

CLIMATE MIGRATION AS CLIMATE RESILIENCE: A CASE STUDY OF ORLANDO, FLORIDA

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In recent years, migration has become a topic of debate, especially in developed nations. Migration takes many forms, not only across international borders but also within a country.¹ The decision to move is influenced by a number of factors, including life-cycle considerations such as marriage, completion of schooling, entry into the labor force, or aging. More drastic is the decision to move because of conflict, persecution, or human rights violations. Others may also consider the adverse effects of climate change, natural disasters, or other environmental factors—which can serve as an additional reason to move, if not the only reason.²

Climate change will be felt differently across the world. No community will be immune to its effects. As the United States and the global community figure out how to address climate migration, local governments can and have already been preparing for it. Planning for climate migrants is a part of climate resilience.

Local governments have tremendous power when it comes to future development. With their land use authority, these governments can adopt plans to better accommodate climate migrants or climate-displaced persons. As hurricanes or other environmental disasters reveal and worsen existing social inequalities, local governments are in a special position to accommodate climate-displaced persons.

This Comment calls on local governments, community groups, and individuals to make a stand for how their communities will address climate change, focusing on climate migration. Part I offers background, defining climate migration and providing some recent projections of climate displacement. Part II outlines existing legal and policy avenues at the federal level, and Part III looks at the history of Puerto Rico. Part IV examines the role of local governments in land use planning, climate action planning, and climate-resilient development (CRD). Part V discusses the case study of Orlando, Florida, and Puerto Rican migrants there. Part VI offers recommendations for local government, and Part VII concludes.

1. United Nations, *International Migration*, <https://www.un.org/en/global-issues/migration> (last visited July 2, 2024).
2. *Id.*

I. Background

A. Defining Climate Migration

Throughout this Comment, I use the term “climate migrants.” Historically within climate migration literature, academics and scholars have used the term “climate refugees.”³ This term is to be avoided for several reasons. First, climate refugee implies that there is international protection for people displaced by climate change, when there is not.⁴ Second, populations displaced by climate change have strongly rejected the narrative that they are refugees.⁵

For example, the island state of Kiribati is one of the most vulnerable places in the world due to sea-level rise.⁶ The island is home to 119,446 people and has a maximum elevation of three to four meters above sea level.⁷ According to former President Anote Tong, who has never referred to his people as “refugees,”⁸ “[w]e have to acknowledge the reality that with the rising sea, the land area available for our populations will be considerably reduced and we can-

3. See Sara M. Munoz, *Environmental Mobility in a Polarized World: Questioning the Pertinence of the “Climate Refugee” Label for Pacific Islanders*, 22 J. INT’L MIGRATION & INTEGRATION 1271, 1271 (2021).

4. Convention Relating to the Status of Refugees, July 28, 1951, 19 U.S.T. 6259, 189 U.N.T.S. 150; United Nations High Commissioner for Refugees, *The 1951 Refugee Convention*, <https://www.unhcr.org/about-unhcr/who-we-are/1951-refugee-convention> (last visited July 2, 2024):

Article 1 of the 1951 Convention defines a refugee as someone who “owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of [their] nationality and is unable or, owing to such fear, is unwilling to avail [themselves] of the protection of that country; or who, not having a nationality and being outside the country of [their] former habitual residence, is unable or, owing to such fear, is unwilling to return to it.”

5. Alex Randall, *Don’t Call Them “Refugees”: Why Climate Change Victims Need a Different Label*, GUARDIAN (Sept. 18, 2014), <https://www.theguardian.com/vital-signs/2014/sep/18/refugee-camps-climate-change-victims-migration-pacific-islands>.

6. Oliver Milman, *“No Safe Place”: Kiribati Seeks Donors to Raise Islands From Encroaching Seas*, GUARDIAN (Nov. 18, 2022), <https://www.theguardian.com/environment/2022/nov/18/cop27-kiribati-donors-raise-islands-sea-level-rise>.

7. WORLD BANK GROUP, CLIMATE RISK COUNTRY PROFILE: KIRIBATI (2021), https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15816-WB_Kiribati%20Country%20Profile-WEB.pdf.

8. Randall, *supra* note 5.

not accommodate all of them, so some of them have to go somewhere, but not as refugees.”⁹

Dina Ionesco, head of the Migration, Environment, and Climate Change Division at the United Nations International Organization for Migration (IOM), further argues that establishing a climate refugee status would provide only partial solutions to address the complexity of human mobility and climate change.¹⁰ Her statement connects to a third reason the use of “climate refugees” is to be avoided: it gives the impression that climate displacement is *solely* an international issue, resulting in people crossing national borders to flee the effects of climate change.¹¹ In fact, climate migration is mainly internal,¹² and when “[migrants] are moving under the responsibility of their own state, they do not cross borders and are not seeking protection from a third country or at the international level.”¹³

According to the IOM:

Environmental migrants are persons or groups of persons who, predominantly for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad.¹⁴

Climate migration is the movement of a person or group of persons who are obliged to leave their habitual place because of sudden or progressive changes in the environment due to climate change—it is a subcategory of environmental migration.¹⁵

The nature, duration, and scale of climate migration depends on whether it is taking place as a result of slow-onset events or sudden-onset events.¹⁶ Slow-onset events are of gradual progression, such as drought or sea-level rise.¹⁷

Conversely, sudden-onset events, like earthquakes or flash floods, are events that occur quickly or unexpectedly.¹⁸

An additional layer in the decision to migrate is the extent to which the changing climate or environment interacts with other existing socioeconomic, cultural, and political factors.¹⁹ The complexity and multicausality of environmental migration does not mean it should be understood as a wholly negative or positive outcome, because “while migration can amplify existing vulnerabilities, it can also allow people to build resilience.”²⁰ Ultimately, the decision will depend on how a locality or country treats migration, and it is important to note that environmental or climate-related events do not necessarily cause displacement. Instead, a declining environment exacerbates poverty, housing insecurity, and economic inequality.²¹

B. Present and Future Manifestations of Climate Displacement and Migration

Quantifying environmental migration is challenging because of the compounding factors at play in driving migration.²² According to the Migration Data Portal, “some . . . data exists on population displacement within a country, and to a lesser degree across borders due to natural disasters.”²³ Of the 68.5 million individuals who were forcibly displaced worldwide in 2017, about 40 million remained within their country of origin.²⁴

In 2022, the IOM reported a figure of 60.9 million new internal displacements,²⁵ only 53% of which were triggered by sudden-onset disasters.²⁶ Currently, the global South hosts 86% of the world’s cross-border migrants, with only a relatively small amount of migrants moving into global North countries like France, Sweden, and the United States.²⁷ The IOM has also cited estimates of as many as one billion environmental migrants in the next 30 years, but more recent projections point to 1.2 billion by 2025 and 1.4 billion by 2060.²⁸

9. *Id.*

10. Dina Ionesco, *Let’s Talk About Climate Migrants, Not Climate Refugees*, IOM, <https://rosanjose.iom.int/en/blogs/lets-talk-about-climate-migrants-not-climate-refugees> (last visited July 2, 2024).

11. *See id.*

12. *Id.*

13. *Id.* Another term commonly used for migrants within one country is “internally displaced person.” According to the *Guiding Principles on Internal Displacement*:

Internally displaced persons are persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence . . . as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an international recognized State border.

Francis M. Deng (Representative of the Secretary-General on Internally Displaced Persons), *Addendum: Guiding Principles on Internal Displacement*, U.N. Doc. E/CN.4/1996/52/Add.2, at 8 (Feb. 11, 1998) (introductory note).

14. IOM, *Environmental Migration*, <https://environmentalmigration.iom.int/environmental-migration> (last visited July 2, 2024).

15. IOM, INTERNATIONAL MIGRATION LAW: GLOSSARY ON MIGRATION (2019), https://environmentalmigration.iom.int/sites/g/files/tmzbd11411/files/iml_34_glossary.pdf.

16. IOM, *supra* note 14.

17. United Nations Office for Disaster Risk Reduction, *Disaster*, <https://www.undrr.org/terminology/disaster> (last visited July 2, 2024).

18. *Id.*

19. IOM, *supra* note 14.

20. *Id.*

21. OLI BROWN, IOM, MIGRATION RESEARCH SERIES NO. 31, MIGRATION AND CLIMATE CHANGE 12 (2008), https://publications.iom.int/es/system/files/pdf/mrs-31_en.pdf.

22. Migration Data Portal, *Environmental Migration*, https://www.migrationdataportal.org/themes/environmental_migration_and_statistics (last updated June 5, 2024).

23. *Id.*

24. Michael Rios, *UN Reports 68.5 Million People Displaced Worldwide in 2017*, PBS NEWS HOUR (June 19, 2018), <https://www.pbs.org/newshour/world/un-reports-68-5-million-people-displaced-worldwide-in-2017>.

25. Migration Data Portal, *supra* note 22.

26. *Id.*

27. ANDRÉ BANK & CHRISTIANE FRÖHLICH, GERMAN INSTITUTE OF GLOBAL AND AREAS STUDIES, FORCED MIGRATION IN THE GLOBAL SOUTH: RE-ORIENTING THE DEBATE 2 (2018), https://www.ssoar.info/ssoar/bitstream/handle/document/57809/ssoar-2018-bank_et_al-Forced_Migration_in_the_Global.pdf.

28. Gaia Vince, *The Century of Climate Migration: Why We Need to Plan for the Great Upheaval*, GUARDIAN (Aug. 18, 2022), <https://www.theguardian.com/news/2022/aug/18/century-climate-crisis-migration-why-we-need-plan-great-upheaval>.

In the United States, there have been several examples of forced movement in the context of hurricanes, wildfires, and other extreme weather events.²⁹ For example, the 2019 California wildfires displaced about 100,000 Californians, and a majority of those displaced lost their homes permanently.³⁰ Moreover, sea-level rise alone is set to displace about 13 million coastal residents by 2100.³¹ The United States is also unique in that climate migrants in the United States have traced a circular path—often moving multiple times until they end up back where they originally were.³²

II. Existing Structures to Support Climate Migrants in the United States

As at the international level, the United States lacks a framework specifically dedicated to addressing climate migration. Existing federal policies and programs indirectly touch on aspects of climate-induced displacement, but a cohesive and specific plan for managing climate migration is absent. The Federal Emergency Management Agency (FEMA) focuses on disaster response and recovery, offering assistance to individuals affected by natural disasters, which might include climate-related events.³³ The Department of Housing and Urban Development (HUD) supports disaster recovery efforts through programs like the Community Development Block Grant Disaster Recovery Program, which aids in rebuilding and housing support post-disaster.³⁴

However, these agencies' efforts primarily revolve around short-term responses rather than long-term strategies for climate-induced migration. Additionally, their programs aim to promote adaptation in the form of helping people stay where they are. Efforts to address climate migration have mainly been decentralized, with individual states and local governments taking the lead in developing adaptation plans and policies to manage potential displacement.³⁵

Despite the absence of a comprehensive federal framework, there have been calls for the federal government to develop strategies, coordinate with states and localities, and allocate resources to address the anticipated challenges posed by climate-induced migration, emphasizing the need for a more structured and coordinated approach

at the national level.³⁶ In a 2021 White House report, the Joseph Biden Administration acknowledged that “[t]here is an interplay between climate change and various aspects of eligibility for refugee status.”³⁷

Notably, the Inflation Reduction Act includes \$225 million to support Indigenous communities and Native Hawaiians with relocation, as their communities bear a disproportionate brunt of the effects of climate change.³⁸ While relocation of Indigenous peoples is something that must be done with great care given historical inequities, the fact that funding is available is a first step.³⁹

III. Puerto Rico's Climate Vulnerabilities and Hurricane Maria

A. Climate Vulnerability

For the U.S. territories in the Caribbean, including Puerto Rico, global warming has exacerbated the frequency and intensity of tropical storms.⁴⁰ For example, in 2017, Hurricanes Irma and Maria caused billions of dollars in damage and killed thousands of people.⁴¹ These hurricanes, combined with rising ocean and air temperatures, have also led to diseases like vibriosis, malaria, and yellow fever.⁴²

Since 1898, Puerto Rico has been a territory of the United States.⁴³ This has led to a close but extremely complex relationship with the United States, where Puerto Rico is “part of the United States, but distinct from it.”⁴⁴ Puerto Rico's relationship with the United States began when the United States invaded Puerto Rico during the Spanish-Cuban-American War and seized the island from Spain (which had colonized Puerto Rico since 1493).⁴⁵ What followed was a series of legislation and U.S. Supreme Court

29. Linda Poon, *Tracking the Erratic Path of US Climate Migrants*, BLOOMBERG (Mar. 7, 2023), <https://www.bloomberg.com/news/articles/2023-03-07/forget-managed-retreat-us-climate-migration-will-be-chaos>.

30. Abraham Lustgarten, *Climate Change Will Force a New American Migration*, PROPUBLICA (Sept. 15, 2020), <https://www.propublica.org/article/climate-change-will-force-a-new-american-migration>.

31. Poon, *supra* note 29.

32. *Id.*

33. See FEMA, NATIONAL DISASTER RECOVERY FRAMEWORK: INFORMATION SHEET (2d ed. 2020), https://www.fema.gov/sites/default/files/2020-06/information_sheet_recovery_framework.pdf.

34. HUD, *Community Development Block Grant Disaster Recovery Grant Funds*, https://www.hud.gov/program_offices/comm_planning/cdbg-dr (last updated June 6, 2024).

35. Justin H. Vassallo, *The Bold Idea to Move Millions to Climate Havens*, NOEMA (Sept. 27, 2023), <https://www.noemamag.com/the-bold-idea-to-move-millions-to-climate-havens/>.

36. WHITE HOUSE, REPORT ON THE IMPACT OF CLIMATE CHANGE ON MIGRATION 5 (2021) [hereinafter IMPACT OF CLIMATE CHANGE ON MIGRATION]; see WHITE HOUSE, NATIONAL CLIMATE RESILIENCE FRAMEWORK 17 (2023).

37. IMPACT OF CLIMATE CHANGE ON MIGRATION, *supra* note 36, at 17.

38. U.S. Department of the Interior, *Inflation Reduction Act*, <https://www.doi.gov/inflation-reduction-act> (last visited July 2, 2024).

39. See Angela R. Riley & Kristen A. Carpenter, *Decolonizing Indigenous Migration*, 109 CALIF. L. REV. 63, 132 (2021) (demonstrating that tribal governments can use their legislative, regulatory, and adjudicatory authority to bring tribal values into law making regarding borders and migration).

40. William A. Gould et al., *U.S. Caribbean*, in 2 IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT 809, 813-14 (David R. Reidmiller et al. eds., U.S. Global Change Research Program 2018).

41. Jorge L. Ortiz, *Hurricane Maria's Economic Impact on Puerto Rico: At Least \$43 Billion, Possibly as High as \$159 Billion*, USA TODAY (Dec. 6, 2018), <https://www.usatoday.com/story/news/2018/12/04/hurricane-maria-economic-impact-puerto-rico/2209231002/>.

42. U.S. ENVIRONMENTAL PROTECTION AGENCY, WHAT CLIMATE CHANGE MEANS FOR PUERTO RICO (2016); see Gould et al., *supra* note 40, at 809.

43. Rachel Lewis, *Is Puerto Rico Part of the U.S.? Here's What to Know*, TIME (Sept. 26, 2017, 10:23 AM), <https://time.com/4957011/is-puerto-rico-part-of-us/>.

44. Amelia Cheatham & Diana Roy, *Puerto Rico: A U.S. Territory in Crisis*, COUNCIL ON FOREIGN RELS. (Sept. 29, 2022, 11:40 AM), <https://www.cfr.org/backgrounder/puerto-rico-us-territory-crisis>.

45. JOSÉ TRIAS MONGE, PUERTO RICO: THE TRIALS OF THE OLDEST COLONY IN THE WORLD 5 (1997).

decisions that reinforced the “second-class citizen” status of Puerto Ricans.⁴⁶

According to Juan Declet-Barreto, a senior social scientist for climate vulnerability, “[T]he authority to decide on issues that affect Puerto Rico lies, not on the people of Puerto Rico, but with the U.S. Congress.”⁴⁷ The only governing positions over which Puerto Ricans have power include the island’s governor, assembly, and senate.⁴⁸ While Puerto Ricans are American citizens upon their birth, they cannot vote for the U.S. presidency, but can vote in party primaries.⁴⁹ After more than a century of this relationship, Puerto Rico continues to grapple with the legacy of colonialism on the island and its status as a territory.⁵⁰

Other barriers facing the island of Puerto Rico include a large public debt and a shrinking population, weakening the island’s economy.⁵¹ The island’s poverty rate is more than double that of any U.S. state at 44%, and it is the highest in the United States.⁵² These conditions have increased the vulnerability of the island’s communities and infrastructure to the impact of tropical storms.⁵³

B. Hurricane Maria

On September 20, 2017, Hurricane Maria made landfall on Puerto Rico, resulting in the devastation of 3.4 million people and the displacement of about 130,000 people.⁵⁴ As 155-mile-per-hour winds swept through communities, “[e]lectricity was cut . . . , access to potable water was limited, bridges collapsed, streets were in disarray, and roofs of houses were torn off.”⁵⁵ When FEMA got involved, the response was reported to be the largest and longest in the

agency’s history.⁵⁶ At the time, the storm was the third costliest storm in U.S. history.⁵⁷

Like many climate migrants, many Puerto Ricans moved to regions where they had family or friends who were able to help them transition to life on the mainland United States.⁵⁸ Finding jobs and housing accommodations presented significant challenges.⁵⁹ Additionally, language barriers made the already difficult transition so much more challenging, as many Puerto Ricans only speak Spanish with limited English fluency.⁶⁰

IV. The Role of Local Governments

Migration, whether from a disaster to safety, or for a new land of opportunity, is deeply interwoven with cooperation.⁶¹ Local governments play a critical role in driving cooperation. Land use law governs the development, zoning, and utilization of land within a jurisdiction.⁶²

In the United States, the authority to regulate land use is primarily delegated to local governments, granting them the power to establish zoning regulations, land development codes, and comprehensive plans that dictate how land can be used.⁶³ This delegation empowers local municipalities and counties to tailor land use policies to their unique needs, considering factors such as population density, environmental concerns, and economic development goals.⁶⁴ Through zoning ordinances, permitting processes, and public hearings, local governments manage land use decisions, balancing the interests of property owners, residents, businesses, and the overall community while striving to ensure sustainable and orderly development.⁶⁵

A. Comprehensive Planning

Comprehensive planning forms the basis of all efforts by the community to guide the development of its natural and

46. See, e.g., JORGE DUANY, *THE PUERTO RICAN NATION ON THE MOVE: IDENTITIES ON THE ISLAND AND IN THE UNITED STATES* 122-26 (2002). See generally GUSTAVO A. GELPÍ, *THE CONSTITUTIONAL EVOLUTION OF PUERTO RICO AND OTHER U.S. TERRITORIES (1898-PRESENT)* (2017); see *DOWNES V. BIDWELL*, 182 U.S. 244, 341 (1901) (White, J., concurring) (affirming the status of Puerto Rico as “foreign to the United States in a domestic sense”).

47. Juan Declet-Barreto, *Decolonization Is Critical for Puerto Rico to Achieve Representation in Climate Negotiations*, UNION CONCERNED SCIENTISTS: EQUATION (Oct. 4, 2023), <https://blog.ucsusa.org/juan-declet-barreto/decolonization-is-critical-for-puerto-rico-to-achieve-representation-in-climate-negotiations/>;

Since 1898, congressional legislation (e.g., the Foraker Act, the Jones-Shafroth Act, the Jones Act, the Federal Relations Act, the PROMESA law) and judicial decisions (e.g., *SCOTUS’ Puerto Rico v. Sánchez Valle*), together with the recent disastrous, expensive, and unaccountable privatization of electricity generation, transmission, and distribution, prove beyond any doubt that the authority to decide on issues that affect Puerto Rico lies, not on the people of Puerto Rico, but with US Congress.

48. Lewis, *supra* note 43.

49. *Id.*

50. *Id.*

51. Nicolas Jude Larnerd et al., *Humanitarian Response and Climate Resilience in Puerto Rico*, CTR. FOR STRATEGIC & INT’L STUD. (Dec. 7, 2022), <https://www.csis.org/analysis/humanitarian-response-and-climate-resilience-puerto-rico>.

52. *Id.*

53. *Id.*

54. Anne N. Junod et al., *Five Lessons From the Aftermath of Hurricane Maria for Communities Preparing for Climate Migration*, URB. INST. (Sept. 19, 2022), <https://www.urban.org/urban-wire/five-lessons-aftermath-hurricane-maria-communities-preparing-climate-migration>; Larnerd et al., *supra* note 51.

55. Larnerd et al., *supra* note 51; Lisa Marie Segarra, *Hurricane Maria Made Landfall in Yabucoa, Puerto Rico as a Category 4 Storm*, TIME (Sept. 20, 2017, 11:23 AM), <https://time.com/4949664/hurricane-maria-yabucoa-puerto-ri>.

56. Larnerd et al., *supra* note 51.

57. NATIONAL HURRICANE CENTER, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, *COSTLIEST U.S. TROPICAL CYCLONES TABLES UPDATED* (2018), <https://www.nhc.noaa.gov/news/UpdatedCostliest.pdf>.

58. *The Puerto Rican Diaspora Leverages Lessons From Hurricane Maria to Help After Fiona*, NPR (Sept. 24, 2022), <https://www.npr.org/2022/09/24/1124702251/the-puerto-rican-diaspora-leverages-lessons-from-hurricane-maria-to-help-after-f>.

59. *Id.*

60. According to U.S. Census data, 16.7% of Puerto Ricans across the United States and 76% of Puerto Ricans in Puerto Rico “[s]peak English less than ‘very well.’” U.S. Census Bureau, *Selected Population Profile in the United States 2021*, <https://data.census.gov/table?t=402&tid=ACSSPPY2021.SQ201> (last visited July 2, 2024); U.S. Census Bureau, *Selected Population Profile in Puerto Rico 2021*, <https://data.census.gov/table/ACSSPPY2021.SQ201PR?t=402> (last visited July 2, 2024).

61. Vince, *supra* note 28.

62. New York State, *Land Use Planning and Regulation*, https://video.dos.ny.gov/lg/handbook/html/land_use_planning_and_regulation.html (last visited July 2, 2024).

63. ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, *LAND-USE PLANNING SYSTEMS IN THE OECD: COUNTRY FACT SHEETS* (2017), https://www.oecd.org/en/publications/land-use-planning-systems-in-the-oecd_9789264268579-en.html.

64. *Id.*

65. See *id.*

built environment.⁶⁶ The most significant feature of comprehensive planning in most communities is its foundation for land use controls.⁶⁷ Through public input, hearings, and collaboration with stakeholders, local governments exercise this delegated authority to shape the physical landscape, fostering sustainable, vibrant, and cohesive communities while balancing economic growth with environmental protection and public welfare.⁶⁸

B. Climate Action Plans

Climate action plans (CAPs) are comprehensive strategies developed by governments, organizations, or communities to mitigate and adapt to climate change.⁶⁹ CAPs are multifaceted, aiming to mitigate greenhouse gas emissions while simultaneously enhancing resilience to climate impacts.⁷⁰ Effective CAPs intertwine policy, regulation, public awareness, and international cooperation, leveraging a holistic approach to create a sustainable and resilient future for all.⁷¹

CAPs not only prioritize the reduction of carbon footprints through emission targets and carbon pricing mechanisms, but also emphasize public engagement and education.⁷² Additionally, CAPs often foster international collaboration, acknowledging the global nature of climate change and the need for joint efforts, agreements, and commitments across borders to tackle this pressing issue effectively.⁷³

C. Climate-Resilient Development

1. CRD Defined

Climate-resilient development is a process of implementing greenhouse gas mitigation and adaptation options in order to support sustainable development for all.⁷⁴ The Intergovernmental Panel on Climate Change charged local governments with wielding their land use regulatory authority in a manner that combats climate change.⁷⁵ As a newly formulated strategy, CRD calls for action at all levels: internationally, regionally, nationally, and locally. CRD is most effective when “it is responsive to regional and local land

use development and adaptation gaps and addresses the underlying drivers of vulnerability.”⁷⁶

According to the Land Use Law Center at the Elisabeth Haub School of Law at Pace University, the core components of CRD include “mitigation, adaptation, resilience and equity, enabled by conditions that make feasible sustainable development for all.”⁷⁷ For local governments to achieve CRD, they must incorporate these components into their land use decisions. Land use decisions affect zoning and other municipal operations, which can control the use, density, and bulk and area requirements of a locality.⁷⁸ Additionally, climate-related disasters can also be anticipated and managed by hazard mitigation planning.⁷⁹

For a land use strategy to satisfy the adaptation component, it must adjust to present and future climate risks.⁸⁰ For the mitigation component to be met, the strategy must reduce or sequester greenhouse gas emissions.⁸¹ “Resiliency” is defined as “the capacity of social, economic, and ecological systems to cope with a hazardous event, trend, or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure.”⁸² It is one of the broadest categories of CRD, as the component can also be achieved through social resiliency, economic resiliency, or ecological resiliency.⁸³

The equity component is concerned with fairness in the way people are treated, based on societal values.⁸⁴ This component is the local government’s opportunity to address historical inequities and prevent the exacerbation or creation of further inequities. Finally, enabling conditions are the circumstances that are key for implementing, accelerating, and sustaining human adaptation in human systems and ecosystems.⁸⁵ Significant enabling condition examples include political will, inclusive governance processes, and enhanced knowledge of impacts and solutions.⁸⁶ All of these components together make it possible for a local government to evaluate how they are addressing climate change.

66. New York State, *supra* note 62.

67. *Id.*

68. *Id.*

69. Municipal Research and Services Center, *Climate Action Plans*, <https://mrsc.org/explore-topics/environment/sustainability/climate-action-plans> (last modified Mar. 19, 2024).

70. See Maureen Hartwell, *Local Climate Action Planning—The Land Use Perspective*, 46 ZONING & PLAN. L. REP. 1, 2 (2023).

71. *Id.*

72. See Municipal Research and Services Center, *Equity and Engagement in Climate Response*, <https://mrsc.org/explore-topics/environment/sustainability/climate-equity-and-engagement> (last modified Feb. 23, 2024).

73. *Id.*

74. E. Lisa F. Schipper et al., *Climate Resilient Development Pathways*, in CLIMATE CHANGE 2022: IMPACTS, ADAPTATION, AND VULNERABILITY. CONTRIBUTION OF WORKING GROUP II TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 2655 (H.-O. Pörtner et al. eds., Cambridge Univ. Press 2022).

75. See *id.* at 8-39 (“Whether and to what extent such emission reduction potentials can be realized depends on how cities are designed and laid out.”).

76. *Id.* at 34.

77. John Nolon, *A Framework Law for Implementing Climate Resilient Development*, PACE UNIV.: GREENLAW BLOG (Feb. 25, 2024), <https://pelr.blogs.pace.edu/2024/02/25/a-framework-law-for-implementing-climate-resilient-development/>.

78. *The Basics of Land Use and Zoning Law*, TUL. UNIV.: ONLINE L. BLOG (Aug. 26, 2021), <https://online.law.tulane.edu/blog/land-use-and-zoning-law>.

79. Ethan Baer et al., *Local Solutions to the Global Crisis: A Guide to Climate Resilient Development*, 52 ELR 10883, 10885 (Nov. 2022), <https://www.elr.info/articles/elr-articles/local-solutions-global-crisis-guide-climate-resilient-development>.

80. Bailey Andree, *The Advent of Climate Resilient Development: A Land Use Framework for Climate Governance*, 46 ZONING & PLAN. L. REP. 1 (2023).

81. *Id.*

82. Baer et al., *supra* note 79, at 10884.

83. See *id.*:

Social resilience refers to a community’s ability to recover from disturbances and losses, such as natural disasters, with little aid from other sources. *Economic resilience* refers to the ability to recover from, withstand, and prevent disruptions to the economic base of an area. *Ecological resilience* refers to the status of an ecosystem’s health and its ability to bounce back after disturbances.

84. *Id.*

85. *Id.*

86. *Id.*

2. Climate Migration as Climate Resilience

Climate migration has been described as an adaptation strategy by the IOM because people move to adapt to changing circumstances, namely the changing climate.⁸⁷ According to Camila Bustos and Ama Francis, “Given that most of climate displacement first occurs within national borders, strengthening national law and policy on [internally displaced persons] to include climate change and environmental considerations would help protect the rights and needs of those fleeing environmental events within national borders.”⁸⁸

Another adaptation strategy that has both gained popularity and facilitates climate migration is managed retreat, which is the purposeful movement of people and infrastructure out of vulnerable floodplains.⁸⁹ Like managed retreat, climate migration fits within the CRD framework, primarily as an adaptation strategy. However, to carry out CRD, local governments must consider the other components.

The mitigation component can be met if local governments implement sustainable and affordable housing. Climate change and affordable housing are closely intertwined, as urban sprawl has been linked to accelerating climate change by glamorizing larger homes and fostering a greater dependency on cars.⁹⁰ Additionally, the lack of affordable housing is exacerbated by the increasing frequency and severity of sudden-onset events, which reduces the housing supply and increases housing-related costs.⁹¹ However, given the high emissions associated with the construction of brand new housing units, municipalities will need to strategically retrofit before they decide to construct.⁹²

The resilience component of CRD in the context of climate migration can be met by creating social resiliency. To achieve social resiliency, local governments are within their authority to create an administrative body

to assist climate migrants in settling into their new community.⁹³ In addition to social resiliency, planning for climate migrants helps in achieving economic resiliency—strengthening the economic base for localities, and even contributing to taxes.⁹⁴

Equity will be a very important factor as the effects of climate change materialize. Historically, land use law has been used to maintain systems of economic and racial segregation.⁹⁵ However, communities today have been reexamining their own zoning regulations and practices to create more equitable, inclusive, and resilient communities.⁹⁶ Ultimately, equity will look different for every community, so local governments will need to implement procedures, programs, and offices that will help address existing inequities while preventing the creation of new inequities.⁹⁷

Enabling conditions will vary by locality, but FEMA and state governments may provide funding. Local community groups and leaders also serve as important enabling conditions.

V. Case Study: Orlando, Florida

The case study focuses on Orlando, Florida (the City), and how the City assisted (or failed to assist) climate migrants from Puerto Rico after Hurricane Maria. As described above, Hurricane Maria devastated the island of Puerto Rico on September 20, 2017.⁹⁸

Before discussing this case study, it is important to acknowledge that many of the climate migrants coming into the City did so because they had no other choice. This is an important component of equity in the CRD framework. For example, Luz, a 39-year-old mother of four, said, “I came here because my children were dealing with a situation [in Puerto Rico]. I feared that they would get sick. . . . I was scared. . . . [W]hy do they have to lose out on going to school if I can find something better for them?”⁹⁹

Second, Puerto Rico’s history of colonialism and lack of self-governance has prevented the country from implementing their own resiliency measures.¹⁰⁰ Finally, Puerto

87. IOM, REGIONAL REPORT: HIGHLY VULNERABLE MIGRANT FLOWS AND BORDER MOBILITY IN GUATEMALA, HONDURAS, EL SALVADOR, COSTA RICA, AND MEXICO, <https://dtm.iom.int/sites/g/files/tmzbd11461/files/reports/%28eng%29RondaFinal-DTMRegional.pdf> (noting that Hurricanes Eta and Iota caused disasters in Honduras, leading to at least 13,386 houses being affected, which led to people migrating out of Honduras as an adaptation strategy).

88. CAMILA BUSTOS & AMA FRANCIS, INTERNATIONAL REFUGEE ASSISTANCE PROJECT, ADVOCACY MEMO ON CLIMATE DISPLACEMENT: INTERNATIONAL REFUGEE ASSISTANCE PROJECT 7-8 (2022). See generally CLIMATE MIGRATION COUNCIL, CLIMATE MIGRATION EXPLAINER 9 (2023) (“All people, independent of their mobility status, are entitled to fundamental human rights in the climate emergency. The ways in which climate change affects the rights of exposed communities—including the rights to a healthy environment, decent housing, water, and life—require corrective action from responsible parties.”).

89. Anne R. Siders, *Social Justice Implications of U.S. Managed Retreat Buyout Programs*, 152 CLIMATIC CHANGE 239, 239 (2019).

90. Samantha Fu, *How Cities Can Tackle Both the Affordable Housing and Climate Crises*, HOUS. MATTERS (Nov. 2, 2022), <https://housingmatters.urban.org/articles/how-cities-can-tackle-both-affordable-housing-and-climate-crises>.

91. *Id.*

92. Hailey Pedicano, *Climate Resilient Development at the Local Level: Addressing Embodied Carbon Through Low Carbon Building Regulations*, PACE UNIV.: GREENLAW BLOG (June 9, 2023), <https://pelr.blogs.pace.edu/2023/06/09/climate-resilient-development-at-the-local-level-addressing-embodied-carbon-through-low-carbon-building-regulations/>.

93. See Maria Ponomarenko, *Substance and Procedure in Local Administrative Law*, 170 PA. L. REV. 1527, 1541 (2022):

[A]ll fifty states have specific statutes in place authorizing municipalities to engage in zoning and planning activities. These statutes authorize . . . municipalities to create zoning commissions, boards of adjustment, and the like. Zoning statutes determine which powers municipal legislatures may delegate to these administrative bodies. And they describe the appointments process, set out the procedures that boards must follow, and establish the grounds and standards of judicial review.

94. See Angelo Fichera, *Immigrants Pay Taxes and Housing Costs, Regardless of Status*, ASSOCIATED PRESS (Sept. 21, 2023, 4:49 PM), <https://apnews.com/article/fact-check-immigrants-taxes-rent-vaccine-requirements-983035929946>.

95. Jonathan Rosenbloom, *Reducing Racial Bias Embedded in Land Use Codes*, 26 CITYLAW 49, 56 (2020).

96. *Id.*

97. E. Tendayi Achiume (Special Rapporteur on the Elimination of Racism, Racial Discrimination, Xenophobia, and Related Intolerance), *Report of the Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance*, U.N. Doc. A/77/549 (Oct. 25, 2022).

98. Junod et al., *supra* note 54.

99. Camila Bustos et al., *Climate Migration & Displacement: A Case Study of Puerto Rican Women in Connecticut*, 55 CONN. L. REV. 781, 811 (2023).

100. Delet-Barreto, *supra* note 47.

Rico, despite having about 0.4% of the world's population, accounts for virtually 0% of the world's emissions.¹⁰¹ Ensuring fairness in planning for the climate migration of Puerto Ricans will require prioritization of reparations for the historical environmental harms and contemporary harms rooted in historic injustice.

A. Orlando, Florida's Response to Displaced Puerto Ricans

The City is in central Florida, and in 2020 had a population of 307,573.¹⁰² The first stop for Puerto Ricans upon their arrival at the Orlando Airport was a multiagency resource center.¹⁰³ One of these agencies was the Hispanic Office for Local Assistance (HOLA).¹⁰⁴ HOLA provided and continues to provide information and referral services for the Hispanic population in the City to help them find jobs, educational opportunities, and other resources.¹⁰⁵ Migrants were provided with two months of food stamps, hospitals in the greater Orlando area were prepared to accept seniors, and a short-term housing shelter was opened.¹⁰⁶

It is important to take note of the enabling conditions of this response. At the state level, then-Gov. Rick Scott was eyeing a seat in the U.S. Senate, and he was facing pressure from the already existing Puerto Rican population in Orlando.¹⁰⁷ Therefore, not only was there strong community support, but state funds were also allocated toward receiving Puerto Rican climate migrants. Additionally, HOLA served as an important administrative entity for the City in its welcoming process.

Despite the City's preparations and allocation of resources, the City was still underprepared to equitably serve Puerto Ricans. For example, while many Puerto Ricans had the intention to stay in the greater Orlando area, it became difficult to find affordable housing.¹⁰⁸

For this reason, in 2018, Orlando adopted its community action plan (CAP).¹⁰⁹ The CAP outlines Orlando's strategies for aligning with the United Nations Sustainable Development Goals (SDGs) and generally achieving sustainability.¹¹⁰ The SDGs, adopted by the United Nations in 2015, aim to address global challenges faced in all countries.¹¹¹ A few of the 17 SDGs include eradicating poverty, promoting good health and well-being, and taking action on climate change.¹¹² Under the CAP's "Livability" chapter, one new strategy that the City is looking into is "Develop[ing] Permanent Supportive Housing for Homeless Families, Veterans and Climate [Migrants]."¹¹³

The adoption of this plan was monumental for the City because it demonstrated that not only was the City aware of the affordable housing crisis affecting its residents, it was aware that the crisis would only continue to worsen as people continued to move into the City. Of great interest was the City's statement, "Orlando will continue to take in climate [migrants] as more people living along coastal Florida communities . . . are at higher risk of climate change impacts."¹¹⁴

VI. Recommendations for Local Governments

Local governments must prepare for further sudden-onset disasters as well as slow-onset disasters. Climate change will affect every locality differently, making planning in accordance with each locality's values all the more important. The following five points are recommendations I would make for local governments seeking to plan for climate migrants, inspired by the CRD checklist, the Urban Institute's recommendations for local governments, and the Proactive Leadership Advocating for Climate and Equity Initiative's (PLACE Initiative's) recommendations.

1. Prioritize Reducing Inequities in Disaster Impacts and Outcomes.¹¹⁵ Planning for climate migration must consider that social and economic inequalities are exacerbated by environmental degradation. Like Orlando, municipalities can plan to target these populations for emergency support and longer-term assistance to integrate into new places, including developing income, language, and gender-specific resources. According to the CRD checklist, equity requires fairness in the way things are

101. *How the Climate Crisis Is Impacting Puerto Rico*, CLIMATE REALITY PROJECT (Feb. 8, 2023), <https://www.climateRealityProject.org/blog/how-climate-crisis-impacting-puerto-rico> ("Puerto Rico accounts for 0.04% of the world's population, and practically 0% of the world's emissions, where its governing nation-state (the United States of America) accounts for 4.2% of the world's population and nearly 12% of the world's emissions. There's a term for this: environmental injustice.").

102. U.S. Census Bureau, *Quickfacts: Orlando City, Florida*, <https://www.census.gov/quickfacts/fact/table/orlandocityflorida/PST045222> (last visited July 2, 2024).

103. *In Florida, Puerto Ricans Displaced by Hurricane Maria Struggle to Adjust*, CBS NEWS (Dec. 5, 2017), <https://www.cbsnews.com/news/puerto-ricans-relocate-to-florida-face-difficult-transition/>.

104. Richard Luscombe, *Arrival of Puerto Ricans Post-Hurricane Maria Could Have Big Impact on Florida*, GUARDIAN (Oct. 12, 2017), <https://www.theguardian.com/us-news/2017/oct/12/florida-puerto-rican-influx-hurricane-maria>.

105. City of Orlando, *Hispanic Office for Local Assistance (HOLA)*, <https://www.orlando.gov/Our-Government/Departments-Offices/Executive-Offices/Office-of-Multicultural-Affairs/Hispanic-Office-For-Local-Assistance-HOLA> (last visited July 2, 2024).

106. Luscombe, *supra* note 104.

107. *Id.*

108. See Brett Marsh, *After Hurricane Maria, Many Puerto Ricans Fled to Florida. Then Ian Happened.*, GRIST (Dec. 16, 2022), <https://grist.org/cities/after-hurricane-maria-many-puerto-ricans-fled-to-florida-then-ian-happened/>.

109. GREEN WORKS ORLANDO, 2018 COMMUNITY ACTION PLAN 8, https://www.orlando.gov/files/sharedassets/public/v/2/departments/sustainability/2018_orlando_communityactionplan.pdf.

110. *Id.*

111. United Nations, *Sustainable Development Goals: Take Action for the Sustainable Development Goals*, <https://www.un.org/sustainabledevelopment/sustainable-development-goals/> (last visited July 2, 2024).

112. *Id.*

113. GREEN WORKS ORLANDO, *supra* note 109, at 27:

Orlando has already taken in a large number of refugees from the hurricanes that devastated the Caribbean in the fall of 2017—specifically Puerto Ricans after Hurricane Maria devastated many of their homes and livelihoods and had to move in with friends or relatives already residing in the Orlando area.

114. *Id.*

115. Junod et al., *supra* note 54.

handled. Addressing climate migration inherently requires mitigating greenhouse gas emissions in addition to facilitating an equitable transition to a new community.

2. Establish Local Administrative Bodies and Committees. Administrative bodies created by local governments, like HOLA, which are run by individuals who will connect with climate migrants, serve an essential function. These officials facilitate migration with dignity. According to the PLACE Initiative, establishing a dedicated local team to facilitate planning and building a picture of the community should be one of the first steps in receiving climate migrants.¹¹⁶

3. Develop Relationships With Community Groups.¹¹⁷ Disaster research has found that strong predisaster collaborations between government service agencies, first responders, and community organizations result in more effective emergency responses.¹¹⁸ Maintaining a strong collaborative relationship with community groups ensures access and community empowerment in addition to helping local governments promote sustainable decisions. According to the PLACE Initiative, capacity-building with local groups can help implement community principles and develop projects oriented on important areas of concern.¹¹⁹

4. Remember Climate-Resilient Development. CRD requires that every entity and person affected by climate change contribute to development. The ability to act

effectively improves when all levels of a community work together. This includes citizens, civil society, educational bodies and scientific institutions, the media, investors, and businesses. Developing safe and adapted territories as a way to reduce the impacts of climate change will be important in the coming years. Mitigation, adaptation, resilience, equity, and enabling conditions will serve as an important checklist for local governments to consider.

5. Develop Robust Hazard Mitigation Plan. Building and adapting communities to climate change will be useless if local governments do not develop robust and equitable hazard mitigation plans in the event of a disaster. Hazard mitigation plans require local governments to identify all natural disaster risks and vulnerabilities that are common in their area.¹²⁰ Then the local government must develop strategies for mitigating the effects of these disasters.¹²¹

VII. Conclusion

Planning for climate migration is just one component of institutionalizing community climate resilience and achieving climate-resilient development. As the impacts of climate change intensify, communities must act on the lessons learned in Orlando to better mitigate, prepare for, respond to, and recover from environmental disasters in a fair and equitable manner. Climate migration is a part of adaptation, and it will continue to drive our society forward while making up for historical wrongs.

116. PLACE INITIATIVE, CLIMATE RECEIVER PLACES PROJECT 2 (2023), https://placeinitiative.org/wp-content/uploads/2023/05/00_Place-Initiative-CRPP-2-Pager-01.pdf.

117. *Id.*

118. Naim Kapucu, *Interorganizational Coordination in Dynamic Context: Networks in Emergency Response Management*, 26 J. INT'L NETWORK FOR SOC. NETWORK ANALYSIS 1, 1 (2004).

119. PLACE INITIATIVE, *supra* note 116, at 2.

120. FEMA, *Hazard Mitigation Planning*, <https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning> (last updated Nov. 28, 2023).

121. *Id.*