

GO NORTH, YOUNG MAN:
THE GREAT CLIMATE MIGRATION AND AMERICA'S SHRINKING CITIES

Lauren Phillips¹

I. INTRODUCTION

In November 2016, residents of an apartment building in Miami Beach woke up to their parking garage not only flooded, but swimming with schools of fish and an octopus.² According to a building resident, while the garage had always been damp, in the past six months “there ha[d] not been a single day without some type of water seepage in the garage.”³ When originally designed, the drainage pipes for the building were above sea level; with sea level rise, the pipes now sat below the waterline during some high tides.⁴ Biologists speculated that the octopus had been sheltering in the pipe, or perhaps hunting some of the fish, and that the intrusion of even more seawater created pressure that forced the octopus out into the garage.⁵ Lighthearted though the story may be, it begs one of the most important questions facing American cities: for how long will people put up with the climate change-driven hazards in their communities? What will they do when chronic dampness turns to chronic inundation? And if they decide to move, where will they go?

Over the next fifty years, the climate change crisis will drive millions of Americans to migrate, creating what may be the largest domestic migration wave in U.S. history.⁶ Americans will flee not only cities succumbing to rising seas, but western wildfires, extreme heat, and other climate impacts. Ironically, many of America's currently shrinking cities—Detroit, Cincinnati, Rochester, and many

¹ J.D., Georgetown University Law Center, 2019; B.A., Yale University, 2012. The author thanks Professor Sheila Foster, in whose class she developed this article. She also thanks her family for their unwavering support.

² Alex Harris, *Octopus in the parking garage is climate change's canary in the coal mine*, MIAMI HERALD, Nov. 18, 2016, <https://www.miamiherald.com/news/local/community/miami-dade/miami-beach/article115688508.html> (last visited May 29, 2019).

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ Oliver Milman, *'We're moving to higher ground': America's era of climate mass migration is here*, THE GUARDIAN, Sept. 24, 2018, <https://www.theguardian.com/environment/2018/sep/24/americas-era-of-climate-mass-migration-is-here> (last visited May 29, 2019).

others—are advantageously located in terms of climate change impacts.⁷ Far enough north to avoid the worst heat increases, located inland away from sea-level rise, and rich with fresh water from the Great Lakes and robust river systems, America’s shrinking cities have “climate amenities” that may attract migrants as they seek cooler weather, higher ground, and drought-free areas.

This article proposes that it would be sound public policy for all levels of government to encourage climate migrants to move to currently shrinking cities. In Part II, this article discusses projected climate crisis impacts in the United States, the problems facing shrinking cities, and the concept of “climate amenities.” In Part III, it goes on to discuss the coming domestic climate migration wave, and posits that encouraging climate migrants to move to currently shrinking cities would be sound policy. Finally, in Part IV, it explores different tools that policymakers at the federal, state and local levels could use to encourage migrants to move to currently shrinking cities.

II. THE CLIMATE CRISIS, SHRINKING CITIES, AND CLIMATE AMENITIES

Part II lays out the three subjects which the rest of the article fits together. Section II.A describes projected climate change impacts in the United States, and how scientists expect those impacts to drive migration, with a particular focus on long-term trends expected between now and 2100. Section II.B discusses America’s currently shrinking cities and discuss their challenges. Finally, Section II.C introduces climate amenities.

A. Projected Climate Crisis Impacts in the United States and Projections for Domestic Climate Migration

This century, the continental United States is expected to warm, on average, between four and ten degrees Fahrenheit, triggering widespread climactic effects.⁸ The Trump Administration, assuming the world will take no

⁷ Oliver Milman, *Where should you move to save yourself from climate change?* THE GUARDIAN, Sept. 24, 2018, <https://www.theguardian.com/environment/2018/sep/24/climate-change-where-to-move-us-avoid-floods-hurricanes> (last visited May 29, 2019) (quoting a climate change expert as listing “areas north and away from the ocean” and central tornado zones as the most promising places for climate change, along with areas “roughly above the 42nd parallel and cities near the Great Lakes like Cincinnati); *see also* Part II, *infra*.

⁸ Based on a “business as usual” pathway of continued high greenhouse gas emissions. Scientists expect Alaska to experience additional warming. D.J. WUEBBLES ET AL., U.S. GLOBAL CHANGE

meaningful action to reduce greenhouse gas emissions,⁹ expects the Earth to warm fourteen degrees Fahrenheit by 2100, far outstripping the Paris Climate Accord's goal of limiting warming to no more than 2.7 degrees Fahrenheit (or one and a half degrees Celsius) of warming by 2100.¹⁰ Even if the entire planet stopped emitting greenhouse gases tomorrow, the climate will continue to warm somewhat, due to the warming effect of greenhouse gases that we have already released into the atmosphere.¹¹ The United States is already witnessing the results of the climate crisis,¹² and scientists expect these effects to intensify as the Earth continues to warm. Impacts include stronger storms, changes to rainfall patterns, including additional flooding and drought, reduced agricultural yields, rising sea levels, melting permafrost, algal blooms, ecosystem collapse, weather variability, and, of course, increased heat.¹³

Climate crisis impacts drive people to migrate. Beyond the climate refugees from around the world already seeking entrance to the United States,¹⁴

RESEARCH PROGRAM CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME I, EXECUTIVE SUMMARY (2017),

<https://science2017.globalchange.gov/chapter/executive-summary/> (last visited May 29, 2019).

⁹ U.S. DEP'T OF TRANSPORTATION, DRAFT ENVTL. IMPACT STATEMENT: THE SAFER AFFORDABLE FUEL-EFFICIENT (SAFE) VEHICLES RULE FOR MODEL YEAR 2021–2026 PASSENGER CARS AND LIGHT TRUCKS PAGE, 5-28–5-32 (2018),

https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_my2021-26_deis_0.pdf (last visited May 29, 2019); see also Juliet Eilperin et al., *Trump administration sees a 7-degree rise in global temperatures by 2100*, WASH. POST, Sept. 28, 2018,

https://www.washingtonpost.com/national/health-science/trump-administration-sees-a-7-degree-rise-in-global-temperatures-by-2100/2018/09/27/b9c6fada-bb45-11e8-bdc090f81cc58c5d_story.html?noredirect=on&utm%20_term=.3916ed74c364 (last visited May 29, 2019) (contextualizing and summarizing the draft environmental impact statement).

¹⁰ Paris Agreement art 2, ¶ (a), Dec. 12, 2015,

https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english.pdf (last visited May 29, 2019) (“Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change”).

¹¹ Ute Kehse, *Global warming doesn't stop when the emissions stop*, PHYS.ORG, Oct. 3, 2017, <https://phys.org/news/2017-10-global-doesnt-emissions.html> (last visited May 29, 2019). This assumes that humans are unlikely to deploy technology to remove greenhouse gases from the atmosphere on a planetary scale, or otherwise develop large scale geoengineering technologies to offset emissions.

¹² See WUEBBLES ET AL., *supra* note 8.

¹³ *Id.*

¹⁴ Morgan Sherburne, *Hurricanes drive immigration to the U.S.—helped by green cards*, PHYS.ORG, Sept. 12, 2017, <https://phys.org/news/2017-09-hurricanes-immigration-ushelped-green-cards.html> (last visited May 29, 2019). The climate crisis is a driving force behind the

the climate crisis is already driving migration *within* the United States. For example, climate crisis-driven major hurricanes that have made landfall in the U.S. have driven outward migration from areas where the hurricane caused damage.¹⁵ Six months after Hurricane Maria devastated Puerto Rico, 135,000 people migrated from the island to the mainland United States, with researchers expecting more than a half-million to eventually do so.¹⁶

Sea level rise will be a potent driver of domestic climate migration. By 2100, sea level rise alone could displace thirteen million Americans, including six million in Florida.¹⁷ Sea level rise drives migration in two major ways. First, sea level rise intensifies coastal storms, because water starts at a higher baseline than it would have otherwise; by 2030, nearly five million people will face risks from larger storm surges from rising seas.¹⁸ However, it does not take a storm for sea level rise to inundate communities. So-called “sunny day flooding” or “nuisance flooding,” *i.e.* regular flooding during high tide even in absence of a storm, is the second way in which sea level rise drives migration.¹⁹ This flooding has already

migrant caravan making its way from Central America to the United States at the time of writing; climate crisis-caused disruptions to agriculture in Central America have left thousands without farm work employment and or the ability to subsistence farm. Oliver Milman et al., *The unseen driver behind the migrant caravan: climate change*, THE GUARDIAN, Oct. 30, 2018, <https://www.theguardian.com/world/2018/oct/30/migrant-caravan-causes-climate-change-central-america> (last visited May 29, 2019); Alexander C. Kaufman, *Trump’s Military Response to Migrant Caravan Foreshadows A Dark Long-Term Climate Policy*, HUFFINGTON POST, Oct. 27, 2018, https://www.huffpost.com/entry/trump-migrant-caravan-climate-change_n_5bd3374ee4b0d38b5882f000 (last visited May 29, 2019).

¹⁵ Brianna Fernandez, *Massive Hurricanes Could Change State and Local Populations*, AM. ACTION FORUM, Nov. 30, 2017, <https://www.americanactionforum.org/research/massive-hurricanes-change-state-local-populations/> (last visited May 30, 2019).

¹⁶ Martín Echenique, *Exodus: The Post-Hurricane Puerto Rican Diaspora, Mapped*, CITYLAB, Mar. 13, 2018, <https://www.citylab.com/equity/2018/03/exodus-the-post-hurricane-puerto-rican-diaspora-mapped/555401/> (last visited May 30, 2019).

¹⁷ Mathew E. Hauer, *Migration induced by sea-level rise could reshape the US population landscape*, 7 NATURE CLIMATE CHANGE 321, 321 (2017); *see also* Milman, *supra* note 6 (summarizing the study).

¹⁸ Ben Strauss, et al., *Surging Seas: Sea level rise, storms & global warming’s threat to the US coast*, CLIMATE CENTRAL, Mar. 14, 2012, <http://slr.s3.amazonaws.com/SurgingSeas.pdf> (last visited May 30, 2019).

¹⁹ CLIMATE CENTRAL, SEA LEVEL RISE UPPING ANTE ON ‘SUNNY DAY’ FLOODS (2016), <https://www.climatecentral.org/news/climate-change-increases-sunny-day-floods-20784> (last visited May 30, 2019) (“Since 1950, 67 percent of all flood days would not have happened without the sea level rise that has taken place because of rising greenhouse gas emissions that are warming the planet.”); *see also* CLIMATE CENTRAL, RISING TIDES: HOW NEAR-DAILY FLOODING OF AMERICA’S SHORELINES COULD BECOME THE NORM (2018),

become enormously costly for coastal communities, causing over \$70 billion in property value loss in the Southeastern United States just since 2005.²⁰ By 2100, homes and commercial properties currently worth more than \$1 trillion will be at risk of “chronic flooding;”²¹ this includes 2.4 million homes - housing the rough equivalent of the population of the state of Louisiana - that are collectively valued today at \$912 billion.”²²

Other climate effects will also drive migration. Declining crop yields due to climate disruptions in the Midwest Corn Belt correlate with statistically significant outmigration, and such trends are likely to intensify between now and 2050.²³ Rising heat in and of itself is already driving migration in the desert southwest; residents are leaving Phoenix, Arizona, the fastest-warming city in the United States, for cooler Flagstaff, to avoid temperatures so hot that they melt street signs and close airports.²⁴ According to Amir Jina, an environmental economist at the University of Chicago, “[e]ven if you have air conditioning [. . .] [b]y the middle of the century parts of the south-west and south-east won’t look attractive to live in” because outdoor temperatures will be so hot, so often.²⁵ Air quality, too, will drive people to move away from the wildfire smoke increasingly darkening skies for weeks at a time in the central and coastal West.²⁶

<http://www.climatecentral.org/news/rising-tides-near-daily-flooding-americas-shorelines-21935> (last visited May 30, 2019) (updating and expanding upon 2016 report).

²⁰ Abbie Bennett, *Sea level rise has already sunk Carolinas beach property values — by \$1.6 billion, study finds*, CHARLOTTE OBSERVER, July 25, 2018,

<https://www.charlotteobserver.com/news/science-technology/article215476785.html#storylink=cpy> (last visited May 30, 2019) (“Scientists have found \$7.4 billion was lost in home values across North Carolina, South Carolina, Virginia, Georgia and Florida because of sea level rise flooding from 2005 to 2017.”).

²¹ UNION OF CONCERNED SCIENTISTS, UNDERWATER: RISING SEAS, CHRONIC FLOODS, AND THE IMPLICATIONS FOR US COASTAL REAL ESTATE 2 (2018), <https://www.ucsusa.org/sites/default/files/attach/2018/06/underwater-analysis-full-report.pdf> (May 30, 2019).

²² *Id.* at 5

²³ Shuaizhang Feng, et al., NAT’L BUREAU OF ECONOMIC RESEARCH, WORKING PAPER 17734, CLIMATE CHANGE, CROP YIELDS, AND INTERNAL MIGRATION IN THE UNITED STATES 19 (2012), <https://www.nber.org/papers/w17734.pdf> (last visited May 30, 2019).

²⁴ Oliver Milman, *Climate gentrification: the rich can afford to move – what about the poor?*, THE GUARDIAN, Sept. 25, 2018, <https://www.theguardian.com/environment/2018/sep/25/climate-gentrification-phoenix-flagstaff-miami-rich-poor> (last visited May 30, 2019).

²⁵ Milman, *supra* note 6.

²⁶ Emma Marris, *‘A prisoner of environment’: is it time to leave the American west?*, THE GUARDIAN, Oct. 5, 2018, <https://www.theguardian.com/environment/2018/oct/05/leaving-the-west-wildfires-smoke-heat> (last visited May 30, 2019).

As with most environmental disasters, the people who are already disadvantaged in our society - poor people and people of color - will feel the burden of climate change most heavily.²⁷ Low-income people are less able to evacuate or relocate in the face of disaster than the wealthy and middle class.²⁸ Poor people are also less able to return home after evacuating. After Hurricane Katrina caused unprecedented destruction in New Orleans, many low-income African Americans who did not have the money to rebuild their homes relocated; at least twenty thousand Hurricane Katrina refugees moved to flood-prone Houston, where they then experienced Hurricane Harvey.²⁹

Another harm to vulnerable communities comes in the form of climate gentrification. In waterfront cities, the more expensive real estate has typically clustered near the beachfront, with lower-income residents inland away from the shore.³⁰ As the shore becomes less attractive, those low-income neighborhoods become more desirable, driving up prices and displacing long-term residents.³¹ In Little Haiti, Miami, which sits on an elevated ridge, present residents are losing the ability to keep pace with rent as wealthier people buy up “comparatively safe, higher elevation properties.”³² Such climate gentrification can then drive secondary migration, as priced-out residents seek affordable housing elsewhere.³³

²⁷ See, e.g., Kyla Mandel, *How Natural Disasters Widen the Wealth Gap Between Minority and White Communities*, RESILIENCE, Sept. 5, 2018, <https://www.resilience.org/stories/2018-09-05/how-natural-disasters-widen-the-wealth-gap-between-minority-and-white-communities/> (last visited May 30, 2019).

²⁸ See, e.g., James Cook, *Harvey: Too poor to flee the hurricane*, BBC NEWS, Aug. 27, 2017, <https://www.bbc.com/news/world-us-canada-41065335> (last visited May 30, 2019) (describing how poverty prevented people from evacuating before Hurricane Harvey struck the Texas coast).

²⁹ Orrin H. Pilkey & Keith C. Pilkey, *Opinion: The global climate refugee crisis has already begun*, THE HILL, Sept. 9, 2018, <https://thehill.com/opinion/energy-environment/409002-the-global-climate-refugee-crisis-has-already-begun> (last visited May 30, 2019).

³⁰ Corey Schouten, “Climate gentrification” could add value to elevation in real estate, CBS NEWS, Dec. 28, 2017, <https://www.cbsnews.com/news/climate-gentrification-home-values-rising-sea-level/> (last visited May 30, 2019).

³¹ Jessica Moulite, *Color of Climate: How Black Activists Are Preparing South Fla. Residents to Weather the Storm of Climate Gentrification*, THE ROOT, Aug. 18, 2017, <https://www.theroot.com/color-of-climate-how-black-activists-are-preparing-sou-1797877930> (last visited May 30, 2019).

³² Pilkey & Pilkey, *supra* note 29.

³³ Moulite, *supra* note 31.

B. Shrinking Cities

While some American cities have too many people for the climate risks they face, other cities have nearly the opposite problem: too few people for the infrastructure they have. Michelle Wilde Anderson describes these cities as the “new minimal cities.”³⁴ In these new minimal, or shrinking, cities, “poverty rates are high and rising, while their populations are shrunken and shrinking.”³⁵ Shrinking cities often enter severe financial distress: between 2008 and 2013, at least twenty-eight cities with more than 15,000 residents entered bankruptcy or state receivership.³⁶ One of the most well-known cities among them is Detroit, Michigan, which was once the fifth largest city in the United States,³⁷ but today has only 36% of its peak population.³⁸ Why do such cities shrink? Sometimes, it is the result of a unique economic vulnerability, such as reliance on a particular industry that falls upon hard times.³⁹ In a reverse cycle to agglomerate growth,⁴⁰ once one large pillar of the local economy falls, others fall in a domino effect, creating reinforcing cycles of closure and exodus.⁴¹ As businesses leave, residents either move, or fall into poverty, reducing the city’s overall population.⁴²

The city then faces a quandary: how to continue serving its shrunken population. Often, cities turn to austerity.⁴³ Austerity measures can threaten minimal basic public safety services,⁴⁴ including deep cuts to police departments and other public safety providers, as well as funding for social and education

³⁴ Michelle Wilde Anderson, *The New Minimal Cities*, 123 YALE L. J. 1118, 1118 (2014).

³⁵ *Id.* at 1125.

³⁶ *Id.*

³⁷ Campbell Gibson, U.S. CENSUS BUREAU, POPULATION OF THE 100 LARGEST CITIES AND OTHER URBAN PLACES IN THE UNITED STATES: 1790 TO 1990, (1998), <https://www.census.gov/library/working-papers/1998/demo/POP-twps0027.html> (last visited May 30, 2019) (listing Detroit’s population as 1,849,568).

³⁸ The Census Bureau estimated Detroit’s 2017 population to be 673,104. See *Quick Facts: Detroit, Michigan*, U.S. CENSUS BUREAU, <https://www.census.gov/quickfacts/fact/table/detroitcitymichigan/PST045218> (last visited May 30, 2019). This is equivalent to 36% of its 1950 population.

³⁹ See David Schleicher, *Stuck! The Law and Economics of Residential Stagnation*, 127 YALE L.J. 28, 96-101 (2018) (discussing agglomeration economies in cities and the macro and micro economic effects such economies create).

⁴⁰ Anderson, *supra* note 34, at 1133-34.

⁴¹ *Id.*

⁴² *Id.* at 1125.

⁴³ *Id.*

⁴⁴ *Id.* at 1122-1123.

programs.⁴⁵ Cities do not outsource these services to private providers, but rather reduce or eliminate services “on the unfunded hope that private or charitable alternatives will arise” to meet community needs.⁴⁶ The services these cities cut are the very services which cities with growing levels of poverty desperately need, creating a vicious cycle in which poverty-stricken cities give their residents fewer services even as their need grows.⁴⁷

A large driver of the economic struggles of shrinking cities is the relationship between the geography of city services, the geography of where people once lived in the city, and where its reduced population now lives. Because city building codes require that buildings are durable, houses and other properties remain standing long after their occupants leave.⁴⁸ Cuts to services that cities must deliver geographically to areas where residents live (for example, fire protection, sewage treatment, and streetlight maintenance) do not result in proportional cost savings, because “[s]patially, such cities’ service territories are as large as they ever were, [even as] the density of service consumers is down, resulting in costly inefficiencies.”⁴⁹ In addition, the vacant buildings that intersperse once-dense neighborhoods in shrinking cities attract arson, physical decay, and other public health hazards,⁵⁰ creating an even greater need for fire protection and demolition spending. In other words, shrinking cities “have *too much* housing and infrastructure relative to the strength of their economies.”⁵¹

C. Climate Amenities

Scholars identify amenities as one of the drivers of growth in America’s “resurgent cities”—places like Seattle, San Francisco, and New York—that have enjoyed population growth in the last few decades. People come to these cities in part for the economic opportunities they offer, but in part also because they offer amenities—restaurants, theaters, museums—near which people want to live.⁵² In other words, “[t]oday successful cities, old or young, attract smart entrepreneurial people, in part, by being urban theme parks.”⁵³ Natural amenities, also known as

⁴⁵ *Id.* 1133-34.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ Schleicher, *supra* note 39, at 136.

⁴⁹ Anderson, *supra* note 34, at 1125.

⁵⁰ *Id.*

⁵¹ EDWARD GLAESER, TRIUMPH OF THE CITY 9 (2012) (emphasis in the original).

⁵² *Id.* at 11.

⁵³ *Id.*

environmental amenities,⁵⁴ can also influence a person’s decision to move to a city. For example, economists have found that people are willing to pay a premium to live in areas with milder winters and summers.⁵⁵ Economists have also found that cities with amenable natural features, such as mild temperatures, proximity to the coast, and a dry climate correlated with population growth in the later twentieth century.⁵⁶ Beyond big cities, amenities also attract people to small cities and rural areas. For example, small cities in rural Utah have faced an influx of new residents, “amenity migrants,” seeking to live closer to Utah’s spectacular national parks and other public lands.⁵⁷

In the era of climate crisis, policymakers should carefully consider climate amenities⁵⁸ as a potential draw for climate migrants. For the purposes of this article, climate amenities are those amenities that make a city look increasingly attractive to new residents as the climate crisis deepens. Although the climate crisis will impact every landscape on Earth, impacts will manifest in different ways depending on local geography. Some cities have climate amenities that make them less vulnerable to specific climate risks. Such risks, and corresponding amenities, include but are not limited to the following:

⁵⁴ Matthew E. Kahn & Randall Walsh, NAT’L BUREAU OF ECON. RESEARCH, WORKING PAPER 20503, CITIES AND THE ENVIRONMENT 3 (2014), <https://www.nber.org/papers/w20503.pdf> (last visited May 30, 2019).

⁵⁵ Paramita Sinha & Maureen L. Cropper, NAT’L BUREAU OF ECON. RESEARCH, WORKING PAPER 18756, THE VALUE OF CLIMATE AMENITIES: EVIDENCE FROM US MIGRATION DECISIONS 21, (2013), <https://www.nber.org/papers/w18756.pdf> (last visited May 30, 2019) (finding that people are willing to pay a premium to live in areas with milder weather).

⁵⁶ Edward Glaeser et al., *Consumer City*, 1 J. OF ECON. GEOGRAPHY 27, 35 (2001).

⁵⁷ See Jessica Kutz, *In southwestern Utah, unceasing growth means increased tension*, HIGH COUNTRY NEWS, Aug. 20, 2018, <https://www.hcn.org/issues/50.14/growth-and-sustainability-in-southwestern-utah-unceasing-growth-means-increased-tension> (last visited May 30, 2019); Jonathan Thompson, *How 'amenity migrants' push out locals*, HIGH COUNTRY NEWS, Mar. 16, 2015, <https://www.hcn.org/articles/west-housing-crisis-local-labor> (last visited May 30, 2019).

⁵⁸ The phrase “climate amenities” has appeared in other scholarship; however, here I frame climate amenities in particular as comparative advantages in an era of climate crisis. Other scholarship has defined amenities as particular geographic advantages tied to a location. See, e.g., Dan Tarlock, *California Adapts to Prolonged Drought: Any Lessons for the Humid Midwest?*, 51 VAL. U. L. REV. 519, 557 n. 201 (2017) (predicting that “[m]ean July temperatures close to 90 degrees F by the late twenty-first century will force down relative real estate prices to reflect underlying changes in [California’s] climate amenities); see also David Albouy et al., *Climate Amenities, Climate Change, and American Quality of Life*, 3 J. OF THE ASS’N OF ENVTL. & RESOURCE ECONOMISTS 205, 205-06 (2015) (defining climate amenities as the influences on human activity which impact economic decisions and human welfare, with a particular focus on temperature, and seeking to measure how changes in these amenities influence household’s willingness to pay for those amenities in an effort to define their value).

Climate Risk	Climate Amenity
Flooding from sea level rise	High ground; inland location away from the ocean
Extreme heat	Cooler climate due to elevation, northern latitude, or weather patterns
Risk of severe storms (including tornados, hurricanes, extreme rainfall)	High ground away from riparian flooding risks; sheltered areas with an infrequent history of storms
Droughts	Abundant surface water or aquifer resources; strong irrigation systems
Wildfires	Humid weather patterns with limited wildfire risk

Climate amenities have three facets. First, each climate amenity is something that offsets a challenge that the climate crisis presents. For example, high ground or an inland location offsets the risk of flooding from sea level rise. Second, each amenity is something that is in limited supply. While some climate amenities are more common than others, only factors which are not present in an area of high climate risk area would serve as an incentive to move. For example, “air” in general is not a climate amenity; however, air free from wildfire smoke may be. Finally, these amenities are not limited to cities. Climate amenities differ from traditional amenities in that they are shared by rural and urban areas alike. Not every rural town has a major-league baseball stadium, for example, but plenty are located in areas with cooler climates.

III. THE GREAT CLIMATE MIGRATION AND AMERICA’S SHRINKING CITIES

The coming Great Climate Migration presents two key questions: where are people going to go, and where should the government encourage them to go? This Part searches for an answer in three different ways. As a preliminary matter, Section III.a discusses why climate adaptation measures are likely to fail to stop mass climate migration. Section III.b presents evidence that at least some migrants are likely to move out of whole regions and states, and to journey to the northern states, to avoid the worst impacts of the climate crisis. Finally, Section III.c asserts that governments should use their available tools to direct migration towards currently shrinking cities, as it is in the interest of shrinking cities to attract incoming climate migrants.

A. Climate Adaption Will Not Stop Climate Migration

Climate adaptation measures in some cities will be enough to keep life bearable for many of its residents, but in others, no amount of adaptation will make the city habitable in the long run. For example, by 2035, large parts of coastal Florida will face “chronic inundation” - the flooding at high tide of 10% or more of non-wetland areas every other week.⁵⁹ By 2100, chronic inundation will swamp most of the Miami area, Tampa, St. Petersburg, Daytona Beach, and Jacksonville.⁶⁰ Miami Beach is responding to this threat by spending \$400 million on an effort to raise its streets to avoid flooding, but researchers expect that the efforts will help the raised streets avoid chronic inundation for only fifty years.⁶¹ Raising the streets and adding pumps does nothing to prevent individual homes from flooding, nor can it compensate for the karst geography Florida sits on - bedrock filled with holes and pores, akin to Swiss Cheese.⁶² Due to its karst geography, conventional seawalls, levees, and dikes will not work in Florida, because seawater can bubble up underneath the barriers through the bedrock itself.⁶³ Miami Beach’s road-raising project begs the question: if, by 2035, 10% of Miami’s homes and businesses flood every other week, what difference will dry roads make? As the chairman of the geological sciences department of the University of Miami put it, “Miami, as we know it today, is doomed . . . It’s not a question of if. It’s a question of when.”⁶⁴

Not all climate adaptation measures are futile. Some of these measures, like restoring mangroves to blunt the force of hurricanes⁶⁵ and developing

⁵⁹ UNION OF CONCERNED SCIENTISTS, FACT SHEET: FLORIDA FACES CHRONIC INUNDATION 1 (July 2017), <https://www.ucsusa.org/sites/default/files/attach/2017/07/when-rising-seas-hit-home-florida-fact-sheet.pdf>.

⁶⁰ *Id.*

⁶¹ Greg Allen, *As Waters Rise, Miami Beach Builds Higher Streets and Political Willpower*, NPR, May 10, 2016, <https://www.npr.org/2016/05/10/476071206/as-waters-rise-miami-beach-builds-higher-streets-and-political-willpower> (last visited May 30, 2019).

⁶² Jeff Goodell, *Miami: How Rising Sea Levels Endanger South Florida*, ROLLING STONE, June 20, 2013, <https://www.rollingstone.com/politics/politics-news/miami-how-rising-sea-levels-endanger-south-florida-200956/#ixzz2X0NGzxLY> (last visited May 30, 2019) (“‘Imagine Swiss cheese, and you’ll have a pretty good idea what the rock under southern Florida looks like,’ says Glenn Landers, a senior engineer at the U.S. Army Corps of Engineers. This means water moves around easily – it seeps into yards at high tide, bubbles up on golf courses, flows through underground caverns, corrodes building foundations from below.”).

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ See M. Spalding et al., WETLANDS INT’L AND THE NATURE CONSERVANCY, MANGROVES FOR COASTAL DEFENCE [SIC]: GUIDELINES FOR COASTAL MANAGERS & POLICY MAKERS 37 (2014),

renewable microgrids to reduce storm-driven power outages,⁶⁶ have other values that stretch well beyond climate adaptation. However, spending tens or hundreds of millions of dollars on methods meant to brunt climate impacts for a few decades may not be worthwhile when considering the other ways in which the government could spend that money. As economist Edward Glaeser wondered regarding the \$200 billion spent on rebuilding in New Orleans after Hurricane Katrina, if the money had instead

been given to the people who lived there, each of them would have gotten \$400,000 to pay for moving or education or better housing somewhere else [. . .] Wouldn't it have made more sense to ask how federal spending could have done the most for the lives of Katrina's victims, even if they moved somewhere else?⁶⁷

The same question stands for nearly every climate adaptation measure.

B. Interstate Climate Migration: Incentives and Disincentives

If a climate migrant seeks to escape the worst effects of the climate crisis, and lives in an area with high climate risk exposure, she will likely need to leave her state to find a climate haven. Science indicates that some U.S. states and regions will suffer more severe climate impacts than others; here also, Florida serves as the paradigmatic example. Researchers expect six million Floridians to leave the state by 2100.⁶⁸ While some coastal Floridians may relocate from Miami to, say, Orlando, when chronic inundation drives them from their homes, the economy of the entire state is likely to decline because of the sheer amount of properties expected to slip beneath the waves. Many economists and insurance experts think it is inevitable that, at some point, when sea level rise begins to chronically inundate enough homes, the real estate market will crash,

<https://www.nature.org/media/oceansandcoasts/mangroves-for-coastal-defence.pdf> (last visited May 30, 2019) (describing the benefits of mangroves beyond coastal protection, such as their benefits to fisheries systems and as a source of timber).

⁶⁶ *Microgrids improve resilience, efficiency*, CTR. FOR CLIMATE AND ENERGY SOLUTIONS, <https://www.c2es.org/content/microgrids-improve-resilience-efficiency/> (last visited May 30, 2019) (describing the energy cost savings a community incurred after developing a microgrid).

⁶⁷ GLAESER, *supra* note 51, at 9.

⁶⁸ Milman, *supra* note 6.

reverberating through state (and national) economies.⁶⁹ However, unlike the damage from the 2008 housing crash, the value from those subsumed homes will disappear permanently beneath the water, with no hope of reclaiming any real estate value.⁷⁰ Other climate impacts, besides sea level rise, are also likely to impact whole state economies. Extreme heat will spread across entire states; hurricanes, while primarily coastal, can cause flooding many miles from the coast; droughts can persist in entire regions.⁷¹ In short, most climate crisis impacts happen on the regional, not local, scale, and a person determined to flee them will need to leave their region entirely to do so.

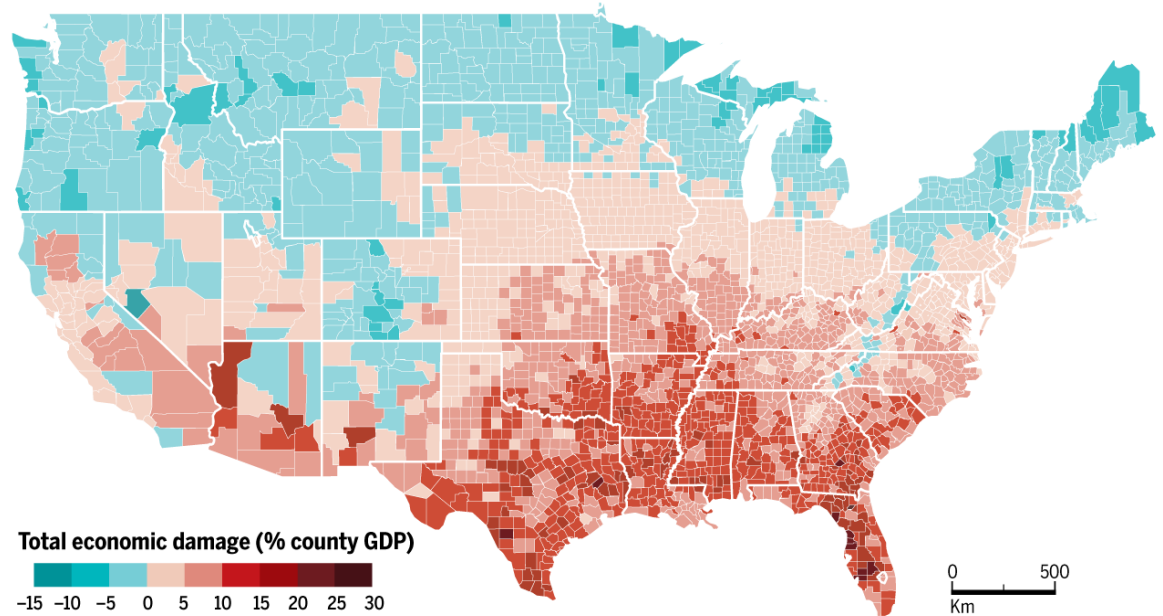


Figure 1: Total expected economy damage from the climate crisis by county as percentage of county GDP.⁷²

⁶⁹ Patrick Sisson, *Climate Change and the coming coastal real estate crash*, CURBED, Oct. 16, 2018, <https://www.curbed.com/2018/10/16/17981244/real-estate-climate-change-infrastructure> (last visited July 22, 2019).

⁷⁰ *Life's a Beach*, FREDDIEMAC, http://www.freddiemac.com/research/insight/20160426_lifes_a_beach.html (last visited July 22, 2019).

⁷¹ WUEBBLES ET AL., *supra* note 8.

⁷² Paul Voosen, *Here's how much climate change is going to cost your county*, SCIENCE MAGAZINE, June 29, 2017, <https://www.sciencemag.org/news/2017/06/here-s-how-much-climate-change-going-cost-your-county> (last visited July 22, 2019) (reprint release on file with the SGLPJ).

It is not only the slow, creeping effects of climate change like chronic inundation, rising temperatures, and mounting economic damage that will induce people to move: climate disasters that destroy homes will force families to make fast decisions about whether to rebuild in place or seek greener pastures. An event that destroys a single home or handful of homes may not drive people to move out of state, but when climate disasters erase an entire town from the map, leaving no place in which to shelter, members of the community are *de facto* forced to move away from where they had once lived. In 2018 alone, climate-fueled disasters completely destroyed several municipalities: Hurricane Michael “wiped out” Mexico Beach, Florida,⁷³ and the Camp Fire razed the town of Paradise, California.⁷⁴ In such circumstances, when a disaster has destroyed not 9% or 10%, but 90% or 100% of homes in a community in less than a week, people have no place in their city in which to shelter, even if they wanted to stay to rebuild.⁷⁵ Displaced people in such circumstances have also likely lost their schools, places of employment, and other institutions that had previously tied them to their community. With no place to stay, and the ties normally keeping them grounded to a community broken, people may be willing to move further from the disaster area than they would otherwise.⁷⁶

Though millions of climate migrants will seek to move out of their state, countervailing structural incentives will present a challenge to would-be migrants. For example, public employees, such as teachers, often have state pension plans or other retirement benefits which they receive in lieu of federal social security.⁷⁷ Such geographically-tied pension benefits may keep public employees working in the state lest they lose their retirement packages. Similarly, people who receive assistance from public safety net programs like Medicaid or the Supplemental

⁷³ CNN Wire, *Mexico Beach Is ‘Wiped Out’ by Hurricane Michael as Other Florida Cities Are Smashed*, WNEP, Oct. 11, 2018, <https://wnep.com/2018/10/11/mexico-beach-is-wiped-out-by-hurricane-michael-as-other-florida-cities-are-smashed/> (last visited July 22, 2019).

⁷⁴ Eric Holthaus, *The bizarre and frightening conditions that sparked the Camp Fire*, GRIST, Nov. 15, 2018, <https://grist.org/article/the-bizarre-and-frightening-conditions-that-sparked-the-camp-fire/> (last visited July 22, 2019).

⁷⁵ As of May 2019, over 1,000 families were still looking for housing after the Camp Fire. Kirk Siegler, *More than 1,000 Families Still Searching for Homes 6 Months After the Camp Fire*, NPR, May 8, 2019, <https://www.npr.org/2019/05/08/721057281/more-than-1-000-families-still-searching-for-homes-6-months-after-the-camp-fire> (last visited July 22, 2019).

⁷⁶ Dani Anguiano, *Anxious wildfire refugees camped in parking lot wonder: where now?*, THE GUARDIAN, Nov. 19, 2018, <https://www.theguardian.com/us-news/2018/nov/19/wildfire-refugees-california-chico-walmart-parking-lot-latest> (last visited July 22, 2019) (quoting a person who lost his home in the Camp Fire, “I’m leaving the state of California. I’m going to Indiana . . . I’m tired of being chased by fire. I’ve run enough in my life.”).

⁷⁷ Schleicher, *supra* note 39, at 124.

Nutritional Assistance Program, face differing eligibility across state lines, incentivizing low-income people to stay in states where such subsidies are lower.⁷⁸ Homeownership, too, decreases the likelihood that people will move away, particularly when the mortgage debt homeowners hold is greater than the potential sale revenue,⁷⁹ as may occur when homes lose value due to climate change effects. Cities and states also have incentives to try to keep their residents, even in the face of climate dangers, as lost residents translate into lost property tax revenue. Nonetheless, when and if climate effects become dire enough, people (especially people with more financial assets) will likely overcome these barriers and decide to leave.

C. Justifications for Using Policy tools to Encourage Climate Migrants to Move to Climate Havens in Currently Shrinking Cities

When climate migrants start to move, where should they go? Here, America's currently shrinking cities enter the picture. Many of America's currently shrinking cities would serve as good destinations for climate migrants for several reasons. First, many shrinking cities are located in areas with abundant climate amenities. Cities in upstate New York, Michigan, and other parts of the northeast and upper Midwest (the so-called "Rust Belt") are located near abundant freshwater, have low risks of wildfires, and are too far inland to face risks from sea level rise or hurricanes.⁸⁰ Indeed, parts of the Rust Belt are set to see their economies grow as a result of climate change.⁸¹

Second, the migrants would help shrinking cities. Cities like Detroit have more sidewalks, streetlamps, and school buildings than they need for their current population but still spend money maintaining that infrastructure.⁸² Rust Belt cities also often have abundant, vacant, low-cost housing available for sale.⁸³ Filling those homes with climate migrants could help shrinking cities to reinvigorate their

⁷⁸ *Id.* at 125-6.

⁷⁹ *Id.* at 128.

⁸⁰ *See, e.g.*, Figure 1, *supra* page 13 (indicating that many cities in the Rust Belt will face lessened negative, and sometimes, moderately positive, effects from the climate crisis).

⁸¹ *See* Voosen, *supra* note 72.

⁸² Anderson, *supra* note 34, at 1125; *see also* Schleicher, *supra* note 39, at 132 (discussing that the physical stock of cities, like buildings and roads, are "inertial," making it difficult for cities to shrink).

⁸³ Daniel Bukszpan, *Why millennials are flocking to Rust Belt real estate*, CNBC, Sept. 23, 2018, <https://www.cnbc.com/2018/09/23/why-millennials-are-flocking-to-rust-belt-real-estate.html> (last visited July 22, 2019) (stating the "overwhelming" reason Millennial homebuyers are moving to the area is its affordable and abundant housing stock).

tax base, and to reduce the arson and other public health risks associated with vacant properties. These benefits are not hypothetical. The Rust Belt city of Utica, New York has revitalized itself by repopulating its city with refugees.⁸⁴ Over 14,000 refugees have come to Utica since the 1990s, buying vacant properties, planting community gardens, and generating property taxes.⁸⁵ Utica's new residents have become drivers of the local economy, including by opening a multitude of ethnic restaurants,⁸⁶ and are actively sought as employees at the local Chobani yogurt plant, founded in the area by another immigrant.⁸⁷ There is no reason that other shrinking cities could not also revitalize their local economies by welcoming domestic climate migrants, albeit ones fleeing other states rather than other nations.

Finally, ensuring that climate migrants settle in cities—*i.e.*, landscapes that are already ecologically disturbed—as opposed to carving fresh subdivisions into current farm or wildlands, is important in the fight against climate change overall. When people move to rural areas centered on car transportation, they create far more greenhouse gas emissions than they would have had they lived in a city.⁸⁸ Meanwhile, conserving and restoring grasslands, forests, and other natural lands has the potential to mitigate 21% of the nation's annual greenhouse gas emissions.⁸⁹ Rural areas in parts of the country - particularly in the Great Plains states - have experienced rapid depopulation in the 21st century,⁹⁰ analogous to that in shrinking cities. As rural depopulation trends deepen across the country,⁹¹ it should be a national policy goal to ensure that people fleeing the climate crisis elsewhere allow rural populations to continue declining, so as to minimize

⁸⁴ Editorial Board, *New Home: Refugee resettlement in Utica a big success story*, SYRACUSE.COM, Feb. 12, 2012, http://blog.syracuse.com/opinion/2012/02/new_home_refugee_resettlement.html (last visited July 22, 2019).

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Utica, N.Y., Which Welcomes Refugees, Monitors Trump's Muslim Comments*, NORTH COUNTRY PUBLIC RADIO, Nov. 22, 2016, <http://www.wlrn.org/post/utica-ny-which-welcomes-refugees-monitors-trumps-muslim-comments> (last visited July 22, 2019).

⁸⁸ GLAESER, *supra* note 51, at 13-14.

⁸⁹ Georgina Gustin, *Natural Climate Solutions Could Cancel Out a Fifth of U.S. Emissions, Study Finds*, INSIDE CLIMATE NEWS, Nov. 14, 2018, <https://insideclimatenews.org/news/14112018/climate-change-solutions-forests-farms-carbon-storage-cancel-out-emissions-study> (last visited July 22, 2019).

⁹⁰ Tim Henderson, *Rural States Try to Stop Population Exodus*, GOVERNING, Aug. 20, 2015, <https://www.governing.com/topics/mgmt/states-try-to-counter-rural-flight.html> (last visited July 22, 2019).

⁹¹ *Id.*

disruption to ecosystems that are recovering and allow those ecosystems to sequester carbon from the atmosphere.⁹²

IV. POTENTIAL GOVERNMENT INTERVENTIONS TO FACILITATE CLIMATE MIGRATION TO CURRENTLY SHRINKING CITIES

Given the imminence of climate migration within the United States, all levels of government should respond with a proportional sense of urgency. This Part attempts to scratch the surface of some of the many potential interventions that governments at all levels can take to facilitate climate migration, beyond addressing the barriers to migration discussed above in Part III. The discussion of city and state interventions is limited to that of a climate haven state or city seeking to attract residents, rather than that of the city or state poised to lose residents to climate change, given the structural reasons (such as reliance on property tax revenue) why localities in imminent climate danger would nonetheless resist encouraging their residents to move. However, future scholarship should examine interventions the federal government could take to reduce reliance on property tax revenue and other barriers that make it difficult for localities in climate danger to facilitate their residents' migrations.

There are three underlying reasons why governments should intervene to help climate migrants move to other parts of the country. The first is public safety. The direct impacts of climate change will kill tens of thousands people in the United States between now and 2100,⁹³ sicken or injure thousands more,⁹⁴ and result in billions, if not trillions, of dollars of property loss.⁹⁵ Those effects will not occur evenly across the United States,⁹⁶ some areas, like Florida, are uniquely vulnerable. It is good government policy to encourage people to move away from areas of risk. Indeed, many people want to leave areas of risk, and move to safer areas, but lack the means of doing so. Just as Anderson argued in her scholarship

⁹² For example, the American Prairie Reserve has been purchasing ranches and other landholdings in Montana to create the largest natural preserve in the lower forty-eight states. *See Building the Reserve*, AMERICAN PRAIRIE RESERVE, <https://www.americanprairie.org/building-the-reserve> (last visited July 22, 2019).

⁹³ A. Crimmins et al., U.S. GLOBAL CHANGE RESEARCH PROGRAM, THE IMPACTS OF CLIMATE CHANGE ON HUMAN HEALTH IN THE UNITED STATES: A SCIENTIFIC ASSESSMENT, SUMMARY (2016), <https://health2016.globalchange.gov/> (last visited July 22, 2019).

⁹⁴ Gustin, *supra* note 89.

⁹⁵ Krishna Rao, *Climate Change and Housing: Will a Rising Tide Sink All Homes?*, ZILLOW RESEARCH, June 2, 2017, <https://www.zillow.com/research/climate-change-underwater-homes-12890/> (last visited July 22, 2019).

⁹⁶ *See* Figure 1, *supra* page 13.

on shrinking cities that a responsible local government should be expected to provide a minimum level of health and safety services (discussed above in II.b.),⁹⁷ arguably governments should also be responsible for providing a base level of public safety from a destabilized climate.⁹⁸

The second reason is moral: beyond a general failure to halt fossil fuel extraction or taper greenhouse gas emissions, specific federal programs have put people directly at risk from the climate crisis. For example, the National Flood Insurance Program, an insurance program run by the Federal Emergency Management Agency (FEMA) has kept flood insurance premiums artificially low in comparison to the risk flood-prone properties face.⁹⁹ FEMA's floodplain maps have not kept pace with science on climate crisis-driven flooding risk.¹⁰⁰ Some properties the program covers have flooded repeatedly, but the program continues to subsidize their flood insurance.¹⁰¹ Even if these repeatedly flooded home still retain some value, many of their homeowners would rather receive a buyout, *i.e.*, have the government purchase their property so that they can move elsewhere and avoid the trauma of having their home flood repeatedly.¹⁰² However, government spending on buyout programs falls far short of the public's demand.¹⁰³ As the government here has put people in harm's way, it has a moral duty to help shelter those same people from additional future danger.

Finally, the lack of federal action on slowing or stopping the climate crisis, along with the federal government's congruous failure to take meaningful action

⁹⁷ Anderson, *supra* note 34, at 1181.

⁹⁸ The plaintiffs in the youth climate activist lawsuit, *Juliana v. United States*, made just such an argument. *Juliana v. United States*, 217 F. Supp. 3d 1224, 1250 (D. Or. 2016), *motion to certify appeal denied*, No. 6:15-CV-01517-TC, 2017 WL 2483705 (D. Or. June 8, 2017).

⁹⁹ Joseph Kane & Robert Puentes, *In flood-prone areas, a rising tide of population*, BROOKINGS, July 14, 2015, <https://www.brookings.edu/blog/the-avenue/2015/07/14/in-flood-prone-areas-a-rising-tide-of-population/> (last visited July 22, 2019).

¹⁰⁰ *Id.*

¹⁰¹ NATURAL RESOURCES DEFENSE COUNCIL, *SEEKING HIGHER GROUND: HOW TO BREAK THE CYCLE OF REPEATED FLOODING WITH CLIMATE-SMART FLOOD INSURANCE REFORMS* (2017), <https://www.nrdc.org/sites/default/files/climate-smart-flood-insurance-ib.pdf> (last visited July 22, 2017).

¹⁰² *Id.*

¹⁰³ A.R. Siders, *Government-funded buyouts after disasters are slow and inequitable – here's how that could change*, WTOG, Oct. 19, 2018, <https://wtop.com/national/2018/10/government-funded-buyouts-after-disasters-are-slow-and-inequitable-heres-how-that-could-change/> (last visited July 22, 2019); Lisa Song, et al., *Buyouts Won't Be the Answer for Many Frequent Flooding Victims*, PROPUBLICA, Nov. 1, 2017, <https://features.propublica.org/houston-buyouts/hurricane-harvey-home-buyouts-harris-county/> (last visited July 22, 2019).

on climate adaptation, means that the responsibility to protect Americans from the climate crisis has fallen by default on the shoulders of states and localities. Action at the sub-federal level has the potential to have a large impact. While the risk of a collective action barrier to action is potent, subsets of states and cities have overcome that risk by taking meaningful action on climate crisis mitigation in recent years.¹⁰⁴ For example, in the wake of President Trump's announced withdrawal from the Paris Climate Accord, seventeen states and territories, representing 40% of the nation's population, formed the U.S. Climate Alliance, a sub-national effort to achieve the goals of the Paris Climate Accord.¹⁰⁵ Separately, 247 cities and thirty-three counties, representing 154 million Americans, have pledged to uphold the Paris Climate Accord through the "We're Still In" coalition.¹⁰⁶ Complementary state and local climate migration policies could also grow to cover large subsets of the population, protecting tens, or hundreds, of millions of people even in absence of federal action.

A. Local Interventions

Currently-shrinking cities that are climate havens can take several steps to attract people seeking to relocate. First, they should openly tout their climate amenities to potential new residents, much as they would other amenities in their cities. Many small cities already use nonprofit growth development corporations to explore ways to grow their population and business sectors.¹⁰⁷ Larger cities have also undertaken aggressive marketing campaigns to try to bring new residents to their city.¹⁰⁸ Much as cities now would tout their stadiums, convention centers, and nightlife before the press whenever they can, they should take similar opportunities to highlight their climate amenities.

¹⁰⁴ I discuss such collective action on reducing emissions from the electricity sector elsewhere. See Lauren Phillips, "State's Rights" Prevail: How State Renewable Energy Policy Is Combating Climate Change, GEO. ENVTL. L. REV. ONLINE, Nov. 12, 2017, <https://gelr.org/2017/11/12/states-rights-prevail-how-state-renewable-energy-policy-is-combating-climate-change/> (last visited July 22, 2019).

¹⁰⁵ FAQs, U.S. CLIMATE ALLIANCE, <https://static1.squarespace.com/static/5a4cfbfe18b27d4da21c9361/t/5cd06781e79c7011d1796256/1557161857458/USCA+FAQ+-+2019+MAY.pdf> (last visited July 22, 2019).

¹⁰⁶ "We Are Still In" Declaration, WE ARE STILL IN, <https://www.wearestillin.com/we-are-still-declaration> (last visited July 22, 2019).

¹⁰⁷ Anderson, *supra* note 34, at 1179.

¹⁰⁸ See, e.g., Aaron M. Renn, *Beyond the 'Brain Drain': How Cities Really Need to Sell Themselves*, GOVERNING, Aug. 15, 2013, <http://www.governing.com/blogs/view/col-cities-brain-drain-selling-recruiting-talent.html> (last visited July 22, 2019).

The rust belt cities of Duluth, Minnesota and Buffalo, New York have become early adopters of this strategy, exploring branding as “A Climate Haven” and “Climate Proof Duluth,” respectively.¹⁰⁹ In the wake of Hurricane Maria’s devastation of Puerto Rico, Buffalo advertised for Spanish teacher positions on Puerto Rican television, and ultimately attracted 10,000 new residents that the storm had displaced.¹¹⁰ Though many Puerto Rican migrants might have come to Buffalo without the advertisements - before the storm, Buffalo already had an established Puerto Rican community¹¹¹ - it is also possible that Buffalo’s proactive outreach helped bring in additional migrants than would have arrived through community networks alone.

Cities can also create incentives to make housing for climate migrants affordable. For example, cities can create programs that subsidize the purchase of properties currently vacant or foreclosed.¹¹² They can also create land banks to purchase vacant or foreclosed properties, and sell them at low costs to new residents.¹¹³ For example, the Wayne County Land Bank (which includes the Detroit metro area) is already seeking to work with migrants resettlement efforts.¹¹⁴ Extending such programs to climate refugees would be a logical extension of its current program. Properties have been available through the

¹⁰⁹ Kendra Pierre-Louis, *Want to Escape Global Warming? These Cities Promise Cool Relief*, N.Y. TIMES, Apr. 15, 2019, <https://www.nytimes.com/2019/04/15/climate/climate-migration-duluth.html> (last visited July 22, 2019).

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² U.S. ENVTL. PROT. AGENCY, HOW SMALL TOWNS AND CITIES CAN USE LOCAL ASSETS TO REBUILD THEIR ECONOMIES: LESSONS FROM SUCCESSFUL PLACES 6, 30 (2015), https://www.epa.gov/sites/production/files/2015-05/documents/competitive_advantage_051215_508_final.pdf (last visited July 22, 2019); *see also* Thomas MacMillan, *City Launches Homebuyer Campaign*, NEW HAVEN INDEPENDENT, May 7, 2014, https://www.newhavenindependent.org/index.php/archives/entry/city_launches_homebuyer_incentive_campaign/ (last visited July 22, 2019); *Incentives*, VACANT TO VALUE, <http://www.vacantstovalue.org/incentives.aspx> (last visited July 22, 2019) (describing homeowner incentives in Baltimore, Maryland).

¹¹³ SCOTT M. STRINGER, OFFICE OF THE NEW YORK CITY COMPTROLLER, BUILDING AN AFFORDABLE FUTURE: THE PROMISE OF A NEW YORK CITY LAND BANK 4 (2016), https://comptroller.nyc.gov/wp-content/uploads/documents/The_Case_for_A_New_York_City_Land_Bank.pdf (last visited July 22, 2019).

¹¹⁴ *See Refugee Resettlement*, WAYNE COUNTY LAND BANK, <https://waynecountylandbank.com/programs/refugee-resettlement/> (last visited July 22, 2019).

Wayne County Land Bank for as little as \$2,000, an affordable housing price unlikely to be found anywhere in the nation outside of a shrinking city.¹¹⁵

B. State Interventions

Like cities, states can also offer tax incentives to encourage homeownership, and could target such tax incentives specifically to home-purchasers buying property in shrinking cities. State homeownership incentive programs already exist all over the country.¹¹⁶ At the same time, states can eliminate incentive programs that would allow for subsidized home purchases in areas of high climate risk, such as restricting tax credits for home purchases to areas away from sites prone to flooding, or making subsidies more generous in areas more removed from risk. States can also start statewide land banks, or facilitate coordination among city land banks or other city programs within their states.¹¹⁷ Finally, states can offer in-state higher education tuition benefits for young people that the climate crisis displaces, helping to attract students who may later stay permanently in the state's shrinking cities.¹¹⁸

C. Federal Interventions

In modern times, the federal government has had mixed success with policy programs designed to incentivize people to move.¹¹⁹ There is no guarantee that federal incentives would be helpful in the climate migration context.

¹¹⁵ See *Featured Properties*, WAYNE COUNTY LAND BANK, <https://waynecountylandbank.com/featured-properties/> (last visited July 22, 2019).

¹¹⁶ The federal Department of Housing and Urban Development maintains a state-by-state directory of such programs. See *State Information*, DEP'T OF HOUS. AND URBAN DEV., <https://www.hud.gov/states> (last visited July 23, 2019).

¹¹⁷ Some land banks have already begun to coordinate with one another and share resources; states could help to facilitate that knowledge-sharing. See *About*, N.Y. STATE LAND BANK ASS'N, <http://nylandbanks.org> (last visited July 23, 2019).

¹¹⁸ Several state higher education systems offered such benefits for Puerto Rican students in the wake of Hurricane Maria. Ariana Figueroa, *Mainland Colleges Offer In-State Tuition to Students Affected By Hurricane Maria*, NPRED, Oct. 22, 2017, <https://www.npr.org/sections/ed/2017/10/22/558353633/mainland-colleges-offer-in-state-tuition-to-students-affected-by-hurricane-maria> (last visited July 23, 2019).

¹¹⁹ See Sheila R. Foster, *The Limits of Mobility and the Persistence of Urban Inequality*, 127 YALE L.J. FORUM 480, 491-493 (2017), <https://www.yalelawjournal.org/forum/the-limits-of-mobility-and-the-persistence-of-urban-inequality> (last visited July 23, 2019) (briefly describing the recent history of federal mobility policy in the anti-poverty context, and citing to other literature on the subject).

However, due to the cross-state nature of climate crisis migration, the federal government is in the best position to support climate migrants for several reasons. First, federal action could help avoid collective action and federalism complications and could ensure that sensible climate migration programs covered all Americans, instead of a patchwork of state and local policies. Second, the federal government has more resources at its disposal than any one state and already spends billions of dollars on federal housing programs. In 2015, the federal government spent \$190 billion on rental housing and homeownership programs.¹²⁰ Like state and local governments, the federal government can offer housing tax credits to people who move away from risky areas and into cities that need population growth. By tailoring that money, the government could direct some of that money towards relocating people to currently shrinking cities, especially given that federal housing spending today poorly matches economic needs.¹²¹ The federal government could also give vouchers to people currently living in public housing to move away from areas of climate risk.

Any proposal to move people as individuals runs the risk of disrupting community bonds; thus, the federal government could offer community relocation grants to allow larger groups of people to move together as a unit. In at least two instances, the federal government has given tribal communities grants to relocate when sea level rise threatened their village or reservation. The Isle de Jean Charles Band of Biloxi-Chitimacha-Choctaw Tribe received \$48 million to relocate their tribe off of their island reservation, which sea level rise will subsume in the coming decades.¹²² The Obama Administration also offered the state of Alaska \$2 million to help with voluntary climate relocation for its native villages, but that amount is estimated to be only 1-2% of the cost of relocating *one* village. Meanwhile, at least thirty-one villages are in imminent danger of becoming uninhabitable.¹²³ The federal government should expand such relocation grant programs.

¹²⁰ WILL FISCHER & BARBARA SARD, CTR. ON BUDGET & POLICY PRIORITIES, CHART BOOK: FEDERAL HOUSING SPENDING IS POORLY MATCHED TO NEED (2017), <https://www.cbpp.org/sites/default/files/atoms/files/12-18-13hous.pdf> (last visited July 23, 2019).

¹²¹ *Id.*

¹²² *About the Project*, ISLE DE JEAN CHARLES RESETTLEMENT AND SURVIVAL, <http://www.coastalresettlement.org/about-the-project.html> (last visited July 23, 2019).

¹²³ Victoria Herrmann, *Opinion: America's climate refugee crisis has already begun*, L.A. TIMES, Jan. 25, 2016, <https://www.latimes.com/opinion/op-ed/la-oe-0125-herrmann-climate-refugees-20160125-story.html> (last visited July 23, 2019).

V. CONCLUSION

Security staff at the parking garage scooped up Miami's garage octopus and brought it back to the open ocean.¹²⁴ For millions of people, climate disruptions will make it much more complicated to find their way to a place they call home. As the climate crisis displaces more and more Americans, it is urgent that policymakers find a way to accommodate and assist domestic climate migrants. No place on Earth has been, or will be, untouched by the climate crisis, but some locations will become much safer places to live than others. As our own federal government, along with governments from around the world, has so far failed to stop the fossil fuel industry from warming the planet, the least it can do is help its own citizens to find shelter from the storm.

Beyond this article, there are myriad questions about the best course forward that remain unanswered. What can the federal government do to reduce the perverse incentives that cities in the line of fire have to keep their residents, even if it means keeping their residents in danger? How can all levels of government ensure that climate migration is equally available to the most vulnerable Americans, already suffering from marginalization and financial hardship? How can any facilitated climate migration protect against, and compensate for, community breakup, cultural loss, and other traumas associated with mass migration? What is the role of the private insurance market, including the home insurance market, in helping to facilitate or hinder migration? Our nation has been painfully slow to respond to the climate crisis - the best time to find answers to these questions passed decades ago. However, the more answers scholars seek out now, the better prepared the nation will be for the Great Climate Migration to come.

¹²⁴ David Fabber & Robert Verchick, *Opinion: About that octopus in the parking garage*, MIAMI HERALD, Dec. 7, 2016, <https://www.miamiherald.com/opinion/op-ed/article119396843.html> (last visited July 23, 2019).