Philippines	2,263,816	300,001	7.55:1	Reefs
Pacific	Solomon Islands	1,589,477	28,896	55.01:1	Reefs
Pacific	Tuvalu	749,790	26	28838.08:1	Reefs
Pacific	Vanuatu	663,251	12,190	54.41:1	Reefs

Source: David Freestone and Clive Schofield, "Sea Level Rise and Archipelagic States: A Preliminary Risk Assessment," *Ocean Yearbook Online* 35 (October 2020), https://brill.com/view/journals/ocyo/35/1/article-p340_11.xml?language=en.

According to UNCLOS, a country's maritime limits are defined by its coastal baselines—the waterlines where the ocean meets the land. The convention stipulates that a country's territorial sea extends 12 nautical miles from its coast and its exclusive economic zone (EEZ) extends no more than 200 nautical miles from the territorial sea baseline. According to a 2012 report from the International Law Association's Expert Committee on Baselines, coastal baselines are "ambulatory" as a matter of general international law. In other words, a country's legal baselines move as natural coastlines shift over time.[20] The ambulatory boundary rule is reinforced by the international legal principle that "the land dominates the sea."[21] According to the International Court of Justice, "maritime rights derive from the

coastal State's sovereignty over the land."[22] By extension, national boundaries, maritime entitlements, and EEZs can legally be redrawn as sea level rise erodes coastal baselines.[23] Table 1 shows the climate-vulnerable features that the twenty-two archipelagic states currently use to define their EEZs.

As climate change persists, island states will face increasing coastal erosion and inundation. Between 1947 and 2014, five of the Solomon Islands disappeared as a result of sea level rise while another six shrank by 20–62 percent.[24] One island in Micronesia, Nahlapenhold, has completely disappeared.[25] In October 2018, Hurricane Walaka washed away a remote 11-acre Hawaiian island.[26] In the same year, Russian scientists reported that a small Arctic island had disappeared and a local newspaper in Japan reported that an islet off the coast could no longer be found, presumably because of rising sea levels.[27] Thus climate change defies the assumption of permanent territory by changing the borders—and in the long-term threatening the existence—of small island states and low-lying nations.

While international law does not impose any minimums on the size of a national territory, it has not yet considered whether it would recognize a country without any territory at all. Precedent points away from such recognition; for example, the 1933 Montevideo Convention formally established that physical territory is a necessary condition for statehood, and according to a 2008 ruling by the International Court of Justice, "a State would not be sovereign without a territory. In this way, a State without sovereignty would be a contradiction by legal terms."[28] International law is underwritten by the presumption that geography is fixed and territory is physically permanent. All other elements of a state—citizenship, government, and international recognition—are likewise dependent on the existence of a physical territory. In 2022, the International Law Association took up the question of whether a territory could retain its maritime entitlements if its lands were submerged by sea level rise. According to the committee, there is no customary or formal international recognition for a submerged state.[29]

In extreme situations, islands could be legally downgraded to low-tide elevations (LTEs) or rocks, which would erase their maritime entitlements. According to the Arbitral Tribunal on the South China Sea, "islands" are distinguished from rocks or LTEs by their ability to sustain human habitation or economic life of their own. "Rocks" are a subcategory of islands that are entitled to a territorial sea and contiguous zone, but not an EEZ or a continental shelf. If an island loses its ability to sustain human or economic life, maritime areas that were previously part of EEZs may revert to the status of the high seas. Losing "island" status could therefore erase a territory's maritime entitlements.[30]

The case of Tuvalu is illustrative. Tuvalu is composed of nine low-lying coral atolls with an elevation of up to 3 meters above sea level.[31] Sea level rise in Tuvalu is almost 6 inches higher than it was thirty years ago and is expected to more than double by 2100. Already, sea level rise in Tuvalu is 1.5 times faster than the global average. According to a technical assessment by NASA's Sea Level Change Team, much of Tuvalu's land area will be below the average high tide by 2050.[32] Furthermore, sea level rise is expected to worsen the frequency

and severity of extreme weather events, coral bleaching, waves, tides, and flooding. Together, these factors will threaten the food security, agricultural capacity, financial stability, and health of the population, impacting the viability of the country and others like it.

The consequences of disappearing EEZs would be extreme. Nations depend on access to their waters for economic activity, survival, and identity. Without clear legal protections for the rights of islands––or former islands––impacted by climate change, commercial actors and those with revisionist interests could easily encroach on former EEZs. With the onset of climate change, the use of land as the basis for maritime rights will complicate claims to sovereignty. As coastal boundaries recede, so too will maritime boundaries. The territories of island states and archipelagos surrounded by water could shrink or disappear altogether.

While small island states will be acutely affected, littoral states are likely to see the inland recession of their coasts as well. Shifting maritime geographies could also transform international waterways and impose significant consequences on maritime transit and freedom of navigation around the world. Take the Rio Grande, which forms the border between the United States and Mexico. The Rio Grande changes course gradually with every flood season, but in 1864, a major flood created a number of land protrusions between the two countries. These protrusions encompassed more than 600 acres and led to a hundred-year border dispute between the United States and Mexico.[33] Similarly, a melting glacier between Switzerland and Italy caused local authorities to redefine the border between their countries in 2023.[34] In a geopolitical environment where states increasingly assert their territorial ambitions and seek to redraw boundaries, the physiological shifts brought on by climate change could add pressure to an international system already under stress.

2. The Presumption of a Permanent Population

Climate change challenges the presumption that a sovereign state will have "a permanent population," in the sense that while the individuals living there may change, a territory will be continuously inhabited. It can be a driving factor in human migration by creating climate refugees or internally displaced persons, or by incentivizing voluntary relocations. In low-lying coastal regions, inhabitants may be forced to retreat from vulnerable areas should adaptation measures fail.

Among the Pacific islands, for example, national governments are working to develop a range of plans to manage climate-induced retreat and relocation. Residents of Lateu, a village in Vanuatu, were relocated inland in 2005.[35] In Kiribati, the village of Tebunginako on the atoll Abaiang was abandoned and relocated in 1994.[36] As sea levels rise, islands are expected to see a net loss of territory over already small regions, making relocation even more difficult. In places like Kiribati, some islands have become overcrowded as a result of relocation, increasing the pressure for international migration. In 2012, then president of Kiribati Anote Tong bought land on Vanua Levu, Fiji, to hold in case his people needed to migrate in the future. But this decision is also fraught, as Fiji itself is relocating communities

because of sea level rise.[37] Kiribati has employed a policy called Migration with Dignity as an additional climate adaptation strategy.[38] This program facilitates permanent and temporary labor migration for its citizens around the world.

Similar examples can be found outside the Pacific. On the island of Gardi Sugdub in Panama, sea level rise, storms, and flooding are undermining the island's habitability. On June 8, 2024, the first Indigenous residents of Gardi Sugdub were relocated to Panama's mainland.[39] In Senegal, the fishing village of Guet Ndar in Saint-Louis is also struggling with the impacts of sea level rise, flooding, coastal erosion, and water salinization. In 2018, a high-tide event drove 1,500 people from Guet Ndar to move to a displacement camp nearby. Most still live in the camp today.[40] From 2009 to 2014, more than 28,000 houses were flooded in Vietnam's Mekong Delta, a global hotspot for sea level rise, salinization, flooding, and typhoons. During this period, 714,000 people relocated to other parts of Vietnam, creating the largest migration corridor in the country.[41]

Over time, climate change will render some coastal areas uninhabitable, driving emigration from vulnerable regions. For small island states, the presumption of a permanent population may no longer hold true. If a country has territory but no citizens and no habitability, can it maintain its sovereignty? According to a study by the International Law Association, in the absence of territory in which a population governs itself, it may prove difficult for a country to maintain all the attributes necessary to function as a state.[42]

Already, climate change is threatening the habitability of small island and archipelagic states. In the Marshall Islands, for example, rainwater provides for about 80 percent of all fresh water needs.[43] A single aquifer, Laura, provides 95 percent of available fresh water on the country's most populated island, Majuro.[44] Sea level rise creates flooding that introduces salt water into these reservoirs, contaminating the water and making it undrinkable.[45] Droughts caused by climate change further threaten island aquifers by limiting the supply of fresh water available to islanders. Droughts and salinization impact food supply and agricultural land. It is estimated that by 2030, fresh water may no longer be drinkable in the Marshall Islands, making Majuro all but uninhabitable.[46]

In the future, all countries, not just islands, will have to reconcile their physical and climate circumstances with international law.

3. The Question of State Succession

The potential disappearance of a country or territory gives rise to complex questions related to citizenship and state succession. A defined territory may be a precondition for establishing statehood, but can a country preserve its legal status if it loses its territory? Can people retain citizenship for a nation that no longer exists? The impacts of climate change on island states, for example, may require populations to relocate to another country altogether. Will this "substitute" territory allow the island state's population to preserve its identity as a

subject of international law? According to the 1928 Island of Palmas case brought before the Permanent Court of Arbitration in the Hague, sovereignty signifies independence.[47] Independence means that one state has the exclusive right to exercise the functions of a state over any others. This suggests that a "host state" would have to be willing to give up part of its territory in order for an island country without territory to relocate its population and simultaneously retain its recognition under international law. Without such a sovereignty-sharing agreement, the island state could cease to exist as an international entity—along with its citizens, treaty commitments, and entitlements.

In the past, when a state has ceased to exist, its duties and rights have been transferred in some way to the newly created state or states that have come after. For example, when the former Yugoslavia was succeeded by Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia, and Slovenia,[48] the successor states became responsible for the international relations of their territory and directly replaced the previous one. If a state becomes submerged by rising sea levels, who is the successor state? Which state will make claims to the submerged country's assets? To its seats in international organizations? To its debt? To its people?

How to Revise State Sovereignty

Four approaches offer options to revise the international order to prepare it for the era of climate crisis: imaginary baselines, collective sovereignty, rethinking citizenship, and renewed international cooperation.

Rethinking Territory

1. Imaginary Baselines

Scholars and policy experts have often suggested that vulnerable states could preserve their existing maritime claims by "fixing" or "freezing" their legal baselines and/or maritime limits.[49] This would mean that despite the coastline's retreat, a state's legal baselines would stay in the same place. This idea of fixed baselines is controversial, breaking with customary and formal international law by decoupling countries' physical coastlines from their legally recognized boundaries, creating what some refer to as an "imaginary" or "fictitious" baseline. An imaginary baseline departs from traditional notions of international law in two additional ways: first, it runs counter to the fundamental principle that the land dominates the sea, and second, it undercuts the understanding of coastal baselines as ambulatory.

Fictitious baselines transform the concept of statehood so that it is no longer linked to land territory but to a maritime element instead. If sea level rise were to lead to the complete disappearance of a state, fictious baselines would ensure that the country could remain a subject of international law as a "deterritorialized" subject. This new kind of national entity would be able to exercise sovereignty over a well-defined maritime jurisdiction. According to Andrea Caligiuri, fictitious baselines would bring with them a shift from the concept of a "territorial state" to that of a "maritime state."[50] The potential establishment of maritime states, however, raises additional questions about UNCLOS rules for internal waters and the exercise of state power over maritime areas.

Despite concerns about the legitimacy of imaginary baselines, Pacific island countries have undertaken a regional effort to "fix" their baselines over the past two decades. In 2010, the Pacific Islands Forum (PIF) published a Framework for a Pacific Oceanscape, which mandates the "regional effort to fix baselines and maritime boundaries to ensure the impact of climate change and sea level rise does not result in reduced jurisdiction of Pacific Island Countries and Territories (PICTs)."[51] As of 2020, the project has finalized sixty of the seventy-three potential maritime boundaries in the region.[52] To date, the Pacific region has made it a common practice to notify the United Nations of all maritime lines and zones with geodetic data.[53]

There is also a growing trend among Pacific island states of publicizing and declaring their maritime baselines. In 2016, the Marshall Islands passed new legislation repealing its 1984 Maritime Zones Declaration Act.[54] Kiribati and Tuvalu have undertaken similar legislative efforts to assert their maritime sovereignty. In 2021, the Pacific Islands Forum passed the Declaration on Preserving Maritime Zones in the Face of Climate Change-Related Sea-Level Rise.[55] This declaration asserts that PICTs should not be required to recalculate their maritime baselines should sea level rise affect their geographic realities. Altogether, the Pacific has undertaken a regional effort to preempt challenges to Pacific maritime territories in the face of climate change.

Unfortunately, the submission of maritime boundaries to the United Nations is not enough to replace ambulatory boundaries as the current standard for the delimitation of coastal baselines.[56] Pacific island countries still need international recognition and acceptance of their new boundary claims in order to secure their maritime rights. In September 2021, the Alliance of Small Island States adopted the PIF Declaration on Preserving Maritime Zones.[57] In doing so, thirty-nine parties (out of 169) to UNCLOS gave their support for the idea that a country's maritime zones should not change in the face of climate change-related sea level rise. This represents a significant consolidation of a common approach taken by climate-affected states.

In September 2023, Tuvalu went a step further by enacting a new constitutional amendment that redefined its statehood.[58] According to the amendments, Tuvalu's baseline coordinates "shall remain unchanged, notwithstanding any regression of the low water mark or changes in geographical features of coasts or islands, due to sea-level rise or other causes."

Still, Tuvalu's Finance Minister Seve Paeniu argued in 2022, "there is no one international agreement that we can rely on that can recognize Tuvalu's proposed new status. That is a challenge before us, and we are now raising awareness and advocacy."[59]

In a 2023 meeting of the UN's Sixth (Legal) Committee, countries participated in a debate about the revision of international boundaries in response to sea level rise.[60] The spectrum of views presented by countries around the world demonstrated the challenge PICTs and other climate-affected states will face in gaining recognition and consensus around new forms of maritime boundaries. While countries like Thailand, India, and Germany all expressed their support for island states to submit their geographic coordinates to the UN, the Netherlands, Russia, the United Kingdom, and the United States generally considered maritime boundaries established by treaty to be final and thus affected by any subsequent changes to the baseline points. Some states, like China, referred to sea level rise as a new phenomenon that goes beyond the current scope of the law.[61] Overall, states agreed that there is a lack of sufficient precedent in the field to build customary international law around these practices. Some members of the Sixth Committee argued that Pacific islands should be viewed as "states whose interests are specially affected."

Ultimately, the true impact of climate change on sovereignty will depend on the attitudes of the international community. These changes may not necessarily affect maritime boundaries that have been fixed by a treaty or determined by the decision of an international judicial or arbitral tribunal. However, such rulings would have to be internationally accepted and binding on all countries in order to preserve the sovereignty of vulnerable states. As geopolitical competition grows, enforcing customary laws and court rulings on global powers transiting the high seas may be challenging or contentious.

2. Concepts of Collective (Shared?) Sovereignty

The way some Indigenous communities conceive of sovereignty may offer a path forward for polities whose borders and viability are threatened by climate impacts. Sovereignty in the Westphalian nation-state framework is not equivalent to Indigenous definitions of statehood, territory, and ownership. For example, the Indigenous-led Inuit Circumpolar Council (ICC) is a political collective that has declared a distinct form of sovereignty that unifies the Inuit people from Arctic peripheral states—Canada, Greenland (Denmark), Russia, and the United States.[62] This Inuit polity derives sovereignty based on the Inuit's historic stewardship of their land and resources, and their aspirations for self-determination. In this way, the ICC recognizes a version of sovereignty that is abstracted from states and their boundaries. In climate-vulnerable regions like the Pacific, definitions of sovereignty that are rooted in Indigenous self-determination and historical stewardship of the region may offer a framework for nationhood that is removed from the impacts of climate change. Policymakers and governments may consider how to expand definitions of sovereignty to include such Indigenous perspectives.

Furthermore, international law has acknowledged that there may be a special class of "collective sovereignty" in which territory belongs to several states, to the exclusion of all others. The Arbitral Tribunal on the South China Sea ruled that island communities could use a range of maritime features to sustain themselves and still qualify for nationhood.[63] The tribunal also found that periodic, rather than permanent, habitation by nomadic people "could also constitute habitation." This means that populations that sustain themselves through a "network" or "constellation" of related maritime features can still be recognized as sovereign nations. However, this determination was not related to the central issues or states involved in the tribunal. As such, it does not yet constitute any kind of precedent for future international legal cases.

States could also protect their sovereignty by securing additional territory through the purchase, rental, or lease of territory from other states. As mentioned, the government of Kiribati has purchased land in Fiji in case its people need to migrate in the future. While a state can lease territory from another, this approach creates complex issues related to the duration of the lease and limitations on land rights. Another option could be the creation of new political entities outside of the state's government, like a federal state, a confederation of states, or a condominium.[64] The creation of a federal state could mean the unification of the affected states with one or more host states to form a new state. A confederation or association of states could be established on the basis of an international treaty. A condominium of two or more states, whereby multiple states exercise sovereignty over the same territory, could also be established through international agreements. Each of these paths presents unique challenges and would require the creation of "plural authorities." Nevertheless, they provide some insight into how low-lying islands or coastal regions could use concepts of collective sovereignty to secure their legal status.

3. Rethinking Citizenship

Climate change will threaten the sustainability and status of human settlements over time. In this way, migration may increasingly become a form of climate adaptation and response. As described earlier in this paper, there are major gaps in international law and policy that neglect the future of climate migration and the protection of migrant rights.

From 2012 to 2015, the UN's International Organization for Migration (IOM) undertook the Nansen Initiative to help address these gaps.[65] The initiative produced the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change, which provided a toolbox of policy options and recommendations for future work.[66] While the protection agenda helped mobilize action to better address climate migration issues, the vast majority of countries still lack any normative framework to address the presence of foreigners displaced by climate change and/or natural disasters. In 2021, the Pacific Atoll Heads of States founded the Rising Nations Initiative under the UN Global Center for Climate Mobility to mobilize international support to protect the statehood, sovereignty, rights, and heritage of the Pacific's climate-affected populations.[67]

Recommendations from the IOM advise states to work on pre-planned mobility strategies including voluntary migration opportunities, regional free movement agreements, training programs for individuals to work abroad, and the creation of special visa categories for people living in new regions. In November 2023, Australia and Tuvalu signed a cooperation agreement, Falepili Union, granting permanent Australian residency to 280 Tuvaluans annually.[68] However, these proposed strategies do not account for the risk that some countries may disappear entirely in the future.

To better accommodate the legal risks of climate change, states should consider pathways for dual or hybrid citizenship. Planned resettlement or relocation programs can already offer opportunities for residency or citizenship abroad. In the future, these programs may also consider ways to simultaneously recognize the status of origin countries for citizens who may not be able to return because of the lasting impacts of climate change. For Pacific island states, cross-border relocation is considered an option of last resort because of its implications for cultural identity and national sovereignty. Thus, planned relocations must be undertaken with the participation of affected communities to protect their rights and interests.

Concepts of collective sovereignty could provide a legitimate basis for hybrid citizenship that spans multiple jurisdictions. For example, in arrangements like the freedom of association compacts that govern relations between the Cook Islands and New Zealand, or between Denmark and its autonomous territories (Greenland and the Faroe Islands), the smaller partner's population often takes the citizenship of the larger partner rather than expressing a separate legal identity, which grants residents benefits like freedom of movement to the primary territory of the larger partner. The creation of a new legal entity between two (or more) states would raise an additional consideration about the protection of human rights. Under the current structure of international law, each state is responsible and accountable for the protection of human rights within its jurisdiction. In the absence of international law or institutional frameworks that allocate human rights responsibilities in hybrid arrangements, states will have to establish bilateral or regional agreements to divide, reestablish, and share human rights duties. Regardless of the form citizenship and migration pathways take, it is clear that climate response policies must center around the interests of human security.

4. Rethinking International Cooperation

The current architecture of the international system is state-centric, leading to obvious gaps in humanitarian policy and climate adaptation. Policymakers should look for new approaches to international cooperation that are centered around considerations of human security, such as safe, universal corridors for climate displacement that can address the legal limitations of the current global humanitarian framework. Much like human rights law sets out general rules for the protection of migrants, policymakers should seek to establish forward-looking climate migration plans that safeguard the rights, interests, and identities of vulnerable populations. These policies should set universal standards that enable climate

migrants to claim refuge or asylum while allowing neighboring states or regions to set aside resources and spaces for these migrants to relocate.

Examples of frameworks for climate migration exist both within and outside of the Pacific islands. Academic studies of the Pacific region have supported the development of a "harmonised regional approach" to cross-border mobility on humanitarian grounds.[69] In Europe, a 2019 resolution of the EU parliamentary assembly about the "Legal Status for 'Climate Refugees'" recognized that member states carry a particular responsibility to those countries affected by climate change.[70] Notably, this resolution mandates international cooperation to establish normative and institutional frameworks for providing asylum to climate refugees.

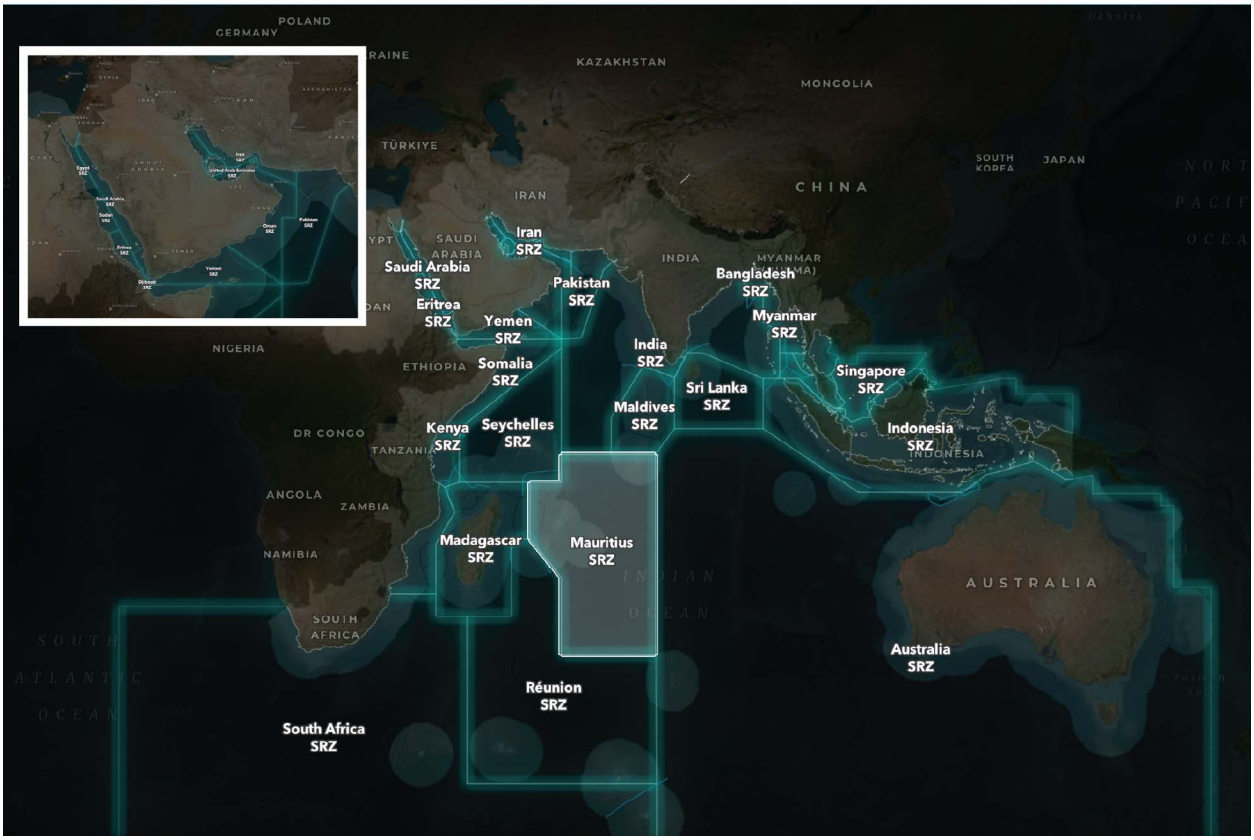
Options for migrants often run into challenges related to destination countries' domestic immigration policy and the prioritization of national sovereignty over broader humanitarian concerns. Historically, however, states have set aside sovereignty considerations to accommodate collective, humanitarian priorities. For example, maritime search and rescue zones denote a kind of supranational jurisdiction for humanitarian response. The world's oceans and seas are divided into search and rescue zones in which states are expected to provide shore-to-sea communications, effective distress monitoring, and search and rescue services in case of emergency (see figure 4).[71] These zones are allocated to specific national governments and go far beyond the traditional UNCLOS boundaries. In this way, search and rescue zones recognize areas of responsibility that are drawn outside of the traditional delimitations of sovereignty.

As highlighted by David Boyd, the United Nations special rapporteur on human rights and the environment, the failure of states to effectively address climate change through international cooperation would "prevent individual States from meeting their duties under human rights law" to protect and fulfill the human rights of those within the jurisdictions.[72]

Conclusion

Climate change, in the form of sea level rise and inundation, will shift international boundaries. These climate impacts will have consequences for everyone, not just island or archipelagic states. Today, the world is facing an increasingly contested political and geographic environment. Take for example the Russian invasion of Ukraine, the war between Israel and Hamas, the border skirmishes between India and China, or the disputes in the South China Sea. Whether because of a state's dissatisfaction with the status quo or a desire to expand, these conflicts all revolve around borders and territory.[73] In the future, as the impacts of climate change transform our physical geography, states may seek to take advantage of shifting boundaries to pursue their own geopolitical agendas and assert new territorial claims. For some countries, this may include the expansion of national boundaries, while

Figure 4. Map of Search and Rescue Zones in the Indian Ocean



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for others it could mean gaining access to new waterways and natural resources. Although the form and magnitude of climate-induced geographical changes cannot be predicted with certainty, the international community should anticipate change and, in doing so, hedge against instability.

The international system today does not have legal mechanisms to adapt or respond to the way climate change will transform the global environment. While leaders in the Pacific are developing solutions to cope with the impacts of climate change, larger systematic solutions are also necessary to sustain these efforts at the international level. New ideas like imaginary boundaries, collective sovereignty, hybrid citizenship, and corridors for climate displacement could offer a way forward for the global community, although these are not the only possible solutions. Ultimately, the true impact of climate change on sovereignty will depend on state attitudes and the willingness of the international community to adapt to the crisis at hand.

About the Author

Nitya Labh is a former research assistant and James C. Gaither Junior Fellow at the Carnegie Endowment for International Peace under the South Asia Program and Tata Chair for Strategic Affairs. Her current work focuses on territorial boundary disputes in the Indo-Pacific including the India-China border, the Chagos Archipelago, the Pacific Islands, and the South China Sea. She has previously worked at the UN Commission on the Status of Women, the International Justice Lab, the Project on International Peace and Security, and U.S. Indo-Pacific Command. Nitya is also an observer for the UN Coalition of Atoll Nations Against Climate Change. Her analysis has been featured in *Foreign Policy*, the *Australian Defence Magazine*, and the Center for International Maritime Security, among others.

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