

Climate Change, Migration, and People with Disabilities

By Alex Ghenis

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Part 1: Global Relocation- An Overview of Climate Change and Migration

The Impact of Impacts

Climate change will have many, many impacts: storms, sea level rise, drought, heat waves... The list goes on. And people often look at these and simply think that they will make living more difficult in any given location. But when the situation in a city, state, or country becomes so difficult to handle that it's not worth staying, people will start to move. It might happen all at once - say, if some powerful storm destroys a village and it's not worth rebuilding, then people will abandon it for other places. It might also be slow: as the ocean rises around Florida, Miami will see more frequent flooding, gradually harming the economy and damaging neighborhoods; but the exodus is likely to be slow, as neighborhoods become unlivable one-by-one or people simply see the writing on the wall and trickle out ahead of time. There will also be indirect causes of migration: namely, conflict over limited resources or stressed economies. Already, people have posited that the violent Arab Spring was partially caused by drought-induced political-economic stresses (both through water scarcity and increased grain prices from a drought in China) – and Syria has seen tens of thousands of refugees from that conflict.¹ And of course, some places will be relatively more stable than others, and will probably see a good amount of in-migration: in the Americas, for example, British Columbia and even Alaska² will probably see a lot of Californians as we have more heat waves and water shortages. Get ready for excessive use of the word "like," our northern friends.

Migration will, of course, be more difficult for some people than others. People with disabilities are right at the top of that list for many reasons. We disproportionately don't have the resources necessary to move easily; we are grounded by entrenched support systems, from family and personal attendants to hard-to-move medical equipment; traveling itself is difficult and dangerous; locations where we are heading may not accept us because of constrained resources or plain discrimination; and putting down our roots once we hit our destination it is logistically difficult, expensive, and sometimes requires

https://www.americanprogress.org/issues/security/report/2013/02/28/54579/the-arab-spring-and-climate-change/

thttp://www.nytimes.com/2014/09/23/science/on-a-warmer-planet-which-cities-will-be-safest.html?_r=0

unavailable resources (such as accessible housing or social services). Under current regimes, PWD will undoubtedly be left behind or struggle immensely while traveling to, and once at, their destinations.

There has been a good amount of research on the intersection between climate change and migration, and some research about the experience of people with disabilities when migrating. But a search of "disability" in papers on climate change and migration yields little to nothing (outside of lumping PWD in with other "vulnerable groups"), and searching "climate change" in disability/migration papers brings up nada. Furthering the problem, the climate change-related literature highlights that existing international approaches to migration (including treaties, international conventions, and official rhetoric) almost universally address refugees — which denotes escaping persecution and human rights issues — while climate-related migration will largely be a different beast, creating all sorts of difficulty for climate migrants under current law. Meanwhile, the disability/migration literature focuses either on conflict refugees or those temporarily displaced by natural disasters, but nothing equivalent to climate-related migration — meaning that there is even more of a policy disconnect.

So, where to start? Of course, we need to have a better understanding of how climate change will influence domestic and international migration, both in general and for specific regions. We also need to figure out how PWD will experience climate change-related migration — the general dynamics, difficulties, and areas for improvement. And finally, we need to build and implement policies to ensure safe migration and relocation of PWD as things move forward. Easy solutions would be, for example, making sure that new housing in British Columbia is physically accessible; a more difficult task will be to increase the funding and resiliency of disability-related social services there. (As a note: that's all within the realm of relatively privileged North Americans. Those moving from and between developing countries, or in regions where there is no British Columbian climate-equivalent, will have a much harder time). And of course, pulling together the political will to do so is a whole other task. In a world where people are reluctant to focus on climate adaptation and there is discrimination and a lack of support for people with disabilities, addressing both at once will be a large undertaking.

This post is going to be broken into 3 parts. First, I'll talk about the existing literature around climate change and migration (namely, a couple large white papers... Pounding through three 60- pagers and some news articles were enough for now), including projections and legal/organizational issues. Second, I'll cover topics of disability and migration. Unfortunately, most of these only address the situation of refugees with disabilities, so I'll do my best to transpose that to what might happen with climate change. And finally, I'll brainstorm how the to fit together and what types of steps can be taken to create the best situations possible. Here goes...

Climate Change and Migration

As climate change continues to progress, it will cause stresses on populations worldwide, from drought to powerful storms to secondary effects, such as economic disruptions or food shortages. Adaptation is obviously key to survive the stresses (so building better water delivery systems & efficiency for drought prone areas, etc.). But ultimately, some of these stresses will lead people to leave their homes and seek new places to live. If new water management still isn't enough to keep an area's population sustainable, they'll find (or want to find) new areas; and if a storm destroys someone's house and it's not worth it to

return, they might stay wherever they fled to in the first place or moved to a brand-new home elsewhere. Other impacts might be more nuanced: many people have posited that the Arab Spring was partially caused by persistent drought and water & food stresses, which led to conflict (and then farmers, newly out of employment opportunities, turned toward being militants) — and now there are 3 million refugees in Syria alone. How much blame, then, can we ascribe to climate change for all this conflict-related migration? It's difficult to say, but another factor to be taken into account.

Oxford University's Norman Myers has predicted that there will be 200 million "climate migrants" by 2050 (which has become a widely-accepted number), and other estimates range from 50 million to 1 billion. This builds off the International Organization for Migration's³ (IOM) definition of environmental migrants, which states that "Environmental migrants are persons or groups of persons, who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or chose to do so, either temporarily or permanently, and who move either within their country or abroad."

Of course, the scope and style of climate migration will vary greatly depending on how climate change progresses. In the <u>International Panel on Climate Change's</u> (IPCC) B1 (best-case) scenario, where population peaks and then declines, the economy becomes less material- and resource-intensive, there are reduced emissions, and there is a "Marshall plan" for international climate adaptation, IOM predicts that "we could expect increased migration of between 5 and 10 per cent along existing routes." The more likely A1B scenario with rapid economic growth, population peaking midcentury then declining, and "swift uptake of new and more efficient technologies" would see a temperature rise of 2.4°C (a range of 1.7-4.4°C), 850 ppm CO2, and sea level rise of 21-48 cm. The IOM notes that "according to be Stern report, a 3°C temperature rise would mean 1 to 4 billion people would suffer water shortages and between 150 to 550 additional million people would be at risk of hunger," with 11-170 million extra affected by coastal flooding. All of these combine to lead to predictions of around 200 million climate migrants. And finally, the business-as-usual A1F1 scenario, with 1550 ppm CO2 by 2099 is, well, awful:

"Under this scenario, predictions of 200 million people displaced by climate change might easily be exceeded. Large areas of southern China, South Asia, and the Sahelian region of sub-Saharan Africa could become uninhabitable on a permanent basis. Climate forced migration would be unmistakeable with tens of millions of people at a time displaced by extreme weather events, such as floods, storms and glacial lake outburst floods, and many millions more displaced by climate processes like desertification, salinization of agricultural land and sea level rise" (IOM 2008⁵).

All of these could be far exceeded with abrupt climate change events, such as the <u>collapse of the Gulf Stream</u>⁶ or melting of the Greenland or Antarctica ice sheet. It's difficult to predict how bad things will be. It is possible, though, to at least estimate the local impacts for various regions (so drought in the Sahara and sea level rise in the Maldives) and plan accordingly.

That brings up another important point, which is that migration might be reactive or proactive: someone in Miami might move once their house gets encroached upon by rising waters or they might see the

³ http://www.iom.cz/

⁴ http://www.ipcc.ch/

⁵ http://www.iom.cz/files/Migration_and_Climate_Change_-_IOM_Migration_Research_Series_No_31.pdf

⁶ https://en.wikipedia.org/wiki/Shutdown_of_thermohaline_circulation

writing on the wall and get out of town before things get bad. Or they might wait until the last minute, when their utilities just won't work anymore because their basement fuse box is constantly flooded. Governments can also undertake "planned migration," which I'll talk about later.

Types of Migrants & Migration

The impacts of climate change are inherently multifaceted, so migration will also have different manifestations. Within this realm, there are going to be several types of climate migrants. These are:

Those whose home cities or regions can no longer physically provide enough resources to sustain its current population, given their current rates of consumption or what is achievable through adapting ways-of-life.

For example, if wells run dry and there is not enough drinking water (and efficiency measures to balance supply and demand can't be reached), people will either move or perish of thirst; and if crop production falls and not enough can be imported, populations will be pushed to move to areas with better sustenance. This is often referred to as those areas having exceeded their "carrying capacity" for a certain population. These unsustainable stresses are already predicted to happen: according to the IPCC's <u>AR4 report</u> (2007), we can expect to see an increase in the frequency and severity of droughts, and yields from rain-fed agriculture could fall significantly in the coming decades. As a note, these environmental stresses might encourage migration until the resource/consumption balance evens out, but in some situations areas will become completely unlivable and abandoned.

Those whose homes become unlivable for other reasons, for example through repeated and increasingly intense heat waves or flooding from sea-level rise.

We are already starting to see this happen in some areas: the Maldives, a country of 1200 islands in the Pacific, will <u>largely be underwater by 2100</u>⁸, and much will be increasingly vulnerable to storm surges and other intermittent floods. According to this article, "In Kandholhudhoo, a densely-populated island in the north of the Maldives, 60% of residents have volunteered to evacuate over the next 15 years – those remaining behind will eventually be compelled to do the same." These areas are more likely to have gradual emigration and/or see government implement planned relocation: the inevitable lack of

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⁷ https://www.ipcc.ch/publications and data/ar4/syr/en/contents.html

⁸ http://news.bbc.co.uk/2/hi/south_asia/3930765.stm

livability will be noticeable as it comes on, and residents and governments will recognize that they must abandon a given area, as hard as it may be. Well over 100 million people could be affected by coastal flooding with a 3°C temperature rise, so the earliest they start to relocate, the better.

Those forced to evacuate their homes due to extreme weather events, then either choose not to return or are unable to do so.

For example, around 1 million people left New Orleans in the days surrounding Hurricane Katrina in 2005. But Lester R Brown notes that: "[o]nce the storm passed, it was assumed that the million or so Katrina evacuees would, as in past cases, return to repair and rebuild their homes. Some 700,000 did return, but close to 300,000 did not. Nor do they plan to do so. Most of them have no home or job to return to. They are no longer evacuees. They are climate refugees⁹." As a note, people who are forced to evacuate their home due to natural disasters generally have more support and legal rights than do those who slowly attempt to migrate without any immediate reason. So out of all of the climate migrant categories, these people may receive the best treatment.

Those that migrate due to secondary factors of climate change, such as economic instability or violent conflict.

Climate change has widespread environmental impacts, and some of these can create secondary tensions that have geopolitical implications. This includes economic disruptions (it's been estimated that the California drought has will cause almost \$3 billion in economic damage to agriculture alone in 2015), which can lead to people seeking livelihoods elsewhere. Conflict is another consequence: competition over scarce resources (such as arable land) or violence in response to population shifts has happened and will likely increase. For example, the Center for American Progress argues that the war in Darfur was the "first modern climate-change conflict," as it spawned out of a drought that began in the 1980s. And conflict zones nearly always have refugees: the Darfur conflict saw millions displaced in addition to 200,000 dead. Recently, the problem of displacement from conflict has accelerated drastically: the UN just released a report stating that "the number of people forcibly displaced at the end of 2014 had risen to a staggering 59.5 million compared to 51.2 million a year earlier and 37.5 million a decade ago. But while it's impossible to completely blame climate change for a given conflict – and thus impossible to call conflict refugees "climate refugees" – we can state that climate change has an impact on some violent outbreaks and thus some responsibility for related migration.

⁹ http://www.earth-policy.org/books/wote/wotech6

http://www.npr.org/sections/thesalt/2015/06/03/411802252/drought-may-cost-californias-farmers-almost-3-billion-in-2015

https://www.americanprogress.org/issues/security/report/2012/01/03/10857/climate-change-migration-and-conflict/

¹² http://www.unhcr.org/558193896.html

Overlapping causes of migration

Within all of these categories, different populations could move first for different reasons: for example, those with more wealth/resources can usually more easily relocate, but they may also have a better ability to adapt and stay in their home. Likewise, after Hurricane Katrina some people were able to return home but around 30% weren't – and the reasons were varied. Some of those people's homes might have been more damaged than others (likely related to which neighborhood they were in or the quality of the housing in the first place) and thus too expensive to repair (especially given their resources), and certain types of jobs were disproportionately impacted. All of these are of course connected to socioeconomic status, so there are other moral considerations. Why and how populations shift will thus be situation-specific.

Assorted countries and regions will also experience migration in different ways. This depends on the types of climate impacts, domestic development levels, and international politics. An island nation entirely inundated by sea level rise will respond differently than one in continental Asia experiencing water shortages. The former will have no choice but to evacuate its entire population and find countries willing to receive them (though some may escape on boats and hope for the best); while the latter might see some adaptation to minimize population shifts, some domestic relocation, and both sanctioned and unsanctioned migration to neighboring countries.

The most troubling situations will unfortunately be when people simply don't have the means to escape unlivable situations and/or find a suitable new home. If there are people in the Maldives without the resources to relocate, or without a country in their vicinity with enough room for immigrants or a government willing to accept them, what will they do? It's hard to think about, but certainly something we'll be facing.

Development levels will also have an impact. People in developing countries living in extreme poverty will have a much harder time relocating than those in the United States, both because of limited resources to do so and their country's political clout to get others to accept climate migrants. If there is internal migration, developed countries will have greater capacity to build up infrastructure and services in areas of in-migration (here's looking at you, Portland) and fund their citizens' moving there. They'll also have more resources to implement local adaptation that allows people to stay in environmentally stressed areas, reducing migration pressures in the first place.

As with other issues of climate change, this brings up concerns about the developed world's historical responsibility of carbon emissions vs. the disproportionate harm experienced by the developing world. Does Europe have a moral or legal obligation to accept climate migrants from Africa? This year's massive migration across the Mediterranean (which has left thousands dead from capsized boats) has been partially blamed on drought exacerbated by climate change¹³, and it's becoming a large struggle for Spain and Italy. The two European countries are having difficulty processing the flood of foreigners, and have little to no legal or logistical means to deport their new residents back south. But they (and the rest of Europe) have also contributed far more emissions than African nations, so questions of responsibility to "handle their fair share of the burden" loom large.

 $^{^{13}\} http://blogs.reuters.com/great-debate/2015/04/21/not-science-fiction-changing-climate-pushing-migrants-out-of-africa-and-into-tragedy/$

What to Do?

As with most of my "laying out the problem" posts, this wasn't the most uplifting thing in the world (sorry y'all). But of course, it's something serious that we need to face. So how do we deal with it?

Well first, we need to lay out concepts and ground rules. There's currently no accepted definition of a climate migrant, which is a necessary first step for working with that population. There's also no international framework for working with climate migrants (or legal/human rights obligations, as there are with refugees from violent conflict) so countries can simply prevent immigration of any kind and essentially trap their neighbors' citizens in an unsustainable land. However, there have been some recent steps that represent progress or could set a base for substantive policy changes. Among other things, the <u>UNFCCC's Working Group on Long-Term Cooperative Action</u>¹⁴ recently recognized the intersection of climate change and migration explicitly, and other organizations such as the International Organization on Migration (IOM) and <u>Asian Development Bank</u>¹⁵ (ADB) are studying and beginning to plan for climate-related migration. (Center for American Progress) There are also partnerships addressing displacement and migration (for example, between the European Union and African Union) that could prove useful – though they have yet to establish climate change focuses.

Proactive, "planned" relocation will be another key strategy. This is generally instituted by governments or international bodies, either within or between countries (the majority will likely be within a country's borders). As I mentioned above, leaders in the Maldives are already starting to implement planned relocation for their citizens, and there is a fantastic white paper on planned relocation by the UNHCR¹⁶. But otherwise, most of the work (and literature) so far around planned relocations addresses development-based relocation, such as moving those whose homes will be inundated by new dams' rising reservoirs – or even China's efforts to move 250 million citizens into cities¹⁷. The size, scope, and nature of climate-related planned relocation will be vastly different than what's been done so far, though. Identifying most vulnerable areas and populations – and most suitable new homes – will take research and analysis. Then, governments and agencies will have to prioritize and institute potentially massive relocations, taking into account political and resource considerations. Economies, infrastructure and services at areas of in-migration will then need to be built up to handle new populations (and for our concerns, those should meet the needs of people with disabilities).

Now, the motivations also have vastly different implications: development-based relocation is intended to build up populations' quality of life, while climate-related relocation is meant to minimize its degradation. As we've seen with other climate-related issues, this has political and psychological consequences that would impact leaders' impetus to start planned relocation, and do so with a sense of urgency. But the Maldives are doing so proactively, so we have a framework (even though a complete inundation of one's country is much more tangible than things like slow-developing droughts or

¹⁴ http://unfccc.int/bodies/body/6431.php

¹⁵ http://www.adb.org/themes/environment/main

¹⁶ http://www.unhcr.org/53c4d6f99.html

http://www.nytimes.com/2013/06/16/world/asia/chinas-great-uprooting-moving-250-million-intocities.html?pagewanted=all

vulnerability to city-destroying storms). Regardless, the Maldives' example and existing development-based relocations provide a good framework that we can point to and build off of moving forward.

Throughout all these processes, people with disabilities will face unique difficulties. They are disproportionately low-income and have limited resources to move; they require services and support systems that may be entrenched in their home areas; physically moving can be difficult for people that have less access to transportation or a larger amount of supplies (i.e. hospital beds) to bring with them; it may not be possible to find accessible housing and sufficient support systems (including social services) in their destinations; destination governments may prevent people with disabilities from entering out of discrimination or because they view them as a drain on resources; and in cases of conflict, refugees with disabilities undergo a whole other set of struggles. But that's something for the next post, and this thing is already at over 3600 words – so I'll give you a break for now.

So next time: how people with disabilities handle migration in general, and how things will be in cases of climate-related migration. Depending on how it shapes up, I might also talk about potential policy solutions, but that might need a 3rd post. Either way, see you then...

Part 2: Our Experience

Before we start, here's some food for thought from the <u>UN Convention on the Rights of Persons with</u> Disabilities (UNCRPD).¹⁸ Digest away, my friends...

UNCRPD Article 11:

States Parties shall take, in accordance with their obligations under international law, including international humanitarian law and international human rights law, all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters.

UNCRPD Article 18:

- 1. States Parties shall recognize the rights of persons with disabilities to liberty of movement, to freedom to choose their residence and to a nationality, on an equal basis with others, including by ensuring that persons with disabilities:
 - a. Have the right to acquire and change a nationality and are not deprived of their nationality arbitrarily or on the basis of disability;
 - Are not deprived, on the basis of disability, of their ability to obtain, possess and utilize documentation of their nationality or other documentation of identification, or to utilize relevant processes such as immigration proceedings, that may be needed to facilitate exercise of the right to liberty of movement;
 - c. Are free to leave any country, including their own;
 - d. Are not deprived, arbitrarily or on the basis of disability, of the right to enter their own country.
- 2. Children with disabilities shall be registered immediately after birth and shall have the right from birth to a name, the right to acquire a nationality and, as far as possible, the right to know and be cared for by their parents.

And now that you've had your appetizers, here's the main course:

Focusing on Our Needs

The last post looked at how climate change will lead to migration worldwide. People will leave their homes once they become unlivable due to things like inundation from sea level rise; they might become evacuees from powerful storms and choose not to return; they might feel economic and resource pressure and leave for more stable locations; and they might become refugees from conflicts that were

¹⁸ http://www.un.org/disabilities/convention/conventionfull.shtml

sparked or exacerbated by climate change's impacts. It also showed that current legal and organizational systems aren't yet set up to handle this massive migration, which will likely be around 200 million people by 2050, though some predictions show potential for up to 1 billion. This is especially true because climate-related migration will happen in so many ways (including both domestic and international movements), and current legal frameworks generally only accommodate refugees from conflict. Actually moving people and then strengthening support systems at their destinations will be a whole other undertaking, whether it's done at the individual or national/regional levels. So, a whole lot to figure out...

Within this realm of climate-related migration, people with disabilities (PWDs) will experience unique difficulties and hardships. Relative to the general population, PWDs generally have fewer resources, higher reliance on government programs (at the local, state, or national level), greater personal support needs (i.e. from family, friends, or caregivers), and other needs such as wheelchair-accessible homes or specific medical supplies. Transitioning these across borders can be difficult to impossible: simply moving states within the US creates precarious situations for maintaining benefits, let alone finding a new accessible home for a set of personal attendants. PWDs in conflict zones (and for our purposes, refugees) experience greater levels of physical and sexual violence, poor health outcomes, abandonment by support groups, and troubles reestablishing their livelihoods in new homes. Needless to say, migration poses many problems for PWDs as a group.

It's tricky to lay out how all of these have taken place, or how they will. Nearly all of the literature on migration and disability has to do with refugees, while there is a very limited amount on those forced to leave their homes due to natural disasters. Google searches for things around government-sanctioned forced migration and large-scale voluntary migration yielded nothing (including searches for ongoing Chinese mass relocation and those forced to flee towns that are flooded by dam construction - both of which are the largest current relocations). There are some insights on moving when one has a disability, which can illuminate some of the difficulties people will encounter.

So given that, a lot of what's written in this post will be conjecture and drawing lines between whatever existing resources I can find. Basically, if we can say with confidence that Californians will move en masse to Oregon and Washington (yes, I keep using that example... Give me a small break), then we can say with some confidence that those states' Medicaid systems will be increasingly stressed. So then, we can look at current funding for the Oregon and Washington Medicaid systems and see how much of an influx of new enrollees they could handle. Not exactly scientific, but it's as good as possible all things considered.

In the previous post, I covered the 4 main types of climate migrants: those who move because climate change stresses local resources (i.e. water or agriculture), those who move because their home becomes unlivable (i.e. flooded coastal towns or places with physically un-survivable heat waves), those who evacuate from natural disasters and choose not to return, and refugees from conflicts that are sparked or exacerbated by climate-related factors. In this post, I'll break things down by each of those: how they will hit people with disabilities and considerations for smoothing migration. The first 2 are very similar, so I will cover them together; and a lot of difficulties will spread across all 4, so I'll do some referencing instead of repeating myself.

Section 1: Stressed Resources, Damaged Economies & Unlivable Homes

For those that missed the whole last post, here's the deal with these situations. In the "stressed resources" category, climate change will lead to mismatches between the supply of life- and economy-sustaining resources, such as water or local produce. As resources run out, people will be forced to move to places with enough resources that they can survive. Whole areas won't necessarily become abandoned, but populations will reduce to the point that they live within nature's limits (or balance out to the area's "carrying capacity," a measure of what population level it can support given its limited resources and infrastructure). Regardless, a good amount of people will move for greener pastures, and will have to figure out their own migration.



Pictures of water levels in California's Folsom Lake in 2011 (left) and 2014 (right). California's drought has severely reduced the amount of water in its reservoirs, which goes to agriculture and cities statewide. If the state doesn't have enough water to support its population, people will have to move away.¹⁹

Even if resources don't run out, climate change can damage local economies and quality of life to the point that people would rather live elsewhere. Much of the drought and desertification in North Africa has thrown people into poverty, reduced their quality of life, and motivated them to cross the Mediterranean in droves. All of this has contributed to this year's massive migrant crisis with several thousand drowning in overturned fairies and overwhelmed services in Spain and Italy. This could happen at all levels of development and for many reasons, from desertification to increasing food prices.

On the "unlivable homes" front, some areas will simply become uninhabitable due to climate change. Already we are seeing water encroach upon shorelines, and many islands of the Maldives (an island chain in the Pacific) will be underwater in the coming decades. A couple months ago I covered heat waves and pointed out that in some areas, the combination of heat and humidity during heat waves will make it physically impossible to go outside without dying (recent heat waves with high death tolls, including the one in Pakistan that's so far killed 800, are testaments to this beginning to happen). As these impacts take effect, people will be forced to move or otherwise not be able to live in their current homes.

http://4.bp.blogspot.com/-3XOto8TreBo/VbfEV3_BLfI/AAAAAAAAAAGGs/3yyo9W6NOuY/s400/California-Severe-Drought-Folsom-Dam1.jpg

When these impacts take hold, people will begin to move. With stressed resources and economies, the transition will be slow, with a gradual outflow: some people will see the writing on the wall and move first (this will likely be the more informed and privileged groups); the next crew will move one by one as their own resources become stressed (they can't afford increasingly expensive produce and supplies, they lose their job because of an economic downturn, etc.) and finally some people will leave because things simply run out (for example, no more water reaches their taps or local government and economies collapse). "Unlivable places" will likewise see gradual migration: the foresight/stressed resources group will be similar, and eventually people will pack their bags because their house becomes flooded or they know they won't survive the next heat wave. Since both of these situations will also see economic stress, people might leave at various points because they've just lost their job, things become increasingly expensive, or services (government or private sector) disappear.

There will already be a number of difficulties here. Moving is extremely expensive: everything from packing up a home to losing that home's financial value to finding new housing and employment (especially if there is growing competition from other migrants) has financial implications. Logistics are likewise tough: the things I just mentioned take focus and planning, and could be difficult to impossible depending on various factors. Further, some of the largest barriers are around legal frameworks: while domestic migration doesn't pose a ton of problems, laws around international movement aren't set up to handle climate migrants. Refugee status and residency is generally limited to people escaping conflict, so people trying to move to more stable countries will likely be stopped at the border - and forced to either attempt illegal migration or try to keep surviving in their home country.

And as I mentioned earlier, there are issues of privilege: the wealthy will have an easier logistical and financial time relocating and will more likely be accepted as immigrants, as will those with other types of privilege. Migration will probably also inspire xenophobia and prejudice against successful or attempted immigrants, creating further tensions.

Within all of this, people with disabilities will experience struggles that other groups will not (and exacerbated struggles that others do). PWDs have fewer financial resources than do people without disabilities, greater logistical needs (from support networks to accessible housing and transportation), and a high reliance on government services. As they move, they will face a number of extra hardships:

- 1. Many people with physical disabilities have needs related to physical access that must be present at their destination. For example, they will need accessible housing at the least, and ideally a location with accessible transportation, stores etc. Destinations may not have accessible public spaces or infrastructure, and there will always be a limited stock of accessible housing in any given location which may not be enough to accommodate all of the people with physical disabilities seeking to move.
- 2. Physically moving can be tough for anybody, but it's especially hard with many of the extra factors that PWDs must consider. A large number of PWDs rely on public transit to get around, but long-distance movement nearly always requires a car or van. So PWDs with limited access to personal transit might not be able to coordinate a full move; that will be even tougher if they require an accessible van but don't own one. Transporting medical equipment requires extra energy and cargo space. And once on the road, there might be logistical barriers, such as lack of access to healthcare or personal care, issues around fatigue, and a need for accessible lodging.

3. PWDs often have institutional support needs, such as government social services or medical care, which must remain uninterrupted for their general health or even survival. Even if PWDs move within their own country, it may be extremely difficult to transfer benefits, find new healthcare providers, or sign up for social service programs at their destination. This will be especially true if those services have limited capacity to absorb new enrollees - which will likely be the case with social services, which are already seeing cuts and may see more if economies become increasingly stressed



People needing government services such as Medicaid may face hurdles to maintain their coverage if they move.

- 4. Receiving medical care and social services may be impossible if PWDs managed to move to a new country for example, if we cross the border from the US into potentially more hospitable Canada. Again, the lack of a clear legal framework for climate migrants can keep people from receiving benefits that would otherwise be granted to refugees, such as Canada's Interim Federal Health Program²⁰. Without this program, those seeking legal permanent residency may have to wait up to 3 months to receive federal healthcare, which could be a prohibitive amount of time for many PWDs and that's assuming they meet the requirements for becoming residents. Other benefits, such as funding for personal attendant care, will likewise take time to enroll in and will probably come with other hurdles. And of course, all of this is in the context of Canada's relatively generous health care system someone migrating from Mexico to the USA will find things even more difficult, and finding services in a developing country will be tougher still. It's also likely that increasing migration will lead countries to tighten rules and make things harder for people to even get in line for receiving benefits.
- 5. PWDs often rely on interpersonal support networks, such as groups of family, friends, or caregivers, which develop over time and are sometimes fragile. If PWDs choose to move, they will have to

²⁰ http://www.cic.gc.ca/english/refugees/outside/summary-ifhp.asp

manage the logistics of moving in coordination with their entire support network, do so with a severely reduced support group, or figure out a way to establish a new network at their destination. They may only be able to undertake the actual migration with one or two people, adding additional stress to all involved. Given that support networks are often made up of several people, gradual migration might see PWDs move first, their family/friends/caregivers move first, or some combination thereof. They also may all end up in different destinations (due to their preferences or barriers they encounter along the way), meaning the network could be partially or completely dismantled and need to be rebuilt accordingly.

- 6. With regards to maintaining support networks, it's important to note that various people will move at different times. For example, my current immediate support network is somewhere around a half-dozen people, but the closest ones are paid personal attendants, and others are friends and family. If we all leave Berkeley (say, because taps run dry), we won't all be tied together: so my attendant Jim might leave weeks before I do, or I might leave before him. Considering that, we should recognize that PWDs might also deal with a slow disintegration of their support networks as attendants and friends gradually move away, leaving them to connect with new people or request more from those that remain. In this sense, climate-related migration will affect PWDs even if they choose to stay still.
- 7. Immigration rules often favor some groups over others, be they categorized by nationality or work status. For example, the USA gives immigration visa preferences to "skilled workers) through its EB-3 program²¹. PWDs are already marginalized within this labor-preference framework due to disproportionately low educational attainment and employment experience: for example, the American Community Survey (2012) showed that 34.4% of PWDs had only a high school diploma, compared to 25.5% of those without a disability; and only 12.4% of PWDs had a bachelor's degree or more, while 31.7% of those without a disability had a bachelor's or higher. Stereotypes about PWDs' ability to "contribute" to a country's economy or about them being a "drain" on social services may further exclude them from being able to integrate, even if those stereotypes are inaccurate or exaggerated. The UK also just instituted a law requiring that immigrants be in receipt of £18,600 of income, which severely impacts PWDs and their families, who have disproportionately lower incomes than the rest of the population.²²
- 8. There are also barriers to people with psychological disabilities, either outright through law, through incorrect interpretation of law, or as a result of discrimination. For example, US immigration law states that somebody will be denied entry or a green card if they have a combination of two things: "a physical or mental disorder that can be clinically diagnosed and; behavior associated with the disorder that may pose or has posed a threat to the property, safety, or welfare of the immigrant or to others in the public." While this could apply to both visible and invisible disabilities, as implemented it especially impacts those with psychological disabilities because of prejudices or misconceptions about the "violent tendencies" of that group²³.

http://www.uscis.gov/working-united-states/permanent-workers/employment-based-immigration-third-preference-eb-3

²² http://nndr.no/no-entry-exploring-disability-and-migration/

http://www.alllaw.com/articles/nolo/us-immigration/mental-illness-barrier.html

Section 2: Evacuation from Natural Disasters



PWDs have trouble evacuating disasters, and face further difficulties if they move away permanently.²⁴

Climate change will lead to a larger number (and greater intensity) of natural disasters, some of which will cause people to evacuate to maintain their safety. Natural disasters will cause damage to homes and infrastructure, and will also expose residents to the vulnerability of their cities to future, similar disasters. Then, once the storm (or heat wave, or other climate-related disaster) passes by, some people will choose not to move back - the percentage of total evacuees will vary depending on the situation. In New Orleans after Hurricane Katrina, for example, this number stood at about 30% (out of 1 million evacuees) several years after the storm - though it has slowly increased - as former residents dispersed throughout the South and the rest of the country. Numbers will fluctuate even within cities: when I visited New Orleans on a road trip in 2008 (we were in the city when LSU beat Ohio State for the college football national championship, played in the Superdome... The town went crazy), my buddies and I decided to drive through the lower 9th Ward, where so many poor and predominantly black residents had been abandoned, with their livelihoods destroyed, during the storm. As we drove through empty

http://4.bp.blogspot.com/-QAZE7DZmhtg/VbfKSBVG4hI/AAAAAAAAGHE/WFxdRMewS4M/s400/1127px-FEMA_ 38218_-_Hurricane_Evacuation_Route_Road_sign_in_Texas.jpg

neighborhood after neighborhood, the place was practically abandoned 2.5 years later, its tens of thousands of residents having become environmental refugees. Even 8 years later, as <u>Al Jazeera has reported</u>²⁵, "only 30 percent of the low-income neighborhoods residents [had] returned, as opposed to 90 percent in the rest of the city." Yet again, issues of privilege abound.

Environmental refugees that do not return home face many of the same difficulties as do those in the "stressed resources, damaged economies & unlivable homes" groups. They will have to find new housing and employment; maintain or reestablish support networks; enroll in healthcare and other government services (if any are available considering their situation); and find a way to get out of town in the first place. However, there will be some differences, each of which will impact PWDs in unique ways:

- 1. People in this category have to evacuate much more quickly. Among other things, they may not have the ability to return home and get their personal belongings either because their belongings were destroyed in the disaster itself or because they can't get back home due to finances or logistics (or simply because the effort isn't worth it). For people with disabilities, this short planning timeframe may mean that they can't bring medical supplies along, compromising their health and independence. Short time frames will compromise their ability to have a smooth transition onto social services at their place of arrival. They may have a harder time maintaining or reestablishing support networks for a number of reasons: in the rush to evacuate, they may lose touch with people close to them; members of their support network might scatter to different cities (for example, if a caregiver has family that they can live with temporarily in City A, while the PWD ends up in City B); etc. The list goes on...
- 2. These types of "climate migrants" (or "environmental refugees") often remain in the town/city that they originally evacuated to or sometimes in temporary housing, as happened with many Hurricane Katrina victims for almost 4 years before they were eventually evicted. This lack of choice also means that PWDs might end up in a place with little accessibility or less services than they would otherwise choose if they had time.
- 3. There is a relative advantage to these types of evacuations compared to the above categories, but it is often temporary. The evacuees from natural disasters will receive support in a way that people who voluntarily move do not. For example, the Hurricane Katrina victims mentioned above received "temporary" government housing, and effective government support could also provide health care and other services to evacuees. This can give evacuees time to transition on to more formal healthcare and social service supports, find accessible local housing, etc. especially if they choose to continue living in the vicinity of their evacuation point. Otherwise, support services can provide a certain amount of stability as they find new homes.
- 4. Government entities may also be more amenable to accepting environmental evacuees, treating them similarly to how they treat conflict refugees. With domestic relocation which is more likely in environmental disasters than violent conflict this may mean expedited assistance enrolling in government support services, finding housing, etc. International evacuation camps might provide temporary residency, but environmental evacuees are more likely to be repatriated than conflict refugees.

http://www.washingtonpost.com/wp-dyn/content/article/2009/06/12/AR2009061203958.html

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²⁵ http://america.aljazeera.com/articles/2013/8/29/eight-years-afterkatrinalowincomeevacueeshaveyettoreturn.html

Section 3: Conflict Refugees

One of the more "fuzzy" byproducts of climate change is that it will change the dynamics and incidence of violent conflict. In many of these cases, the natural consequences of climate change (i.e. storms or drought) won't directly cause conflict, but they may generate or exacerbate geopolitical tensions in a way that contributes to it. For example, as climate change impacts water availability, there might be conflicts over arable land or aquifers that cross borders; reduced food availability could lead to food riots and destabilization; and population pressures from the migration types mentioned above could cause violent backlash. We already have examples of this: as I mentioned in the last post, it's been posited that the war in Darfur was the first modern climate-related conflict, as it spawned out of a drought in the 1980s²⁷ and related resource stresses (the war saw millions displaced and 200,000 dead). And the current conflicts in the Middle East are exacerbated by ongoing drought as well. Now, it's impossible to say that climate change "causes" conflict in these situations, since there are a number of other factors that can push areas toward war (such as religious/ethnic animosities or existing power struggles). But if political situations are already tense, something like food stresses could push things over the brink - and climate change will thus have had a role.



Internally Displaced Persons (IDPs) in Darfur. The country's years-long civil war spawned out of a severe drought.²⁸

All of these conflicts will inevitably lead to a certain number of war refugees: there are already 59 million people worldwide displaced by conflict - both within their countries, and crossing borders - and the number is sure to grow. While we can't say that these people are "climate refugees," we can say that climate change had an impact on at least some of them being refugees - and as more climate-related conflicts happen, we can anticipate that there will be more refugees, and prepare accordingly.

https://www.americanprogress.org/issues/security/report/2012/01/03/10857/climate-change-migration-and-conflict/

²⁸ http://3.bp.blogspot.com/Oxl6reXE6t4/VbfPsJRdOpI/AAAAAAAAAHU/NjLQeQ0p6JY/s400/Darfur_IDPs_children_sitting.jpg

Some of those refugees will have disabilities, and it's important to recognize their difficulties and address them as much as possible.

When I started this post, I searched far and wide for info on migration and people with disabilities. There was very little on mass migration in general - instead, nearly all of the literature that came up addressed the experience of conflict refugees as "migrants." One exception was Forced Migration Review issue 35²⁹ which covered a number of general disability/migration issues; still, the majority of its 30-plus articles focused on conflict refugees. So there is a lot of info already on this issue, which is valuable in terms of laying out next steps. However, as far as I could see none of the literature explicitly mentioned anything about an increase in violent conflict because of climate change. So while people have addressed a set of issues that are of concern to us, nobody has tied it all together full-circle.

Here's what those documents outlined:

- 1. In general, PWDs fleeing conflict will face many of the same issues as climate migrants in the above 3 categories. These can be similar to slow-oncoming problems as well as immediate natural disasters, depending on the nature of the conflict and the situation of each PWD. This includes difficulty with transportation and evacuation, maintaining support networks, and finding both accessible housing and support services. So if war breaks out on the other side of the country and gradually moves towards a community, people may evacuate ahead-of-time; but if a skirmish starts unexpectedly within someone's city, they may have to evacuate quickly, akin to fleeing a natural disaster. Given the damage that war often does to a city, the difficulty rebuilding post-conflict, and the exceptional needs of PWDs, someone might be even less inclined to return than they would if they escaped a natural disaster.
- 2. Conflict will lead to a greater number of PWDs, which exacerbates other issues. It can also create problems for all PWDs whether their disabilities are pre-existing or caused during conflict, and regardless of their civilian/military status as officials in refugee camps or at border crossings may believe that men with disabilities are likely former combatants injured during conflict. This can hinder evacuation and worsen treatment of all men with disabilities, leaving them trapped in their country of origin and potentially losing support networks that are able to evacuate.
- 3. PWDs may experience disproportionate physical violence as they flee conflict and while they are in refugee camps. This is simply because they are more physically vulnerable to war crimes and general senseless violence. Women especially are more vulnerable to sexual violence.
- 4. Conflict can significantly diminish the ability of PWDs to get their personal and medical needs met. War will damage medical infrastructure, from medical facilities to supply delivery, and fragment support networks. In addition to poor sanitation and disease outbreaks in refugee camps, this can lead to high rates of illness in the disability population and create or exacerbate disability (FMR pg. 6). And because conflict reduces or eliminates government services country-wide, PWDs that are internally displaced will not find the supports they had earlier, even though they are in the same country.
- 5. PWDs attempting to cross borders and reestablish themselves in another country can have trouble dealing with immigration agencies. They also might encounter difficulties with getting government services because of legal restrictions, language barriers, or differing concepts about how social services should operate.

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²⁹ http://www.fmreview.org/disability

While these impacts are troubling in their own right (see, I said this wasn't going to be the most uplifting post...), there are some relative advantages for PWDs displaced by conflict. Here are the things that already exist, and can be expanded upon:

- 1. Countries taking in conflict refugees often give preference to PWDs specifically because they are viewed as especially vulnerable, and make efforts to give them appropriate services. For example, New Zealand allows in a certain amount of refugees per year, and their "medical/disability" group comprises 10% of the quota. (FMR pg. 25)
- 2. Some countries take active efforts to integrate PWDs. Again, New Zealand serves as a great example: the country has professional support staff for assisting PWDs to fully access available social services and stabilize their quality-of-life.
- 3. The UN Human Rights Commission (UNHCR) has explored "group resettlement," where officials will enter refugee camps and help PWDs relocate in conjunction with their families. So if preference is given to PWDs, their families also get some preference in order to maintain support networks for the PWDs. (FMR pg. 30)
- 4. If people with disabilities come from countries with extremely poor disability accommodations, sometimes their areas of resettlement even with all their difficulties can be an improvement over their prior situation. Organizations running refugee camps, such as the UN, generally have good intentions and work to bring medical and other support equipment, as well as give PWDs personal support as needed.

Tough Journeys, or Abandonment?

Now, here's a kicker. The discussions above are based on a premise of people with disabilities experiencing difficulties in their own climate-related relocation. But sometimes, there will be mass migration in general and PWDs will simply be left behind, abandoned by part or all of the local population, including their own personal support network. If the barriers to movement are too great (say, there is no accessible, affordable transit or PWDs simply don't see the feasibility of moving somewhere with insufficient accessible housing or social services), PWDs might stay in their town as an exodus happens around them. Then they might see a situation where medical needs can't be met because doctors have fled, supplies can't be delivered because there are no more UPS drivers, or they can't reliably get out of bed because their caregivers (including family members) have left one-by-one or social services are no longer available.

Per usual, there will be issues of privilege in the migration game. Those with privilege because of their wealth, race, gender, or ability (among other things) will have an easier time finding new homes than will their less privileged counterparts. It's arguable that people with disabilities will be at the bottom of this ladder given their lack of resources and logistical difficulties with moving. If the are left behind because they just can't realistically move - and if they suffer accordingly - we can point to an institutional lack of privilege as the main reason.

Planned Relocation: Especially Important for PWD

There's a final, important point to bring up about everything above. Pretty much all of the prior discussions outline situations where somebody would be moving on their own - doing their own

planning, managing their own support networks, finding their own accessible housing, enrolling in social services. But transitions can be smoothed with larger-scale planned migration. This is already happening for non-climate-related reasons, such as the Chinese government's efforts to move 250 million people into cities. But government-organized climate migration is also seeing its first steps: I've mentioned the Maldives several times, and just a couple days ago, the government of Thailand started exploring relocating its capital away from the slowly-flooding Bangkok, which will be underwater in as little as 15 years.



Bangkok, Thailand - the country's capital, with over 6 million people - is anticipated to the underwater by 2030. The government is discussing plans to relocate its businesses, political agencies, and population in the coming years. ³⁰

Large-scale planned migration will allow governments to proactively address population flows and redistribution of resources to areas of in-migration, whether it's for food or funding social services. In those cases, PWDs will more likely be able to navigate moving in a way that maximizes their well-being: so, for example, if there is a government-sanctioned fixed time period for people to move from City A to City B, PWDs can arrange so that they move in coordination with their support network; and the government can take a census of the number of PWDs in City A and reinforce infrastructure & services in City B accordingly. I'll address that more in depth in the next post, but it's important to keep in mind that how migration goes down in general - planned and smooth, or panicked and haphazard - will make a huge impact on the experience of PWDs.

And... Wrapping up

In all honesty, migration is likely the toughest side effect of climate change for PWDs to handle, or at least right up at the top. Other things that are up there are economic disruptions, including interruption of healthcare support and medical supplies, and conflict itself (without the refugee considerations). But we've seen all of those happen before, and PWDs still survive in developing countries where economies are poor and/or fragile, government support is little to none, and health care (including medical supplies) is unreliable at best - albeit with severely reduced quality-of-life. Conflict is, of course, a much

http://1.bp.blogspot.com/uHc2lAjYd6g/VbfQ8Zs9ivI/AAAAAAAAGHg/1wQqFmZOkrw/s400/Bangkok_at_night_01_%2528MK%2529.jpg

worse story, but in a way it represents disproportionate suffering rather than massive logistical difficulties. A key point, though, is that while those represent some pretty horrible consequences, we've at least seen them before and might know how to better navigate them. On the other hand, mass migration of populations in general and people with disabilities specifically is completely uncharted territory, so that'll be yet another barrier. It'll certainly be tough – and either way, it'll be interesting.

But while this is the toughest side effect, it might also be one of the easiest to proactively address. We can give PWDs the tools to move smoothly while maintaining their support networks and services. We can also figure out where people will likely move to, and reinforce social services and general accessibility (transportation, housing stock, etc.) at those places. At the much larger level, countries and coalitions can begin efforts toward large-scale planned migration, establishing new legal norms and coordinating shifts of resources and populations. When they do so, they can fully include PWDs into their considerations, addressing our needs as much as possible and securing a safe future for us, wherever our new homes happen to be.

The next post will address exactly how we can secure that future - how we can prepare as individuals, and how governments worldwide can help us moving forward. Until next time, stay safe and keep fighting...

Resources:

Burns, Nicola. "No entry: exploring disability and migration" (2013) http://nndr.no/no-entry-exploring-disability-and-migration/

Forced Migration Review #35: Disability and Displacement (2010) http://www.fmreview.org/disability

Shaun Grecha* and Maria Pisanib

Editorial: Towards a Critical Understanding of the Disability/Forced Migration nexus

Disability and the Global South, 2015

https://disabilityglobalsouth.files.wordpress.com/2012/06/dgs-02-01-011.pdf

Maria Berghs

Disability and displacement in times of conflict: rethinking migration, flows and boundaries

Disability in the Global South, 2015

https://www.academia.edu/11653777/Disability_and_displacement_in_times_of_conflict_Rethinking_migration_flows_and_boundaries

"A Win for Disabled Migrants"

Craig Butt

Sydney Morning Herald, 11/1/2012

http://www.smh.com.au/federal-politics/political-news/a-win-for-disabled-migrants-20121031-28kao.html

Mental Illness a Barrier to U.S. Immigration?

Robert Herreria, AllLaw

http://www.alllaw.com/articles/nolo/us-immigration/mental-illness-barrier.html

Part 3: What to Do

I always like doing these posts in 3 sections, going like this: understand the context, understand the problems, lay out solutions. The first post in the climate-migration series set the context, showing how and why climate-related migration will happen. The second post showed the impacts on people with disabilities (PWDs), explaining the specific problems for our community. Now, in this final post, I'll lay out some solutions for how we can stay stable throughout the migration process.

As I've said before, this is a new venture. There is existing literature on the 4 main types of climate-related migration covered in the first post (unlivable homes, exceeded "carrying capacity," disaster evacuation without return, and refugees from climate-related conflict), but they speak about the population in general and only refer to PWDs as a subset of "vulnerable groups." And there is some literature on the experience of migrants with disabilities, but it's limited to conflict refugees (climate change can contribute to violent conflict, so that's not completely irrelevant) and doesn't address the 3 other climate-migration categories. This made it so that the 2nd post on impacts was largely based off intuition, my own experience as someone with a disability, knowledge of existing structures, and expansion of points brought up in documents about conflict refugees with disabilities. So as I posit solutions, much will be based off of the same type of theorizing and pulling together existing arguments and resources. I'll do my darndest to use existing data to make some points, but bear with me if things seem a bit wonky - and please email me if you have any feedback.

And there's a pretty big point before I start: no one country or region will experience climate migration in the same way - so while there are some general considerations, each country will have to address them in its own way. These differences mean that there will be a vastly different set of considerations between developing countries and developed ones, given the number of resources available to help with migration. Ditto for migration within countries vs. migration between countries, because of the ability of a single government to shift resources within its borders rather than accommodate an influx of PWDs with assorted financial and logistical needs. The dynamics of domestic migration will also vary by country simply due to geography, so the United States with its large landmass and diverse climate impacts will have a completely different experience than a country with only one major climate impact (such as expanding drought in one corner of a smaller country). In this post, I'll put out general considerations and then focus a bit more on the United States, which is a good case study because of its unique combination of size, Federalist organization, and relatively developed social services (no matter how much some people want to gut them) - and because, well, I live here and I'm pretty familiar with the place.

So, as I've said before, "here goes..."

Step 1: Start with the broad view

Before we focus on PWDs specifically, it's important to address the issues that will affect everybody. These include:

Figure out where people will move from, and where they'll move to. I'll talk about this a bit more in the next section - but long story short, we'll need to invest in areas of the "in-migration" and move money and resources away from areas of "out-migration" (stop building condos in Miami, darnit!). Knowing where people will need to move away from will often be the easier half, especially when it's obvious that a place will be unlivable because of things like sea level rise. Identifying more stable "new homes" will be tougher simply because it's impossible to know exactly what a location's climate will be like moving forward - but we can at least use models and other evaluations to pick spots with the lowest risk.

Develop strategies for "planned migration" and start getting things done. With mass migrations, it's far better to have a strategy ahead-of-time than react once things get really bad. Governments will need concrete plans with timelines, rules, strategies for using resources most wisely, and logistics around actually getting people from Point A to Point B. They can utilize a wide array of governmental tools, from tax incentives for relocating to subsidized or fully-funded resettlement to more heavy-handed approaches forcing people to move. Of course it's ideal to use gentler means, and starting early will help make that possible. In some cases, this all can be done within one country and by just the domestic government; but other times will require international cooperation, either between individual countries or through regional or international bodies such as the UN.

Build up governmental, economic, and infrastructure resources at areas of in-migration. Migration invariably means that some areas will see their population increase in size, and those locations will need to increase their population-support capacity if they are to support new immigrants with any sort of stability. A second part of this is that locations should do everything possible to be sustainable based off of the resources available and their immediate vicinity. Climate change will disrupt international economies and supply lines, so economic self-sufficiency will be extremely important.

Strengthen international responses to violent conflict & conflict refugees. As I covered in previous posts, geopolitical stresses from climate change will lead to greater incidences of conflict, with related growth in the number of conflict refugees. The UN and some regional bodies already have agreements and procedures to deal with conflict refugees, but they still tend to be underwhelming in their response. This can impact the living conditions of conflict refugees and sometimes reduce the number that are able to cross borders to safety. These difficulties will be exacerbated as climate change increases the amount of conflict across the globe, so it's important to strengthen existing refugee agreements/procedures, especially around allowing people to establish residence outside of their original home, even if it's temporary. Here are some recommendations and ongoing efforts from the European Union, which has historically been pretty strict around refugee policy and is also dealing with a refugee crisis from Syria and North Africa.

Without these baseline steps providing stability in the climate migration sphere, it'll likely be difficult to get governments to address the needs of people with disabilities. They might say that last-minute, panicked reactions are hard enough and some people (or groups) will simply be left behind. On the other hand, proactive planning will give us enough time to bring people with disabilities into the discussion and ultimately meet our needs. This can happen in a number of time frames: concerns of people with disabilities could be brought into the fold after the general plans are laid out, with planners realizing and addressing them at the end; planners could be made aware early and then choose to address our needs last (both of these, of course, risk us getting left behind if resources run out or planners simply stop before they take the extra effort); our needs can be incorporated into broad-scale planning from the beginning; or they can be addressed in tandem if they are deemed to be too specialized or disability advocates take efforts into their hands. An incorporated approach is of course ideal: so if planners build more housing to accommodate a larger population, it's better to ensure that a certain percentage are wheelchair-accessible from the get-go, rather than build more accessible housing if time allows or attempt to retrofit homes after-the fact. This will ultimately require a proactive approach from broad-scale planners, as well as early advocacy by the disability community. And who knows, maybe early advocacy by us will create a greater sense of urgency for broad-scale planners, kickstarting the whole process in a way that wouldn't have happened otherwise. So in that case, go team!

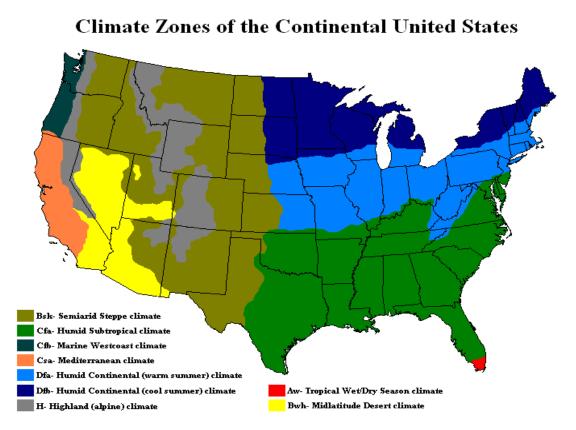
And now a slow shift toward actions to address our needs...

Step 2: Figure out: where are we going?

Planning for migration will mean shifting resources around in a big way, and it'll be pretty pointless to shift them if they're going in the wrong direction. This is doubly true because resources will be especially tight, so we've got to use them wisely. And triply true for our community because we need more services and resources than the able-bodied population, those services are more specialized, and they will take more time to set up (both for logistics and funding). Step one will thus involve figuring out where people will be moving, so we can get ready accordingly and not risk sinking resources into preparation, only to see them as wasted because we have to move again. And because it's better to prepare in advance than react after-the-fact (I rhymed!), forecasting migration patterns is the way to go.

So how do we do it? Well basically, forecasting involves identifying areas with increasingly difficult environmental or political situations, and other areas with a greater ability to absorb some population growth in a safe way (in terms of minimal climate impacts, more resource availability, etc). With this in mind, we can have a reasonable expectation that people will want to move from the former to the latter, thus climate-related migration. Identifying places that people will leave will actually be relatively easy, especially for ones that will be un-livable or have an unsustainable "carrying capacity." Miami, the Maldives, and Bangkok are all forecasted to be underwater or have unsustainable regular flooding in the next 30 years (or less), so we can say with confidence that residents of those areas will have to move. Ditto North Africa with its drought, and assorted international areas with increasing heat waves (for example, the "Risky Business" report I referenced in earlier posts highlights the Great Lakes as a region

in the United States where it will be "unsafe for humans to remain outdoors" several days out of the year by 2100 and over 30 days/year by 2200 under "business as usual" emissions).



The United States has several "climate zones," shown here in different colors. As climate change goes forward, the zones will shift, and people will shift with them.

Forecasting areas of in-migration - places that can absorb some population growth - is no easy task, but climate models and other research can identify locations with relatively greater ability to absorb more population. "Relatively" is actually a key word here: it might not be ideal for one area to take on more people without reducing quality-of-life, but if it can accommodate some without a destabilizing reduction in life quality, then it's better than leaving people behind. So for example, we might see Europe has a more stable place to live than North Africa and allow in-migration accordingly, albeit with a bit more strain on land, services, and resources (this is arguably already happening with the ongoing refugee crisis, as drought was a contributing factor to the Syrian conflict). Europeans certainly won't be happy about it (migration is already sparking up some anti-immigration nationalist movements), but identifying Europe's in-migration potential and planning accordingly will create lesson backlash than Europe perceiving a growing flood of unexpected immigrants. So again, identifying destinations and building up their population-absorbing capacities is best.

Even with the most well-informed planning, it's quite possible that the forecasts will end up being wrong for a number of reasons, such as an oversight of a low-probability or entirely unexpected climate impact. In the previous example, planners may predict a relatively stable climate and agriculture for Europe - but if the Gulf Stream (which brings warm air up to high-latitude Europe) shuts down and drops the continent into perpetual cold, its newly-reduced agricultural yields could render it unable to feed the now-larger population. So again, the most we can do is research and model as much as possible and go with what the evidence shows are the best options available.

Step 3: Establish international frameworks & plans

One issue that comes up repeatedly in literature on climate-related migration is the current lack of an international framework on the treatment of climate migrants. Current international agreements only cover refugees from conflict: the Refugee Convention of 1951, which covers issues of asylum, defines a refugee as a person who "has a well-founded fear of persecution because of his/her race, religion, nationality, membership in a particular social group or political opinion." However, climate migrants are not necessarily vulnerable to persecution (climate-influenced violent conflict is an exception), but still may feel extreme pressure to relocate due to environmental or economic stresses. In many cases, they will simply not be able to survive if they stay at home, such as in countries inundated by sea level rise or those where agricultural yields have plunged and can't support the domestic population. And given that these individuals and groups have no legal recourse to cross borders and establish residency, they may be effectively locked inside their country's borders as it becomes unlivable.

Experts over at the UN have already written about this conundrum³¹, and the challenges it presents. There weren't necessarily any concrete suggestions – because realistically, it's nearly impossible to put forward a solution that will work for all involved, especially if there end up being hundreds of millions of migrants as some are predicting. Regardless, It is a moral imperative to lay out principles around displacement and, ideally, create blueprints that governments and organizations can use to draft their own migration response plans. Several international actors have been calling for a new framework to address the needs of all cross-border climate migrants through addendums to international climate change agreements, refugee agreements, or both. These voices are especially coming out of Southeast Asia, which is experiencing the beginnings of migration-causing climate impacts and will be one of the more affected regions worldwide. As far as general frameworks go, the organization Displacement Solutions has put forward the "Peninsula Principles³²" as a set of values and principles to guide a response to climate displacement worldwide. The 18 principles cover general obligations, preparation and planning, management of displacement itself, post-displacement and return, and active implementation. These types of frameworks have incredible moral power and guide international efforts: for example, the internationally-recognized United Nations Principles on Housing and Property Restitution for Refugees and Displaced Persons (or "Pinheiro Principles³³"), which the Peninsula Principles are based on, serve as a guiding document for international responses to refugee crises.

³¹ http://www.un.org/apps/news/story.asp?NewsID=48201#.VftI0_IVikp

³² http://displacementsolutions.org/ds-initiatives/the-peninsula-principles/

³³ http://2001-2009.state.gov/documents/organization/99774.pdf

Passing a similar framework for persons displaced by climate change would similarly work wonders - and the Peninsula Principles are a fantastic starting point.

As general principles are established, they must explicitly recognize and address the unique needs of PWDs - and do so as clearly and strongly as possible. This has already been done to some extent, albeit vaguely, in the refugee area: for example, the Pinheiro Principles 13.10 and 14.2 address the imperative of incorporating the unique needs of PWDs when responding to refugee crises. (Most other international frameworks, though, say little or nothing about PWDs' needs). As for climate migration, the Peninsula Principles mention PWDs as participants in planning and implementation, as well as the need to explicitly protect PWDs' rights in general (principles 7d, 7e, & 13b) but could more explicitly note that PWDs have unique needs that must be addressed (such as housing, specific medical care, or personal attendant care). Advocates can also build off the UN Convention on the Rights of Persons with Disabilities, in which articles 11 and 18 already emphasize the right to freedom of movement. Disability organizations, agencies, and international bodies should advocate that these sections of the UNCRPD be adhered to when assembling any climate migration principles or conventions, especially as UN Conventions hold a certain respect worldwide.



The UN General Assembly, pictured here, will likely address climate migration at some point in the future – the question is when, and how (Wikipedia)

Of course, principles are one thing — but concrete plans are another. Unfortunately, globally-coordinated management of relocation and related needs (i.e. shifting funds & resources) is more or less a pipe dream (especially because a proposal for an international climate displacement coordinating

body was <u>removed from the UN</u>³⁴ over objections from certain countries). But even though large-scale international agreements may never be realized, perhaps regional ones or individual partnerships between neighboring countries will develop. Already, <u>Fiji has offered to be a home for the people of Kiribati</u>³⁵ should they be unable to stay in their low-lying nation, and promised to do so starting early if it seems like inundation is inevitable or approaching soon. These types of partnerships, based out of goodwill and fellowship, are incredibly powerful – and similar situations could be made more amenable if there is also a coordinated transfer of government funds, industry, etc., ideally with advanced planning and build-up of infrastructure.

As these plans move forward, incorporating the needs of people with disabilities will be paramount. Instituting a human rights-based approach will hold significant weight, especially because governments may be hesitant to accept PWDs out of concern about a disproportionate need for services, increased logistical difficulties around relocation, and the perceived inability to "contribute to the economy" (among other potential justifications). Providing well laid-out logistical recommendations will also help tamper those concerns, especially if it can be shown that advanced, inclusive planning will save lives and livelihoods at minimal cost. And of course, concrete recommendations paired with human rights-based arguments will have an especially profound impact.



South Tawara, an atoll in Kiribati, will need to be evacuated in the coming decades. ("South Tarawa from the air" by Photo taken by Government of Kiribati employee in the course of their work - Government of Kiribati. Licensed under CC BY 3.0 via Commons - https://commons.wikimedia.org/wiki/File:South_Tarawa_from_the_air.jpg#/media/File:South_Tarawa_from_the_air.jpg)

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http://www.theguardian.com/environment/2015/oct/07/un-drops-plan-to-create-group-to-relocate-climate-change-affected-people

³⁵ http://www.climate.gov.ki/2014/02/20/fiji-supports-kiribati-on-sea-level-rise/

With that in mind, here are some thoughts on concrete policy actions to be taken through the relocation process. These will blend both domestic and international migration - and when discussing domestic migration, will use United States' benefits systems as an example.

Step 4: Reinforce Infrastructure & Benefits

PWDs have a number of needs that must be met in order for them to live healthy, safe, and stable lives. This includes infrastructure for physical access, such as fully accessible housing, public transit, or public spaces (including businesses). It also includes medical support systems - so functioning hospitals, medication provision, etc. Government support programs are another huge component (this can already be seen through the experience of PWDs in countries with different levels of development and political leanings). Financial support such as Social Security, health insurance from Medicaid-type programs, disability-focused employment support, and personal attendant agencies (i.e. In-Home Supportive Services) are some key examples. So personally, as someone with a mid-high-level spinal cord injury, I need an accessible home, accessible transportation to move around town, hospitals and doctors to keep my health stable, and funding for personal attendants that get me in and out of bed. If any of these become unavailable or are of poor quality, it could seriously impact my quality-of-life and health.

Given the importance of physical infrastructure and benefits systems, both should be built up at areas of in-migration. So once we know where people are likely to move, we can reinforce the disability-related support infrastructure at that location accordingly. Ideally, this will be done in tandem with other system-wide development - which of course should be done as much as possible, and advocated for by everybody. So as planners work to expand housing stock in anticipation of higher population, a certain percentage of that stock should be required to be fully accessible (i.e. with ramps or elevators and roll-in showers). And if governments are reevaluating budgets for population growth, then funding for healthcare, personal attendants, and other life-sustaining benefits should be specifically reinforced. Of course, there will likely be budget constraints, but disability advocates can point out that overall population growth might also bring in more tax revenue, therefore helping to offset some increased costs. Advocates can also collaborate with governments to explore innovative ways to fully address the needs of PWDs given fiscal & physical realities. This could be an impetus to improve the quality and delivery of services in general, perhaps through doing a survey of programs in other state or national governments to find the most efficient, effective programs possible.

Step 5: Create easily transferable benefits

Reinforcing benefits at destinations will only accommodate so many people unless there is flexibility built into larger regional, national, or global systems - and at the moment, most systems are rigid. Under current systems, PWDs must generally re-apply for benefits when they cross borders - this is almost universally true for international migration, and can happen between states, such as reapplying for Medicaid benefits when an American moves from one state to another (or sometimes between counties

or even cities). Applying or reapplying itself can be a lengthy and difficult process, requiring documentation of things like disability status and financial eligibility, and often with long wait times to fully enroll. Further, there's often no guarantee that a PWD will be able to receive benefits once they move; and even if they receive them, there's no guarantee that benefits will be of the same quality as they were in the previous location. This uncertainty and delayed application process is extremely problematic when people move, as continuity of services is vital to the well-being - and sometimes survival - of PWDs.

To facilitate safe migration, there will need to be a new paradigm. Flexible, transferable benefits will of course be much more realistic between states or provinces and still within a country's territory, as opposed to transferring benefits between countries themselves. So, using the United States as an example, benefits should be flexible and transferable across state/county/city borders and/or have significantly expedited enrollment processes that could be started before people actually relocate. This domestic flexibility could be achieved through federal oversight and funding of benefits program such as Medicaid and In-Home Supportive Services (IHSS), so that benefits management would simply be transferred to regional offices while maintaining a centralized funding source; it could also entail coordination between states so that one state's benefits agency could hand off a case and its details to another's, as well as provide means for redistributing funds. (Of course, all of this will need to take into account that not all states's programs have identical eligibility rules or benefits schemes). Time will be a huge factor as well: shifting benefits coordination & funding schemes could take several years or even decades. So as I've covered in other sections, starting early is vital, and it's always best to aim for quick implementation to err on the side of caution.



Marilyn Tavenner, Acting Administrator for the Centers for Medicare & Medicaid Services delievers remarks at the HHS 2014 Budget Press Conference, April 10, 2013.

https://commons.wikimedia.org/wiki/File:Marilyn_Tavenner,_Acting_Administrator_for_the_Centers_for_Medicare_%26_Medicaid_Services_delievers_remarks_at_the_HHS_2014_Budget_Press_Conference,_April_10,_2013.jpg

As far as international migration goes, allowing for a transfer of benefits across national boundaries (or simply reinforcing the logistical and financial ability of destination countries to serve more people with disabilities) will likely be tougher. Will United States citizens be able to transfer their benefits to, or sign up for benefits in, Canada if they move northward? This will likely face even more political resistance and logistical difficulties than domestic interstate migration will, especially in more conservative or xenophobic countries already facing benefits cuts or immigration limits, and/or if origin countries don't have benefits or funding in the first place. For example, many Conservatives in the United States advocate for deporting all Mexican immigrants, and many also advocate cutting benefits to people with disabilities (and many of these same people deny the existence of climate change); meanwhile, Mexico has questionable social services. If Mexicans with disabilities migrate northward and require healthcare or other services, but the Mexican government is not able to transfer benefits that don't exist or are below US standards, the logistics and politics will combine for a pretty big conundrum.

So, what to do? As with the Peninsula Principles setting agreements for climate migrants in general, conventions and other agreements will be vital to ensure the ability to move and receive benefits. This is where language around the involvement and unique needs of PWDs is so important: when this language exists, disability advocates can expand it to include life-sustaining benefits programs; and active participation in the planning process will give much-needed input to ensure programs are viable. As far as the logistical transfer of benefits goes, proactive transitions will be better than reactive ones; for example, the US government could work with Canada to set up sufficient social service agencies and funding, and fund the benefits of US citizens that move up until the Canadian government reallocates some budgets to support those migrants entirely. Early coordination will be doubly important if agreements involve multiple countries. So as I said with many other sections, we should start as soon as possible.

Step 6: Encourage coordination with support networks

People with disabilities often rely on support networks of family, friends, and/or professional caregivers for activities of daily living and other life management tasks, and it's important that those networks remain intact as individuals and groups relocate. Uncoordinated movement, on the other hand, can be problematic if support groups move first and leave PWDs behind, if PWDs move first and can't maintain support through their relocation, and if PWDs and their networks are entirely separated in the relocation/evacuation process. There are a few reasons and scenarios for this. For example:

If support group members move first, PWDs risk a significant reduction in quality-of-life, independence, and health. For example, a blind person whose friend usually drives them around town may lose independence if that friend moves away; and somebody with a physical disability that needs help with transfers and feeding may be effectively stuck in bed or unable to eat if their personal attendant leaves. Depending on the dynamics of the PWD's needs, established support network, and ability to find more help, disintegration of that network could even compromise survival.

If PWDs require help in the moving process itself, they risk being "left behind" if those that would otherwise help out move before the PWD does. In shorter time frames, this has been seen during

evacuations from storms and in conflict refugee situations. The same can happen in longer time frames, except problems will occur more gradually than they would in a hurricane.

Because support networks are dynamic, different members of a given person's network will move at individually-determined times and to their own chosen locations. Unless everybody moves in perfect coordination, this will shift a greater amount of the support responsibilities to certain members that stay or relocate in partnership with the PWD, at least until the PWD rebuilds a complete network at their new home. Then, finding and establishing new networks will be difficult in any respect, and especially so given the baseline stresses of climate-related relocation.

Each of these scenarios may compromise a PWD's independence, health, and potentially survival, as informal support can be necessary for all three. Physically relocating may also be necessary for independence, health, and survival; and if PWDs are left behind because of broken support networks, those factors may likewise be compromised. These issues can still be present to various extents depending on the dynamics of the support networks themselves, such as the size, distribution of support activities, ability to adapt, connection to the PWD, and timing and destination of moves.

Given all of this, PWD's moves should be coordinated as much as possible. How exactly this will be done is a tricky question, though. Neither highly centralized nor completely decentralized situations are best, as national agencies or organizations won't be able to coordinate everybody's transitions and individual PWDs shouldn't be expected to manage their entire transition without education and some help (although some will be able to on their own). With that in mind, a first step will be to provide PWDs with information and resources on how to maintain one's support network while moving. These could include simple tips such as communicating early and developing a team plan, or online portals to provide a networking space between PWDs and people at their destinations willing to help.

At the government/organizational level, possible solutions could include facilitated communication between regional agencies (i.e. IHSS) and/or centers for independent living (CILs) to identify or recruit personal attendants and pair them with PWDs; utilizing social workers to advise PWDs on managing their own relocation while maintaining their support network; or direct coordination between agencies and CILs to transfer enrollment and funding of PWDs and their personal attendants from one jurisdiction to another. The latter may end up being a key piece of the puzzle simply because employment and funding are so crucial to maintaining a provider-client relationship for personal attendant services outside of familial or social support networks. A vital component of these transfers will be dynamic funding sources and case management, similar to what was covered in section 4. Check that out above for a better grasp of policy needs.

Step 7: Provide and Coordinate Transportation

As I mentioned above, moving is very difficult for a number of reasons. People with disabilities disproportionately rely on public transportation and do not have personal vehicles, have specialized vehicle needs (i.e. wheelchair-accessible vans), may not be able to drive, and may need to transport extra medical supplies or equipment. Because of this, policymakers and agencies should work to either directly provide transportation or assist groups in coordinating transportation from one location to

another. This could be done hand-in-hand with the transfer of support networks, perhaps by advising those groups on the best ways to provide and coordinate transportation. It would be doubly effective through helping to maintain the cohesion of those support networks during relocation, with all the benefits that provides.

Conclusion

For people with disabilities, relocating due to the effects of climate change presents significant difficulties. Transferring or reestablishing health care and government benefits when crossing borders (even across territories within the same country) can take more time than is needed to maintain one's health, finances, housing, etc., or simply may not be possible. A limited amount of accessible housing can make finding a home tough to impossible. Keeping support networks intact requires careful coordination between individuals and agencies. And physically moving requires transportation resources that may be unavailable or hard to come by. Needless to say, the problems are many.

However, it is possible to overcome these barriers through smart policy; coordination between agencies, non-governmental organizations, and individuals; appropriate funding and resource development; and public education. As with most system-wide situations with limited resources and diverse, sometimes specialized groups and organizations, figuring out the distribution of responsibilities and resources will be key. Policymakers must decide various actions at the centralized, decentralized, and individual-education levels. For example, national governments can reshape benefits systems to be more flexible, individual states can encourage accessible housing developments, and education campaigns can show PWDs how to maintain support networks throughout a move. Each effort will undoubtedly have a positive impact; and in conjunction, they bring even more benefits to PWDs and their communities alike.