

Climate Change-Induced International Migration as a Security Concern:

Associated Issues, Future Prospects, and Potential Solutions

Christopher Webster

Christopher Webster is a second-year M.A. candidate in International Affairs and recent recipient of the Philip and Barbara Kaplan Graduate Endowment Fellowship at the Elliott School, where he is focusing on matters of international security including, among other issues, climate change and water insecurity. He previously earned his Bachelor of Arts in International Relations at North Carolina State University and in 2016 spent a summer abroad in Cuba, studying the island's environmental issues and history. A citizen of both the United States (naturalized) and United Kingdom (by birth), he has also lived in Switzerland, Germany, and Argentina.

ABSTRACT

As the global impact of climate change becomes more pronounced, people will increasingly become displaced due to worsening sudden-onset (cyclones, wildfires, floods) and slow-onset (drought, desertification, sea level rise) natural disasters. If existing patterns are any indication, most of those affected will relocate within their home countries, but a growing number will likely migrate across international borders in search of relief. This latter group of individuals, here referred to as "climate refugees," and many of whom will hail from some of the poorest parts of the globe, will present an attractive target for criminal enterprises. At the same time, the growing number of climate refugees will compound national and regional security concerns by threatening to overwhelm resources, foster unrest, and even spark conflict. The existing global refugee regime remains ill-equipped to deal with the problem, having thus far failed to extend legal recognition (and all of its associated guarantees and protections) to those migrating across international borders as a consequence of climatic factors. This paper contributes to an understanding of the nature and seriousness of climate

refugees' plight. It further identifies various policy options that the United Nations High Commissioner for Refugees and its member states might pursue to better confront the issues posed by international climate migration.

INTRODUCTION

Since 2008, approximately 24 million people have been displaced by weather disasters around the globe every year—a figure that is roughly equivalent to 65,753 people a day or 45 people every minute and that is expected to rise even higher.¹ At the same time, millions of other people have become displaced as a result of longer term issues like prolonged drought and the rise of sea levels.² These displaced individuals frequently originate from the poorest communities and the most vulnerable parts of the world, and they are especially ill-suited to withstand the effects of climate change. Historically, these vulnerable groups have tended to relocate to other areas within their home countries with the hope of finding some measure of relief.³ However, they are increasingly seeking relief in neighboring and more far-flung countries, contributing to the growth of a class of people known as “climate refugees”.⁴

Climate refugees, also referred to as environmental migrants, climate migrants, ecological refugees, and disaster refugees among various other names, can be understood as those individuals or groups whose lives are adversely affected by and are driven to migrate abroad as a result of sudden or progressive climate-related change in their environments.⁵ Although climate refugees appear to already constitute a serious issue, state recognition of their plight has been anemic. Due in part to the recent rise in nationalism and anti-immigration sentiment in Europe and the United States, governments already chafing at their obligations under existing refugee protocol have seemingly been loath to consider expanding the term “refugee,” with all of its legal implications, to encompass climate refugees.⁶ Climate refugees consequently continue to be relegated to the sidelines where they occupy something of a legal “void” in which they are denied proper recognition and assistance.

In the interest of contributing to a greater understanding of the security issues posed by international climate migration, this paper first identifies two main categories of climate-related factors that might drive individuals to migrate across international borders: sudden-onset natural disasters and slow-onset natural disasters. It next discusses the difficulty of defining climate refugees and the corresponding legal ramifications. The paper then examines climate migration as a security issue, focusing on the vulnerability of climate refugees to human trafficking and the potential for increasing international climate migration to contribute to conflict as the effects of climate change worsen. Finally, this paper offers policy options aimed at the United Nations

High Commissioner for Refugees and its member states.

POTENTIAL CLIMATE-RELATED DRIVERS OF MIGRATION: TWO MAIN CATEGORIES

SUDDEN-ONSET NATURAL DISASTERS

In this context, sudden-onset natural disasters are dramatic events such as cyclones, earthquakes, tsunamis, floods, forest fires, and volcanic eruptions.⁷ These events are sudden or rapid-onset in that they occur relatively suddenly and with little advance warning. They also tend to be fairly fleeting insofar as they last for just hours or days and certainly no more than a few months.⁸ However, as evidenced by a near tenfold increase in the average duration of a wildfire over the last few decades (from six days between 1973 and 1982 to 52 days between 2003 and 2012), worsening climate change may result in sudden-onset natural disasters lasting for longer periods of time in addition to being more intense.⁹ Sudden-onset natural disasters may also continue to markedly increase in frequency. In 1990, roughly 200 sudden-onset natural disasters were reported. By 2010, this number doubled about 400, impacting 200 million people each year.¹⁰ In 2018, there were perhaps as many as 850 such events in 2018, more than a few of which caused \$1 billion or more in damages.¹¹

The contribution that sudden-onset natural disasters make to climate migration is a result of their immediate impact and destructiveness. These disasters routinely demolish homes or at least render them uninhabitable, destroy crops that people rely on for food and livelihood, and leave affected areas unnavigable. To offer just one of many recent examples, when Hurricane Matthew hit Haiti in October 2016 it displaced 175,000 people, left 80,600 people in dire food insecurity, and altogether affected some 2.1 million people.¹² Human displacement caused by such disasters is often temporary, with people returning home to rebuild once conditions improve. However, this is not always the case. As the duration and frequency of sudden-onset natural disasters increases, temporary movement is more likely to become longer lasting or even permanent migration.¹³

SLOW-ONSET NATURAL DISASTERS

The second set of climate-related factors that might affect climate refugees consists of issues that occur comparatively more slowly or build up progressively over time. Examples include prolonged drought, desertification, sea level rise, increased temperatures, salinization, land degradation, and loss of biodiversity.¹⁴ These disasters are interrelated in a number of respects, and in many cases affected areas must therefore contend with more than one such disaster. For

instance, drought tends to precede desertification, which itself constitutes a loss of biodiversity insofar as it entails a loss of vegetation.¹⁵ Sea level rise begets salinization as saltwater inundates land and intrudes on freshwater sources. These disasters spur migration by diminishing people's economic opportunities and living conditions.

There are a number of differences and similarities between slow- and sudden-onset natural disasters. Both types of disasters can drive migration across international borders, but slow-onset disasters do so more than sudden-onset disasters, which are more likely to cause internal displacement. Additionally, slow-onset disasters are more likely to cause permanent migration due to their longer lasting and sometimes irreversible environmental effects that can leave affected areas uninhabitable. Since they build up over time, slow-onset disasters can also prompt voluntary migration in anticipation of impacts, resulting in individuals who may not technically qualify for consideration as refugees.¹⁶

One of the challenges with these climate-related factors, particularly in terms of data collection, is that they can have knock-on effects that disguise the fundamental reason for migration. A slow-onset natural disaster like prolonged drought can lead to conflict over water or other natural resources.¹⁷ If people then flee the affected area, are they climate refugees or refugees of conflict? Given the present lack of legal protections for the former, individuals would likely be better off recognized (and may seek to portray themselves) as the latter. By doing so, they distort their real reason for migration—drought—and potentially hinder efforts to obtain legal recognition for climate refugees.

THE TROUBLE WITH DEFINITIONS AND LEGAL RECOGNITION

While it is clear that sudden- and slow-onset climate-related factors can and do drive migration across international borders, a major roadblock to effectively dealing with this type of migration is the lack of a universally agreed-upon and legally binding definition as to who constitutes a “climate refugee” or “environmental migrant”. Governments, organizations, and individual advocates have largely been left to come up with their own working definitions, each presenting its own issues or limitations. As an example, the UN Environmental Programme (UNEP) in 1985 referred to “environmental refugees” as “people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life.”

More recently, the International Organization for Migration (IOM, another UN organization) has adopted as its working definition of an “environmental migrant” as “persons or groups of persons who, predominantly

for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad.” This latter definition is problematic because it includes those who remain within their home countries and move voluntarily, neither of which are true of refugees.¹⁸ Perhaps more importantly, both IOM’s usage of the term “migrant” rather than “refugee” and UNHCR’s resistance to the 1985 UNEP definition are telling: they point to a continued reluctance on the part of bodies like the UN to use the term “refugee” to refer to those displaced by climate-related factors.

Disagreement over the usage of the term “refugee” may seem like mere quibbling, but it is actually significant. The issue boils down to the fact that, legally under the 1951 Refugee Convention, the term “refugee” has important implications and refers to a specific type of person: one who has left their home country due to a “well-founded fear of persecution” based on race, religion, nationality, political ideology, or membership in a particular social group. As climate-related factors alone do not amount to persecution, climate refugees do not necessarily fit into this definition.¹⁹ IOM contends that terms such as “climate refugees” and “environmental refugees” are “misleading and could potentially undermine the international legal regime for the protection of refugees.”²⁰ The problem with this stance is that it denies climate refugees the legal guarantees and protections afforded by official recognition under the 1951 Refugee Convention.

Climate refugees’ continued lack of recognition and protection under the 1951 Refugee Convention does not mean that such individuals are entirely without hope for international legal cover. Of particular note here is international human rights law and even more specifically the principle of *non-refoulement*, which applies to all human beings and has been identified as a possible solution for displaced individuals not covered under the existing global refugee regime. Non-refoulement prohibits the forced return of migrants to, *inter alia*, “life-threatening circumstances” that theoretically could include those created by climate-related factors.²¹ Human rights law nonetheless remains of limited utility in this case as courts have yet to find that the impacts of climate change warrant application of the non-refoulement principle. Nevertheless, it is possible that this will change as judicial recognition of climate change’s impact on human rights grows.²² For the time being, it appears that climate refugees cannot rely on the non-refoulement principle to ensure that they cannot be turned away by states.

Lack of international legal recognition has not stopped individual states from granting asylum or opening up the possibility of asylum to those impacted by climate-related factors. As a result of a serious drought in the Horn of Africa from 2010 to 2011, hundreds of thousands of people migrated

from Somalia to Kenya, Ethiopia, and Djibouti and pleaded for entry on the basis that the drought had robbed them of the crops and animals they needed to survive. Rather than turning the migrants away, the three countries granted them refugee status despite the absence of any persecution and therefore legal imperative.²³ Meanwhile, since 2005 Swedish law has allowed for the provision of asylum to individuals deemed incapable of returning to their countries of origin due to environmental disasters.²⁴ Commendable as these individual state efforts may be, they ultimately amount to mere stopgaps in the absence of a more robust global refugee regime that encompasses climate refugees.

SECURITY IMPLICATIONS

Continued lack of attention to “climate refugees” contributes to a clear and growing security issue insofar as it renders a large class of people, often hailing from some of the poorest parts of the world, vulnerable as they endeavor to migrate across borders. Absent legal avenues, climate migrants may look to human smugglers for assistance in gaining entry into another country, but this can be costly and offers no guarantee of success. For instance, “unusually severe droughts” that began in 2014 have resulted in an unprecedented number of starving Guatemalans paying human smugglers between \$10,000 and \$15,000 or even offering up their homes or lands as collateral for three chances at crossing the United States border.²⁵ IOM has uncovered similar smuggling from Cambodia to Thailand of drought-afflicted persons.²⁶ Those who cannot pay are seemingly left with no other option than to undertake dangerous journeys on their own or with their families in tow.

A related concern is the vulnerability of climate refugees to human trafficking. By resorting to illegal and unsafe migration channels, climate refugees risk being victimized by human traffickers posing as or collaborating with human smugglers. Already this issue has been observed in the Asia-Pacific region, an area particularly vulnerable to climate change. After Cyclone Sidr in 2007, a study in Bangladesh discovered that people seeking to migrate from affected areas to India in pursuit of employment and income had been picked up by human traffickers and subsequently forced into prostitution and hard labor. Following Cyclone Aila just two years later, a study conducted by IOM discovered similar trends, noting that women-headed households were especially vulnerable.²⁷

In some cases, rather than becoming the unwitting victims of human trafficking, people displaced by climate-related factors may willingly collude with traffickers or engage in trafficking as a means of survival. In India, there have been reports of families selling wives, female family members, and children to cope economically in the face of climate change.²⁸ Whether climate refugees ultimately end up as victims of human trafficking or as complicit actors, it is

clear that they offer criminal actors a pool of desperate individuals to prey on and profit from.

From an international security perspective, climate refugees are no less worrisome, since international climate migration could contribute to instability and even spark a conflict. The theory is rather straightforward: Influxes of climate refugees will aggravate competition for essential resources like food, water, and living space in transit and host communities, which could lead to violent or non-violent conflict, particularly in settings where resources are already stressed and political instability already exists. An important caveat here is that climate change or migration by itself is unlikely to cause conflict. Instead, it will act as a “threat multiplier” that together with other political, economic, or social conditions escalates situations to the point of conflict.²⁹

There has been a lack of research on the possibility of climate migration-induced conflict. Though not focused on migration specifically, Nel and Righarts looked at data pertaining to 187 states and other political entities from 1950 to 2000. They determined that through their social impacts, sudden-onset natural disasters “significantly increase the risk of violent civil conflict in the short to medium term,” particularly where governments are neither fully autocratic nor fully democratic and some fragility (e.g., in the form of income inequality) already exists.³⁰ Barnett and Adger meanwhile contend that large migrations could “increase the risk of conflict in host communities” and that “the influx of migrants into new areas has been a significant factor in many environmental conflicts.”³¹ In an interesting spin on the issue, the German Advisory Council on Global Change asserts that disagreements between states over what to do about the migration of climate refugees will likely aggravate political tensions and may become a major source of international conflict.³²

FUTURE PROSPECTS

Current projections suggest that climate change and associated international climate migration will only grow more serious. As the global mean temperature continues to rise by an estimated 2.5 to 10 degrees Fahrenheit (roughly 1.4 to 5.6 degrees Celsius) over the next century, natural disasters will become more common, or at least more intense. For example, while the total number of tropical cyclones may decline as the world warms, cyclones that do form are expected to be of a greater intensity, and this will be associated with a corresponding increase in the intensity of storm surges. More intense storm surges may be accompanied by a general increase in sea level by one to four feet caused by melting land ice and thermal expansion of seawater. Together with increases in precipitation in some areas of the world, this sea level rise would increase flooding. Other areas are meanwhile expected to suffer from worsening drought due to decreased or irregular precipitation.³³

While every part of the globe will be impacted to some extent by ongoing climate change, regions most lacking in climate resilience will likely be hit the hardest by natural disasters and are therefore also likely to produce the most climate refugees. For example, South Asia is particularly vulnerable to both sudden- and slow-onset natural disasters due to its deficient infrastructure, reliance on land resources, and high population density within at-risk areas. Sea level rise and associated flooding constitute the most pressing problems for the region. For instance, India, Bangladesh, and Sri Lanka in 2016 exhibited some of the highest numbers of displacements caused by natural disasters.³⁴ Bangladesh has been especially hard hit and is expected to produce 20 million climate refugees by 2050 as 17 percent of its landmass is lost to climate change-induced flooding.³⁵

Because there remains no universally agreed upon definition of “climate refugees,” any efforts to quantify how many such individuals exist now or might exist in the future should be approached with some caution. Current forecasts of the number of climate refugees globally by 2050 paint similarly sobering pictures ranging from 25 million to 1 billion, with 200 million constituting the most common estimate.³⁶ Regarding Europe, where political dialogue on the issue of migration remains tense, a 2017 study determined that the average number of asylum seekers heading to the region each year could nearly triple by 2100, increasing from roughly 351,000 to 1,011,000 per year (an overall addition of 660,000 asylum seekers).³⁷ Taken together, projections involving future climate change and resulting international migration offer strong impetus for taking action now before the situation becomes unmanageable.

POLICY OPTIONS

Efforts to acknowledge the plight of, and encourage, protections for climate refugees moving forward have thus far been lukewarm at best. Last year, UN member states negotiated, and the UN General Assembly adopted, the Global Compact for Migration and the Global Compact on Refugees. While the hope was that these new agreements would establish a legal framework for dealing with climate refugees, they fell well short of this goal. Consistent with a preliminary statement given by one UN official that it “would not grant ‘specific legal international protection to climate-induced migrants,’” the migration compact only encourages member states to work on better understanding and exploring solutions for climate migration. The refugee compact for its part merely acknowledges climate “as one of many factors that may interact with the drivers of refugee movements.” Neither compact is legally binding.³⁸

A concerted, clear-eyed effort to address the growing issue of international climate migration would entail negotiating a new, international, and legally binding agreement that clearly lays out legal processes for managing climate

refugees or renegotiating an existing and well-established treaty—namely, the 1951 Refugee Convention—to encompass climate refugees. As noted previously, the 1951 Refugee Convention is restrictive insofar as it reserves the label “refugee” only for those who are fleeing persecution. It is thus something of a relic of its time, having been negotiated not long after World War II to address the global refugee crisis created by that conflict. But it has been many years since then, and today’s world is not like the world of the mid-twentieth century. Change is in order. The only concern now should be on the length of time it might take to negotiate a new agreement or renegotiate an existing one and the very real possibility that efforts to renegotiate the 1951 Refugee Convention might be taken advantage of by opponents of the treaty to weaken it.³⁹

An alternative option would entail UNHCR promoting and its member states adopting multilateral/regional arrangements that are implemented at the state level and offer relief to climate refugees on a more temporary basis. Such arrangements could be modeled on the concept of temporary protection or stay arrangements (TPSAs), which have served to complement the global refugee protection regime by filling legal “gaps” like the one climate refugees currently fall into.⁴⁰ These arrangements would ideally entail the identification, documentation, and accommodation of climate refugees in receiving states until environmental conditions in refugees’ home states improve or some other agreed-upon criterion is met. In addition to having a legal right to shelter and other freedoms like freedom of expression and freedom from discrimination in receiving states, climate refugees would thus be protected under the *non-refoulement* principle.⁴¹

How might states determine whether someone should be returned home under such arrangements? Drawing on Swiss law pertaining to subsidiary protection, Kälin and Schrepfer offer a useful litmus test entailing three criteria: permissibility, feasibility, and reasonableness. States should first ask whether the *non-refoulement* principle prohibits return. Is there reason to believe an individual would be exposed to life-threatening conditions if returned? If so, *non-refoulement* would apply. States should then ask if it is technically possible or feasible to send individuals back, which may not be the case when, for example, roads or airports have been closed or destroyed by natural disasters. Finally, states should ask themselves whether living conditions in a refugee’s home country, while perhaps not life-threatening, are below international standards. If so, it should be considered neither humane nor reasonable to send that person home.⁴²

Regardless of whether the preceding options are pursued, UNHCR could, in cooperation with development agencies, further work with vulnerable states to bolster their citizens’ resilience to climate change. As stated by IOM climate expert Mariam Traore Chazalnoel, “Most people don’t actually want

to migrate. They would rather stay where they are. But they need the means to stay where they are.” Providing this means could include training and equipping farmers to operate in arid or drought conditions; helping to protect communities against soil erosion and flooding through the creation of buffer strips, dikes, and other solutions; and contributing to improvements in natural disaster detection and emergency response measures.⁴³ Such efforts may prove costly in time and money, and it is unlikely that communities can ever achieve complete protection, but with external assistance those at risk of forced climate migration can better prepare themselves in the face of ongoing climate change.

CONCLUSION

The plight of climate refugees displaced across international borders by sudden- and slow-onset climate-related factors has not been afforded the attention it warrants in either international legal or security discourses. As global climate change continues largely unabated and its effects are increasingly felt in the world’s poorest, most vulnerable, and least able to adapt countries, it is likely that the number of people finding no choice but to migrate abroad due to climate impacts will increase markedly. Climate refugees nonetheless continue to occupy a legal “void” in which they are denied the recognition and protections they need. The importance of taking action sooner rather than later to address the growing concern posed by this class of individuals therefore cannot be overstated. A concerted effort to fill in the gap might involve either updating the existing global refugee regime to better account for climate’s contribution to forced migration or formulating new refugee arrangements to be implemented at the regional or multilateral level. It will also require taking greater steps to bolster climate resiliency where populations are at their most vulnerable in the interest of reducing the need to migrate in the first place. While such actions are likely to prove politically unpalatable and thus encounter resistance, the alternative path of continued neglect is far more worrisome.

ENDNOTES

- 1 Gena Steffens, “Changing climate forces desperate Guatemalans to migrate,” *National Geographic*, October 23, 2018, <https://www.nationalgeographic.com/environment/2018/10/drought-climate-change-force-guatemalans-migrate-to-us/>
- 2 *Beyond Borders: Our changing climate – its role in conflict and displacement* (London, United Kingdom: Environmental Justice Foundation, 2017), 4, <https://ejfoundation.org/resources/downloads/BeyondBorders.pdf>
- 3 Roxana A. Mastor, Michael H. Dworkin, Mackenzie L. Landa, and Emily Duff, “Energy Justice and Climate-Refugees,” *Energy Law Journal* 39, no. 1 (2018): 142, ProQuest Central.
- 4 Steffens, “Changing climate forces desperate Guatemalans to migrate.”

- 5 Note that there is no universally agreed-upon definition of “climate refugees” or “environmental migrants.” The particular understanding offered here draws on definitions used by the non-governmental Environmental Justice Foundation and intergovernmental International Organization for Migration for “climate refugees” and “environmental migrants,” respectively. See *Beyond Borders: Our changing climate – its role in conflict and displacement*, 6 and Walter Kälin and Nina Schrepfer, *Protecting People Crossing Borders in the Context of Climate Change: Normative Gaps and Possible Approaches* (Geneva: United Nations High Commissioner for Refugees, 2012), 28-9, <https://www.unhcr.org/4f33f1729.pdf>. For further discussion on the subject of definitions vis-à-vis climate refugees, also see section entitled “The Trouble With Definitions and Legal Recognition,” this paper.
- 6 Tim McDonnell, “The Refugees The World Barely Pays Attention To,” NPR, June 20, 2018, <https://www.npr.org/sections/goatsandsoda/2018/06/20/621782275/the-refugees-that-the-world-barely-pays-attention-to>
- 7 Francesco Femia and Caitlin Werrell, “Double Whammy: Sudden and Slow-onset Disasters for Pacific Island States,” *The Center for Climate and Security*, September 26, 2011, <https://climateandsecurity.org/2011/09/26/double-whammy-sudden-and-slow-onset-disasters-for-pacific-island-states/>; Mastor, Dworkin, Landa, and Duff, “Energy Justice and Climate-Refugees,” 145.
- 8 *The Slow onset effects of climate change and human rights protection for cross-border migrants* (A/HRC/37/CRP.4) (Geneva: United Nations High Commissioner for Refugees, 2018), 7, http://www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session37/Documents/A_HRC_37_CRP.4.docx
- 9 Mark Kaufman, “How long does it take for today’s violent wildfires to go out?,” *Mashable*, August 15, 2018, <https://mashable.com/article/wildfire-burn-how-long-climate-change/#1cpIXi7qJqqx>
- 10 Elizabeth Ferris, “Natural Disasters, Conflict, and Human Rights: Tracing the Connections,” *The Brookings Institution*, March 3, 2010, <https://www.brookings.edu/on-the-record/natural-disasters-conflict-and-human-rights-tracing-the-connections/>
- 11 Petra Löw, “The natural disasters of 2018 in figures,” *Munich Re*, January 8, 2019, <https://www.munichre.com/topics-online/en/climate-change-and-natural-disasters/natural-disasters/the-natural-disasters-of-2018-in-figures.html>
- 12 Bayes Ahmed, “Who takes responsibility for the climate refugees?,” *International Journal of Climate Change Strategies and Management* 10, no. 1 (2018): 8, <https://doi.org/10.1108/IJCCSM-10-2016-0149>
- 13 Alex Randall, “Understanding a slow disaster: getting to grips with slow-onset disasters, and what they mean for migration and displacement,” *Climate and Migration Coalition*, accessed March 20, 2019, <http://climatemigration.org.uk/understanding-a-slow-disaster-getting-to-grips-with-slow-onset-disasters-and-what-they-mean-for-migration-and-displacement/>; *The Slow onset effects of climate change and human rights protection for cross-border migrants*, 8-9.
- 14 Mastor, Dworkin, Landa, and Duff, “Energy Justice and Climate-Refugees,” 144-145.
- 15 *The Slow onset effects of climate change and human rights protection for cross-border migrants*, 9.
- 16 *Ibid.*, 8-10.
- 17 For more on the perceived association between climate-related factors and conflict, see section entitled “Security Implications,” this paper.
- 18 Kälin and Schrepfer, *Protecting People Crossing Borders in the Context of Climate Change: Normative Gaps and Possible Approaches*, 28-9.
- 19 *Ibid.*, 31.
- 20 “Environmental Migration,” *International Organization for Migration*, accessed March 22, 2019, <https://environmentalmigration.iom.int/environmental-migration>
- 21 Kälin and Schrepfer, *Protecting People Crossing Borders in the Context of Climate Change: Normative Gaps and Possible Approaches*, 25; *The Slow onset effects of climate change and human rights protection for cross-border migrants*, 22.
- 22 *The Slow onset effects of climate change and human rights protection for cross-border migrants*, 20-2.
- 23 Walter Kälin, “What Makes a Refugee? As Impact of Natural Disasters Grows, Definition Leaves Gaps,” interview by Jérémie Labbé, *International Peace Institute*, April 8, 2014, <https://>

- theglobalobservatory.org/2014/04/what-makes-a-refugee-as-impact-of-natural-disasters-grows-definition-leaves-gaps/
- 24 Sweden, Aliens Act (2005:716), chap. 4, sec. 2, cl. 3, https://www.government.se/contentassets/784b3d7be3a54a0185f284bbb2683055/aliens-act-2005_716.pdf
 - 25 Steffens, “Changing climate forces desperate Guatemalans to migrate.”
 - 26 Sabira Coelho, *The Climate Change–Human Trafficking Nexus* (Geneva: International Organization for Migration, 2016), 6, https://publications.iom.int/system/files/pdf/mecc_infosheet_climate_change_nexus.pdf
 - 27 Ibid., 6.
 - 28 Ibid., 3-7.
 - 29 *Beyond Borders: Our changing climate – its role in conflict and displacement*, 17; Renate Schubert et al., *World in Transition: Climate Change as a Security Risk* (London: Earthscan, 2008), 158-60, https://www.wbgu.de/fileadmin/user_upload/wbgu.de/templates/dateien/veroeffentlichungen/hauptgutachten/jg2007/wbgu_jg2007_engl.pdf
 - 30 Philip Nel and Marjolein Righarts, “National Disasters and the Risk of Violent Civil Conflict,” *International Studies Quarterly* 52, no. 1 (March 2008): 179, <https://doi.org/10.1111/j.1468-2478.2007.00495.x>
 - 31 Jon Barnett and W. Neil Adger, “Climate change, human security and violent conflict,” *Political Geography* 26 (2007): 643, 648, <https://doi.org/10.1016/j.polgeo.2007.03.003>
 - 32 Renate Schubert et al., *World in Transition: Climate Change as a Security Risk*, 174.
 - 33 “Effects | Facts – Climate Change: Vital Signs of the Planet,” *NASA Jet Propulsion Laboratory*, accessed March 27, 2019, <https://climate.nasa.gov/effects/>; Michael Greshko, “Why This Hurricane Season Has Been So Catastrophic,” *National Geographic*, September 22, 2017, <https://news.nationalgeographic.com/2017/09/hurricane-irma-harvey-season-climate-change-weather/>; Sebastian Acevedo and Natalija Novta, “Climate Change Will Bring More Frequent Natural Disasters & Weigh on Economic Growth,” *International Monetary Fund*, November 16, 2017, <https://blogs.imf.org/2017/11/16/climate-change-will-bring-more-frequent-natural-disasters-weigh-on-economic-growth/>
 - 34 “Migration and migrants: Regional dimensions and developments,” in *World Migration Report 2018*, eds. Marie McAuliffe and Martin Ruhs (Geneva: International Organization for Migration, 2017), 54 and 62, https://www.iom.int/sites/default/files/country/docs/china/r5_world_migration_report_2018_en.pdf
 - 35 Ahmed, “Who takes responsibility for the climate refugees?,” 7.
 - 36 William Lacy Swing, foreword to *Migration, Environment and Climate Change: Assessing the Evidence*, eds. Frank Laczko and Christine Aghazarm (Geneva: International Organization for Migration, 2009), 5, https://publications.iom.int/system/files/pdf/migration_and_environment.pdf
 - 37 Anouch Missirian and Wolfram Schlenker, “Asylum applications respond to temperature fluctuations,” *Science* 358, no. 6370 (2017): 1610, <https://doi.org/10.1126/science.aao0432>
 - 38 McDonnell, “The Refugees The World Barely Pays Attention To.”
 - 39 “Why climate migrants do not have refugee status,” *The Economist*, March 6, 2018, <https://www.economist.com/the-economist-explains/2018/03/06/why-climate-migrants-do-not-have-refugee-status>
 - 40 See *Guidelines on Temporary Protection or Stay Arrangements* (Geneva: United Nations High Commissioner for Refugees, 2014), <https://www.unhcr.org/protection/expert/5304b71c9/guidelines-temporary-protection-stay-arrangements.html>
 - 41 Kälin and Schrepfer, *Protecting People Crossing Borders in the Context of Climate Change: Normative Gaps and Possible Approaches*, 61.
 - 42 Ibid., 65-6.
 - 43 McDonnell, “The Refugees The World Barely Pays Attention To.”