



A New Framework for U.S. Leadership on Climate Migration

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OCTOBER 2020

THE ISSUE

Climate migration is poised to be one of the biggest human development and security challenges of the next several decades, yet policymakers and the research community are just now understanding the myriad impacts of climate change on human mobility. A new framework for addressing these challenges is needed—one defined by the United States taking action to slow the effects of climate change, reforming its own immigration policies, and leading multilateral efforts.

INTRODUCTION

Our understanding of the impact of climate change on human mobility is in its early stages. We know sea level rise threatens coastal communities around the world and that heat waves, storms, drought, and wildfires made more frequent and severe by climate change will shape global migration patterns. Research on the scale and geographic distribution of climate migration is still nascent, as is the development of potential policy responses. Properly understanding the interplay between climate change and migration is of critical importance for policymakers. Getting our understanding and responses right—or wrong—has enormous implications not only for hundreds of millions of migrants and forcibly displaced people, but also for security and human development.

Despite evidence indicating climate change is already impacting human mobility—and will do so with even greater regularity and severity the longer global temperatures continue to climb—scientists, legal scholars, and policymakers have yet to come to a consensus on what defines a climate migrant. Neither is there an adequate strategy, either internationally or within the United States, for dealing with climate migration.

This policy brief presents a new framework for U.S. leadership on climate migration, first addressing two fundamental questions that are important to understanding why such a new framework is needed:

1. What is the relationship between climate change and human mobility?
2. What recourse and protections are currently available to climate migrants?

A NOTE ON THE TERM “CLIMATE MIGRATION”

For the ease of our narrative and in the absence of a broadly accepted alternate designation, this brief refers to people for whom climate change was an important factor in leaving home as “climate migrants.” The authors acknowledge that a person’s designation matters greatly for the type of support they will or will not receive; in using this label, we are also acknowledging the limitations, inadequacy, and even unfairness of doing so. Though in many cases the plight of these so-called climate migrants

is similar to forced displacement—and indeed this brief refers often to “displacement”—labeling these people “climate refugees” is misleading since they are not typically afforded the same status and protections as refugees in the international system.

TEMPORARY, PERMANENT, AND INDIRECT IMPACTS

Increasing global temperatures due to rising atmospheric concentrations of greenhouse gas (GHG) emissions has the potential to shape global migration patterns in myriad ways.

The First Assessment Report published by the Intergovernmental Panel on Climate Change (IPCC) in 1992 **warned that** “the gravest effects of climate change may be those on human migration as millions are displaced by shoreline erosion, coastal flooding and severe drought.” The U.S. intelligence community in 2019 similarly tied “changes in the frequency and variability of heat waves, droughts, and floods” to increased migration levels. These are just some of the ways in which climate change will affect—and is already affecting—human mobility.

Though myriad climate- and non-climate-related variables are considered by climate migrants before leaving home, their journeys can be broadly grouped into three categories: temporary displacement, permanent displacement, and

indirect displacement. For most climate migrants—though not all—climate change is a contributing rather than singularly causal factor.

TEMPORARY DISPLACEMENT

Extreme weather events are by far the leading cause of forced displacement around the world. The Internal Displacement Monitoring Center **estimates** that 21.5 million people per year on average over the past decade have had to flee their homes due to storms, floods, wildfires, droughts, and other weather events (see figure X). This represents nearly three times more than those internally displaced due to conflict and nearly nine times more than those who apply for asylum in other countries due to a fear of persecution at home.

For most climate migrants—though not all—climate change is a contributing rather than singularly causal factor.

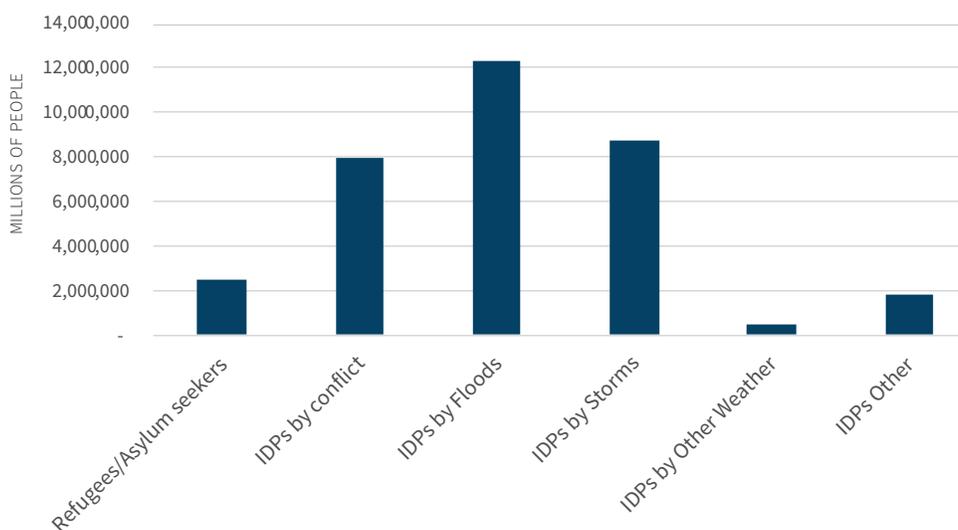
Climate change alone does not cause any particular storm, flood, or wildfire, but higher global temperatures due to rising GHG emissions are increasing the frequency and severity of a range of extreme weather events, including tropical cyclones, inland flooding, drought, and wildfires. These are considered “temporary” in this brief because most displaced by these extreme weather events have the opportunity

to return home; however, the authors acknowledge that **this is not always the case** and, for many living in high threat areas with limited resilience to such shocks, **recurrent** temporary displacement—which could lead to permanent displacement—is not uncommon.

Tropical Cyclones

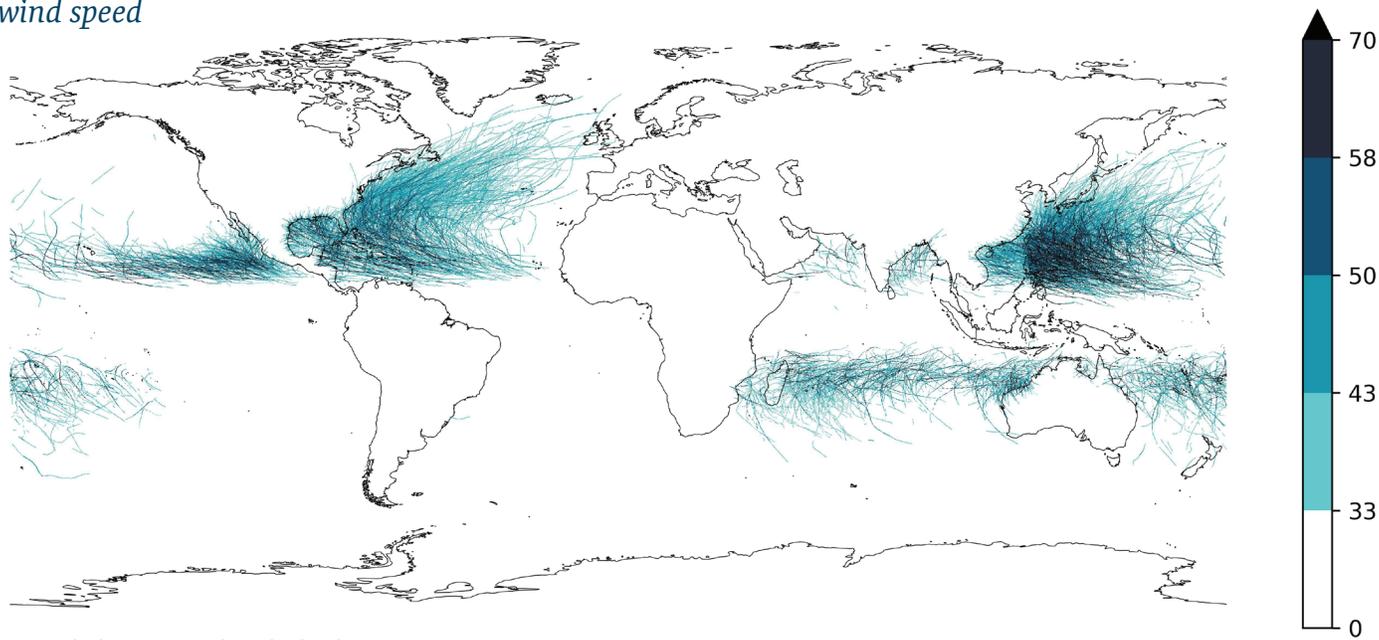
Tropical cyclones (also called hurricanes or typhoons) displace millions of people each year. In 2008, Hurricane Ike displaced 2.6 million people in Cuba. In 2009, Cyclone Aila displaced 2.3 million in India. In 2013, Typhoon Haiyan displaced more than 4 million people in the Philippines. Climate

Figure 1. Average Annual Forced Displacement by Category, 2010-2019



Source: Refugee and asylum estimates from UNHCR Global Trend reports from 2010-2019. This includes new individual asylum claims and refugees newly recognized on a prima facie or group basis. Internal displacement estimates are from IDMC and indicate newly displaced people per year that remained within the same country.

Figure 2: Geographic distribution of hurricane risk. Recorded historical hurricane activity by maximum wind speed



Source: Rhodium Group and WindRiskTech, LLC

change is increasing the threat posed by tropical cyclones in at least three ways. First, rising sea levels mean more storm surge from any given tropical cyclone. Second, warmer sea surface temperatures **are increasing the frequency** of the most intense and damaging storms. Third, a warmer atmosphere can hold more moisture, which leads to more rainfall for a given storm; this is what made Hurricane Harvey **so devastating** in Texas in 2017.

The greatest tropical cyclone displacement risk exists in the Caribbean and Southeastern United States, South Asia, Southeast Asia, and Southern China. **Bhatia et al.** (2018) estimate that even under a moderate emissions scenario, the frequency of major tropical cyclones will increase by 14 percent in the Atlantic Ocean, by 12 percent in the South Indian Ocean, and by 41 percent in the South Pacific between 2016 and 2035 relative to 1986-2005 averages. By the end of the century, this grows to 29 percent, 28 percent, and 66 percent respectively.

Table 1: Average Increase in Frequency of Major Tropical Cyclones (relative to 1986-2005)

	2016-2035	By 2100
ATLANTIC OCEAN	14%	29%
SOUTH INDIAN OCEAN	12%	28%
SOUTH PACIFIC	41%	66%

Source: Kieran Bhatia et al., "Projected Response of Tropical Cyclone Intensity and Intensification in a Global Climate Model," *Journal of Climate* 31, no. 20 (September 2018): 8281-8303, <https://journals.ametsoc.org/jcli/article/31/20/8281/92614/Projected-Response-of-Tropical-Cyclone-Intensity>.

Inland Flooding

Though often the most vividly portrayed by reporters with their backs to the ocean during a hurricane, coastal storm surge is not the only source of climate change-influenced flood risk. Warmer atmospheric temperatures **are increasing the amount of annual rainfall** that occurs during extreme precipitation events, which creates flood risks for inland communities as well as landslides and riverbank erosion. Fluvial (riverine) and pluvial (surface) flooding can be as significant a source of displacement as tropical cyclones. For example, 2010 floods in Pakistan spread across the country over a 10 day period, forcing **1,550,000 people** into internally displaced camps. Many of these people were able to return home once the flooding subsided but often found they were left with nothing upon their return. Stagnant water following floods also negatively impacts potable water supplies and increases the risk of diseases like Malaria and Cholera.

Drought

Tracking and attributing displacement from drought is more challenging than from storms or floods, but IDMC has recently developed a **methodology** for doing so, estimating that drought was associated with the internal displacement of nearly 800,000 people each year on average since 2017. This includes large **2017-2019 droughts** in Ethiopia and Somalia and a **2018 drought** in Afghanistan. A multiyear drought in Central America is prompting thousands of Guatemalans, Hondurans, and Salvadorians to head north.

The countries most vulnerable to drought are typically poor, agriculturally dependent, and already relatively arid. Climate change will likely increase drought risk in some parts of the world and decrease it in others. In its **Fifth Assessment Report** in 2018, the IPCC found that “in presently dry regions, the frequency of droughts will likely increase by the end of the 21st century” under a high emissions scenario, and that “in contrast, water resources are projected to increase at high latitudes.”

Wildfires

According to the IDMC database, wildfires have displaced over 200,000 people per year on average globally over the past decade. Nearly three-quarters of this has been in the United States, with most of that in California. Canada is second at 10 percent of the global total, followed by Israel in a distant third. Climate change increases wildfire risk in several ways in drought-prone areas, including reducing soil moisture and increasing atmospheric temperatures. **One study estimates** that climate change was responsible for half of the wildfire burn area in the western United States between 1979 and 2015.

PERMANENT DISPLACEMENT

This brief categorizes the above climate-amplified weather disasters as “temporary displacement” events because of the possibility (albeit not certainty) that those displaced can return home to their communities, especially when efforts are made to adequately rebuild, improve resilience, and redevelop the economy. Other climate triggers will result in more permanent displacement whereby return home is significantly less likely or impossible. The most significant

of these triggers are sea level rise, human heat thresholds, and agricultural tipping points, all of which are more clearly attributable to climate change, unlike with temporary displacement.

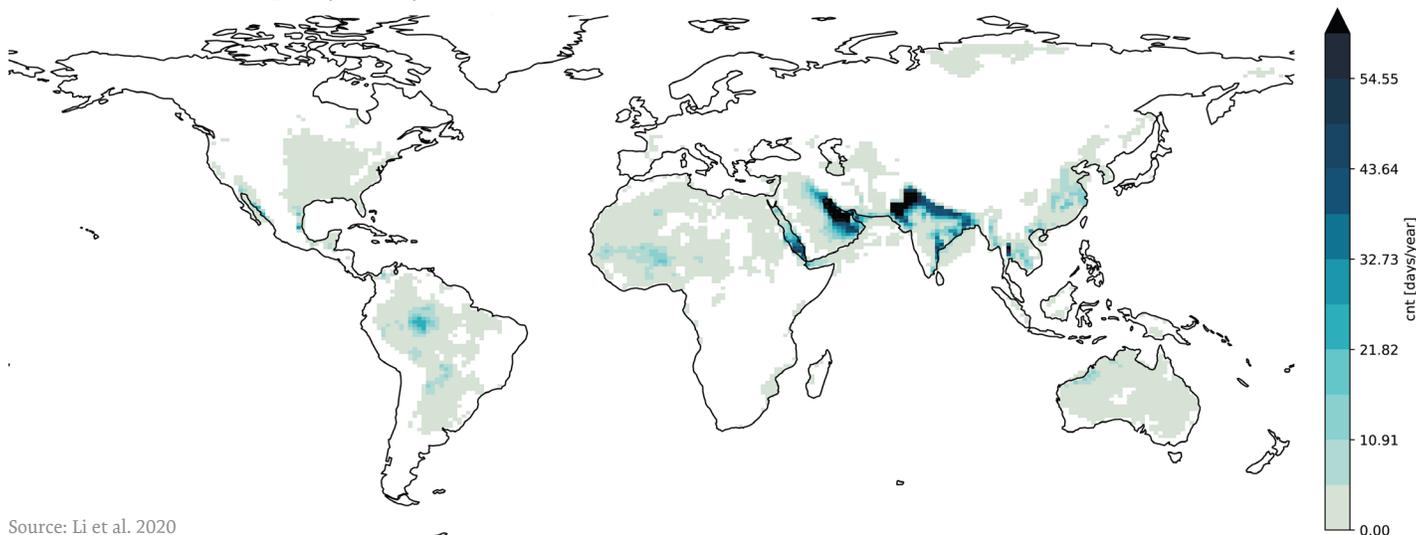
Sea Level Rise

Climate change is warming the oceans and melting ice sheets, both of which lead to sea level rise. Global average sea levels **have risen** by 8 to 9 inches since pre-industrial levels and by more than 3 inches since 1993 alone (the fastest rate in the past 6,000 years). **Eight Pacific islands** have already been submerged and two more will be submerged shortly, forcing the inhabitants to permanently relocate. Scientists predict that between 2000 and 2100, sea levels will rise by **between 2 and 3.3 feet** under a high emissions scenario, but with modest levels of ice sheet melt. That would put the current homes of roughly **120 million people**—from Bangkok to Calais, Lagos to Miami, Montevideo to Shanghai, and many more places in between—under high tide levels. If ice sheets end up melting faster, scientists expect sea levels to rise by **3.6 to 6.9 feet** by the end of the century, putting the current homes of 230 million people underwater. Sea level rise not only threatens coastal homes, schools, and businesses with flooding but can also destroy municipal water systems and farmland through saltwater intrusion.

Human Heat Thresholds

Climate change is pushing temperatures in parts of the world to levels unsafe for humans. Humid heat in particular limits the human body’s ability to cool itself through perspiration. At a certain threshold,

Figure 3: Geographic distribution of humid heat risk. Number of days of unsafe humid heat (WBGT of greater than 33°C) per year by 2100 under a high emissions scenario



Source: Li et al. 2020

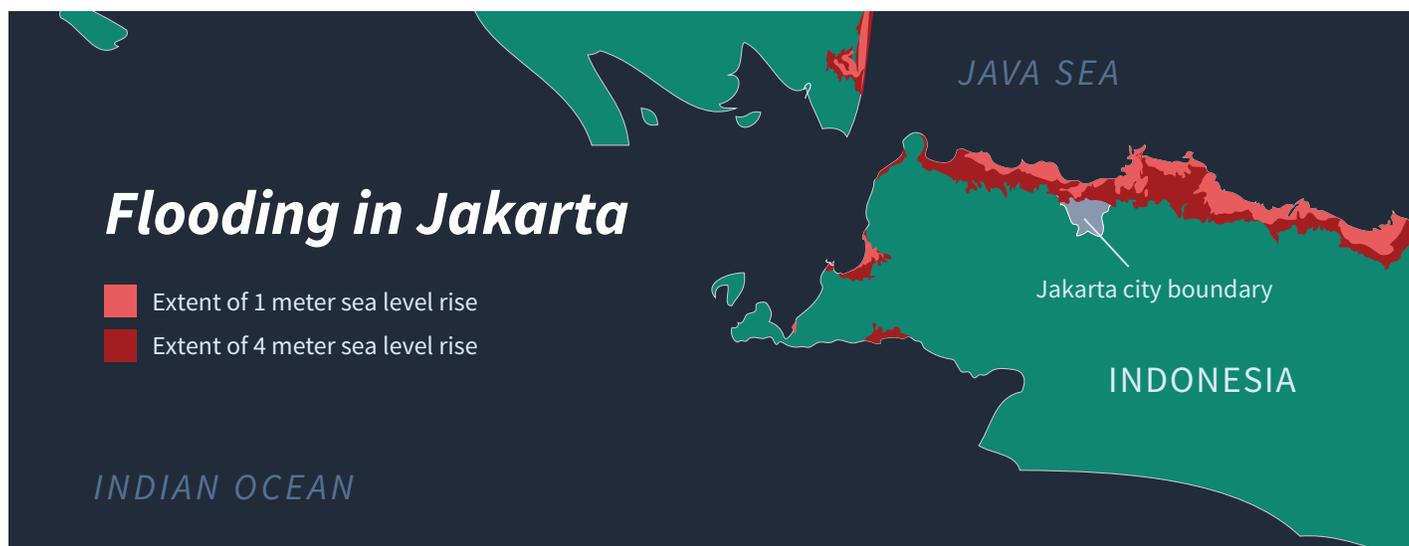
even a healthy person fully resting will die within hours without air conditioning. Climate change has **already increased** the number of people experiencing at least one day a year with unsafe humid heat by 178 million. Even under a moderate emissions scenario, this is projected to grow to 1.1 billion by the end of the century. Under a high emissions scenario, climate-driven heat waves **could kill** more people globally than HIV, tuberculosis, and malaria combined, with many developing countries facing climate-driven death rates several times the global average. As heat waves become increasingly unbearable, many will look to relocate to regions with a more habitable climate.

Agricultural Tipping Points

Like humans, plants and animals have temperature thresholds. Climate change is increasing agricultural productivity in colder countries but threatening the viability of both crop and livestock production in hotter countries. Drought-driven declines in agricultural production can drive temporary migration patterns, as has occurred over the past few years as poor yields **increased the number** of Central Americans migrating to the United States and previously when **farmers from** Syria's agricultural regions moved into urban areas in the years preceding its civil war. But as global agricultural production reallocates to more hospitable climates, many farm economies will be in permanent decline. And if farmers are unable to grow their crops and herders are unable to keep their animals alive, they will be forced to move.

SPOTLIGHT ON INDONESIA

Situated along the Eurasian and Australian tectonic plates, Indonesia is particularly vulnerable to earthquakes, volcanos, and tsunamis. Indonesia is the fourth most populous country in the world and is made up of thousands of islands vulnerable to sea level rise. Experts estimate up to **20.5 million people** there will be at risk of coastal flooding by 2050. Due in part to its race against rising sea levels, Indonesia is spending \$33 billion to move its capital from Jakarta, which is sinking up to 6.7 inches per year, to East Kalimantan. Though East Kalimantan has a much lower risk of flooding, a recent increase in fires shows that it is far from immune to the consequences of climate change. Existing stressors on the environment will likely be accelerated and exacerbated by the new infrastructure development needed to accommodate the estimated **1.5 million** new residents of East Kalimantan. The government must respond to the inevitable increase of its internal climate migrants, but also those from abroad. In 2009, Indonesia proposed housing climate migrants from Papua New Guinea, the Maldives, and other neighbors on its **8,500 uninhabited islands**. The details of this program remain unclear, largely because the program was never executed. Nevertheless, the idea raises important questions around whether these Indonesian islands themselves would be at risk of sea level rise, whether they would be granted or rented, and the reality—as demonstrated by the movement of people from Jakarta to East Kalimantan—of increased numbers of Indonesian climate migrants who will themselves likely need somewhere to go.



INDIRECT DISPLACEMENT

In addition to the climate migration triggers discussed above, climate change also indirectly impacts the number of people forcibly displaced by conflict. Just as with extreme weather events, climate change is not solely responsible for any individual conflict but can increase the probability that conflict occurs. For example, heat waves and drought can reduce agricultural output and water availability, both of which increase the risk of community-level instability and interethnic conflict. During a **2017 drought** in the Horn of Africa, the Salafi-jihadist group, Al-Shabaab, used **water as a political weapon**, forcibly displacing hundreds of thousands of people in the process.

States with high levels of fragility are at the highest risk for exposure to climate hazards. Fragile states often do not have the resources or the capacity to respond to the challenges created by climate change-related environmental degradation. As agricultural production falls due to droughts, floods, or other climate-related events, intercommunal conflict over resources increases. Governments in fragile states often lack the ability to provide employment or resource alternatives or to intervene once the violence has started. In many cases, the government lacks even a state presence—particularly a civilian presence—in conflict-prone areas. When the state is unable to provide resources for agricultural communities in times of intense droughts or flooding and violence increases as a result, many people are **forced from home**.

Conducting a meta-analysis of over 50 existing quantitative studies, **Burke, Hsiang, and Miguel (2015)** find that higher temperatures meaningfully elevate the risk of both interpersonal and intragroup conflict. Analyzing the relationship between weather variations across 103 source countries and asylum applications in the European Union between 2000 and 2014, **Missirian and Schlenker (2017)** estimate that climate-related increases in conflict could raise EU asylum applications by between 28 percent and 188 percent by the end of the century. **Abel et al. (2019)** find similar evidence of the impact of temperature on asylum application rates. Though there are myriad other factors contributing to any given conflict and its resulting forced migration, evidence suggests that climate change increases the risk of conflict that, in turn, forces people from home.

Paradoxically, the greatest opportunity for international protection and support for climate migrants exists in this indirect displacement category. The UN refugee agency, UNHCR, can in some circumstances **afford refugee**

Climate change increases the risk of conflict that, in turn, forces people from home.

status to “persons displaced in the context of disasters and climate change” when their climate change-related displacement is linked to armed conflict and violence.

EXISTING FRAMEWORKS

In part because of the difficulty of attributing climate change to human mobility as a singular—or even predominate—causal factor, climate migrants have little recourse within existing international frameworks and systems, or domestic U.S. law, that otherwise govern migration and forced displacement. The UN—this brief primarily focuses on the UN’s refugee and migration agencies—acknowledges this challenge but, through its various agencies and multilateral efforts (e.g., the global compacts on migration and refugees), has yet to come to a consensus on how to designate people within existing frameworks and systems. The United States has similarly been unable—or unwilling—to address this challenge.

ON TERMINOLOGY: WORDS MATTER

Despite the rising number of people displaced by catastrophic environmental and climate change-related disasters each year and growing empirical evidence directly linking the adverse effects of climate change and human mobility, an official recognition or consensus has yet to be reached regarding terminology. The UN migration agency, the International Organization for Migration (IOM), categorizes “**climate migration**” as a subset of “environmental migration,” defining the former as “a person or group(s) of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are forced to leave their places of habitual residence, or choose to do so, either temporarily or permanently, and who move within or outside their country of origin or habitual residence.” Similarly, the **Nansen Initiative** for Disaster-Induced Cross-Border Displacement and the resulting **Platform on Disaster Displacement** refer to “**disaster displacement**” as “situations

where people are forced to leave their homes or places of habitual residence as a result of a disaster or in order to avoid the impact of an immediate and foreseeable natural hazard.” Though appropriately descriptive, these definitions do not yet afford protection to climate migrants under international law. The lack of official international recognition or even acceptance of terminology means that those displaced internally or across an international border by the climate change-related phenomena presented above are at times referred to as climate migrants, environmental migrants, disaster displaced persons, or climate refugees—and no matter what they are called, they have very little access to protection and support. For example, the **UN Guiding Principles on Internal Displacement** covers all manner of internal displacement but, as is the case for internally displaced persons (IDPs) in general, offers little by way of protection for climate migrants.

The term “climate refugee” deserves particular attention, in part to point out its current technical inaccuracy. The term “refugee” holds great significance and has a specific definition in the international system, carrying with it special **protections**, formal **status**, and the opportunity for third-country **resettlement**. According to the international architecture based on the **1951 convention and 1967 protocol**, a refugee is defined as someone who “owing to a 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 to or, owing to such fear, is unwilling to avail himself of the protection of that country.” Though many are directly or indirectly forced from home and thus would qualify for access to refugee-like protections, even climate migrants who cross international borders do not have formal status under current international refugee law.

THE UNITED NATIONS

Though climate migrants are not afforded the rights and privileges offered to those granted official refugee or asylee status, UNHCR **acknowledges** that “people displaced across borders in the context of climate change and disasters may in some circumstances be in need of international protection.” The **Global Compact on Refugees** was adopted by a large majority of the UN General Assembly (UNGA) in 2018 after a two-year UNHCR-led consultative process; it similarly recognizes that “climate, environmental degradation and natural disasters increasingly interact with the drivers of refugee movements.” To be clear, neither UNHCR nor the refugee compact allows for climate migrants to be afforded refugee status even if they do cross an international border. Nonetheless, UNHCR is providing **important assistance** to the “disaster displaced,” including legal advice and guidance to support enhanced protection of people’s rights. It promotes policy coherence to ensure disaster displacement concerns are effectively mainstreamed across relative areas, and it commissions research to fill gaps that underpin policy work. UNHCR also provides **guidance** on “planned relocation” for those affected by “disasters and environmental change” though, again, this is separate from the formal refugee resettlement process. Acknowledging

the growing importance of climate action, in 2019, UNHCR appointed a special adviser to provide strategic guidance, oversight, and expertise to shape UNHCR’s climate change agenda and drive engagement on climate change, coordinate relevant initiatives across the organization, and serve as a global advocate for UNHCR’s work in this area.

Since 2017, IOM has been asked by member states to report on “**migration, environment and climate change**.” This led to the creation of the Migration, Environment and Climate Change Division, which has a mandate to oversee and support all policy projects on environment- and climate change-related migration. Similar to the aforementioned refugee-focused compact, a large majority of the UNGA adopted the **Global Compact for Migration** which identifies “climate change impacts as drivers of contemporary migration.” IOM’s goals in **managing environmental migration** include preventing forced migration due to environmental factors to the extent possible, providing assistance to affected populations during a disaster, and facilitating migration as a climate change adaptation strategy, all while enhancing the resilience of affected communities. IOM partners with UNHCR on the resettlement of refugees, but since climate migrants exist largely outside of current refugee frameworks, formal resettlement of climate migrants

through either UN agency is not a current priority. Even if climate migrants are afforded a more formal status in the future, IOM will likely play a more significant role in the response due to the fact that most are displaced internally and not to other countries; IDPs are a category of forcibly displaced people typically falling under the purview of IOM. UNHCR would likely continue to lead on protection—even for IDPs—as is its **current mandate** under the UN’s **Inter-Agency Standing Committee**.

THE UNITED STATES

The United States does not currently have a formal way of resettling climate migrants even if they had formal status and, for the forcibly displaced among them, refugee-like status. The United States has been a global leader in refugee resettlement. Since the Refugees Act of 1980, **about 3 million refugees** have been resettled in the United States, which is the highest number in the world, though this trend has reversed under the Trump administration. In 2017, the United States resettled 53,716 refugees compared to 84,994 in the final year of the Obama administration. The numbers have continued to decrease dramatically, with only **around 18,000 refugees** expecting to be resettled in 2020. Despite some—including one of this brief’s authors—having argued that doing so would be a strategic mistake, this trend of decreased resettlement is likely to continue as long as President Trump occupies the White House because the number of refugees admitted is determined by the president, in consultation with the U.S. Congress.

Under current U.S. immigration law, people displaced by natural disasters and environmental degradation—including those displaced by the impacts of climate change—have traditionally not been considered eligible for protection as refugees. Under the Immigration and Nationality Act, a refugee **is defined as** a person who is unable or unwilling to return home due to a well-founded fear of persecution on account of their race, religion, nationality, membership in a particular social group, or political opinion. Climate migrants could potentially be considered members of a “particular social group” but would also need to make a compelling case to an asylum officer and/or an immigration judge that the government in their home country cannot protect them if they return.

There are a few **statutory provisions** through which the United States has a clearer pathway to provide assistance to climate migrants. These include the **Temporary Protected Status (TPS)**, the **Deferred**

Enforced Departure (DED), **Humanitarian Parole**, and the **Compact of Free Association (CFA)**. Except for the CFA (which offers **indefinite stay** to citizens from the Federated States of Micronesia, Republic of Marshall Islands, and Palau), these programs offer temporary options to certain qualified people. TPS is generally granted to individuals who are **already in the United States** and are unable to return to their countries due to ongoing conflict, environmental disasters, or extraordinary and temporary conditions. Just like TPS, DED offers a short stay to designated individuals from countries that are facing conflicts or severe environmental disasters.

When coupled with well-documented denial of the scientific evidence pointing to the negative impacts of climate change, the inadequacy of current U.S. immigration frameworks and the administration’s focus on decreasing refugee admissions means that climate migrants are unlikely to be a focus of the Trump administration. This would constitute a strategic error. The changes in our climate precipitating more conflict and larger and more frequent displacement of people can pose a real threat to the United States, to the stability of its allies, and to global human development.

CLIMATE MIGRANTS FALL THROUGH THE CRACKS

It is difficult to define and to estimate the number of global climate migrants. As stated previously, the Internal Displacement Monitoring Center **estimates** that 21.5 million people per year on average over the past decade have had to flee their homes due to storms, floods, wildfires, droughts, and other weather events. Climate change may have had a role in some of these disasters—at least in their severity and frequency—but it would be inaccurate to say that all of these displaced people are climate migrants. In a widely cited 2018 study, the **World Bank** projected that 143 million people would be internally displaced by sea level rise, drought, and other events related to climate change by 2050 across sub-Saharan Africa, South Asia, and Latin America, but there has been relatively little empirically-based research.

A major difficulty in determining the global number of climate migrants is, of course, the inability of the international community to come to a consensus about terminology and measurement: who should be considered a climate migrant and, once so determined, what protections and support they should qualify for. Further complicating matters is the difficulty in attributing decisions people make to leave home directly to climate

change. For example, a tropical cyclone that destroys one's village clearly results in people fleeing to the nearest town or city. Though climate change may have contributed to the frequency of cyclones generally and the severity of that specific cyclone, it typically cannot be said that an individual storm is caused entirely by climate change. It is thus similarly difficult to say that all the people displaced from the cyclone-hit village are climate migrants, though some may never return home and be in need of prolonged assistance to which they currently do not have access. This is compounded by the fact that reasons people cite for leaving home are generally varied and multidimensional, and policymakers are often divided on how to treat migrants citing multiple reasons for displacement.

What is clear is that even if there were to be a global framework addressing these challenges and offering some people protected status and support, some people would still fall through the cracks.

The reluctance to recognize climate migrants—however one was to define them—under international law also comes from the obligations (largely of developed countries) that would be expected should climate migration be brought under existing—or new—frameworks. Most climate migrants are displaced internally, placing them into an already wide gap in international forced migration frameworks; countries wary of outside intervention are generally **less willing** to accept outside support for internally displaced people. Additionally, climate migration will—like other effects of climate change—disproportionately **negatively affect** the developing world which emits significantly less greenhouse gas emissions than developed countries.

Regardless of the complexity of the issue set and the exact number and types of people affected, climate migration is real and will continue to pose real challenges for policymakers the world over, not to mention for climate migrants themselves. It is time for a new framework for dealing with climate migration, one that the United States, given the right set of political circumstances, should be able to lead.

A NEW FRAMEWORK FOR U.S. LEADERSHIP

Climate migration is a challenge disproportionately impacting the world's poorest and most vulnerable countries. The United States and other major GHG emitters should help reduce and respond to climate migration; doing so is also in their strategic interests. A new framework for U.S. leadership should be built upon three central themes: (1) reducing the drivers of climate

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migration by cutting emissions and investing in resilience, (2) demonstrating through U.S. immigration policy action that accommodating climate migrants is critically important and possible, and (3) leading the strengthening of international frameworks on climate migration.

(1) REDUCE DRIVERS OF CLIMATE MIGRATION

The United States should reduce emissions and invest in resilience as a way to address climate migration in the longer term.

Reduce Emissions

Evidence suggests that future levels of climate migration depend on how much GHGs the United States and other major economies emit in the years ahead. The single most effective step the United States can take to address climate migration is to adopt policies at both the federal and state levels that rapidly reduce carbon dioxide and other GHG emissions and to work with other major economies through bilateral and multilateral engagement to do the same. Such action would significantly reduce climate migration over time. For example, bending the global emissions curve from a high emissions scenario to one that limits global temperature increases to less than 2°C **would likely prevent** up to 150 million people from permanently losing their homes to sea level rise by the end of the century.

The single most effective step the United States can take to address climate migration is to adopt policies at both the federal and state levels that rapidly reduce carbon dioxide and other GHG emissions and to work with other major economies through bilateral and multilateral engagement to do the same.

Invest in Resilience

Even under the most aggressive emission reduction scenarios, global temperatures will continue to increase and sea levels will continue to rise for the next few decades due to inertia in the climate. Kulp and Strauss **estimate** that roughly 40 million people's homes will be affected by

rising seas between now and 2050 regardless of the global emissions scenario. The United States can reduce forced displacement from sea level rise and other climate hazards by helping Small Island Developing States (SIDS) and Least Developed Countries (LDCs) invest in resilient buildings and infrastructure if they lack sufficient resources to do so themselves. The lead U.S. foreign assistance agency, **USAID**, is already engaged in some of this work; its efforts—and those of its partners—should be evaluated and, when appropriate, significantly scaled up.

(2) ACCOMMODATE CLIMATE MIGRANTS

Climate change is unequivocally affecting the environment. While U.S. politicians and policymakers should accept as much as a baseline (sadly not all do), it is important to also consider climate change an issue that requires broader ethical and political lenses. Incorporating these lenses, the United States needs a broader approach that includes a concerted and coordinated interagency response to climate-related immigration to its own borders. Such immigration to the United States is already occurring from the **Marshall Islands, Central America**, and other places. Cutting emissions and investing in resilience can reduce levels in the long run, but these efforts will not eliminate climate migration. Climate migrants currently have limited legal ability to seek safe harbor in the United States through the refugee resettlement or asylum programs. To address this gap, the authors propose that the United States should create the following two climate-focused immigration programs.

Create Climate Temporary Protected Status

As part of the Immigration Act of 1990, Congress gave the **attorney general** the authority to provide temporary protected status to immigrants within the United States who are unable to return to their home country due to an armed conflict or environmental disaster. With the Homeland Security Act of 2002, this authority was transferred to the **secretary of Homeland Security**. TPS has been extended to immigrants from 22 countries since the program's inception and is still in place for immigrants from 10 of those countries. Many of these are for environmental disasters, including a 2011 earthquake in Haiti, a 2001 earthquake in El Salvador, and a 1998 hurricane in Honduras and Nicaragua.

The U.S. Congress should create a version of TPS specifically for people temporarily displaced by climate change-related disasters. Other than eligibility criteria,

there would be two important differences between this and the current TPS program. First, the program should apply to those currently outside the United States and not just those who had already entered the country on a nonimmigrant visa or entered without inspection. Second, an independent, nonpartisan panel of climate science and migration experts should decide which disasters qualify for the climate TPS program. Only disasters this group of experts deem were made significantly more likely and/or severe by climate change would qualify for climate TPS. A growing field of attribution research is making these kinds of assessments possible.

Create Climate Migrant Resettlement Program

A new climate migrant resettlement program should be created for those permanently displaced by rising sea levels, human heat thresholds, and/or agricultural tipping points. This program would operate similarly to the current refugee and asylum processes in the United States for those forcibly displaced due to violence, conflict, and/or a fear of persecution but would require clear differentiation from those people already identified as refugees and asylum seekers (unless there were to be appropriate international law determinations made). Climate migrants could apply after arriving in the United States or at a U.S. embassy or consulate and would need to demonstrate they had been impacted by a permanent climate displacement event identified by the same independent panel of climate experts that advises the above-mentioned climate TPS process. Resettlement determinations should incorporate risk cases and protection needs similar to how refugee determinations are made. Qualified climate migrants could also be referred by the UN, a U.S. Embassy, or a participating non-profit organization. As with current asylum and refugee programs, participants in the climate migrant resettlement program would be eligible to apply for lawful permanent resident (LPR) status and ultimately for U.S. citizenship. Such a program could be tied to a new regional compact on permanent climate displacement (see below).

Note on indirect displacement: A new program for those displaced by conflict made more likely by climate change is not recommended. Current refugee and asylum programs should be evaluated to assess adequacy in light of potential climate-driven increases in conflict around the world in the years ahead, but the current refugee architecture allows for refugee status designation

and protection if conflict and/or violence are involved. Thus, these forcibly displaced people should be assisted through strengthening the existing refugee admissions processes, not by creating a new program.

(3) LEAD THE STRENGTHENING OF INTERNATIONAL FRAMEWORKS

The United States has an opportunity to convene global stakeholders around a truly global issue. This is particularly true if there is a change in administration and/or Congress, though the authors of this brief contend that such issues, if left unaddressed, pose a threat to global stability no matter the political party in power. Much as it provided leadership during the negotiation of the landmark Paris Agreement under President Obama and much as it has been a leading funder of international migration and displacement programs (though admittedly not always supportive of all **efforts** and **agencies**) during the Trump administration, so too should the United States lead in the establishment of a new framework—or reform of existing frameworks—around climate migration.

Rejoin the Paris Agreement

The Trump administration has signaled its intent to **withdraw** from the Paris Agreement, but this withdrawal does not come into effect until November 4, 2020. There is still time to reconsider joining the main multilateral effort to “combat climate change and adapt to its effects.” In doing so, the United States could also assert leadership within the group of signatory countries on these important climate migration issues.

Strengthen Existing Frameworks Using Evidence

Though UNHCR, IOM, and other institutions have in place useful efforts to provide them with support, climate migrants do not have the legal status and full protections they need within existing frameworks. As a first step, the United States should support the implementation of both the refugee and migration **compacts**. As a second step, the United States and other like-minded allies should lead a global effort to collect more and better data from the climate science *and* migration and displacement communities, commissioning research to inform what strengthened international frameworks—including guidelines on status determination—around climate migration could look like. Informed by this evidence, the frameworks should determine when existing institutions need expanding (e.g., to include those forcibly displaced by sea level rise) versus when entirely new institutions may

be necessary. These frameworks should also address the difficult task of differentiating between those temporarily displaced and those permanently displaced internally and across international borders.

Negotiate a Regional Compact on Permanent Cross-Border Displacement

Many experts and policymakers are wary of expanding the legal architecture around refugees at a time of growing backlash against migrants and refugees in some developed countries, and for good reason. The fear is that any expansion of the legal architecture would require revisiting any existing protections or statuses afforded to forcibly displaced people and asylum seekers. Policymakers should indeed be wary of this trap, but this fear should not stop these institutions—and their donor, recipient, and member states—from seeking additive reforms.

A Western Hemisphere regional compact provides a promising pathway to start expanding the international legal architecture to address climate migrants. Much as the Cartagena Declaration of 1984 expanded upon the 1951 convention and 1967 protocol refugee frameworks, so too should a new regional compact be planned to address those who are permanently displaced for reasons clearly linked to climate change. Though this may not immediately result in greater resettlement opportunities (countries typically use the 1951 convention definition for resettlement), it would expand protections and status. Not all climate migrants should be under consideration for the reasons discussed in this brief, namely because (1) most climate migrants do not cross international borders and thus would not qualify anyways for refugee status and (2) most climate migration should be considered via a contribution rather than attribution lens. Hence, a regional compact should start by focusing on affording refugee status to those permanently displaced over an international border due to sea level rise, human heat thresholds, or agricultural tipping points. Addressing the clearest examples of the impact of climate change on human mobility in a regional context could provide support to vulnerable forcibly displaced people while creating the broader momentum needed to strengthen institutional frameworks around climate migration.

Though resettlement may not be possible for all climate migrants (only **63,726** refugees were resettled in 2019 out of **26 million**), refugee designation would still provide those permanently displaced by climate change the protection, formal status, and opportunity

for resettlement that, depending on the context, could lead to financial assistance, housing, healthcare, access to the labor market, and more. U.S. leadership should include not only returning (or, better yet, exceeding) U.S. resettlement numbers to their 2016 levels (around **85,000**), but also making it clear that the increased costs associated with an expanded refugee architecture, including those permanently displaced by climate change, will be met by commensurate increased levels of additive funding and resources. No consideration should be given to proposals that remove existing refugee protections or resources. ■

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This brief is made possible by the generous support of the Royal Embassy of Denmark in Washington, D.C.

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